

UMATILLA COUNTY
Comprehensive Plan
TECHNICAL REPORT

The preparation of this document was
financed in part through a planning
assistance grant from the Oregon
Department of Land Conservation and
Development.

UMATILLA COUNTY PLANNING DEPARTMENT
COURTHOUSE, PENDLETON, OREGON 97801

MAY, 1980

MAJOR ADDITIONS

SEPTEMBER 1982
JUNE 1984
SEPTEMBER 1984

TABLE OF CONTENTS

	<u>Chapter</u>
Forward	A
Agriculture	B
Mountain Highlands (Forested)	C
Open Spaces, Scenic and Historic Areas, and Natural Resources	D
Air, Land and Water Quality	E
Natural Hazards and Development Limitations	F
Recreational Needs	G
Economy	H
Umatilla County Population Indicators for the Year 2000	H ¹
TO BE RESERVED FOR RURAL RESIDENTIAL	I
Public Facilities	J
Transportation	K
Energy Conservation	L

MAPS

	<u>Page</u>
Cultivation Capabilities: West Umatilla County (Dry Land)	B-5
Cultivation Capabilities: West Umatilla County (Irrigated)	B-6
Development Limitations: Meacham and Vicinity	B-8a
Development Limitations: Tollgate Area	B-8b,8c,8d
Generalized Agricultural Suitabilities: Umatilla County (Dry Land)	B-10

Table of Contents: cont'd

	<u>Page</u>
Irrigation Districts:	
West Umatilla County	B-14
Generalized Farm Pattern Areas:	
Umatilla County	B-34
Agricultural Sample Study Areas:	
Umatilla County	B-38
Cultivation Unit Study Areas	B-54
Natural Landform Features	B-63
Transportation Features	B-64
Man-Made Features (for conservation purposes).	B-65, B-66
Irrigation	B-67
Estate Settlements	B-68
Irrigation District Study Areas:	
West Umatilla County	B-70
Umapine Agricultural Areas:	
Umapine and Vicinity	B-71
Existing Land Use: Orchards	
District, Milton-Freewater Area	B-76
Cultivation Capabilities: Orchards	
District, Milton-Freewater Area (Irrigated)	B-78
Sub-District Boundaries: Orchards	
District, Milton-Freewater Area	B-80
Farm Deferral and Small Farm: Orchards	
District, Milton-Freewater Area	B-84
Large Site Farm and Adjoining Agricultural Districts: Orchards	
District, Milton-Freewater Area	B-85
Existing Land Use: Forks of Walla Walla River, Plates A and B	B-89, 90
Cultivation Capabilities: Forks of Walla Walla River, Plates A and B	B-91, 92
General Relief: Umatilla County	C-3
Timber Productivity: Northeastern Umatilla County (by Soil Association)	C-11

	<u>Page</u>
Timber Productivity: Central Umatilla County (by Soil Association)	C-12
Timber Productivity: South Umatilla County (by Soil Association)	C-13
Mountain Study Areas: Umatilla County	C-25
Forest Assessment Lands: Northeastern Umatilla County, Map A	C-28
Forest Assessment Lands: Central Umatilla County, Map B	C-34
Forest Assessment Lands: South Umatilla County, Map C	C-39
Existing Land Use: Umatilla County	D-4
Deer and Elk Winter Range: Umatilla County	D-14
Waterfowl and Furbearer Habitat: Umatilla County	D-24
Significant Wetlands Inventory	D-31-58
Habitats of Rare, Threatened and Endangered Species	D-63, D-64
Anadromous Fish Distribution: Umatilla County	D-70
Significant Natural Areas	D-90-99
Significant Scenic Area	D-108
Archeological Site Density: Umatilla County	D-119
Indian Cultural and Historical Sites: Umatilla County (Off Reservation)	D-153
Drainages	D-157
Rock Mineral Resources: Umatilla County	D-188
Significant Aggregate Resources	D-191-195
Seismic Risk Zones for Oregon	F-8
Severe Wind Erosion: Morrow and Umatilla Counties	F-11

	<u>Page</u>
Recreational Facilities: West Umatilla County	G-11
Recreational Facilities: Umatilla County	G-12
Identified Groundwater Aquifers	J-4
Port of Umatilla District	J-6
School District Boundaries	J-13
Umatilla County Fire Districts	J-18
Vector Control District	J-21
Major Transportation: Umatilla County	K-9
Major Utilities: Umatilla County	K-10
Existing Land Uses: West Umatilla County	Back Pocket

Tables, Figures, Charts and Graphs

	<u>Page</u>
Relationships Between Land Use Capabilities and Soil Classes	B-3
Grains, Field Crops, Truck Crops, Fruit, Hay, and Silage	B-23
Livestock Production in Umatilla County, 1970-78	B-24
Gross Cash Receipts from Agricultural Marketing, Revised Estimates 1970-76	B-25
Estimated Gross Cash Receipts from Agricultural Marketing, 1978	B-26
Number of Farms by Size: Umatilla County, 1964, 1974, 1978	B-32
Agricultural Use by Geographic or Special Agricultural Practices: Umatilla County	B-35
Agricultural Sample Study Area Names: Umatilla County	B-36

	<u>Page</u>
Agricultural Sample Study Areas, Average Farm Parcel-Ownership Sizes and Predominate Soil Classification	B-40
Walla Walla Valley Project, 1974 Comparable Agricultural Statistics: Umatilla County	B-79
Acreage of Land Use Designations, Comparison of 1972 and 1980 Comprehensive Plans: Orchards District, Milton-Freewater	B-87
Potential New Parcels: Orchards District, Milton-Freewater	B-87
Volume of Timber Removed in Umatilla County	C-14
Lumber and Wood Products in Umatilla County: Employment and Payrolls	C-16
Average Ranch-Timber Industry Parcel-Ownership Sizes: Sample Study Areas, Umatilla County	C-24
Goal 5 Analysis Process . See Comp. VIII-29	D-2 ★
D-2, D-14, D-17a, D-31, D-62, D-66-69 + map D-71, D-70 Definition, Land Uses in Umatilla County	D-3
D-74 Definition, D-88, D-105, 6, D-108 map, D-109, D-116 + 117 Table, A Partial List of Wildlife	D-8-11
Species: Umatilla County	D-8-11
D-115, 116, D-189 + maps, D-196, 197 Estimated Big Game Populations: Umatilla County, 1978	D-12
Average Expenditures on Big Game Resources for 1977: Umatilla County	D-12
Compatible and Incompatible Land Uses: Umatilla County, Fish and Wildlife Department	D-15
Estimated Upland Game Population: Umatilla County, 1978	D-20
Average Expenditures on Upland Game Resources: Umatilla County, 1977	D-20
Estimated Waterfowl Populations: Umatilla County, 1977	D-22

	<u>Page</u>
Average Expenditures on Waterfowl Resources: Umatilla County 1977	D-23
Estimated Furbearers and Certain Non-game Wildlife Populations: Umatilla County, 1977	D-25
Average Expenditures on Furbearers Resource: Umatilla County, 1977	D-26
Location of Known Heron Rookeries, Osprey, Prarie Falcon and Bald Eagle Nests and Long-billed Curlews: Umatilla County, 1982	D-62
Fish Distribution: Umatilla County	D-66-68
Effort and Economic Expenditure for Sport Fishery: Umatilla County, 1975	D-69
Oregon Natural Heritage Program, Site Inventory: Umatilla County	D-75-77
Site Evaluations for Significant Natural Areas: Umatilla County	D-88
Description of Outstanding Sites and Views: Umatilla County	D-105, 106
Inventory of Historic Sites and Buildings (Outside of Incorporated Towns): Umatilla County	D-116, 117
Off-Reservation Cultural/Historic Sites: Confederated Tribes of the Umatilla Indian Reservation	D-155
River Basin Drainage Areas and Average Annual Runoff	D-158
Material Sources in Relation to Geologic Rock Types	D-169
Inventory of Rock Material Sources; Umatilla County	D-172-187
Annual Production of Sand and Gravel and Quarry Rock: Umatilla County	D-201, 202
Flood Prone Area Diagram	F-4

	<u>Page</u>
Umatilla County Recreation Needs	G-5
High Priority Needs Assessments; Umatilla County	G-6
Developed Recreation Sites: West Umatilla County	G-13-14
Potential Recreation Sites in West County	G-15
Recreation Sites in Umatilla County (except West County)	G-16-17
Potential Recreation Sites in Umatilla County (except West County)	G-18
Breakdown of 1977 Visitor Days- Umatilla National Forest	G-19
Employment by Type and Broad Industrial Sources	H-5-6
Umatilla County Employment Statistics and Employment Projections	H-7
Employment Forecasts for Umatilla County by Industry: 1980-95	H-8
Trend Analysis - Table A	H1-4
Trend Analysis - Table B	H1-5
Major Industrial Sites: Umatilla County	H-9, 10, 11, 12, 13
Age Distribution of Unincorporated West County Residents	I-3
Age Distribution by Sex of Unincorporated West Umatilla County	I-4
Length of Residence in Area of Current Residence	I-4
Household Income	I-5
Source of Income	I-7
Location of Employment	I-8

	<u>Page</u>
Level of Education and Household Income of Males over 25	I-8
Level of Education and Household Income of Females over 25	I-9
Income Levels of Large Families	I-11
Income Levels of Elderly Households	I-11
Poverty Level Guidelines	I-11
Structure Type	I-13
Monthly Housing Costs	I-16
Age and Physical Condition of Housing Structures	I-18
Desired Housing Type	I-20
Current and Preferred Number of Bedrooms	I-21
Persons per Bedroom	I-24
Income and Housing Costs	I-25
Income and Housing Costs of Elderly Over 62	I-26
Income and Housing costs of Elderly over 65	I-27
Calculating Housing Need	I-30
Water Systems Assessment County Summary of Surveys	J-7-10
Levels of Service Required in Urban and Rural Areas	J-26
Zero Lot Line Layouts	L-8
Clustering	L-8

FOREWORD

This document is the technical background report employed in the development of the Comprehensive Plan for Umatilla County, Oregon. It contains research data which forms the basis of the Plan's Findings and Policies. To facilitate its use, subject matter has been arranged in an order approximating that of the Plan. Additional information, not readily incorporable (e.g. air photos, notes on citizen groups meetings, parcel size maps, staff work sheets and other referenced publications) are on file at the Umatilla County Planning Department, Courthouse, Pendleton, Oregon.

CITIZEN INVOLVEMENT

Citizen involvement is not new to the planning process in Umatilla County. During the initial planning program in the early 1970's, several hundred citizens contributed their valuable knowledge and community concerns in developing a County comprehensive land use plan and zoning ordinance. The underlying purpose back then (as it is today) was to insure that public wants and needs were reflected in the plans and balanced with environmental constraints and special interests.

Apparently, many communities have not embraced the citizen involvement process. Often citizens have been ignored in important planning decisions directly affecting their life styles and livelihoods. To correct non-representative planning processes, the Oregon Legislature in 1974 adopted Goal #1 "Citizen Involvement" as one of 13 other land use planning goals. This goal outlines procedures to insure citizen involvement in all phases of developing comprehensive land use plans.

Goal #1 specifically requires local governing bodies to develop and publicize a citizen involvement program clearly defining procedures by which the public will be involved. The Citizen involvement program is to be an on-going process as land use planning needs continuously change with time. Other supporting requirements of the citizen involvement goal include: (1) the appointment of a committee for citizen involvement to monitor and evaluate the citizen involvement program; (2) the availability to the public of technical information used to reach policy decisions; (3) assuring feedback mechanisms whereby citizens understand and have a record of why a policy decision was made; and (4) financial support helping to guarantee the continued operation of the citizen involvement program.

In response to the citizen involvement goal, Umatilla County implemented an intensive citizen involvement process.

Umatilla County Citizen Involvement Processes

A requirement of the citizen involvement goal is the establishment of an officially recognized committee for citizen involvement (C.C.I.). A major component of the citizen involvement program, the C.C.I. must also be responsible for assisting the governing body (County Board of Commissioners) in developing a citizen involvement program and evaluating its progress and effectiveness in promoting citizen involvement.

On January 23, 1976, the Board of Commissioners officially recognized the Umatilla County Planning Commission as the C.C.I. Because of its County wide planning concepts, the County Planning Commission was felt to be the ideal group to fulfill C.C.I. responsibilities.

The overseeing role by the County Planning Commission of County citizen involvement programs was somewhat short lived. As a requirement of receiving grant monies from the Land Conservation and Development Commission (LCDC), the County was instructed by this agency to formulate an independent C.C.I. by January 1, 1977. Reasons for requiring an

independent C.C.I. were to: (1) help guarantee a truly "citizen oriented" review board; and (2) ease the work load of the already busy County Planning Commission. Consequently, a seven member committee of independent citizens was officially appointed by the County Board of Commissioners of Commissioners on June 1, 1977 to serve as the Umatilla County C.C.I. (List available for review at the County Planning Department.)

Land use planning revisions first began in the west portion of Umatilla County. The Board of Commissioners recognized that the rapid population and economic growth occurring there required immediate updating and revision to the existing comprehensive plan. Pursuant to the adopted Citizen's Involvement Program explained above, the Board of Commissioners appointed the West End Citizens' Advisory Committee during February of 1976 to assist in the preparation of the comprehensive plan revision for the West County area. An organizational meeting was held, members chosen, and by-laws adopted (all are on file and available for review at the County Planning Department).

The first responsibility of the West End Citizen Advisory Committee (W.E.C.A.C.) was to make necessary updates to the comprehensive plan maps and text. After considerable citizen input, several specific land use proposals were presented to the Planning Commission and Board of Commissioners. A comprehensive plan map amendment along Highway 395 and addition of a new "light industrial" text section were the result of W.E.C.A.C.'s initial proposals.

W.E.C.A.C. next proceeded to review state land use planning goals and bring into compliance the area's comprehensive plan. This task met with little success for several reasons. First, the by-laws regulating the group were too rigid, requiring a lengthy procedure to appoint constantly needed new members. Second, membership was not always representative of all areas in the planning unit. Various proposals consequently met with opposition from the public. Third, W.E.C.A.C. was also provided little planning data and staff direction, making defensible proposals difficult. All of these circumstances contributed to dissention and frustration. Consequently, major by-law revisions (September 14 and 23 1976) were initiated which widened area membership and provided a more open public process in choosing new memberships.

Despite these corrective measures, many original W.E.C.A.C. committee members lost interest and resigned. The County planning staff then began taking a more active leadership role by providing technical data, resource speakers, a planning schedule and other organizational assistance. Thus, new citizen memberships were attracted and a citizen involvement committee was one again functioning in West Umatilla County.

The newly functioning West County Citizen Advisory Committee met 18 times over a 10 month time period reviewing data inventories, soliciting citizen comments and reviewing goals and policies suggested for incorporation into the West County Framework Plan. Also, an agricultural advisory subcommittee contributed valuable citizen input in identifying agricultural land. Both groups

worked diligently and faithfully and their valuable efforts were the foundation of land use policies found in this plan (see file available at County Planning Department).

Still another opportunity for citizen involvement occurred when a special citizen task force was appointed to help resolve the location of rural-residential lands and several other citizen concerns that were objected to when the West County framework Plan was originally presented for adoption. This nine member body composed of six citizens, three County Planning Commission members, and one West County Citizen Advisory Committee member, grappled three months to revise unfavorable West County Citizens Advisory Committee and County Planning Commission Framework Plan recommendations. The task force reviewed all previous testimony, collected new comments, and submitted their recommendations to the County Board of Commissioners for appropriate consideration (membership lists are available on file at County Planning Department).

Public Education and Awareness

A wide variety of communication techniques were used to inform citizens of planning efforts in West Umatilla County. Planning displays, newspaper releases, personal letter notices and presentation to clubs and civic groups were initial methods of generating public awareness. Specific informational efforts consisted of planning fair which explained the planning process to be undertaken, a fair booth display information center at the County Fair showing planning progress made, and three community workshops explaining the citizen advisory committees' land use proposals suggested in the Framework Plan.

Citizen involvement Committee meetings were advertised in west county newspapers (Hermiston Herald and the Tri-City Herald) and on area radio stations (KOHU, Hermiston; KTIK, Pendleton). Personal letter notices were mailed to each member of the Citizen involvement committee regarding upcoming meetings and the topics to be discussed.

The following are total numbers of citizen comprehensive planning meeting notificaitons from February 1976 to September 1977:

- a. Newspaper (press releases) - 8
- b. Personal letter meeting notices- approximately 1,000*

Records show active involvement of citizens in the 40 meetings held, while news stories relating to the West County Citizen participation process totals 60. Both Planning Commission and Board of Commissioners hearings pertaining to the West County Framework Plan are recorded on cassette tapes. These tapes and minutes are available at the Umatilla County Planning Department.

Public Opinion Surveys and Review Opportunities

Another important aspect of the citizen planning process was the distribution, compilation, and incorporation of public opinion survey

* Rotating membership and inaccurate records makes an exact number impossible to determine.

results and their reflected proposals into community policies. During the months of July and August of 1977, a door to door housing survey was conducted by the County Planning staff. In addition to questions pertaining to housing, several opinion questions were asked, the most important being that of what residents saw as serious problems in their community. The survey included 1,089 households or approximately 41 percent of the households in the unincorporated area of the West County Planning Unit. Analysis of this representative survey was a major contributor to findings and policies later incorporated into both the Framework Plan and the final West County Comprehensive Plan (survey questions and analysis can be found in the Housing background report within this document).

Incidental to the housing-public attitude survey mentioned above, was a fair booth display at the County fair in August of 1977. Although the main purpose of the display was to show the general public what planning progress had been made, specific comments were solicited regarding citizen desires and problems in the areas where they resided. Several constructive suggestions were added to the Framework Plan text and policies.

Opportunities to review goals and policies which represented balancing West County citizen concerns and state planning goals were numerous. In addition to distributing copies of the Framework Plan to all West County Advisory Committee members, interested citizens, and all affected government agencies and special districts, display copies were provided at convenient locations such as city halls and libraries. Copies were also provided in limited quantities at each County Planning Commission and Board of Commissioners public hearings.

Other County Citizen Involvement

Increasing development pressures on the fruit production lands north of Milton-Freewater precipitated an Orchards District planning effort. Beginning in the spring of 1978 public involvement was encouraged through informal meetings at each of five grade school districts. A Citizen Advisory Committee was appointed by the County Board of Commissioners which represented both geographic sub areas and special interest groups. Working through the fall and winter of 1978 the Orchards CAC, in conjunction with County planners, developed the Orchards District Plan. In April 1979 the Plan was adopted by the County Board of Commissioners.

To address planning for the mountainous areas of the County, the County staff conducted meetings (fall of 1979) in the vicinities of the two main areas of population/development - Tollgate and Meacham. Additional public meetings in 1980 and work with several mountain area citizen committees in late 1981 to summer of 1982 were also held. Results of those gatherings were incorporated into the exceptions process and Comprehensive Plan of Goal #4, Forest Lands.

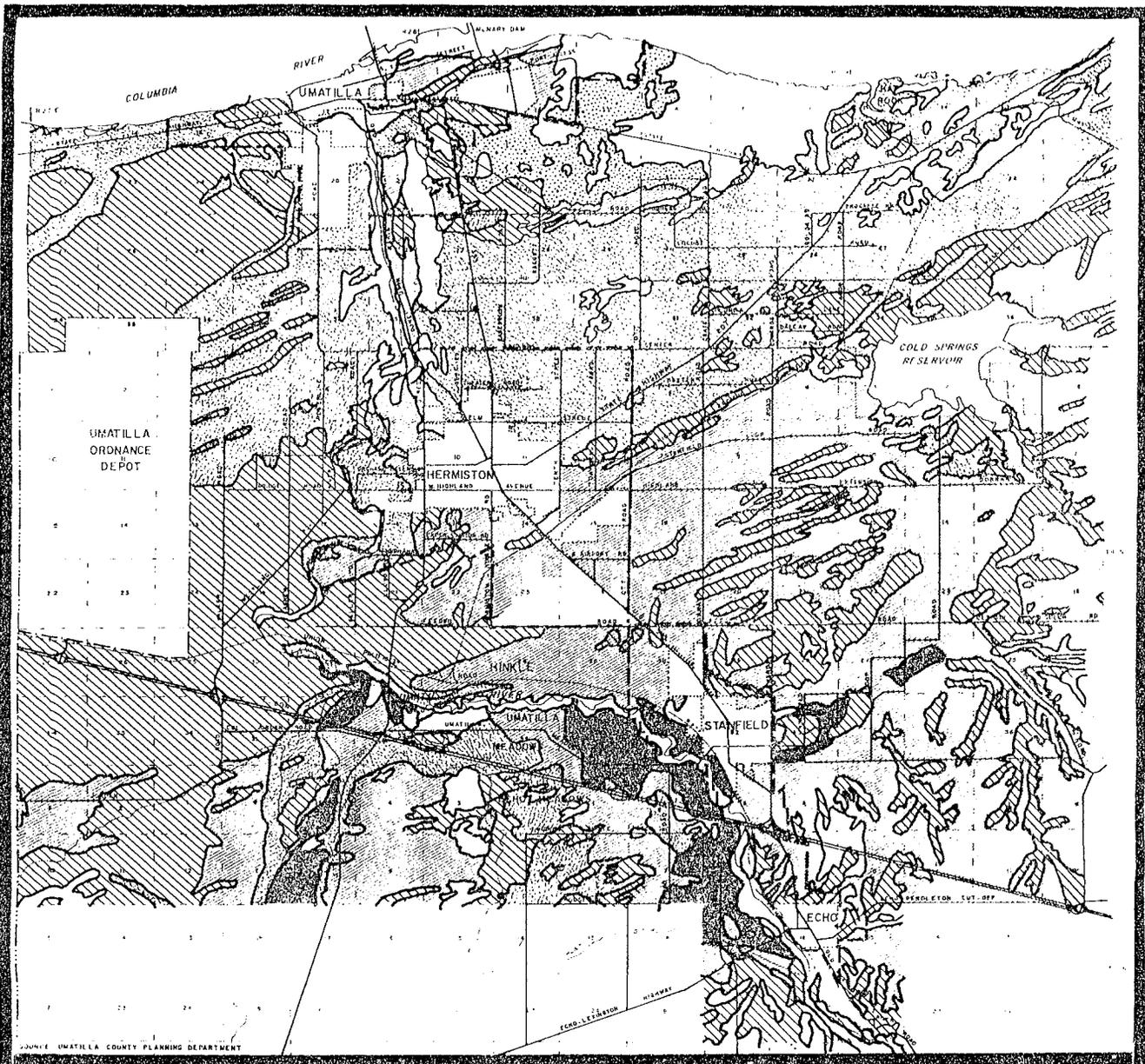
Further public involvement in developing County Comprehensive Plan policies included contributions from County citizens participating in the Umatilla Overall Economic Development subcommittees. These subcommittees developed goals and policies for further regional economic plans under the direction of East Central Oregon Association of Counties staff (ECOAC). The district, consisting of Morrow, Umatilla, Grant, Wheeler, and Gilliam counties, has area representation within each of

the five county economic communities. Economic goals and policies proposed for Umatilla County are therefore representative of Umatilla County Citizens and do necessarily reflect County economic potential and desires. Their contributions and resulting economic policies have been considered in development of the County Comprehensive Plan. A more detailed description of citizen involvement is given in the Comprehensive Plan.

Citizen Involvement - A Continuing Process

Because planning is a continuous process, so must be citizen involvement. It is the responsibility of Umatilla County to continue to make planning information available to the public and encourage continued citizen participation through planning programs. Conversely, citizens are equally responsible for using those opportunities. The County Board of Commissioners continues the policy of maintaining standing citizen advisory committees e.g., library, roads, parks, and recreation, solid waste, mental health, and housing authority committees. Agreements between the County and other jurisdictions (Joint Management Agreements, memos of understanding and cooperative agreements) also implicitly recognize and encourage public involvement in the decision processes.

Citizen involvement then is a two-way street; it is a vehicle for everyone (city, county, state agencies, and private citizens) to take part in land use decisions. Future citizen involvement policy must provide mechanisms to facilitate citizen input and information at the local, regional, state and federal levels.



COUNTY UMATILLA COUNTY PLANNING DEPARTMENT

LEGEND

-  CLASS I SOILS
-  CLASS II SOILS
-  CLASS III SOILS
-  CLASS IV SOILS
-  CLASS VI SOILS
-  URBAN (within City Limits)
-  UNMAPPED OR NO IRRIGATION CLASSIFICATION

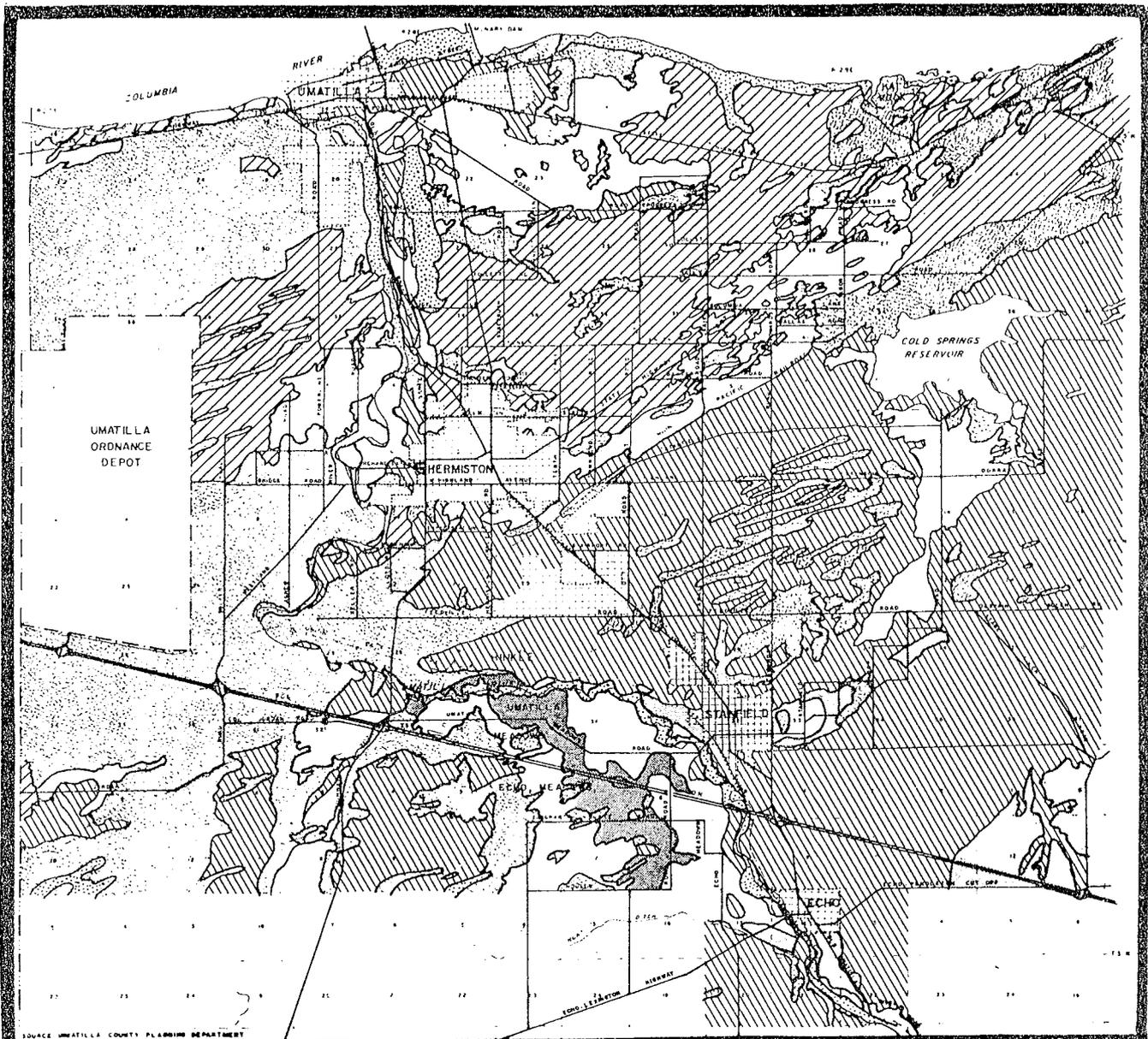
SOURCE: S.C.S. (Soil Conservation Service) Preliminary Survey, July, 1978.

NOTE: Information is PRELIMINARY and subject to change. For more detailed information contact the County Planning Department, Pendleton.



**CULTIVATION CAPABILITIES (IRRIGATED)
WEST UMATILLA COUNTY CITIES AND VICINITY**





SOURCE: UMATILLA COUNTY PLANNING DEPARTMENT

LEGEND

- | | |
|---|--|
|  CLASS II SOILS |  CLASS VII SOILS |
|  CLASS III SOILS |  CLASS VIII SOILS |
|  CLASS IV SOILS |  URBAN (Within City Limits) |
|  CLASS VI SOILS |  UNMAPPED OR NO IRRIGATION CLASSIFICATION |

SOURCE:
S.C.S. (Soil Conservation Service)
Preliminary Survey, July 1978

NOTE: Information is PRELIMINARY and subject to change pending finalization of S.C.S. Survey. For more detailed information contact: Umatilla County Planning Office, Room 23, Courthouse, Pendleton, Oregon 97801



CULTIVATION CAPABILITIES (DRYLAND)
WEST UMATILLA COUNTY CITIES & VICINITY



AGRICULTURE

Umatilla County is farm country. Farming is deeply rooted in the historic development of the area. (See History and Settlement Section in Comprehensive Plan for further details). Agriculture still dominates the area's economy and the area often gains national recognition for its rich agricultural diversity.

During the past ten years, the development of irrigation projects in the West County has fostered an agricultural economic boom and created economic expansion in this area of Umatilla County. Irrigation in this dry-climate region has made possible both a diversification of crops and major increases in agricultural production. The availability of Columbia River water, improved technology in pumping and irrigation equipment, and suitable soils combine to make irrigated farming a profitable operation in much of the West County area. In fact, between 1969 and the present, the area experienced an increase in agricultural acreage, quite the opposite of what was occurring throughout most of the nation.¹

Other farm statistics indicate that Umatilla County and the other Columbia Basin counties in Oregon are capturing a greater share of Oregon's agricultural income. It has been estimated that given sufficient water and the allowance of expansion of projected and present irrigation districts, the Columbia Basin Counties (Morrow, Gilliam, Hood River, Sherman, Wasco, and Umatilla) would become the leading agricultural area of the state within 15 years, especially if urban sprawl continues to reduce the prime land base of Western Oregon agriculture.²

Urban sprawl has not been totally avoided in Umatilla County. Increased agricultural production has led to an increase in farm employment, has attracted a number of food processing plants, and has fostered considerable growth in and around the County's cities. Further intrusions of non-farm residences into surrounding farmland, especially in a piecemeal pattern, could undermine the agricultural economy similarly to what is happening in the Willamette Valley. Therefore, providing proper guidance of future growth in the County is vital to insure the area's agricultural potential and yet accommodate the needs of an expanding population. This report will substantiate agriculture's importance to Umatilla County and the necessity for protection, preservation and expansion of this valuable resource.

Soils

Knowledge of the potentials and limitations of each soil for agricultural use (as well as for other uses) is basic resource planning. Because Oregon and Umatilla County are largely dependent on agriculture and related industries, and because of the limited acreage of such lands, preservation of the most productive soils is extremely important.

As part of the County Soil Survey conducted by the S.C.S. Soil Scientists, soil series are identified as individual mapping units. Interpretations for use, development and agricultural management can be made considering the limitations of each soil. The S.C.S. land capability classification system uses eight land capability classes. Soils placed within each class exhibit the same general limitations for preparation or treatment. The soil limitations become progressively greater from Class I to Class VIII.

Within each class are sub-groupings which are classified according to the major cause of limitations. These include: (e) for erosion hazard because of slope or textural quality (e.g. sand, silts, loams hamper crop production unless a plant cover is maintained); (w) for wetness because of drainage conditions or overflow limitations because of soil qualities (e.g. shallow, droughty or stony); (c) for climate that is too cold, too dry or too cloudy for production of many crops.

The following is a summarization and description of the eight S.C.S. land capability classes:

Class I - Soils having few limitations restricting their use and are excellent for cultivated crops. They are deep, well drained, and the topography is nearly level. Water holding capacity is high, and they need only ordinary crop management practices;

Class II - Soils having some limitations that reduce the choice of plant crops or require moderate conservation practices. Some limiting factors may include gentle slopes, erosion hazards, restricted drainage, and slight to moderate alkali or salt conditions.

Class III - Soils having severe limitations that reduce choices of plant crops or requires special conservation practices, or both. Limiting factors may include: moderate steep slopes, high erosion hazards, poor water penetration qualities, restricted root zones, low fertility and unstable soils structure;

Class IV - Soils having very severe limitations that reduce the choice of plant crops, requires very careful management, or both. Limitations in use result from severe slopes and erosion problems, shallow soils, low water holding capacity, poor drainage and severe alkalinity or salinity soil qualities;

Class V - Soils having less erosion potential but have other limitations that limit their use largely to pasture, range, woodland, or wildlife. Limitations include: frequent stream overflow, too short a growing season, stony or rocky soils, no drainage (ponding areas). Pastures can often be improved on this class of land;

Class VI - Soils possessing severe limitations that make them usually unsuited to cultivation. Agricultural uses are restricted to mainly pasture, range, woodland, or wildlife. Similar limitations are found in this class and are found in class IV soils, but they are more rigid;

Class VII - Soils having very severe limitations that render them unsuited to cultivation and restrict their use largely to pasture or range, woodland or wildlife. These soils are the poorest for producing crops, but they have significant importance for grazing, timber production or wildlife uses;

Class VIII - Soils usually associated with landforms having limitations that eliminate their use for commercial crop production. Uses are restricted to recreation, wildlife, water supply, or aesthetic purposes. Examples of types of soils or land forms includes sandy beaches, river wash, and rock outcrop.

The following table more clearly illustrates the intensity with which each land capability class can be used with safety.

FIGURE I

Land Capability Class	INCREASED INTENSITY OF LAND USE →							
	Wildlife	Forestry	GRAZING			CULTIVATION		
			Limited	Moderate	Intense	Limited	Moderate	Intense
I								
II								
III								
IV								
V								
VI								
VII								
VIII								

SOURCE: Taken from Brady, Nyle C. and Buckman, Harry O.,
The Nature and Properties of Soils,
 (New York: McMillan, 1974) 639 pp.

Capability classifications for county agricultural soils are in various stages of completion. Updated, preliminary soils surveys have been finished for western Umatilla County, Orchards District (north of Milton-Freewater), selected mountain areas around Tollgate and Meacham, and rural lands surrounding the city of Pendleton. The remainder of the county will be surveyed later with a final completion date near 1990.

Two detailed maps have been completed depicting both the dryland and irrigated agricultural capabilities of the West County.

A general review follows, summarizing their agricultural capabilities characteristics. Maps were completed for the west County first because of the heavy pressures for rural development on agricultural soils.

West County

Two maps have been prepared depicting both the dryland and irrigated agricultural capabilities. (See Maps on pages B-5 and B-6) It should be noted that agricultural capabilities improve with the availability of water.³ Many of the limitations normally found in the semi-arid climate of the West County (e.g. wind erosion, lack of water for growing crops, poor soil stability) are overcome with the proper application of water. Water holds down blowing soil, reduces wind erosion and often the sandy desert soils have very low water holding capacities and few nutrients necessary for growing certain crops. Since irrigation is the major agricultural practice and greatly contributes to the economic diversity and stability of the East County, and future irrigation projects are desired and are contemplated to occur in the area, it would be advantageous to know which soil would be the most desirable for irrigation. For the above reasons, most of the analysis pertaining to agricultural capabilities will be slanted towards irrigation potentials.

Analysis of the maps and preliminary data reveal the following:

- (1) Nearly 55% of the surveyed area has an irrigation agricultural capability class of I through III, and approximately 90% of the land area surveyed is classed as I through IV, indicating desirable soils for growing crops with water;
- (2) There are no Class V soils either irrigated or dryland;
- (3) The "Irrigation Agricultural Land Capabilities Map" (page B-6) located the various soils capabilities for irrigation. Observation indicated that the better soils are located in the southern part of the planning area and the more restrictive soils are located towards the Columbia River to the north. Wind and topography have played a major role in the formation; and consequently, the capabilities of soils, because they follow the prevailing wind pattern (southwesterly), and soils in higher elevations do not contain the sandy materials associated near the Columbia River.
- (4) The major division between soil capabilities occurs at about the 650 foot contour which approximates the Union Pacific Railroad Line running southwest to northeast. There are inclusions of other soil types within each of the two general soil capability areas, mostly due to wind and water deposition.

Orchards District Soil Survey

Only a soils identification map has been completed for the Orchards District by the Soil Conservation Service staff. However, applying preliminary soil interpretation data, the following soil classification analysis is possible.

- Nearly all of the survey area is irrigated, so an analysis of dryland soils capabilities is not discussed.
- Approximately 98% of the soils in the Orchard District have an irrigation classification of I through IV.
- Area soils are complex due to mixing of alluvial materials from the Walla Walla River. Immediately north of Milton-Freewater an alluvial fan occurs; this area is composed mainly of riverwash cobbles and gravels.
- Most of the orchards are located on the above mentioned soil (Freewater Very Cobbly Loam) because it's cobbles near the surface act as heat absorbers and radiators, stimulating early fruit harvest. Early fruit means higher prices for orchardists. A Class IV capability is assigned to the soil.
- The northern half of the District's soil is a complex mixture of bottomland and upland soils. Irrigated agricultural capability classes vary from I to IV.

(See map on page B-78 for location of Orchards District soil capabilities.)

Meacham/Tollgate/Pendleton Surveys

New soil surveys have been completed for these selected areas of the county.

- (1) For the mountainous areas, several maps have been completed depicting soil limitations only. (See maps on pages B-7a, 7b, 7c, 7d, 7e.)
- (2) Preliminary data has been completed for Pendleton, but has not yet been mapped.
- (3) When time permits, maps and interpretations will be incorporated into the technical information, and any appropriate findings and policies will also be added to the Plan during updates.

Remaining County

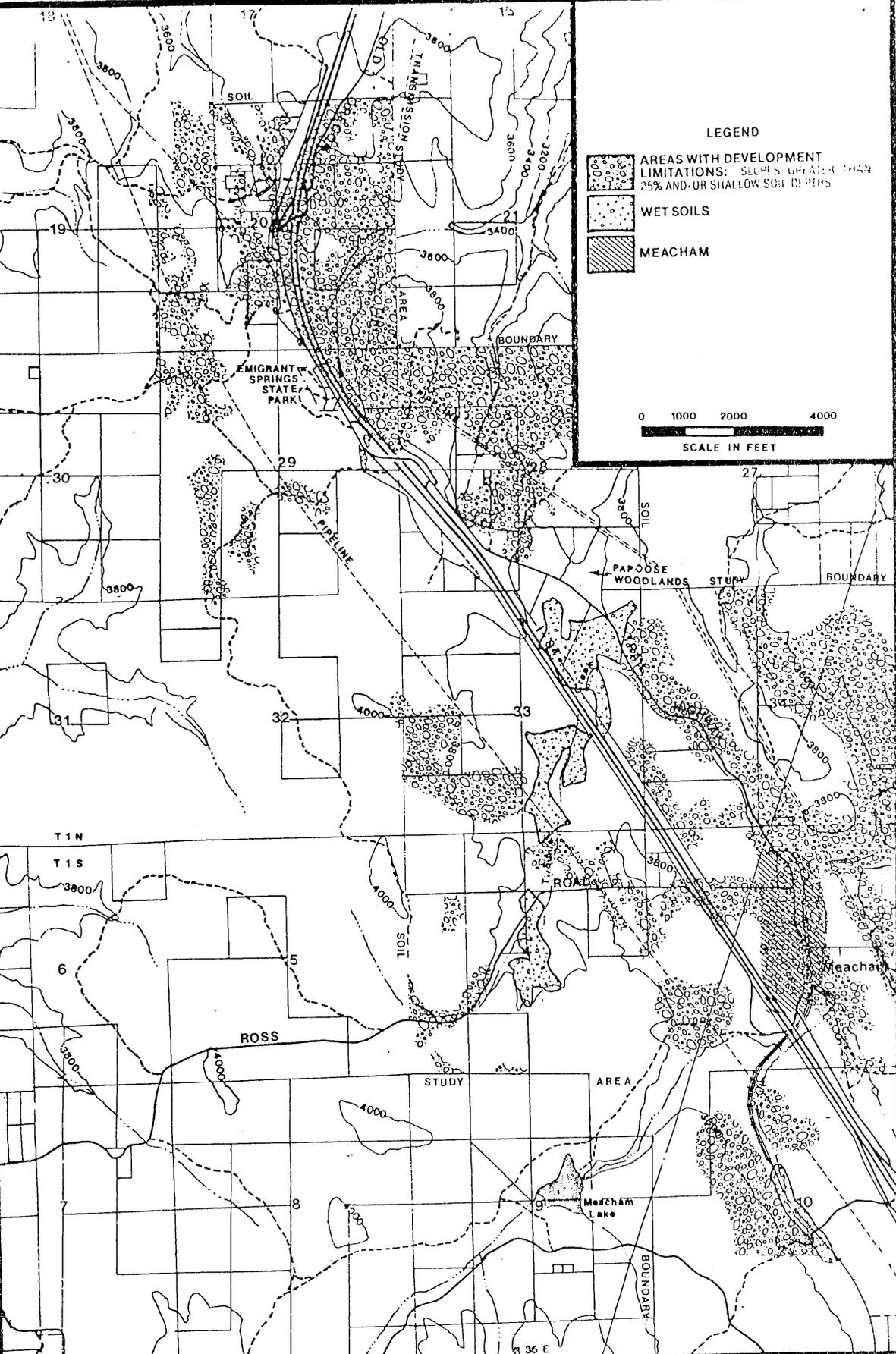
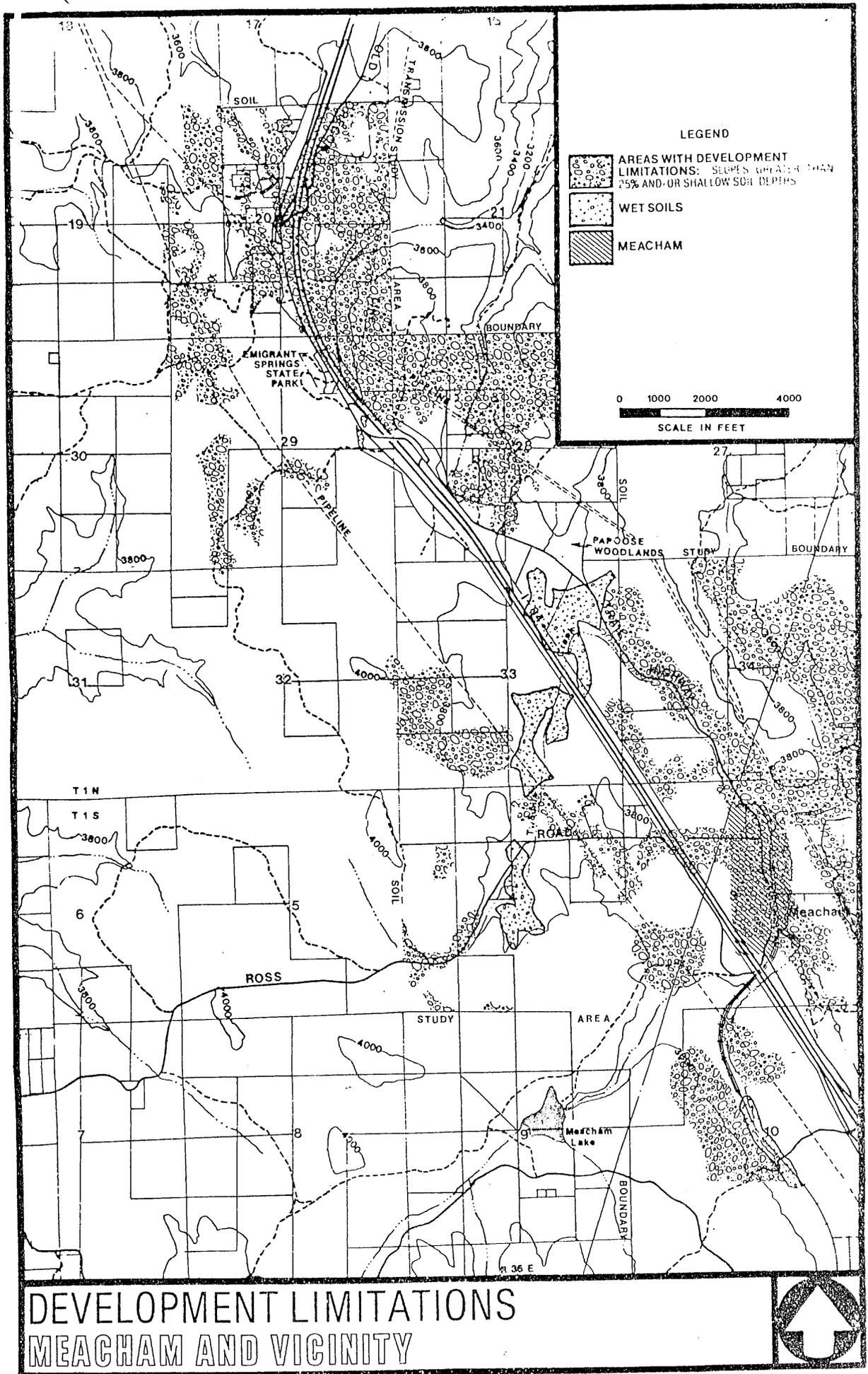
It is recognized that there is need for a new detailed soils survey county-wide. This task is likely to be completed well beyond the County Plan completion date of 1982. This Plan has been accomplished using the new detailed soil mapping and less detailed soils association data for the remainder of the county. It is suggested that upon completion of the county soils survey, this part of the Technical Report document be updated.

Generalized soils information available shows that the remaining area in the Columbia Basin varies in agricultural suitability. Soil associations 5, 6 and 7 on the map on page B-10 are within this area and have dryland suitabilities from Classes VI to VII. These soils are light, sandy soils. If irrigated, these soils improve in suitability (Classes III, IV, VI.)

In the Columbia Plateau, which is east of the Columbia Basin and adjoins the footslopes of the Blue Mountains, there are roughly four sub-areas with somewhat different soil types. The largest sub-area is the highly productive wheat region north of Pendleton. Deep loess soils such as Shano, Ritzville, Walla Walla and Athena soils (see Map page B-10) are very good dryland wheat areas and are classed as II and III. The second sub-area is located south of Pendleton. The Pilot Rock association makes up the major portion in this area. The Pilot Rock association is also a Class III soil and very good for dryland wheat. The third sub-region is located north and west of Milton-Freewater. Elisforde intermixed with other silty soils have a suitability classification of III and are mostly irrigated. The fourth sub-area is southwest of Pendleton. The most common soils are Condon and Morrow, having a suitability Class IV. Soil depth and slope, along with limited rainfall, reduces yields compared with the more productive soils north of Pendleton with intermixtures of dryland wheat.

Adjoining the Columbia Plateau area is the Palouse Prairie. This is a region of steep slopes, with deep soils on the north exposures and shallow, barren soils on southern aspects. Guardane, Palouse, Rockly and the Gwin-Umatilla-Kahler associations are soils found in this area. Suitabilities vary from Class IV to Classes VI and VII. This area is timbered rangeland.

The Blue Mountain area is primarily used for timber and livestock grazing, so an agricultural capability is somewhat misleading in this area. Since the land capability classification system is primarily based on limitations





LEGEND



AREAS WITH DEVELOPMENT LIMITATIONS: SLOPES GREATER THAN 25 AND OR SHALLOW SOIL DEPTHS



CORRIDOR BOUNDARY

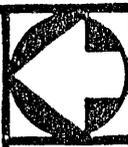
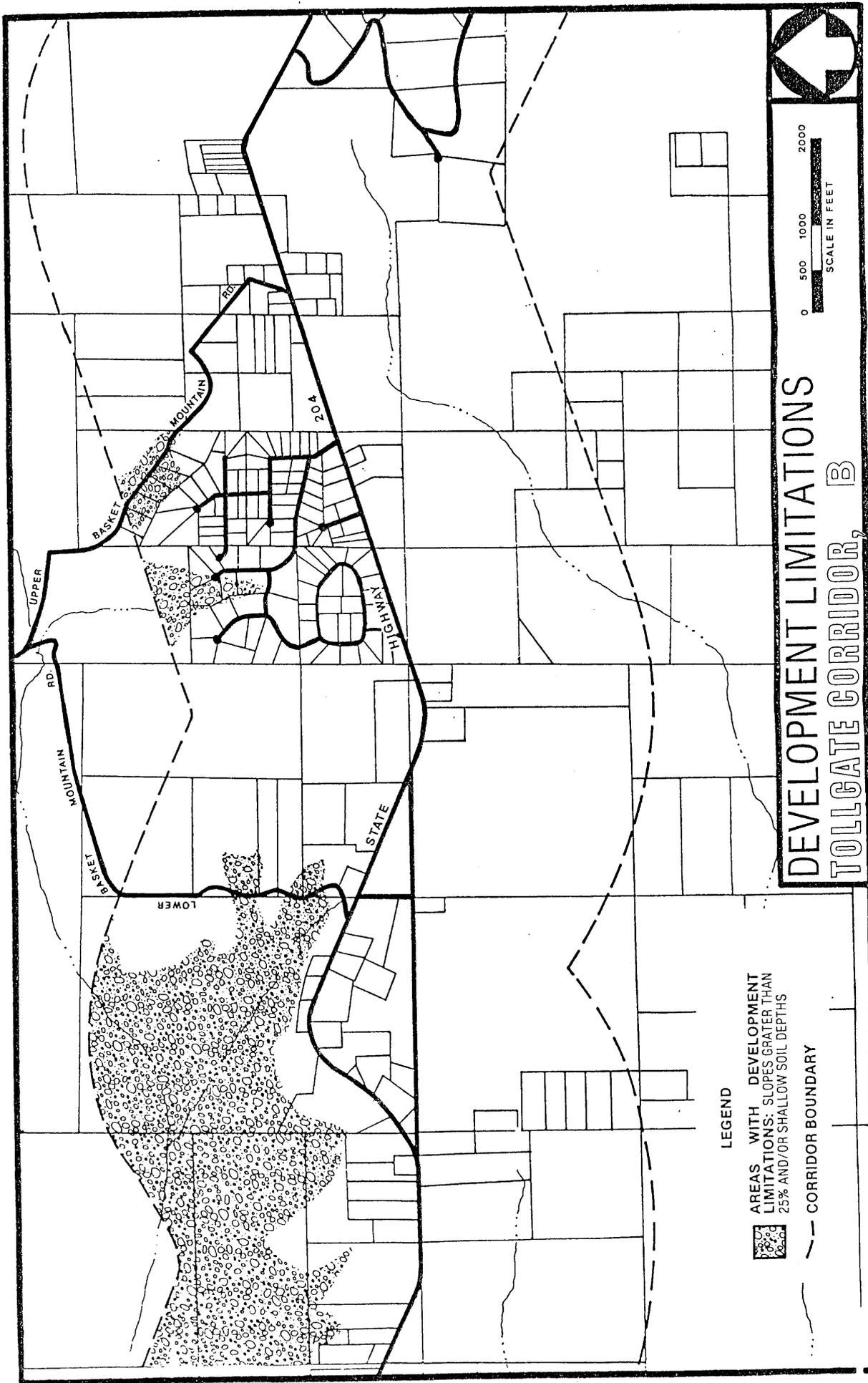
0 500 1000 2000



SCALE IN FEET

**DEVELOPMENT LIMITATIONS
TOLLGATE CORRIDOR, A**

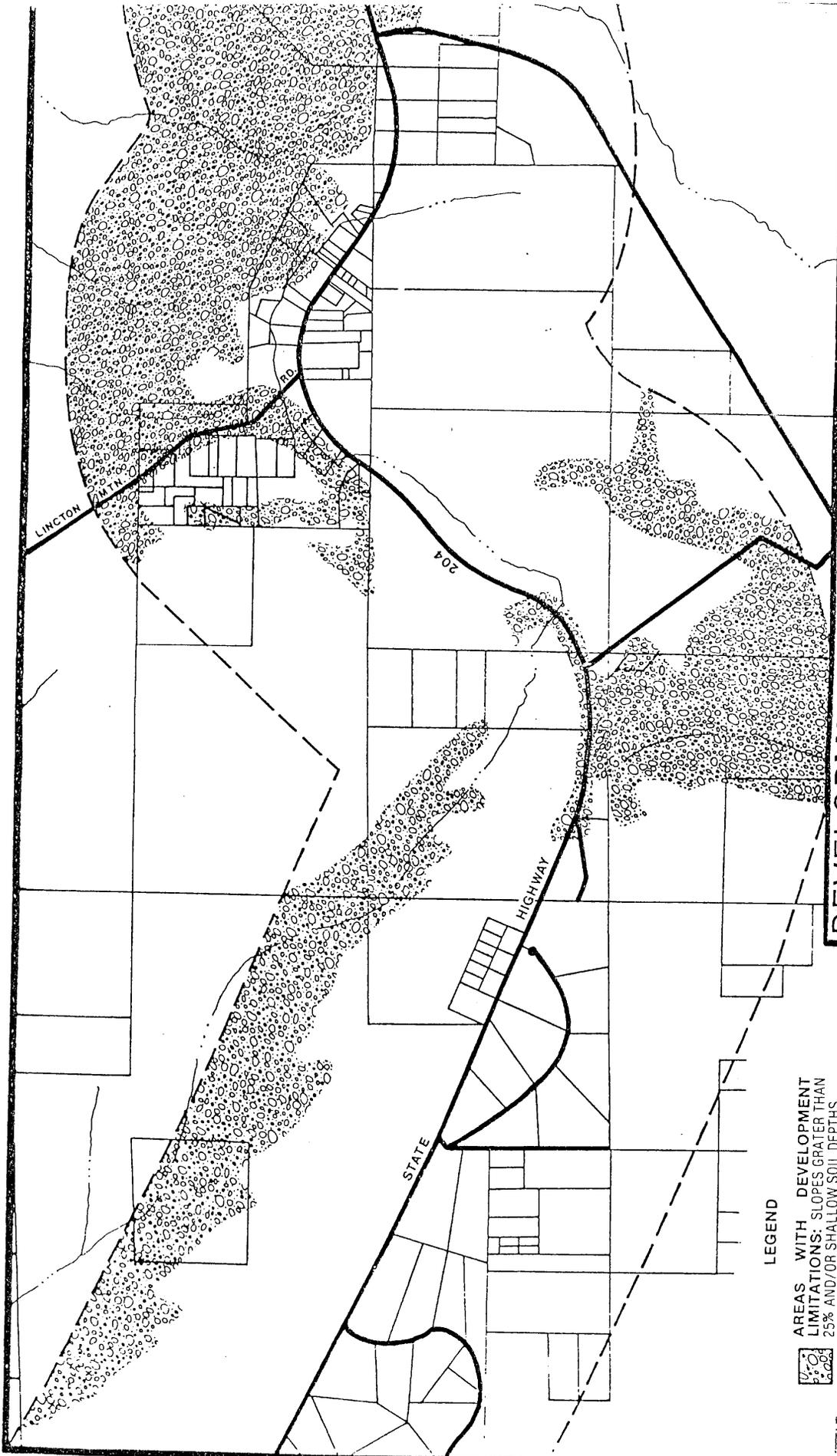




DEVELOPMENT LIMITATIONS TOLLGATE CORRIDOR, B

LEGEND

-  AREAS WITH DEVELOPMENT LIMITATIONS: SLOPES GREATER THAN 25% AND/OR SHALLOW SOIL DEPTHS
-  CORRIDOR BOUNDARY



LEGEND

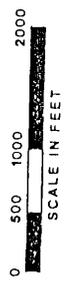
AREAS WITH DEVELOPMENT LIMITATIONS: SLOPES GREATER THAN 25% AND/OR SHALLOW SOIL DEPTHS



CORRIDOR BOUNDARY



DEVELOPMENT LIMITATIONS
TOLLGATE CORRIDOR, C



for cultivated cropping, timber and rangeland yields would be a more accurate way of comparing the soils with this area. Most soils in this area have suitability classes of V, VI, and VII.

Creek and river bottom areas make up the remaining soil associations in the county. The lower elevation areas along major flood plains are generally deep, silty soils. Consequently, their suitability rating is better (Class III). The upper portions of the Umatilla and Walla Walla River have more cobbles and gravels, and are less suitable for cultivation. These soils have little chance to develop, due to the constant reworking of them by flood waters. Suitability is lower, having a Class VII. (See soil #1 on map on page B-10.)

The above general soils information for the county was determined from detailed soils mapping, where available, and general reconnaissance and aerial photos. The land capability units for the general soil associations were obtained by averaging the capabilities of individual mapping units and their extent within each association. The average capabilities took into account steep erodible soils and non-arable rangeland soils. Capabilities were averaged only for non-irrigated cropping so that a county-wide comparison could be made.

Climate

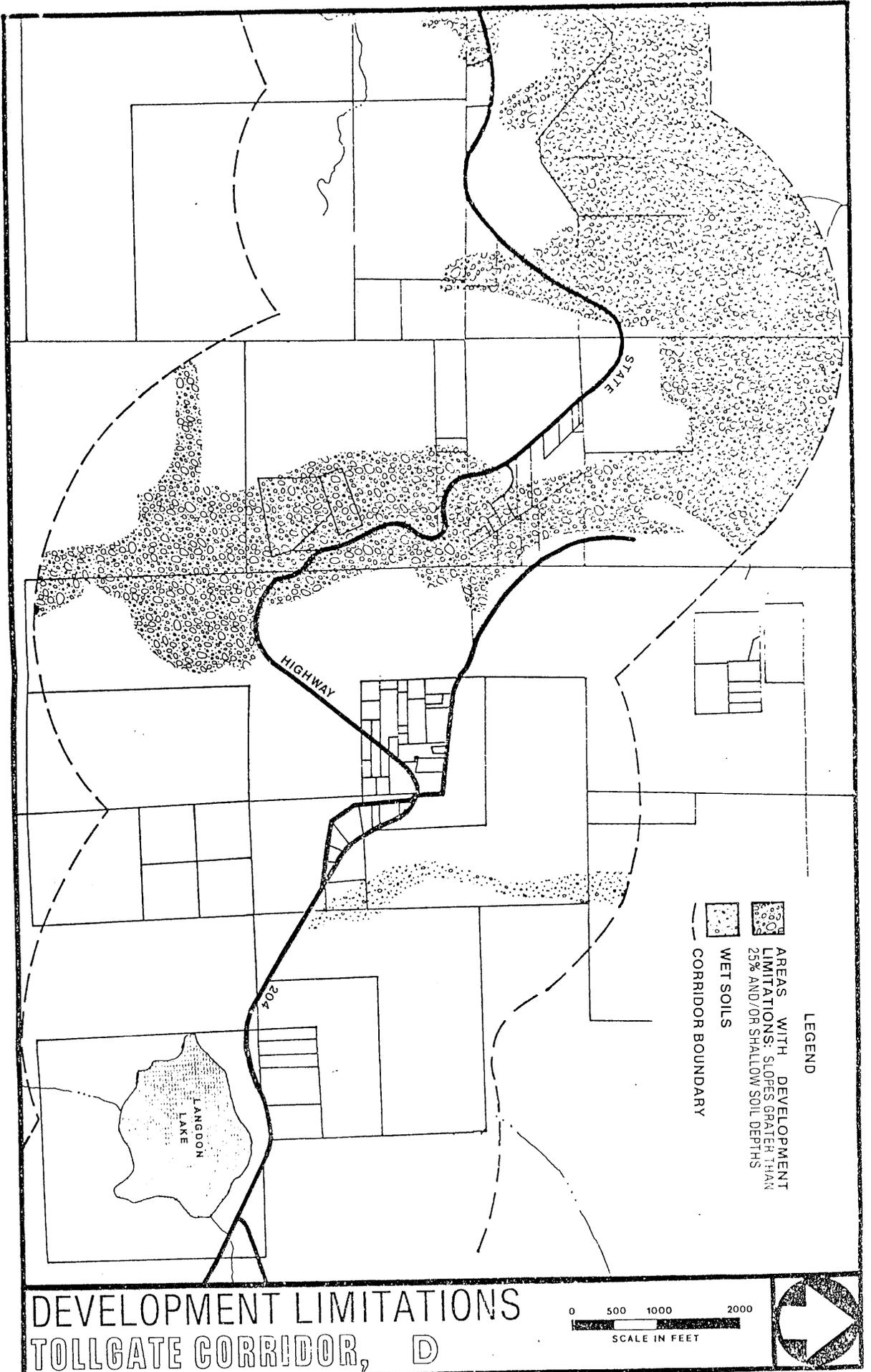
Besides good soils, Umatilla County's agricultural success is dependent upon climate. The desirable semi-arid to temperate climate allows between 120 to 150 frost-free growing days in the dry land farming plateaus, and about 200 frost-free days along the Columbia River. The more temperate mountain areas have shorter frost-free growing season which averages about 50 days.⁴ (See introduction of Comprehensive Plan for more detailed climatic description of the county.)

Water

County agriculture depends upon water in the form of natural precipitation falling directly on the ground, and also from stored water from surface sources such as rivers, streams, etc., and sub-surface groundwater. Natural precipitation amounts increase as elevation rises. Near the Columbia River less than 10 inches of rain is recorded in a year, with amounts averaging less than six inches during the growing season (April to September). In order to grow the many crops presently cultivated in the West County, large amounts of stored water are required to supplement the meager rainfall.⁵

The central wheat lands rely upon a 12 to 16 inch rainfall. Because these amounts are low, a fallow-rotation crop system is practical where some land is not cropped one year and allowed to lay dormant to absorb necessary water for the next crop year.

Natural precipitation reaches maximum amounts when approaching the Blue Mountains. Along its foothills annual rainfalls reach between 15 and 20 inches. Dry land farming mixes with grazing activities due to the steeper topography. Twenty to 50 inches fall in the blues, which supports grazing activities and some timber production. (See maps in Chapter C, pgs. 11, 12, 13.)

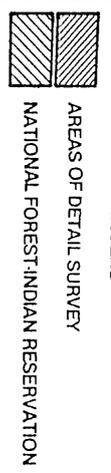
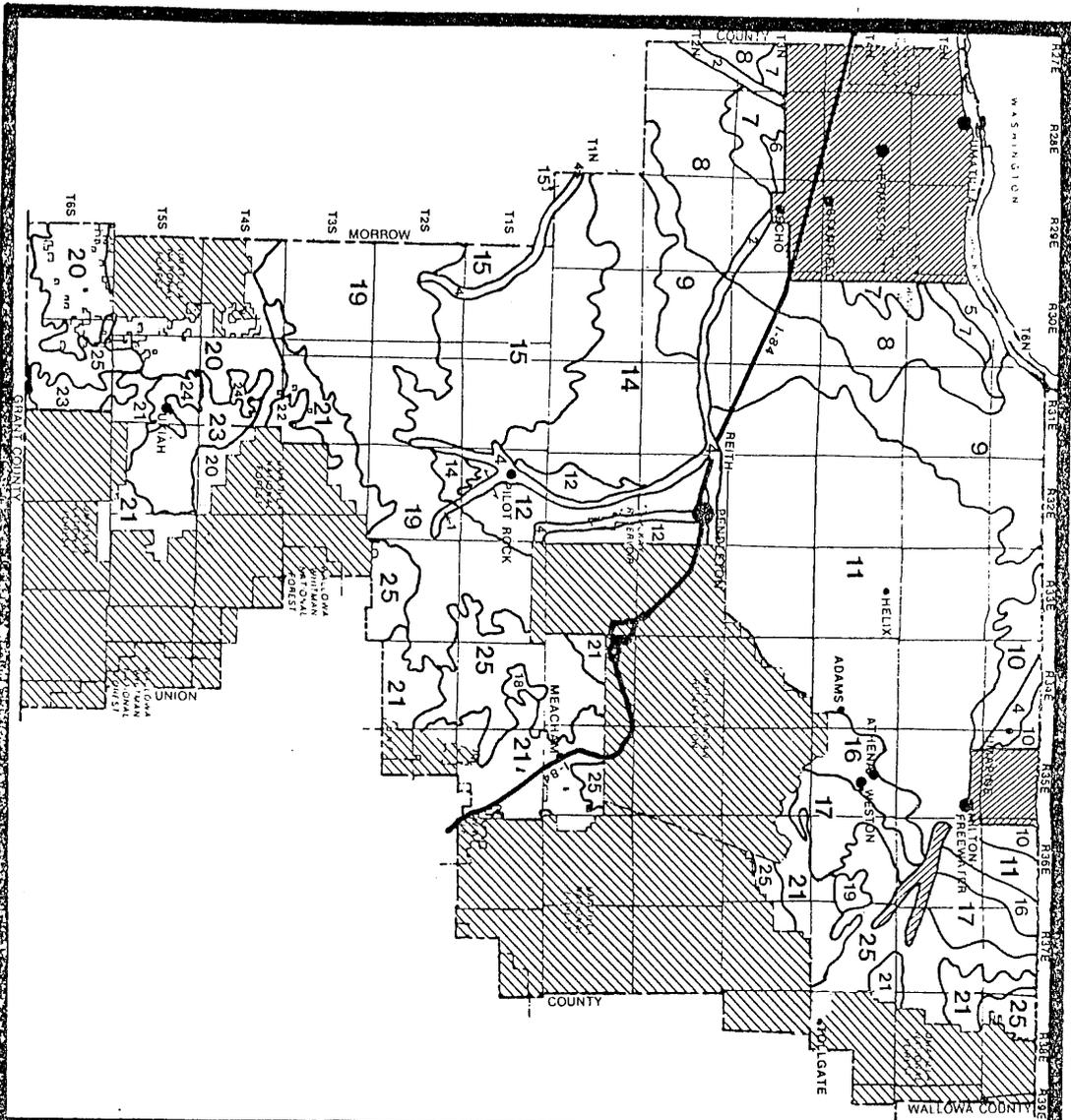


**DEVELOPMENT LIMITATIONS
TOLLGATE CORRIDOR, D**



LEGEND

-  AREAS WITH DEVELOPMENT LIMITATIONS: SLOPES GREATER THAN 25% AND/OR SHALLOW SOIL DEPTHS
-  WET SOILS
-  CORRIDOR BOUNDARY



- LEGEND**
- AREAS OF DETAIL SURVEY
 - NATIONAL FOREST-INDIAN RESERVATION
 - CLASS II ATHENA
 - CLASS III
 - 2 POWDERPEDIGO
 - 4 HERMISTON-YAKIMA
 - 10 ELISFORDE
 - 11 WALLA WALLA
 - 12 PILOT ROCK
 - CLASS IV
 - 8 SHANO-BURKE
 - 9 RITZVILLE
 - 14 CONDON-LICKSKILLET
 - 15 MORROW-BAKEOVEN-LICKSKILLET
 - 17 PALOUSE-GWINLY
 - 19 GURDANE-GWINLY
 - 23 BRIDGE CREEK-HANKINS
 - CLASS V
 - 24 KLAMATH
 - CLASS VI
 - 7 ADKINS-QUINCY-SAGEHILL
 - 21 TOLO-KUCKER
 - 22 HELTER
 - 25 GWIN-UMATILLA-KAHLER
 - CLASS VII
 - 1 XEROFLUVENTS-VEAZIE
 - 5 STARBUCK-QUINCY-ROCK OUTCROP
 - 6 QUINCY-WINCHESTER-WANSER
 - 18 ROCKLY-WAHA
 - 20 KUCKER-TOLO

SOURCE: S.C.S. (Soil Conservation Service) Preliminary Survey 1967.
 NOTE: Information is PRELIMINARY and subject to change. For detailed information contact the County Planning Department, Hermiston, OR 97101.

GENERALIZED AGRICULTURAL SUITABILITIES

UMATILLA COUNTY, OREGON (DRYLAND)



In order to grow the many crops presently cultivated, large amounts of stored water are required. Water plays a critical role because it has other use demands (e.g. domestic consumption, generation of electricity, navigation, and fish migration), and is apparently being "mined" or consumed at a faster rate than replenishment, especially in the West County. Should water supplies not continue, agricultural as well as most facets of the county economy will be adversely affected. For this reason, examining existing and future agricultural water situations is pertinent. (Please refer to Natural Resources Technical Report for overall water picture).

While recognizing natural precipitation's dry land wheat farming contribution, concentration will be given to irrigation farming noting its important crop yield capabilities. An excellent county review of water availabilities and situations is found within the Umatilla County Overall Economic Development Report. The effort here is to extract pertinent data.

Before examining important extractions of the report, it should be noted that there are over 145,000 plus irrigated crop and pasture acres in the the county.⁶

The report indicated that:

- A large majority of the irrigation water is from surface water sources (e.g. Columbia River, Umatilla River, Butter Creek, Cold Springs Reservoir) with significant acreages being irrigated from deep groundwater supplies.
- Both surface and subsurface sources are being or threatening to be depleted.
- The Oregon Water Resources Department has identified one critical groundwater area (Ordinance) where appropriations of groundwater from deep basalt aquifers may be curtailed. A similar situation is developing in the same regions (Stage Gulch, Butter Creek), likely creating additional groundwater supply cutback on an even larger area.
- The Umatilla River is the most obviously over-used surface source, with extreme low flows during summer irrigation seasons and further threatened by unused up-stream diversion claims. Other in-stream uses (e.g. fish migration) are adversely affected by these low flows and could impose additional irrigation cutbacks. Four irrigation districts in the area (Westland, Stanfield, West Extension and Hermiston) rely upon Umatilla River water for irrigation and would be impacted by any allocation cuts. (See Irrigation District Map on page B-14).
- Butter Creek stream flows are also inadequate to meet all agricultural demands.
- Depleting groundwater and traditional irrigation surface source supplies cause irrigators to increasingly rely upon new surface water impoundments and the Columbia River.
- Once thought to be inexhaustible, the Columbia River will not

likely be able to supply projected irrigation demands without adversely affecting other instream uses.

- The State of Washington has recently "laid claim" to a future allocation of 1,360,000 acre feet per year of Columbia River water for several large irrigation projects seriously inhibiting future irrigation development opportunities in Northern Morrow and Umatilla Counties. Such decisions seem to ignore more advantageous alternatives of downstream irrigation development (i.e., shorter pumping distance due to smaller elevation differences; diversions would be below electricity-producing dams, not as greatly impacting energy production on the Columbia River system; and better coordination peak river flows with irrigation seasons).
- Future impoundment opportunities (adding 10 to 12 million acre feet) are possible on the Columbia River system, especially upstream of Grande Coulee Dam and in the upper Snake River basin. This development would not occur, however, without major economic and environmental costs. This additional capacity may or may not benefit northern Umatilla County farmers and cannot be determined until a comprehensive study of costs vs. benefits of all regional issues and uses of the Columbia River is completed.
- The Snipe Creek Project, if developed, could irrigate from 15,000 to 20,000 acres supplementing current inadequate Butter Creek water flows. A water impoundment, canal, and tunnel at Camus Creek would divert needed water during irrigation demand seasons. Much work remains to be done on the project, but there is strong local support for it.
- Another irrigation project (Stanfield-Westland) utilizing Columbia River water, was proposed to irrigate approximately 100,000 acres in Northern Morrow and Umatilla Counties. Original support for the project has since dissolved, but still under discussion is a smaller scale project that would serve low elevation farms near Hermiston and Stanfield where irrigation wells have dropped in recent years.

In all, water is the backbone to continuing expansion of the agricultural economy in Umatilla County. Even though there are additional plans to expand irrigation water use, future availability of this precious resource is questionable. Also, currently escalating costs of energy could limit future irrigation expansion. For example, new thermal costs based on the cost of replacing hydropower with thermal power could have significant impact on an irrigator's operating costs. Also, the costs of many production items are closely tied to energy costs (e.g. equipment costs related to aluminum reduction, a highly energy-intensive process). Other high energy cost items potentially limiting irrigation are fertilizers, essential to Columbia Plateau yields, food processing facilities, another energy user, and finally transportation costs deliver the product to often distant markets.

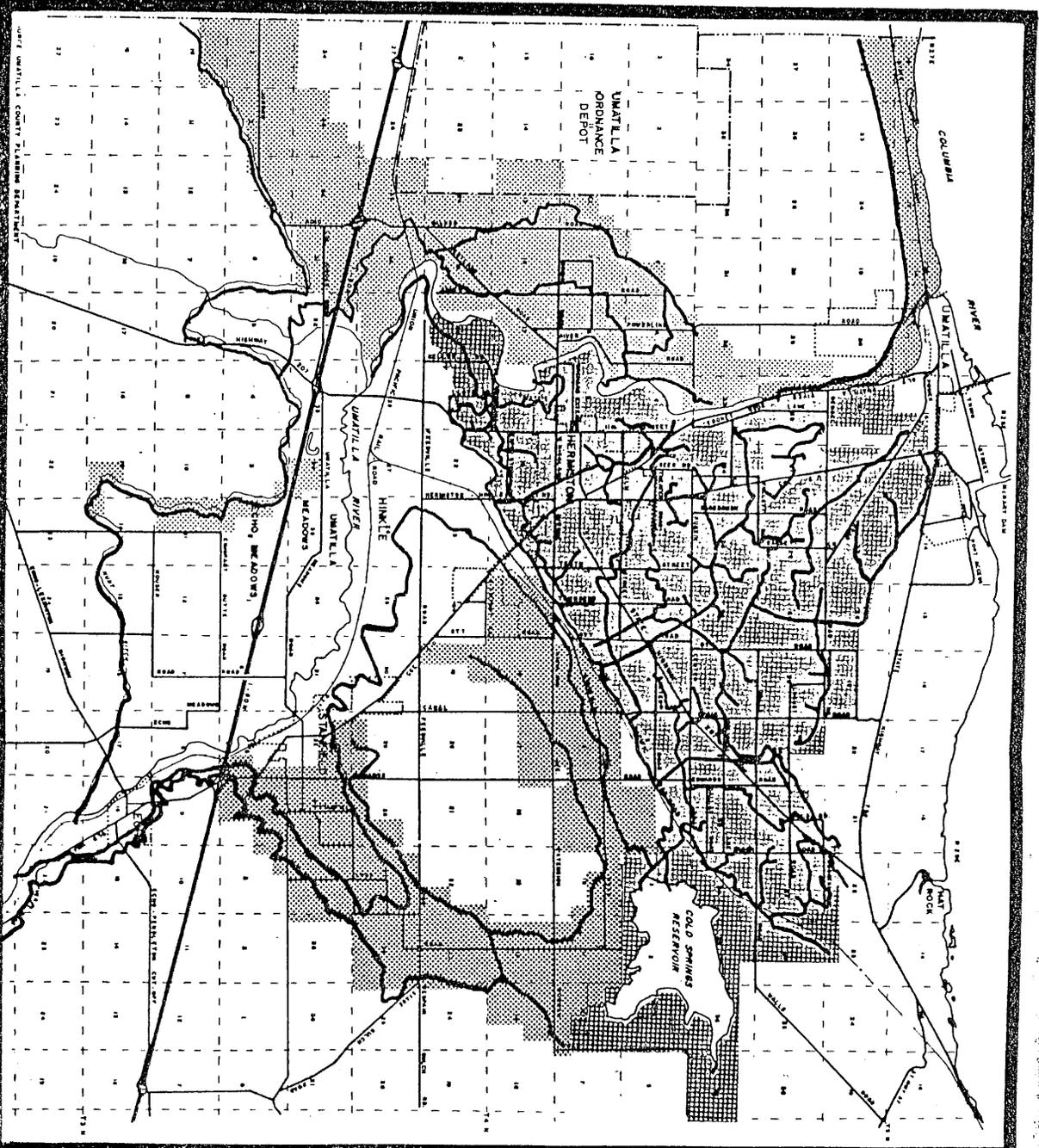
Complicating the quantity issue is the unfortunate absence of a federal water policy to coordinate various local, state, and regional uses of the Columbia River. These federal decisions, besides often not accurately

reflecting nor responding to local and regional needs, have tremendous local impacts upon the future availability of water for irrigation.⁸

Constant pressure to use more and more of the limited Columbia River further complicates future administrative decisions. Most of this pressure felt locally is related to diminishing groundwater supplies previously relied upon for agricultural, industrial, and municipal uses. Deepening these wells is costly and as earlier explained, may not be allowed in specific areas in the future. Recharge is extremely slow, evidenced by 27,000 year old water analyzed.⁹ Also, regulating future groundwater allocations is the responsibility of another non-local agency--the State of Oregon.

Surface water sources are then viewed as the primary future water supply source. Most agree that full county support is important for the most feasible of these surface water projects. However, local situations and concern may not be considered unless county involvement is effective.

From this review, one becomes aware that perhaps the greatest challenge facing Umatilla County farmers is the acquisitions of adequate water supplies. This may not be easy with control in the hands of federal and state agencies. However, it is imperative that local irrigators, agricultural agency personell and local government officials become more actively involved in both surface and groundwater policy formulation. Area concerns need to be constantly addressd and liason with these policy makers insured to maintain accurate data and local peculiarities as allocation decisions are made. Not only important for maintaining irrigation water supplies participation in this process can also help coordinate locally required, agri-industrial and industrial land use development, and needed municipal water supplies, both dependent upon the availability of water. So important is water to the economic viability of the planning area that a special water policy has been incorporated in this plan to evaluate future development against its effects upon the water resource. Its purpose is to initiate a water management process considering the many uses of water. Agriculture will have a high priority in this process. (See Economy chapter in Comprehensive Plan for Water Policy.)



LEGEND

-  STANFIELD IRRIGATION DIST.
-  HERMISTON IRRIGATION DIST.
-  WESTLAND IRRIGATION DIST.
-  WEST EXTENSION IRRIGATION DIST.
-  IRRIGATION CANAL OR PIPE RIGHTS-OF-WAY.

SOURCE:
 DISTRICT 5 WATER-MASTERS OFFICE.
 [1976].



IRRIGATION DISTRICTS
 WEST UMATILLA COUNTY CITIES & VICINITY

COUNTY AGRICULTURAL ACTIVITIES

Cropland

A recent survey reveals that about 700,000 acres of the county is crop land. Crop land can be segregated into two major categories--irrigated and dry land activities.¹⁰ (Please refer to Tables B-1 through B-IV on pages B-23 through B-25 for the most recent harvest and sales value statistics for the following county crops).

Dry Land Crops

Grain crops are the major dryland farm use in Umatilla County. Approximately 570,000 acres of the cropland are devoted to dry land wheat and other small grains. This acreage includes land left fallow in alternate years, mostly for wheat production. In other words, about 285,000 acres are planted yearly in the county for wheat harvesting.

In general, dry land wheat is grown throughout the county. West County grows this crop in its extreme eastern and southern areas. Strip cropping practices are common here where planting is at right angles to the prevailing winds and is cultivated in alternative rows. Strong winds and sandy soils necessitate this conservation practice. North central Umatilla County practices the fallow system and grows the majority of dry land wheat. (See existing land use map in Open Space Technical Report). Dry land wheat is also cultivated in the south central part of the County in the Pilot Rock region.

Nearly all of the wheat planted is in the fall (winter wheat) and is soft wheat low in protein and suitable for pastry and flour. Acreage yields vary according to elevation, soil type and rainfall, with 5-10 bushels per acre in low elevations, dryer, sandy soils nearer the Columbia; to 60 to 80 bushels per acre in higher elevated loamy soils, with higher rainfall in the east-central county area.

Wheat and other small grains have an international market. The majority of this grain is hauled by truck to the Port of Umatilla (McNary) and shipped by barge to Portland for redistribution. Some grain is shipped to Portland by truck.

The future of wheat and its role in Umatilla County is uncertain and unpredictable. The crop is subject to price fluctuations influenced by governmental policies, and to differing annual yields caused by varying weather conditions. Statistics from the Umatilla County Extension Agents point out that the value of sales generated in 1978 from wheat production.

It should be noted that other grain types (e.g. oats, rye, corn, barley) are grown in rotation with wheat. Noteworthy are the diversification and feed producing aspects these grains offer area farmers.

Local extension agents predict a need for additional rain storage facilities, especially at West County shipping terminals should prices, world-wide weather conditions, government regulations, and demand dictate increased harvest. Barge transportation facilities in West Umatilla County are cheaper than transporting by truck and will likely remain competitive because of increasing oil and gas prices.

Green peas are the second most important dry land cash crop in the county. Classified as a field crop, peas are grown along the foothill lands of the Blue Mountains. Starting east of Pendleton to just south of Milton-Freewater. The pea industry has declined recently, but made a significant jump in 1978. Total acreage planted in 1978 was 33,000 representing \$6,800,000 or 8.4% of the total crop revenues. Future uncertainties similar to wheat (e.g. fluctuating demand, government regulations) exist for this crop; however, it will probably be more devastating because of the smaller acreages. Most of the pea crop is processed at plants in Weston, Walla Walla, and Milton-Freewater.

Irrigated Crops

A variety of crops are grown on the irrigated lands which make up about 18% of Umatilla County cropland (120,000 acres).¹² Potatoes, alfalfa hay, wheat, corn, melons, mint, sugar beets, asparagus, and onions are the most common crop varieties grown. Most of these crops are rotated on the same lands to conserve soil qualities and quantities. Because of this practice, it is nearly impossible to ascertain an accurate total acreage of irrigated cropland in any one year. Also included in this section are approximately 36,000 acres of irrigated pasture land. While not classified as a crop, some years these pastures are used to grow hay and do support an important livestock industry.

Irrigated farm land is found extensively throughout the County but mainly in West Umatilla County (95,000 acres) between the Columbia River and the 1,000 foot elevation range. The Umapine area irrigates about 12,000 acres with about 13,000 remaining acres of irrigated land along river and stream bottoms of the Umatilla River, McKay, Wildhorse and Bird Creeks, and the Walla Walla River. Some of this acreage include irrigated pasture land. Yields, revenue, existing and future markets vary with each crop and are comparable in the following manner:

- A. Potatoes - Grown almost exclusively in the West County, yields are uniform (approximately 22 tons per acre). Most of the potatoes are grown on the more sandy soils at lower elevations. Center-pivot irrigation produces nearly all the potatoes harvested.

Potatoes are the number one irrigated cash crop. In 1978, 13,000 acres were being devoted to this crop, with a resulting gross cash sales of \$11,105,000, representing nearly 49% of all county irrigated crop sales.¹³ To emphasize the importance of potatoes as a cash crop, over 13% of all county sale receipts of all crops grown were attributable to potatoes on only 2.5% of total harvested acreage.¹⁴

Expansion of potato acreages will likely follow the expansion of center-pivot irrigation. Additional acreage opportunities exist for future potato production.

Harvested potatoes are trucked to local processing facilities or to cold storage for fresh market distribution. Approximately 75% of the potatoes are processed locally and about 25% are shipped out in cold storage transportation facilities. Cold storage markets

seem to be stabilizing, and additional facilities are not anticipated.¹⁵ The opposite is true of processing facilities where additional plants are contemplated should the expected acreage increases occur. Further analysis of needed food processing facilities are examined later in this report.

Truck and rail facilities are the two major transportation types used by potato growers. After processing, about 60% of the packaged product is shipped out by truck and 40% by rail.¹⁶ As acreages increase, more refrigerated rail cars and additional trucks will be needed. It is speculated that barge transportation could play an important role in marketing potatoes in the future. Future facility siting will have to place considerable importance upon transportation access.

- B. Alfalfa - Alfalfa hay is the second most important irrigated cash crop. Some 30,000 acres of alfalfa were harvested in 1978 in Umatilla County. Two thirds of all county hay production was in the West County.¹⁷ Average yields range from four to seven tons per acer. Traditionally, most of the alfalfa has been grown in the irrigation districts and along streams and river bottoms but now has given way to center-pivot irrigation farming in the West County. Additional acreages of alfalfa hay are forecast in the future consistent with sprinkler irrigation development. Gross value sales in 1978 for Umatilla County amounted to \$2,025,000 or 2.5% of all crop revenues.¹⁸

Two markets are available for alfalfa. The major market is for the feeding of local livestock and horses. Supplementary markets are regional with most of the feed hay being shipped to the Willamette Valley and coast. Foreign and national exporting markets are now beginning to develop. Pellet and cubing of the alfalfa locally allows longer distance shipping. Japan is currently the largest importer of pelletized feeds. Barge transportation is used to ship the processed alfalfa to Portland for reloading onto ocean-going ships. Existing cubing and pelleting facilities are said to be adequate for the long range market needs.¹⁹

- C. Irrigated Wheat - Irrigation water increases wheat yields tremendously. Average yields are about 60 to 80 bushels per acre with irrigation as compared to an average of 25 bushels per acre dryland farmed in West Umatilla County. Irrigated wheat acreages have been steadily increasing with center-pivot irrigation. It is estimated that 12,000 acres (1977 estimate) of irrigated wheat is grown on a rotating basis under center-pivot systems. Additional irrigated wheat acreages are found around Umapine and Spofford both in the vicinity of Milton-Freewater.

Market conditions and transportation requirements are similar to dryland wheat production reported earlier. Irrigated wheat will, however, likely increase in harvested acre with increased irrigation development upon once dryland farmed areas.

- D. Irrigated Pasture - Nearly 36,000 acres of pasture land is maintained in Umatilla County. Significant amounts are maintained in the irrigation districts of Hermsiton, West Extension, and Westland. (See

Irrigation Districts Map on page B-14). These pastures are small and often maintained by part-time farmers. However, Echo and Umatilla Meadows are important large winter pasture areas supporting numerous herds of cattle and sheep. The Umatilla River flood plain between Pendleton and Nolin, Birch Creek north of Pilot Rock, Wildhorse Creek, and other isolated acreages also support pastures. Pastures provide feed for horses and supplemental forage base for range livestock.

- E. Other Irrigated Crops - Mint, melons, sugarbeets, corn, onions, asparagus, and sweet corn are secondary row crops harvested in Umatilla County. All require irrigation to be successfully grown. Corn silage is also included in this category. Most of the corn is used locally by the major feedlot operators.

Market conditions play an important role in the future production of the above irrigated crops. For example, sugarbeets are experiencing poor world-wide prices and processing plants are located too far away, increasing transportation costs to a non-profitable level. Mint does not have the transportation problems of sugarbeets (it is more storable and convenient to transportation); however, prices are quite elastic. Corn silage has a tremendous potential for growth. Local markets for the silage are now possible due to rising meat prices, the other livestock forage feeds readily available to cattle raisers and favorable livestock wintering conditions (e.g. late winter frost).

Several other irrigated crops are grown in the remaining in county area, some of which are also grown in the West Coun. These crops include asparagus and onions cultivated in the east county, and sweet corn, snap beans, alfalfa seed and lima beans in other areas of the county.

- F. Fruit Orchards - Most of the county's fruit is grown in the Walla Walla Valley in east Umatilla County. About 3,200 acres are irrigated by flood and sprinkler irrigation to produce apples, cherries, prunes and plums. Peaches and apricots also make minor contributions to the area's fruit harvest. By far the most important crop is apples, which contributes over 50% of the total county fruit sales which amounted to \$3,600,000 in 1978.²⁰ Most of the crops are processed locally in fresh-pack plants in Milton-Freewater. Most of the processed fruit is shipped by rail to U.S. markets.

Since 1970 there have been major changes in fruit production with a great drop in peach and apricot production and increases in apples and cherries production. Much of the change in Umatilla County's fruit production is related to changing markets. Overseas markets, especially Japan and China could become important future consumers thus lessening those adverse aspects of domestic competition from California, Florida, and the Northwest. However it often takes many years to develop international markets.

The lower Walla Walla Valley (north of Milton-Freewater) matures fruit sooner than the upper Walla Walla River Valley (south of

Milton-Freewater) giving lower valley fruit growers the higher prices associated with the early fruit market. (See also Orchards District Lot Size Analysis Section).

County Rangeland Activities

Rangeland or grazing lands are found in three distinct areas of the County. Rangeland that is not forested lies in two belts, one along the Columbia River and the other at higher elevations between the cropland and the forest land. Grazing forest lands (those in mixed forest-open space areas) are found in the Blue Mountains.

Rangeland uses constitute a large land area in the County. Over 760,000 acres or 37% of the total county is used for this purpose.²¹ Some of this acreage is wooded.

The history of grazing land usage in the county is typical of grazing history in the western United States. Rangeland was in excellent condition before livestock numbers were introduced which exceeded the sustaining capacity of the resource. First indications of range depletion occurred during a series of dry summers in the early 1900's. However, no significant reduction in livestock numbers occurred until the early 1920's. By then large areas of grazing land had reached depleted conditions which have only recently begun to recover.²² (See existing land use map in the Open Space Technical Report.)

The county grazing resource included three general range types: 1) sagebrush-grass-annual grass; 2) foothill bunchgrass; 3) conifer-shrub-grass.

The general range type found in the West County area is sagebrush-grass-annual grass. The majority of range is located in the southern portions of this region near Alkali Canyon and Service Buttes. Elevations range from 1,000 to 1,500 feet, usually above practical irrigation heights and on shallow topsoils not conducive to wheat farming. Narrow canyon bottoms where intermittent water is available also make excellent grazing land. Such areas exist in Despain Gulch, Cold Springs Canyon, and Missouri Gulch.

The predominate vegetation on grazing land is cheatgrass with some bluebunch wheatgrass, needlegrass, squirreltail, sagebrush, rabbitbrush and bitterbrush. Condition of this range is mostly fair in the southern portions of the West County. Range capacities diminish toward the Columbia River where sandy soils and lower rainfalls cannot sustain lasting forage. Lower elevation ranges are considered fair to poor.

Major uses of rangelands are for sheep and cattle. Sheep ranchers own a majority of the grazing land in the southern portions of the West County. Sheep are ranged here in the late fall, winter and early spring. Cattle are also ranged in this vicinity and are also pastured on rangelands in the lower elevations nearer the Columbia River.

Rangeland on the Blue Mountain foothills is classed as foothill bunchgrass type and occurs in the intermediate elevations on the rolling uplands and in the main cropland area in the steep, non-cultivated areas with shallow soils. The vegetation occurs in two distinct types, the bluebunch wheatgrass and Sandberg bluegrass type; and the Idaho fescue and bluebunch wheatgrass type. Where rangeland is intermixed with cropland, forage production is

supplemented by grazing grain stubble. Where no cropland is present, rangelands are grazed in the spring and fall.²³

Range capacities vary greatly in the foothill rangeland. They are considered better than the lowland rangelands in West Umatilla County with fair to good conditions.

The conifer-shrub-grass type occurs in the higher elevations of the Blue Mountains. Those areas forested have a tree overstory and a scrubgrass understory. Scrubs include bitterbrush, sagebrush, snowberry, ninebark, and ocean spray. Grasses under the forest cover include bluebunch wheatgrass, Idaho fescue, pinegrass, needlegrass, and elk sedge. There are some mountain meadow grazing lands, especially in southern Umatilla County around Ukiah.

Range conditions in the mountain grazing areas vary from poor to good. Livestock are grazed here in the summer and early fall.

Generally, livestock operations have a yearly sequence of operation. During the winter months animals are kept in the lower elevation areas along river and stream valley bottoms or pasture and grazing lands in the West County. Some livestock are now, however, being grazed on circle irrigation lands with a winter feed crop such as turnips. When spring arrives, the cattle are trucked to the Blue Mountain foothills. In June the animals are herded into the mountains where they graze until fall. During the fall months they graze in the foothills again. From October to December the animals are rounded up and driven to home bases to weather the winter cold.²⁴

Rangelands and forest grazing lands provide important supplemental feeds for livestock and help maintain local livestock industries. They can be preserved and maintained for grazing uses compatible with multiple resource management.

Livestock Industry

Umatilla County supports an important livestock industry. Available feed grains, favorable climatic conditions, and forage grasslands make livestock ranching a desirable and important supplemental income for the agricultural sector of the economy.

A look at Table B-II on page B-24 sums up the livestock situation in Umatilla County. It lists the number of head sold and value derived from the three major livestock types in Umatilla County. Cattle and calves make up the greatest percentage of animals sold averaging about 55% of the total livestock numbers for the period 1970 to 1978. Sheep and lambs are next with 30%, with hogs and pigs contributing 15% of the major livestock types sold over the seven year period. Table B-II also shows that the value of a livestock sales has had a cyclic trend with a near double of value from \$15,887,000 in 1970 to \$26,372,000 in 1973 to a significant dip and resurgence in 1978 of \$22,955,000.

Diversification in agriculture is extremely important as it helps absorb losses in certain sectors of the agricultural economic structure which have traditionally been highly sensitive to governmental controls and other internal and external conditions. The livestock industry has valuably contributed to this area's diversity opportunities. This can best be illustrated by briefly comparing crop vs. livestock cash contributions. Referring to Table B-III on Page B-25, livestock and livestock product gross cash receipts contributed between 18 and 38% of all the agricultural marketing in Umatilla County during

the period 1970 to 1976. In 1973, crops contributed 70% of all county gross cash receipts and livestock approximately 30%. For the three years 1974, 1975, 1976 crop contributions rose to 80% and 82% of all gross cash receipts, and livestock sales dipped 10% below previous levels. Increases in irrigated crop acreages with corresponding higher yields and cash returns, and plunging meat prices which depressed sales and reduced herd numbers have contributed to livestock's smaller percentage share. However, smaller herd numbers and an increasing demand for meat, coupled with drought in 1977 have brought meat prices up and crop yields down to a point where crops contributed about 70% of all cash receipts and livestock sales 30%. This is the same percentage ratio that occurred in 1973.

The livestock industry is likely to remain a strong contributor to Umatilla County's agricultural economy. What role it will play is discussed in the following sections.

Livestock Types and Numbers

For purposes of this section, the term "home base operation" will be used to define livestock number estimates. Home base operations are where livestock is based in an area for at least six months of the year.

Cattle, sheep and pigs make up the majority of livestock types born, fed and shipped from the County.

By far the most important in terms of numbers and sale values are cattle and calves. It is estimated that about 85,000 head of cattle-calves were wintered and fed in the county during 1978.

In 1977, there was an inventory of 18,000 hogs and pigs in Umatilla County. Nearly all of this inventory is attributed to Hansells' Pig Farm near Ordnanee in the extreme western section of the county.

Sheep and lambs are the third livestock type. In 1978, about 22,000 head were inventoried in Umatilla County. Approximately one half of the total county sheep and lamb inventory is "home based" in the West County.

Approximate value attributable to cattle-calves sales can be obtained from Extension Service data. Table B-II shows that in 1978 about \$18,300,00 in gross cash receipts resulted for cattle sales in the county.

Hog and pig sales amounted to just over \$3,000,000 in 1978. Most of this is directly attributable to West County operations.

Summing up, Umatilla County contributions of the three major livestock types amounted to approximately \$23,753,000 in livestock cash receipts. A careful assessment is therefore necessary when planning for future livestock industry land use needs.

A stable and growing livestock industry is usually attributable to several factors. First of all, the climate must be favorable to operate a livestock industry for as much of the year as possible and also to grow the necessary feed for fattening the animals. Second, low rainfalls and sandy soils are prerequisites for penning the animals in commercial feedlots. Third, there must be available markets and a transportation system able to handle livestock

and livestock by products. Finally, a water supply is required to sustain animal populations. All the above resources are found in the County. Following is a more detailed explanation of these attributes.

The County's predominately semi-arid to temperate climate with late frost and sandy soils makes possible nearly year round operation with excellent drainage for concentrations of animal wastes. Being a major hay growing area along with available silage grains and starch byproducts form local food processors enhances the county as an important livestock raising area.

Umatilla County is also favorably located in relation to available markets. Portland, Seattle, and their metropolitan hinterlands provide the majority of consumers. Cattle, for instance are mainly transported to Portland slaughterhouses from area feedyards. Sheep from Athena, Weston, Hermiston and Reith feedyards are processed mostly at Ellensburg, Washington for distribution for Seattle and Portland consumption. Pork meat from the Hansell Farm is similarly shipped to Pendleton and Portland slaughter facilities for regional markets.

Local transportation linkages to processing facilities and to markets are excellent. Many live animals are transported to area feedlots from Idaho, Montana, and other Eastern Oregon locations taking advantage of the excellent highway facilities. Highways I-84N and I-90N are the main arteries for transporting processed meats. Nearly all mutton and beef are carried by refrigerated trucks which provide fast service and less product damage than other transportation forms. Trucks also play an important role in the movement of live animals to slaughtering or meat processing plants. Over 50,000 head of cattle and 20,000 head of sheep per calendar year are shipped by truck from the C & B Livestock feedyard in West Umatilla County.

Another essential transportation type used by the livestock industry is rail facilities. Feed grains for major feedlot operations require close rail line proximity to reduce transportation costs and take advantage of lower cost feeds in other regions. A lot of supplemental feed required at commercial feedlots in the county is shipped by rail from the mid-west. Also, rail facilities are needed at most meat packing facilities to enable animal by-product shipments to available markets. Main line rail facilities converge in the county connecting to points east, west, north and south.

Water in the form of irrigation plays a significant role in the health and viability of the livestock industry. Originally, creek and river floodplains as well as flood irrigation projects supplied water to pastures and feed for livestock herds. Now center-pivot irrigation systems have added stimulus and opportunities to the industry. Not only are they providing more local feed and silage per acre for livestock, but also this more efficient irrigation system allows the farmer to plant a winter cover feed crop to stabilize soil erosion and provide winter livestock feed. Also, increased crop acreages have fostered food processing plants which in turn produce saleable by-products usable as animal feed. A mutually beneficial relationship is then established in that normally cumbersome and costly waste by-products become useful commodities. The result is more animals staying in the area for longer periods of time, thus generating more local dollars for area farmers. If irrigation acreages increase, there will be additional opportunities for the livestock industry.

Umatilla County
Grains, Field Crops, Truck Crops, Fruit, Hay and Silage

	<u>Harvested Acres</u>	<u>% Total Acres</u>	<u>Value of Sales</u>	<u>% Total Sales</u>
heat	293,400	94%	\$45,375,000	96%
	(16,000 irrigated)			
Barley	16,000	5%	1,454,000	3%
Oats	500	0.05%	15,000	0.02%
Rye	600	0.05%	35,000	0.07%
Corn	3,000	0.09%	97,000	0.02%
<u>TOTAL GRAINS</u>	<u>313,500</u>	<u>100%</u>	<u>\$46,976,000</u>	<u>100%</u>
Potatoes	13,000	22.5%	\$11,105,000	48.7%
Green Peas	33,000	56.6%	6,864,000	30.1%
Asparagus	350	0.6%	381,000	1.7%
Sugar Beets	650	1.1%	368,000	1.6%
Watermelon, Musk- melon, Cantaloupe	720	1.2%	488,000	2.1%
Mint	900	1.5%	586,000	2.5%
Other (Dry Peas, Dry beans, Sweet Corn, Onions, and Others)	9,645	16.5%	3,009,000	13.3%
<u>TOTAL FIELD AND TRUCK CROPS</u>	<u>58,265</u>	<u>100%</u>	<u>\$22,801,000</u>	<u>100%</u>
Apples (boxes)	900,000	N/A	3,600,000	58.1%
Cherries (tons)	1,520	N/A	1,216,000	19.6%
Prunes & Plums (tons)	7,980	N/A	1,194,000	19.2%
Other Tree Fruits, (boxes) Peaches & Apricots	-----	N/A	128,000	2.1%
Small Fruits & Berries, (Straw- berries, Grapes, Raspberries, etc.)	-----	N/A	62,000	1.0%
<u>TOTAL FRUITS</u>	<u>-----</u>	<u>N/A</u>	<u>\$6,200,000</u>	<u>100%</u>
Alfalfa	30,000	48.7%	\$2,025,000	78.7%
Other Hay (sm. Grain, Wild clover)	7,000	11.4%	21,000	.8%
Corn Silage	2,000	3.4%	115,000	4.5%
Other Silage (mint Peavine, etc.)	22,500	36.5%	411,000	16%
<u>TOTAL HAY AND SILAGE</u>	<u>61,500</u>	<u>100%</u>	<u>\$2,572,000</u>	<u>100%</u>

SOURCE: Compiled by the Umatilla County Extension Staff, 1978

TABLE B-II

Umatilla County Livestock Production, 1970-78

Number of Head Sold: Cattle, Swine, and Sheep

	1970	1971	1972	1973	1974	1975	1976	1977	1978
Cattle & Calves	85,600	88,800	84,550	98,000	86,000*	92,000*	95,000*	95,000	85,000
Hogs & Pigs	36,000	39,600	31,400	20,000	29,400	17,000	15,500*	16,000	18,000
Sheep & Lambs	90,600	117,600	116,600	40,000	25,000	30,000*	24,000*	26,000	22,000
Total Head	212,200	246,000	232,550	158,000	144,400	133,000**	131,500*	137,000	125,000
Total Value, \$000	15,887	17,885	21,290	26,372	18,137	20,074	18,089	22,584	22,955

* Number inventoried. Otherwise all figures are for number of head sold.

** Numbers sold and inventoried combined.

10 B-III
UMATILLA COUNTY
Gross Cash Receipts from Agricultural Marketing
Revised Estimates, 1970-76

	1970	1971	1972	1973	1974	1975	1976
	\$1000 %Total						
CROPS	29,743 63.1	31,620 61.9	45,911 66.5	69,323 70.2	96,515 82.3	86,678 79.9	78,161 80.1
All Grains (Wheat)	15,317 32.5 (14,189)	16,871 33.0 (12,834)	27,278 39.5 (24,454)	46,661 47.2 (45,138)	58,786 50.2 (57,168)	51,267 47.3 (49,515)	43,973 45.1 (42,611)
Hay & Silage & Grass and Legume Seeds	2,208 4.7	2,875 5.6	2,721 3.9	5,792 5.9	5,516 4.7	5,061 4.6	5,525 5.7
Field & Truck Crops (potatoes)	8,646 18.4 (2,832)	9,516 18.6 (1,576)	11,868 17.2 (4,435)	12,204 12.4 (6,192)	26,523 22.6 (12,361)	25,267 23.3 (12,647)	21,974 22.5 (11,401)
Fruits	2,596 5.5	1,408 2.8	3,084 4.5	3,686 3.7	4,472 3.8	3,297 3.0	4,869 5.0
Specialty Crops	976 2.1	950 1.9	960 1.4	980 1.0	1,218 1.0	1,800 1.7	1,820 1.9
LIVESTOCK AND LIVESTOCK PRODUCTS	17,372 36.9	19,477 38.1	23,126 33.5	29,460 29.8	20,705 17.7	21,779 20.1	19,386 19.9
Cattle & Calves	13,145 27.9	15,226 29.8	17,076 24.7	23,255 23.5	14,961 12.8	16,046 14.8	14,613 15.0
Hogs	1,949 4.1	1,446 2.8	1,833 2.7	2,464 2.5	2,043 1.7	3,039 2.8	2,393 2.5
Sheep & Lambs	793 1.7	1,213 2.4	2,381 3.4	953 1.0	1,133 1.0	989 .9	1,083 1.1
Other*	1,485 3.2	1,592 3.1	1,836 2.7	2,788 2.8	2,568 2.2	1,705 1.6	1,297 1.3
TOTAL	47,115 100.0	51,097 100.0	69,037 100.0	98,783 100.0	117,220 100.0	108,457 100.0	97,547 100.0

* Includes Dairy Products, Poultry and Eggs, Horses and Mules, and Miscellaneous Animals.
SOURCE: Compiled by ECOAC from information gathered by Umatilla County Extension Staff

TABLE B-IV

ESTIMATED GROSS CASH RECEIPTS FROM AGRICULTURAL MARKETINGS
UMAITLLA COUNTY
1978

<u>CROPS</u>	<u>1978</u>
Grains - - - - -	\$46,976,000
Hay and Silage - - - - -	2,572,000
Grass and Legume Seed - - - - -	1,094,000
Field and Truck Crops - - - - -	22,801,000
Fruits - - - - -	6,200,000
Specialty Crops - - - - -	2,100,000
<u>TOTAL ALL CROPS</u> - - - - -	\$81,743,000
<u>LIVESTOCK</u>	<u>1978</u>
Cattle and Calves - - - - -	\$18,338,000
Hogs - - - - -	3,043,000
Sheep and Lambs - - - - -	1,574,000
Poultry (Chickens, Broilers & Turkeys) -	1,000
Horses and Mules - - - - -	100,000
Other Livestock and Livestock Products -	697,000
<u>TOTAL, ALL LIVESTOCK AND LIVESTOCK PRODUCTS</u>	\$23,753,000
<u>TOTAL, ESTIMATED GROSS CASH RECEIPTS, ALL CROPS LIVESTOCK AND LIVESTOCK PRODUCTS</u>	\$105,496,000

NOTE: These data indicate only gross cash receipts from agricultural marketings. They do not reflect production costs nor net returns to Umatilla County farmers and ranchers.

SOURCE: Umatilla County Extension Staff, 1978

Commercial feedyards play a very important part in the livestock industry. Livestock feedyards are important facilities providing meat products for human consumption. They arose from need to produce volume amounts profitably in an increasingly competitive and complex market.

Feedlots are often termed processing plants. Feeder cows (sizes vary from 500 to 800 pounds, depending on market conditions and feed prices) are either sold to feedlot operations or contracted to them on a custom feeding basis. Fattened on local and regional feed, animals are then shipped by truck to area processing plants for slaughter and butchering.

Feedlot operations use the most modern marketing techniques, devoting their time, monies and expertise to finding the best and most efficient marketing means. Most farmers do not have this time nor expertise. Feedlots, therefore, offer the farmer opportunity to raise and sell livestock to commercial feedlot operations at the most advantageous times. For example, if market prices are high, the farmer may wish to sell the cattle himself directly to processing plants. It eliminates the burden of potential loss later and enables the farmer to concentrate on other more promising aspects of his farm operation. Feedlots thus provide valuable services to local stockmen.

Feedlots in the county understandably require most of the previously described resource amenities needed for successful livestock raising. A most important requirement is that animals be near a feed source. In addition, physical land requirements dictate favorable soils which allow proper drainage of effluents. The presence of these amenities have resulted in several major feedlots in the West County. Several in Central County and several feedlots in the east county in the vicinity of Milton-Freewater. All facilities are extremely important to the local and total-county agricultural economy.

The future outlook for the livestock industry appears promising. The greatest growth potential is connected with field crop expansion under center-pivot irrigation. Increased crop residues, silage feeds and possibilities for more winter ranging under irrigation circles will increase livestock inventories in the West End.

With the anticipated increase in herd numbers comes the possibility of a local meat packing facility. Recent trends show that meat packing facilities are moving closer to their source--the animals. Environmental regulations and the increased cost of sewage disposal near market areas have furthered this trend. Higher water costs have also added to the cost of processing meat near urban markets.

The location of a local meat processing plant has a variety of advantages for livestock producers. Of significance is an estimated 50% transportation savings by shipping processed meat rather than live animals. Greater yields are also anticipated with less shrinkage that normally occurs during transporting the live animals to slaughter. Nearly a 1% increase in weight yield will be realized with a localized meat packing facility. Other beneficial savings are less bruising damage during transportation and the previously mentioned cost savings using local area water and sewage disposal facilities.

A local meat packing facility will require rail access to ship the by-products (e.g. hides, entrails) and a road system to transport the product to market. Needed will be 30 to 50 acres to house all necessary facilities, and there must

be access to energy.²⁵ In addition , a steady supply of animals is desirable, making feed yard operations extremely important in the establishment and sustainment of a meat packing facility.

Local expertise predicts that future transportation needs are adequately met with existing facilities. Both rail and road transportation linkages are regionally excellent with the local picture needing some improvements, however.

When discussing future feed yard needs, it is important to consider both the continued viability of existing operations, as well as the property location of potential feed yards. Their importance is evidenced by the fact that a majority of all cattle and significant numbers of sheep and pigs born, raised or fed in the county are involved in the feed yard process.

Existing feedlots are difficult to locate and move. They require special physical site properties, transportation facilities, and buffer areas to protect objectionable activities normally associated with them. With these facts in mind, controlling future land uses near these facilities through the comprehensive planning and zoning process is necessary.

The apparent growth of the livestock industry is likely to spur new commercial feedlot operations. Because of their roughage utilization, it is better for them to be scattered and draw from a surrounding area. Railroad access is a prerequisite, especially for larger scale operations. Future feedlot siting will also require adequate drainage facilities including runoff-collection basins and treatment of disposal systems. Odors, noise, insect and rodent infestation and visual appearance are problems that should be considered in developing policies related to livestock feeding areas.²⁶

Site size requirements for feedlots vary depending upon physical site qualities, construction techniques and marketing practices. Economical herd sizes also vary depending upon income, return desired, and whether feed is purchased or processed on site.

Land Use Considerations in Agricultural Areas

Necessary for continued agricultural growth is stabilization of the persistent escalating costs of farming. There are numerous reasons for these higher costs (e.g. energy prices, inflation, various governmental regulations), most of which are beyond the control of local farmers. Discussion of these various problems are found in the Umatilla County Overall Economic Development Report. To avoid repetition, only those issues that local government can effectively and logically minimize regulatory requirements or otherwise influence, stabilize and improve future farming costs will be discussed here.

An unapparent, yet significant contributing cost to economical farming can be unplanned and uncontrolled land use development. For example, dense non-farm developments are generally incompatible with farm uses. As this form of urban encroachment occurs into the farming areas, there can be numerous urban-agricultural conflicts, such as excessive taxes resulting from a shift of development and public service costs to farmers, adverse effects of non-farm land uses and agricultural operations, and objections of non-farm people to some farm activities.

Under the first group, it is often found that one reason non-farm uses move to rural areas is to avoid urban taxes. At first this may be possible, but as more

people move into an area, and as developers begin to create subdivisions and small lot partitions, the demand for urban services such as better roads, road maintenance, new schools and a larger school bus system, increases county and school districts costs and thus taxes.²⁷

Detrimental effects of non-farm activities on agricultural operations can also include greater possibilities of trespass, harassment of livestock, and trampling of crops.

Concluding, with indiscriminate land conversion, suburban-rural farmers become reluctant to make capital investments, even though new expenditures are essential to maintaining high levels of farm output. Additionally, spot urban development may preclude expanding of a successful farm operation to reap the benefits of increased economies of scale, because either the adjacent lands are too costly or have been subdivided for other more competitive uses.

Part of the strength of an agricultural area lies in its cohesiveness as a unit. Once a farming area is partially urbanized the ability of that area to resist further conversion is substantially reduced. The strength of an area then lies not in the fact that an operator is farming the land currently, but that upon ownership exchange the land will continue in agricultural use.

Non-farm residents in a rural area also sometimes find certain aspects of normal farming operations objectionable. These objections include farm odors, smoke from smudgepots, noises made by farm animals and equipment and dust created by tillage operations. The use of pesticides and herbicides may be a cause for complaint. In some instances crop duster applied sprays drift as much as one mile and cause extensive damage to non-farm gardens and landscaping.²⁸ Occasionally these objections have resulted in regulation by health authorities.

Umatilla County farms have also experienced some side effects of intrusion of urban and suburban development. An example has occurred in the Hermiston Irrigation district where rural non-farm residences on small parcels have helped erode agricultural stability. This is also true in the West Extension Irrigation District and in parts of the Westland Irrigation District. (see map on page B-14) To a lesser degree rural non-farm development has occurred in farming areas around Pendleton and Milton-Freewater. In all instances, rural subdivision and partitionings ranging from one half one, two and four acres have consumed significant acreages of once agricultural land in the past 10 to 25 years. This trend has effectively eliminated many farms and could pose serious problems and conflicts to those existing commercial and contributing part-time farming operations in the vicinity. Some of the more important problems and conflicts are: increased demands for irrigation groundwater supplies for domestic use; higher costs in the distribution of water for irrigation; higher operating costs and increased land assessment; restrictions on the use of farm chemicals; complaints of odors, dust, noise, dogs and children vs. livestock pose increased liabilities to farmers.

To help mitigate these problems and maintain the stability of farms and farm land, several land use implementation measures can be utilized. The implementation measures, along with several required state goals are outlined below:

Exclusive Farm Use Zoning

Land Conservation and Development Commission Planning Goal #3 requires that agricultural lands be inventoried and preserved by adopting exclusive farm use

zones pursuant to ORS 215. Exclusive farm use zones substantially limit non-compatible uses in farming areas. Only farm uses are allowed, except public and private services deemed compatible with farm uses.

Exclusive farm use provisions also recognize that certain non-farm uses may be carried out with little or not conflict in agricultural areas. Such uses are primarily commercial, industrial or recreationally oriented and in many cases may inherit secondary economical benefits from agricultural activities. A public review procedure is required before each of these uses is permitted to operate. This allows local assurance of conformity and compatibility. Exclusive farm use zoning is also flexible in that it allows non-farm residential uses when the following review criteria is met:

- The proposed dwelling is compatible with adjacent farm uses;
- The proposed dwelling will not interfere seriously with accepted farming practices on adjacent lands devoted to farm uses;
- The proposed dwelling will not materially alter the stability of the overall land use pattern of the area.
- The proposed dwelling will be situated upon generally unsuitable land for production of farm crops and livestock, considering terrain, soil-land condition, drainage and flooding, vegetation, location and size of the tracts.

Associated with non-agricultural development are small lot sizes which can threaten the solidarity of an agricultural region. The exclusive farm use zoning laws and State Agricultural Goal #3 address this potential problem. Lots size minimums along with review standards and procedures which are appropriate for the continuation of existing agricultural practices are prescribed. Because agricultural activities vary and require different special quantities and qualities. Minimum lot sizes and other more appropriate protection strategies are left to the discretion of local jurisdiction. It is further recognized that in agricultural areas land division for farm purposes are necessary. There are some limitations, however, set forth in exclusive farm use zones that require that all land partitions be reviewed, and approved or disapproved by the county, to help protect and preserve commercial agriculture in Umatilla County.

Support services such as sewer and water lines greatly influence development. Many of the string or strip development derive their origins from improved roads, sewer and water lines. Exclusive farm use zoning can help insure against premature development caused by stimulating effects of support service extensions because the statutes require: services needing to pass through agricultural land shall not be connected with any use that is not allowed in an exclusive farm use area; that new services shall not be assessed as part of the farm unit; the capacity of these new services shall be limited to serve specific service areas and identified needs.

Intensive study has been made of agricultural land in the county. In 1972, about a million acres were identified as protected through a variety of management techniques similar to those earlier discussed. The most effective, all inclusive management tool, however, has been exclusive farm use (EFU) zoning. Not only has exclusive farm use zoning prescribed or recommended conforming agricultural uses, lots sizes, and extension of utility services, but it helps to ease the tax burden of county farmers, especially marginal producers. Agricultural land zoned exclusive farm use and farmed is valued based upon "farm use" for property and inheritance tax purposes. Exclusive farm use designations also exempt land for certain special district service assessments.

The effectiveness of exclusive farm use policies to aid in the preservation of agricultural land is subject to debate. Development pressures seem to "outweigh" these tax incentives. However, without such a tax deferral program, many farmers, especially marginal operations, are encouraged to take land out of production in favor of higher return land uses (housing, industry, commercial). In an effort to correct these inadequacies, there have been repeated legislative revisions to farm tax laws.

Commercial activities in conjunction with farm use are conditional uses under EFU zoning statutes (ORS 215.213(2)(a)). While not specifically listed, such activities are extremely important in this county. Therefore, it is of interest to mention these uses for clarification. In appropriate EFU zones, the following activities will be considered conditional use: commercial livestock sales yards and feed yards; feed and seed processing facilities; grain elevators; fertilizer and agricultural chemical storage and sales facilities; facilities to make alcohol for fuel consumption; alfalfa pelletizing plants; cold storage and packaging facilities. This list of uses is not intended to be all-inclusive. There may be similar uses not mentioned which could warrant the same conditional use status. Determination of similarities should be a responsibility of the Planning Commission since this function is currently given them for other zoning use questions.

Non-Farm Development Near Agricultural Lands

Lands near suburban and rural residential areas experience accelerated development pressures. Special measures are employed to lessen the burden on normal farming practices near residential development. Such measures as open space preservation, setbacks, and minimum lot sizes as deemed necessary for the greatest protection of productive farm land near proposed non-agricultural development are encouraged. Identified rural residential designations (those lands developed or irrevocably committed to non-farm uses) should also aid in stopping needless conversion of valuable farm lands. Lot size minimums in rural residential areas should also compliment agricultural operation, generally requiring large lot area minimums. In addition, less productive farm lands should be the first areas converted to rural residential development. Found within the comprehensive plan text are policies designed to protect and preserve agricultural land within or near non-farm areas.

Mentioned earlier were reasons for escalating costs to farming and the necessity of stabilizing them when possible. For example the 208 Water Quality Program is one government regulation appearing to add to farm production costs. The program attempts to alleviate non-point sources of water pollution (i.e., includes soil and chemical runoff from farm land) by requiring corrective measures called "Best Management Practices" or BMP's. Since most of the County is agricultural, and therefore a majority of the non-point activities are farming related, responsibility rests in great part upon area farmers.

The current status of the 208 Water Quality Program is not known, and when it will be funded or implemented is estimated to be some time in the distant future, if at all.

Local government can also help assist the farmer in stabilizing energy costs. Policies in the energy conservation section are aimed at providing alternative energy sources and participation in redistribution of power costs. What influence the county will have, specifically regarding federally controlled power costs,

are not known however, local needs must be presented when these issues are debated and decisions made. (See the Energy Conservation Technical Report for additional information).

There are other government laws and rules that can stimulate or reduce agricultural operating costs. A more thorough examination is found within the Umatilla County Overall Economic Development Report, January 1979.

Lot Size Survey

To fulfill the inventory requirement in State planning goal #3 and to aid in determining appropriate guidelines or measures to protect agricultural land (e.g. minimum lot sizes in EFU zones), a study of existing farm lot sizes and patterns is necessary. One source of information on agricultural lot sizes and farm land patterns for Umatilla County is compiled in 4 year update reports authored by the U.S. Census of Agriculture.

TABLE B-V
Number of Farms By Size, Umatilla County

<u>Size in Acres</u>	<u>1964</u>	<u>1974</u>	<u>1978</u>
Less than 10	146	137	192
10 to 49	376	350	336
50 to 179	207	186	170
180 to 499	134	124	140
500 to 999	122	98	111
1,000 to 1,999	124	128	124
2,000 acres or more	175	189	179
Number of Farms	1,284	1,212	1,252
Total Farmland in Acres	1,327,779	1,386,605	1,422,674
Average Size of Farm in Acres	1,034	1,144	1,136

SOURCE: U.S. Census of Agriculture

Table B-V shows the total county farm acreage increasing nearly 94,900 acres in less than 10 years. This is opposite the national trend of declining farm acres. A significant amount of this increase is due to converting the once unused sagebrush land in western Umatilla County to circle-irrigated farms of potatoes, corn, wheat and alfalfa.

Examination of Table B-V also indicates that the number of farms and average farm size has slightly declined. This reflects the fact that the agricultural land base of the county has remained relatively stable with minor consolidation of larger farms and a slight increase in the number of small farms (less than 10 acres category).

While lot size information from the Census of Agriculture is useful as general information, it does not reflect the highly diversified nature of Umatilla County agriculture, as described in earlier parts of this report. Agriculture uses range from small fruit orchards to large dryland wheat farms to intensive managed, circle-irrigation corporate farms to livestock grazing; each have their own unique management practices, land area requirements and protection measures. Mapping the specific agriculture pattern would be difficult because of the large number of use categories and the relatively high yearly rate of change. The generalized farm pattern map (page B-34) locates general farming types but is not too meaningful for planning purposes. However, a general description of the major agricultural uses and crops grown by geographic area or by special techniques (e.g. irrigation, intensive agriculture) along with a representative sampling and analysis within these areas should be useful in better understanding the patterns of farming throughout the county and enabling an appropriate choice of protective measures. The table following the map provides a general description of major uses, crop groupings and sample area studied. Not all crops or agricultural uses are listed for any area, neither are the boundary lines between these areas on this map intended to be exact, but only correspond roughly to previously described county agricultural activities and their general geographic location.

Sample Survey Areas

A glance at the map on page B-34 and Table B-VI clearly shows the expanse and diversity of agriculture in Umatilla County. To reduce the time and repetitious volumes of technical information which a total county agricultural lot size study would require, sample areas were chosen as representative of similar, surrounding agricultural uses. Sample areas selected are shown on the map on page B-38. Use of the county's computer allowed a convenient printout and record of necessary information to determine farm parcel size information. In most cases, one sample area consisting of a township (36 sections of land or 23,000 acres) per agricultural "district" was studied to determine special farm patterns, average farm parcel sizes, average farm ownership sizes, farm homestead arrangements, soil capabilities, farm deferral status and existing zoning. Some districts were distinct units and therefore examined in total, whereas in transitional areas where farmland and open grazing land intermixed and extended across several climate regions, and additional sample township was examined. (See Table B-VII for sample area names and the general farm areas they represent page B-40).

A township sampling was chosen because the areas was large enough to be representative of most agricultural districts and had definite boundaries. Adjacent parcels along the township boundary were considered for inclusion because similar farm ownerships were likely. However, existing computer programs would not easily permit the extraction of this additional area. Besides, upon review, the study area was found to be large enough (23,000 acres) that parcel sizes were not drastically affected by the exclusion of adjacent farm parcels in these perimeter townships.

To determine average farm parcel and ownership sizes, first non-farm parcels were identified and deleted from the calculations. Experience has shown that parcels less than 20 acres with an owner-occupied house do not represent commercial agricultural units for most farming districts in the county. Along with size, additional qualifiers used to identify non-farm parcels are: separate ownership (not connected with adjacent farm parcels), non-farm tax deferral status, public and other governmental ownership with improvement not related to farming



NOTE: Boundary lines NOT intended to be accurate. Shown for conceptual purposes.

- LEGEND ***
- 1 WEST COUNTY IRRIGATION
 - HERMISTON IRRIGATION DISTRICT
 - STANFIELD IRRIGATION DISTRICT
 - WESTLAND IRRIGATION DISTRICT
 - BUTTER CREEK
 - ECHO, STANFIELD MEADOWS
 - E CIRCLE IRRIGATION
 - 2 COLUMBIA GORGE-VANCYCLE OPEN GRAZING
 - 3 ORCHARDS DISTRICT
 - 4 UMATILLA RIVER BOTTOM IRRIGATION
 - 5 FORKS OF WALLA WALLA IRRIGATION
 - 6 FORESTED GRAZING
- NON-RESOURCE, NON-COUNTY JURISDICTION LANDS
- * Other farm pattern areas are named on map

GENERALIZED FARM PATTERN AREAS UMATILLA COUNTY, OREGON



Agricultural Use by Geographic Area or Special Agricultural Practices in Umatilla County

Area	Major Agricultural Uses and Crops	Sample Study Areas Township	Location Range
1. West County Irrigation Areas A. Irrigation Districts 1. Stanfield 2. Hermiston 3. Westland B. Butter Creek - Umatilla River, Echo, Stanfield Meadows C. Mechanized Irrigation	Wheat, Potatoes, Alfalfa, Pasture, Watermelons, Corn, Mint, Livestock	4 N 5 N 4 N 2 N, 3 N 4 N	29 28, 29 28 27, 28, 29 30
2. West Central Grazing, Dryland wheat	Cattle - Sheep grazing, dryland Wheat farming	2 N	30
3. South-Central Dryland wheat	Dryland Wheat farming, live-stock grazing	1 S	31
4. North-Central Dryland wheat	Dryland Wheat Farming	4 N	30
5. Columbia Gorge, Vancycle Grazing	Livestock some dryland wheat	5 N	34
6. Umapine Irrigation Area	Wheat, Pasture, asparagus, livestock	All of Area Studied	
7. Orchards District	Fruit Trees, pasture	All of Area Studied	
8. Northeast County Dryland wheat	Wheat, some alfalfa, livestock	6 N	36
9. Wheat - Pea District	Pea, Wheat, Alfalfa	S 1/2 4 N	34
10. Foothill Grazing	Livestock, some dryland wheat	3 S	30
11. Forested Grazing	Livestock timber management	5 N, 1 S	37, 34
12. Camas Prarie	Livestock, Pasture, Hay	4 S	31
13. Forks of Walla Walla	Fruit, Pasture, Hay, Livestock	All of Area Studied	

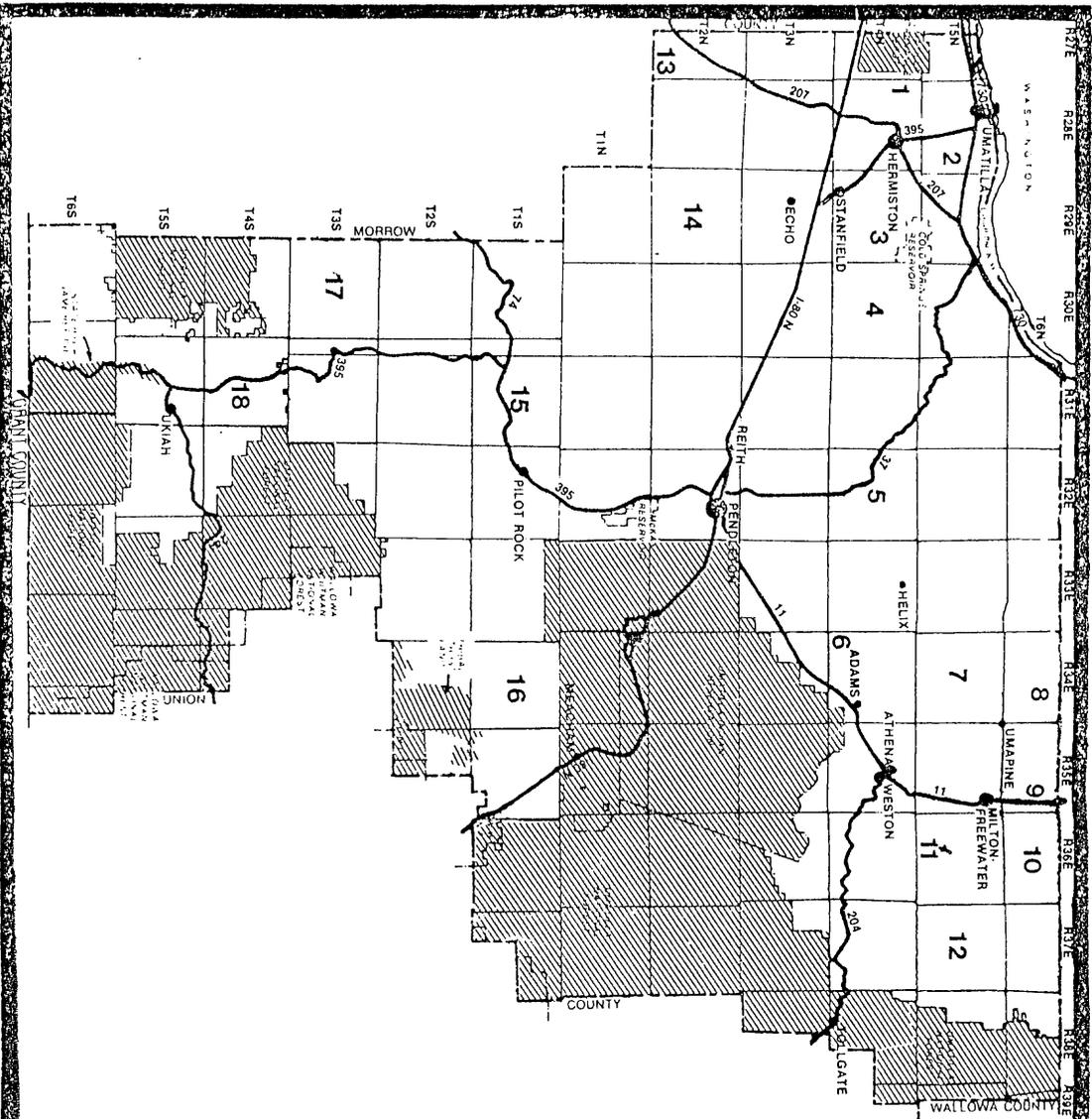
TABLE B-VII
Agricultural Sample Study Area Names

<u>Sample Area Name</u>	<u>General Agricultural Area Represented</u>
1. Westland Irrigation District	*
2. Hermiston Irrigation District	*
3. Stanfield Irrigation District	*
4. Despain Gulch Circle Irrigation	West County Circle Irrigation
5. Helix-Holdman Wheat	North Central Dryland Wheat
6. Athena Wheat-Pea	Wheat-Pea District
7. Vancycle Canyon Grazing-Wheat	Columbia Gorge - Vancycle Open Grazing
8. Umapine Irrigation Basin	*
9. Orchards District	*
10. Spofford Wheat	Northeast County Dryland Wheat
11. Forks of Walla Walla Irrigation- Orchards	*
12. Big Meadows	Forested Grazing
13. Lower Butter Creek Irrigation	Butter Creek, Echo and Stanfield Meadows
14. Alkali Canyon Grazing - Wheat	West Central - Grazing - Dryland Wheat
15. Coombs Canyon Wheat	South-Central Dryland Wheat
16. Upper McKay Creek Grazing	Forested Grazing
17. Guardane - Grazing - Wheat	Foothill Grazing
18. Albee Pasture - Grazing	Camas Prarie

* Sample Area represented all or nearly all of agricultural region

(e.g. state gravel pits, rural schools and churches, railroad property). Several agricultural districts have unique circumstances such as exceptionally small and intensively managed farms which tend to change the identification on non-farm parcels explained above. An explanation of the method used to identify non-farm parcels can be found in each special agricultural area analysis.

Once non-farm parcels were removed from the sample area, all farm tax lot acreage was added together and the sum divided by the number of tax lots. An average farm parcel size was then obtained. Average farm ownerships were calculated by combining similarly owned farm tax lots and dividing this reduced number into the sum of all farm acreage within the sample area. The average acreage of the individual and owner-combined farm parcels was compared with the predominate soil classification within the sample area to see if any patterns emerged which might identify useful lot size minimums or other kinds of protective agricultural land use measures. Local farm expertise was also sought regarding general lease patterns not normally recorded or available to the public, and historic information on past farming patterns, ownerships and inheritance records, possibly giving further guidance in choosing appropriate protective regulations. Recent farm partitions since the 1972 zoning ordinance adoption were also reviewed for additional guidance.



- LEGEND**
SAMPLE AREA NAME
- 1 WESTLAND IRRIGATION DISTRICT
 - 2 HERMISTON IRRIGATION DISTRICT
 - 3 STANFIELD IRRIGATION DISTRICT
 - 4 DESPAIN GULCH CIRCLE IRRIGATION
 - 5 HELIX-HOLDMAN WHEAT
 - 6 ATHENA WHEAT-PEA
 - 7 VANCYCLE CANYON GRAZING-WHEAT
 - 8 UMAPINE IRRIGATION BASIN
 - 9 ORCHARDS DISTRICT
 - 10 SPOFFORD WHEAT
 - 11 FORKS OF WALLA WALLA IRRIGATION-ORCHARDS
 - *12 BIG MEADOWS
 - 13 LOWER BUTTER CREEK IRRIGATION
 - 14 ALKALI CANYON GRAZING-WHEAT
 - 15 COOMBS CANYON WHEAT
 - *16 UPPER MCKAY CREEK GRAZING
 - *17 GUARDANE GRAZING-WHEAT
 - *18 ALBEE PASTURE-GRAZING
- STATE-FEDERAL LANDS

AGRICULTURAL SAMPLE STUDY AREAS UMATILLA COUNTY, OREGON



* Areas studied in conjunction with FORST COAL NO. 4. Results of analysis are found in MOUNTAIN HIGHLANDS chapter.

Inventory Results

Arranging the inventory results into a meaningful form was not easy due to the great diversity of farming activities in the county. However, when average farm parcel sizes were placed in order, from the smallest to the largest, a pattern seemed to emerge indicating similarities and consolidation of information, as did the possibility of discussing similar minimum lot size protection measures for large areas of the county. Also after further review of the farm unit size and soil information, it was apparent that the Orchards District (includes the major subregion area of the Forks of the Walla Walla River), Westland, Stanfield, and Hermiston Irrigation District and the Umapine Irrigation Basin constituted a small percentage of the County's agricultural land and because of unique circumstances and management practices are characterized by exceptionally small farms when compared to the rest of the county. An additional unique area is the forested grazing area of the Blue Mountains foothills, which contains both cultivated agriculture, livestock grazing, and forest related uses, and thereby involves decisions of whether to apply either State Land Use Goal #3 (Agriculture) or Goal #4 (Forest Lands). Therefore, for the purpose of determining agricultural and other resource protection measures or guidelines, these five special areas will be analyzed separately.

The four remaining sample study areas of the county, Table B-VIII shows a pattern of somewhat smaller farm unit and ownership sizes in the north county than in the south county; however, agricultural practices are nearly identical in both of those regions. Review of farm sizes and patterns will, however, be discussed in two separate sections: (1) North County Agricultural Region, and (2) South County Agricultural Region.

North County Agricultural Region

Average farm parcel and ownership sizes for this region on Table VIII indicate several important factors. First, a size difference between these two categories show that farm ownerships are made up of several tracts of parcels. Secondly, examination of Assessor's Tax Maps bears this point out and if more closely analyzed, show these farm ownerships are separated or not contiguous to one another. This situation of disjointed ownerships is especially prevalent in the productive Helix-Holdman wheat belt where the sample area examined had 12% of the owners representing 24% of land area in separated ownership patterns. Checking addresses of these ownerships show they are most locally owned and farmed. Additional public testimony revealed that a significant number of farm parcels are owned by and leased to area farmers. Most all of the other sub-areas in the North County wheat district have significant numbers of separated farm ownerships except the Juniper-Vansycle Canyon and Butter Creek districts. Butter creek farm parcels have been continuously farmed by the same families for many years, whereas the sample area examined for the Juniper-Vansycle district does not adequately reflect the separated ownership patterns of the remaining area and thus the reasons for a more compact ownership pattern in these two areas.

Information from farmers about past farming patterns in this region helps explain the occurrence of these disjointed ownerships. When the area was originally homesteaded, units of 160, 80 and sometimes 40 acres were given to farm families if they made certain improvements and remained on the property for a specified length of time. Additional purchase of adjoining lands was allowed to expand farming operations. Many, however, could not or did not make the required improvements, and moved away. These parcels were eventually purchased by more persistent and efficient farm families, even though not adjacent to the original farmstead.

Agricultural Sample Study Areas
Average Farm Parcel-Ownership Sizes and Predominate Soil Classification

<u>Sample Area Name</u>	<u>Average Farm Parcel</u>	<u>Average Ownership</u>	<u>Predominant Soil Suitability</u>
<u>Special Agricultural Areas</u>			
Orchards District	N/A	N/A	N/A
Forks of Walla Walla Irrigated Orchard	N/A	N/A	N/A
Westland Irrigation District	42 (overall)	65 (overall)	IV
A. Powerline/River Roads	25	29	IV
B. Rest of Area	45	60	IV
Stanfield Irrigation District	49	90	III, IV Irrigated
Hermiston Irrigation District	51 (overall)	75 (overall)	IV, V Irrigated
A. East Progress/Walls Roads	31	54	IV, V Irrigated
B. Rest of Area	42	83	IV, V Irrigated
Umapine Irrigation Basin	51 (overall)	92	III Irrigated
A. East Umapine	25	30	III Irrigated
B. Rest of Area	85	130	III Irrigated
<u>North County Agricultural Region</u>			
Athens Wheat-Pea Area	137	310	III Dryland
Spofford (East County) Wheat	181	455	III Dryland
Helix-Holdman Wheat Area	240	520	III Dryland
Vancycle Canyon Grazing-Wheat	376	706	IV, VII Dryland
West County Irrigated Areas			
A. Butter Creek-Echo and Stanfield	169	371	II Irrigated
Meadows-Umatilla River	435	983	III, IV Irrigated
B. Center-Pivot Irrigation			
<u>South County Agricultural Region</u>			
Camas Prairie	400	819	IV, V Dryland
Pilot Rock Basin			
A. Coombs Canyon Wheat	670	1,155	IV, VII Dryland
B. Gurdane Grazing-Wheat	917	2,085	IV, VII Dryland
C. Alkali Canyon Grazing-Wheat	1,208	2,550	IV, VII Dryland

NOTE: Where two classifications are shown, each has about the same percentage or area of soils in the sample studied. See pages B-2 and B-3 for Soil Classification descriptions.

The ability to successfully farm these separated parcels was due in large part to the abundant amount of deep, fertile soils and relatively stable rainfall amounts. (See Table B-VIII for predominant soil classifications.) Wheat yields on these sized parcels provided enough family income to purchase food and provide for other family needs, thus creating positive incentives to stay on in the area. Over a period of years to the present, and despite unfavorable economic situations, deaths, moves and inheritances, the original farm ownership sizes have remained about the same.

Specifically, the above historic farming pattern has resulted in average ownership sizes varying from 310 to 983 acres. (See Table B-VIII.) It is interesting to note that the average ownership size decreases as soil quality improves. While these figures are interesting, only one sub-region (West County Center-Pivot) has a representative size of the agricultural land required to constitute a viable, economical farm. In the other sub-areas, many farmers have had to lease extra agricultural land in addition to their farm holdings. Unfortunately, lease agreements are not recorded, so determinations of comparative farming sizes cannot be easily done. Approximately 800 to 1,500 acres (including fallow land) is considered an adequate size to make a living, the size range varying because of location and individual management capabilities. The option to lease extra land is due in part to available fragmented farm parcels and this factor partly accounts for the relatively few land partitions since 1972. In all of the sample areas in the North County Wheat Belt Region, only 20 land partitions in 10 years (average 2 per year) have occurred. Further examination shows that this low rate of partitioning is representative of the remaining wheat belt areas. Over half (11) have occurred in the West County Center-Pivot Irrigation Region, resulting from sale of land to large farm corporations having capital to invest in these expansive irrigation systems. The smallest farm division was 30 acres, while the largest was over 3,000 acres. The average partition size is 80 acres, while the most prevalent was about 160 acres.

Briefly mentioned earlier was the significant number of parcels that are leased--both large and small sizes. Seven, twelve, twenty and thirty acre parcels are leased from area owners, especially from those no longer actively engaged in farming (e.g. retirees or heirs). Public testimony revealed that this kind of farming situation is prevalent in this agricultural region.

South County Agricultural Region

Larger average farm parcel and ownership sizes are found in this region of the county. Farm parcel sizes reach those of ownership sizes found in the North County Wheat Region. Table B-VIII shows the smallest average farm parcel size to be 400 acres in the Camas Prairied sample area and over 1,200 acres for the Alkali Canyon sample area. Respective ownership sizes start at about 820 acres and approach 2,550 acres. The range of sizes is probably due in part to the better soils and rainfalls in Camas Prairie as opposed to marginal soils and more scanty rainfall amounts in the Alkali Canyon area.

Like the North County Agricultural Region, farm ownerships are not in unified blocks, but separated by other land ownerships. This is particularly the case in Camas Prairie. Again, the original homestead laws helped to create these separated ownerships; however, because of the poor shallow soils and meager rainfalls, many homesteaders could not produce wheat or graze livestock in the quantities or on the scale possible in the north. Those who could adjust and diversify into cattle and sheep ranching along with hay and wheat crops

were able to survive and could consolidate original farmstead acreages. Since it took more land to produce or sustain agriculture, land holdings developed into the rather large and somewhat fragmented ownerships mentioned earlier.

Ownership sizes in the sample areas do approach economical farm sizes for livestock ranching and dryland wheat farming. Viable, self-sustaining wheat-livestock ranches approach 2,000 to 2,200 acres in size, including land for fallow (1,000 and 1,100 acres in crop per year). Leasing land to increase farm acreages, especially wheat land, is slightly less prevalent in the South County area. Also, partitioning land has been nearly non-existent in the last 10 years (1972-1982) with only two (160 and 218 acres) occurring in the four sample study areas listed under the South County Agricultural Region in Table B-VIII, page B-40.

Specific findings regarding actual leasing patterns as were offered for testimony in the North County Agricultural Region were not obtained for this area. However, knowledgeable people expressed that it does not matter what sizes were being leased, as long as the parcel could be feasibly farmed as part of an overall operation. There were too many complex and variable situations pertaining to ownership, inheritance and management decisions to determine any recognizable field leasing pattern for either of these major dryland wheat areas.

Conclusions and Farm Protection Alternatives for North and South County Agricultural Regions

Survey results confirmed that whether analyzed on an area basis, by farming management techniques (e.g. irrigation vs. dryland), or soils types, etc., commercial farms are highly variable in size, and complex as to structure and operation. This underscores the need for an innovative and flexible agricultural land protection proposal that recognizes this complexity (the separated ownership patterns, farm land sale and leasing needs, inheritance considerations) and yet will help to protect the farm land base.

The present method of farm land protection is a 19 acre minimum, exclusive farm use zone. This minimum parcel size has been in effect since 1972 and is based upon standard divisions of U.S. Government Survey sizes whereby 19.0 acres (actually 20 acres, but if adjacent road acreage is taken out, it becomes less than 20 acres) is a standard subdivision of a section unit (640 acres). The reasoning for a 19 acre minimum, is that this size would probably be too large an area for a rural, non-farm resident to maintain and/or too expansive for land upon which to place a non-farm residence.

While the 19 acre exclusive farm use lot size minimum is not nearly large enough for a self-producing wheat or livestock operation, the zone's effectiveness in protecting agricultural land can be partially measured by the number of smallest partitions than can and have occurred in the North and South County Agricultural Regions since 1972. Only 8 parcel splits of 19 acres (the smallest allowed) have taken place in the last 10 years, in an area encompassing approximately 1,000,000 acres. Also, only 12 non-farm parcels in these two regions have been allowed under exclusive farm use statutes and standards since 1977. It appears then that the 19 acre lot size minimum is, at least in part, preventing rampant creation of non-farm parcels throughout this important farming region.

As just mentioned, the present 19 acre minimum lot size is apparently helping to maintain existing agricultural practices. However, there have been some

comments at the state level that 19 acres is not large enough to protect dryland wheat farming, grazing operations or mechanized irrigation farmlands and also protect other resource concerns in the future, while the above statistical evidence shows otherwise, but acknowledging both the new agricultural lot size and pattern information and state planning, it is somewhat reluctantly agreed that the present agricultural minimum lot size cannot be proven to reflect existing or future agricultural patterns and resource needs. (See Comprehensive Plan Map section for further explanation).

In answer to the above concerns and to reflect agricultural practices and farm owner needs, a variety of farm regulatory guidelines were formulated, rather than the adoption of a commercial farm lot size minimum or keeping the present 19 acre minimum lot size Exclusive Farm Use Zone. Testimony and research indicate that commercial lot size minimums will not reflect the existing scattered farming operations, be flexible enough to allow common sale, transfer and inheritance of any future farm parcels or be flexible enough to adjust to agriculture's rapidly changing market conditions and climatic uncertainties. Flexibility is a key to sustaining commercial wheat and grazing operations in the county.

Mentioned earlier were the significant number of parcels being farmed which were much smaller than normal ownerships or even the predominate field management unit size. In addition, these parcels were often separated from other farmed parcels. Prior to this finding, the county originally felt that a farm management unit/minimum parcel size concept would be an effective yet flexible means to protect and regulate farm and non-farm activities. A farm management parcel size minimum was determined to be the smallest area of farmland that could be partitioned and still permit normal farming practices that could occur in an efficient and effective manner. Normal farm practices included transporting farm equipment, fertilizers, sprays, seed, and feed to prepare, plant, grow, harvest or ready for market area agricultural commodities. The key to flexibility was to set a minimum parcel size that reflected actual farming operations occurring in various areas of the county.

Review of the agricultural inventory information findings showed that the North County Agricultural Region had generally smaller farming operations than the South County, because greater production per acre was possible, generally attributable to the better soils and more abundant rainfall, etc. Therefore, a smaller and different farm management unit was considered logical for the North County (40 acres) and a larger one more appropriate for the South County (80 acres).

Further examination and farm community testimony showed that if farm partitions were tied to a management unit size, it would likely create unnecessary and restrictive farm management problems. For example, inheritance and estate planning, finance farm related structures (e.g. grain storage buildings), land transfers to neighboring farms for management efficiency, etc. were complex, varied with individual situations; and fixed minimum parcel size wouldn't respond to these various situations, and would likely create hardships for the farming community.

Based upon a representative cross section of farm community testimony, a fixed or prescribed lot size for farm partitions is not to be initiated. Basic standards and procedures are required to assure the partition is for farm purposes or will assist in the continued agricultural practices in the area.

Now dwellings pose potential compatibility problems and were a concern. How should they be reviewed and by what means would help determine a farm related home from a non-farm home? An income requirement was first considered to help in this matter. However, farm prices fluctuate too much and really could not be used as a reliable measure to identify bona fide farm dwellings. It was finally determined that a density for new dwellings would be the most appropriate method to assist in the identification of farm related dwellings from hobby or non-farm homes.

Since 40 acres is the smallest predominate field size (farm management unit) in the North County Agricultural Region, this size should logically be used as the density to determine whether a proposed dwelling would be a farm or non-farm dwelling. Intimated earlier is the fact that there are minor differences between the North and South County Agricultural regions such as slightly larger field patterns in the south part of the county. However, this minor difference really does not outweigh the many similarities of farming occurring in both of these agricultural regions. Therefore, the same forty acre dwelling density found to be appropriate for the North County Agricultural Region is also applicable for the South County Agricultural Region.

There are significant acreages of identified critical deer winter ranges in the foothill grazing sub-area of the South County Agricultural Region. The Fish and Wildlife Department has recommended, based on its studies, that to protect and maintain for use this critical habitat, homes at 40 acre densities are acceptable, but that residences on 160 acre densities are desirable. The forty acre density standard for homes, based upon a farm management unit concept, is then a compromise between the presently adopted 19 acre minimum and the 160 acre minimum lot size recommended by the Fish and Wildlife Department. The recommended 40 acre density should help protect the critical deer winter range in this area.

The possibility of dwellings on the farm management unit based density size of 40 acres needs further explanation. With the application of this new minimum size, creation of partitions and homes of 40 acres throughout the North and South County Agricultural Regions will not likely occur. This has not been the case with the 19 acre minimum lot size requirement in effect the last ten years. Where the 19 acre parcels were expensive to buy and maintain as rural residences, the 40 acre density guide would be even more cost prohibitive.

In summary, it is again emphasized that implementing a 40 acre minimum density guide for dwellings will not create this lot size/home pattern throughout these two major county agricultural areas. Agriculturalists realize that to do so would not be in their best interests. However, there are situations in agriculture where adjustment is helpful to adapt to the continually changing needs of this industry. It is felt that the 40 acre density guide as offered in this report will do this. Planning is a continuing process and should it become apparent that this form of protection management is not maintaining the commercial agricultural characteristic of the area or not protecting other natural resources, then the county has the opportunity to re-evaluate it and make needed adjustments.

Special Agricultural Area Lot Size Analysis

As discussed earlier, there are areas in the county where special circumstances create or determine unusual and unique farming opportunities and patterns.

Table B-VIII identifies these areas; they are separated into a special category mostly because of their much smaller average farm lot sizes. There are other reasons for this segregation and because these areas have their own unique circumstances, a separate discussion and analysis follows for each.

Umapine Special Farm Area

The Umapine Agricultural District is shown on the map on page B-52 and encompasses well over 13,500 acres. Located northwest of Milton-Freewater, this area has historically been tied together because of irrigation. Wheat, alfalfa seed and hay, livestock operations, some barley and small acreages of row crops (e.g. onions, asparagus) are the main agricultural activities here.

The procedure used to determine average lot size information for Umapine farms was nearly the same as those followed in the North and South County Agricultural Regions. (See pages B-33 and B-39.) The only differences were that the total area was analyzed instead of just a sample township, and that privately owned non-farm parcels to be eliminated from the farm lot study were smaller. Often the 20 acre separately owned non-farm parcels in the wheat/grazing areas were found to be typical farms in parts of the Umapine area. This was discovered to be true in portions east of Umapine where parcels were not necessarily economical or self-supporting farms but have been contributing to the overall agricultural economy of the county. Information indicated that a non-farm parcel was typically a separately owned five acre or less parcel with a house. Individually owned vacant lots of this size range, and not on farm deferral taxation, were also classified as "non-farm." Not very many of these exist.

While results of the lot size study show an overall average farm parcel size to be nearly 60 acres and the average farm ownership over 90 acres, this does not reflect the varied nature of the area. Observation of parcel and ownership maps visually shows two different sub-areas. An area east of Umapine has smaller, more individually owned parcels with mixtures of agricultural activities like fruit orchards, small livestock operations and some row crop fields. West of Umapine most farm parcels are more similar to the neighboring wheat/grazing areas in the North County, having larger, separated ownerships. Farm use activities are mostly irrigated wheat and alfalfa.

Noting the above differences, an additional calculation was made to learn what the average farm parcel size and ownerships were east of and adjacent to Umapine, and the bigger farm parcels largely west of Umapine. Results showed 25 and 30 acre farm parcels versus ownership size in the areas generally east and immediately surrounding Umapine, and respective 85 and 130 acre lot and ownership sizes in the larger farms further west and south of Umapine. Further study helps to understand why there are these two farming patterns. The smaller farm parcels immediately surrounding Umapine were influenced by the nearness to this small rural town, where the prevalent rural-residential hobby farm exists around cities and towns throughout the county, while parcels east of Umapine are greatly influenced by the more intensively managed orchards district, where fruit farming has been marginally successful. The soils are somewhat similar to the Orchards District, but less stoney, and the area is less protected from forests than orchard lands nearar Milton-Freewater; both factors are important to sustaining the existing fruit farming industry.

The east Umapine area contains a variety of farm sizes and activities because of its marginal or transitional nature. Records reveal thah 16 farm partitions

have occurred, ranging in size from 9 to 105 acres (average 32 acres). However, the most prevalent farm partition is 20 to 23 acres. Numerous lot size partitions since 1972 were probably influenced by the Orchards District to the east which itself has had significant rural residential and small farm partitions.

Farm patterns mostly west of Umapine have been much more stable than in the Central Walla Walla Valley north of Milton-Freewater, being influenced by different soils, climate and farming operations. Farming is a full time commercial venture here. Larger scale farms are not being phased out as is evident by only five farm partitions since 1972. The average size of these partitions is about 140 acres, ranging in sizes from 20 to 290 acres.

The same farm partition-dwelling concerns discussed in the North and South County agricultural Regions were expressed in the Umapine farm area. Placing a single purpose standard for both farm partitions and dwellings has been deemed to be inappropriate. The same approach used in the North and South County Agricultural areas of minimal requirement for legitimate farm use divisions, and a density requirement for controlling housing density to approximately the existing farm home and farm use activities, is similiary desired for this area.

The above review of existing farm use activities, management desires, and farm parcel size and ownerships leads to the recommendation of two minimum dwelling density sizes: 20 acres for smaller farms of approximately this size mostly east of Umapine, and 40 acres for larger farms west, south and north of Umapine (see map, page B-71).

A 20 acre minimum dwelling density requirement east of Umapine will maintain the questionable farming pattern of small, not necessarily full-time commercial operations. While there are some fruit orchards here, extending the Orchards District 10 acre Fruit Tract Zone would not fit the overall farm parcel pattern of the area. Also, development of orchards in this area seems improbable for quite some time in the future. This size could allow some additional small farms with residences without adversely affecting the commodity production of the area. Only about 20 new farm divisions could be created. Regulating the number of farm dwellings can also ensure a rural farming character. Not only would farming activities be protected, but this area would remain a buffer between the orchard lands to the east and the larger, more self-supporting irrigated wheat and alfalfa farms to the west.

Because the area west of Umapine has many characteristics of the North and South County Agricultural Regions (e.g. larger parcels with separated ownerships, some leasing of land, very few partitions in 10 years), the same 40 acre minimum dwelling density is recommended here. The same flexibility is needed here, and establishment of this size provides some regulation consistency with the dryland wheat farms to the west and south. Forth acres is also twice as large as the present 19 acre minimum requirement which has adequately protected these farms since 1972 from non-farm development. Wildlife protection is another benefit of larger density minimum size than presently enforced.

West County Irrigation Districts

History, climate, soils, farming patterns and irrigation conveniently classify portions of the Hermiston, Westland and Stanfield Irrigation Districts into one lot size analysis grouping. These districts were formed in the early 1900's

using water from the Umatilla River. Early homes envisioned great productivity, but soils, climate and oftentimes inexperience proved otherwise. Consequently, over the years the poorer lands were abandoned and left vacant, usually developing into rural residential hobby farms, especially lands nearer the towns of Hermiston, Stanfield and Umatilla.

The extent and impact of non-farm development and other influences has varied in each irrigation district, mostly depending on its location and soil quality. Portions of the Hermiston and Westland Irrigation District have intensive suburban and rural residential areas because of their proximity to Hermiston, which provides convenience to a wide range of services. These residential areas have either been incorporated into the city, designated for future city development or identified as rural residential. Other portions of these districts have remained isolated or buffered from the above influences and have attained similar characteristics of the adjacent, more self-supporting farmlands. (South portions of the Westland Irrigation District are an example.) The remaining areas within these districts are those subject to this agricultural review. (See map page B-70 for study areas.)

Agricultural lot size and ownership studies did not differ from the analysis made in the previous agricultural districts. Farm lots were identified along with those not considered farms. Non-farm parcels were deleted from the inventory so as not to distort the results. (Non-farm parcels were the same in size and circumstances as those in the Umapine Agricultural District, pages B-33-39 for explanation.) The results of adding and combining farm parcels and similar ownerships were average farm lot and ownership sizes. These figures are found in Table B-VIII, page B-40.

The above procedure yielded similar farm size patterns for all three agricultural districts. All districts have a general mixture of parcel sizes ranging from 5 to sometimes 200+ acres. All districts have some existing small farm units that are not full-time, not self supporting operations. Each is a transition area between larger, more self-supporting farms and the rural non-farm areas mentioned earlier.

However, similarities end here when examining the other factors in this study. The Stanfield Irrigation District has some significant differences when soils, zoning, crop types and closer scrutiny of ownerships are considered. This situation leads to a slightly different agricultural protection measure, the justification of which follows.

[New] Agricultural Inventory and Farm Protection Alternative Update for North and South County Agricultural Regions

This section is being added in response to the county not receiving state acknowledgement of the agricultural plan and zoning as previously outlined. The additional information is also necessitated because the county is proposing a different system of regulating agricultural activities than the present housing density/no requirement for farm division combination. In the following sections, information is provided explaining the reasons for the regulation changes, how they provide desired flexibility, and yet still provide the county's desire to protect the agricultural land lease from intrusive, harmful, and speculative land use activities.

[New] Brief Summary of Compliance Order Pertaining to Presently Adopted Agricultural Regulations

First, LCDC says that the county's present inventory suggests a higher minimum lot size (density) should be adopted to protect the existing commercial agricultural enterprises now taking place. Secondly, the state suggests that a minimum size should be placed on divisions strictly for farm purposes (no dwellings) to assure the continuation of existing commercial agricultural enterprises in the North/South County Agricultural Regions. A minimum division size would reduce false expectations of the ability to develop on these often small and possibly unfarmable lots as opposed to the present no minimum policy for strictly farm purposes.

The county has thoroughly discussed LCDC's concerns and strongly feels that a minimum parcel size, let alone a large one, has the potential for creating more problems than it solves. This is especially true if minimum lot sizes are used as the primary criteria for restricting construction of homes in agricultural areas, which is essentially unrelated to housing once area sizes for septic tanks and wells are exceeded.

Minimum parcel sizes also create numerous stumbling blocks for a variety of farm management options. The following examples, while not intended to be a complete study, outline a few of the management problems envisioned with a cumbersome minimum lot size.

- A. Undivided Interests. Very large minimum lot sizes move ahead the day when all parcels of land will be very likely to be held in undivided interests by heirs and other parties. The greater the number of persons involved in undivided interests in farm real estate, the greater the complications in all types of negotiations relative to that land, including but not limited to (a) lease agreements, (b) participation in government farm programs, (c) entry into contracts with the Soil Conservation Service concerning conservation tillage methods and construction of erosion control and water conservation structures such as terraces and grassed waterways, and (d) negotiations for the sale of purchase of farmlands.

The greater the number of persons involved in the undivided interests, the more likely that negotiations must be by correspondence and/or by phone. This slows down the negotiations, and often causes dead lines to be missed, often because the owners of the property who are not living in the immediate area and/or have little contact with the land, do not understand the nature of the problem being negotiated. Because they do not sense the urgency, and are not close by to facilitate communication, the overall process of management of the property becomes less efficient than would be the case if the property could be partitioned strictly for farm purposes so more one-on-one negotiation could take place.

- B. Financing. For the most part, in Umatilla County, land cannot be transferred and financed except in separately described parcels. Banks, regardless of the statutory options open to them, will generally not mortgage parcels not separately deeded. Hence, any property financing that might be accomplished in parcels smaller than the minimum lot size become under large lot size impractical, if not impossible.

At times, a farmer finds himself in a position of having to mortgage land to finance the construction of structures such as grain bins or shop and machinery storage. If parcels could not be created for mortgage purposes smaller than a very large parcel minimum, the farmer would have no choice but to expose a greater acreage to the risk of being a specified security for a loan, plus be subject on that greater acreage to the often "not helpful" supervision of the lender. Potential default would more severely disrupt his farming operation if foreclosure could proceed upon a much greater land base. And, as indicated above, inability to sell off a smaller piece of land would preclude him from extricating himself from his dilemma in better financial condition, and still retain as viable a farming unit as possible.

- C. Estates. Very large minimum parcel size requirements would in many instances severely handicap heirs in arranging to pay inheritance taxes without losing "the whole farm." The ability to sell off a smaller parcel is very crucial to the transfer of land from one generation to another, without displacing more people from the land.

One of the tragedies of estates is the often encountered bitterness associated with "forced business relationships," generally arising out of "imposed undivided interests." For the most part, such can be avoided through a well planned estate--but not so easily if land could not be parcelled into "smaller" lot sizes.

Some argue that the solution is simple--just incorporate the farm. There is some merit in this argument, but for most farm operations, it cannot be economically justified. The added costs, administrative requirements, record keeping, and in some cases added taxes are not conducive to incorporation. And, if the number of persons involved is too great, the corporation could not qualify for subchapter S treatment, and the farm would be subject to "double taxation" rather than the single tax treatment on a proprietary business basis.

- D. Interagency Complications. The Soil Conservation Service contracts with farmers for the making of improvements in farming methods in the construction of terraces and grass waterways to control erosion and conserve water. The more persons involved in undivided interests in a given field, the more difficult it is to negotiate such contracts to be both financially feasible and mutually acceptable to all parties involved in the contract. This delays or completely prevents some acreages from improvements that conserve soil and water. Reasonable partitioning requirements would allow more one-on-one negotiation, and promote a faster rate of conservation development.

The Agricultural Stabilization and Conservation Service (ASCS) administers the government farm programs related to commodities, such as the currently available reserve loans for grains, and loan programs for on-farm storage. The greater the number of persons involved in undivided interests, the more difficult it is to make decisions and enter into contracts and the related mortgages relating to the programs of the ASCS. Multiple undivided interests have such impacts as simply causing the number of required signatures to exceed the space available on forms, diviations from which can require legal review and authorization from a higher level office. This causes delays, and delays cost money.

The above examples are discussed in more detail arguing against a single and large parcel size requirement in the appendix section. Also included in the appendix section is a signed resolution from the past president of the National Wheat Growers Association and local dryland wheat farmer, Don Woodward. The resolution represents the feelings of many of the wheat growers in Umatilla County, that large minimum parcel sizes are not appropriate in this county.

In summary, observation of development and management options suggests that any area is generally better off if the investment and management opportunities in the area are kept many rather than reduced. Requiring a single, large minimum lot size would, in the county's opinion, be contrary to the state's suggestion of minimum lot sizes tied to other new land divisions and dwellings. The county prefers to keep agricultural options open, not restricted unnecessarily. Minimum lot sizes ignore the future and assume the future is best if there is no provision for partitioning down to the minimum size or sizes for management and estate planning reasons. In other words, if a minimum size is set at a level of current or average ownership, tax lot, or even farm management unit sizes, the solution ignores most of the reasons that parcel sizes now exist smaller than normal or typical, and are being used for other than housing lots (in cultivation in most cases).

[New] Additional Data Base Analysis

To see why the above stated situations exist, the county undertook an additional study to more thoroughly examine the actual farming patterns and practices that comprise the overall commercial agricultural activities in the North/South County Agricultural Regions. After some initial farmer contacts and discussions with members of the Planning Commission, it was mentioned that within an ownership, and in particular within a tax lot, whether in a contiguous or non-contiguous situation, there are a series of natural or separated fields broken up by natural barriers such as rivers and ditches in such a way that it is in fact farmed as more than one unit or parcel. Bluffs, rock patches, clay knobs, and even more man-made barriers like roads and railroads all serve to partition fields into parcels of great diversity in size and shape.

After review of previous information, it was the Planning Commission's opinion that the background data base gathered in 1982-83 relative to appropriate parcel size did not adequately take into account the natural parcel sizes caused

by topographic features and roads and railroads so common throughout the county. They also felt that the 1982-83 data base didn't appropriately consider "cultivation units" (parcels farmed separately from one another due to terrain, other natural features and because of a variety of farm management goals). The original data emphasized "ownership units" that considered only the configuration of deed lines and didn't reflect the way in which farmland was cultivated. The Planning Commission concluded that when considering or evaluating the appropriateness of farmland divisions that would continue the existing commercial agricultural use in the county, consideration of continued cultivation practices should take precedence over the traditional deed line configuration and redivision land division regulation programs.

Upon examination of Agricultural Stabilization and Conservation Service's (ASCS) photography, field patterns are more clearly seen and identified. In fact, separate fields or cultivation units are outlined on these photos along with their appropriate acreages. These maps are one of the primary tools by which the government farm programs are managed in the local counties. They constitute a primary basis for reviewing proper program compliance by land owners/operator, and for making or denying payments to farmers and landowners participating in the government programs. These maps are made from aerial photos, are regularly updated, are definitive enough to show the pattern of cultivation and harvest in the fields, and are readily available for periodic review.

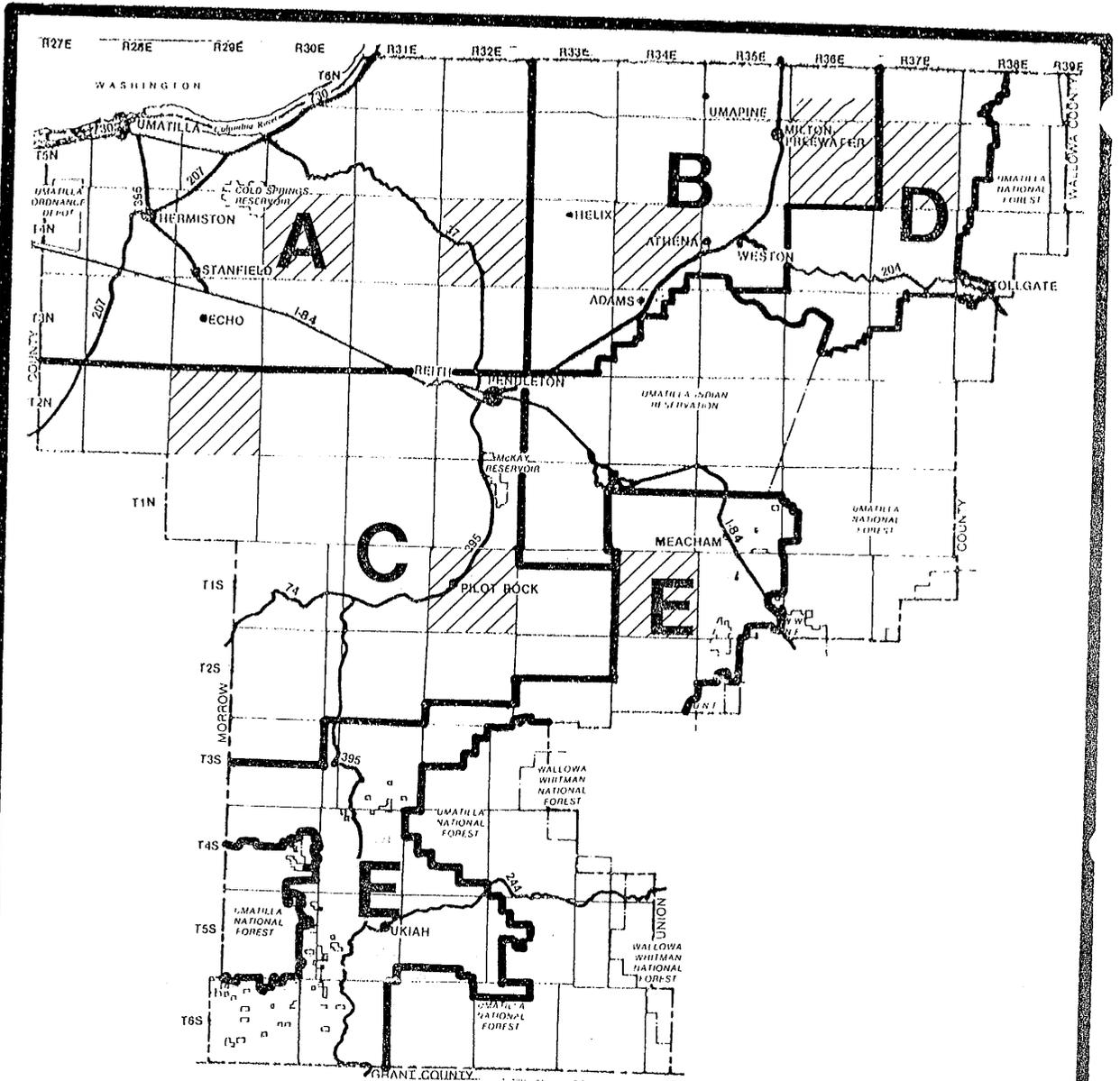
A study of cultivation units was undertaken to determine what factors were involved in their creation, and how the county might formulate land division measures based upon actual cultivation practices that make up or constitute commercial agricultural practices occurring in the North/South County Agricultural Regions. Eight townships were analyzed that contained 1,233 measured cultivation units. The townships reviewed were selected to reflect as fairly as possible the

overall land use activities occurring in the North/South County Agricultural Regions (those areas actively engaged in agricultural uses). This sample area strategy included a study of foothill areas where there is a transition from field cultivation to grazing activities. (The map titled "Cultivation Unit Study Areas" on the next page pictorially depicts the townships examined and the geographic areas they represent). The areas reviewed were: (1) Northwest County; (2) Northeast County; (3) South County; (4) East County Foothills; and (5) South County Foothills.

The cultivation unit data was summarized to document differences in common land use patterns with respect to cultivation unit size among the various areas of the county. Areas 1, 2, 3 mentioned in the previous paragraph each reflected both irrigated and dryland practices. Areas 4 and 5 (East County Foothills and South County Foothills) were studied both separately and then combined into a single "foothills area."

The data was organized in the following manner:

1. Township summaries - Frequency distributions showing the distribution of cultivation units among various acre size categories and among various boundary configurations. This indicates both the number of parcels in each category and the percent of parcels in each category. This summary also indicates the total acres in parcels measured on the ASCS airphotos that are farmed in multiple cultivation units and the number of cultivation units therein for each. Two such township areas constitute the sample from which a Major Area summary was developed (see Cultivation Unit Study Areas Map).
2. Major Area summaries - Each summary includes two township areas, showing the percent distribution of cultivation units among various acre size categories for each township, and the same type distribution for the aggregate of the two townships to reflect the overall land use pattern for the Major Area.
3. Major Area graphs - A graphic presentation of the distribution of cultivation unit sizes in each Major Area, compared to overall distribution pattern among all Major Areas of the county combined.
4. County-wide summary - A distribution of cultivation units for all the Major Areas of the county combined.
5. County-wide graph - A graphic presentation of the distribution of cultivation units among the various acre size categories for each Major Area, plus the graph of the combined distribution thereof for the overall county.



LEGEND

SUB-AREAS

- A NORTHWEST COUNTY
- B NORTHEAST COUNTY
- C SOUTH COUNTY
- D EAST COUNTY FOOTHILLS
- E SOUTH COUNTY FOOTHILLS



TOWNSHIP STUDY AREAS

**CULTIVATION UNIT STUDY AREAS
UMATILLA COUNTY, OREGON**



(A complete summary of the results is provided in the Appendix under the report titled "Cultivation Parcel Size Reivew" by Clinton B. Reeder).

[New] General Findings

The ASCS aerial photo maps indicated farmland in Umatilla County was subdivided into various parcel sizes based on the following factors:

1. Natural landform features
 2. Transportation features
 3. Man-made features for conservation purposes
 4. Irrigation
 5. Estate settlements
 6. Homebuilding and farmstead establishment
- A. Natural landform features. In most instances, it was obvious from the review of the aerial photos of the county farmland that the cultivation units were defined primarily by the natural features of the landscape--rock outcroppings, shallow soils, drainages, rivers and streams, bluffs, and steep slopes. It was for this primary reason that the distribution of cultivation units among the various size categories among the various Major Areas of the county were almost identical (see Airphoto Illustration No. 1, pg. B-63).
- B. Transportation features. The second major factor that determined the configuration of cultivation units were the various modifications to the landforms that were man-made, especially roads and railroads. These transportation types were for the primary purpose of moving farm products to market and bringing farm production supplies to the farms. These features created permanent isolated independent cultivated units that, depending upon the nature of the boundaries other than the road or railroad, may remain isolated. Often a road or railroad would isolate a triangular piece of land with corners that would be difficult to farm into efficient units, or which would be difficult to move machinery into across the road or railroad that could be efficiently combined into a parcel on the other side of the road or railroad (see Airphoto Illustration No. 2, pg. B-64).
- C. Man-made features, directly for farming purposes. It is very evident from the aerial photos that when farmers undertake more intensive agricultural practices such as terracing and strip-cropping, the size of cultivation units is decreased. These conservation practices are increasingly encouraged by public policy and are becoming more mandatory under the government farm programs (see Airphoto Illustration No. 3, pgs. B-65, B-66).
- D. Irrigation. The airphotos clearly indicated that the average size of cultivation unit decreased when the land was changed from dry land management practices to irrigation. The cultivation pattern was especially complicated by the use of the more efficient "circle" technology, which left significant acreages in "diamond shapes" in among the circles, and "triangular shapes" on the outer boundaries of the circles. (The increased intensity of such farming leads to the use of a completely different compliment of machinery, different timing of planting and harvest, and a much wider variety of crops, many of which require having marketing contracts) (see Airphoto Illustration No. 4, pg. B-67).

- E. Estate Settlements. The farmland in this category is found infrequently. Most of the farmland in the North/South County Agricultural Regions is now owned by only the fourth or fifth generation since the original ownership patents were issued. As the land moved from generation to generation, in most cases undivided interests are created among heirs. In settling estates, for various reasons, it often becomes necessary to separately identify each party's interest to facilitate financing estate tax payments, or for financing so that one heir can transfer ownership to another, or to a third party or parties. These land divisions are evidenced most obviously on the ASCS airphotos by deed lines that equally divide a given area of land into exactly equal sized units, where no obvious reason for such a division can be seen from natural or man-made land features (see Airphoto Illustration No. 5, pg. B-68).
- F. Homebuilding. The maps indicated that for the most part there were not a lot of homes in the rural areas, and the homes tended to be located so as not to adversely interfere with farming good land. The majority of rural homesites had a long history, and were located where water could be reached by hand dug wells and where horse drawn wagons could be moved efficiently from farm to trading centers and back. Newer rural homesite locations can be located most anywhere, with current well drilling and roadbuilding equipment. The maps suggest considerable care has been given to rural homesite location. This fact is also evident on a table in the "Cultivation Parcel Size Review" report in the appendix. Only two dwellings or 1% of the total homes in the sample areas have dwellings in the center of a parcel that would tend to disrupt farming practices. The remaining 99% are located along parcel edges, corners and down in drainage bottoms not taking up valuable farmland or interfering with regular farming patterns.

[New] Conclusions

The above analysis and the more detailed information and data in the appendix show the following facts:

- (1) Cultivation units (separately farmed parcels due to terrain, topography, management goals/practices (eg. strip cropping, contour farming) do exist and are very prevalent farming patterns.
- (2) Cultivation units are clearly visible on ASCS aerial photos which are updated regularly showing major changes in management or the newer cultivation practices that are continually evolving in agriculture.
- (3) These ASCS aerial photos permit a reliable source to review proposed farm partitions to assess whether these proposed partitions would continue the existing commercial agricultural enterprises in a given area.

- (4) There is a diversity of cultivation parcel sizes. There is also no "typical" or "average" or "representative" farm parcel size in Umatilla County's North/South County Agricultural Regions which as a single parcel size would fairly represent the actual parcel size situation in the county. "Typical" is a rather wide range of cultivation parcel sizes, primarily determined by natural terrain features, with a distribution county-wide as follows (see the county-wide data summary):

<u>Cultivation Unit Size</u>	<u>Percent of Parcels (county-wide)</u>
1. Less than 20 acres	29.2%
2. 20 to 60 acres	20.9%
3. 60 to 100 acres	18.5%
4. 100 to 200 acres	22.4%
5. Over 200 acres	9.1%

- (5) The average cultivation unit size of all the sub-areas reviewed within the North/South County Agricultural Regions (less the two foothill sub-areas that are mostly within the Grazing/Forest plan designation) is 72.8 acres. If the two foothill cultivation unit study areas are added into this average cultivation unit size calculation, the figure decreases slightly to 63.8 acres. Both these figures plus a lot size/housing speculation study discussed in later portions of this report, supports an administrative policy that proposed divisions of 80 acres and larger are farm related and would continue the existing commercial agricultural enterprises within the North/South County Agricultural Regions. The 80 acres administrative size even leaves some room for possible error because it is larger than the overall cultivation unit size average of 72.8 acres.
- (6) Creation of new parcels following a typical pattern of land use rather than an arbitrary "average lot size" is a more efficient way to continue the existing agricultural enterprises in the North/South Agricultural Regions which as documented has a wide-range of cultivation parcel sizes. Cultivation parcel units are the typical patterns of land use occurring in these regions.
- (7) There is a need to have considerable flexibility in parcel size management for farm purposes since there is a wide range of documented cultivation parcel sizes that continue the existing commercial agricultural use of the land. This can mean the approval of farm parcel divisions smaller than 80 acres if the divisions meet certain standards pertaining to shape, slope, access considerations as well as dwelling restrictions that will assure continued commercial agricultural use of the lands. (All these standards are discussed in detail in later sections of this report).
- (8) Review of the ASCS aerial photos shows that there are not a lot of homes (mostly farm and possibly a few non-farm dwellings, but they are not easily identified) improperly located that jeopardize agricultural practices. The airphotos also suggest that sites are available that would support rural, non-farm homes because they are sufficiently isolated from nearby agricultural lands. With strict criteria and standards to protect the continued commercial use of the adjacent lands, these non-farm dwellings could be accommodated with no adverse affects (see following sections of report for a broader discussion of these standards).

[New] Dwelling Controls

If land is allowed to be partitioned into the smallest reasonable economic unit (ie, cultivated field sizes as shown to exist in the above-subsection review), then the maximum potential flexibility is preserved for the future management of the land over the long-term. Smaller parcels can be more easily financed by a greater number of persons with more widely varying equity bases, thus providing that the land resources can more fluidly flow among the various owners over time, providing that the land resource can be more precisely fit to the land needs of a wider range of farming activity as technology and price cycles vary over the long term. This is especially true if the placement of houses is carefully controlled and regulated. If dwellings are not controlled, they could limit and conflict with the economic use of the agricultural land resource base that produces our fibers and foods--an important concern of the county.

To control dwellings, the county looked at several options. For example, (a) require different (larger) lot size for housing construction than for continued farm use; (b) overlay the EFU zones with density limitations that would limit the number of homes in the area; (c) require that all rural housing be clustered so as to make sure they are in "controlled areas"; (d) require that rural homes can be no closer than a specified distance from another home (a density limitation). These options all seem to avoid the critical questions of whether or not the housing is the best use of the land, and whether or not farmers can continue generally accepted practices, etc.

Another approach (which has been chosen by the county) which appears to be the easiest and most simple is to determine what parcel size would be an unspeculative one for non-farm dwellings. Above this size, all dwellings would be determined or categorized as farm related. Below this size, all dwellings would be classified as non-farm. Appropriate procedures, criteria and standards would apply to each

to assure their compatibility within agricultural resource areas.

To determine an appropriate size guideline, the county examined purchase and set cost analyses and also the ability or utility of using a certain sized parcel for farm management purposes (especially if a housing unit were placed on it as an individual farm unit or separated and part of a larger agricultural operation). If both items or criteria have a similar size range, then a basic administrative policy can be realistically formulated that would properly place farm dwellings on these existing or proposed parcel sizes. These parcels are appropriate farm sizes, and the careful regulation of dwellings on existing or proposed divisions that are of a questionable size for typical agricultural uses would eliminate creation of speculative sizes for non-farm home development.

Based upon the earlier lot size survey of 1982, a farm management unit concept was formulated, showing that certain sized parcels existed and/or could be segregated, sold and/or leased to individuals who now or could farm this management unit, even if it was located some distance from other farmed parcels. The size settled upon was 40 acres, although there was some disagreement among those involved in various aspects of agriculture in the North/South County Regions and not conclusively supported or necessarily in agreement with the lot size survey. The management unit concept and size had been used as a form of a farm/non-farm parcel size guide presently under discussion.

If other testimony is considered, if recent partitioning were examined more closely, and if one would review the 1982-83 lot size review, 80 acres is a more realistic farm management unit size where normal farm practices, including transporting farm equipment, fertilizers, spray, seed and feed to prepare, plant, grow and harvest agricultural commodities can take place. Eighty acres in most cases and in the opinion of many farmers would be used, leased, sold, etc. to an agricultural operator in both the North and South County Agricultural Regions, even if a home were to be located on it.

At 80 acres, the speculative aspect for non-farm uses (dwellings) is also virtually eliminated. This can be shown by analyzing current market prices for land in both of these regions and gathering costs of basic improvements associated with dwelling construction. According to assessor's records and estimates, the average market value per acre of land is about \$1,100 per acre and higher in the North County and \$550 and higher per acre in the South County. A domestic well costs on the average of \$8,000 to \$10,000. A septic tank and drainfield amounts to nearly \$1,500. Purchasing 80 acres plus installing a well and septic system would cost a prospective buyer nearly \$100,000 (\$99,500 actual) in the North County, and over \$55,000 in the South County. These costs are independent of house construction or mobile home placement costs, utilities (especially electricity), and road access/driveway improvement costs. Very few people could afford such costs to secure the privilege of living in these two agricultural regions on parcels of 80 acres and over. One could make a good argument that 40 acres would eliminate non-farm dwelling speculation, but if dwellings were allowed on this size, some farmers feel uncomfortable in leasing or buying such properties. Therefore, 80 acres has been settled upon as the more realistic cut-off point to determine farm-related vs. non-farm dwelling categories and land speculation size limits.

[New] Farm Partitioning Controls

Current regulations dictate minimal requirements to approve partitions that are for strictly farm management reasons. The purpose behind this strategy is to allow the greatest amount of flexibility which is needed to permit the continued and often complex management systems taking place in the county. LCDC has required that the county be more thorough in its review of these types of divisions to eliminate or more substantially reduce the speculative aspect of non-farm development that sometimes exists when smaller sized parcels exist as separate tax lots. After considerable discussion, the county feels that a few additional requirements could be adopted to reduce non-farm home speculation, although

speculation can never be totally eliminated. However, in instituting these new standards, flexibility should be maintained.

To accomplish both the protection/flexibility aspects above, partitions below 80 acres for strictly farm purposes can be permitted and still maintain and/or continue the existing commercial agricultural enterprises in both agricultural regions under discussion. This has been shown to be true in the review of cultivation parcel review study and sizes, pages B-52 through B-59. Since there is such a diversity of cultivation field sizes and patterns, no one size is representative or would adequately serve as a guide or standard for one minimum lot size. Therefore, the county intends to permit a diversity of partition sizes based on an area review of field pattern sizes. A representative review area is two (2) miles, and if the proposed farm partition is similar to or not atypical of patterns of cultivated fields and cultivated field sizes within this area, and if no dwellings are allowed on the subject partition, then it is determined to continue the existing commercial agricultural enterprises in the area. These standards are explained in greater detail and are incorporated into the Comprehensive Plan and Development Ordinance.

[New] Partitioning and Development in Critical Winter Range Areas

Mentioned in the 1982-83 "Farm Protection Alternatives" section was the fact that areas of critical winter range exist (especially for deer) along the edges of the foothills of both the North and South County Agricultural Regions. The Fish and Wildlife Department has recommended a 160 acre lot size and dwelling density minimum to protect and maintain the critical habitat in Umatilla County. Since the county is changing its present 40 acre density provision and replacing it with an 80 acre parcel size guide or cut-off to determine farm/non-farm dwellings, the county must accordingly change and adopt appropriate regulations for these critical winter range areas.

Briefly mentioned here, but explained in much greater detail in another portion of the Comprehensive Plan, is the adoption of an overlay protection zone placed upon land

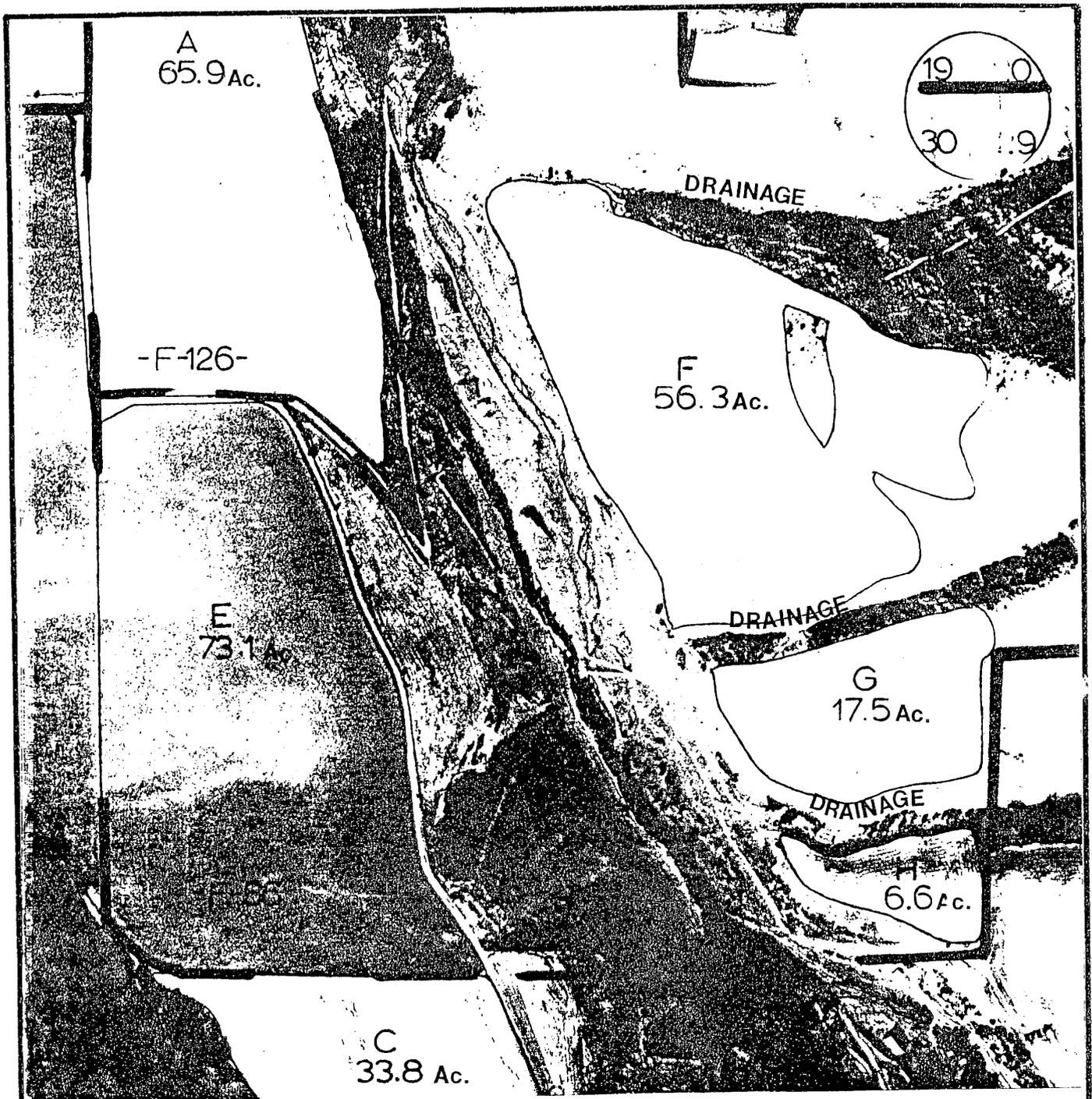
identified as critical winter range. A dwelling density restriction of 160 acres, notification of and comments from the Fish and Wildlife Department on most land use requests prior to county approval are several of the major regulations to protect critical winter range areas.

[New] Non-Farm Dwellings and Other Non-Farm Use Restrictions

Careful control of non-farm activities in agricultural areas is a major goal of Umatilla County. Use of the 80 acre lot size guide discussed earlier is just one tool to determine non-farm dwellings. There are many other agricultural protection standards that are being required when a non-farm dwelling or non-farm use is requested in the North and South County Agricultural Regions. These are discussed within the Plan Map Section of the Comprehensive Plan and incorporated as standards and criteria in the Development Ordinance.

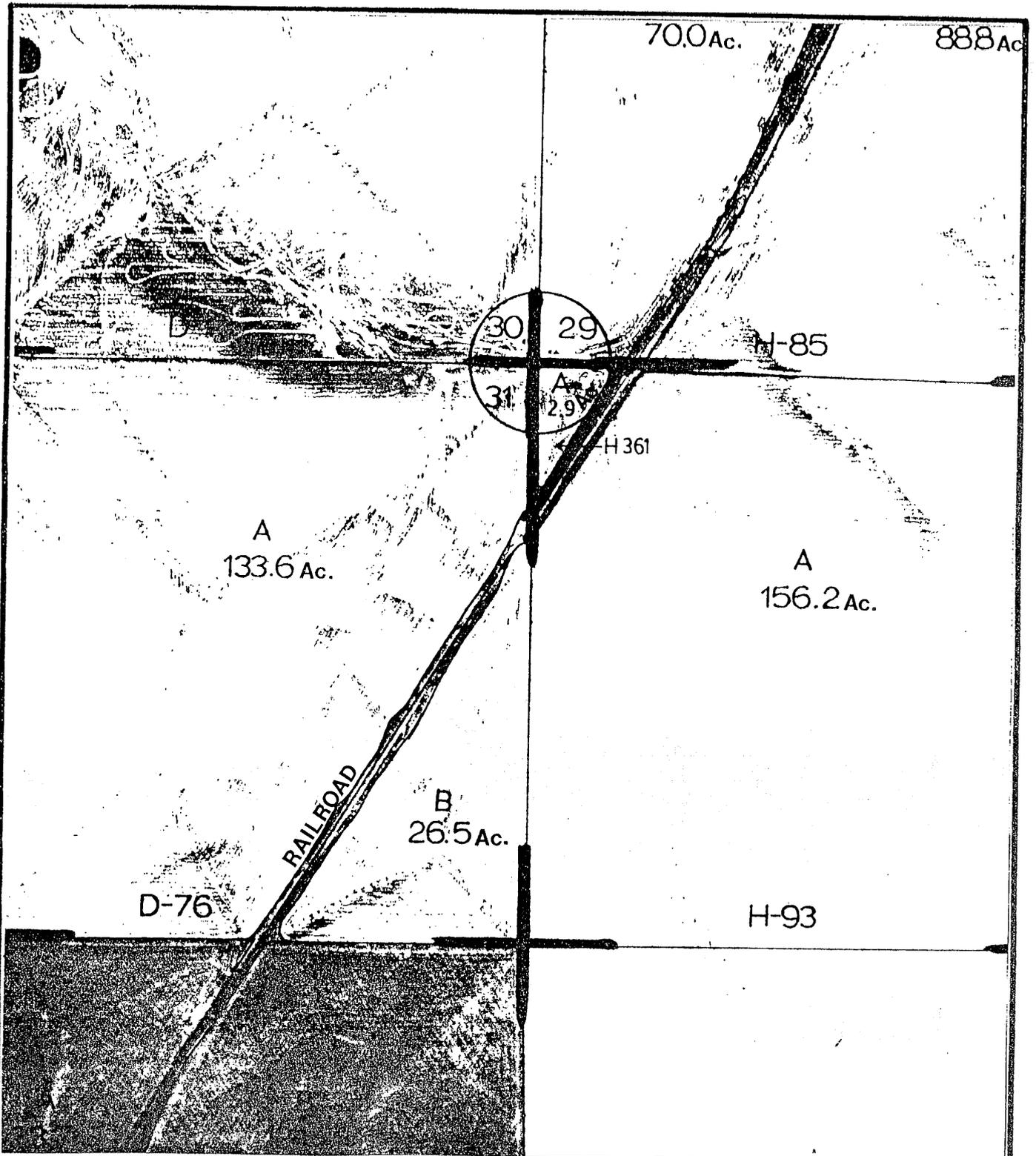
[New] Summary

Since no one can ever be totally accurate and foresee the future exactly, the county feels that it needs to provide for flexibility in our resource areas and the management thereof. The county is choosing to do this through strict review of any dwelling or non-farm development proposal while allowing some flexibility in farm partitioning with controls and review designed to continue the existing agricultural enterprises in both North and South County Agricultural Regions.



SOURCE: U.S.D.A., A.S.C.S. Aerial Photo No. B-25M (T6N, R37E), September, 1980.

**NATURAL LANDFORM FEATURES.
AERIAL PHOTO ILLUSTRATION NO. 1**

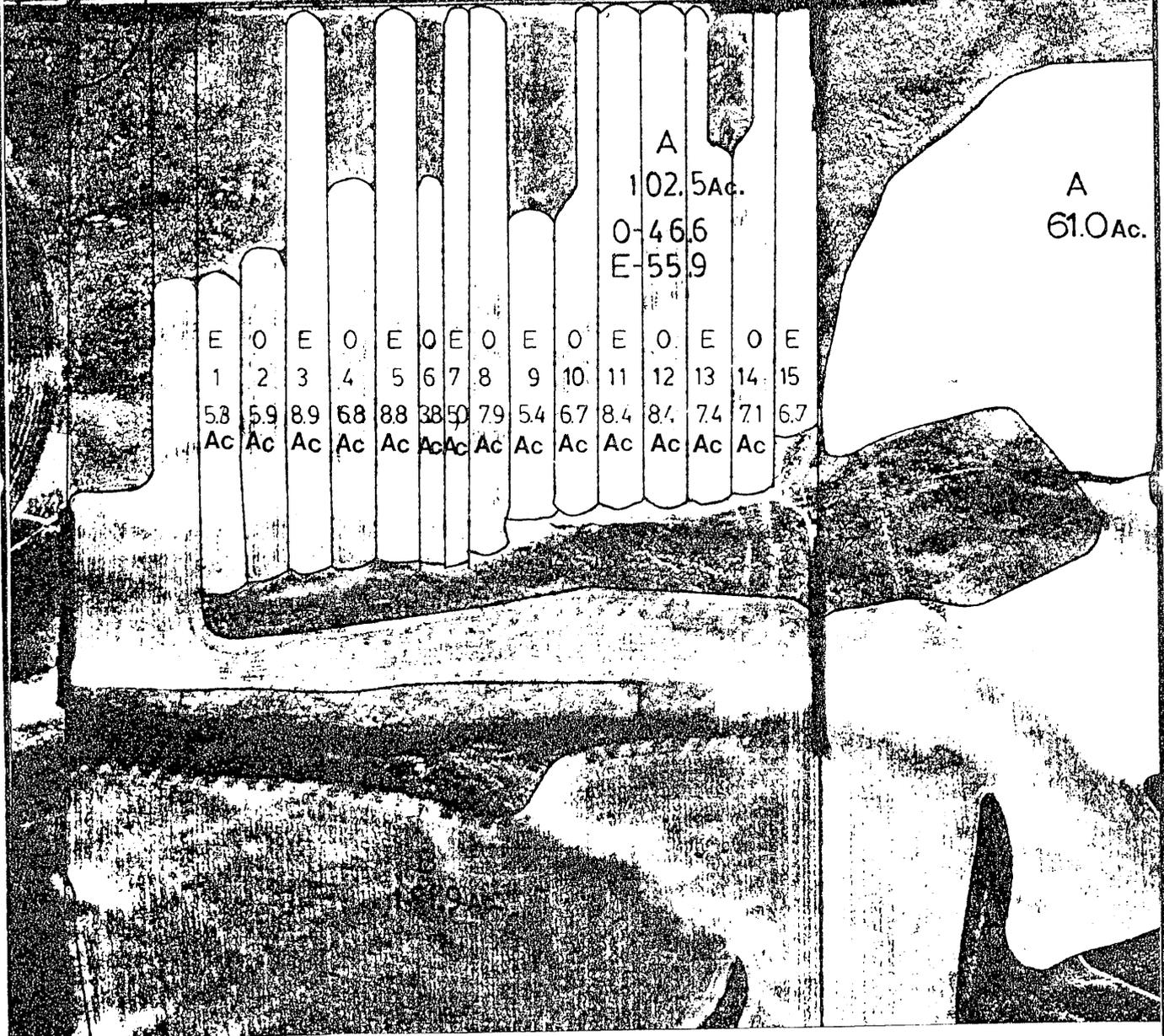


SOURCE: U.S.D.A., A.S.C.S. Aerial Photo No. H-16 (T4N, R33E), September, 1980.

**TRANSPORTATION FEATURES
AERIAL PHOTO ILLUSTRATION NO. 2**

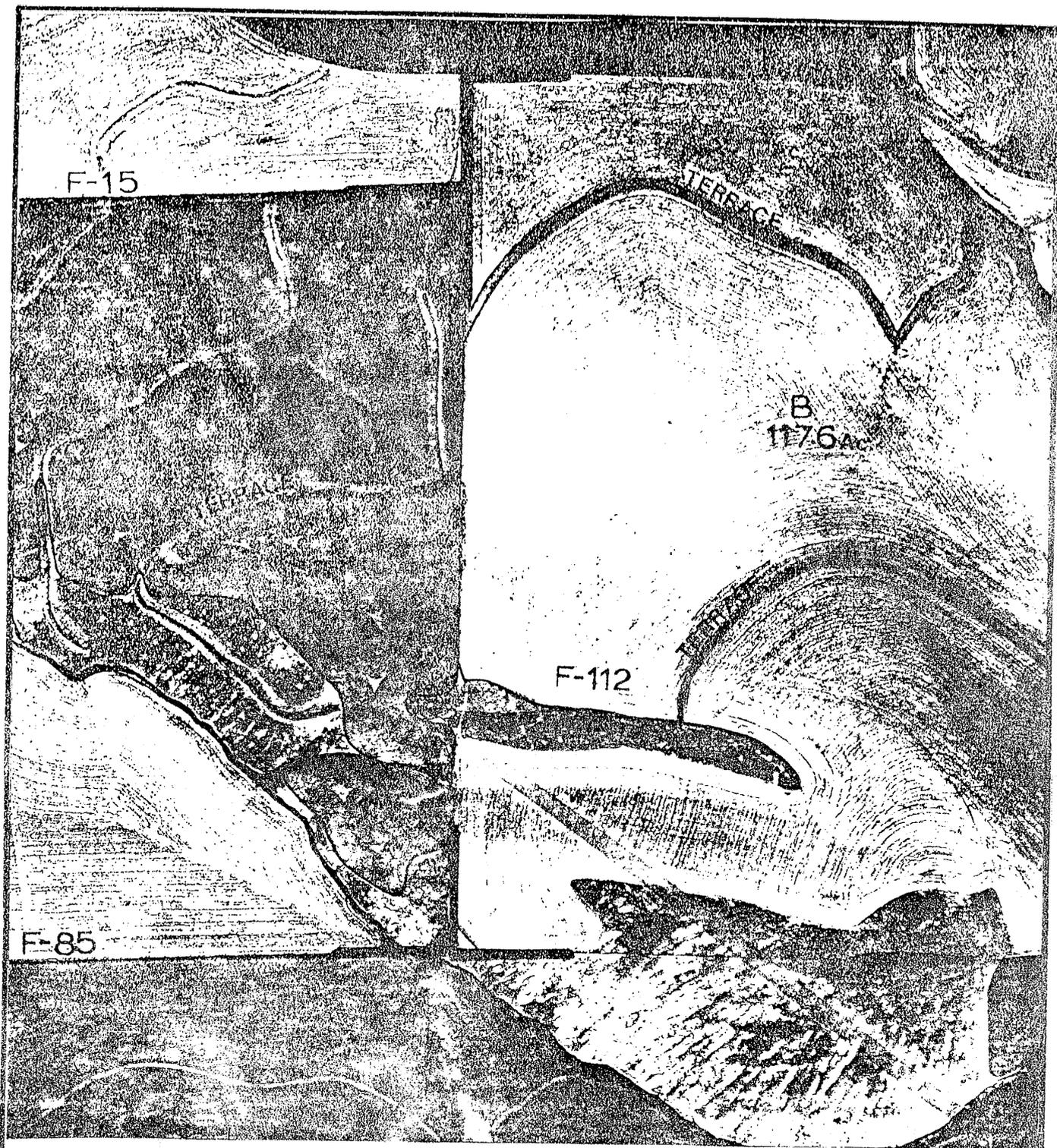
24

T4N R30E



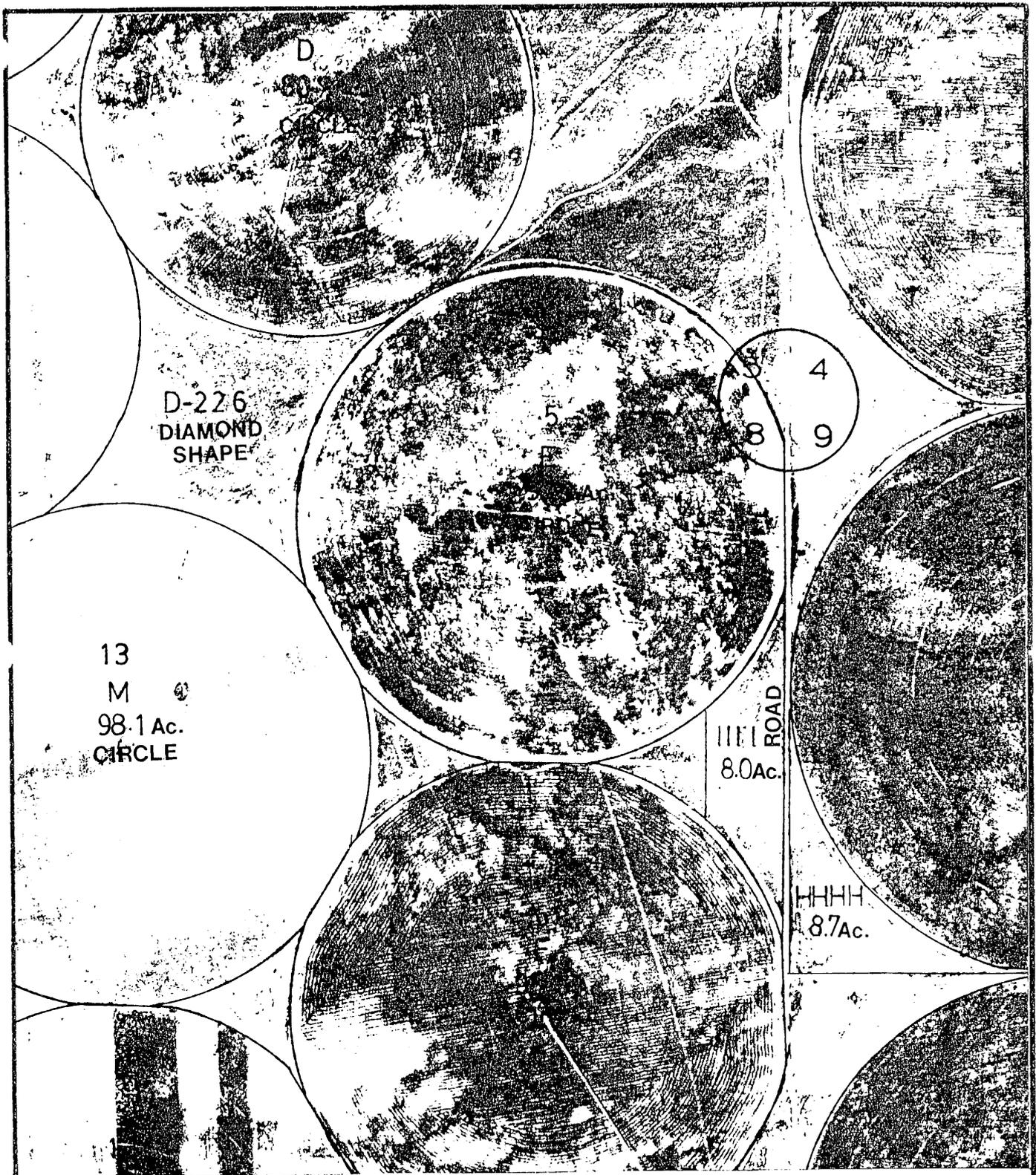
SOURCE: U.S.D.A., A.S.C.S. Aerial Photo No.
H-8 (T4N, R30E), September, 1980.

MAN MADE FEATURES (for conservation purposes)
AERIAL PHOTO ILLUSTRATION NO. 3



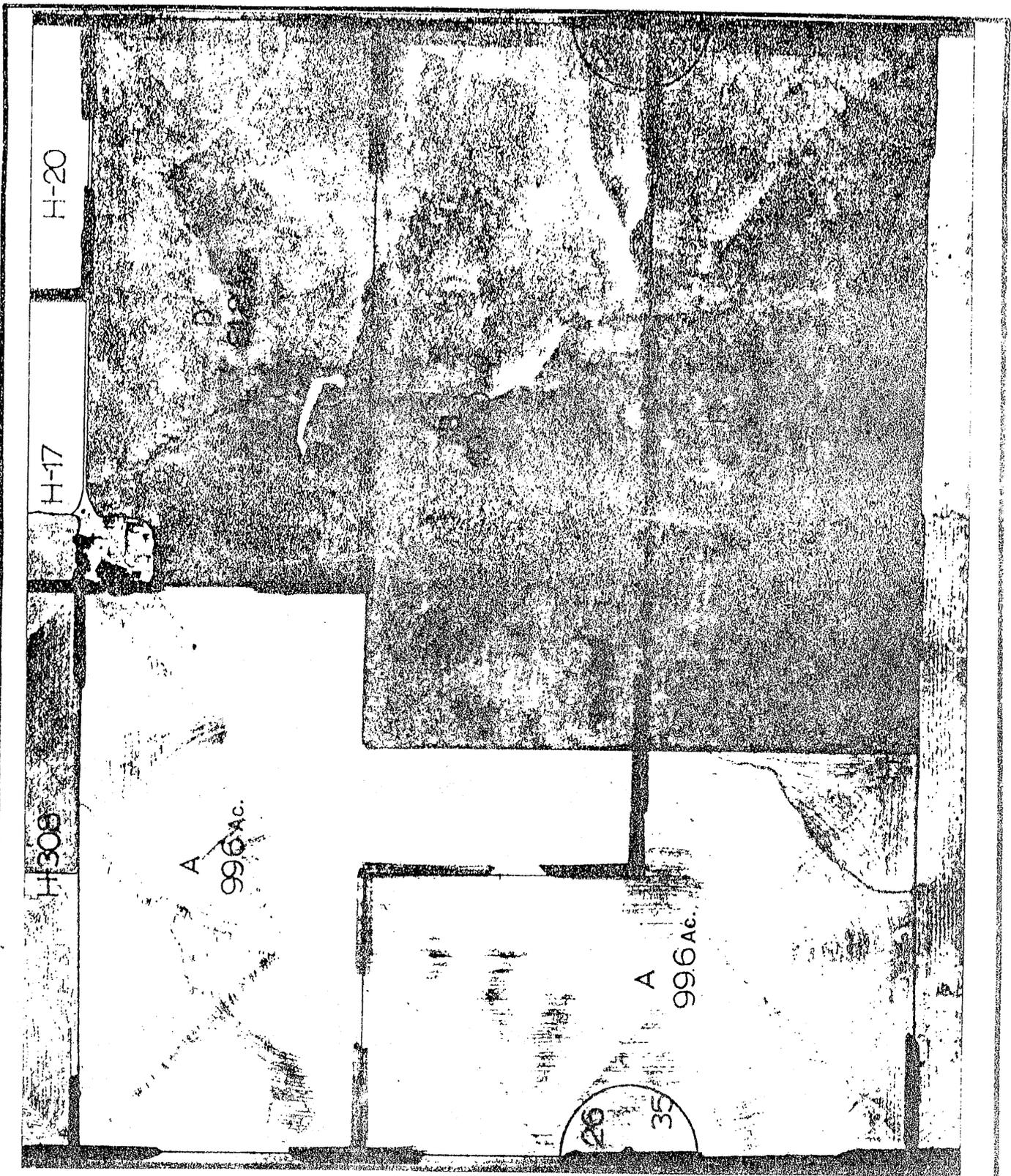
SOURCE: U.S.D.A., A.S.C.S. Aerial Photo No.
C-24M (T5N, R36E), September, 1980.

MAN MADE FEATURES (for conservation purposes)
AERIAL PHOTO ILLUSTRATION NO. 3



SOURCE: U.S.D.A., A.S.C.S. Aerial Photo No.
G-19 (T4N, R30E), September, 1980.

**IRRIGATION
AERIAL PHOTO ILLUSTRATION NO. 4**

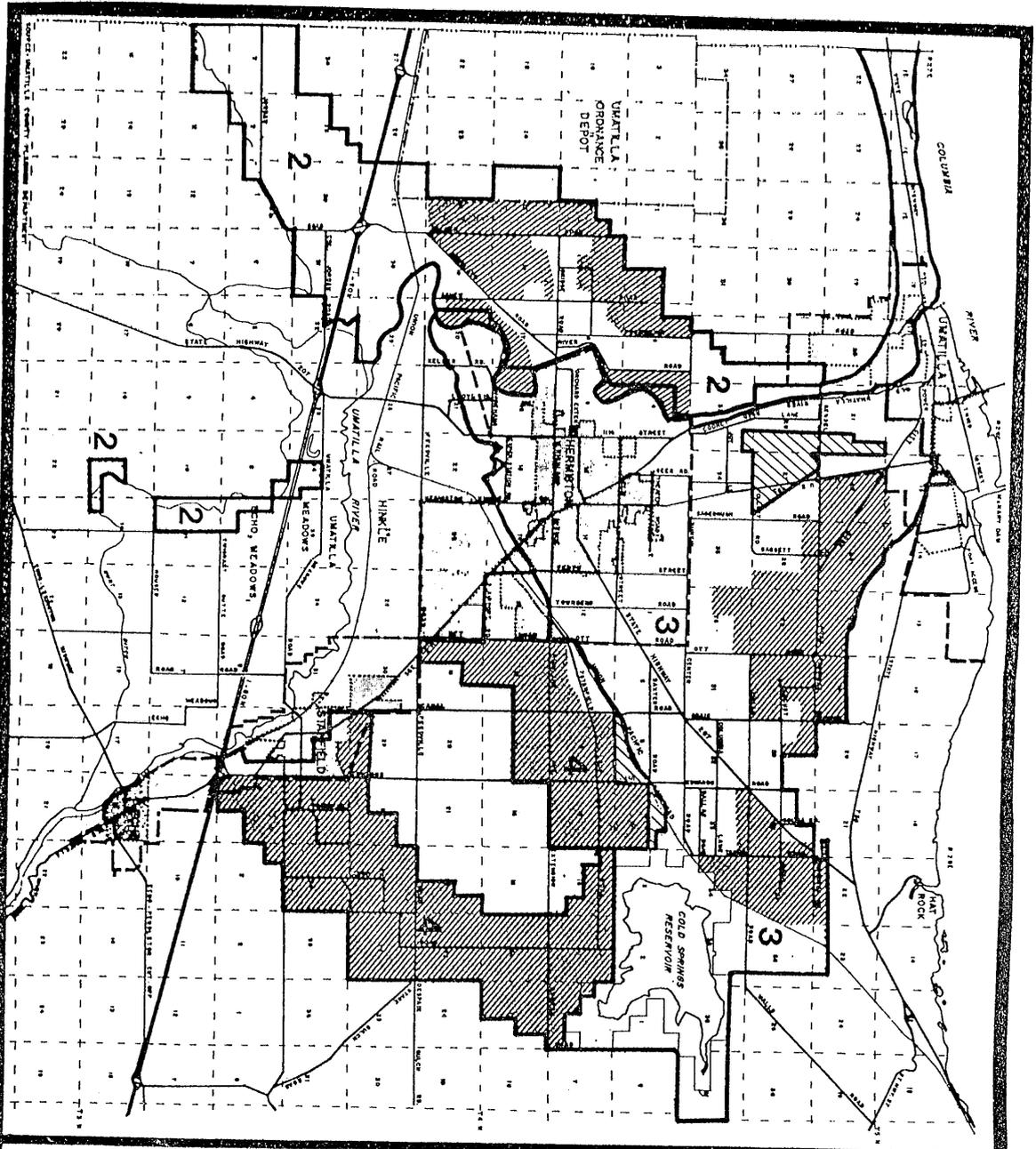


SOURCE: U.S.D.A., A.S.C.S. Aerial Photo No.
H-15 (T4N, R32E), September, 1980.

ESTATE SETTLEMENTS AERIAL PHOTO ILLUSTRATION NO. 5

[New] Stanfield Irrigation Analysis and Conclusions

In the Stanfield Irrigation District, the average farm ownership size is about 20 acres larger than in the Westland and Hermiston Irrigation Districts (90 acres). Farm parcels with the same ownership are separated much like the pattern found in the North County Agricultural Region. Better soils (Class I, II and III Irrigated), better condition of irrigation canals and more reliable water supplies than in the other two irrigation districts, create fewer restrictions upon agriculture and more incentive to buy additional land, not necessarily adjacent to the home farm operation. These favorable conditions also provide opportunities to diversify farming activities, which is true in the Stanfield Irrigation District by the presence of several high return row crops, like mint and sweet corn. These crops are not commonly found in Hermiston and Westland Irrigation District, which are mostly small irrigated pastures with some fields in irrigated wheat and alfalfa crops.



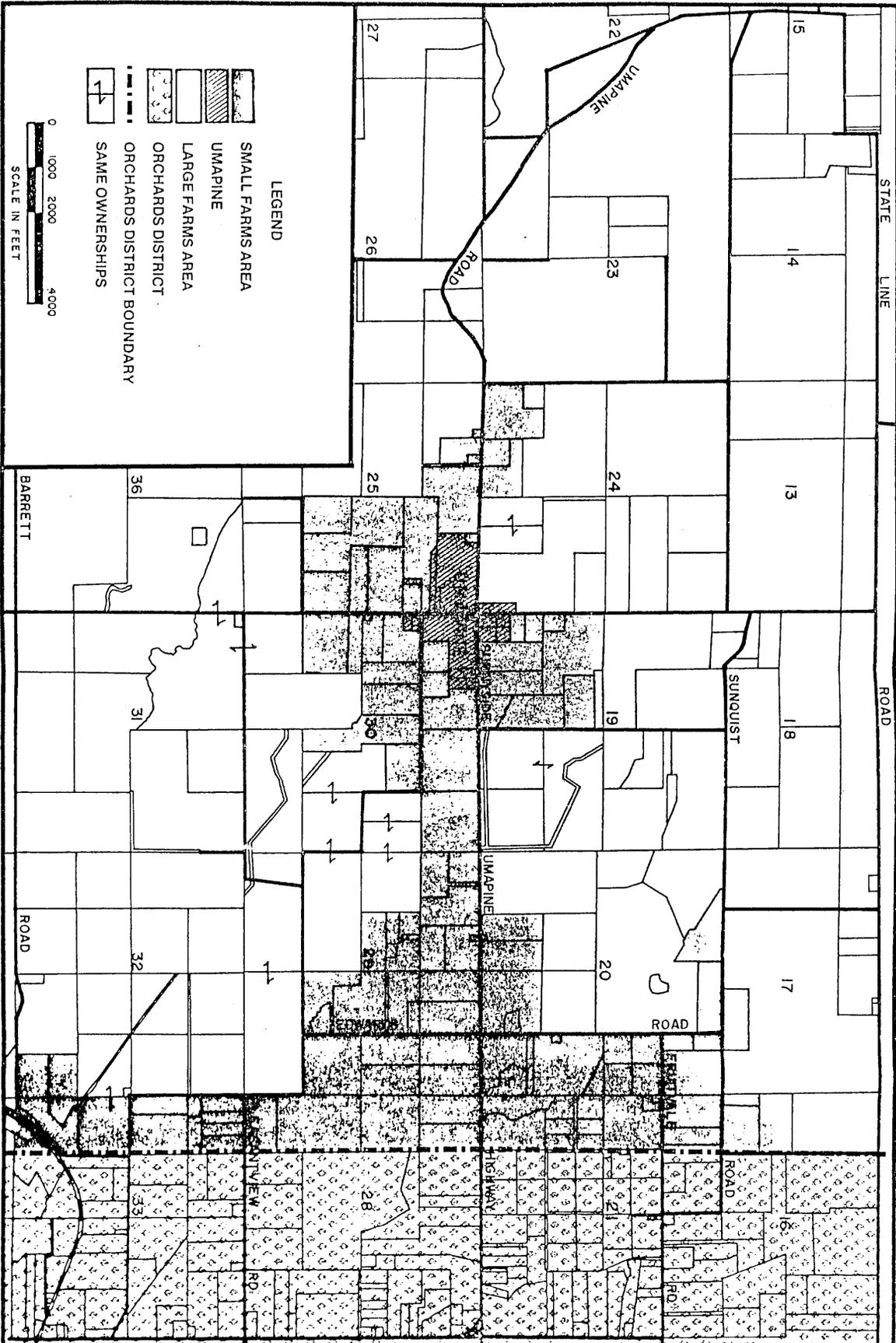
LEGEND

- IRRIGATION DISTRICT BOUNDARY
- AREA OF LOT SIZE STUDY
- 1 WEST EXTENSION IRRIGATION DISTRICT
- 2 WESTLAND IRRIGATION DISTRICT
- 3 HERMISTON IRRIGATION DISTRICT
- 4 STANFIELD IRRIGATION DISTRICT
- AREA NOT IN DISTRICTS 3 OR 4



0 1 2
MILES

**IRRIGATION DISTRICT STUDY AREAS
WEST UMATILLA COUNTY CITIES AND VICINITY**



UMAPINE AGRICULTURAL AREAS

BY WANDA DEWEE AND WILSON DEWEE



Several other factors support a different agricultural situation in Stanfield Irrigation District. First of all, farms, because they are larger, are more self-supporting than the part-time farming operations which dominate the other two irrigation districts. Secondly, farms are not as adversely impacted by non-farm uses, nor is there the great presence of rural residential/homes and zoning as is found in the other two. Further distance from Hermiston helps isolate these lands from demands for rural residential development that seeks a close and convenient location to city services. Thirdly, public support, particularly from local farmers in the Stanfield Irrigation district have led to the denial of several residential rezoning requests as well as opposition to a planned freeway through the area. Denial had been largely based upon the presence of good agricultural land and the desire to preserve it. This type of public support is probably the real indicator of why the Stanfield Irrigation District has remained a more stable agricultural area than the other two. Examination of recent land partitions does not significantly aid in determination of an appropriate lot size.

Based on the above discussion, the Stanfield Irrigation District is recommended for a 40 acre dwelling density minimum. Even though the area is in smaller, irrigated farm parcels, it has several similarities to the dryland and larger irrigation farm patterns of the surrounding area. The disjointed ownerships, leasing of land, and other complex factors pertaining to irrigation, demand a flexible farm protection system similar to the farm partition-dwelling density proposal for the dryland wheat areas. As recommended for the West Umapine agricultural area, a similar size density standard with the adjacent wheat lands permits regulation consistency. This size (40 acres) should better protect farming activities because it is twice as large as the present 19 acre regulation and is a size that approaches a self-supporting farm unit in the Stanfield Irrigation District. The dwelling density size is also reflective of the local farming community's desire to protect the area for continued agricultural uses. Agricultural operations like moving farm and irrigation equipment is also easier and more practical on parcel sizes of 40 acres and larger.

Westland-Hermiston Irrigation Analysis and Conclusions

Previous discussion leads to the fact that farms in the outer fringe of these two districts have increasingly experienced difficulties in continuing normal farming operations. Pressures from rural residential development, sometimes unreliable water supplies and inefficient, poorly maintained canal systems decrease the opportunity to diversify into more intensive and efficient agricultural practices. Irrigation is just barely sustaining these marginal farming areas of mostly Class IV Irrigated soils. The present average farm parcel sizes (38 acres in Westland and 51 in Hermiston) are too large to be committed to rural residences, of which there is already a large inventory. These farms are not large-scale enterprises and they do not contribute significantly to the overall agricultural economy of the county.

Agricultural identification and subsequent preservation must then recognize the special circumstances occurring in the Hermiston and Westland Irrigation Districts. Flexibility that will protect and yet encourage these non-farm pressured agricultural lands to be more efficient should conditions change, is important. Perhaps with improvements in irrigation practices or improving the present irrigation system, more intensive and efficient agricultural practices would take place and special commodity production areas would develop. This

might be accomplished by discouraging speculation on the conversion of marginal farm land to homesite development, and by encouraging more intensive managed small farm units by assigning an agricultural designation and protective farm zoning to protect these farms.

Originally, the existing 20-acre dwelling density was felt to provide the flexibility needed in these two transitional irrigation districts. However, during hearings held for "Deferred" areas, of which these two irrigation districts were a part, area agriculturalists were favorable to the earlier adopted EFU zone placed upon adjacent and nearby agricultural lands. This parcel-density farm protection zone was also closer to the existing average parcel/ownership sizes for most of these two irrigation districts (see Table B-VIII), thereby affording more stability by reducing the number of potential land division and potential dwellings. However, since this zone was not approved by LCDC, the County has adopted a new EFU zone which incorporated standards in a matrix that regulates both farm divisions and dwellings.

The above action has in effect recategorized most of the deferred areas of the Hermiston and Westland Irrigation Districts into the North County Plan designation and the EFU zoning classification from the originally proposed Special Agricultural designation and EFU-20 zoning.

Powerline Road/River Road Area

There are exceptions to the EFU zoning in the deferred areas of the two above-mentioned irrigation districts. One area is the Powerline Road/River Road part of the Westland Irrigation District. The Powerline Road/River Road area has much smaller parcel sizes and a majority of them are individually owned. The average parcel size is 25 acres and the average ownership size is 29 acres, or almost the same. The area is large enough (390 acres) and definable enough to be separated into a Special Agricultural designation and a 20 acre dwelling density minimum. This agricultural designation will maintain the existing farm pattern of small, irrigated pastures associated with part-time farming pursuits which are also quite prevalent throughout the entire Hermiston and Westland Irrigation districts even with the parcel sizes being of a larger size than in this sub-area of the Westland area.

Three potential land divisions would be possible at the 20 acre density protection zoning. A similar 20 acre protection measure has been in effect in the Westland area since 1972 which has had success in limiting partitions in an area where rural residential pressure has been great. The newer and more restrictive exclusive farm zone should do equally as well. It should also be noted that the soils in this area are mostly Class IV and have drainage management problems. The ever-present pressure to convert these marginally-productive part-time farms into rural residential lots rather than spending large sums of money to improve even maintain these part-time farming operations is lessened by preserving these marginal areas by designating them Special Agriculture.

Westland Road Area

The second special farm area is also in the Westland Irrigation District. It is located mostly south of Westland Road between it and the Umatilla River. This area had been originally designated as rural residential when the county submitted the comprehensive plan to the state for acknowledgement in 1983.

After reviewing the area and updating agricultural development that has taken place in the last two years here, the County is redesignating the area for Special Agriculture.

The Westland Special Agriculture Area is a rather small area of 680 acres. It is an anomaly area bounded by extensive rural residential development on the northwest and west sides. The Umatilla River forms the east and south boundaries. Across the Umatilla River to the east is the Hermiston Urban Growth Boundary which is planned for future urban density. Across the river to the south and southeast is a mixture of rural residential and special agricultural designated areas.

Within the Westland Road Special Agriculture Area is a mixture of agricultural land and activities, along with some undeveloped vacant land. Within the past two years, several center-pivot irrigation circles have been developed within the area. There is one 79 acre parcel which has a wheel-line irrigation system. Several other parcels are irrigated pastures. There are also several non-agricultural uses within this area which include a dirt bike race track, a county gravel pit and a commercial agricultural related business of a honey processing facility building.

The average lot size within the area is 38 acres and the average ownership size is 80 acres. However, there is really only one full-time farming operation of 390 acres which makes up nearly 60% of this area. Most of the remaining area is marginal farms of rather small acreages of pasture land averaging in sizes from 30 to 46 acres in size.

A Special Agriculture designation of 20 acre lot size minimums is placed upon the Westland Road Area because the long-term agricultural outlook for the area is very uncertain and because for most of the area the parcel size and ownership size is 35 acres. The negative long-term outlook is based upon the area being an island of marginally economic farms and sizes circled by a ring of existing non-agricultural development. The soils are marginal, even when irrigated (Class IV) and irrigation water is very limited. Only existing surface sources from the Westland Irrigation District and some existing sources from the Umatilla River are available to the area. Additional capacities from these sources are not likely as the Westland Irrigation District is at capacity limits and the Umatilla River will likely have minimum stream flow levels to maintain. No irrigation water from groundwater sources are now or likely to be permitted in the near future from existing and anticipated critical groundwater designations enforced by the State Water Resources Board. The above coupled with the expansion of non-agricultural development to the north, east and south that will likely squeeze out the remaining agricultural uses in this area eventually will certainly not permit long-term consolidation of these lands into commercial units. Besides, only about 15 partitions are possible with a 20 acre minimum density.

Concluding, the unusual situation in the Westland Road Area warrants unusual remedies. The County will zone the area to a Special Agriculture designation recognizing the interim agricultural use picture drawn above.

Another area having smaller parcel sizes than adjacent part-time farms in the West County deferred area is in the far east end of the Hermiston Irrigation District. The average parcel size in this area is slightly over 31 acres as compared to a 54 acre average parcel size in the rest of the Hermiston Irrigation District. Average ownership size comparisons between the east and west sub-areas of this district are 42 acres and 83 acres respectively.

The eastern sub-area has smaller lot patterns because it is interspersed with rock outcroppings, bluffs, ponds and sub-irrigated ground. It is not prime farmland. Soil capability classifications support the marginal nature for agriculture, being mostly Class IV and Class V. Very few full-time farm operators are found in this sub-area. Public testimony gathered through the planning program in Umatilla County since 1972 has consistently shown part-time farming operations to be the dominant activity here, and as mentioned earlier, in the entire Hermiston and Northern Westland Irrigation Districts.

A Special Agricultural designation with its 20 acre density protection features will be placed on this eastern sub-region to keep approximately the same parcel size pattern. This action is consistent with protection measures in all other Special Agricultural areas throughout the county having a similar 20 to 35 acre parcel pattern. About 22 to 25 new partitions are possible in a total area of about 1,460 acres. With the expense of the area involved, this number of possible partitions should not have any appreciable effects upon these already marginally producing soils.

The Minnehaha EFU-20 acre Special Agricultural Area was a sudden addition to the county planning process. This was a result of Hermiston taking the area out of its Urban Growth Boundary at the end of their plan adoption process. Rather than submitting the county plans without a plan and zoning designation, which would create a "hole," the county chose to place a Special Agricultural designation to maintain the appropriate lot size pattern and small farm activity taking place here.

The Minnehaha Special Agricultural Area totals 190 acres. The average parcel size is approximately 14 acres and the average ownership size approaches 17 acres. These parcel pattern figures more obviously reveal that the 20 acre density provision of the Special Agricultural designation will "freeze" housing in this area.

South Ott Road

This is another island area of agricultural uses and lot sizes which do not quite meet the irrevocably committed criteria for a non-agricultural use exceptions. The surrounding land uses are rural residential hobby farms and dwellings. Most of the agricultural uses within this 390 acre area are irrigated pastures for horses and cattle. Some irrigated wheat and alfalfa fields are along the south boundary. Two small (less than 35 acres) irrigation center pivot systems have recently been installed in the northwest corner of this Special Agricultural Area. Corn is this year's crop under them.

The average parcel size within South Ott Special Agricultural Area is 27.6 acres and the average ownership size is 57.2 acres. Placing the Special Agriculture zoning density of 20 acres to these parcels would permit some 5 to 7 partitions or approximately the same parcel size pattern that exists at present. This would also be consistent with the other Special Agricultural Area in the county having similar parcel size patterns.

In summary, a majority of the Westland and Hermiston Irrigation Districts' land involved in the agricultural lot size review and placed in the 1982 "deferred area" status is going to be protected with exclusive farm zoning. The EFU zone would be an extension of the earlier-adopted (June 1984) county-wide EFU zone placed on adjacent, commercial, full-time agricultural lands. Maintenance of the the existing parcel pattern will likely be the result, with only 10 farms-sized partitions with new dwellings (over 20 acres) since 1972 occurring in these same areas under a 19 acre minimum lot size zoning. Under this EFU Zone, the proliferation of questionable dwellings should be effectively controlled. The five Special Agricultural areas discussed above with the prescribed EFU-20 zoning will maintain the existing parcel patterns. Placing the 1984 adopted EFU zoning on these five areas is too late and impractical, because present conditions do not, nor are they likely in the future to, allow easy consolidation of similar ownerships into large-scale commercial farm units.

Appropriate policies in the Comprehensive Plan recommending smaller agricultural lot size minimums in the future when circumstances permit them will provide additional flexibility for these farm acres and recognize their precarious marginal farm use. Policies to assist in determining when and where to allow conversion to smaller farms will help to insure a more timely changeover and hopefully discourage inappropriate land use activities that might otherwise occur.

McKay Creek Special Agricultural Area

This area is a unique farming region northeast of Pilot Rock, along the stream and lower hillsides of McKay Creek. Its uniqueness is the isolated nature of

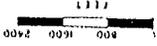
smaller sized alfalfa and pasture fields surrounded by rather large dryland wheat and grazing operations. Associated with these small fields is a concentrated dwelling density which is also quite different from adjacent farmlands where houses are few and far between. Field sizes are largely influenced by the meandering stream, county road, and topography. Also suspected as an influence is the intermixture of soils having different farm management capabilities. Although not documented by a detailed soils survey, general testimony indicates that the area has mostly classes IV, VI and VII capabilities. Average lot and ownership size information was obtained in the same manner as for the Umapine Special Agricultural Area (see pages B-80 to B-86). Following this process yielded an average lot and ownership size of 43 acres. Mentioned earlier was that several of these farm lots go up onto the hillside where very marginal soils and steepness of the land render agricultural use or any kind of development virtually impossible. If this area is not computed in the lot size/ownership calculations, average sizes are reduced to 35 acres.

The McKay Creek Special Agricultural Area is very similar to other special agricultural areas in the county. Parcel sizes, marginal farming activities and desired rural part-time farming all help to point out the specific similarities. Logically, the same 20 acre minimum dwelling density and other farm regions prescribed for other special agricultural areas would fit the overall farm parcel pattern of this area. Very few additional 20 acre lots with homes could be partitioned. An estimate yields about four new divisions. The introduction of these new homes and farms would maintain the rural farming character of the area and also would not negatively impact the larger, more important farming operations which are buffered by the area topography. Wildlife protection is also maintained by the lower density farm use regulations to be applied.

Orchards District

Agricultural lot size review and discussion will be treated somewhat differently in this agricultural district than in the previous ones examined. The reason is the Orchards District was replanned and zoned to comply with the statewide planning goals and agricultural land preservation laws in 1979. Treated as a special area and completed earlier than the rest of the County, the Orchards District Plan is being included into pertinent sections of the overall County Comprehensive Plan. The following contains highlights of planning information and findings leading to adopted agricultural protection measures including agricultural lot size minimums for the Orchards District. (It should be noted here that the Forks of the Walla Walla River will be treated as a sub-district of the major fruit growing industry in East Umatilla County. A separate discussion about the Forks area follows this section).

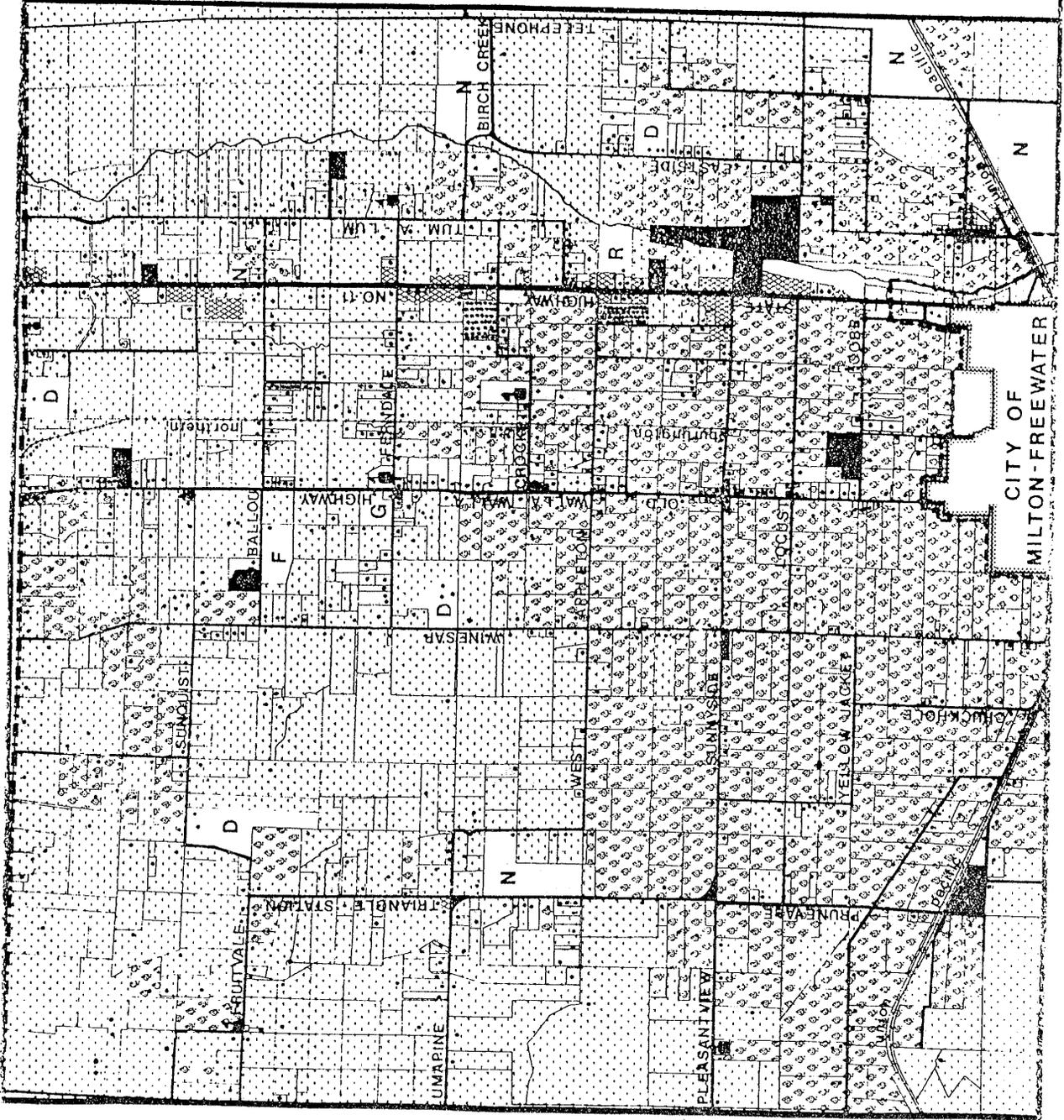
The identification of agricultural lands and choosing acceptable protection standards for the Orchards District was not an easy task. The basic problem was that the project area has historically been a small but important specialty agricultural district, however, since a devastating freeze in 1955, has witness much non-farm residential and some commercial development. (See Map on page B-76.) Furthermore, the 1972 Umatilla County Comprehensive Plan designated most of the area as "residential" and over half the 13,000 acres in the district were zoned for rural residential in densities of two and four acres. Continued development in this fashion could eventually have harmed the area's existing agricultural industry, especially orcharding, by interfering with horticultural practices (spraying, harvesting), breaking up the land use pattern with small



EXISTING LAND USE

LEGEND

-  RURAL RESIDENTIAL
-  COMMERCIAL
-  ORCHARD
-  PASTURE, CROP
-  INDUSTRIAL, GRAVEL OPERATION
-  DWELLING
-  MOBILE HOME PARK
-  SCHOOL
-  CHURCH
-  GRANGE
-  FEEDLOT
-  DAIRY
-  NURSERY
-  RODEO GROUND
-  VACANT



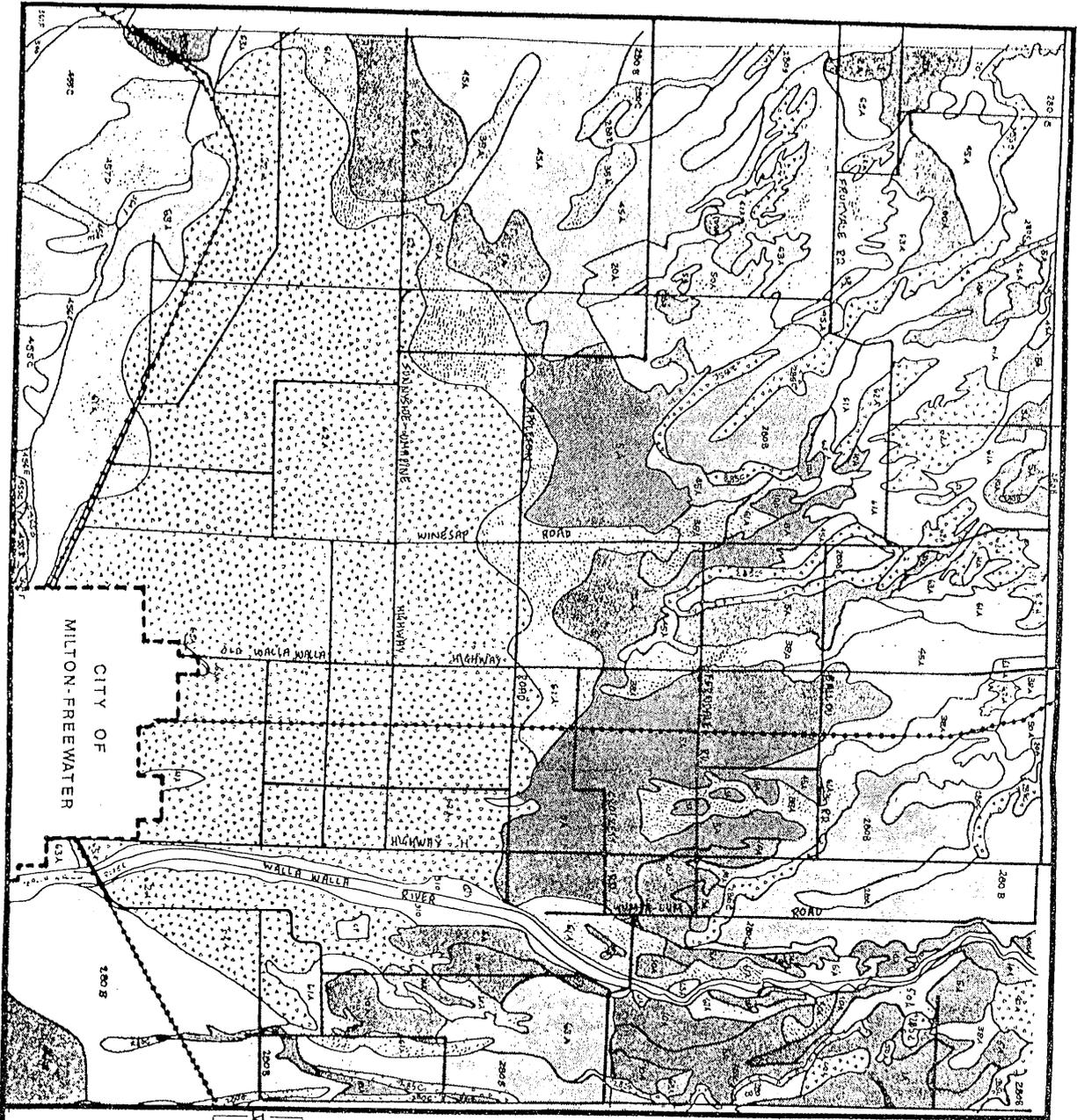
lots and taking quality land out of production. Area orchardists, witnessing a resurgence in the fresh-market apple industry, actively petitioned the County to put a stop to these trends. In addition the State planning goals require that agricultural land shall be preserved from non-farm development to ensure future food supplies. Something different had to be done because the present County Comprehensive Plan and zoning did not preserve the quality agricultural lands in this area and did not comply with State planning goals.

As a means of assessing the agricultural character of the Orchards District, the County planning staff first inventoried the type and extent of agricultural uses, analyzed production records and had an up-dated soils survey conducted. The new soils information showed that over 95% of the land within the Orchards District was rated Classes I through IV in irrigated agricultural capability, and State planning goal #3 (Agriculture) requires that with Class I-VI agricultural land be protected. (Map, page B-78) The land use survey further revealed that most of the land is devoted to orchards (e.g. apple, cherry, prune or plums), irrigated and dryland field crops (e.g., wheat, alfalfa and barley), small scale livestock operations, horse breeding and raising, and specialty vegetable crops such as onions, tomatoes and asparagus. Interviews with fruit packers and crop production records indicated that the Milton-Freewater area orchards, though small in extent, contribute significantly to regional and even national fruit production, especially for the high-value fresh markets (see Table IX.) All this research indicated the critical need to protect the Orchards District from further non-farm development.

Farm uses, farm management arrangements, and field sizes were next examined. The study revealed great diversity-parcelization throughout the Orchards District but several farming patterns were identified. Small orchards and hobby farms devoted largely to pasture, exhibiting parcel sizes of 4-9 acres are typical of the central Ferndale, lower Tum-a-lum, central Fruitvale and southern Eastside subdistricts. Another common farm pattern is the 10-to 20-acre fruit orchard, reflecting original plattings of fruit tracts done in the early 1900's, found throughout the Sunnyside and Pleasant View areas, western Ferndale and a majority of Fruitvale (Subdistrict Map, B-80). On the fringe areas and larger upland terraces of the Orchards District, farms are devoted to mixed farming with cattle and fields of wheat, alfalfa and barley. Field sizes in these areas range from 20 to 40 acres and more. There is also an area of 10-20 acre hobby farms in the low-lying eastern Ferndale and Central Tum-a-lum areas. These fields are mainly pastures for horses or cattle, the land being too wet for successful orchard growth.

Upon examination of the farming pattern data, several Board of Commissioners appointed Citizen Advisory Committee members recommended a small farm designation for about 1000 acres in the north-central portion of the Orchards District where the smallest farm lot groupings were found. The remaining 90% of agricultural lands in the Orchards District was proposed for a commercial agricultural designation with EFU zoning. Oregon's land use laws require that the County zone all agricultural land with an Exclusive Farm Use zone that is developed to meet the needs of the community within the constraints of the aforementioned zone enabling legislation.

The dominant economic feature and land use pattern of the Orchards District consists of a large commercial orchards industry, rural hobby farming and rural residential and commercial development influenced by the proximity to Walla Walla, Washington. The F-1 zone, designed primarily to accommodate the region's



CLASS	NO.	NAME
I	1 A	Hermiston Silt Loam
	2 A	Hermiston Very Fine Sandy Loam
	5 A	Unnamed Silt Loam
	10 A	Onyx Silt Loam
	455 B	Walla Walla Silt Loam 1.7% slope
II	460 B	Walla Walla Silt Loam 1.7% slope High Precipitation
	20 A	Pedigo Silt Loam
	45 A	Umapine Silt Loam, reclaimed
	63 A	Yakima Silt Loam
	280 B	Ellisforde Silt Loam
III	455 C	Walla Walla Silt Loam 7.12% slope
	38 A	Unnamed Silt Loam - Catherine Complex
	50 A	Umapine Silt Loam
	61 A	Unnamed [Freewater] Gravelly Silt Loam
	280 C	Ellisforde Silt Loam
IV	300 C	Andery Silt Loam
	456 D	Walla Walla Silt Loam 12.20% slope
	456 E	Walla Walla Silt Loam 20.35% slope
	457 D	Walla Walla Silt Loam 12.20% slope
	40 A	Stanfield Silt Loam
V	62 A	Unnamed [Freewater] Very Cobbly Loam
	65 A	Unnamed Very Cobbly Loam - Urban Complex
	285 C	Kennewick Silt Loam
	360 E	Lickskillet Very Stony Loam
	361 F	Lickskillet-Rock Outcrop Complex
VI	364 F	Nansene Silt Loam
	910	River Wash

• Possible Name
 SOURCE: USDA. Soil Conservation Service, 1978 survey, Pendleton, OR 97801
 SCALE IN FEET
 0 1000 2000 4000
CULTIVATION CAPABILITIES (IRRIGATED)
ORCHARDS DISTRICT, Milton-Freewater



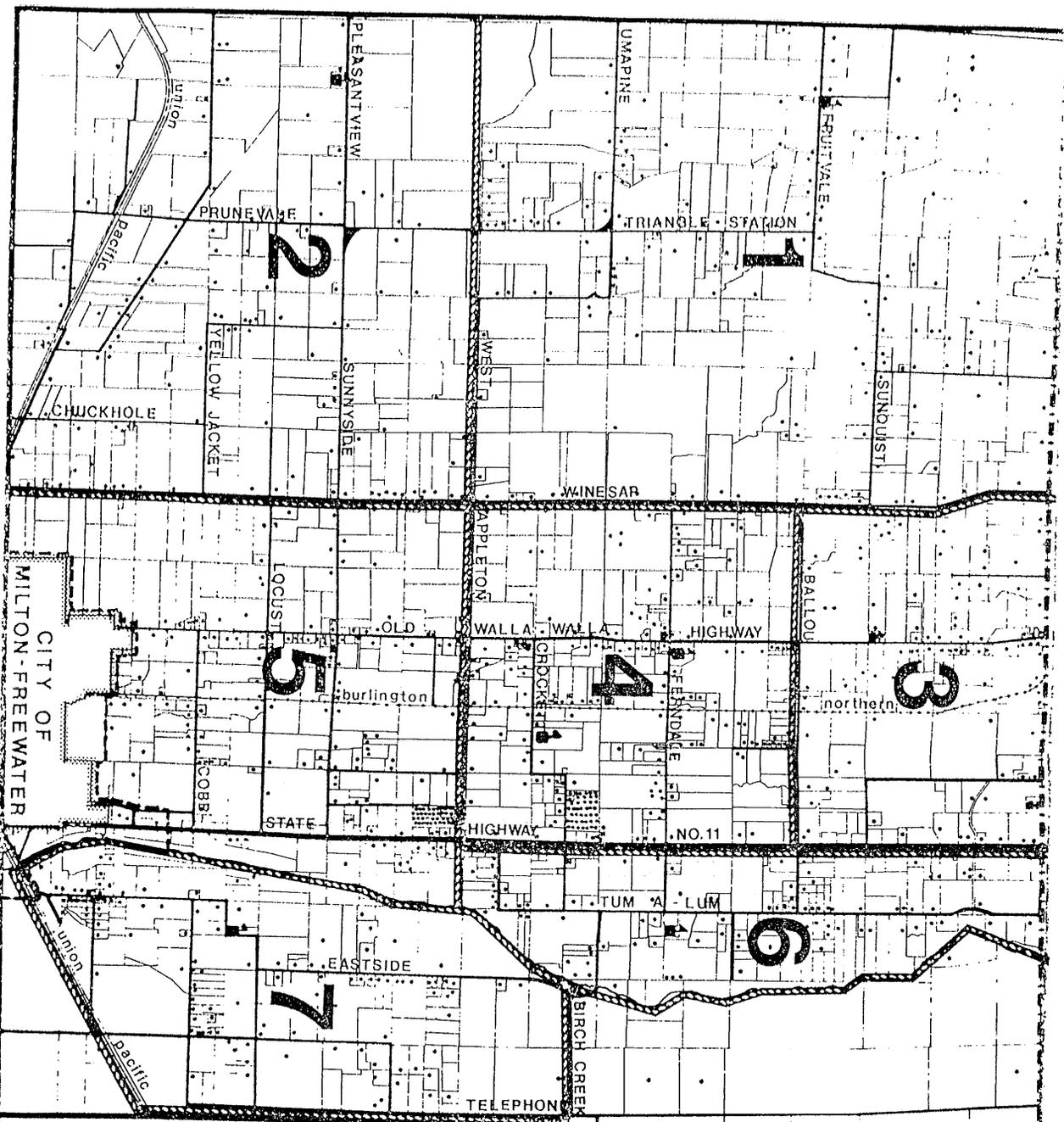
TABLE B-IX

WALLA WALLA VALLEY PROJECT, UMATILLA COUNTY, OREGON
1974 COMPARATIVE STATISTICS

APPLE PRODUCTION:

<u>OREGON</u>	Acres (30% semi-dwarf)	6,909	
	boxes packed	3,929,000	
	value of sales	\$10,230,000	
	sales/acre	\$ 1,480,680	
<u>UMATILLA COUNTY</u>	(all production in Walla Walla Valley)		% state total
	acres (16% semi-dwarf)	1,467	21%
	boxes packed	1,055,000	27%
	value of sales	\$2,550,000	25%
	sales/acre	\$1,893,100	128%
<u>PRUNE AND PLUM PRODUCTION:</u>			% state total
<u>OREGON</u>	acres (14% plums)	8,581	
	tons sold	28,000	42% U.S. production
	value of sales	\$4,200,000	
	sales/acre	489	
<u>UMATILLA COUNTY</u>	(all production is in Walla Walla Valley)		% state total
	acres (20% plums)	1,104	13%
	tons sold	8,800	31%
	value of sales	\$1,334,000	32%
	sales/acre	\$ 1,208	247%
<u>SWEET CHERRY PRODUCTION:</u>			% state total
<u>OREGON</u>	acres	14,972	
	tons sold	33,500	23% U.S. production
	value of sales	\$12,496,000	
	sales/acre	\$ 835	
<u>UMATILLA COUNTY</u>	(all production is in Walla Walla Valley)		% state total
	acres	313	2%
	tons sold	920	3%
	value of sales	\$ 472,000	4%
	sales/acre	\$ 1,508	181%

SOURCES: 1974 Census of Agriculture
Oregon Cooperative Extension Service Commodity Reports
Blue Mountain Growers



- LEGEND
- 1 FRUITVALE
 - 2 PLEASANT VIEW
 - 3 STATELINE
 - 4 FERNDALE
 - 5 SUNNYSIDE
 - 6 TUM-A-LUM
 - 7 EASTSIDE



SUB-DISTRICT BOUNDARIES
ORCHARD 3 DISTRICT, Milton-Freewater

size that is typical for only 1/3 of the land area within the Orchards District and permit uses outright that could be very incompatible within a more densely settled area. However, it became apparent that the County's existing Exclusive Farm Use zone, the F-1 zone, might not be appropriate to much of the Orchards District because of its 19-acre minimum farm parcel size and use standards. Under the F-1 zone, only about 30 parcels within an area of over 9,000 acres and 4,500 residents could ever be partitioned. Plus, feedlots and hog farms would be considered outright uses even on the Old Walla Walla Highway, stretches of which were identified as residential and commercial. Also, a blanket zoning of 19 acres would not recognize the area's separated and small ownerships especially typical of orcharding. Most commercial orchards consist of several separate units, often scattered over a wide area. In fact, it is quite common for orchards as small as 3 acres to be owned or rented and managed by orchardists living several miles away. Leasing arrangements are common, so retired farmers can continue to live in the country and so rural non-farm families can earn supplemental income from their land. Consolidation of fruit orchards is difficult. The County's existing minimum EFU zone would not have permitted the continuance of this effective and functional yet complex farming pattern. Application of this zone would have permitted large-scale operation, limited entry of new orchardists, and disrupted rural lifestyles. A smaller parcel size, flexible partitioning arrangements and more restrictive use standards seemed to be appropriate for most of the fruit growing area.

Statistics from local fruit-growers and processors showed that the average net income for apple orchards in the Orchards District during 1976 and 1977 was around \$970 per gross income of \$2,320 per acre. If the farm operator did much of his own labor, his total net annual income for ten acres could reach \$18,000. Under these circumstances a ten-acre apple orchard could constitute an entire commercial farm unit. An orchard farm containing more than ten acres would be more stable and economical, but could easily be composed of several tracts, as indeed is the norm for most of the commercial operations. Area farmers advised that a ten-acre orchard unit is an easy and convenient size to farm, and ten acres is indeed the average "field size" and parcel size in the primary producing areas of the Orchards District. Therefore, a Fruit Tract designation and 10-acre minimum EFU zone was recommended and generally acceptable to the Orchards District Citizen Advisory Committee. After public hearings, the County approved the 10-acre minimum lot size with additional protective measures which are discussed later.

Ten acres planted to high-value vegetable crops such as onions, tomatoes and asparagus, which are common crops in the Walla Walla valley, could also constitute a commercial farm unit, so the Fruit Tract zone was applied to certain non-orchard areas with a typical ten-acre parcel pattern.

It should be noted that a nine-acre parcel size was originally adopted for fruit tracts instead of ten acres because most "ten-acre" properties included descriptions to the middle of a public road. They are actually only 9.5 to 9.9 acres due to the Assessor's practice of excluding for assessment purposes the non-assessable acreage in the road right-of-way. However, since 1979 when the 9-acre lot size minimum was adopted, an amendment to the Umatilla County subdivision and partition ordinance was adopted, which allows road right-of-way to be included in the total parcel acreage. A full ten-acre partition is now possible, so the original 9-acre minimum lot size has been revised to 10 acres.

How do deal with the many small, part-time "commercial" crop farms was another major task. The map on page B-84 depicts the areas where this farming type occurs.

Intermixed with parcels of from 5 to 10 acres are many smaller parcels usually occupied by a rural non-farm family. Over 75% of the numerous 5-to 10-acre tracts qualify for farm deferral. (See map, page B-84) Many of the remaining parcels, as well as a number of the smaller ones, would qualify, especially those planted to orchards. While these small farms are not usually full-time operations, commercial crops are produced, and family incomes considerably increased. Part-time farmers with outside jobs are typical, and the orchards District provides one of the few areas in Umatilla County where this type of rural lifestyle has developed.

A Small Farm designation and Small Parcel EFU zoning was considered by the Citizen Advisory Committee because small-scale farming in the County is an established, desirable lifestyle, and several portions of the Orchards District were already committed to this type of land use. A 4-acre parcel size minimum along with this special designation was supported by area residents for portions of the Ferndale and Tum-a-Lum districts were already zoned with a 4 acre Agricultural-Residential zone and this size would maintain the existing field sizes now being farmed in those neighborhoods.

Included were several large parcels suitable to provide additional small farm units for families in the future. The Small Farm designation as adopted by the County together with special controls.

In the attempt to receive state acknowledgement of the Small Farms designation and zoning, the County was unsuccessful. L.C.D.C stated that detailed justification had not been provided and said that it would be impossible to show that such a small-sized lot size minimum for the crops and types of agriculture involved would continue the existing commercial agricultural enterprises in the area. L.C.D.C further suggested that some of the areas within the small farms designation would be more appropriately placed within the Fruit Tract Plan Designation and Zoning and other areas included in a rural residential plan and zone category upon taking a developed/committed exceptions.

The County, upon further examination of the questioned small farms area, reluctantly concludes that it can not justify this special EFU zone. As instructed by L.C.D.C, the County has instead, taken a developed/committed exception to several areas and placed them into a 4 acre minimum rural residential zoning (see Rural Residential Exceptions Statement in the Comprehensive Plan for map showing these areas). The remaining areas have been put into the Fruit Tract Plan Designation and 10 acre minimum zoning because the parcel sizes in these areas more closely relate to its 10 acre minimum lot size. The same EFU-10 land use controls will apply to these new areas and are described later in this report.

Application of EFU zoning to the field crop-livestock farms on one upland terrace in the Orchards District was conceived as an interim measure. During the formulation and eventual adoption of the Orchards District plan in 1978-79, adjacent agricultural areas had not been studied to see if the existing agricultural preservation regulations need changing to comply with new State planning

goals. The existing County Exclusive Farm Use zoning and 19-acre lot size minimum were placed upon these more extensive farms until a study which might indicate possible different recommendations for field size minimum or other appropriate protection standards could be made. In 1983, the County replaced its 19 acre minimum lot size with a 20 acre EFU zone and applied it to areas having existing average parcel sizes around 20 to 35 acres.

The map on page B-71 shows the areas of large-site agriculture recommended for the interim 20 acre EFU zone and some fringe areas of several adjoining agricultural districts. Examination of the same map B-62 shows more clearly how the Orchards District is located in the middle of three different agricultural districts; Umapine Irrigation Area, Wheat-Pea District and Northeast County Dryland Wheat District. The agricultural activities of the fringe areas within the Orchards District are the same as those in the adjacent agricultural districts. Thus, new agricultural protection measures recommended for these adjacent farm districts shall also be applied to the adjoining large site farmlands in the Orchards District. (See Umapine Special Farm Area and North County agricultural Region sections for explanations of recommended agricultural protection sizes and standards.) Lot size minimums recommended for the Large Site Farm area and adjacent agricultural districts are also depicted on the map on page B-85.

The only Large-Site Farm area not bordering on another agricultural district is a small island of three farm properties in the Stateline subdistrict. This area is topographically separated from the surrounding low land and supports a dairy farm and wheat fields. Being unique locally, this area is, however, very similar to the east Umapine area, with fields of 30 to 40 acres surrounded by small parcels. Accordingly, the 20-acre lot size minimum suggested for East Umapine are recommended for this "island" area. Only two partitions would be possible if applying the 20-acre density requirement. This number of divisions would not adversely impact existing agricultural activities or the surrounding area of small farms and rural residential homes.

As mentioned earlier, there were other concerns than an agricultural minimum lot size alone would not solve in the Orchards District. With the numerous farmsteads combine with the considerable rural residential development of the past 35 years, some ground water pollution problems developed. The high water table in the valley floor has spread the increased amount of domestic sewage into some domestic wells. To avoid worsening this problem most of the valley floor areas have been designated (exclusively) for agricultural and additional, bona fide rural residential growth has been directed mostly to two upland terraces where soils are better suited to sewage disposal, views of the Blue Mountains can be obtained, and non-farm commitment is already present. Several other areas in the valley floor where designated rural residential as per action required by LCDC to eliminate a EFU-4 zone. However, these actions alone would not address the more complex issues involved in an area where the opportunity for smaller farm development needed preservation and was desired. Without certain controls in the Orchards District there could be land use conflicts with rural residents and sometimes between themselves. Also, issues such as selling old farmsteads, providing homesites for family members, maintaining a retirement life estate or making use of land suited for farming adds to the difficulties of complying with State goals, maintaining a rural atmosphere, and yet providing opportunities for the lifestyle desired.

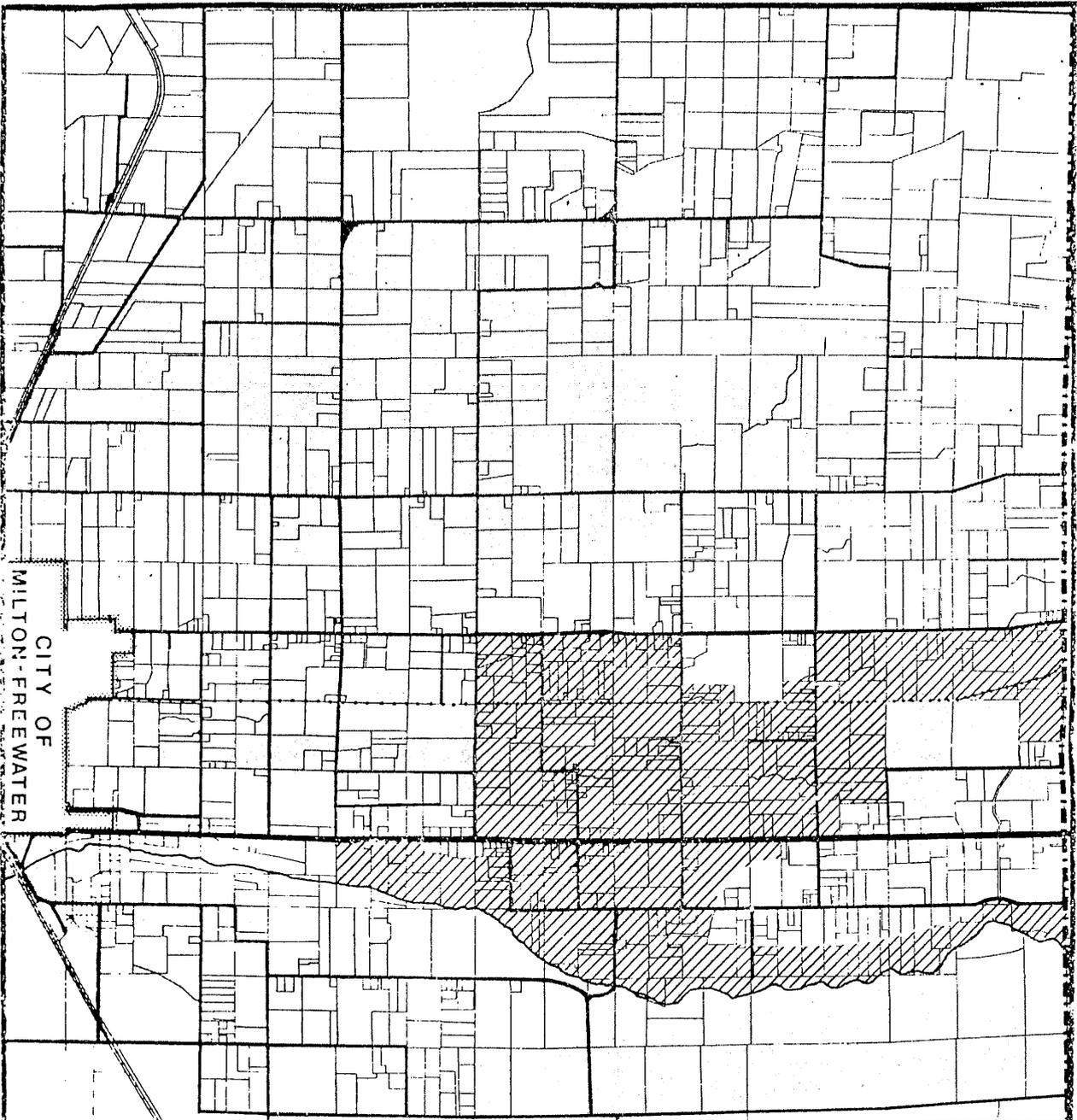
Fortunately, there is some flexibility provided to local governments when establishing Exclusive Farm Use zoning protection, and this option was utilized to

address some of the needs and problems just discussed.

While a local Exclusive Farm Use zone must be designed to adequately reflect the provisions of ORS 215 in order to qualify farms for automatic farm-value assessment under ORS 308.370, the local Exclusive Farm Use zone may also be more but not less than State statutes. Uses allowed by the State enabling legislation may be disallowed or may be shifted from a "permitted" to a "conditional" category. Development standards can also be prepared for various uses, and additional criteria may be utilized for governing the creation of non-farm rural homesites. Other development standards can also be applied to splitting off farmsteads and the building of new farm dwellings.

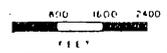
All of the above options were used in designing the Farms and Fruit Tract Exclusive Farm Use zone to meet the needs of the Orchards District. This zone was adopted and approved by the County as an effective tool for the preservation of farm land for agricultural use while allowing the flexibility required to continue orcharding and similar small-scale farm activities. Several important changes have been made that sets this new Exclusive Farm zone apart from the other EFU zones, within and adjacent to the Orchards District. These differences are itemized below:

1. Intensive livestock farming is treated as a Conditional Use due to problems of odor, dust, noise and flies that would create serious negative impacts in a densely settled area. The Conditional Use status allows for control of the design and operation of such facilities or for disallowing them in some locations due to gross incompatibility with the neighborhood.
2. Churches, schools and utility facilities are also transferred from a "permitted" to a Conditional Use status, in compliance with current normal zoning practices. Impacts can be reduced and neighborhood comments addressed in this manner.
3. Boarding of horses for profit and private-use airstrips are added as new Conditional Uses in keeping with recent revisions to the State Exclusive Farm Use legislation.
4. Evaluation criteria are added to the introductory clauses of the Conditional Use section. Compatibility with the neighborhood, compliance with the County Comprehensive Plan, Zoning Ordinance and other relevant policies, design to reduce potential negative impacts, compliance with stated conditions, and serving of a useful purpose to the community area all required before a proposed Conditional Use may be approved;
5. Additional criteria had been added for the evaluation of new rural or non-farm homesites and for the conversion of existing farm homes into farm retirement homes or homesteads. They included site evaluation and access requirements. However, L.C.D.C felt that these standards were not adequate to protect the valuable orchards from the intrusion of non-farm dwelling. Therefore, the County has tighten up approval standards and are briefly described in 6, 7, 8 below.
6. New non-farm dwellings will be only allowed on parcels up to 2 acres or on 5 acres bounded on two sides by other non-farm development. No new parcels shall be created for the establishing new, non-farm dwellings and will only be permitted on pre-existing lots as defined in the Comprehensive Plan and Development Ordinance.



CITY OF
MILTON-FREEWATER

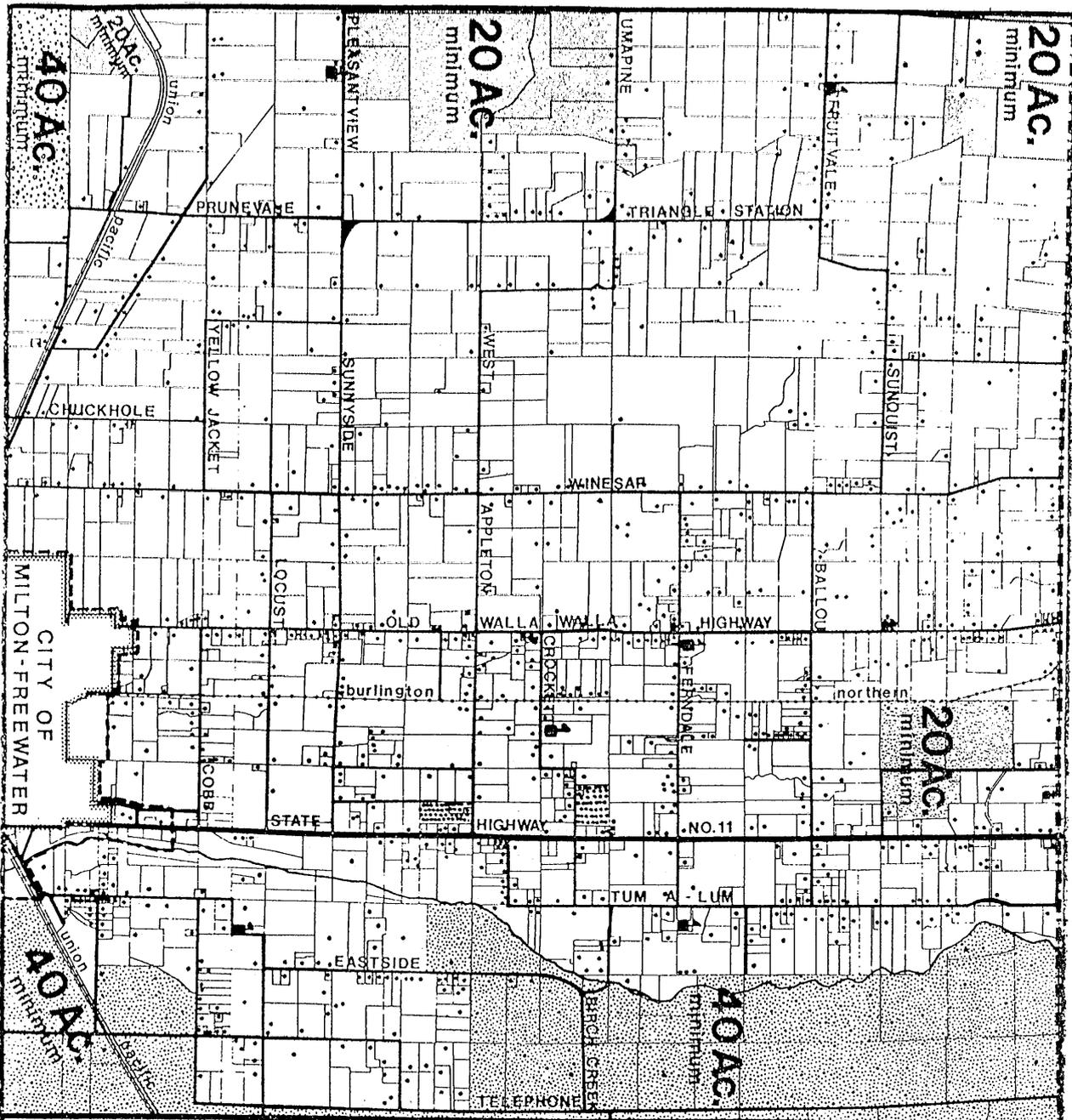
- LEGEND
-  SMALL FARMS DESIGNATION
 -  UNDER MARKET VALUE
 -  UNDER FARM DEFERRAL



AUGUST 1, 1982

FARM DEFERRAL & SMALL FARM AREA
 RICHARDS DISTRICT, Milton-Freewater





- LEGEND
-  LARGE SITE INTERIM FARM AREA (ORCHARDS DISTRICT)
 -  STATELINE SUBDISTRICT
 -  FRUITVALE - PLEASANT VIEW SUBDISTRICTS
 -  ADJOINING AGRICULTURAL STUDY AREAS
 -  SPOONFORD EAST COUNTY WHEAT
 -  ATHENA WHEAT-PEA



LARGE SITE FARM & ADJOINING AG. DISTRICTS ORCHARDS DISTRICT, Milton-Freewater

7. Must meet access and sanitation requirements as well as crop history requirements, setback regulations and signing a "covenant not to sue" against accepted farming practices.
8. Homestead dwellings must meet access, area and density requirements, appropriate state statutes, first right of refusal stipulations and sign a "covenant not to sue" prior to the homestead approval.

The importance of the adoption of the Orchards District Plan in 1979 was illustrated by Table B-X which dramatically showed the reclassification of nearly 5,690 acres from 2-acre rural residential zoning into agricultural designations with protective EFU zoning. Only 470 acres of rural residential land was retained to accommodate additional non-farm families in this attractive and popular area. The Plan also provides additional opportunities to start new orchards, a factor important to most area residents and farmers.

Table B-X listed by subdistrict the number of new orchard and small farm partitions that were possible in 1979. Only 115 Fruit Tract and 67 Small Farm parcels could have been created in an area encompassing nearly 10,000 acres. Thus, a reasonable flexibility was allowed, while protection of valuable farming operations is insured, a security that had not existed prior to 1979.

The real credit for the successful development and adoption of the Orchards District Plan lies with citizen acceptance of reasonable compromises as State planning goals were balanced with local concerns. The three years the Plan had been in effect prove the success of the adopted program, since few partitions and/or homesites had been requested, and fewer approved.

Since the adoption of The Orchards District Plan in 1979 and re-adoption into the overall comprehensive plan in 1983, several additional standards as previously outlined above and land use plan designation area changes also briefly discussed previously have been adopted. These actions will change the data information in tables B-X and B-XI, but the information is still dramatic enough to show that the County and area citizens have taken serious steps to preserve the special, and intensive agricultural land base within this very complex region.

New acreage figures now approximately total 7,395 acres in the Fruit Tract Zone, 2,295 acres in the Large Site Agricultural Zone, 450 acres in Rural Residential - 2 acre minimum, and 230 acres in Rural Residential - 4 acre minimum.

TABLE B-X
 ACREAGE OF LAND USE DESIGNATIONS
 COMPARISON OF 1972 AND 1980 COMPREHENSIVE PLANS
Orchards District Plan

<u>1972 Plan</u>		<u>Orchards District Plan</u>			
<u>Residential</u>	<u>Farm</u>	<u>Rural Res.</u>	<u>Small Farm</u>	<u>Fruit Tract</u>	<u>Lg. Site</u>
6,160	4,230	470	1,260	6,365	2,295
10,390 TOTAL		10,390 TOTAL			

TABLE B-XI
 ORCHARDS DISTRICT
 POTENTIAL NEW PARCELS

Fruit Tracts	- 10 Acres	
Small Farms	- 4 Acres	
		<u>Area Acreage (Approx.)</u>
EASTSIDE	5 Fruit Tracts	1,000
FERNDALE	4 Fruit Tracts 27 Small Farms	1,350
FRUITVALE	57 Fruit Tracts	2,500
PLEASANT VIEW	35 Fruit Tracts	1,900
STATELINE	4 Fruit Tracts 18 Small Farms	900
SUNNYSIDE	12 Fruit Tracts	1,400
TUM-A-LUM	22 Small Farms	600
<hr/>		
TOTAL	115 Fruit Tracts 67 Small Farms	9,650

Based on the Orchards District Land Use Plan May 1979

Forks of Walla Walla Special Sub-Area

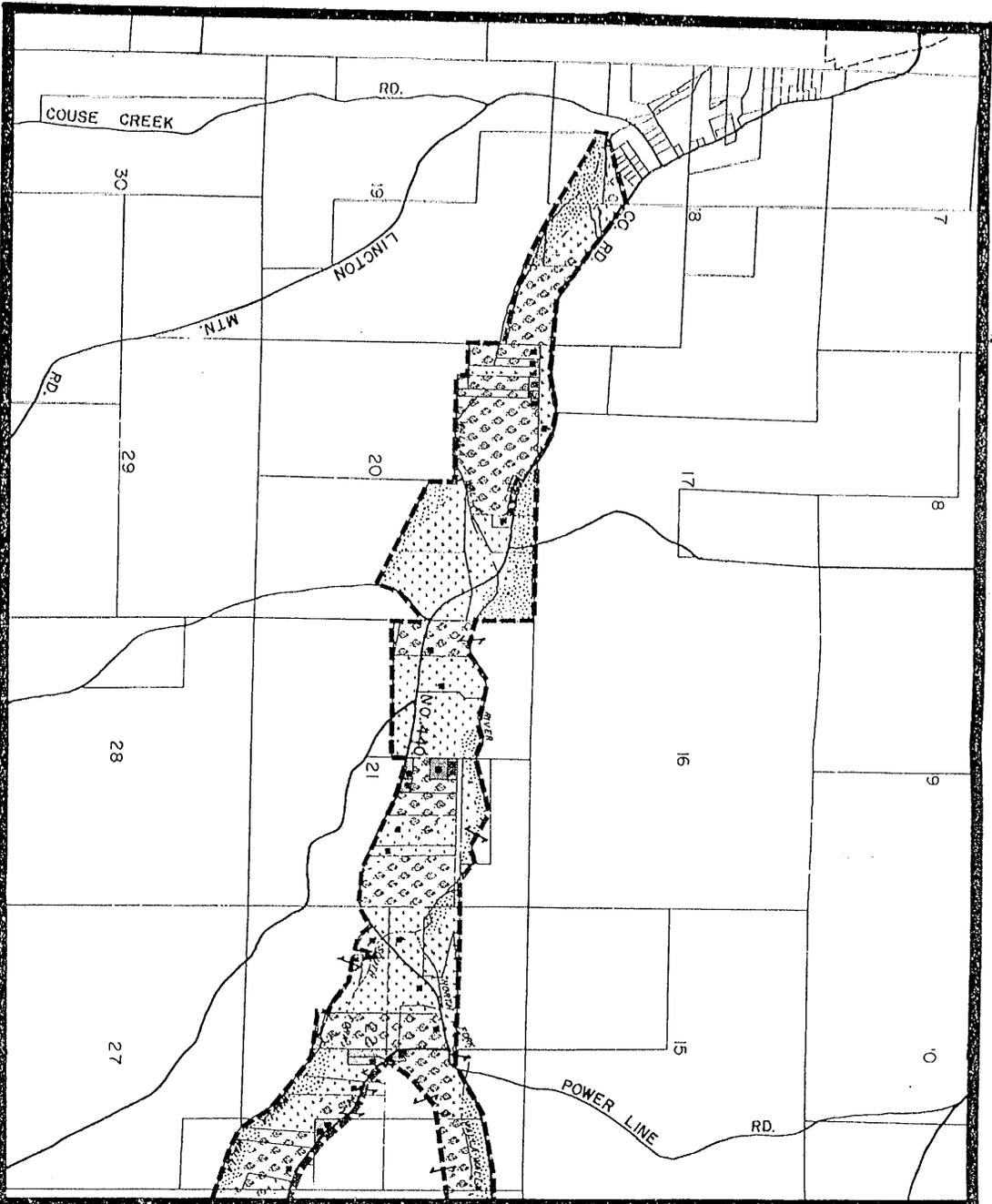
Viewing the map on page B-34 shows the general location of the Forks of Walla Walla Agricultural Unit. Situated south of Milton-Freewater in northeast Umatilla County, these protected river bottom lands are providing a mixture of agricultural and related rural activities. Agricultural activities include apple, cherry, prune and plum orchards, intermixed with irrigated pastures and hay fields. Rural activities include spots or rural residential development where land ownership sizes produce little to no farm income, but provide rural living settings desired by some county residents. The largest and most contiguous area of rural residential is on the main stem of the Walla Walla nearest to Milton-Freewater which provides a convenient service center only a short distance away. This area has been identified as developed and committed to rural residential (see discussion in Plan Map section of Comprehensive Plan) and is not included in the agricultural analysis. The remaining areas of rural residential lots are small and sparsely scattered along the valley bottoms, not greatly impacting the majority of surrounding agricultural uses. These areas are noted but are not significant enough to classify parts or the entire Forks area as rural residential.

Like the Orchards District north of Milton-Freewater, the Forks of the Walla Walla agricultural Sub-area has been largely zoned rural or recreational residential. This factor adds to the area's uniqueness, complexity and need for additional explanation before summarizing results of the agricultural lot size study or recommending agricultural preservation policies.

In the early seventies when the county was developing a Comprehensive Plan and zoning, assigning various land categories and zones was not a complex matter and largely done based upon area residents' desires. During this period (1969-1971), the fruit industry in the Walla Walla Valley was experiencing difficult crop and marketing problems. Many growers were considering conversions to other crops, while many more opted to quit and sell their land for rural homesites.

A significant number of the upper Walla Walla Valley residents chose the latter alternative, probably because of the pleasant rural setting, good roads, nearness to Milton-Freewater and Walla Walla, and because historically marginal fruit and other agricultural crop returns tipped the scales towards an anticipated market for rural residences. Since the 1972 plan and zoning effort, not many rural homesites have been partitioned. This is probably due to the much improved fruit market where per-acre returns have made it more desirable to leave the land in agricultural use. Inflation and high interest rates are also likely contributors to the relative few rural residential houses constructed.

The continuation of rural residential zoning in the Forks of Walla Walla is no longer possible. Statewide Planning Goals made law in early 1975 supercede prior adopted county plans and require amendments to these plans in accordance with State Land Use Goal Requirements. State Goals #2 and #3 (Land Use Planning and Agriculture) require an inventory of all land uses and an analysis of soils. Areas found in agricultural uses and having a majority of soils in the Soil Conservation Service Classes I through VI have to be preserved for agricultural uses and zoned exclusive farm use. Application of the Soil Conservation Service inventory requirements in Goals 2 and 3 indicate that most of the land along the Forks and main stem of the Walla Walla are soil classes II, III, and IV and are being used largely for agricultural purposes, and therefore must be preserved for agricultural uses. This is one reason why an agricultural lot size survey and preservation study was conducted and an agricultural land use designation



LEGEND

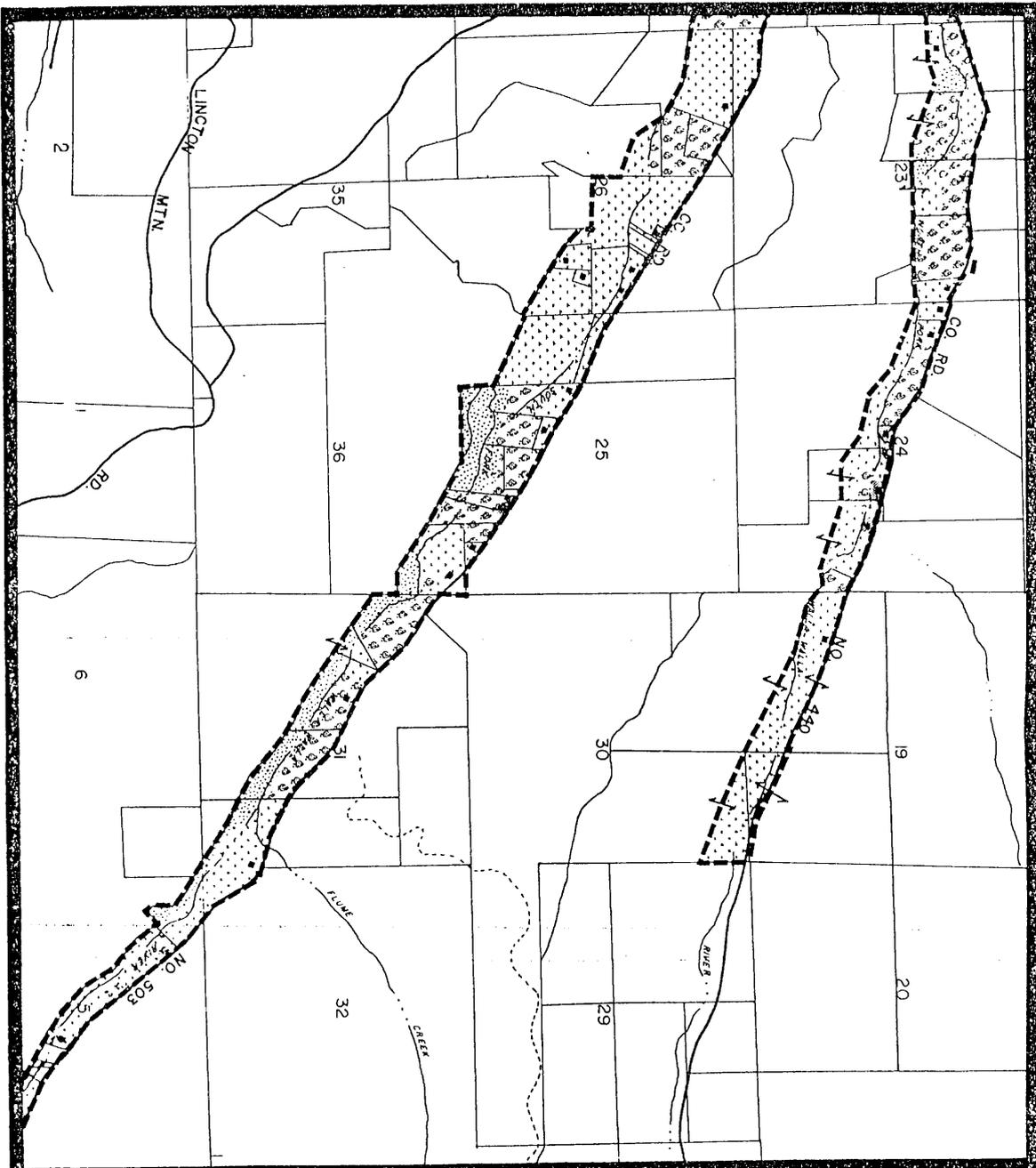
- ORCHARDS
- PASTURE AND HAY FIELDS
- RURAL RESIDENTIAL
- RIVER WASH OR STEEP LANDS (GRAZING)
- RESIDENCE
- PROPERTY IN SAME OWNERSHIP BUT BEYOND VALLEY FLOOR

SOURCE: Umatilla County Planning Department. From airphoto interpretation and spot check land use survey - Summer, 1979

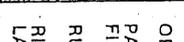
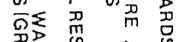


EXISTING LAND USE A
FORKS OF WALLA WALLA RIVER & VICINITY





LEGEND

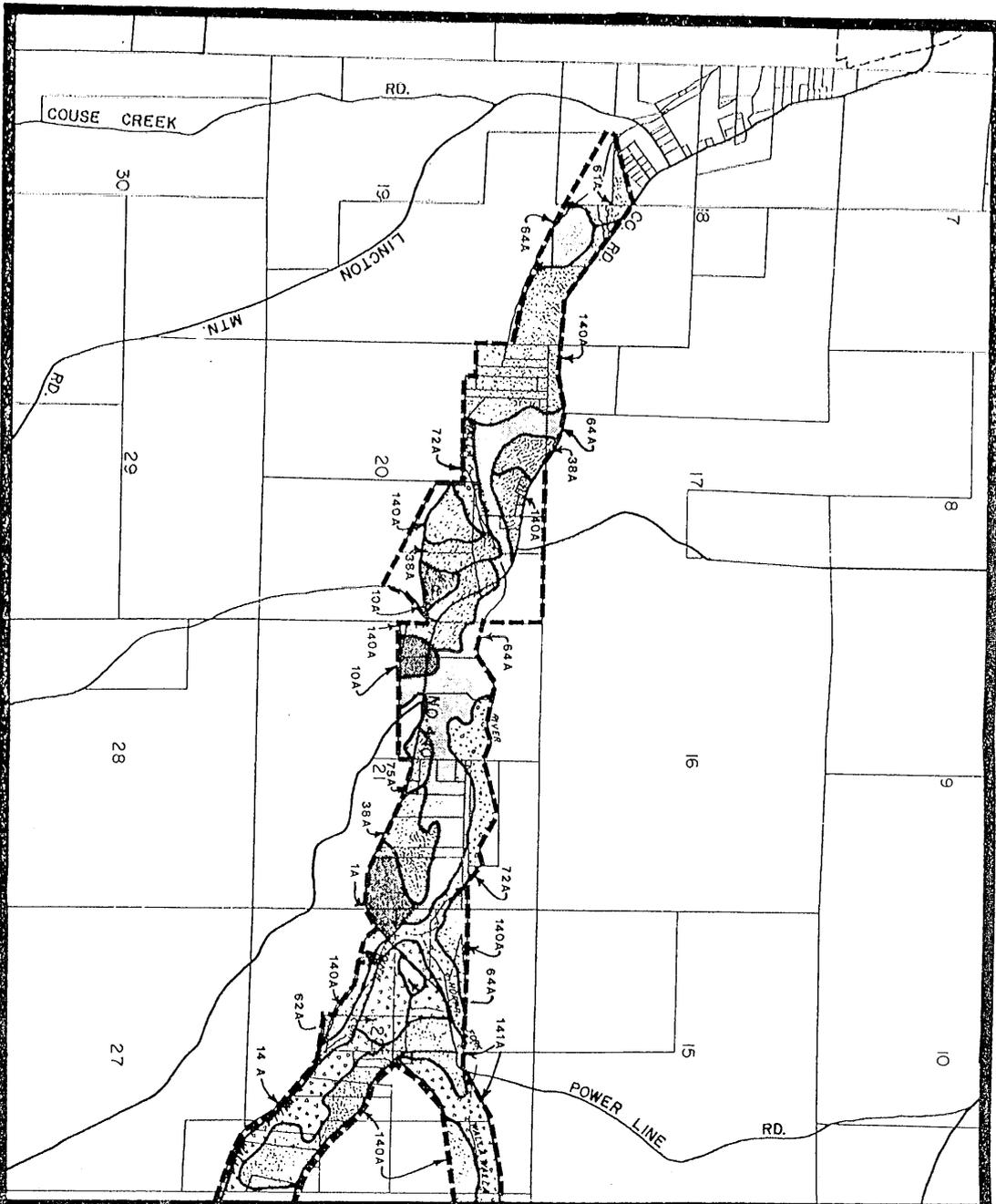
-  ORCHARDS
-  PASTURE AND HAY FIELDS
-  RURAL RESIDENTIAL LANDS (GRAZING)
-  RIVER WASH OR STEEP LANDS
-  RESIDENCE
-  PROPERTY IN SAME OWNERSHIP BUT BEYOND VALLEY FLOOR

SOURCE: Umatilla County Planning Department. From airplane interpretation and spot check land use survey. Summer, 1979.



EXISTING LAND USE B
 FORKS OF WALLA WALLA RIVER & VICINITY





LEGEND

-  CLASS I
1A HERMISTON SILT LOAM
10A ONYX SILT LOAM
-  CLASS II
64A YAKIMA SILT LOAM
-  CLASS III
38A CATHERINE VARIANT -
wet substratum
61A FREEWATER GRAVELLY SILT
LOAM
75A WALUAN VARIANT SILT LOAM
140A YEAZIE SILT LOAM
-  CLASS IV
62A FREEWATER VERY COBBLY
LOAM
141A YEAZIE COBBLY LOAM
-  CLASS VI
72A XEROPFLUVENTS
-  UNMAPPED

SOURCE: S.C.S. (Soil Conservation Service) Preliminary Survey, 1980

NOTE: Information is preliminary and subject to change pending finalization of S.C.S. survey. For more detailed information contact: S.C.S. Soil Survey Office, Pendleton, Oregon.



**CULTIVATION CAPABILITIES (IRRIGATED) A
FORKS OF WALLA WALLA RIVER & VICINITY**



placed on the bottomlands of the Forks area (see maps on pages B-90 through B-93 for detailed location, and lots, soils and existing land uses). There are some areas of class VII soils especially in the upper reaches of the two river forks where the canyons are more confined by topography. Specifically, these soils are found along the river edges and banks where frequent flooding has deposited gravel and rocks. Although not required to be protected according to State Agricultural Goal #3, these soils are so located and intermixed with other farm soils required to be protected, that a non-farm classification could seriously interfere with existing agricultural from possible non-farm use.

The method of figuring average farm parcel sizes, ownerships and review of important factors to determine protection recommendations were the same as those used for all the previous agricultural districts examined. Non-farm parcels to be eliminated from the study were identified by applying similar criteria to those used in the Orchards District Plan. Parcels less than two acres or parcels less than five acres with a dwelling not on farm defertal, and both these sizes not centered to a similarly owned agricultural parcel, were classified as non-farm. It should be noted that few of the sized parcels are actively farmed either in orchards or pasture land. Sizes over two acres without a dwelling are nearly non-existent.

Results of the agricultural lot size process yields an 18-acre average farm parcel size and a 27 acre ownership size. Both averages are probably a little smaller than the actual situation because few lots extend a distance beyond the valley bottom into grazing or dryland wheat fields, and their total acreage is not figured into the review. Only the acreages in the valley floor were calculated. Some of the ownerships are separated by other ownerships, but not to the large extent as that in the wheatbelt areas. Leasing information is not readily available but believed to be significant, indicating leasee farming. Soils data does not give any real clue to farming patterns, due partly to the very mixed soils types created by seasonal flooding. Pasture and hay fields are grown and maintained in similar soils where orchards are planted.

Productivity information was gathered to assist in the determination of appropriate agricultural land use measures in the Walla Walla Forks area. Fruit yields here were found to be about the same as those in the Orchards District. Yield figures vary slightly year to year and from orchardist to orchardist; but an average figure of 800 boxes of apples per acre for 1982 can be used as a representative figure.²⁹ Apple yields are used because this is the main fruit grown in the Forks area. Slightly lower yields have been experienced in the upper reaches of the South Fork of the Walla Walla River (starting about one mile above its confluence with the North Fork). Reasons for this are not exactly known, but it might be due to climate conditions or management practices.³⁰

Income return from fruit on the average is slightly less than received in the Orchards District. In the Upper Walla Walla Valley, the fruit matures about two to three weeks later. Prices growers secure for this later fruit are significantly less than what "first fruit" prices demand. Findings from fruit growers and processors in the Orchards District show that about \$1,000 per acre net income was possible in 1976. A comparative net income amount for the upper valley orchards was not easily obtainable. However, because the two areas were found to be very similar, net incomes could be assumed to be around \$800 to \$900 per acre in 1976. What contribution the Forks area makes as to the total company fruit sales and processing is not exactly known. Data and statistics are gathered together on a county-wide basis and not delineated by

sub-regions. Several estimates from fruit processors indicate that on the average and when looking at fruit acreages, maybe 20 to 30% of all fruit comes from the Upper Walla Walla Valley.

The other agricultural uses in the forks area (hay and pasture) do not provide nearly the income as fruit. These fields are mostly part-time or retirement farms, providing a rural lifestyle enjoyed by many in the county. Family incomes are supplemented by these agricultural commodities, but they do contribute to the overall agricultural economy of the county.

Farm partitions in the past 10 years give little guidance to recommending farm protection measures. Since the area is dotted with part-time farms and has had residential zoning for 10 years, lot partition sizes tend to be smaller than typical farm enterprises in the area. Of the eight partitions over five acres in size, 60% are between 6 and 10 acres and the remaining range between 19 and 27 acres. (Eleven other partitions have occurred but these are all under 4 acres, and generally considered marginal farms or rural residential, which is very typical of East County Orchard areas.)

Conclusions and Recommendations

Concluding, the Forks of the Walla Walla River is very similar to the orcharding-small farm area north of Milton-Freewater. Farming activities are nearly identical as well as similar yields, incomes and management problems. Specifically, complexities of smaller ownerships, changing markets and influences of non-farm uses and zoning characterize this area as a marginal farm area, yet required by state land use goals to be protected for continual agricultural uses. Any regulations to protect farmland here must be flexible enough to reflect what is happening.

Since orcharding is the most economical farming activity here, any minimum parcel size regulation should consider this more intensive, higher return crop. Because hay and pasture farms are in scattered locations, a different lot size minimum for them is not practical to develop nor administer. In the Forks area, yields and prices for fruit were found to be similar as those in the Orchards District. In the Orchards District, a 10 acre minimum farm size was adopted, because this size could net around \$18,000 (1976 crop year estimate which was a size that approached a self-supporting, commercial orchard, the chosen 10 acre minimum lot size would also be an appropriate measure of regulating land divisions in this orchards-small farm sub-area.

Mentioned earlier was the difficulty of consolidating land in the Orchards District into economic fruit orchards due to extensive land fragmentation. Both the lower valley area (Orchards District) and the upper valley sub-area (Forks) are quite fragmented. The same 10 acre minimum lot size, adopted for fruit orcharding in the Orchards District, should also be appropriate for the upper valley fruit orchards. The number of new parcels possible at this density would be relatively few and shouldn't create any detrimental effects upon commercial orcharding efforts in this subdistrict.

To recognize existing property fragmentation and/or parcelization, and to assist in maintaining the agricultural activities in the Forks area, a 10 acre minimum parcel size and dwelling density is recommended. This size reflects the existing farm pattern in the area and realistically approaches commercial sizes or orcharding. Non-farm dwellings and homestead dwellings shall be treated the same as described in the Orchards District section of this chapter.

SOURCES

1. Comprehensive Plan Part I - Hermiston, Oregon. Umatilla County and Hermiston City Planning Commissions, August 1972, p. 5.
2. "Overall Economic Development Program Committee Economic Element: Agricultural Technical Report," East Central Oregon Association of Counties for Umatilla County Planning Department, January 1978, P. A-14.
3. Obermiller, Frederick W., "Evaluating the Social Benefits and Social Costs of Irrigation Development" presentation paper to Water Policy advisory Committee and Oregon Legislative Committee on Trade and Economic Development, February 28, 1978, p. 36.
4. "Resource Action," RCD Report; June 1974, p. 10.
5. Water and Related Land Resources Umatilla Drainage Basin, Oregon Economic Research Service - Forest Service - Soil Conservation Service, December 1962, p. 19.
6. Existing Land Use Data, West County, Computations by County Planning Staff, Winter 1977.
7. John F. Spencer, Letter from Water Resources Department, State of Washington, August 17, 1978.
8. Agricultural Subcommittee of the Umatilla County Overall Economic Program - Discussion at the January 18, 1978 meeting.
9. McCall, William B., Groundwater Conditions and Declining Water Levels in the Ordinance Area, Morrow and Umatilla Counties, Oregon, Groundwater Report #23, Water Resources Department, State of Oregon, 1975, P. 15.
10. Existing Land Use Data, Winter 1977.
11. "Estimated Gross Cash Receipts from Agricultural Marketings," County Extension Service, 1977 p. 1.
12. Existing Land Use Data, Winter 1977.
13. Existing Land Use Data and "Estimated Gross Cash Receipts."
14. "Increase in Potato Acres" newspaper article, East Oregonian, March 22, 1978, p. 1.
15. Interview--Darrell Maxell and Luther Fitch, Hermiston Extension Agents, with Bob Perry, County Planner, May 1978.
16. Ibid.
17. Ibid.
18. "Estimated Gross Cash Receipts from Agricultural Marketings," 1977.

19. Interview--Darrell Maxwell, Luther Fitch, May 1978.
20. Ibid.
21. Existing Land Use Survey, Winter 1977.
22. Water and Related Land Resources Umatilla Drainage Basin, Oregon, p. 50.
23. Ibid.
24. "Cattle Ranching, East Oregonian, September 11, 1979, p. D-12.
25. Umatilla Basin- Development - Its Economic Impact and Implications for Planning, Bureau of Governmental Research and Service, University of Oregon, February 1970, p. 51.
26. Ibid.
27. A Plan for Development, Umatilla County Oregon, Part II of the Comprehensive Plan, Umatilla County Planning Commission, April 6, 1972, p. 6. .
28. West County Citizen Involvement Minute File, Agricultural Subcommittee comments, 1977.
29. "Phone Interview--Glenn Gibbons, President of Blue Mountain Growers, Milton-Freewater, January, 1983"

MOUNTAIN HIGHLANDS (Grazing/Forest Lands)

INTRODUCTION

Forest Lands are defined by the Land Conservation and Development Commission as:

(1) Lands composed of existing and potential forest land suitable for commercial forest use; (2) other forested land needed for watershed protection, wildlife and fisheries habitat, and recreation; (3) Land where extreme conditions of climate, soils, and topography require the maintenance of vegetative cover irrespective of use; (4) Other forested lands in urban and agricultural areas that provide urban buffers, windbreaks, wildlife and fisheries habitat, livestock habitat, scenic corridors, and recreational use.

[New]

Further refinement of the forest lands definition by the state in 1983 recognizes two types of forest land: (1) predominant forest use areas; (2) mixed use forest areas. Predominate forest use areas are those containing large mostly commercially managed forest parcels and mixed use forest areas are managed for both farm and forest uses.

[Revised]

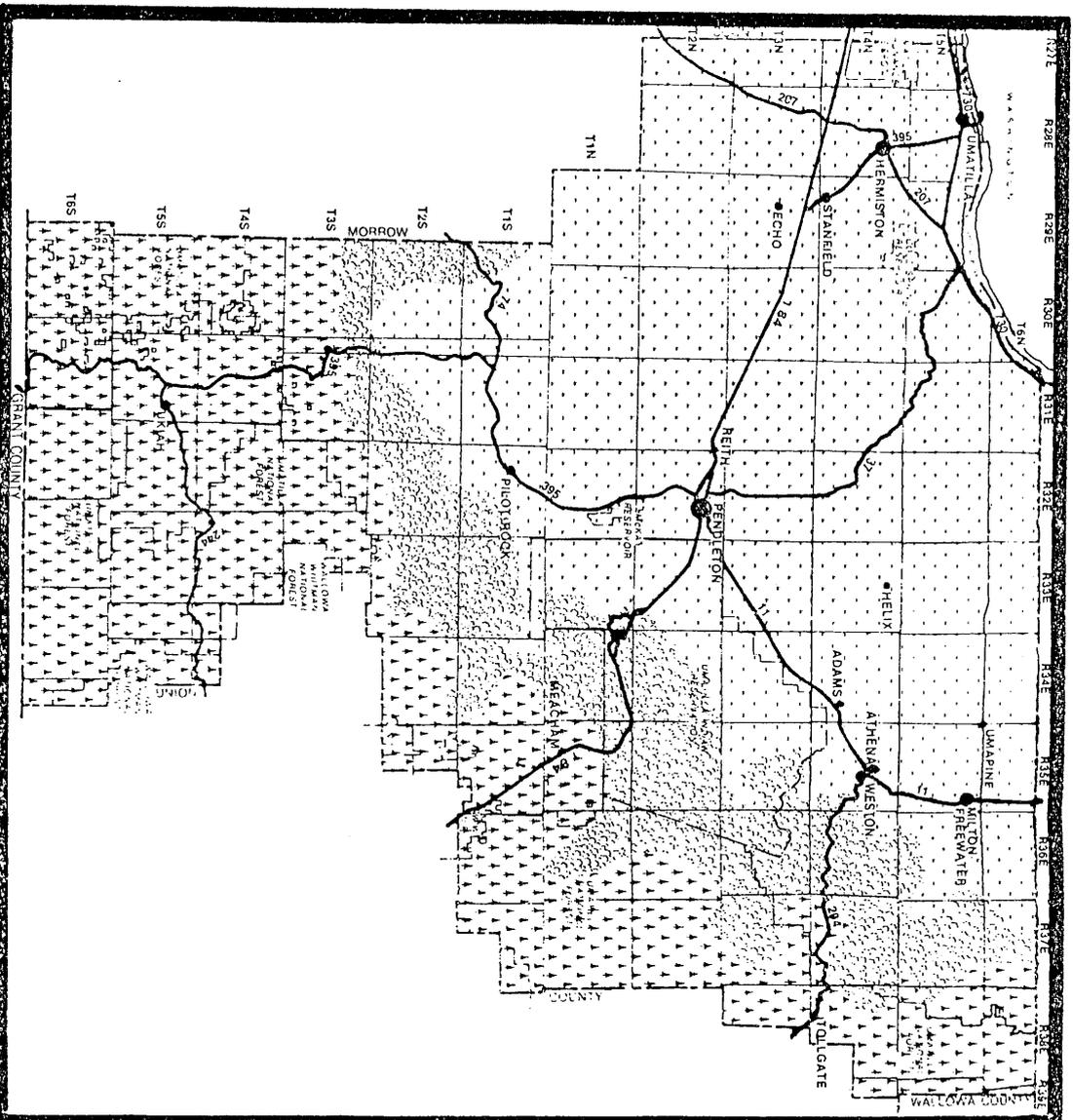
Lands fitting the mixed use forest description are located in the east and southwest quarter of the county within the Blue Mountain Slope and Highland. The Blue Mountain Slope starts at about the 2000 ft. elevation and rises to about 3700 ft.¹ This area was probably more densely forested at the time of original settlement.² Areas of it have since been cleared for agricultural purposes. What little remaining timber there is is found at higher elevations (about 3500-3700 ft.) and along creek bottoms draining from the Blue Mountain Highland. Stream bottoms in the lower elevations of the Blue Mountain Slope and in the Ukiah Basin contain both deciduous and coniferous stands. Mixed coniferous trees (e.g. Logdepole, pine, Douglas fir, Ponderosa Pine, etc.) are found on the more level and deeper soils and favorable moisture retaining

slopes. Only the higher elevation timber stands within this area are considered for the Forest Lands goal. Lower elevation stream bottom stands are less productive and are completely surrounded by agricultural uses; thereby, the Agricultural Lands Goal is applied. (See Map, page C-3 for locations of topographic and geologic areas mentioned in this section.) Better value timber areas are found in the higher elevated, higher rainfall areas within the Umatilla National Forest.

The Blue Mountain Highland forested zone begins at about the 3700 to 3900 ft. elevation and extends up to about 5,100 feet.³ This area contains the majority of the marginal to moderate timber-producing land of the county.

Nearly 65% of this land is in public ownership (mostly National Forest). Predominant tree species are Douglas Fir, Ponderosa and Lodgepole Pine, Western Larch and several scattered areas of the sub-alpine tree species (Grand Fir, Sub-alpine Fir).

Non-timbered or sparsely timbered lands meeting the State Forest Lands Goal definition are also found within this Blue Mountain Highland Region. Isolated meadows, north-facing slopes in steeper topographic areas and the Bridge Creek Game Management Unit south of Ukiah are mostly open areas providing fish and wildlife habitat, livestock rangeland, watershed resources and other conservation and open space benefits. A portion of the island-like Ukiah Basin is one of the largest open areas surrounded by the Blue Mountain Highlands that is being defined as mixed-use forest lands. Higher rainfalls, lower elevations and non-timber soils have allowed some areas of the Ukiah Basin to be used as irrigated pastures and grassland meadows for summer grazing of livestock. This area is more agricultural, but according to the state planning goals and administrative rules can be defined as mixed-use forest lands.



- LEGEND
-  BLUE MOUNTAIN HIGHLAND
 -  BLUE MOUNTAIN SLOPE
 -  UMATILLA PLAIN

GENERAL RELIEF
 UMATILLA COUNTY, OREGON



Summer grazing occurs throughout all the Blue Mountain Slope and Highland areas. Seventy-four percent of the National Forest in Umatilla County is included in domestic grazing allotments, while grazing occurs on much of the timber industry and privately-owned lands, too. Range conditions vary throughout the area from poor to good. Past overgrazing during the late 1800's and early 1900's caused considerable deterioration of grazing lands, but through improved management practices, these areas are slowly recovering.⁴ On even the best sites, one cow and calf ("animal unit") require over 14 acres for a six month season; most other forest sites require in excess of 150 acres.^{4**}

These figures highlight the need for large areas to support the very important and extensive livestock industry of the county, and explain why ranchers must secure grazing leases from other land ownerships. The importance of the livestock industry and its dependence upon mountainous lands in the county must be stressed and is further explained in other areas of this Technical Report.

Timber Productivity

One important factor influencing the identification and application of the Forest Lands Goal and is a requirement of this state planning goal is the mapping of timber productive soils. Productivity mapping assists in the process of identifying commercial or non-commercial timberland in forested areas.

Commercial timberland is capable of producing harvestable timber or other wood crops. The Oregon Department of Forestry defines commercial forest lands in Oregon as lands capable of producing 20 cubic feet of timber per acre per year, which seems to be a rather inappropriate and high standard, especially for eastern Oregon, where overall timber productivity is much less than in western Oregon. While many forests in western Oregon grow in excess of 225 cubic feet/acre/year, even the most productive sites in Umatilla County do not exceed 100 cubic feet

** These minimum acreage requirements, provided by the U.S. Forest Service, take into account several variables such as estimated wildlife use, which competes for much of the same forage.

of growth/acre/year. Low precipitation, cold winters and hot, dry summers are two major factors contributing to this lower rate of growth.

Non-commercial lands are incapable of producing industrial wood crops because of adverse site conditions or they are formerly forested lands that have been converted to another use. The boundaries of non-commercial timberlands often delineate where agricultural lands and forest lands begin. However, they can be in small or large pockets within forested areas serving other important values and lumped together under the forest lands category. The implication here is that the State Forest Lands Goal does not directly relate to identifying and protecting only commercial forest land. It is however, important to be able to determine by a (comparison) system, what the relative timber values are when determining appropriate land use plans and actions.

The most important tool to assist in productivity mapping is soils information. Detailed soils surveys include a host of local factors including slope position, elevation, topography, precipitation, and soil characteristics which influence timber productivity. Unfortunately, many forested lands in Umatilla County do not have detailed soils information. On a county-wide scale, only preliminary information using soils associations (a grouping of similar soil types) is available. Soil associations are very general, and when converted into timber productivities, give the false appearance that they have a uniform productivity. In fact, some areas within a soils association may not be timber-growing soil. Also, some timber fringe areas in the Weston Mountain area are equally good for timber or agricultural purposes. However, for planning purposes, soil association information is useful as a general guide and is more easily understood by planners and the general public when making land use decisions over broad areas as is the purpose of the comprehensive plan.

A summary description developed by the Soil Conservation Service was a valuable

tool to identify and convert the generalized soils association information into productivity measures of forest lands according to their capability to grow wood fiber.

According to the SCS summary, the first step in determining timber productivity of a particular soil is finding the site index of those tree species growing on that soil. Site index is the height in feet of the larger trees (dominant and codominant) at some given age, 50 or 100 years. If a soil is said to have a site index of 95 at age 100 for ponderosa pine, this means that the dominant and co-dominant ponderosa pine trees growing in a "normal" stand in usual competition, but not overcrowded, will average a high of 95 feet at an age of 100 years.

A single measurement of site index is not considered sufficient evidence of productivity for a species. The average of several measurements on a similar soil can be considered reliable. The higher the site index, the more productive the soil. Site index may be interpreted in terms of cubic feet per acre. This conversion from site index to cubic feet per acre per year is done through the use of a yield table developed for the most productive tree species selected for each soil. The productivity of the indicator species for each soil is a result of climatic conditions and soil characteristics.

The Blue Mountains can be divided into several contrasting climatic and associated soil areas. These areas correspond to the general soil map for the county in Chapter B, page B-9. The general forest soil associations that occur in the Blue Mountains are: (1) Tolo-Klicker; (2) Helter; (3) Klicker-Tolo; (4) Gwin-Umatilla-Kahler; and (5) Bridgecreek-Hankins. A brief description and average cubic feet per acre per year productivity for each follows:

A. Tolo-Klicker Association

The Tolo-Klicker association consists mostly of deep, ashy Tolo soils on more level summit land areas and the less deep, less prevalent Klicker soils

on the steeper fringe areas of this association. Timber productivity of this association is considered very good, not only due to the gentle topography and deep soils, but also because rainfall amounts greatest in these summit areas. Lodgepole pine, western larch, grand fir and douglas fir grow well on the deep, ashy Tolo soils. The most productive indicator species for site index determination are western larch and douglas fir. The Tolo-Klicker association has an average productivity of about 80 cubic feet per acre per year. Klicker soils and some small areas of rangeland reduce the total productivity only slightly from a pure Tolo unit. A pure Tolo unit will produce about 95 cu/ft/ac/yr for the indicator species of douglas fir and western larch.

The Tolo-Klicker unit around the Meacham area is currently producing lower quality, less marketable, lodgepole pine due to fires and not using good management practices, in the opinions of forest managers and soil scientists. While rainfall amounts are somewhat less here than in other Tolo-Klicker units in the county (5" per year less), and significant use and ownership is related to livestock grazing, timber productivity could be improved with time, care and planting of more marketable tree species.

B. Helter Association

The Helter soils association is somewhat similar to soil types like Tolo but are found at even higher elevations, and thus have a colder average summer temperature. Sub-alpine tree species grow well in these areas with sub-alpine fir and Englemann spruce being the site index species.

The Helter association has an average productivity of about 90 cubic feet per acre per year, due to intermixes of lower timber-productive soils. When the soils are mapped in more detail, a more pure Helter soils can produce about 110 cu/ft/ac/yr of Englemann spruce and sub-alpine fir.

There are three small areas of the Helter association found on private lands. One area is in the Langdon Lake area on Tollgate Mountain. This association unit is predominantly within the National Forest.

C. Klicker-Tolo Association

Klicker soils are moderately deep and contain many rock fragments. They are more stony and have less silt (ash) than Tolo soils. Moisture or rainfall is relatively low on these soils, often supporting only the more drought-resistant ponderosa pine. Some lodgepole pine and douglas fir are found on Tolo soils within this unit. Ponderosa pine is the indicator species for this association.

The Klicker-Tolo association has an average productivity of about 40 cubic feet per acre per year of ponderosa pine. This unit is about 1/3 rangeland. Because of the rangeland soils, site specific timber productivity is reduced from a 60 cu/ft/ac/yr figure computed from yield tables for a better defined Klicker soil.

Private lands west of Ukiah that are adjacent to the National Forest are within this soil association and have the average timber productivity figure explained above.

D. Gwin-Umatilla-Kahler Association

This soil association is the most complex of all mountain soils in the county. It occurs on the footslopes of the Blue Mountains. The steep side slopes along the major streams and rivers have forested soils (Umatilla-Kahler) on the north facing slopes and rangeland soils (Gwin) on the shallow, south facing slopes.

The deep Kahler and Umatilla soils, on steep northerly slopes along the major streams of the Blue Mountains, have adequate moisture to support fir trees,

Douglas fir is the indicator species, and is a striking contrast with the shallow Gwin rangeland soils on the southern exposures where soil shallowness cannot support tree growth.

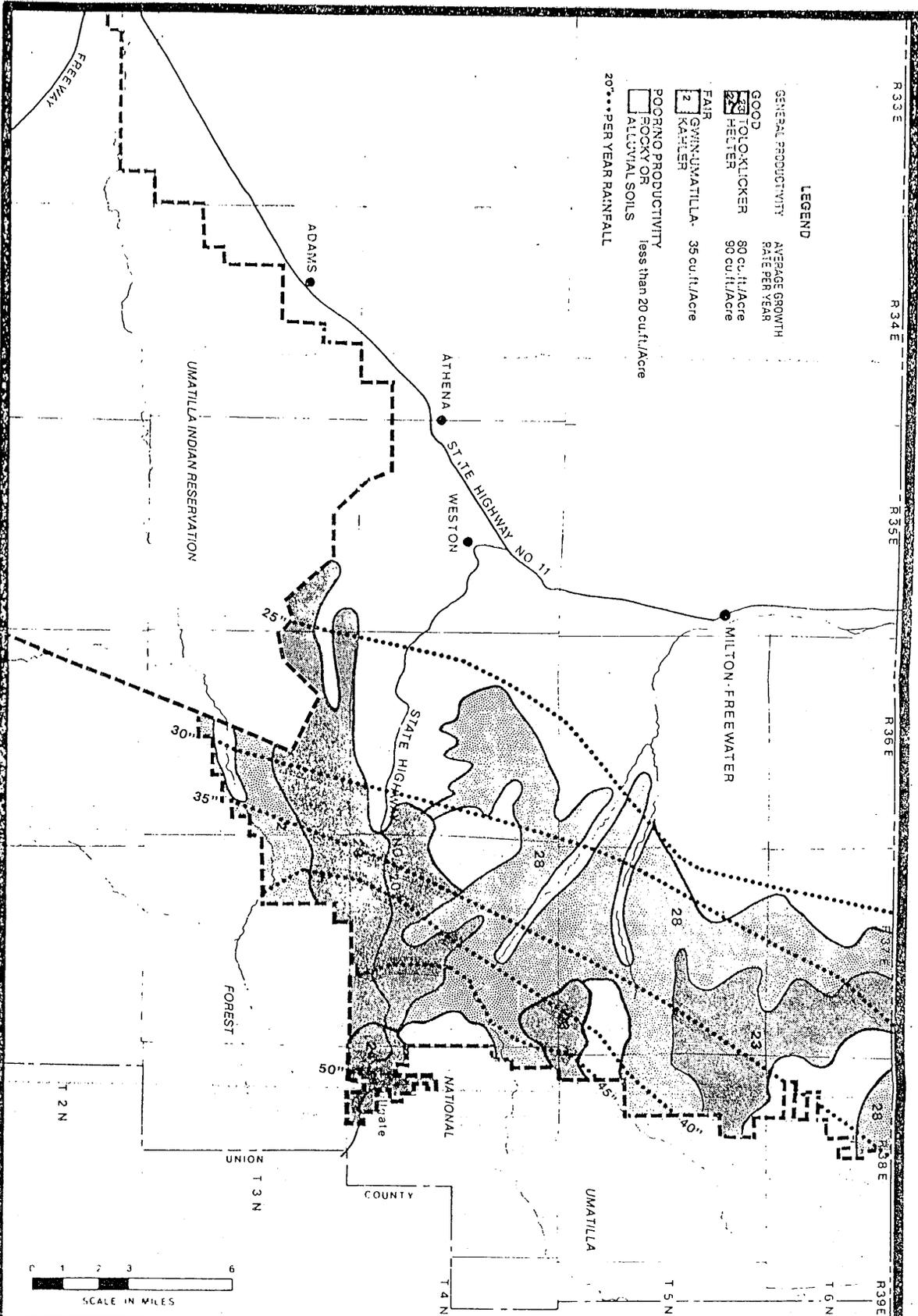
The Gwin-Umatilla-Kahler association has an average productivity of about 35 cubic feet per acre per year. The non-forested Gwin soils lower the total productivity significantly in this unit.

E. Bridgecreek-Hankins Association

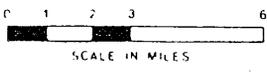
The Bridgecreek soils are moderately deep and in range. The Hankins soils are deep and forested with ponderosa pine, due to the high content of droughty clay in the soil. Only about 1/4 of this association is forested, so timber productivity in the whole association is reduced from about 90 cu/ft/ac/yr to about 20 cu/ft/ac/yr.

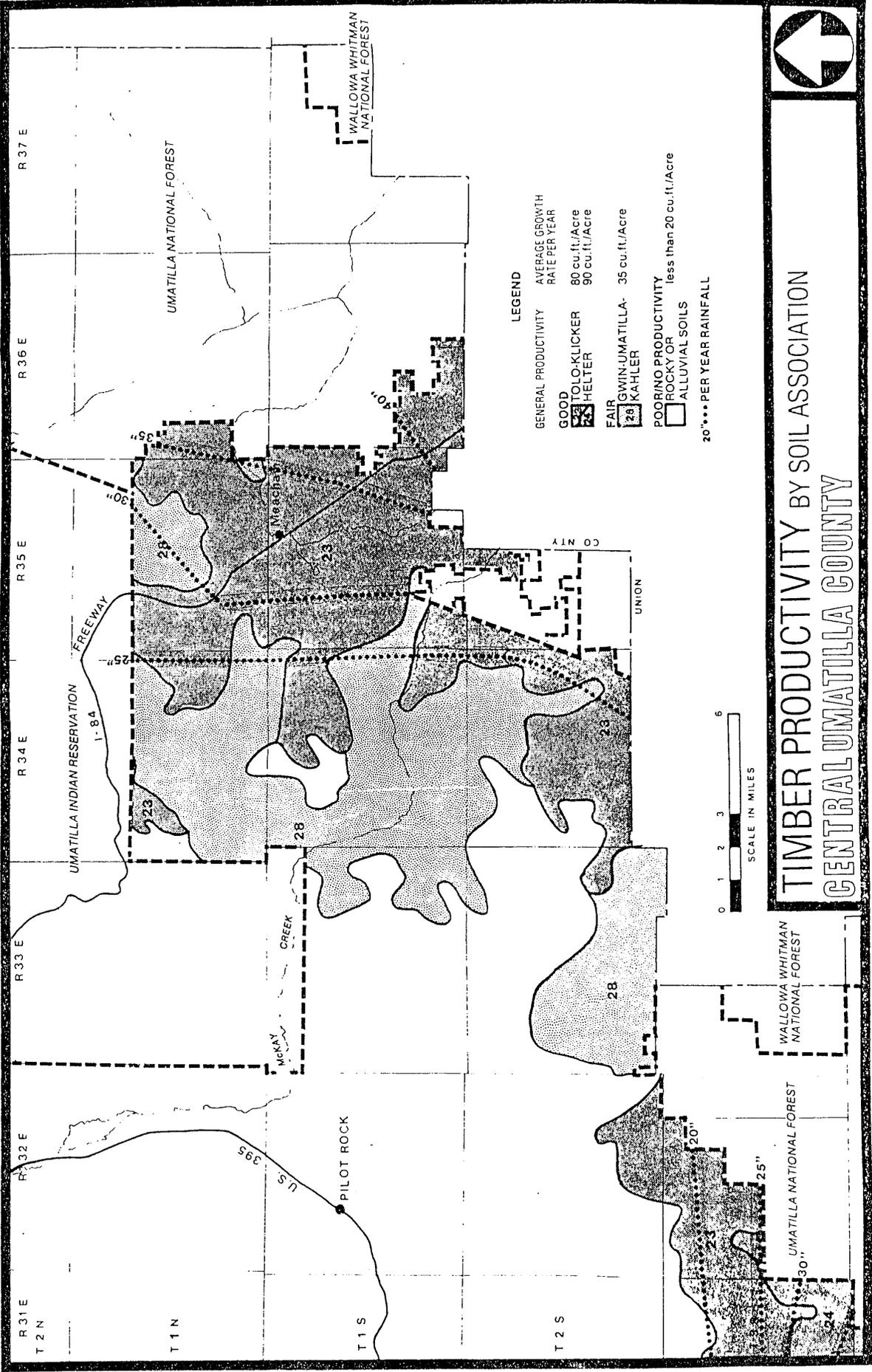
The yields for the general forest soil association were obtained by estimating the acreage of individual soils within each association throughout the county. The cubic feet per acre per year figure for each soil along with estimated extent of the soils in the association were averaged. Non-forested rangeland was considered to be non-productive for timber.

Three maps on the following pages graphically show the general potential for timber growth in terms of cu/ft/ac/yr. It should be noted again that conclusive comparisons of timber productivity between areas is not advisable because the soils data is general and predominate tree species differ by area and marketability. Also, an average productivity for differing forest soils associations may be misleading. For example: The Umatilla and Kahler soils produce approximately 100 cubic feet per acre per year. When the total acreage of these highly productive soils is combined with the non-forested Gwin soils, the total forest productivity in the Gwin-Umatilla-Kahler unit is reduced by about two-thirds.



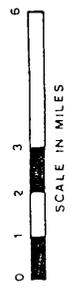
**TIMBER PRODUCTIVITY BY SOIL ASSOCIATION
NORTHEASTERN UMATILLA COUNTY**



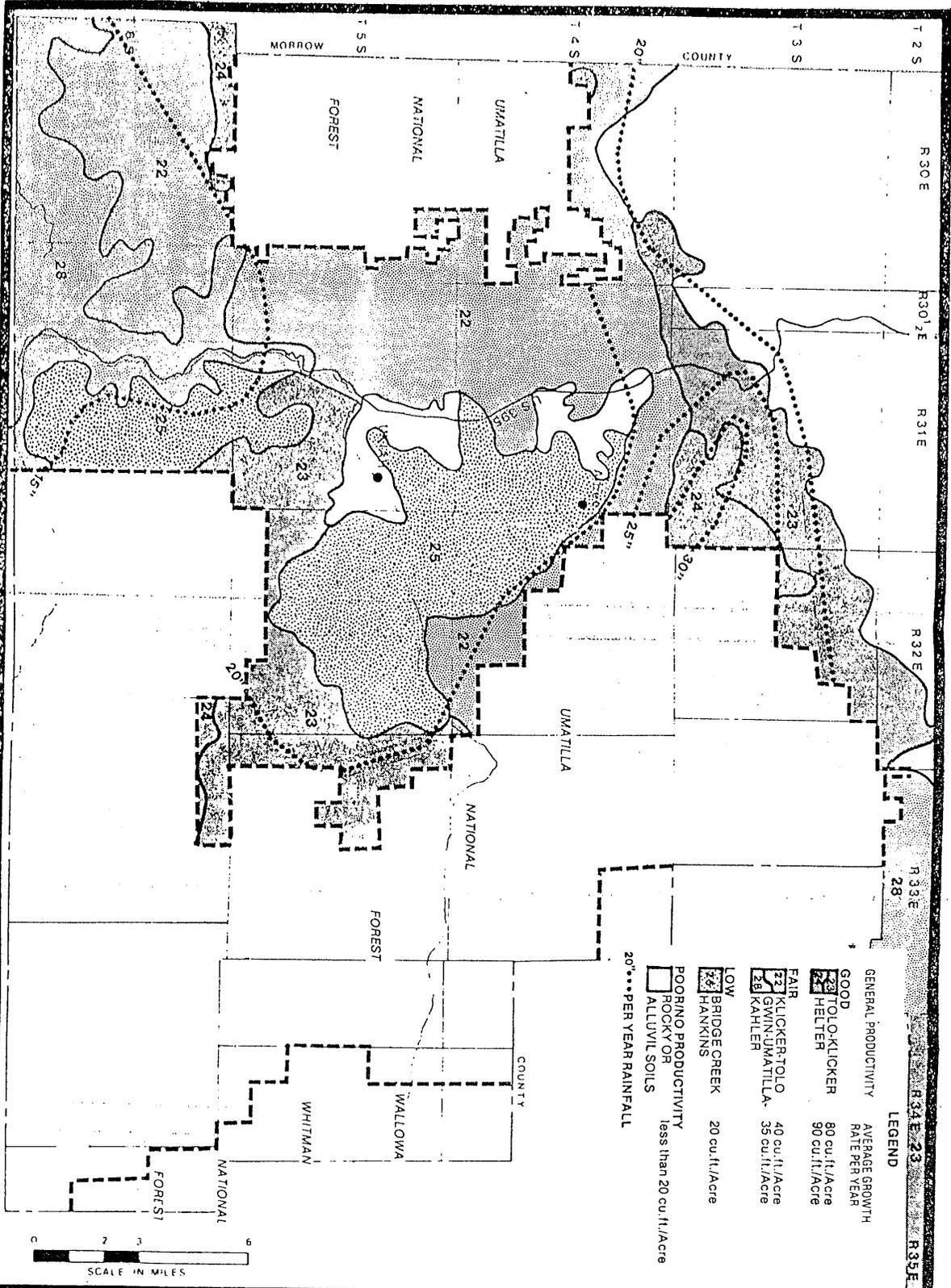


LEGEND

GENERAL PRODUCTIVITY	AVERAGE GROWTH RATE PER YEAR
GOOD	80 cu.ft./Acre
TOLO-KLUCKER HELTER	90 cu.ft./Acre
FAIR	35 cu.ft./Acre
GWIN-UMATILLA-KAHLER	
POOR/NO PRODUCTIVITY	less than 20 cu.ft./Acre
ROCKY OR ALLUVIAL SOILS	
20"..... PER YEAR RAINFALL	



**TIMBER PRODUCTION BY SOIL ASSOCIATION
CENTRAL UMATILLA COUNTY**



TIMBER PRODUCTIVITY BY SOIL ASSOCIATION SOUTHERN UMATILLA COUNTY



This soils association is then one of the lowest in production but contains some of the most productive forest soils in the Blue Mountains.

However, in general, timber productivity is somewhat higher in the northeast county study area, especially in the Tollgate Mountain area. Wood growth per year is said to be somewhat greater here than that in the Meacham areas, and even greater than in the Ukiah areas, largely due to more rainfall amounts which approach 50 to 55" per year. This general comparison tends to agree with many private landowner and citizen comments that timber harvest rotation periods for timber (as opposed to fiber for wood pulp) in the Meacham-Ukiah areas take up to 60-75 years, whereas harvest rotations on Tollgate Mountain and other good northeast county forested sites are at 40-45-50 year intervals.

[Revised]

Commercial Forest Lands (Private Ownerships)

A meaningful and accurate acreage of commercial forest lands in Umatilla County is virtually impossible, mostly due to incomplete and general soils information. Also, many do not agree what "commercial" means. Even studies by the U.S. Forest Service and State Forestry Department in the 1960's and 70's give conflicting commercial forest land figures ranging from 470,000 acres to 562,000 acres.⁵ These reports say that private lands considered having commercial timber stands ranged from 33% to 40% of the total "commercial forest lands. Even the cubic foot site inventory analysis above designed to aid in determining commercial vs. non-commercial forest lands is generalized and not yet in detailed form to be meaningful or useful for site specific reference. So, based on the above factors, no acreage figures of commercial timberland, based upon new preliminary data, is given for Umatilla County. When detailed soils information becomes available, then perhaps a detailed study of what is commercial forest lands would be practical and useful. Until then, only a ball-park figure of 190,000 to 225,000 acres of private and tribal trust lands outside of the

National Forest and Umatilla Indian Reservation have a generalized commercial forest definition based upon the two forest service studies mentioned earlier.

[New]

Commercial Forest Land (Public Ownerships)

Touched on briefly in the introduction is the statement that National Forest lands have somewhat higher timber productivity. While this information is either not available or not directly comparable, the basic productivity indicators like rainfall and elevation is available and does indicate that the better timber growing areas are within the National Forest. For example, examination of maps on pages C-10, 11, and 12 show that rainfall amounts are greater on National Forest lands and the map on page C-3 indicates that elevations are also higher in this area.

Timber Harvests

Table C-I summarizes the volume of timber harvested in Umatilla County from 1970 to 1976. While total cuts during this period increased by 113%, contributions for private lands actually dropped by 66%. Most of the timber removed during this timespan was obtained from the Umatilla National Forest, increasing from 18.1 MMBF (million board feet) in 1970 to 78.3 MMBF in 1976.

Ponderosa Pine, Douglas Fir, and Grand Fir comprise the majority of existing growing stock volume in the county, with 324 million cubic feet, 290 million cubic feet, and 131 million cubic feet respectively.⁶

Mortality

Considerable losses of timber occur annually in Umatilla County. Weather, insects, and disease are leading causes, accounting for an estimated 64% of total board foot loss. Infestations of bark beetles and tussock and gypsy moths are responsible for much of the insect-killed trees. Although now on the decline, bark beetles in Umatilla County have in recent years destroyed an

TABLE C-1
Volume of Timber Removed (MMBF) in Umatilla County
UMATILLA COUNTY

	U.S. Forest Service Lands	State Lands	B.L.M. Lands	Indian Lands	Private Lands	Total for Non-forest Service Lands	Total				
	MMBF	MMBF	%Total	MMBF	%Total	MMBF	%Total				
1970	18.8	0	0.3	0.7%	0.8%	1.8%	25.9	57.4%	27	59.9%	45.1
1971	24.9	0	0	-	0.3	0.7%	19.3	43.5%	19.6	44.1%	44.4
1972	41.4	0	0.5	0.8%	0	-	21.2	33.6%	21.7	34.4%	63.1
1973	53.6	0	0	-	0	-	12.7	19.2%	12.7	19.2%	66.3
1974	42.2	0	0	-	0	-	31.6	42.8%	31.6	42.8%	73.8
1975	62.7	0	1.3	1.5%	0	-	21.5	24.9%	22.8	26.5%	86.2
1976	78.3	0	4.8	5.0%	0	-	13.0	13.5%	17.8	18.5%	96.0

NOTE: Discrepancies in % total due to rounding.

SOURCES: "Approximate Acres Logged and MMBF Volume Removed", State of Oregon, Department of Forestry,
General File 1-9-4-5000, 1970-1976; "Log Production in Oregon by County, Region and
Ownership", Oregon Economic Statistics, 1972.

average of four million board feet of timber on private holdings annually.⁷

Root and heart rot, needle blight, and dwarf mistletoe are the major diseases affecting forest in the county. The Oregon Department of Forestry estimates that these diseases are removing 2.1 million board feet of timber from the county's available supply each year.⁸

Other causes of tree mortality include losses from animals, fire, and miscellaneous agents such as land slides, erosion, fluctuating water tables and various activities of man.⁹

Employment in the Timber Industry

The wood products industry in Umatilla County is usually the second most important source of basic employment, payroll and public revenue, supporting secondary employment in the transportation, construction, trade, finance, service and government sectors.¹⁰ Table C-II breaks down Umatilla County timber industry employment and payroll figures into logging, sawmills and plywood-veneer-other. The table makes it possible to analyze the changing character of the county's lumber industry.

From 1970 to 1976, the number of employees in logging dropped 18.03% (from 122 to 100). The number of sawmill employees remained fairly constant, increasing only 4.29% (from 325 to 340). But, the number of employees in plywood-veneer-other increased 1000% (from 40 to 440). The major change in lumber employment occurred between 1974 and 1975 when total employment increased from 365 to 670; plywood-veneer-other jumped to 292, then to 440 in 1976. Until 1975 sawmills employed over two-thirds of Umatilla County's lumber employees. Beginning in 1975 sawmills split 80% of the employment with plywood-veneer-other employers. Much of the change in 1975 was due to new mills and wood processing plants in the county, and to the addition of second and third shifts of employees at existing wood processing plants. In effect, local employers have diversified their timber

processing activities.

Further expansion of secondary wood products, plus promoting other forest uses, would make the county less vulnerable to economic fluctuations.

Table C-II also illustrates how payrolls increased from 1970 to 1976. By converting 1976 dollars to 1970 values to account for inflation (consumer price index), it is possible to compute the net change in payroll amounts for this period. Logging increased 80.92% (gross) or 37.06% after accounting for inflation (net). Sawmills increased 61.51% (gross) or 28.17% (net). Plywood-veneer-other increased 1,095.17% (gross) but only 501.58% (net). Lumber totals increased 167.72% (gross) or 76.82% (net).

Recently, however (1981-82), there have been major reductions and fluctuations in timber industry employment as has been the trend statewide and regionally. The erratic employment situation has been due to the poor economy and high interest rates nationwide which have greatly affected the housing market of which the timber industry is heavily dependent upon. Outlooks for quick recovery are not likely, and this creates some difficulties for comprehensive planning.

County Revenues for Forest Lands

Umatilla County receives revenue for the use of its forest lands from two sources. Because federal lands are not taxable by the county, the federal government, predominately through the U.S. Forest Service, makes an annual payment to the county "in lieu of taxes." Basically, the annual payment consists of 25% of the forest service's annual receipts from timber sales, grazing land permits and recreational fees. About 98% of the receipts in Umatilla County come from timber sales. The forest service turns this money into the Oregon Department of Revenue which then redistributes it to the counties on a proportional basis (per acres of national forest lands in each county). Federal law requires that these receipts be used by the counties only for school and road funds. At the present time, Oregon law

requires the receipts to be distributed 25% to schools and 75% to roads. In 1977, Umatilla County received about \$1,007,000 in forest service receipts (\$962,000 from Umatilla National Forest, \$45,000 from Wallowa-Whitman National Forest).¹¹

[New] New forest service receipt figures from the Oregon Forestry Industries Council, 1983, shows that Umatilla County in 1981-82 ranked 24th out of 31 counties receiving receipts from the U.S.F.S. Of the total \$95,112,710 received statewide, only \$803,223 had been received in Umatilla County.

The State of Oregon also "compensates" each county for the use of forest lands. The Eastern Oregon Severance Tax, administered by the Oregon Department of Revenue, requires that a tax be paid for the timber harvested on private lands (other than national forest lands). The tax is set by the Department according to size of timber cut, immediate harvest value of the timber (determined by the Department), type of timber and classification of code area.¹²

[New] In 1981-82 Umatilla County received \$140,361 from this tax source. This compares to a total of \$45,885,619 paid statewide under the severance tax program. This also relates to a ranking 21st out of 35 counties receiving this money or only 3% of the total.

The Department collects and distributes the tax for eastern Oregon on a quarterly basis. The tax receipts are given to the counties according to a set ratio (percentage share of the value of private standing timber in all eastern Oregon as of 1962). The counties use these receipts as an offset against the annual federal property tax levy in each county. In other words, the severance tax receipts reduce the amount of property tax required to be paid by Umatilla County Residents.¹³

[New] A last thought regarding the above timber harvest tax data is that timber management is not as an important an issue in Umatilla County as is grazing. The relatively small amount of tax receipts allotted to the county, as compared to other Oregon counties and timber income generated being less than half that

of the income from grazing (\$9 million v.s. \$23 million in 1976 figures), also substantiates these thoughts. These factors are also another indicator of the mixed use nature of the county's mountain highland areas.

Timber Management

The public agencies (National Forest Service, BIA, BLM) have managed their large share of the forest lands in Umatilla County based on their interest and knowledge in long-term multiple use concepts.

Management of the public and private industry owned forest lands in Umatilla County is accomplished through their extensive knowledge and capabilities to deal with long-term forest management issues. Public agencies, as well as private timber companies, have the capabilities to manage their areas of responsibility and interest and therefore attempt to maximize forest land values.

Timber on private non-industrial lands is not intensively managed. The majority of these lands are predominantly owned by livestock ranchers with intermixtures of minor areas of small farm woodlots or recreational ownerships.

All have varied knowledge of capabilities to intensively manage their lands for timber production. Forested lands in this category comprise approximately 50% of the privately owned land acreage in Umatilla County. (Ownerships in forested lands are more thoroughly discussed in latter sections of this chapter.)

According to some state foresters and timber industry spokesmen, some management problems exist on private non-timber industry land. They say some owners are not aware of all the economic benefits to be gained from property timber management or do not possess the cash flow necessary for long-term commitments that forest management requires. Also, some landowners do not have the technical forest management capabilities that may help them meet their particular needs and objectives.

Assistance in dealing with these education, financial and technical problems is

available from many public and private sources. The state has published a catalog of programs that provide this assistance and is available at the State Forestry Department.

Additional incentives for timber production includes deferred property and timber taxes and tax credits for placing underutilized land into timber production. These program incentives plus the availability of a productive land base provide the structure for a significant contribution of forest products from the many private forested land parcels in Umatilla County. These tracts occur throughout the forested areas in the Blue Mountains and generally in a strip between the predominantly agricultural lands to the west and the national forest to the east.

(See pages through for more detailed discussion of the existing forest tax system and also the farm deferral tax program; both programs applied in county forested areas.)

Land use planning of forest lands is involved primarily with the consequences of forested land uses. The actual operations, such as timber harvest or management, is beyond the plan's scope and is dealt with directly by the state. In 1972, the State legislature adopted the Oregon Forest Practices Act contained in ORS 527.610 to 527.730. By recognizing that the forest makes a significant contribution to Oregon and Umatilla County by providing jobs, products, tax base and other social and economic benefits, the act is intended as a means to assure continuous growth and harvest of timber and to protect Oregon's forest soil, air and water resource.

The State Board of Forestry is responsible for implementing this law and has, therefore, adopted the Oregon Forest Practices Rules. These rules apply to all commercial forest operations providing guidelines for the application of chemicals, disposal of slash, reforestation, road construction and harvesting. All state and private forest lands in Umatilla County are subject to compliance with the adopted rules.

One aspect of the Forest Practices Act meeting some opposition is clear-cutting. This is especially true in or near areas of established recreational uses and development. Citizens and property owners in these areas do not object to forest management and harvesting per se, but feel certain management techniques will better protect scenic and other aesthetic values in recreational areas. Several foresters have suggested the uneven age timber management system can be implemented quite successfully in timber areas impacted by recreational uses.

Other Forest Uses

Forest lands serve a multitude of functions. The unique scenic and environmental qualities of forest lands make them attractive for recreational activities such as camping, hiking, fishing, hunting, water sports, etc.

These activities, in addition to providing an important social benefit, also contribute significantly to the economy of Umatilla County, and are more thoroughly discussed in the Natural Resource and Recreation chapter.

Most of the water resources of the county originate in the many watershed areas high in the tree-covered Blue Mountains. The trees and associated vegetation provide runoff control and therefore conserve the water and land resource. The conservation and protection of the watersheds is a key to maintain the high quality and quantity of water supplies in Umatilla County.

Forest lands provide habitat for a variety of wildlife species. Deer, elk, and bear are the major game species found in the county. Food, cover, water, and freedom from harassment are primary requirements for these animals. Also, Umatilla County streams and rivers support fish populations important to the sport fishery "industry" and basic food supplies of the Confederated Indian Tribes of the Umatilla Indian Reservation. Both the watershed and fish and game issues mentioned above are examined more closely in the Open Space and Natural Resources chapter.

[New]
Summary

By far the most important forest use in Umatilla County is livestock grazing. An extensive report on this activity is found in Chapter B of this Technical Report. It cannot be stressed enough that most livestock ranchers are not actively engaged in timber management because of the marginal nature of productivity. Most have testified that commercial harvesting of timber would ruin the fragile topsoil and thus the grasses which they grow and try to protect. As shown later, even timber industry owners manage much of their property for livestock purposes because the land is either non-timber producing or used more efficiently for grazing because of the very long crop rotation period involved in harvesting timber in Umatilla County. The following lot size and management pattern analysis is therefore largely concerned with the livestock industry.

[Revised]
MOUNTAIN/HIGHLANDS LOT SIZE ANALYSIS

Goal #4 Forest Lands requires an inventory of lands suitable for forest uses (including agricultural uses) and development of measures to protect these lands somewhat similar to requirements in State Land Use Goal #3 Agriculture. A general description of the mixed use nature of forested areas in the mostly publicly owned foothill and mountainous lands of the county and review of forest productivity have been earlier analyzed, but this alone will not greatly aid in determining appropriate protection measures. Other pertinent information (lot size, ownerships, field or cultivation patterns, grazing use practices, existing land uses, present plan and zoning effectiveness, recent partitions, taxing methods, local opinions, etc.) must also be considered to help choose realistic protection guidelines. The federal government owns nearly 60% of mountainous areas in the county, but because the county has little control of these lands, studies were not conducted for this area.

In conjunction with the agricultural lot size study (Section B), lot size information in two separate townships (5N 37, 1S 34) within privately owned foothill/grazing forested land was gathered. These areas were chosen as representative of the majority of other privately owned areas in this part of the county. (See the map Chapter B on page B-38). An additional township (4S 31) was examined along with the two above more forested mountain townships, even though it is slightly different in character. It was chosen to represent a foothill/grazing/timbered area in the south county. The township has meadows and pastures adjacent to forest lands, whereas open foothill grazing lands are adjacent and intermixed with forest highlands in the other two study townships. However, all three areas are used predominantly for livestock grazing with timber management a secondary, long-term resource activity. Some timber company lands are within these study areas whose management concentrate on the production of wood fiber, but also lease much of their lands for grazing because timber productivity is either marginal to non-existent on parts of their property or grazing is a viable, long-term, intrinsic use between harvesting the portions which have timber producing capabilities.

Methods to determine average lot and ownership sizes in these study areas were very similar to those procedures followed in the agricultural study (see chapter B). The only differences were that timber industry lot sizes and ownerships were compiled separately from other private ownerships, and that additional information from the Tollgate and South County Mountain Citizen's committees were considered in this study. These were very few non-agricultural, non-timber industry parcels (those less than 20 acres), and they were not included in the averaging. These smaller, non-resource parcels, when in single ownerships, were considered recreational in nature; however, larger recreational lots probably do exist, but are difficult to determine and separate.

Basic results of the lot and ownership inventory shown in Table C-III and other

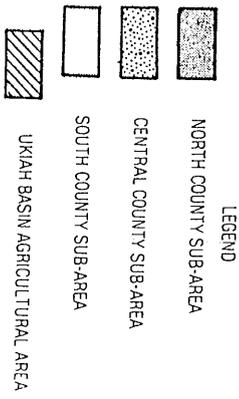
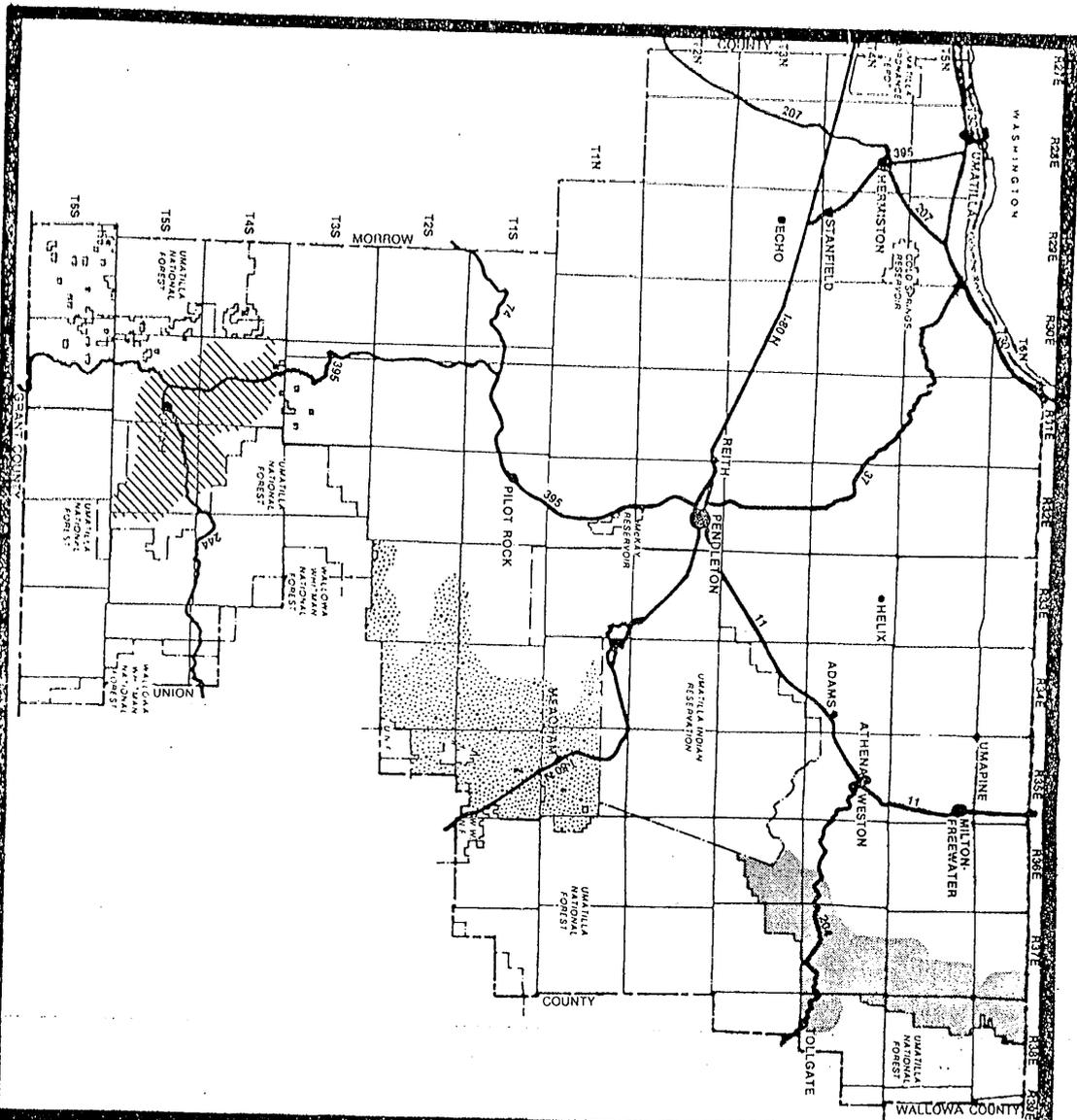
similar data analysis did not reveal any significant differences or similarities to aid in the overall organization of this report. However, when considering geographic differences, general timber productivity, and other factors like existing zoning and plan policies, and information from the various citizen involvement groups, it becomes apparent that three sub-area analyses would be appropriate: (1) Northeast County Mountainous Lands (those lands north of the Umatilla River): (2) Central Mountainous Lands (those lands around Meacham): and (3) South County Mountainous Lands (those lands near Battle Mountain, Carney Buttes, and around the Camas Prairie Basin). The map on page C-25 shows the general boundaries of these three study units. A general summary for each follows.

TABLE C-III
 Mountain Forest and Grazing (Sample Study Areas)
Average Ranch-Timber Industry Parcel-Ownership Sizes

Sample Area	Parcel Size		Ownership Size	
	Ranch Acres	Timber Acres	Ranch Acres	Timber Acres
Northeast County 5N 37 (Big Meadows)	351	782	861	2,306
Central County 1S 34 (Upper McKay Creek)	406	528	1,000	5,017
South County 4S 31 (Camas Prairie)	400	N/A	810	N/A

[New]
Critical Winter Range Inventory

A more detailed lot and ownership study has been done for critical winter range lands in Chapter D of this Technical Report. Critical Winter Range areas include a very large majority of land involved in this analysis (mountain grazing and forest lands). Applicable facts from the critical winter range study will be briefly mentioned and/or referenced in this chapter (Chapter C) when found to be pertinent to the following three grazing/forest sub-areas reviews.



MOUNTAINOUS STUDY AREAS
UMATILLA COUNTY, OREGON



Inventory Results, Northeast County Sub-Area [Revised]

The table above shows that the average ranch (livestock operation) parcel and ownership size in this sub-area is about 350 acres and 860 acres respectively. These sizes are comparable to the other two sample townships examined. Whether the 350 acres or 860 acre sizes in the sample study are indicators of economical livestock operation is hard to determine. These average lot and ownership sizes are probably somewhat smaller than actual livestock ranching operations, which often reach an average size of 2,000 acres. Management patterns on these grazing lands often consist of land holdings that are a part of a larger farming operation which might be some distance removed from the home base farm. Also, even ownerships within this separated segment of the ranching operation are disjoined from one another by other ownerships, as is frequently the case in the adjacent wheat farming and open range land areas.

Additional grazing leases are sought on Forest Service and timber company property in order to sustain livestock herds for a full summer grazing season, adding to the complexity of ranching operations occurring here.

A much more detailed lot size analysis for Critical Winter Range Areas showed similar average lot and ownership sizes (312 acres and 634 acres respectively). The arithmetic median of all parcels (includes both timber industry and livestock ranching ownerships) was 184 acres and the mode or most frequent parcel size was 72 acres. Thirty percent (30%) of all parcels were less than 80 acres. These last three figures highlighted the fractured and complex ownership patterns occurring in this sub-region.

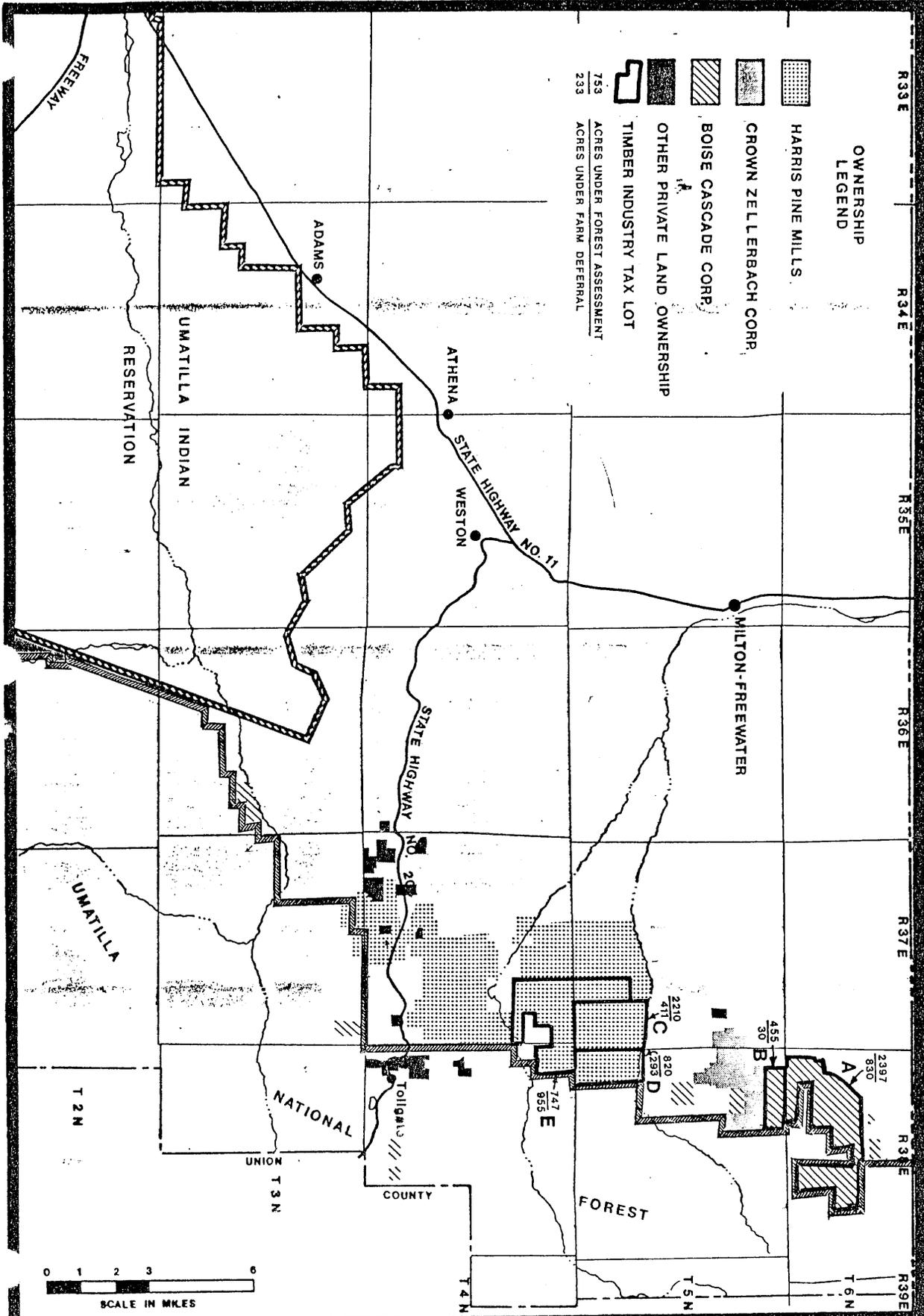
Timber company average lot and ownership sizes in Table C-III for the northeast sub-area indicate larger units than those for livestock grazing. Quickly examining other timber industry land outside of the sample township on the map on page C-29

the average ownership size of the three timber company holdings in this study area is over 7,400 acre rather than the 2,300 acre average shown in Table C-III. The largest timber company in this area is Harris Pine (approximately 3,855 acres) and lastly Crown Zellerbach at 2,280 acres.

General timber productivity data examined earlier shows that several sites in the study area have some of the best timber growing potential in the county. Due much to a yearly 55-inch rainfall, these better-producing sites average 95 cu/ft/ac/yr. About an even percentage of private grazing and timber industry ownerships possess these better wood producing sites, although this is only an estimate, due to the generality of the data.

The Northeast County Mountain/Highlands study area contains other land uses and resources categorizing it as a true multiple-use area. Like the other forest/grazing areas in the mountain highlands of this county, recreation uses as well as water and wildlife resources are additional activities found in these rugged terrain areas. The National Forest and Umatilla Indian Reservation border stretches along this study unit, adding to the complexity of management coordination.

Present taxation methods were also examined to see how land use changes might affect the assessment of future taxes. A large majority of the grazing lands owned in the timbered areas were under the unzoned farm deferral program because it was currently zoned F-5 and F-2, two non-exclusive farm uses zones adopted in 1972. Property could qualify for farm deferred taxes, but it was not automatic, and requalification could have been required by the County Assessor. Current tax rates on properties qualifying for unzoned farm deferral run about \$5 to \$15 per acres. Some ranches had their grazing lands zoned Exclusive Farm Use in 1972, a true farm deferral zone where once qualification was verified, future deferral assessment was automatic, with less chance of assessor examination and requalifi-



- OWNERSHIP LEGEND**
-  HARRIS PINE MILLS
 -  CROWN ZELLERBACH CORP.
 -  BOISE CASCADE CORP.
 -  OTHER PRIVATE LAND OWNERSHIP
 -  TIMBER INDUSTRY TAX LOT
 -  753 ACRES UNDER FOREST ASSESSMENT
 -  233 ACRES UNDER FARM DEFERRAL

FOREST ASSESSMENT LANDS MAP A
NORTH EASTERN UMATILLA COUNTY



cation requirements. Tax rates on mountain grazing lands were the same for both the "unzoned" and "zoned" farm deferral programs.

Timber industry lands are assessed under both the farm and forest deferral programs. Those lands being managed for timber production are assessed under a deferral program called Forest Assessment. Rates approach \$25 per acre and are set by the Oregon Legislature. Significant portions of their property are not suitable and/or not managed for timber are assessed under the unzoned farm deferral program at similar rates as grazing lands on rancher-owned properties (\$5-\$15 per acres). This fact is shown on maps A, B and C titled "Forest Assessment Lands."

Representative timber industry tax lots are outlined on these maps showing the number of acres assessed under the forest assessment program and acreages of their property under the farm deferral program. A quick glance shows that significant acreages are under the farm deferral program. County assessor's indicate that timber companies are required to provide management plans detailing what areas are to be managed for timber production and what areas are not capable of growing trees that to the satisfaction of the assessor will qualify under the farm deferral program. These areas and mostly unproductive forest land incapable of growing crops or industrial wood products because of adverse site conditions like sterile soil, poor drainage, steepness and rockiness. Copies of computer print-outs area also attached at the end of this chapter showing the actual acreages of all example parcels. These tax acreage figures help to show that Umatilla County's grazing/forest areas meet the definition of mixed use forest where both grazing (agriculture) and timber management are taking place and even occurring on timber-industry owned land.

There are approximately 4,000 acres of smaller, privately owned land in the northeast County subarea under the forest deferral program. Most of these lands

are in close proximity to the recreational area along the Tollgate Highway (see map on page C-28). The same \$25 per acre forest deferred tax rate is applied to these lands. This sub-area has by far the largest acreage of private property under the forest assessment program. This is probably due to the better timber productivity along the Tollgate corridor. The average lot size of all properties on the forest assessment program in this sub-area is 48.6 acres. The average ownership size under this program is 113.4 acres. There are many 10 acre parcels but most of them are under common ownership.

There are some parcels used for or zoned for recreational purposes that have not requested or in limited instances do not qualify for farm or forest assessments. These lands are assessed at market values often starting at \$1,000 per acre and going higher. Many properties on Tollgate Mountain along the Tollgate Highway (State Route 204) have this zoning and taxing rate.

The above-mentioned tax situations can possibly be affected by land use planning changes, especially zoning. For example, an Exclusive Farm Use zone (grazing farm) placed upon Foothill/Highland grazing lands can help assure continued deferral. This is done in light of the fact that there have been several legislative attempts to eliminate the "unzoned" farm deferral program. Should another similar legislative bill be approved, eliminating the unzoned farm deferral program, current tax rates pertaining to the existing qualifying grazing farm zone, could change and probably increase in certain instances, if not zoned to a qualifying exclusive farm use zone.

Another zoning alternative explored that could affect current taxes and tax programs is the placement of an unqualified EFU Zone, making it a more compatible forest zone. This could involve allowing several additional timber processing uses or fish and game related uses. County assessors feel that such uses will classify an exclusive farm use zone into an unqualified category for receiving farm deferral. If this adjusted EFU zone is applied to grazing

lands, the owners would have to come into the assessor's office and prove income and other tests to receive farm deferral under a program (unzoned farm deferral) who's future is so uncertain. Should the unzoned farm deferral program be terminated no one is certain what would happen. Possibly some land might be assessed under the forest use deferral program. Should a forest assessment be initiated, a tax increase of about \$20 per acre would result in many instances upon livestock ranchers who do not manage their land at all for timber uses.

The purpose of the above review is to give an understanding of what might happen to taxes upon mountain grazing lands if new and different zones are placed upon them. It is the intent of the county to adopt a zone or zones and policies that will permit continued taxation methods (barring legislative changes) benefiting legitimate resource use, and hopefully correcting any inequities that could occur or might be occurring on some lands now inappropriately zoned. Zoning strategies and land use policies recommended for resource lands in the mountain/highland areas of the county are discussed in the Plan Map Section of the Comprehensive Plan.

Other factors studied to help determine appropriate protection measures for grazing/forest lands were previously adopted plan and zoning regulations, partitioning activity since 1972 and citizen comments regarding future protection recommendations. A majority of the private property in this study area was protected by forest and other resource plan policies and zoning. Minimum parcel size of the old forest zone was 5 acres. There were areas of agricultural zoning with 19 acre lot size minimums. Many of the timber industry firms requested an F-2 zoning which permitted portable saw mills because at that time (1972) the use was not permitted in an EFU zone. Timber industries would have preferred the qualifying F-1 Exclusive Farm zone to protect their non-timber land areas for farm deferral under the qualified program. However, in 1975 the Oregon Legislature included portable sawmills into the EFU zone thus giving timber companies the use

option designed under a qualifying EFU zone where frequent assessor reviews and income tests are not required as is the case if an unqualified zone were in effect.

To date, a total of 10 land partitions have been created since the 1972 plan and zoning were adopted for this study area. Three have occurred since 1980 averaging 48 acres in size (two 40's and a 65 acre division). The remaining seven portions occurring prior to 1980 are all over 60 acres, averaging about 120 acres in size. The most frequent size partitioned is 40 acres (three of the seven partitions).

Citizens and citizen advisory groups have suggested protection measures. The Tollgate Committee, based upon a questionnaire and general experience, suggests that an overall 20 acre minimum lot size would better protect resources than the present 5-acre zone. Some citizens and smaller private timber interests feel the existing 5-acre zone is doing an adequate protection job and allows reasonable flexibility needed in a multiple-use area. Some have further commented that since only 2 acres are required to qualify for forest tax assessments, why not have a similar 2-acre minimum lot size? On the other side of the issue are the larger timber companies who recommend a 80-acre minimum lot size, (Boise Cascade) responding that parcels smaller than these are difficult to manage and harvest timber. In the middle, are some that suggest that a minimum lot size is inappropriate and inflexible for this sub-area. They suggest that review standards be set up to analyze each individual partition request since there are a variety of sizes that are designed for a variety of management reasons.

Besides commenting on protection measures, citizens have also suggested approximate areas and boundaries of resource and recreational lands. These areas, along with their respective land use policies, are suggested in a report prepared by the Tollgate Mountain Citizens Advisory Committee. The report has been helpful in developing policies and formulating boundaries between resource and non-resource

land uses. The full report can be found in the Appendix of the Technical Report.

[Revised]

Inventory Results, Central County Sub-Area

Figures in Table C-III, page C-25, show that the average Central County livestock grazing parcel sizes are around 400 acres, and about the same, but slightly smaller, than average sizes occurring in the Northeast County study area (350 acres). Ownership sizes average about twice as large as the average parcel size. This indicates that parcel ownerships (in this case, livestock ranching) are disjointed or separated. This situation is probably due mostly to "homesteading" as explained in the agricultural lot size review report, but partly to the "selling-off" of "wood lots", "recreation lots" and parcels bought by large timber companies. Wood lots were often 40 acres in size (some larger) and used to obtain wood for winter heating of homes in the town or on the lower elevation farms. Sometimes these wood lots also had a summer cabin. Through the years, some lots still remain "recreational" while other have been bought back, leased to livestock ranchers or sold to timber companies. The "smaller" wood lots are more prevalent in the Central-South mountain areas than in the Northeast County mountain areas.

Ownership sizes of livestock grazing lands within the Central County study township are representative of self-sustaining livestock ranching units. However, ranchers here have different opinions as to what a self-supporting ranch size is. It should again be pointed out that a good percentage of these mountain/highlands are "additional holdings", removed some distance from the home operation. Also, ranchers here, like those in the Northeast County livestock ranching area, lease grazing allotments within areas of the National Forest to secure forage grasses for the late summer months. Therefore, self-sustaining ranch sizes are hard to determine and vary with individual operators. Some ranchers have very large holdings in this sub-area (Pendleton Ranches, Cunningham Sheep), often reaching and exceeding 10,000 acres.

Again, the more detailed Critical Winter Range lot and ownership study in Chapter D substantiates similar livestock ownership sizes in Table C-III. The average parcel size of all parcels is 473 acres and the average ownership size is 1,721 acres. The most frequent parcel size (the mode) was 40 acres and the median parcel size was 80 acres. Forty-seven percent (47%) of the parcels are less than 80 acres in size. Timber company average lot and ownership size figures for the Central County Sub-Area are listed in Table C-III. The map on page C-36 shows where timber company holdings are located. Louisiana Pacific is the largest owner (28,005 acres) in this study area as well as in Umatilla County. Boise Cascade (17,085 acres) and Harris Pine (5,200 acres) round out the other timber industry ownerships.

Smaller, privately owned land (non-timber industry owned) under the forest assessment program only totals 652 acres. This is a rather small area as compared to the total acreage within the Grazing/Forest designation, which can be used as an indicator that the sub-region is not the most desirable or productive timber growing area. The average parcel size of lots under the forest assessment program is 29.6 acres. The average ownership size is 31 acres and the most frequent size is 20 acres.

On the average, timber productivity is somewhat less than the productive Northeast County mountain lands. General comparisons are discussed in greater detail in previous sections of the report.

Adding to the complexity of determining appropriate lot size minimums and/or other land use protection measures sub-area are the presence of scattered Tribal Trust, Forest Service and Bureau of Land Management. Management goals on these lands often differ from each other and from private lands, which is often the case where multiple land use and differing jurisdictions occur. Also, many forms of recreation (hunting, camping and some recreation homesites around Meacham) have

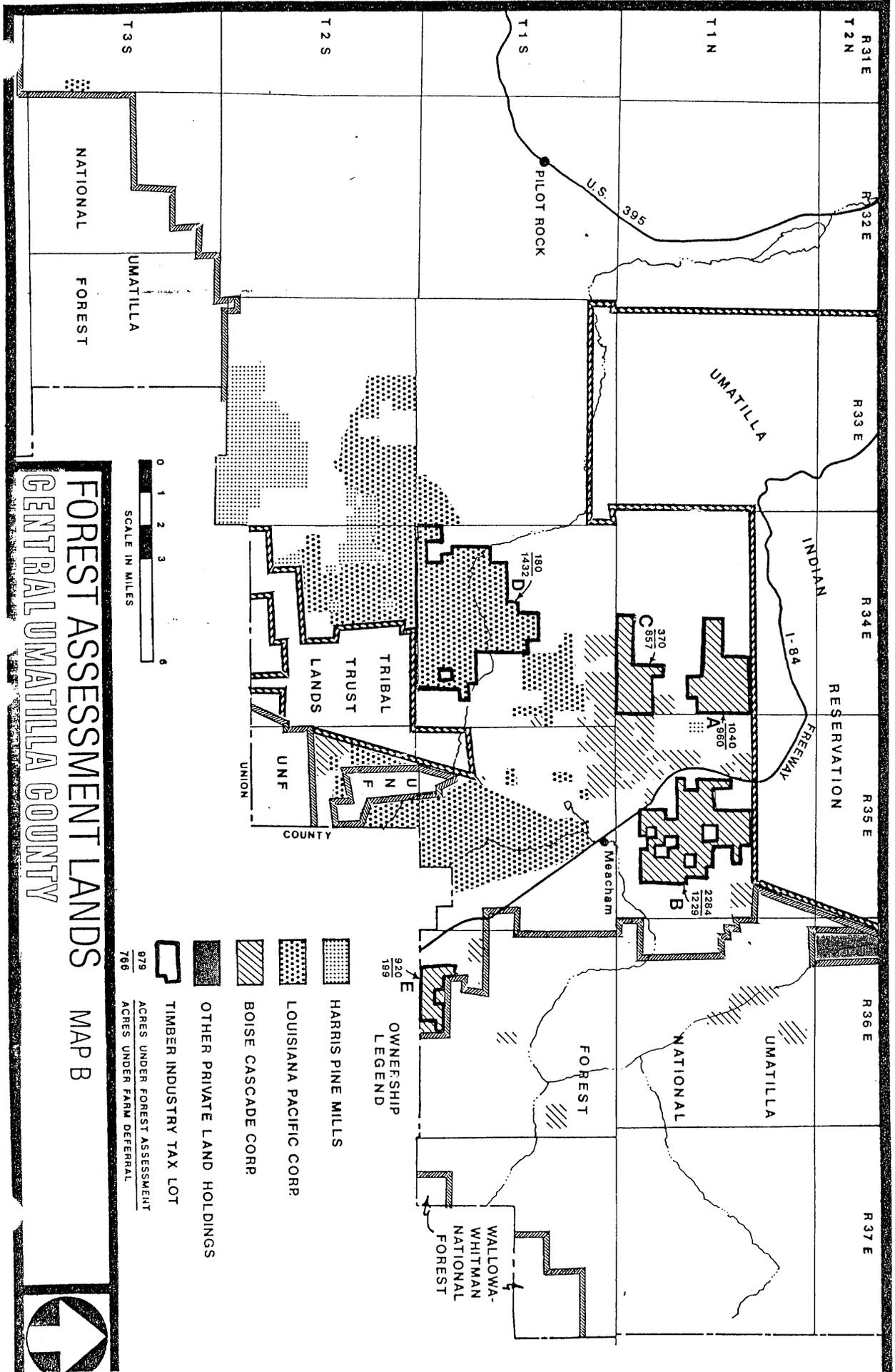
been established uses for many years. (Recreational uses including housing will be discussed in more detail in both the recreation and housing technical reports).

Several comprehensive plan designations and a variety of resource zones had been in effect here to protect forest and grazing lands. A majority of the land was categorized as forest land with some small areas designated agriculture. Most of the timber company and ranching operations were zoned in 1972 to either F-1 or F-2, both a 19-acre minimum farm zone. Some private property and remaining timber company land had forest zoning in 1972 with a five-acre minimum lot size. There were limited spots of recreational/residential zoning at one-acre minimum lot sizes which were found mostly near established recreational spots mentioned above. In 1983 most of this sub-area was zoned to a 40 acre minimum lot size.

Taxation issues are nearly the same as explained for the Northeast County mountain/highland area. This is probably because the same planning zones are found in both areas, and the quality of grazing lands is about the same. Therefore, both areas' grazing lands have similar tax assessed values (\$5 to \$15 per acre). Also, the legislative set tax values on forest assessed lands are assessed evenly across Eastern Oregon timberland areas (now \$25 per acre). Significant tax differences (earlier mentioned) between the two study areas are that more land qualifies (especially timber industry land) for farm deferral. A view of Map B, titled "Forest Assessment Lands," clearly shows this. Parcels A through E are typical examples of timber industry properties receiving farm deferral taxation on significant portions of their property. This is a definite indicator of the mixed use nature (grazing and timber management) of activities using the resource base in the mountain areas of Umatilla County.

Again, any zoning strategies chosen will be designed to maintain as closely as possible the existing tax programs and rates that are being assessed and administered

Planning Department records show that very few land partitions have been recorded



**FOREST ASSESSMENT LANDS
CENTRAL UMATILLA COUNTY**

MAP B



- OWNERSHIP LEGEND**
- 920 199 HARRIS PINE MILLS
 - 766 OTHER PRIVATE LAND HOLDINGS
 - 779 BOISE CASCADE CORP.
 - 779 LOUISIANA PACIFIC CORP.
 - 766 TIMBER INDUSTRY TAX LOT
 - 779 ACRES UNDER FOREST ASSESSMENT
 - 766 ACRES UNDER FARM DEFERRAL



within resource areas of this sub-area since 1972. Only three partitions have been recorded since 1981 (two 20 acre pieces and a 380 acre parcel). Overall, the area has remained quite stable considering the large area involved where these few partitions occurred.

Comments from two citizen involvement groups, sub-area recreational property owners and ranchers indicated that opinions vary on measures needed to accommodate all interests and uses, and still protect the resource base. Various lot size minimums ranging from 20 to 160 acres had been suggested to keep homesite development at densities unlikely to interfere with resource uses. Boise Cascade, a timber company, suggested that an 80-acre minimum lot size be adopted, which it felt would curtail the usual conflict from adjacent recreational landowners when spraying, thinning and harvesting timber. Those advocating a 20-acre minimum size felt that this size was a more realistic compromise between the old five acre size which was associated more with and would likely allow recreational activities, and the larger suggested lot size minimum of 40 to 160 acres, which they felt were too restrictive. A few citizens felt that lot size regulations were not appropriate for a multiple-use area. They asked that review standards be set up where individual partitioning requests would be approved or denied based on how well the proposal complied with a set of criteria or standards designed to assure resource protection and still permit divisions that normally and logically should be allowed but would not be possible with a standard minimum size.

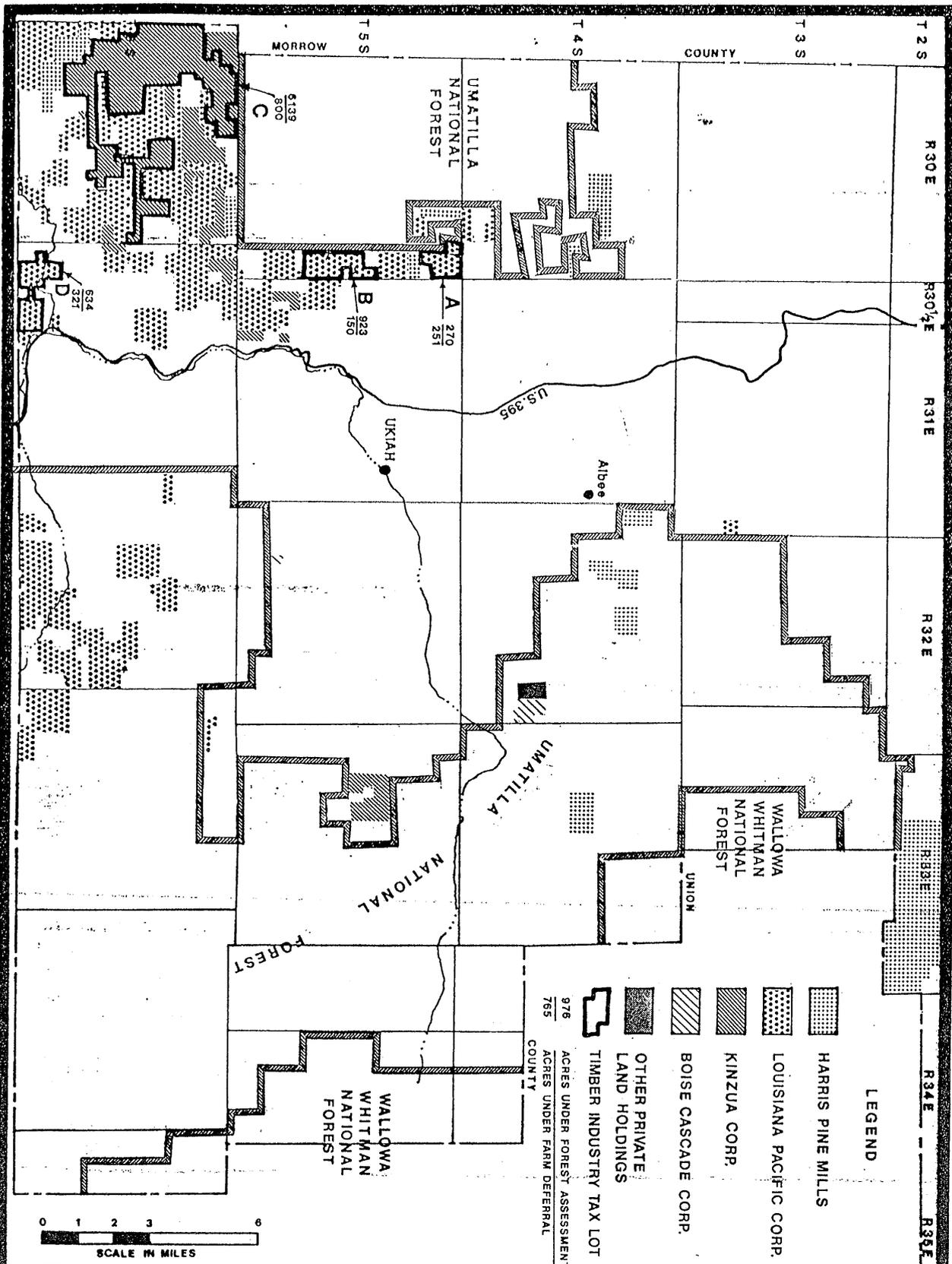
The Bureau of Indian Affairs and Tribal Planning Department have expressed concern about potential protection measures in the Meacham area where some 13,000 acres of Tribal Trust land lies outside of the reservations southwest of Meacham. Verbal and written communication indicates concern for compatibility with these lands and adjacent lands, especially pertaining to the protection of elk winter range and fishery streams. Such areas within the reservation are proposed for resource zones with 79 to 159 acre minimum lot sizes; it is presumed that something similar is being requested by the Tribe for most private lands around Meacham.

[Revised]
Inventory Results, South County Sub-Area

Inventory of sample study areas in the South County mountain areas reveal similar average parcel and ownership sizes as found in the Northeast and Central mountain/highland sub-areas. (See Table C-III Page C-24). Only information on cattle ranching operations was obtainable, because no timber industry lands are within the sample study area. It is important to mention that ranching ownerships are often separated as indicated by the smaller average parcel size, when compared with average ownership sizes. Likely reasons for this situation are similar to those explanations offered in the Central Mountain/Highland Sub-Area study. This fractured nature of operations is also substantiated in the Critical Winter Range lot and ownership size study in Chapter D. Of importance to note from the study is that the parcel size mode of 40 acres, the ownership mode size of 160 acres, and that 25% of all parcels are less than 80 acres.

While no timber industry lands were encountered in this region's lot size analysis, a separate review was initiated. Private timber holdings were located and mapped along with their estimated acres. The largest timber holding in the South County mountain/highland region is Louisiana Pacific, with 15,360 acres. Following, in decreasing acreage sizes, are Louisiana Pacific (10,380 acres), Harris Pine (1,900) acres and Boise Cascade (320 acres). Private land owners whose lands are assessed for timber management total only 580 acres, the smallest such acreage found in any of the three study units. This situation is probably due to the lower timber productivities found here. The average parcel size and ownership size are the same under this forest deferral program, being 96.6 acres. The most frequent parcel size or model size is 160 acres.

It is important to note, however, that timber holdings are also disjointed or scattered as are the livestock grazing lands. This is evident upon examination of the lot survey study within Critical Winter Ranges, Chapter D, and looking on the Map C titled Forest Assessment Lands which locates timberland holdings.

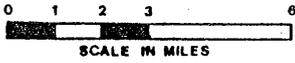


FOREST ASSESSMENT LANDS
SOUTHERN UMATILLA COUNTY

MAP C



- LEGEND**
- HARRIS PINE MILLS
 - LOUISIANA PACIFIC CORP.
 - KINZUA CORP.
 - BOISE CASCADE CORP.
 - OTHER PRIVATE LAND HOLDINGS
 - TIMBER INDUSTRY TAX LOT
 - ACRES UNDER FOREST ASSESSMENT
 - ACRES UNDER FARM DEFERRAL



Public land management/coordination, tax situations and existing plan and zoning analysis are nearly the same as discussed in the previous two study areas. Further review of the map on the previous page shows the similar mixed-use nature of the sub-area with the farm deferral/forest assessment acreages on timber industry properties. The actual acreages are in the appendix for Parcels A through D.

Relatively few land partitions have occurred here as is also the case in the other two mountain/highland study regions. Only eight land partitions in ten years illustrate the stability of grazing and timberland operations, even under the rather small existing minimum lot size standards of five and 19 acres adopted in 1972 and in effect up to May of 1983. The average partition size was around 35 acres, and the most frequent size was 40 acres. Half, or four, of the parcels were 40 acres, and two of the eight were 20 acres in size. Most of these partitions occurred where some recreational pressures have existed for many years. Again, as might be expected, no real consensus could be reached on an appropriate resource minimum lot size here. However, the South County Committee, which consisted largely of cattle ranchers, felt that the 1972, 19 acre minimum lot size had been workable and had not created conflicts in resource areas. They recommended continuing this 19 acre minimum lot size to protect private grazing and forest lands. In 1983, the County adopted two resource zones. One applied to timber industry lands, and one applied to livestock ranchers' properties, both having a 40 acre minimum lot size.

[Revised]

Conclusions of Mountain/Highlands Lot Size Analysis

Results of the above area studies show that mountain/highlands in the county are areas of multiple uses. Inventory information supports the variability of activities occurring here. It is apparent that management and protection measures should then be flexible yet effective to protect the important land use activities occurring in this portion of the county. This flexibility, while

not as evident as in the North/South County Agriculture Regions, is still evident from the fractured lot size and ownership patterns. At a minimum, any regulations should consider the smallest, most frequent and separated parcel size which is owned by timber or livestock managers and still being successfully utilized. From the above, data indicates this size to be around 80 acres. A more detailed discussion follows regarding management regulation choices that relate to lot and management pattern sizes.

Sub-area reviews also showed that the 1972 plan and zones of F-2, F-5 and F-1 had been fairly successful in protecting resource uses and values despite their low to medium-low minimum lot sizes. The explanation for originally choosing 19 acres as the minimum lot size for agriculture was explained in Chapter B. The five acre minimum lot size for the forest zone in 1972 was felt to be a size flexible enough to also allow small timber interests to reasonably purchase lots for forest management and also to allow recreation lots to be sold. Both uses were considered appropriate and assumptions were that very few recreational lots would be sold because many of the areas zoned F-5 were highly inaccessible and largely owned by livestock ranchers or major timber companies not usually interested in selling off their lands.

The effectiveness of the 1972 five acre forest and 19 acre agriculture zones can be seen more directly by the number of non-resource land partitions. An eleven-year record totaled only 21 land divisions (about two per year) in some 200,000 acres of forest/grazing land. Apparently, the original assumption of the unlikeliness of rampant recreational lot divisions were borne out and the minimum lot sizes of the zones (particularly the 19 acre zone), at least in part prevented vast areas of resource lands from being converted to non-resource uses. Many more recreational land divisions could have taken place especially in the approximately 47,000 acres of F-5 zoned land (five acre minimum lots sizes) and on some scattered properties zoned R-4 (one acre recreational residential) totally surrounded by resource land uses.

The above evidence tends to reflect a favorable record of the existing plan's effectiveness with the exception of some state goals conflict problems pertaining to the R-4 Recreational Residential zoning that was corrected with 1983 amendments to this plan.

Public involvement comments on minimum lot sizes, including agency and property owner opinions, had varied so much, they did not give a very clear guidance as to what might have been acceptable or workable. Some citizens felt that the 1972 lot sizes were doing the original job of protection and providing flexibility, while others have expressed that a more realistic resource size of a 20 acre minimum should have replaced the old 1972 five acre minimum lot size, the latter being more of a recreational lot size and density. State and federal agencies and several large timber companies maintained that larger minimum lot sizes (around 80 or 160 acres) would have better protected and maintained those resource lands. A few wheat and livestock ranchers also agreed to larger lot size minimums than required in 1972. (See Steve Corey letter in Appendix). As previously reported, a few citizens had expressed that no minimum parcel size be established, but instead a land partitioning review be made for each partition proposal.

It was evident from the above analysis that no matter what protection measures were proposed, they would be unpopular. In 1983, the county adopted a 40 acre minimum lot size as a compromise between all the sizes that were suggested for the two zones (Grazing Farm and Forest Conservation) that applied to this area. However, LCDC said that the county did not adequately justify its 40 acre minimum lot size. They also said that a 40 acre minimum lot size wouldn't necessarily conserve forest lands for forest uses.

Upon further review of the Grazing/Forest area, the county has decided to take a slightly different approach than measures adopted in 1983. First, the county has,

according to LCDC's most recent policy changes, documented that the Grazing/Forest area is a mixed use forest--the most predominate use being for grazing, with secondary uses of timber management and some inclusions of cultivated agriculture. Based upon the mixed use forest designation, the county has decided that only one zone instead of the present two zones would be appropriate. The present Grazing/Farm zone is to be retained while the Forest Conservation Zone is to be eliminated.

The choice of the zone was felt appropriate for foothill/highland grazing/forested lands because existing management patterns, management concerns and needs, state goals, current tax policies and adjacent zoning all logically point toward this number. The zone is to be applied to the two major resource users and owners: (1) timber industry property; and (2) livestock grazing and other agricultural use lands. A one zone concept not only fits in with the present tax deferral programs occurring here but also with the North/South County Agricultural Region's zoning which are both adjacent to the Grazing/Forest designated areas.

What types of standards that would protect resource uses and still remain flexible enough to administer was largely determined by the following: (1) resource capabilities of the area; (2) adjacent zoning proposals; (3) partition records from 1972-1984; (4) management and field patterns; (5) lot and ownership inventory studies; and (6) compromises of various protection suggestions from citizens and public agencies for a variety of mountain/highland resources (eg. fish and wildlife habitat, watershed management, timber and grazing management). Examination of these factors indicates that with slight modifications to the matrix system adopted for the North/South County Agriculture area, this system can be applied here as well. Not only does the matrix system provide the desired flexibility and resource protection, but this system permits a fairly unified land use regulation scheme for the two major resource areas of the county that boarder one another. Specifically, the 80 acre administrative parcel size guide used in the North/South

County Agriculture areas can be used in a similar manner for the Grazing/Forest lands. These lands are often just extensions of the lower foothill and plateau wheat/grazing land operations found in the North/South Agriculture Regions.

Livestock ranchers and other forest users owning land in the Grazing/Forest area suggested that lot size flexibility was not as critical here. This fact was supported by the relatively few number of partitions that have occurred since 1972 (only sixteen). However, resource users and owners said that there were instances where boundary adjustments to permit land trading would be needed. They requested that this type of flexibility be incorporated into the matrix system.

The matrix system would work in the following manner or the Grazing/forest area:

- (1) The same 80 acre minimum lot size guide used in the North/South Agriculture Region's review will be utilized here mostly as a lot size minimum rather than a guideline.
- (2) Only where cultivation now takes place within the Grazing/Forest designation will the same policies and standards adopted for the North/south County Agriculture Regions apply.
- (3) Slightly modified standards pertaining to a variety of non-farm uses found in the North/South Agriculture Regions will apply to a range of permitted non-resource uses that may wish to locate in the Grazing/Forest areas of the county. In particular, non-resource dwellings must meet stricter standards and criteria which includes fire safety measures and a narrower definition of what constitutes generally unsuitable soils.

The 80 acre lot size minimum has been determined to be a size that will conserve the mixed use forest land of Umatilla County for the variety of activities occurring

here that are defined as forest uses in State Land Use Planning Goal #4. This size is chosen and is supported for a variety of reasons. First, the most prevalent, separated parcel size owned by established livestock ranchers is 80 acres. This is quite often the case for timber industry ownerships as well. Testimony shows that these sizes are successfully managed even in an isolated situation.

Secondly, those privately owned, non-timber industry lands which qualify under the forest assessment program to manage their land for eventual timber harvests have an overall parcel size average of 58.2 acres and an overall ownership size of 80.3 acres. Both these average size figures are in the range of the 80 acre minimum lot size chosen, thereby reflective of this current forest use size.

Thirdly, past partitioning since 1972 in areas truly resource-oriented (without existing recreational influences) has an overall average parcel size of 112 acres; whereas if all past partitions since 1972 are taken into account, with some being in areas adjacent to recreational pressure, the average partition size is reduced to 65 acres.

Fourthly, 80 acres reduces the speculation aspect, so much a concern of the state and of local livestock ranchers and timber industry owners. The average market value per acre in the Grazing/Forest area according to the assessor is about \$175 per acre. To buy 80 acres, a purchaser would pay \$14,000 and upward for just the land. While this is not a large amount, it can, along with other factors, be very much a deterrent to non-resource land speculation. These other deterrents include location, access and desired purchase sizes. There are very few areas outside of presently designated multiple use lands that have the accessibility to major roads and services expected by potential recreational land buyers. Most buyers only want enough land to build or place a recreational dwelling on and

have a little elbow room. This usually amounts to about five acres. Most certainly, if 80 acres is the minimum lot size, the cost of the land along with the unwanted size and usual inaccessibility of most of the land would all greatly reduce speculation.

Fifthly, a significant amount of the written and public testimony also tends to support a larger minimum lot size than presently in effect. Letters from Steve Corey (a livestock rancher), Boise Cascade (a timber industry) and from the Bureau of Indian Affairs and Tribal Planners of the Umatilla Indian Reservation all indicate that an 80 acre minimum lot size would be acceptable and would protect forest lands for forest uses. (See attachments at end of chapter for letters submitted). Also, several other livestock ranchers interviewed were agreeable to this minimum lot size--that it would protect grazing interests in the Grazing/Forest areas of the county.

Sixthly, watershed quantity and quality will be protected by the 80 acre minimum lot size standard and other plan policies. Department of Environmental Quality regulations and the Forest Practices Act remain as the main forms of water quality protection along with new stream bank protection policies assigned to any new development proposing locations near streams and lakes.

Concluding, the County feels that if new parcels of 80 acres or larger are permitted, they will conserve forest lands for most forest uses and will continue the existing commercial agricultural enterprises of the small inclusion areas devoted to agriculture.

The last important forest use not touched upon yet is the critical winter range lands found in the grazing/forest areas of Umatilla County. As part of the matrix review system, a special overlay zone and review process has been incorporated to

protect these lands. The specifics explaining the overlay zone and review process are explained in detail in Chapter D.

BIBLIOGRAPHY

1. Part I Comprehensive Plan of Umatilla County.
2. Interview with Larry Hoffman, State Forestry Department, June 1982.
3. Ibid of 1.
4. USDA, U.S. Forest Service, Elgin Planning Unit Final EIS, 1979.
5. Ibid of 3 and 1.
6. "The Forest Resources of Umatilla County, Oregon," State Department of Forestry, 1971.
7. Ibid.
8. Ibid.
9. Ibid.
10. Ibid of 4.
11. "Umatilla Economic Statement," East Central Oregon Association of Counties, 1979.
12. Ibid.
13. Ibid.

OPEN SPACES, SCENIC AND HISTORIC AREAS
AND NATURAL RESOURCES

INVENTORYING GOAL 5 RESOURCES [New]

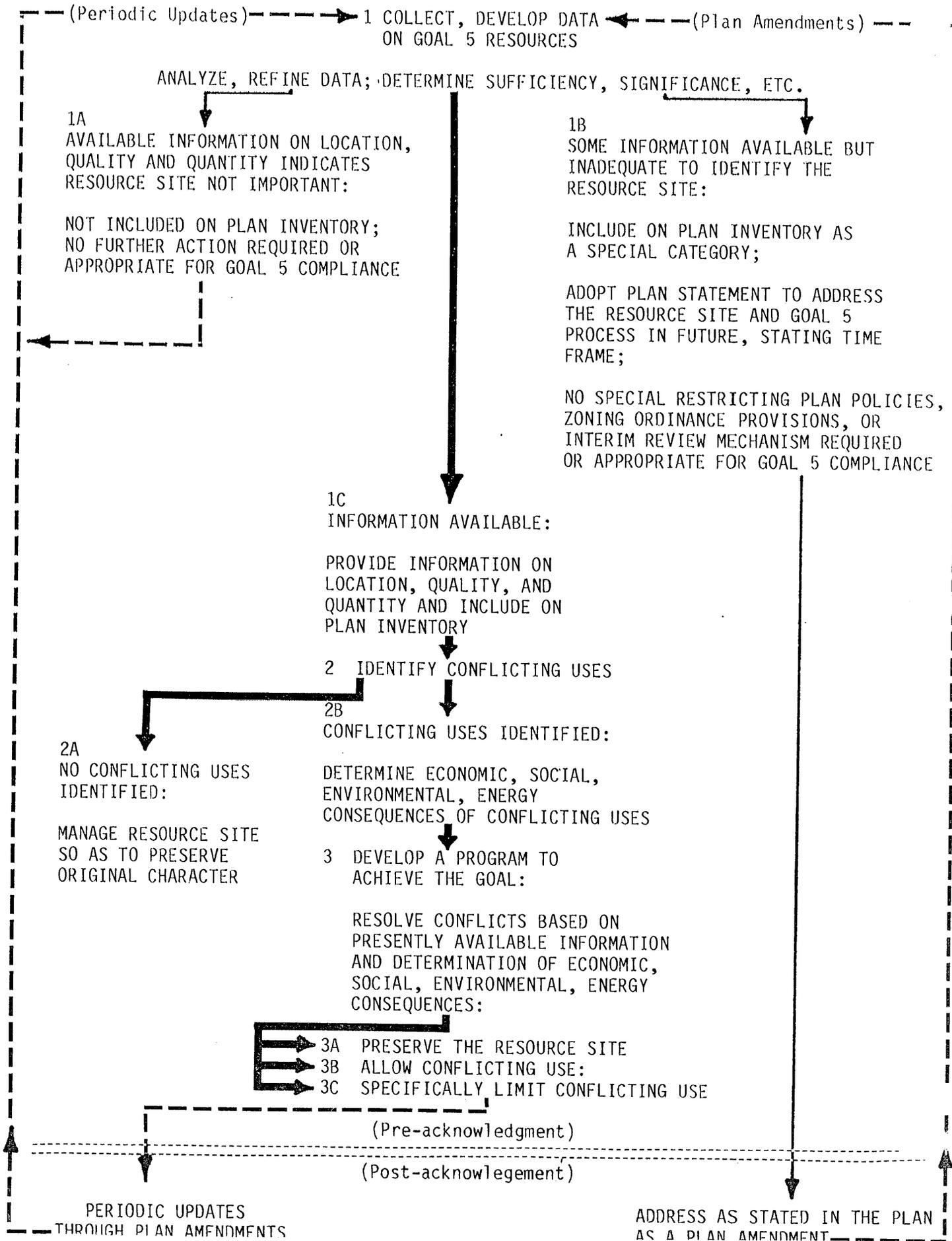
Existing and potential resources covered by this chapter were analyzed according to the required statewide land use Goal 5 process (OAR 660-16-000). Sites and resources were first reviewed to see whether or not they should be included as "valid" inventory. If so, uses that conflict or may conflict with the inventoried Goal 5 resource were identified. A conflicting use is one which, if allowed, could negatively impact a Goal 5 resource. Where conflicting uses have been identified Goal 5 resources may impact those uses as well. These impacts were addressed by analyzing economic, social, environmental and energy (ESEE) consequences.

Then, a determination was made to preserve the resource if no conflicts were evident; or if conflicts were present, to protect the resource, allow conflicting uses or to limit conflicting use, depending upon the importance of the resource and the specific circumstances. This Goal 5 process is shown on the diagram on page D- 2 .

LAND NEEDED OR DESIRABLE FOR OPEN SPACE

Open space is defined by Statewide Planning Goal 5 as "lands used for agricultural or forest uses, and any land area that would, if preserved and continued in its present use:

- (a) Conserve and enhance natural or scenic resources;
- (b) Protect air or streams or water supply;
- (c) Promote conservation of soils, wetlands, beaches or tidal marshes;
- (d) Consrve landscaped areas, such as public or private golf courses, that reduce air pollution and enhance the value of abutting or neighboring property;
- (e) Enhance the value to the public of abutting or neighboring parks, forests, wildife presrves, nature reservations or sancturaries or other open space;



(Periodic Updates) → 1 COLLECT, DEVELOP DATA ON GOAL 5 RESOURCES ← (Plan Amendments)

ANALYZE, REFINE DATA; DETERMINE SUFFICIENCY, SIGNIFICANCE, ETC.

1A AVAILABLE INFORMATION ON LOCATION, QUALITY AND QUANTITY INDICATES RESOURCE SITE NOT IMPORTANT:

NOT INCLUDED ON PLAN INVENTORY;
NO FURTHER ACTION REQUIRED OR APPROPRIATE FOR GOAL 5 COMPLIANCE

1B SOME INFORMATION AVAILABLE BUT INADEQUATE TO IDENTIFY THE RESOURCE SITE:

INCLUDE ON PLAN INVENTORY AS A SPECIAL CATEGORY;

ADOPT PLAN STATEMENT TO ADDRESS THE RESOURCE SITE AND GOAL 5 PROCESS IN FUTURE, STATING TIME FRAME;

NO SPECIAL RESTRICTING PLAN POLICIES, ZONING ORDINANCE PROVISIONS, OR INTERIM REVIEW MECHANISM REQUIRED OR APPROPRIATE FOR GOAL 5 COMPLIANCE

1C INFORMATION AVAILABLE:

PROVIDE INFORMATION ON LOCATION, QUALITY, AND QUANTITY AND INCLUDE ON PLAN INVENTORY

2 IDENTIFY CONFLICTING USES

2A NO CONFLICTING USES IDENTIFIED:

MANAGE RESOURCE SITE SO AS TO PRESERVE ORIGINAL CHARACTER

2B CONFLICTING USES IDENTIFIED:

DETERMINE ECONOMIC, SOCIAL, ENVIRONMENTAL, ENERGY CONSEQUENCES OF CONFLICTING USES

3 DEVELOP A PROGRAM TO ACHIEVE THE GOAL:

RESOLVE CONFLICTS BASED ON PRESENTLY AVAILABLE INFORMATION AND DETERMINATION OF ECONOMIC, SOCIAL, ENVIRONMENTAL, ENERGY CONSEQUENCES:

- 3A PRESERVE THE RESOURCE SITE
- 3B ALLOW CONFLICTING USE:
- 3C SPECIFICALLY LIMIT CONFLICTING USE

(Pre-acknowledgment)

(Post-acknowledgment)

PERIODIC UPDATES THROUGH PLAN AMENDMENTS

ADDRESS AS STATED IN THE PLAN AS A PLAN AMENDMENT

(f) Promote orderly urban development."

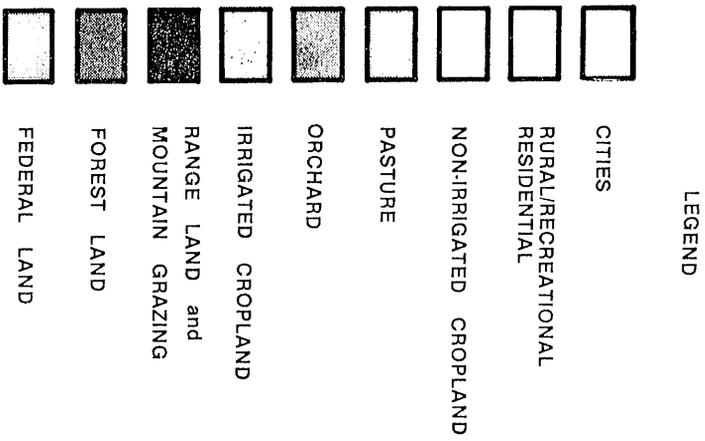
In a county such as Umatilla, which has a total area of 2,074,496 acres, with less than .02% of it urban or built-up, it is difficult to comprehend the need to preserve "open space." Yet, some measures are necessary to insure the maintenance of the quality of the open space environment now enjoyed in Umatilla County.

As noted in the above definition, lands on which agricultural and forest crops are produced provide a secondary use as open space. Of the 2.07 million acres that comprise the county's land base, over 95% is in crop, pasture, range and forest production (see Land Use Map, page D-4 and Table D-I). In addition, lands scattered among areas suitable for agricultural or forest uses, but not themselves suitable, such as scabland and sand dunes, also serve as open space. See the agricultural and forest sections of this report for a detailed analysis of those areas.

TABLE D-I
LAND-USES IN UMATILLA COUNTY

<u>LAND-USE</u>	<u>ACRES</u>	
Range	760,000	0.4
Cropland	700,000	
Forested	520,000	
Urban and Built-up	40,000	1.9
Pasture	36,000	
Lakes, River, and Streams	4,000	
<hr/>		
TOTAL AREA	2,060,000	

SOURCE: Soil and Water Conservation Needs Inventory, January 1971,
and U.S. Forest Service, 1979.



JANUARY, 1980

NOTE: This map is for illustration purposes only. For more detailed information please contact the Umatilla County Planning Department, Pendleton, Oregon.

EXISTING LAND USE

UMATILLA COUNTY, OREGON



Several culturally significant resources may need an open space designation for protection or enhancement. Geological, historical, and other natural scenic features require vision clearance. Wilderness areas, wild and scenic waterways, and significant natural areas need to remain undisturbed to insure proper results of experiments and observations; in this case, neighboring activities may disturb a natural area, and open space designation can be spelled out for both the area and its surroundings.

In areas needed for eventual conversion into a non-agricultural or non-forest use, an open space designation can help reduce economic costs and minimize incompatible land uses. Many examples of this can be cited. Extraction of sand and gravel resources can be blocked by development on, or immediately adjacent to, deposits. Identification of resource areas is difficult, limited now to noting existing extraction areas and some lands owned by extraction companies. Once identified, future protection areas will need designations of open space uses or readily removable, temporary interim uses, with sand and gravel extraction as the primary use, and post-extraction and uses delineated to better guide state reclamation requirements.

Industrial and energy facilities often require large areas of buffer land that will prevent conflicting land uses. Interim open space designation is appropriate for these sites. Hinkle-Feedville, Westland, and from the Port of Umatilla to Hat Rock State Park are interim open space areas to be preserved for land-extensive industries and their buffers. Specific inventories and management needs for various types of open spaces follow.

FISH AND WILDLIFE AREAS AND HABITATS

[This section (text and Tables D-II through D-XIV) is excerpted and adopted from the Fish and Wildlife Habitat Protection Plan for Umatilla County, prepared by the Oregon Department of Fish and Wildlife, June 1978

and revised by letter, June 16, 1982. ¹ ² Additional material provided by the Umatilla County Planning Department Staff.]

Introduction

Production of fish and wildlife is dependant on a quality environment. The production diminishes almost in inverse proportion to the level of indiscriminate land use activities affecting their habitat. The goals of fish and wildlife resource management is to maintain the highest possible level of fish and wildlife production in order to provide a variety of harvest opportunities by recreational and commercial uses. This means guiding the development of road, housing, and land clearing and general development activities to assure minimal impacts to the environment. With careful planning, protection of the fish and wildlife habitat can be accomplished while still permitting a wide range of land uses.

[Revised] It must be emphasized that few, if any, areas in the County are devoid of fish and wildlife and all areas are subject to land use impacts. However, certain habitats are of particular importance and so are designated as "sensitive." A sensitive habitat is a land or water area where sustaining the natural resource characteristics is important or essential to the production and maintenance of fish or wildlife. Thus, the designation of sensitive areas is designed to focus attention on particular areas, habitats and species that are especially sensitive to land use activities. As will be noted later, these sensitive habitats are categorized as "significant natural areas," "species occurrence areas" and "good habitat areas." Significant natural areas and species occurrence areas are generally so important and sensitive that some form of land use protection measures are warranted. The good habitat areas include valuable wildlife areas, such as critical deer and elk winter range. These areas may, depending on individual situations, require additional protection. These sensitive habitats will be addressed in more detail later in this chapter.

SPECIES	RELATIVE ABUNDANCE
<u>WATERFOWL:</u>	
Mallard	Few
Gadwall	Common
Pintail	Few
Green-wing teal	Abundant
Blue-wing teal	Common
Cinnamon teal	Few
Widgeon	Few
Shoveler	Few
Wood duck	Few
Redhead	Few
Ruddy duck	Few
Common Merganser	Few
Coot	Common
Common Snipe	Common
<u>SHORE BIRDS:</u>	
Great blue heron	Few
Night heron	Common
Common egret	Few
American Bittern	Few
White pelican	Few
Ring-billed gull	Common
California gull	Common
Forester's tern	Common
Caspian tern	Common
Curlew	Few
<u>HAWKS AND OWLS:</u>	
Goshawk	Few
Sharp shinned hawk	Few
Cooper's hawk	Few
Swainson's hawk	Common
Red-tailed hawk	Common
Rough-legged hawk	Common
Ferruginous hawk	Few
Marsh Hawk	Common
Osprey	Few
Golden Eagle	Few
Bald Eagle	Few
Prarie falcon	Few
Peregrine Falcon	Few
Kestrel Hawk	Common
Merlin	Few
Screech owl	Common
Great horned owl	Few
Pygmy owl	Few
Burrowing owl	Few

SPECIES	RELATIVE ABUNDANCE
<u>HAWKS AND OWLS/cont'd:</u>	
Long-eared owl	Few
Barn owl	Few
Great grey owl	Few
Turkey vulture	Few
<u>REPTILES AND AMPHIBIANS:</u>	
Pacific pond turtle	Common
Western painted turtle	Few
Rattle Snake	Few
Rubber boa	Few
Ring-necked snake	Few
Blue racer	Few
Gopher snake	Common
Mountain king snake	Few
Garter snake	Common
Western collared lizard	Common
Leopard lizard	Few
Swift	Abundant
Blue-bellied lizard	Few
Pigmy horned lizard	Few
Desert horned lizard	Common
Western skink	Few
Oregon red-legged frog	Common
California yellow-legged frog	Common
Bullfrog	Common
Loepard frog	Common
Spotted frog	Common
North Western toad;	Few
Long-toed salamander	Common
Oregon newt	Few
<u>NON-GAME MAMMALS:</u>	
Short-tailed weasel	Few
Long-tailed weasel	Few
Yellow bellied marmot	Common
Hoary marmot	Few
Townsend ground squirrel	Few
Belding ground squirrel	Few
Columbia ground squirrel	Common
Golden mantled ground squirrel	Common
Townsend chipmunk	Common
Yellow pine chipmunk	Common
Heast chipmunk	Common
Chickaree	Common
Northern flying squirrel	Common
Ord kangaroo rat	Few
Dusky-footed woodrat	Common
Bushy-tailed woodrat	Common

It is not only important that sensitive habitats or species receive protection, but it is also important to consider impacts on land and water use on all habitats and species.

Wildlife Habitat

In Umatilla County there are twenty-six species of amphibians and reptiles, two hundred fifty-nine species of birds and eighty-nine species of mammals (see Table D-II for a detailed list).

All forms of wildlife require specific kinds of habitat (food, water and cover) in order to maintain themselves. The key to maintaining wildlife in Umatilla County is the retention of as much cover as possible through wise land use planning. For wildlife, the most important land classifications are agriculture, forestry, open space and hazardous floodplain. Due to the importance of fish and wildlife to Umatilla County for both consumptive and non-consumptive uses, fish and wildlife need to be considered as acceptable uses in these major land use classifications.

Hunting of big game, upland game and waterfowl provided 226,000 days of recreation in Umatilla County during 1981. Associated with these recreational days are hunter expenditures of around \$8.8 million. Some unknown proportion of these expenditures were made in Umatilla County. Also associated with the days of hunting are net benefits (hypothetical access charge) to hunters of about \$5 million. In addition to the hunting recreational days, the wildlife resource in Umatilla County also provided many additional days of recreation for the non-consumptive user for activities such as photography, bird and animal viewing, and nature study activities.

Although not as important as recreational hunting, trapping and furbearer hunting provided some 1500 days of activity and yielded a harvest of pelts worth approximately \$27,600 at first sale.

TABLE D-II
 A PARTIAL LIST OF WILDLIFE SPECIES
 COMMONLY FOUND IN UMATILLA COUNTY

This list does not include non-game birds as they are too numerous to list here.

SPECIES	RELATIVE ABUNDANCE
<u>BIG GAME:</u>	
Rocky Mountain Elk	Common (East half)
Mule Deer	Abundant
White-tailed deer	Few
Pronghorn antelope	Few
Black bear	Few
Cougar	Few
<u>FURBEARERS:</u>	
Beaver	Common
Muskrat	Common
River Otter	Few
Mink	Few
Martin	Few
Coyote	Common
Redfox	Few
Bob cat	Few
Raccoon	Common
Spotted skunk	Few
Striped skunk	Few
Badger	Common
Porcupine	Few
<u>GAME BIRDS:</u>	
Bob white quail	Few
California quail	Common
Chukar partridge	Common
Hungarian partridge	Common
Turkey	Few
Ring-necked pheasant	Abundant
Blue grouse	Common
Ruffed grouse	Common
Mourning dove	Common
<u>WATERFOWL:</u>	
Whistling swan	Few
Canada Goose	Common
Snow Goose	Few

SPECIES	RELATIVE ABUNDANCE
<u>NON-GAME MAMMALS/cont'd:</u>	
Pika	Few
Pigmy rabbit	Common
Brush rabbit	Common
Mountain cottontail	Common
Eastern cottontail	Few
Snowshoe hare	Common
White tailed jackrabbit	Common
Black tailed jackrabbit	Common

SOURCE: Oregon Department of Fish and Wildlife, Fish and Wildlife Habitat Protection Plan for Umatilla County, June, 1978.

Big Game

A statewide Department of Fish and Wildlife goal is to protect habitat and manage big game so that it will provide for the optimum number of big game mammals. This will provide needed recreational opportunities, both consumptive and non-consumptive. Umatilla County not only provides wintering areas for summering animals found in Umatilla County, it also provides a wintering areas for big game animals which summer in parts of Wallowa, Union, Grant and Morrow Counties.

Deer, elk and bear are the major big game species in Umatilla County. The basic habitat requirements of big game mammals include food, water, cover and freedom from harrassment. These requirements are found in and adjacent to the forested and rangeland areas of Umatilla County.

Estimated population and average expenditures for big game are presented in Tables D-III and D-IV.

TABLE D-III

Estimated Big Game Populations in
Umatilla County, 1978

Species	Estimated Populations
Big Game:	
Rocky Mountain Elk	9,000
Mule Deer	18,500
White-tailed Deer	270
Pronghorn Antelope	60
Black Bear	150
Mountain Lion	25

During 1977, big game hunting in Umatilla County provided nearly 150,000 recreational days valued at over six million dollars (Table D-IV). Demand for big game hunting increases yearly.

TABLE D-IV

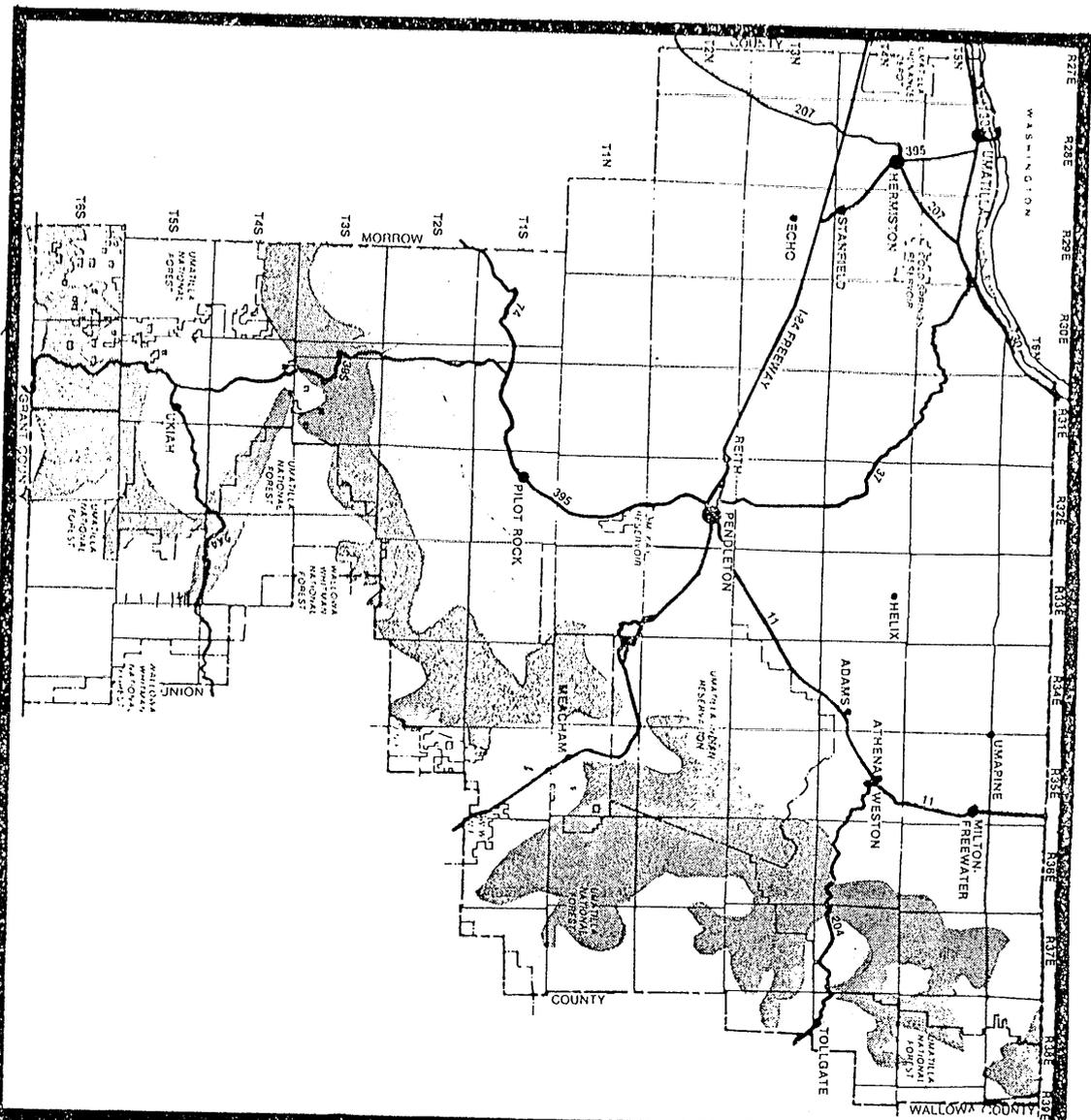
Average Expenditures on Big Game Resources
for One Year (1977) in Umatilla County

Species	Hunters	Recreational Days	Expenditures for One Recreational Day	Total Expenditure
Big Game:				
Rocky Mt. Elk	28,000	104,053	\$ 36.44	\$ 3,791,691.00
Mule Deer	10,043	42,212	49.90	2,106,378.00
Black Bear	620	3,181	55.23	175,686.00
Total:	39,043	149,446		\$ 6,073,755.00

The sensitive areas for big game are those lands essential to the survival of deer and elk during the critical winter periods (map, page D-14). They include gentle south facing slopes found in forested land types created naturally; by fire or by logging. Additional sites are found on grassy portions of drainages at low elevation. These areas are primarily in wood fiber production or agricultural use such as pasture lands. Examples of these areas are found on Cottonwood Creek, North and South Fork of Walla Walla River, Couse Creek, Wildhorse Creek, Umatilla River, Meacham Creek, McKay Creek, Birch Creek, Snipe Creek, Ownings Creek, Camas Creek, Bridge Creek and Butter Creek, to name a few.

[New] The Nature Conservancy has specifically noted four good habitat areas for big game; Upper Cottonwood Creek, Blalock Mountain and Flume Canyon, Bridge Creek and the south Fork of the Walla Walla River. Bridge Creek is already part of a state wildlife management area and the South Fork Walla Walla is located on BLM and County land (Harris Park) for which a management plan has been developed. The other two areas should be protected by a winter range overlay zone or similar zoning provisions (further discussions of these areas is found later in this Chapter).

The major land use conflict with big game mammals is the constant degradation of the land through developments such as single dwelling houses, roads and recreational homesites. This degradation is observed in the animal population as reduced carrying capacity and a decline in reproduction. The problem is not just the loss of land displaced by a house, road or multiple dwelling development; it is also the harassment associated with these activities. For example, a single dwelling density of one house per 40 acres on the McKay Creek deer winter range will reduce the carrying capacity of that range by twenty-five to fifty percent. However, if the housing density is maintained at one house per 160 acres, the carrying capacity is reduced by 0 to fifteen percent. See Table D-V for a more detailed list of acceptable and non-acceptable uses on sensitive wildlife habitats.



LEGEND

DEER
 DEER & ELK

0 6 12 18

MILES

0 4.8 9.6 14.4 24

KILOMETERS

SOURCE: Oregon Department of Fish and Wildlife, Mission Highway, Pendleton, Oregon 97801.

DEER & ELK WINTER RANGE

UMATILLA COUNTY, OREGON



Table D-V

SENSITIVE HABITAT AREAS	Compatible and Incompatible Land Uses										POTENTIAL FOR DAMAGE BY WILDLIFE	
	RESIDENTIAL DENSITIES	REDUCTION OF CARRYING CAPACITY	NONCOMPATIBLE USES	FENCE	VEGETATION CLEARING	ROADS	SPECIAL RESTRICTIONS	CONDITIONAL USE CONSIDERATIONS				
	Residence/Acre	(percent)	Rock pit Tree lot Drops at large landfills Water holes Open concrete canal Major highways Airports Grazing	No fence Livestock control 3 wire in bottom No woven wire	10% 20% 30% 50% more	Not with- in 50 yds. Not within 100 yds. No cutting of nest trees	Access only or new build Nov-Apr 04 Dec-Apr 04 None	No water fords No devel. within 1/2 mi. No devel. in meadow No devel. below high water	High Medium Low None			
Deer winter range Eastern Oregon	D	100 80 60 50 30 25 20 10 5	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X
Elk winter range Eastern Oregon	D	100 80 60 50 30 25 20 10 5	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X
Raptor nests	D	100 80 60 50 30 25 20 10 5	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X
Streamside veg.	D	100 80 60 50 30 25 20 10 5	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X
Meadows wet	D	100 80 60 50 30 25 20 10 5	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X
Bees & swamps	D	100 80 60 50 30 25 20 10 5	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X
Drainage way	D	100 80 60 50 30 25 20 10 5	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X	X X X X X X X X X

A = Acceptable level of development

X = This term applies.

D = Desirable level of development

/ = Range of reduction in carrying capacity

Source: Department of Fish and Wildlife, Fish and Wildlife Habitat Protection Plan for Umatilla County, 1978.

While corrective action attempts to resolve the present levels of conflicts between big game and other land uses, planning efforts must consider the impact of new homes and commercial developments on big game and game habitat. When new homes, agricultural crops and other developments are placed in areas that have strong populations of deer and elk, damage to gardens, ornamental shrubs and croplands will intensify. These conflicts are usually difficult and expensive to resolve, both in terms of loss to the landowner and loss of valuable game habitat.

[New] Each year the Department of Fish and Wildlife spends a substantial amount of money and staff time attempting to resolve perennial conflicts between big game and rural residents. Attempting to minimize future conflicts certainly will prove to be a cost-saving measure for ODFW. The state also spends considerable time and money each year to reduce elk and deer damage to crops and pasture land.

[New] The hunting of big game species is a major form of recreation in this county. As noted in Table D-IV, annually hunters become significant contributors to the local economy as well as substantial financiers of the Oregon Department of Fish and Wildlife. Because hunting and hunters are dependent on survival of the species, the economic consequences of not insuring adequate quantities of habitat would be very costly both locally and statewide. The general economic benefits associated with land use planning also can be considered as an economic consequence of limiting development in rural areas. Other resources besides wildlife benefit from a minimization of development. Also, facility and other potential development costs to taxpayers are reduced.

[New] If the conflicting uses were not allowed, it would cause financial hardship and possibly remove housing opportunity for resource uses. By not being permitted to construct a residence or accessory use on a specific site, the property owner may suffer a severe financial loss. However, if specific siting of structures were

possible which may preserve habitat but allow the use, the financial hardship would be reduced. Limiting farm uses would severely reduce agricultural production and perhaps withdraw valuable agricultural land from production. The current farming practices still maintain a sufficient amount of diversified vegetation for cover and food.

[New] Only a small portion of the actual conflicts associated with rural living and big game are documented by the Oregon Department of Fish and Wildlife. Browsing by deer and elk on ornamental vegetation is a most common nuisance. Dogs chasing big game is also common. These potential conflicts can be minimized by limiting uses in designated habitat areas. The negative social consequences of limiting residential densities in habitat areas means the desire to live in rural areas for many people will remain unsatisfied. Also, as mentioned under economic consequences, personal financial hardship may be a social as well as economic by-product of strict adherence to a prescribed regulation.

[New] The environmental consequences of limiting development are predominantly positive in that they preserve habitat areas. The elk and deer will have greater opportunities to flourish within an area of undisturbed habitat. The riparian corridors would not be intruded upon and the deer and elk could move from one habitat type to another freely. The deer and elk would have greater access to water areas, especially during dry summer months. In addition, other game and nongame wildlife would have opportunities for use of the habitat.

[New] The energy consequences of limiting development should be entirely positive. Trip generation associated with development located in remote parts of the county will be minimized by density and development restrictions. As a result, development will occur closer to cities and services for which specific trips are often made and thus energy is often used.

[New] The consequences of establishing requirements which limit development and

residential density in specified big game habitat areas should prove generally to be an overall benefit not only to big game and the ODFW but also to the environment, the economy, and to the goal of conserving energy. Provided a provision for extenuating circumstances in conjunction with review by ODFW is included, the benefits of limiting development and residential density in specified habitat areas is warranted.

[New] No limitation should be placed on current agricultural practices other than maintaining a minimum lot size which will minimize big game harassment and providing streambank setbacks for riparian vegetation protection.

Upland Game Birds

A State Department of Fish and Wildlife goal is to protect existing agricultural, range and forest habitats and manage upland game in a manner to provide for optimum numbers of upland game birds. This will provide for needed recreational opportunities, consumptive as well as non-consumptive.

Seven upland game bird species are found in Umatilla County. Three basic habitat types provide the food, water and cover requirements. It is important to note that in many areas these three habitat types are intermixed and that all seven species or birds can be found utilizing the same area.

(1) Lowland Farmlands

This habitat type is utilized mainly by pheasants, quail, and mourning doves. The habitat type includes dry land and irrigated land intermixed with wet meadows; riparian zones along watercourses; pasture land; brushy fence rows; and woodlots and brushy draws. The key habitat requirement is cover for nesting, hiding and protection from winter weather. Actions that have reduced the available cover for these species are: (a) removal of riparian habitat through

overgrazing or more efficient farming methods; (b) removal of roadside and fence row cover; (c) loss of cover from aerial application of chemicals on agricultural crops (spray drift); and (d) spread of residential home developments into productive agricultural farmlands.

(2) Upland Range Lands

This habitat type is utilized by the Hungarian partridge and chukar partridge and can be defined as open range land associated with brushy draws, rock talis slopes and canyon rim rock. These species are seed, grass and insect feeders and will generally maintain themselves at high levels when sound rangeland management is applied to the land.

(3) Forest Lands

This habitat type is utilized by both the ruffed and blue grouse and can be defined as forested lands associated with brushy draws, dense stands of timber and open grassy slopes. Not a great deal is known about managing habitat to increase grouse populations. Maintaining a wide variety of vegetative types appears to be important. Seed and fruit bearing plants should be protected during forest and woodlot operations. Riparian zones along all watercourses should be maintained.

Umatilla County, like most of eastern Oregon, has experienced a substantial reduction in upland game bird species. Reasons for this are varied and complex. Factors causing the decline include destruction of habitat, chemical manipulation of insect, and vegetation and predator increases (mainly domestic dogs and cats).

Estimated populations and average expenditures for upland game are presented in Tables D-VI and D-VII.

TABLE D-VI

Estimated Upland Game Population
in Umatilla County, 1978

Species	Estimated Population
Upland Game:	
Ring-necked Pheasant	48,000
Valley Quail	31,000
Ruffed Grouse	3,000
Blue Grouse	4,800
Chukar Partridge	16,000
Hungarian Partridge	5,000
Mourning Dove	29,000

In 1977, upland game hunting provided over 90,000 recreational days valued at over one million dollars (Table D-VII).

TABLE D-VII

Average Expenditures on Upland Game Resources
for One Year (1977) in Umatilla County

Species	Hunters	Recreational Days	Expenditures for One Recreational Day	Total Expenditures
Upland Game:				
Ring-necked Pheasant	8,340	43,455	\$ 11.95	\$ 507,337
Valley Quail	2,827	16,126	11.95	192,705
Grouse	2,136	14,437	11.95	172,522
Chukar Partridge	1,517	6,142	11.95	73,396
Hungarian Partridge	861	3,386	11.95	40,462
Mourning Dove	1,464	7,628	11.95	91,154
TOTAL	17,145	90,174		\$1,007,579

Specific sensitive habitat areas for upland game birds are difficult to identify on a map due to the diversity of habitat requirements and the large land area within the county that is considered productive habitat. As a general rule

the following habitat should be maintained wherever possible:

1. Riparian zone along all watercourses.
2. Brushy cover associated with wet medadows or woodlots.
3. Sagebrush land in draws that are untillable for farming.
4. Cover associated with irrigation ditches.
5. Brushy roadside cover and fence row cover.

Upland game bird populations are affected whenever agricultural, range or forested lands are taken out of production through urban expansion, road construction, industrial development and other land clearing activities.

[New] Table D-VII indicates that over a million dollars a year is spent by upland game hunters in Umatilla County. Thus, any decrease in upland bird hunting would result in less expenditures. Most upland birds survive and in fact prosper in agricultural and rural residential areas. But increased clearing of brush, fence lines and riparian areas would reduce habitat. House pets can disturb birds, raid nests and kill chicks.

[New] Very little energy consequences can be imagined because of protection of upland bird habitat since no general change of land use pattern is necessary.

[New] The environmental consequences of the upland bird protection is positive in that some natural habitat will be preserved. Habitat is really only lost when urban expansion, road construction, industrial development and other such intensive land use activities occur. Maintenance of fence and roadside cover and riparian zone setbacks would seem to be the most useful policies for preservation of upland bird populations.

Waterfowl

The Oregon Department of Fish and Wildlife goals include preventing further destruction of waterfowl habitat by protecting existing habitat, retaining wet lands and lands adjacent to water areas and providing for needed recreational opportunities, both consumptive and non-consumptive.

Nesting, feeding and resting areas are definite habitat needs for waterfowl. Nesting is the most critical activity in late spring and early summer. Marsh areas, irrigation canals, lakes and slow moving streams with brushy banks provide important nesting habitat for mallards, Canada Geese, teal, pintails, and wood ducks. During the late fall and early winter, large populations of birds that nest in Canada and Alaska migrate into Umatilla County to winter. Areas that have large bodies of standing water with food nearby provide ideal resting and feeding areas needed for maintaining waterfowl populations.

Estimated populations and average expenditures for waterfowl are presented in Tables V-III and D-IX.

TABLE D-VIII
Estimated Waterfowl Populations
In Umatilla County, 1977

Species	Estimated Populations	
	Summer	Winter
Waterfowl:		
Whistling Swan		200
Canada Geese	200	15,000
Mallards	1,100	45,000
Pintails	170	18,000
Widgeon		6,000
Blue-winged Teal	500	
Green-winged Teal	150	5,000
Cinnamon Teal	150	
Redhead Duck	85	200
Shoveler	50	3,000
Canvas Back		300
Coots	200	2,500
Common Merganser	50	250
Wood Duck		50

In 1977, waterfowl, coot and snipe hunting provided over 32,000 recreational days valued at over \$489,000 (Table D-IX).

TABLE D-IX

Average Expenditures on Waterfowl Resources
for One Year (1977) in Umatilla County

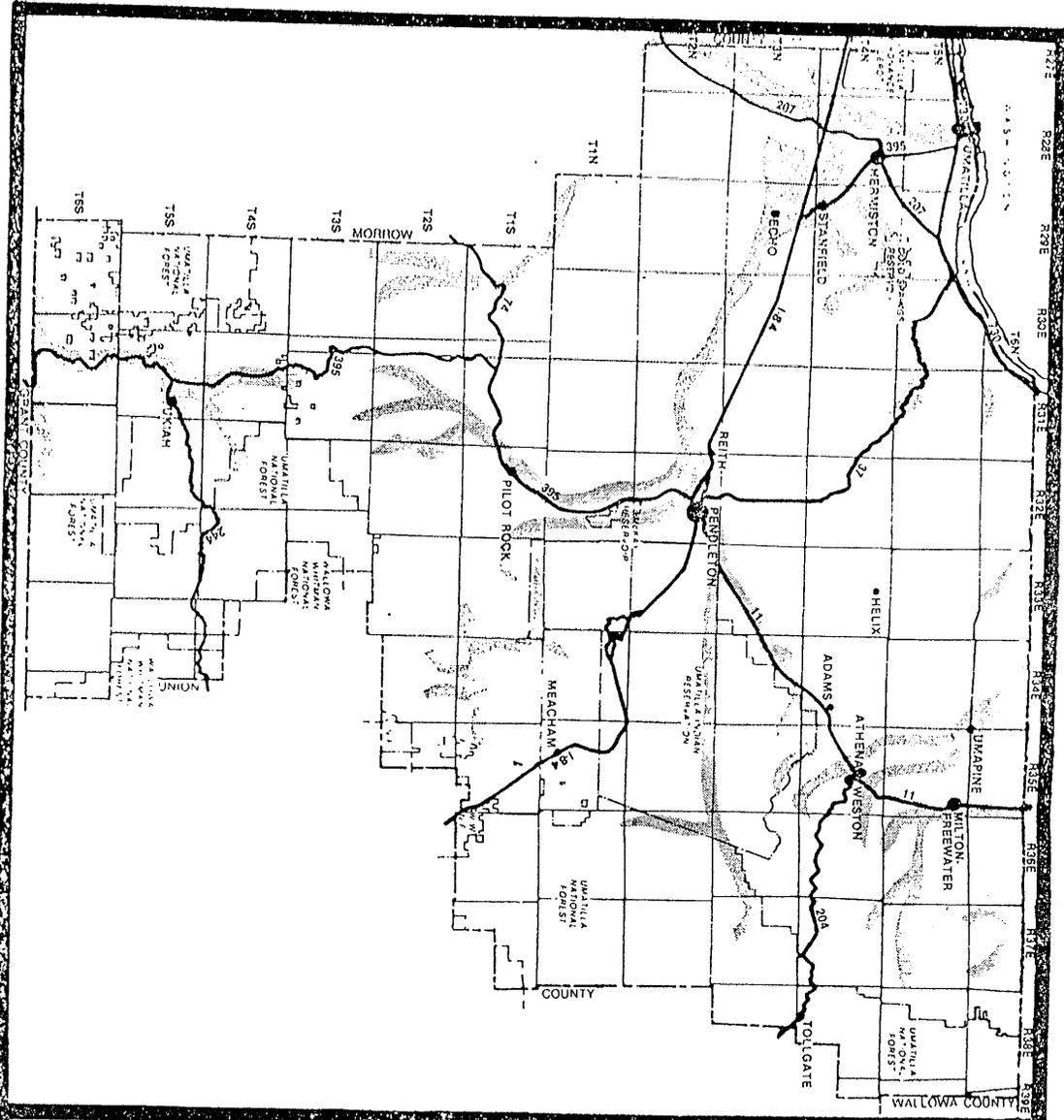
Species or Groups	Hunters	Recreational Days	Expenditures for One Recreational Day	Total Expenditure
Waterfowl:				
Ducks	2,108			
Geese	657	32,053	\$15.27	\$489,449.00
Snipe	45			
Coots	328			
Totals	3,138	32,053		\$489,449.00

Sensitive areas have been mapped for waterfowl and are indicated on the map on page D-24. These lands are wet during most of the year and provide both wintering area and important nesting habitat. They include the following:

1. Columbia River and associated sloughs and potholes
2. Umatilla River
3. Umatilla Meadows near Echo
4. Walla Walla River
5. McKay and Cold Springs Reservoirs
6. Small streams, lakes and potholes scattered throughout the county
7. All irrigation ditches in the county

[New] The Nature Conservancy has noted two specific good habitat areas for waterfowl and shore birds. These are the McNary Potholes and the Irrigon Wildlife Management Area. Part of the McNary Potholes area is within a state wildlife preserve; some of the rest of the area should be given additional protection. All of the Irrigon area is already under the management of state and federal wildlife agencies. (These areas are discussed further later in this chapter.)

Waterfowl nesting habitat is shrinking in Umatilla County. One reason is because wet areas have little agricultural use and can be easily converted by industry to industrial sites through filling or diking out the water. Examples of this can be found along the Columbia, Umatilla and Walla Walla Rivers. Other conflicts include conversion to farmland, home developments and human activities adjacent to wet marshy areas.



WATER FOWL & FURBEARER HABITAT

LEGEND

SOURCE: FISH AND WILDLIFE HABITAT PROTECTION PLAN FOR UMATILLA COUNTY, Oregon Department of Fish and Wildlife, Pendleton OR, June 1978

WATERFOWL & FURBEARER HABITAT UMATILLA COUNTY, OREGON



Furbearers and Hunted Non-Game Wildlife

A Department of Fish and Wildlife goal is to protect habitat to provide optimum numbers of furbearing and non-game animals for recreational and aesthetic opportunities while still keeping land use conflicts to a minimum.

These animals include both aquatic forms such as beaver, muskrat, otter and mink, and terrestrial forms such as coyote, bobcat, raccoon and skunk. They have a wide variety of habitat needs including brushy streams, wetlands, and various types of range and forest lands.

Estimated populations and average expenditures for furbearers and some commonly hunted non-game wildlife are found in Tables D-X and D-XI.

TABLE D-X
Estimated Furbearers and Certain Non-game Wildlife
Populations in Umatilla County, 1977

Species	Estimated Populations
Beaver	900
Muskrat	2400
River Otter	20
Mink	800
Marten	80
Coyote	4600
Red Fox	20
Bobcat	175
Raccoon	300
Spotted Skunk	250
Striped Skunk	300
Badger	100
Rabbits and Hares	60,000

Trapping and hunting of furbearers during 1977 provided 5,300 recreational days valued at over \$63,000 (Table D-XI). 1978 data indicates a harvest in fur worth approximately \$32,000.

TABLE D-XI
Average Expenditures on Furbearers Resource
for One Year (1977) in Umatilla County

Species	Recreational Days	Expenditures for One Recreational Day	Total Expenditures
Beaver			
Muskrat			
Mink	1,300	\$11.95	\$15,535
Badger			
Raccoon			
Skunks			
Coyote	1,500	11.95	17,925
Rabbits and Hares	<u>2,500</u>	11.95	<u>29,875</u>
Totals	5,300		\$63,335

Portions of the sensitive habitat areas outlined for big game, upland game and waterfowl should be considered as sensitive habitat for both furbearers and non-game wildlife.

Conflicts between these animals and other land use are minimal in the county. Loss of habitat occurs when any kind of development occurs in the riparian zone (map on page D-24).

Other Non-Game Wildlife

Umatilla County contains some rather small but important populations of wildlife that need special considerations due to their limited numbers, special habitat requirements and the adverse effects created by human activities.

Included in this group are the eagles, falcons, hawks, herons, and owls. Two basic requirements for these predator-type birds are: (1) they need large trees or rocky cliffs for nesting; (2) this group of birds are hunters and will not tolerate human disturbance around the nest site. Due to the sparcity of large

trees and the poor distribution of existing trees in the agricultural and rangeland portions of the county, it is of great importance to maintain these wherever possible.

The long-billed curlew which is found in western Umatilla County is experiencing a reduction in nesting habitat (see Table D-XII). This loss is due to the converting of sagebrush and cheatgrass type rangelands to irrigated circles for the production of wheat, potatoes, sugar beets and alfalfa.

One of the most important values of non-game wildlife is the non-consumptive use these forms provide. Numerous hours of bird watching, photography, nature studies, etc., are spent on non-game wildlife. It is estimated that two-thirds of all wildlife use is non-consumptive. A 1974 survey showed that during a one-year period in Oregon an estimated 719,000 people watched birds or other wildlife; 688,000 fed birds, and 245,000 put up bird houses or nest boxes. The importance of non-game wildlife cannot be over emphasized. Parks are extremely important, particularly in urban areas, because they provide the habitat for small non-farm mammals and birds.

The land use conflicts listed previously in the text for big game, upland game, and waterfowl also affect non-game wildlife since they are found throughout the same habitat. In addition, land use activities in the urban setting that eliminate open space, surface water, and riparian vegetation are detrimental to non-game wildlife.

Wetlands and Riparian Vegetation Corridors [New]

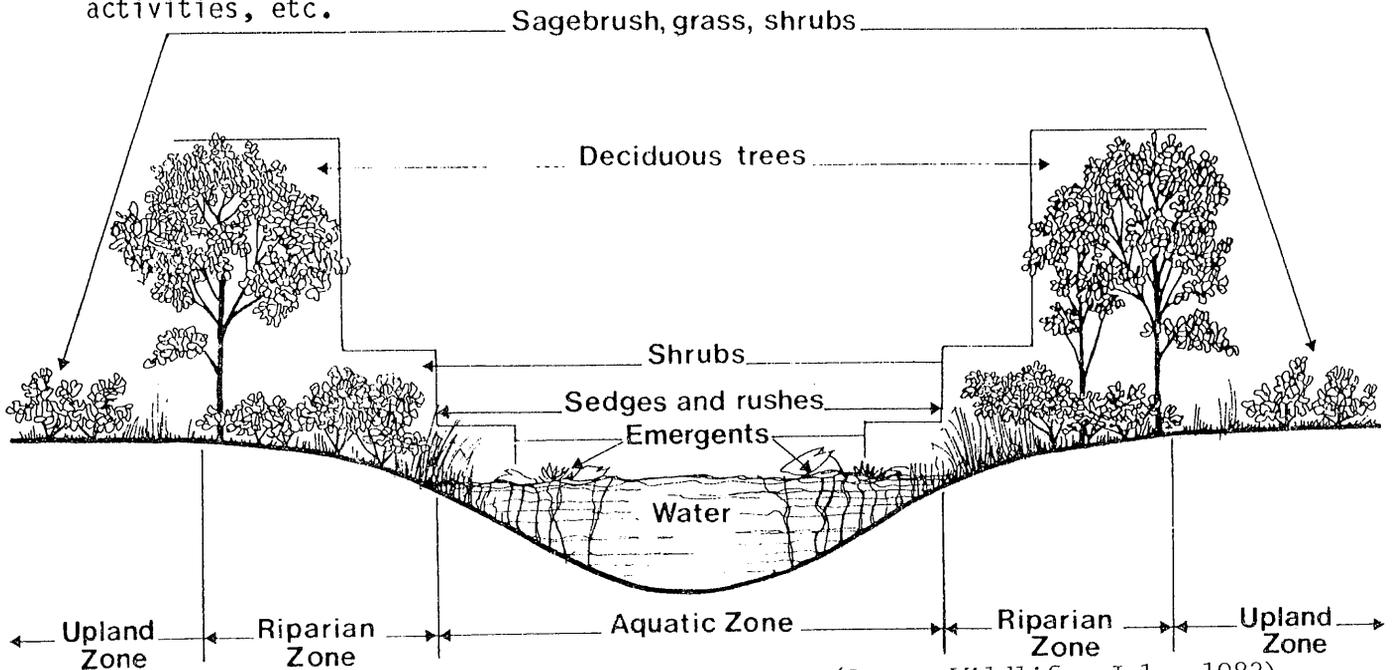
As just discussed , the basic habitat for waterfowl, furbearers and much of the non-game wildlife is wetlands or streambanks. Therefore, these areas need to be reviewed in some detail and the Goal 5 process applied.

Riparian Vegetation Corridors Along Rivers and Streams [New]

At the present time, a map of specified riparian vegetation corridors in Umatilla County is not available. However, the Oregon Department of Fish and Wildlife generally considers all riparian vegetation located within 50 feet of a streambank and important habitat. The location of a perennial and intermittent streams in Umatilla County are shown on State Department of Water Resources maps for the Umatilla and John Day River drainage basins.*

Particularly sensitive habitat areas have been mapped by OSDFW as shown on the map on page D-24. The quality of riparian vegetation in these areas is generally good which enhances shoreline stability and water quality and provides excellent habitat for fish and wildlife.

For those areas classified as important riparian vegetation corridors, Umatilla County employs most if not all of its present land use classifications. With these land use classifications, certain activities, if allowed, could permanently alter riparian vegetation. Such activities include structural development such as single-family dwellings, commercial and industrial buildings, recreational activities, etc.



(Oregon Wildlife, July, 1983)

* Note that the Walla Walla River drainage is considered a sub-basin of the Umatilla River drainage basin.

Although dollar figures are not available, it is estimated that a substantial amount of money is spent each year attempting to resolve conflicts from locating structural development in riparian vegetation corridors. The major conflict centers on the removal of riparian vegetation which reduces fish and wildlife habitat and endangers adjacent development through streambank erosion and flooding. In many areas loss of riparian vegetation has caused excessive erosion depleting agricultural land and damaging residential structures. This loss is incurred by the property owner as well as local jurisdictions involved.

Given the importance of the riparian vegetation, it would appear that regulating structural development in such areas would be economically beneficial.

Although the benefits of conserving riparian vegetation appear to be great, as shown in the economic consequences, a conflict arises when attempting to regulate riparian vegetation in nonresource areas. In many designated residential, industrial and commercial areas, existing development is located well within the riparian vegetation corridor. Land in such areas is at a high demand and is usually purchased at a good price due to river frontage and view. Although regulating development could conserve riparian vegetation, a hardship may be incurred by a property owner desiring to build in the riparian corridor. If construction is prohibited on prime river frontage, the property owner could experience a substantial decrease in property value, not to mention a significant change in personal desires. These hardships would be magnified if adjacent development had already occurred within the riparian corridor. In many cases, regulating the development in such areas would not conform to existing land use patterns.

A positive social consequence of conserving riparian vegetation would include the protection of property from flood hazards. Given that most riparian vegetation corridors are located well within designated floodplain areas, regulating development would help reduce hazards associated with flooding.

The environmental consequences of limiting structural development in riparian vegetation corridors is positive. By limiting development, erosion is reduced which increases habitat protection and helps to maintain water quality.

The energy consequences of limiting structural development in riparian vegetation corridors is also positive. By protecting riparian vegetation, less energy will be spent trying to rectify erosion problems.

Excluding some areas presently designated for future development in the County's Comprehensive Plan, it appears that regulating structural development in riparian vegetation corridors would have a positive effect on conserving fish and wildlife habitat and maintain streambank suitability. Maintaining a 50- or 100-foot stream setback would also permit better stream pollution control and preserve natural visual amenities. Therefore, in order to conserve riparian vegetation corridors the County should develop streambank setbacks within all or most zoning designations for structures and sewage disposal installations.

Significant Wetlands [New Section]

There are a number of areas in Umatilla County that are considered by OSDFW as good wetland habitats. The waterfowls and furbearer habitat map, page D-24, shows the areas in a general manner. The maps on the following pages and Table D-XI(a) show those areas which are particularly important and should be acknowledged as such.

TABLE D-XI (a)
SIGNIFICANT WETLANDS INVENTORY

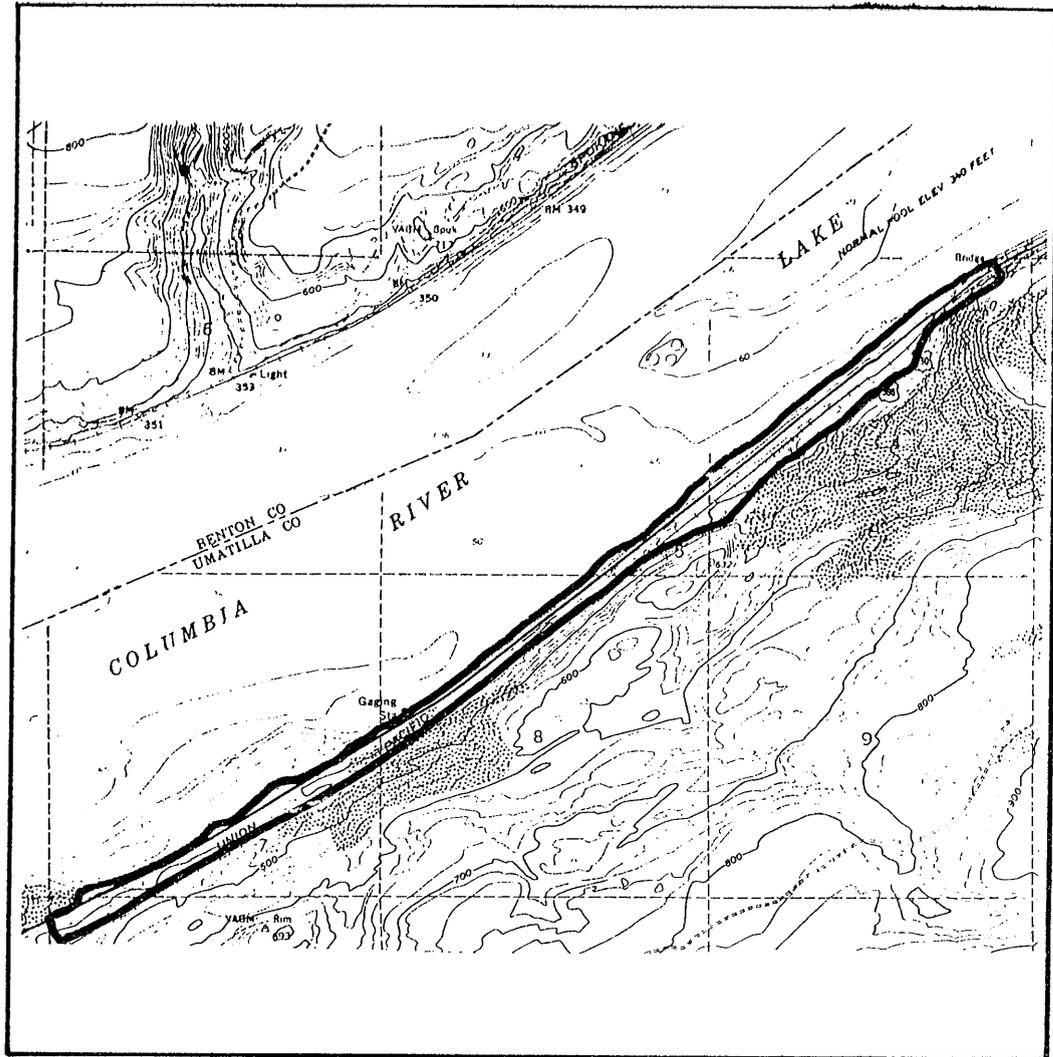
<u>Inventory Map Page</u>	<u>Township/ Range</u>	<u>Sections</u>	<u>Type/Name</u>	<u>Goal 5 Analysis</u>
D-32	6N 30	4,5,7,8	Lake Wallula (McNary Pool)	3A/1A
D-33	6N 34	13	Mud Creek Springs	3C
D-34	6N 34	18	White Reservoir	3C
D-35	6N 34	22,23	Swartz Creek	3C
D-36	6N 34	25,26	Pine Creek; Dry Creek	3C
D-37	6N 35	13	Grandview Ponds	3C
D-38	5N 27	13,14	Lake Umatilla (John Day Pool)	3C
D-39	5N 28	13,15,19, 22-26	"McNary Potholes"	3C
D-40	5N 28	13,14	"McNary Potholes" (North)	3B
D-41	5N 28	22	Power City Wildlife Area	3A
D-42	5N 28	32,33	Pond, swamp	3C
D-43	5N 29	13,14	"Dodd's Pond"	3C
D-44	5N 29	22	Drainage area	3C
D-45	4N/5N 29/30	---	Cold Springs National Wildlife Refuge	3A/1A
D-46	4N 28	33,34	"Mann's Pond"	3C
D-47	4N 28	35	Ponds	3C
D-48	4N 29	11	"Britt's Pond"	3C
D-49	3N 27	1,2,3,	Ponds, swamps	3C
D-50	3N 27	10	Lost Lake	3C
D-51	3N 28	1,2,11,12	"Echo Meadows"	3C
D-52	3N 29	5	Water-filled rock pit	3C
D-53	3N 29	21,22,27	Spring-fed swamp	3C
D-54	1N/2N 32	---	McKay Creek National Wildlife Refuge	3A/1A
D-55	1S 35	9	Meacham Lake	3C
D-56	4S 30	9-16	"The Big Pot" (Gurdane)	3C
D-57	4S 32	19	Albee area	3C
D-58	5S 31	13,14, 15,23	Camas Creek drainage	3C

INVENTORY
SIGNIFICANT WETLANDS

MAP: D-32

AREA: Lake Wallula (McNary Pool)

T/R: T6N R30 EWM; Sections 4, 5, 7, 8



Wetland Area  = Corps Taking Line

Map Source: U.S.G.S.

Plan Designation: County = EFU; Corps = Moderate Fish & Wildlife Management

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: None significant

Goal 5 Analysis: 3A/1A; Protect the Resource Site/No County Jurisdiction

Management Program: Wildlife management by Corps of Engineers

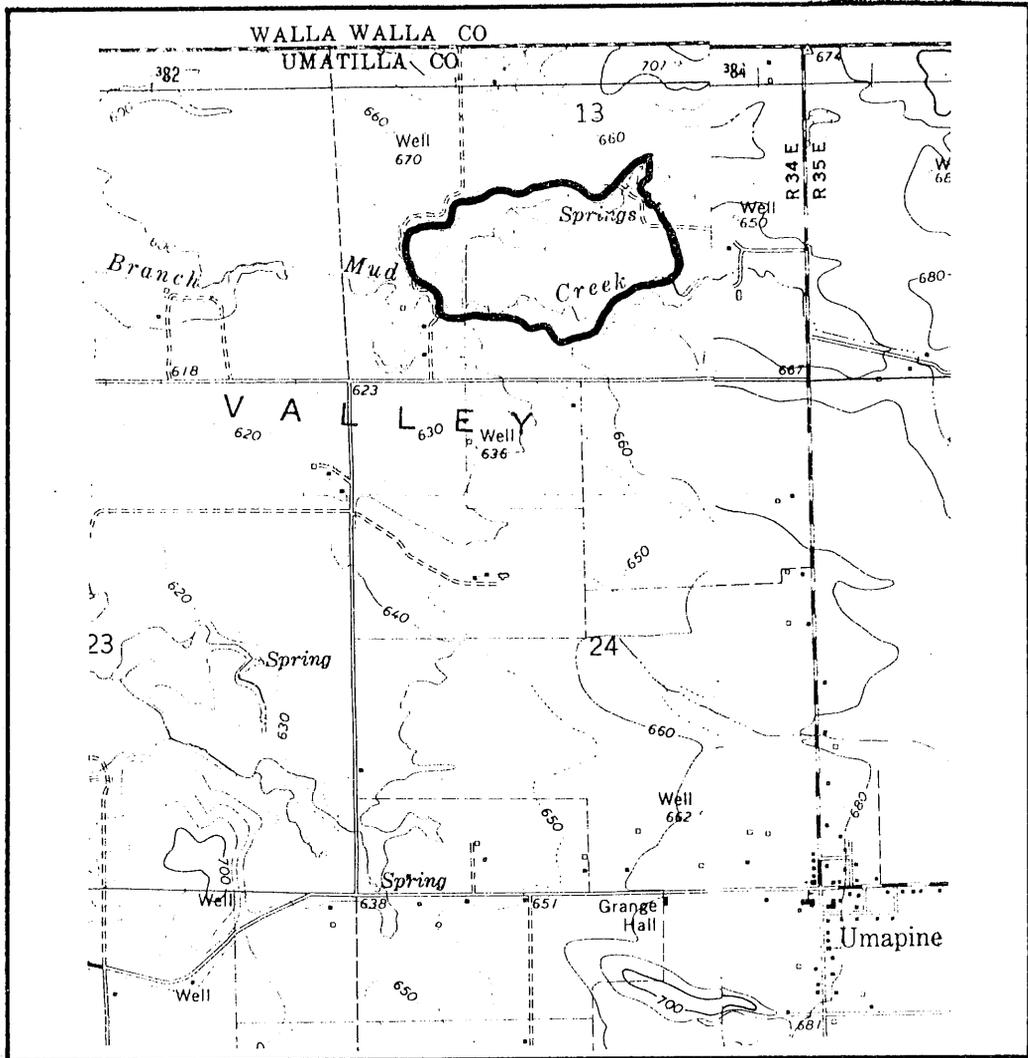
(see McNary Master Plan, 1982)

INVENTORY
SIGNIFICANT WETLANDS

MAP: D-33

AREA: Mud Creek Springs

T/R: T6N R 34 EWM; Section 13



Wetland Area  (Exact boundaries may require site inspection)

Map Source: U.S.G.S.

Plan Designation: Agricultural

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: Some farming activities (draining wetlands; feedlots, lack of soil conservation practices).

Goal 5 Analysis: 3C; Limit Conflicting Uses

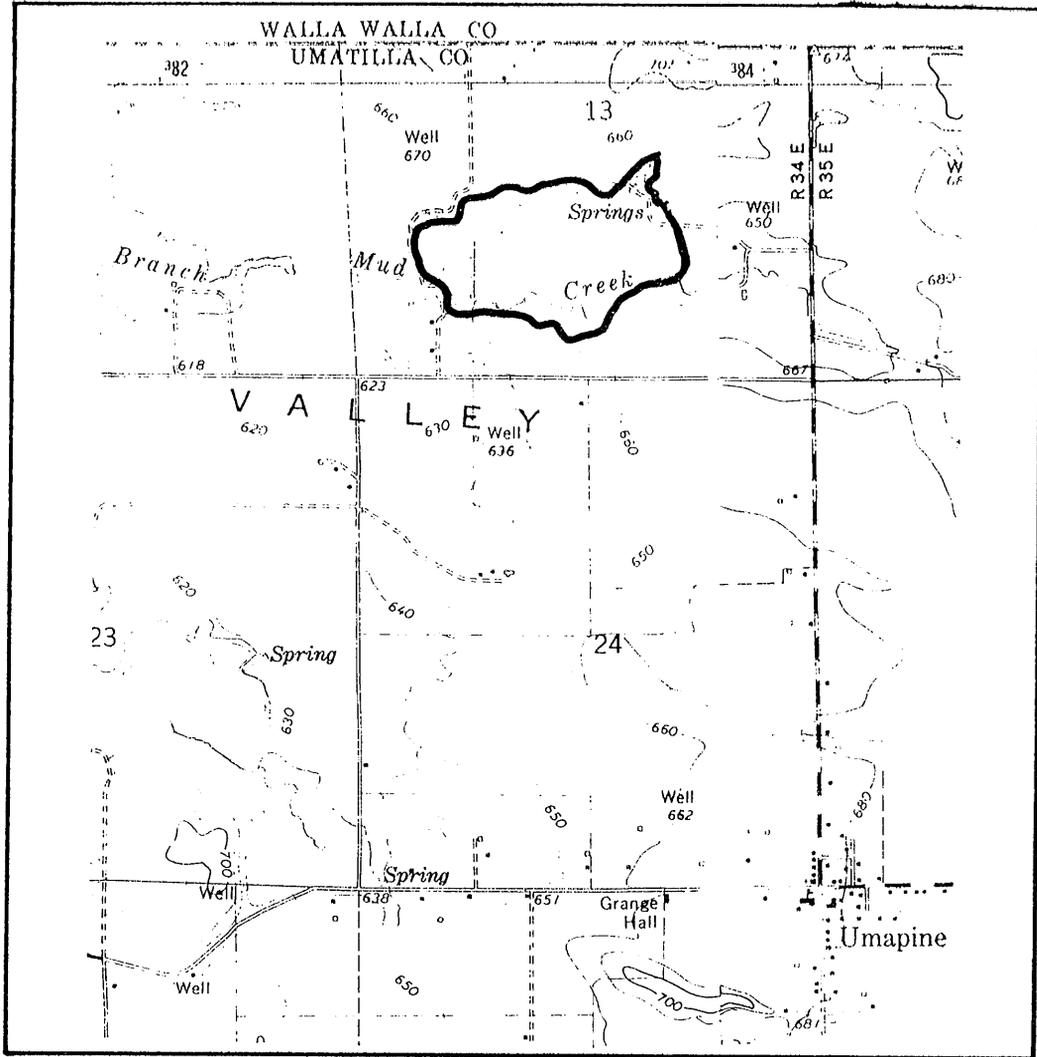
Management Program: Plan and zoning limit conflicting uses; 100 foot setback from wetlands and streams required for structures and sewage disposal installations.

INVENTORY
SIGNIFICANT WETLANDS

MAP: D-33

AREA: Mud Creek Springs

T/R: T6N R 34 EWM; Section 13



Wetland Area  (Exact boundaries may require site inspection)

Map Source: U.S.G.S.

Plan Designation: Agricultural

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: Some farming activities (draining wetlands; feedlots, lack of soil conservation practices).

Goal 5 Analysis: 3C; Limit Conflicting Uses

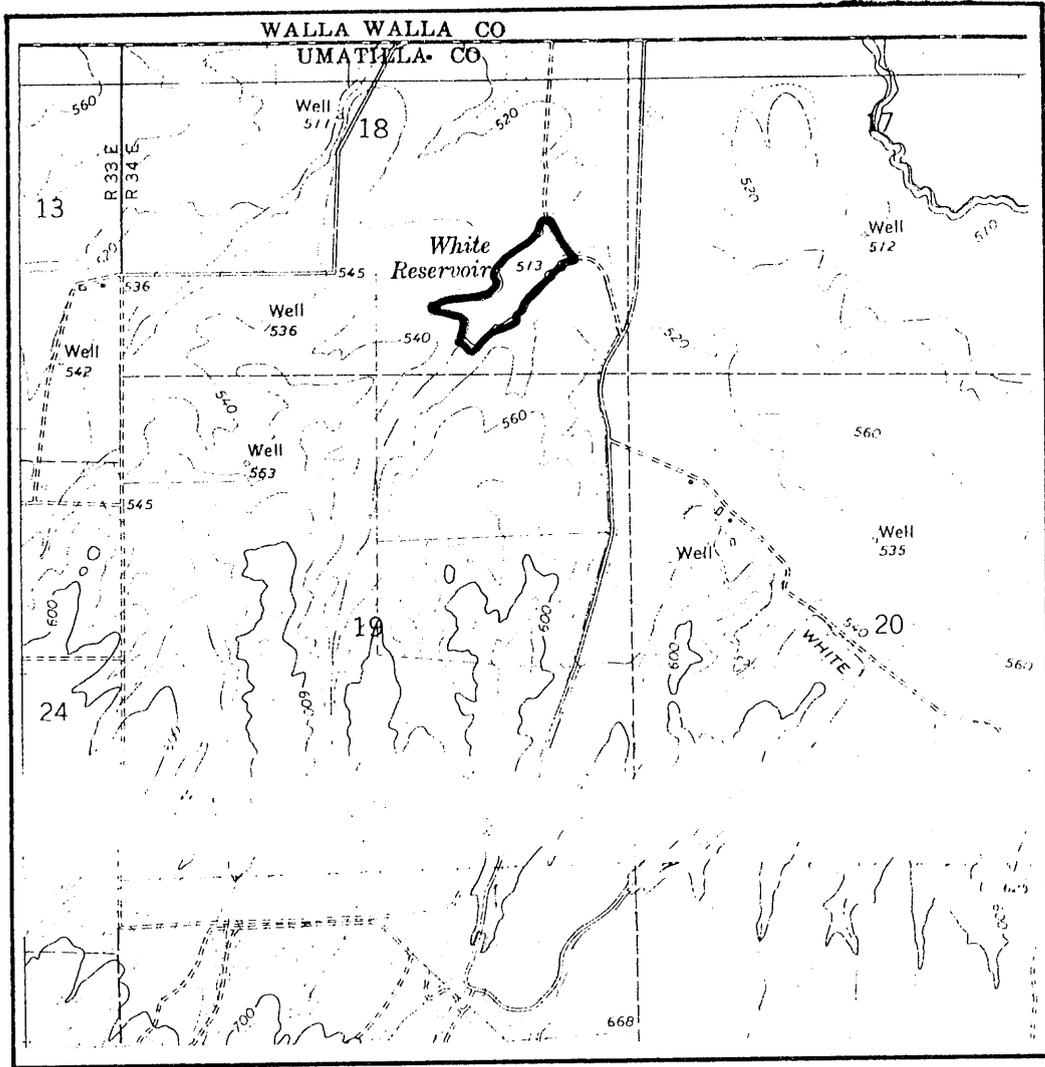
Management Program: Plan and zoning limit conflicting uses; 100 foot setback from wetlands and streams required for structures and sewage disposal installations.

INVENTORY
SIGNIFICANT WETLANDS

MAP: D-34

AREA: White Reservoir

T/R: T6N R34 EWM; Section 18



Wetland Area  (Exact boundaries may require site inspection)

Map Source: U.S.G.S.

Plan Designation: Agricultural

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: Some farming activities (draining wetlands; feedlots, lack of soil conservation practices).

Goal 5 Analysis: 3C; Limit Conflicting Uses

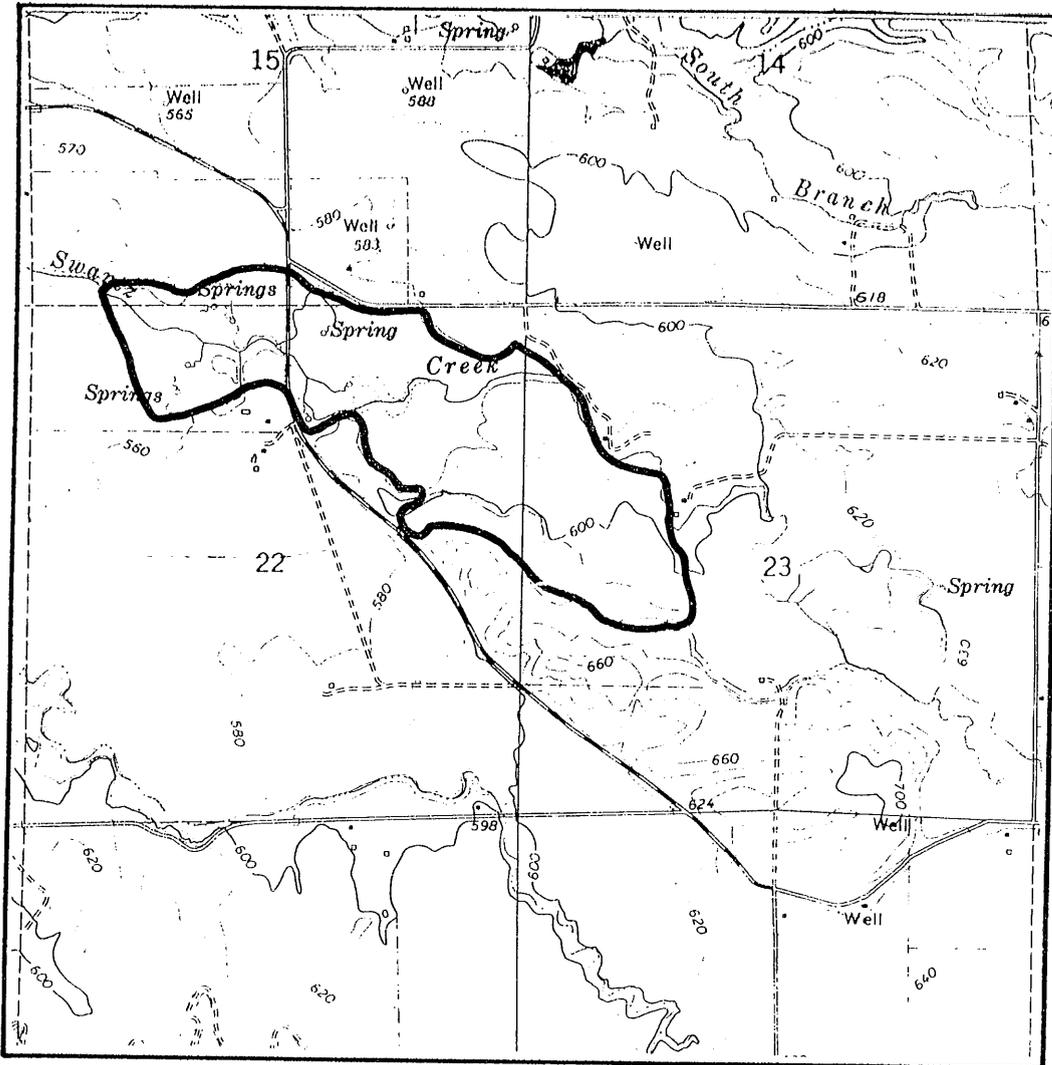
Management Program: Plan and zoning limit conflicting uses; 100 foot setback from wetlands and streams required for structures and sewage disposal

INVENTORY
SIGNIFICANT WETLANDS

MAP: D-35

AREA: Swartz Creek

T/R: T6N R34 EWM; Sections 22 and 23



Wetland Area  (Exact boundaries may require site inspection)

Map Source: U.S.G.S.

Plan Designation: Agricultural

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: Some farming activities (draining wetlands; feedlots, lack of soil conservation practices)

Goal 5 Analysis: 3C; Limit Conflicting Uses

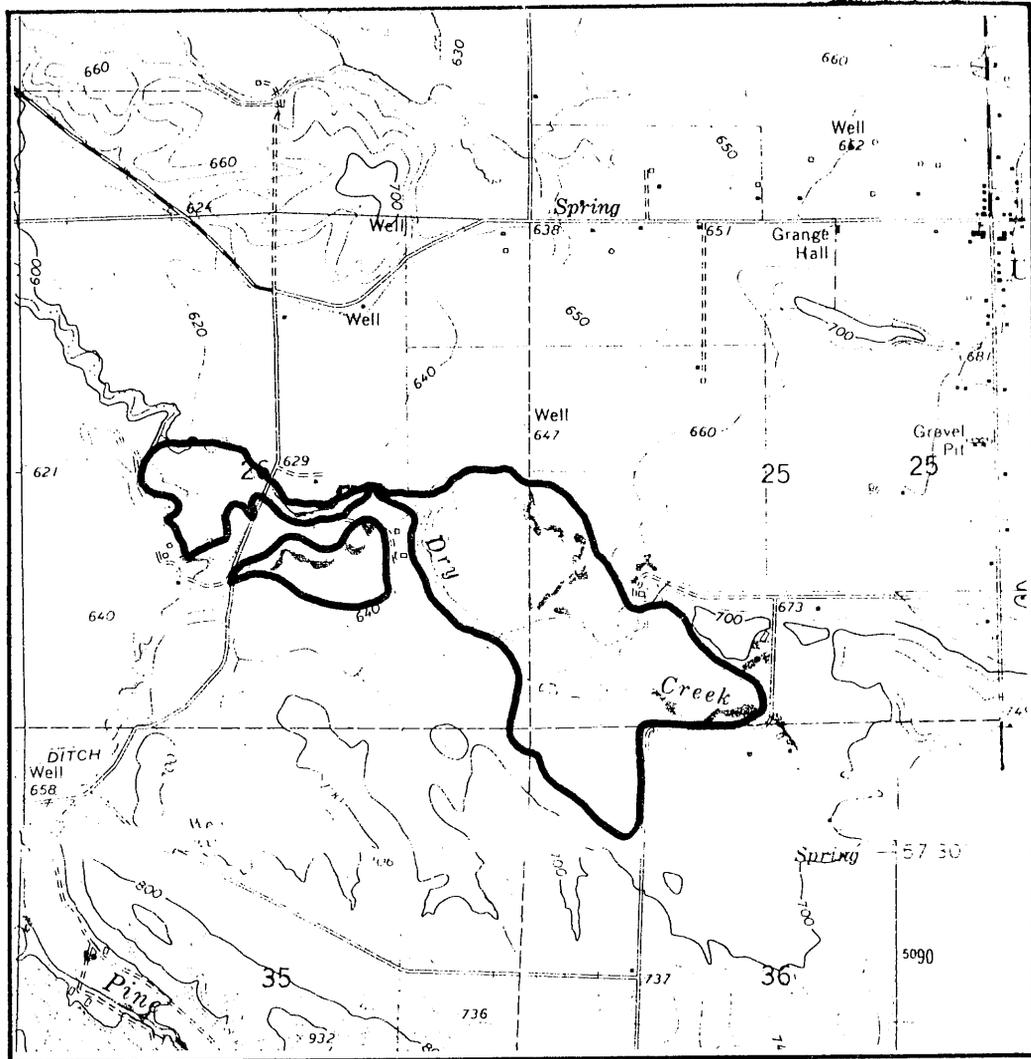
Management Program: Plan and zoning limit conflicting uses; 100 foot setback from wetlands and streams required for structures and sewage disposal installations.

INVENTORY
SIGNIFICANT WETLANDS

MAP: D-36

AREA: Pine Creek; Dry Creek

T/R: T6N R34 EWM; Sections 25 and 26



Wetland Area  (Exact boundaries may require site inspection)

Map Source: U.S.G.S.

Plan Designation: Agricultural

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: Some farming activities (draining wetlands; feedlots, lack of soil conservation practices).

Goal 5 Analysis: 3C; Limit Conflicting Uses

Management Program: Plan and zoning limit conflicting uses; 100 foot setbacks from wetlands and streams required for structures and sewage disposal installations.

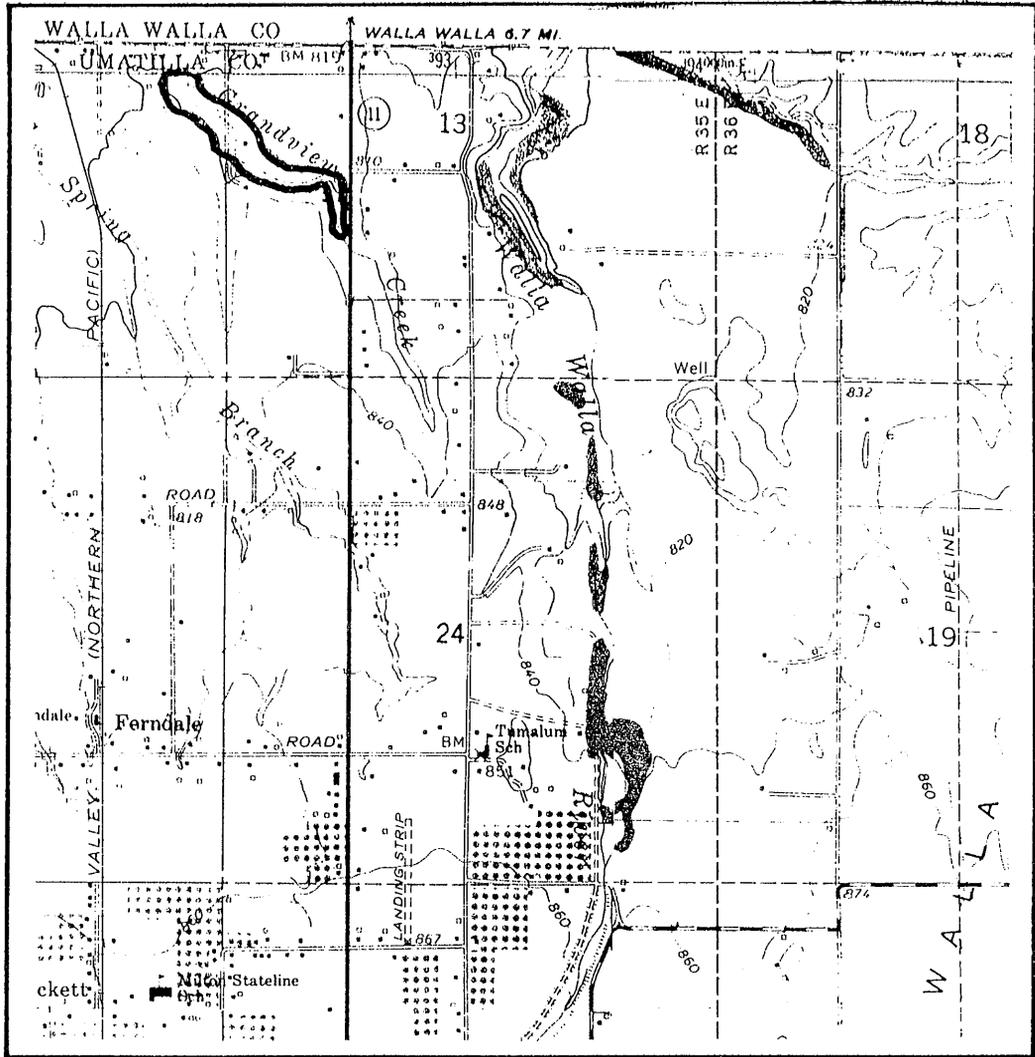
INVENTORY

SIGNIFICANT WETLANDS

MAP: D-37

AREA: Grandview Ponds

T/R: T6N R35 EWM; Section 13



Wetland Area  (Exact boundaries may require site inspection)

Map Source: U.S.G.S.

Plan Designation: Rural Residential

Zoning Designation: Rural Residential

Possible Land Use Conflicts: Residential uses and activities

Goal 5 Analysis: 3C; Limit Conflicting Uses

Management Program: Plan and zoning limit conflicting uses; 100 foot setback from streams and wetlands required for structures and sewage disposal installations.

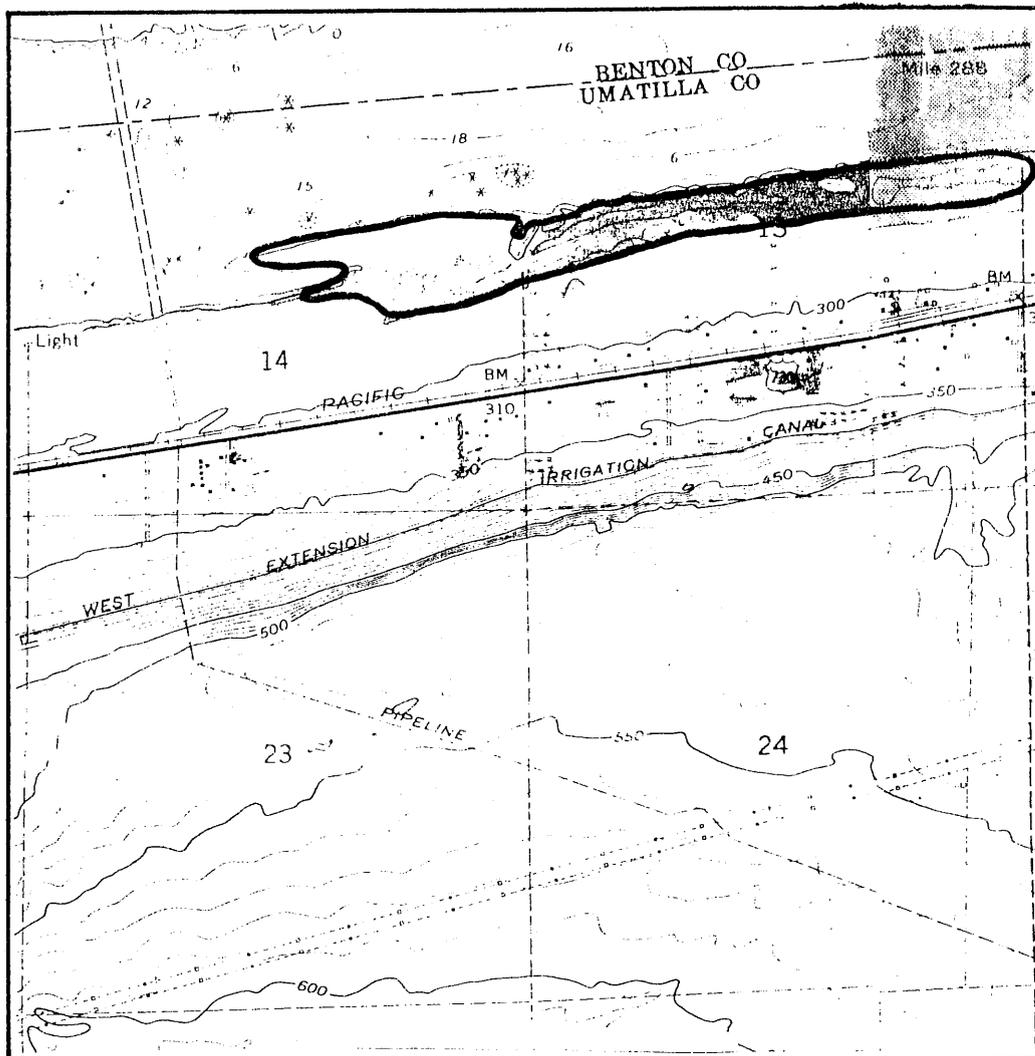
INVENTORY

SIGNIFICANT WETLANDS

MAP: D-38

AREA: Lake Umatilla (John Day Pool)

T/R: T5N R27 EWM; Sections 13 and 14



Wetland Area  (Exact boundaries may require site inspection)

Map Source: U.S.G.S.

Plan Designation: Agriculture

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: Adjacent residential uses to the south.

Goal 5 Analysis: 3C; Limit Conflicting Uses

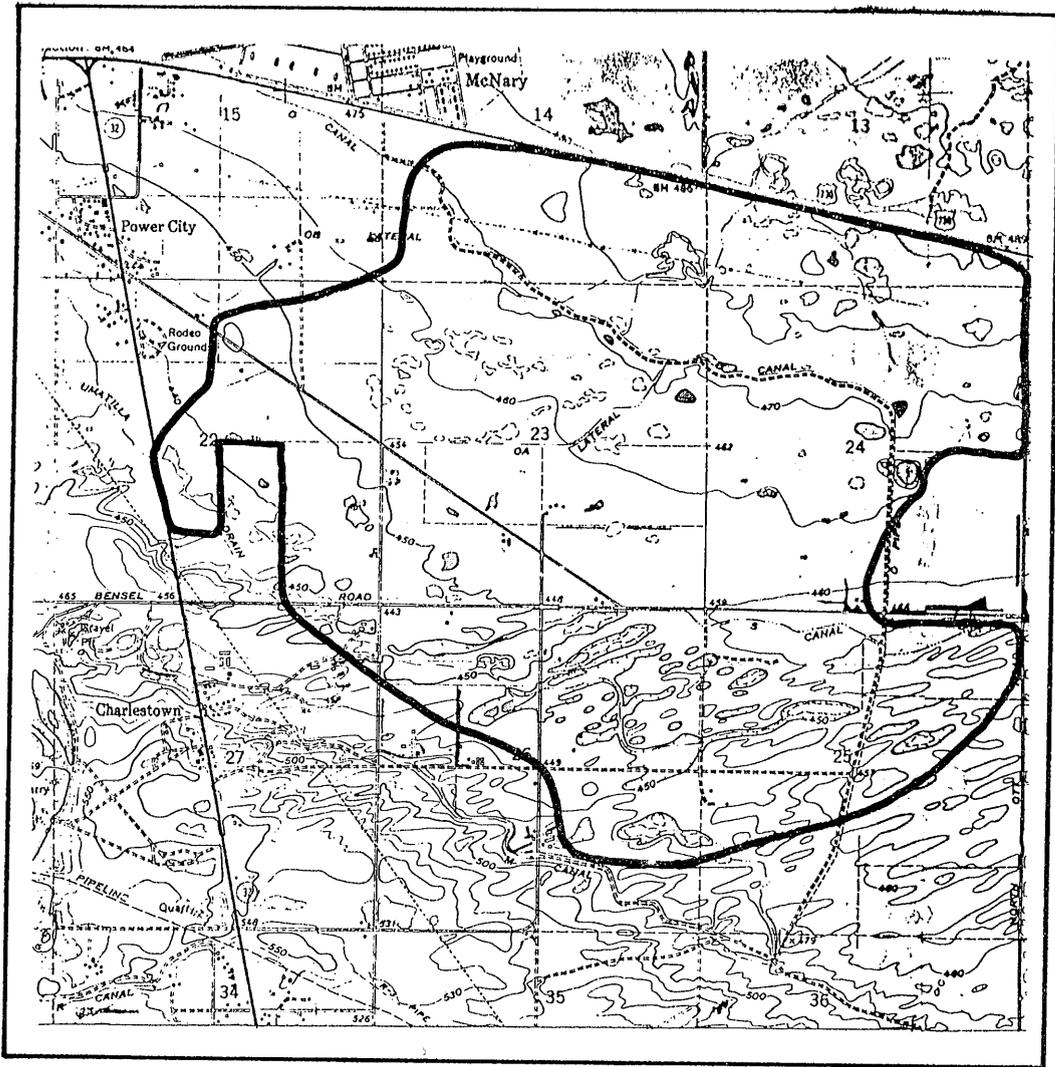
Management Program: Plan and zoning limit conflicting uses; area is under management of Oregon State Fish & Wildlife and Corps of Engineers.

INVENTORY
SIGNIFICANT WETLANDS

MAP: D-39

AREA: "McNary Potholes"

T/R: T5N R28 EWM; Sections 13, 15, 19, 22-26



Wetland Area



(Exact boundaries may require site inspection)

Map Source: U.S.G.S.

Plan Designation: Agricultural

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: Adjacent residential, retail and industrial uses; some farm activities.

Goal 5 Analysis: 3C; Limit Conflicting Uses

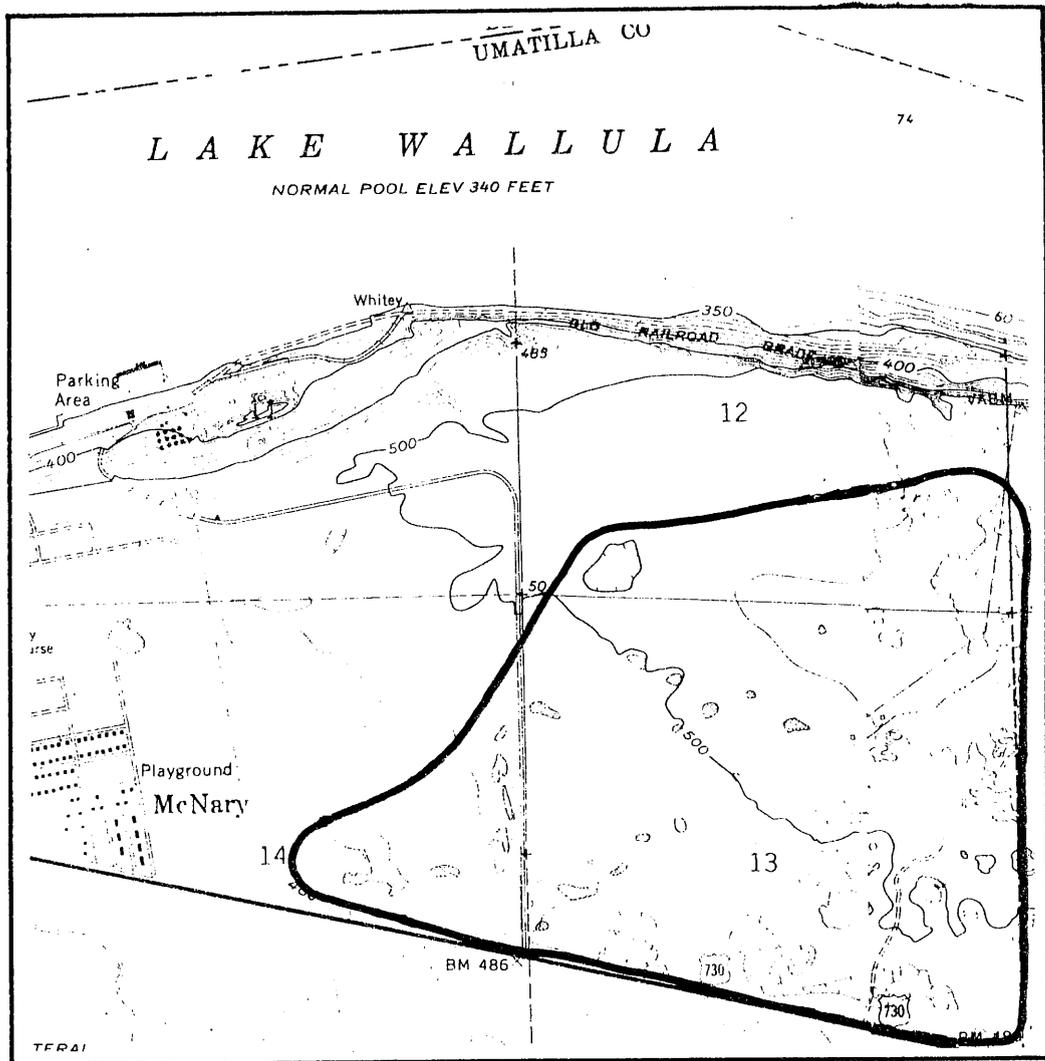
Management Program: Plan and zoning limit conflicting uses; 100 foot setback from wetlands and streams required for structures and sewage disposal installations.

INVENTORY
SIGNIFICANT WETLANDS

MAP: D-40

AREA: "McNary Potholes" (north)

T/R: T15N R28 EWM; Sections 13 and 14



Wetland Area  (Exact boundaries may require site inspection)

Map Source: U.S.G.S.

Plan Designation: Section 14 = Urban Growth Boundary; Section 13 = Industrial

Zoning Designation: Urban Growth Boundary; Industrial

Possible Land Use Conflicts: Urban and industrial uses

Goal 5 Analysis: 3B; Allow conflicting uses (see text)

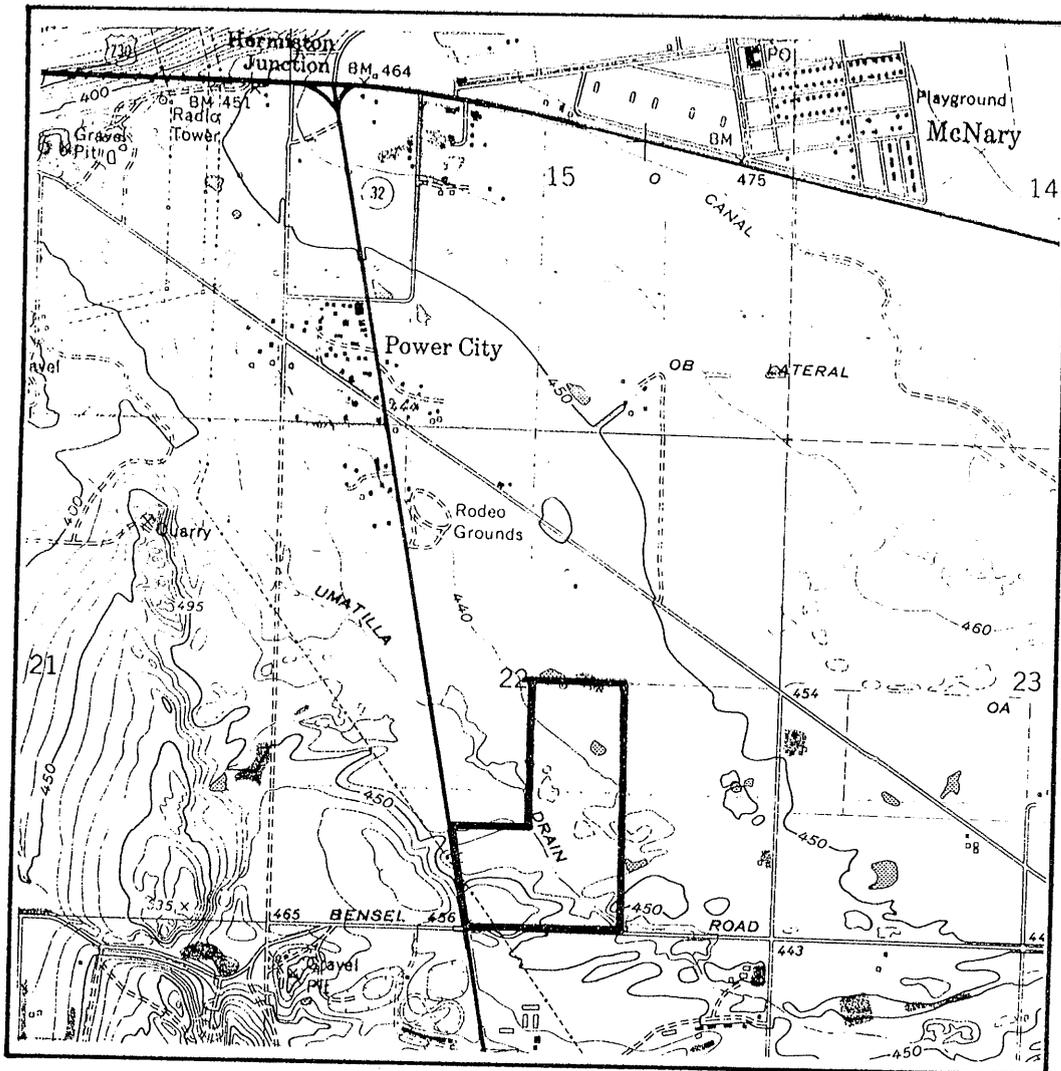
Management Program: (see text)

INVENTORY
SIGNIFICANT WETLANDS

MAP: D-41

AREA: Power City Wildlife Area

T/R: T5N R28 E4W; Section 22



Wetland Area  = Refuge boundary

Map Source: U.S.G.S.

Plan Designation: Agricultural

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: None significant

Goal 5 Analysis: 3A; Protect the Resource Site

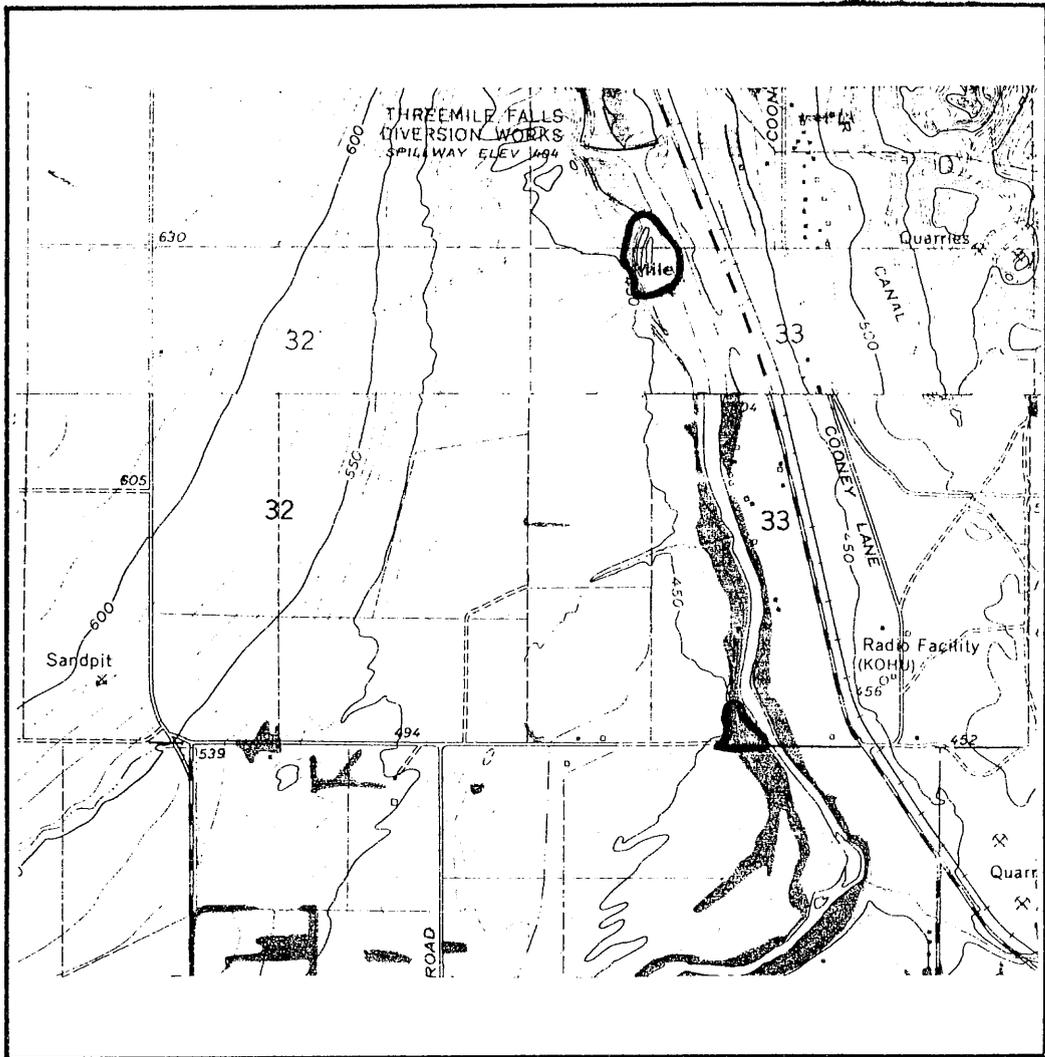
Management Program: BLM land; Refuge managed by Oregon State Fish and Wildlife

INVENTORY
SIGNIFICANT WETLANDS

MAP: D-42

AREA: Pond, Swamp

T/R: T5N R28 EWM; Sections 32, 33



Wetland Area  (Exact boundaries may require site inspection)

Map Source: U.S.G.S.

Plan Designation: Agricultural

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: Some farming activities (draining wetlands; feedlots, lack of soil conservation practices).

Goal 5 Analysis: 3C; Limit Conflicting Uses

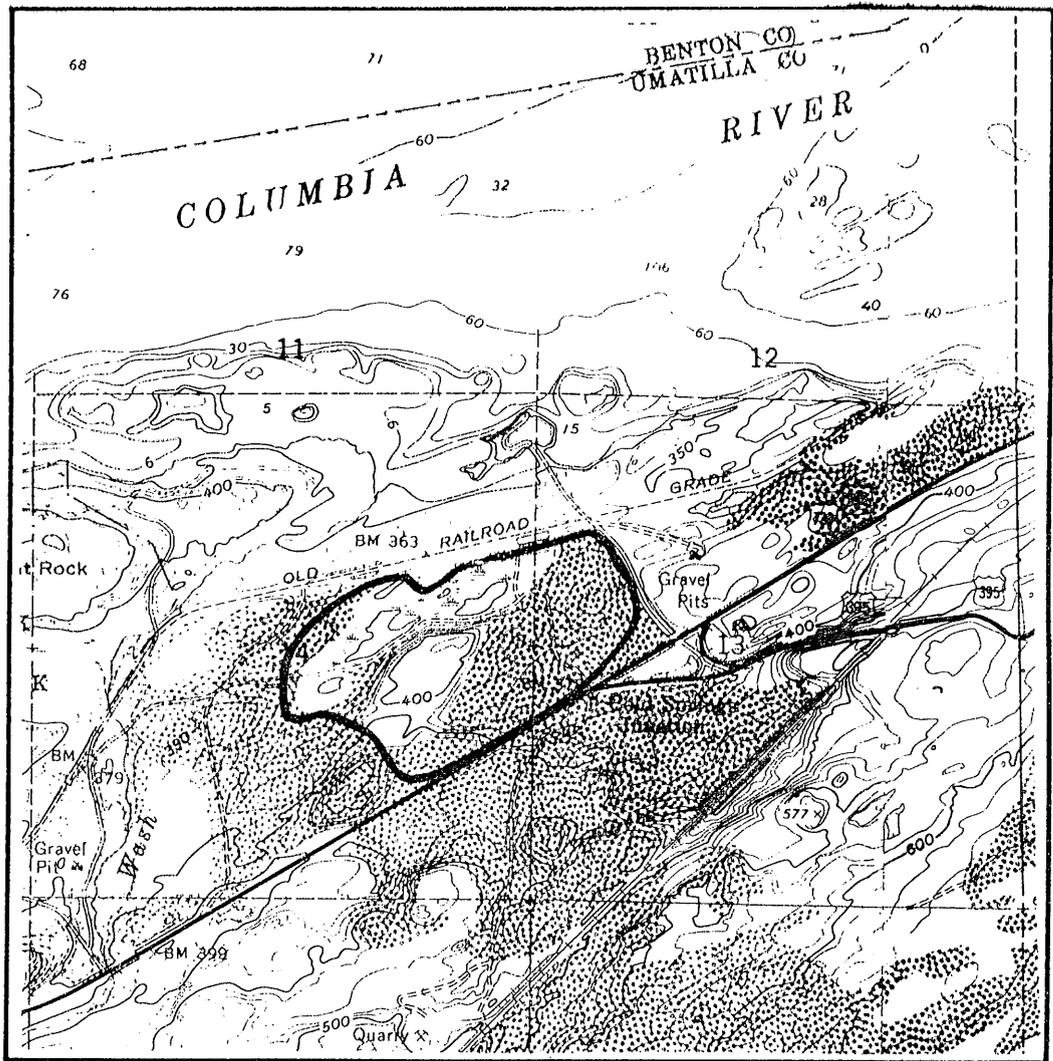
Management Program: Plan and zoning limit conflicting uses; 100 foot setback from wetlands and streams required for structures and sewage disposal installations.

INVENTORY
SIGNIFICANT WETLANDS

MAP: D-43

AREA: "Dodd's Pond" (Hat Rock)

T/R: T5N R29 EWM; Sections 13, 14



Wetland Area  (Exact boundaries may require site inspection)

Map Source: U.S.G.S.

Plan Designation: Agricultural

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: Some farming activities (draining wetlands; feedlots, lack of soil conservation practices); adjacent to Hat Rock State Park.

Goal 5 Analysis: 3C; Limit Conflicting Uses

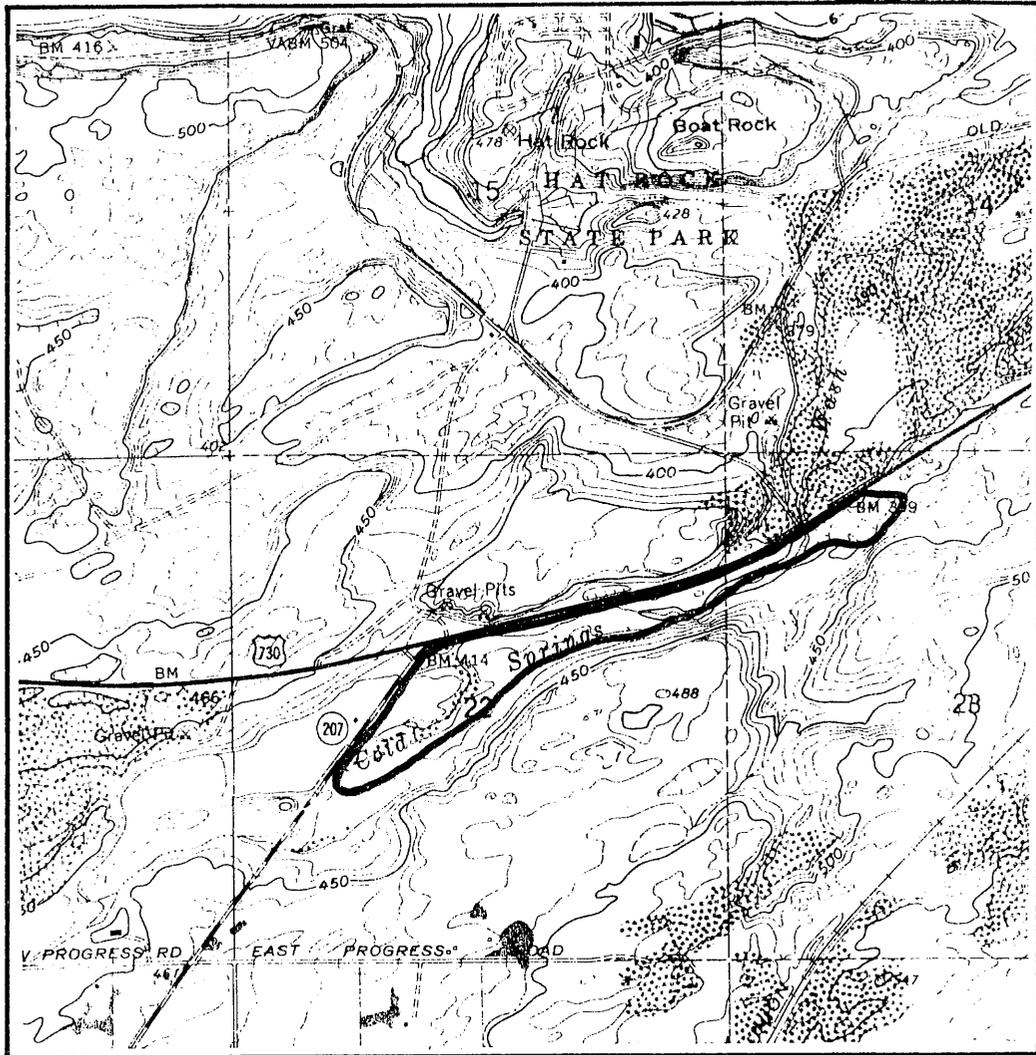
Management Program: Plan and zoning limit conflicting uses; 100 foot setback from wetlands and streams required for structures and sewage disposal installations. Compliment state park wildlife management program

INVENTORY
SIGNIFICANT WETLANDS

MAP: D-44

AREA: Drainage Area

T/R: T5N R29 EWM; Section 22



Wetland Area  (Exact boundaries may require site inspection)

Map Source: U.S.G.S.

Plan Designation: Agricultural

Zoning Designation: Exclusive Farm Use; Special Agriculture

Possible Land Use Conflicts: Some farming activities (draining wetlands; feedlots, lack of soil conservation practices).

Goal 5 Analysis: 3C; Limit Conflicting Uses

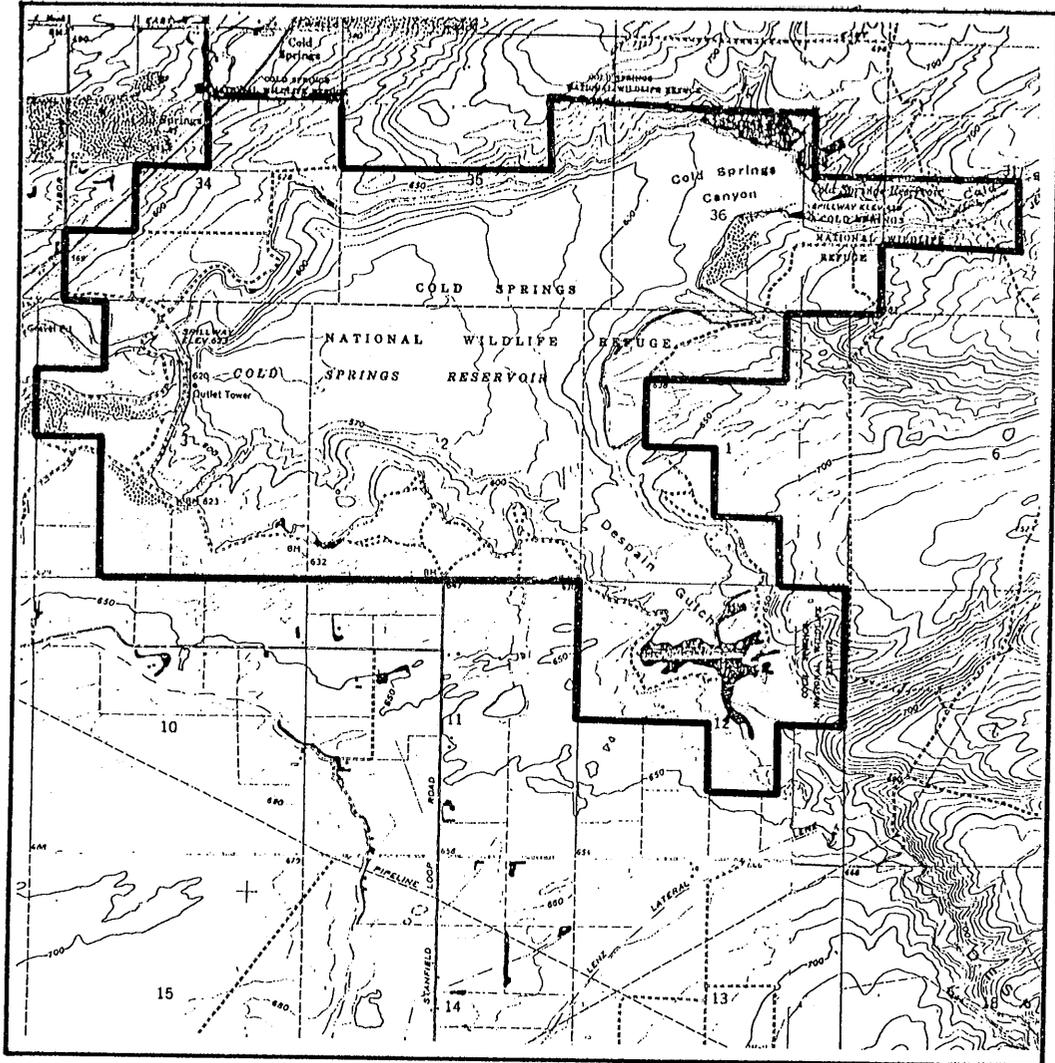
Management Program: Plan and zoning limit conflicting uses; 100 foot setback from wetlands and streams required for structures and sewage disposal installations

INVENTORY
SIGNIFICANT WETLANDS

MAP: D-45

AREA: Cold Springs National Wildlife Refuge

T/R: T4N/5N R29/30 EWM



Wetland Area  = Refuge boundaries

Map Source: U.S.G.S.

Plan Designation: Agriculture

Zoning Designation: Exclusive Agriculture; Special Agriculture

Possible Land Use Conflicts: No significant conflicts

Goal 5 Analysis: 3A/1A; Resource protected; No County Jurisdiction

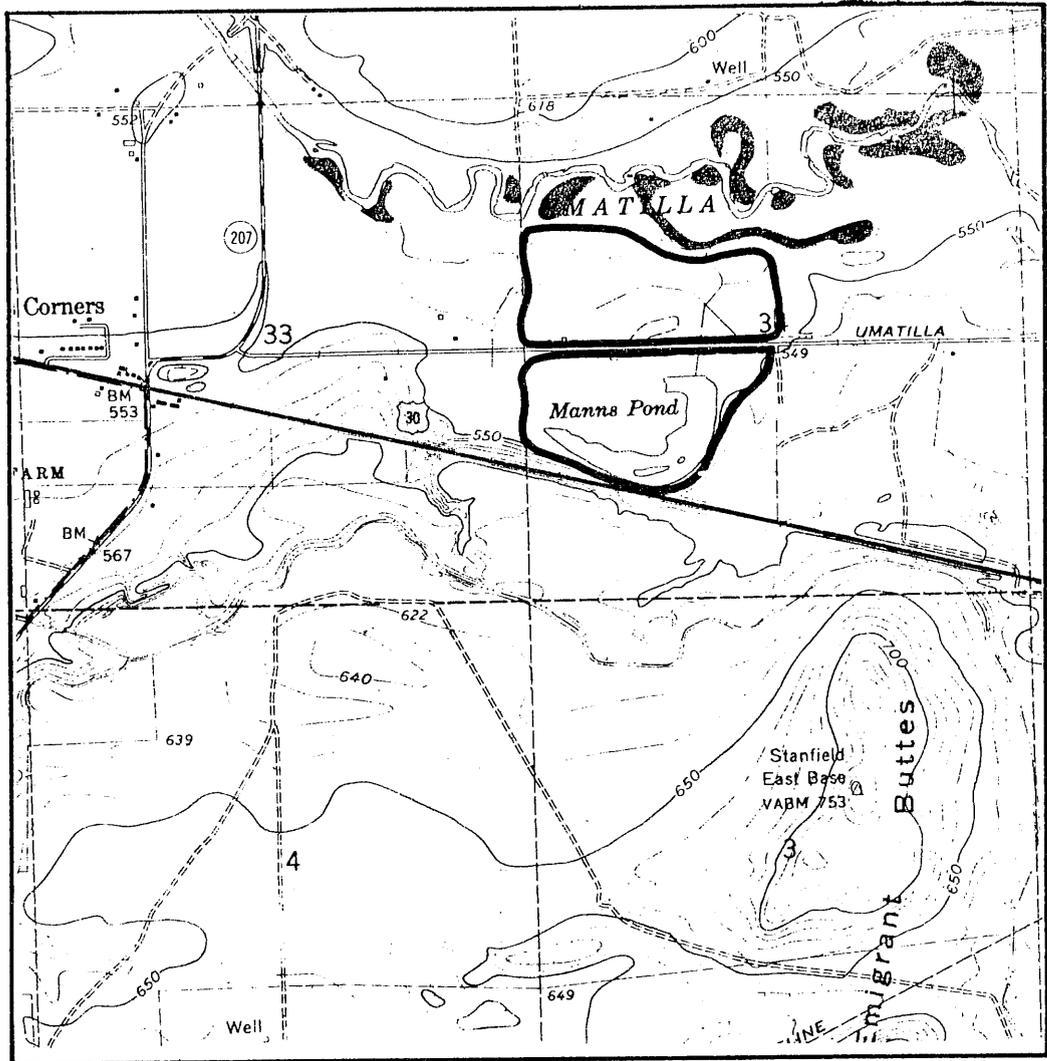
Management Program: Federal Wildlife Refuge

INVENTORY
SIGNIFICANT WETLANDS

MAP: D-46

AREA: T4N R28 EWM; Sections 33 and 34

T/R: "Mann's Pond"



Wetland Area  (Exact boundaries may require site inspection)

Map Source: U.S.G.S.

Plan Designation: Agricultural

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: Some farming activities (draining wetlands; feedlots, lack of soil conservation practices).

Goal 5 Analysis: 3C; Limit Conflicting Uses

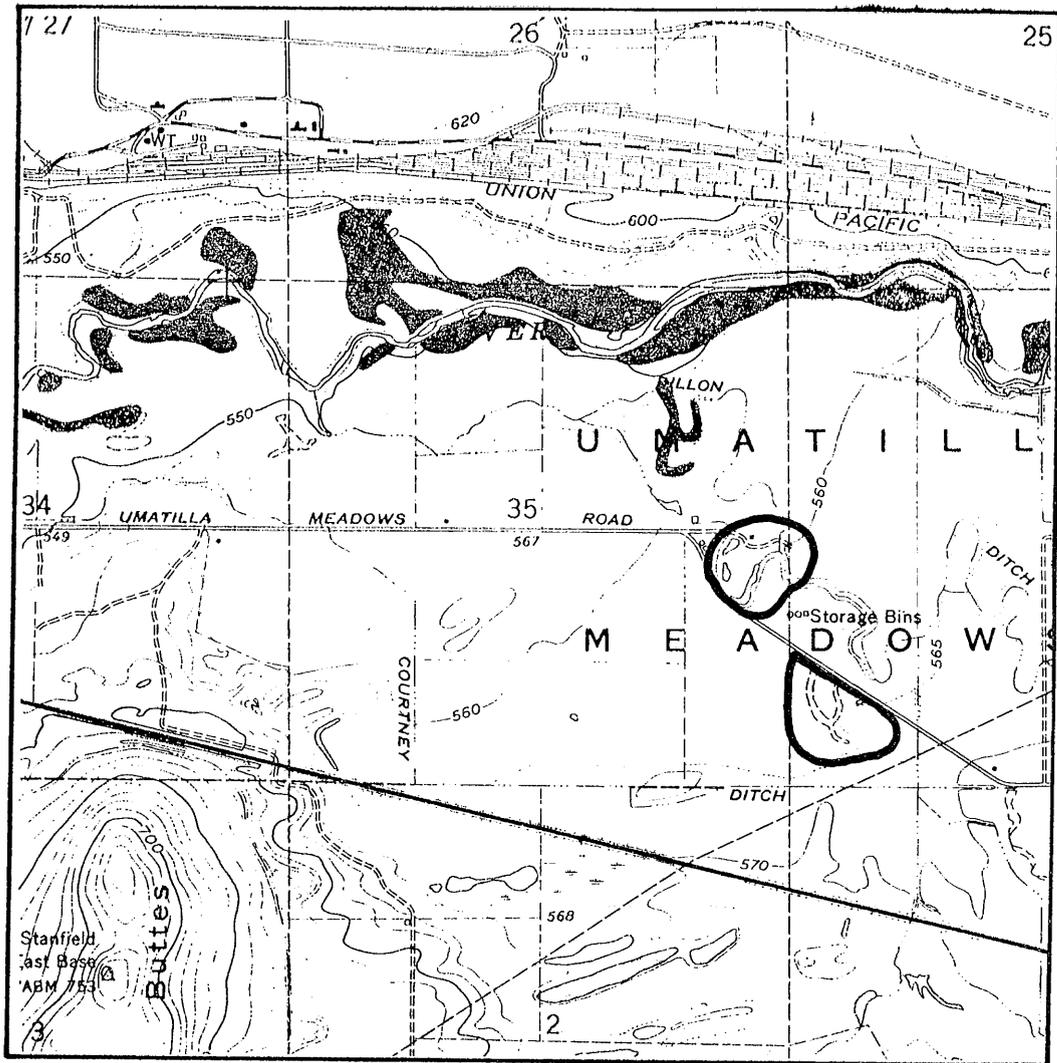
Management Program: Plan and zoning limit conflicting uses; 100 foot setback from wetlands and streams required for structures and sewage disposal installations.

INVENTORY
SIGNIFICANT WETLANDS

MAP: D-47

AREA: Ponds

T/R: T4N R28 EWM; Section 35



Wetland Area  (Exact boundaries may require site inspection)

Map Source: U.S.G.S.

Plan Designation: Agricultural

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: Some farming activities (draining wetlands; feedlots, lack of soil conservation practices).

Goal 5 Analysis: 3C; Limit Conflicting Uses

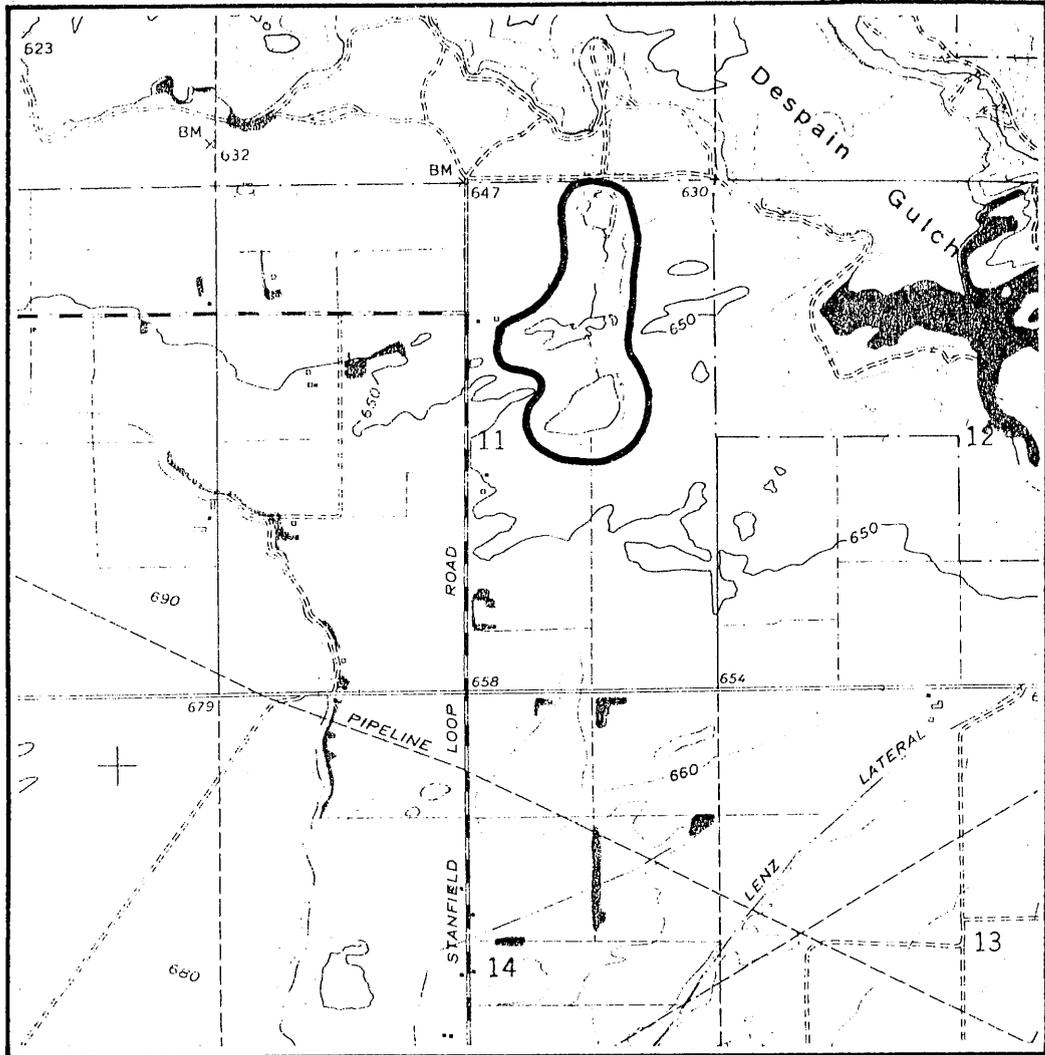
Management Program: Plan and zoning limit conflicting uses; 100 foot setback from wetlands and streams required for structures and sewage disposal installations.

INVENTORY
SIGNIFICANT WETLANDS

MAP: D-48

AREA: "Britt's Ponds"

T/R: T4N R29 EWM; Section 11



Wetland Area  (Exact boundaries may require site inspection)

Map Source: U.S.G.S.

Plan Designation: Agricultural

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: Some farming activities (draining wetlands; feedlots, lack of soil conservation practices).

Goal 5 Analysis: 3C; Limit Conflicting Uses

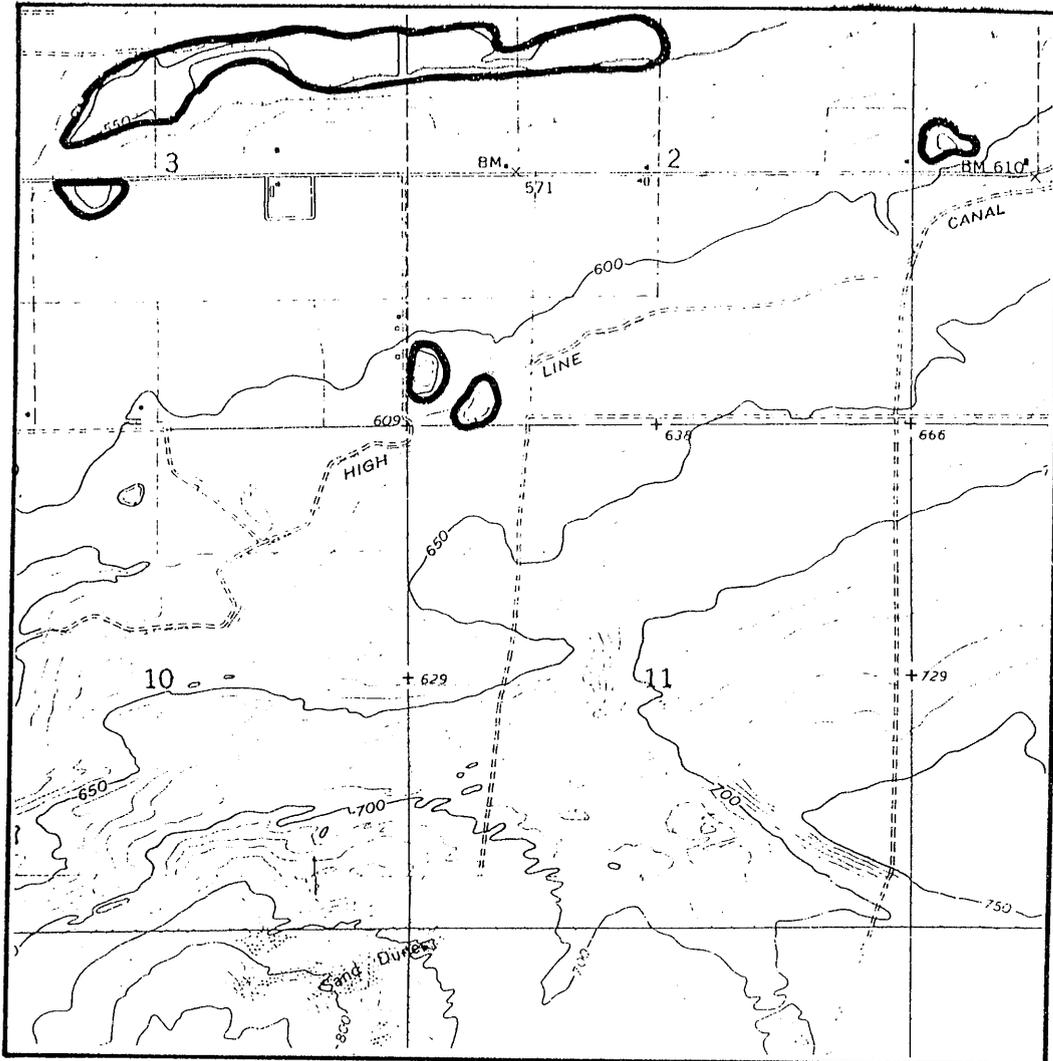
Management Program: Plan and zoning limit conflicting uses; 100 foot setback from wetlands and streams required for structures and sewage disposal installations

INVENTORY
SIGNIFICANT WETLANDS

MAP: D-49

AREA: Ponds and swamps

T/R: T3N R27 EWM; Sections 1, 2, 3



Wetland Area  (Exact boundaries may require site inspection)

Map Source: U.S.G.S.

Plan Designation: Agricultural

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: Some farming activities (draining wetlands; feedlots, lack of soil conservation practices).

Goal 5 Analysis: 3C; Limit Conflicting Uses

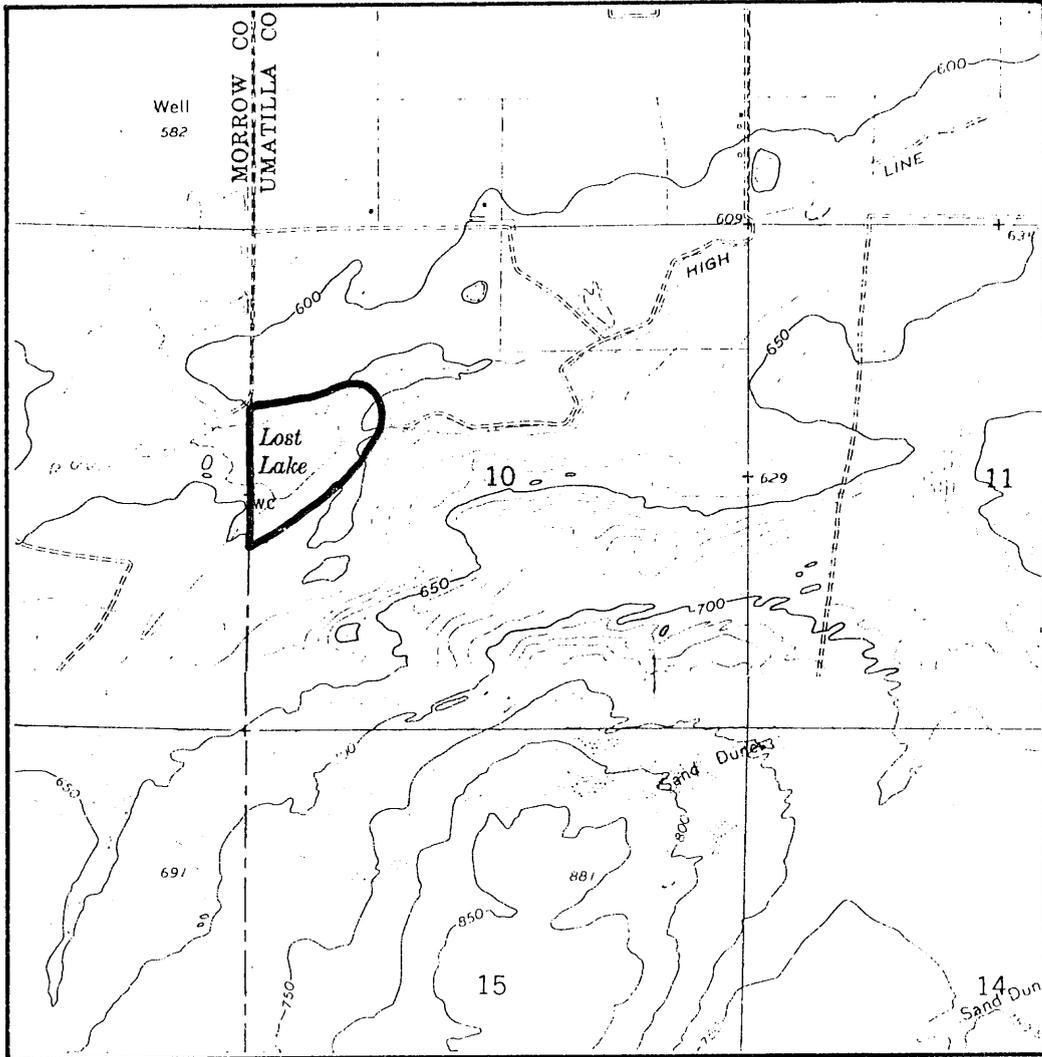
Management Program: Plan and zoning limit conflicting uses; 100 foot setback from wetlands and streams required for structures and sewage disposal installations.

INVENTORY
SIGNIFICANT WETLANDS

MAP: D-50

AREA: Lost Lake

T/R: T3N R 27 EWM; Section 10



Wetland Area  (Exact boundaries may require site inspection)

Map Source: U.S.G.S.

Plan Designation: Agricultural

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: Some farming activities (draining wetlands; feedlots, lack of soil conservation practices).

Goal 5 Analysis: 3C; Limit Conflicting Uses

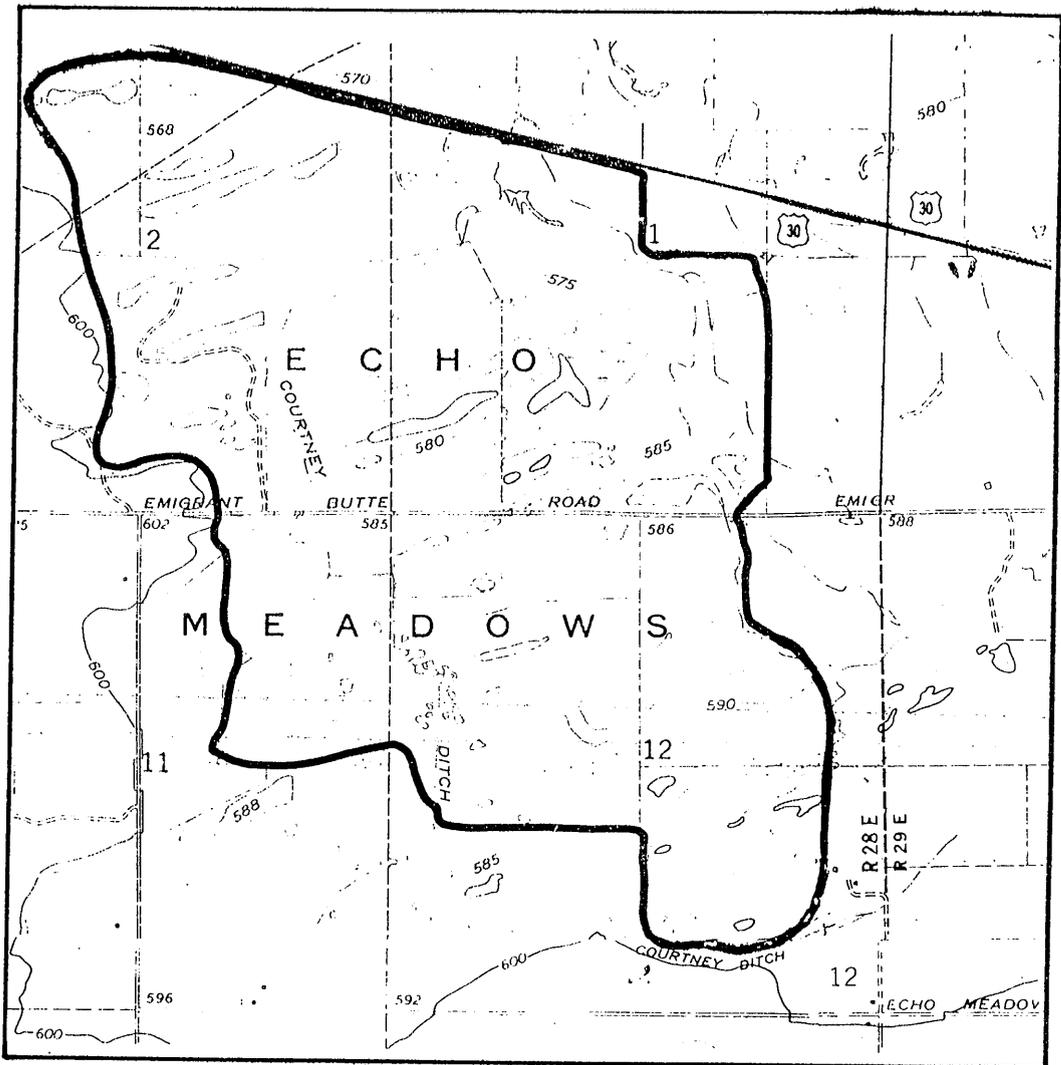
Management Program: Plan and zoning limit conflicting uses; 100 foot setback from wetlands and streams required for structures and sewage disposal installations.

INVENTORY
SIGNIFICANT WETLANDS

MAP: D-51

AREA: "Echo Meadows"

T/R: T3N R28 EWM; Sections 1, 2, 11, 12



Wetland Area  (Exact boundaries may require site inspection)

Map Source: U.S.G.S.

Plan Designation: Agricultural

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: Some farming activities (draining wetlands; feedlots, lack of soil conservation practices).

Goal 5 Analysis: 3C; Limit Conflicting Uses

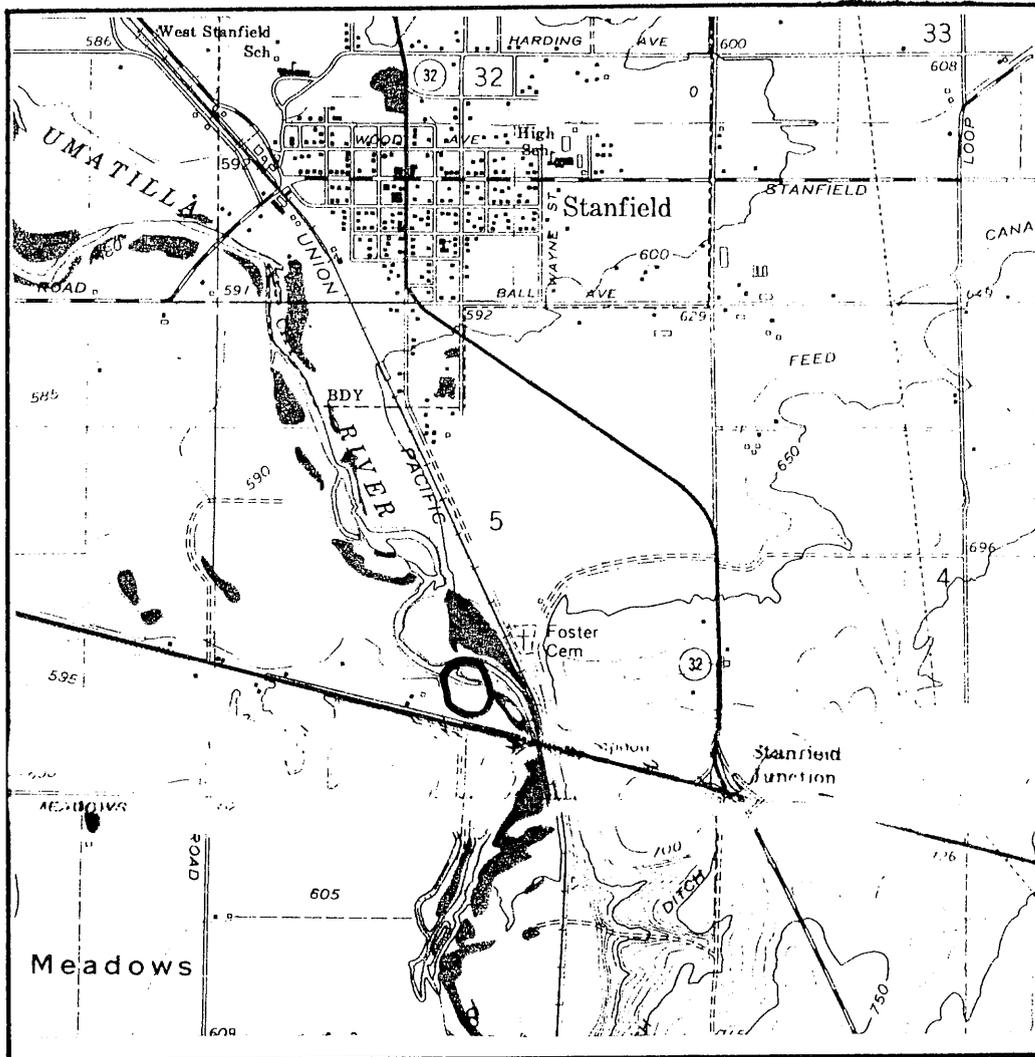
Management Program: Plan and zoning limit conflicting uses; 100 foot setback from wetlands and streams required for structures and sewage disposal installations.

INVENTORY
SIGNIFICANT WETLANDS

MAP: D-52

AREA: Water-filled Rockpit

T/R: T3N, R29 EWM; Section 5



Wetland Area  (Exact boundaries may require site inspection)

Map Source: U.S.G.S.

Plan Designation: Agricultural

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: Some farming activities (draining wetlands; feedlots, lack of soil conservation practices).

Goal 5 Analysis: 3C; Limit Conflicting Uses

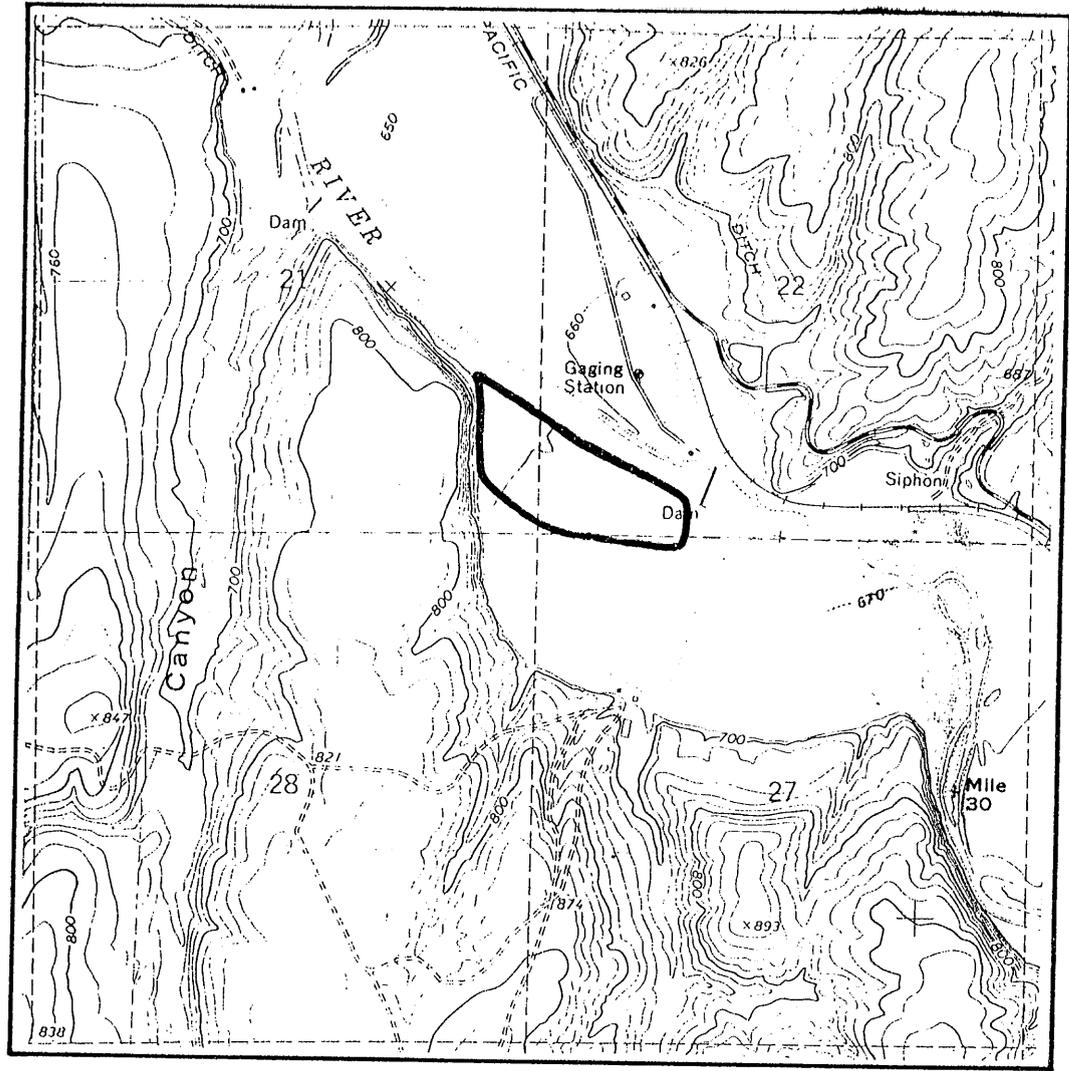
Management Program: Plan and zoning limit conflicting uses; 100 foot setback from wetland and streams required for structures and sewage disposal

INVENTORY
SIGNIFICANT WETLANDS

MAP: D-53

AREA: Spring-fed Swamp

T/R: T3N R29 EWM; Sections 21, 22, 27



Wetland Area  (Exact boundaries may require site inspection)

Map Source: U.S.G.S.

Plan Designation: Agricultural

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: Some farming activities (draining wetlands; feedlots, lack of soil conservation practices).

Goal 5 Analysis: 3C; Limit Conflicting Uses

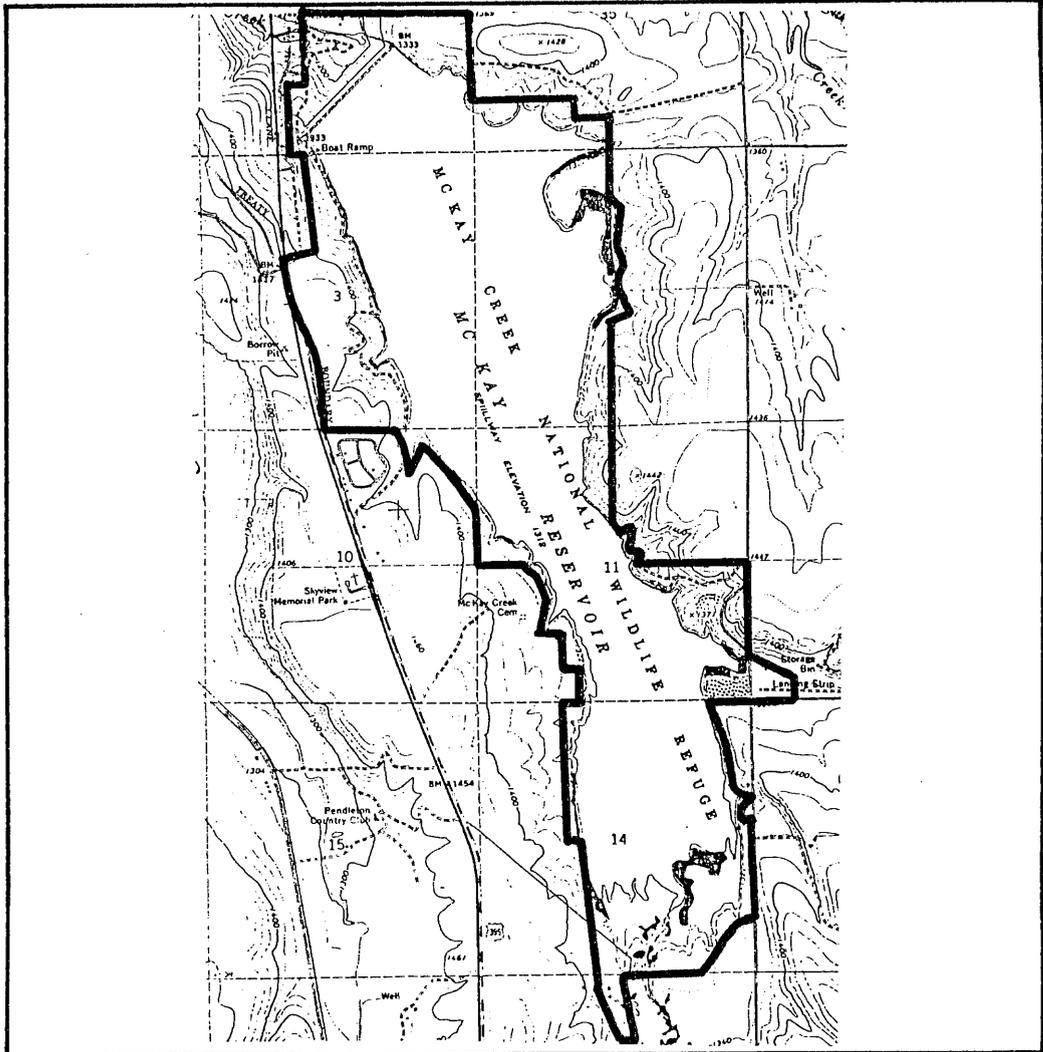
Management Program: Plan and zoning limit conflicting uses; 100 foot setback from wetlands and streams required for structures and sewage disposal installations.

INVENTORY
SIGNIFICANT WETLANDS

MAP: D-54

AREA: McKay Creek National Wildlife Refuge

T/R: T1N/2N R32 EWM



Wetland Area  = Refuge boundaries

Map Source: U.S.G.S.

Plan Designation: Agricultural/Rural Residential

Zoning Designation: Exclusive Farm Use/Rural Residential

Possible Land Use Conflicts: Dogs, cats from adjacent residences; wildlife (geese) eat adjacent farmers' crops.

Goal 5 Analysis: 3A/1A; Resource Protected; No County Jurisdiction

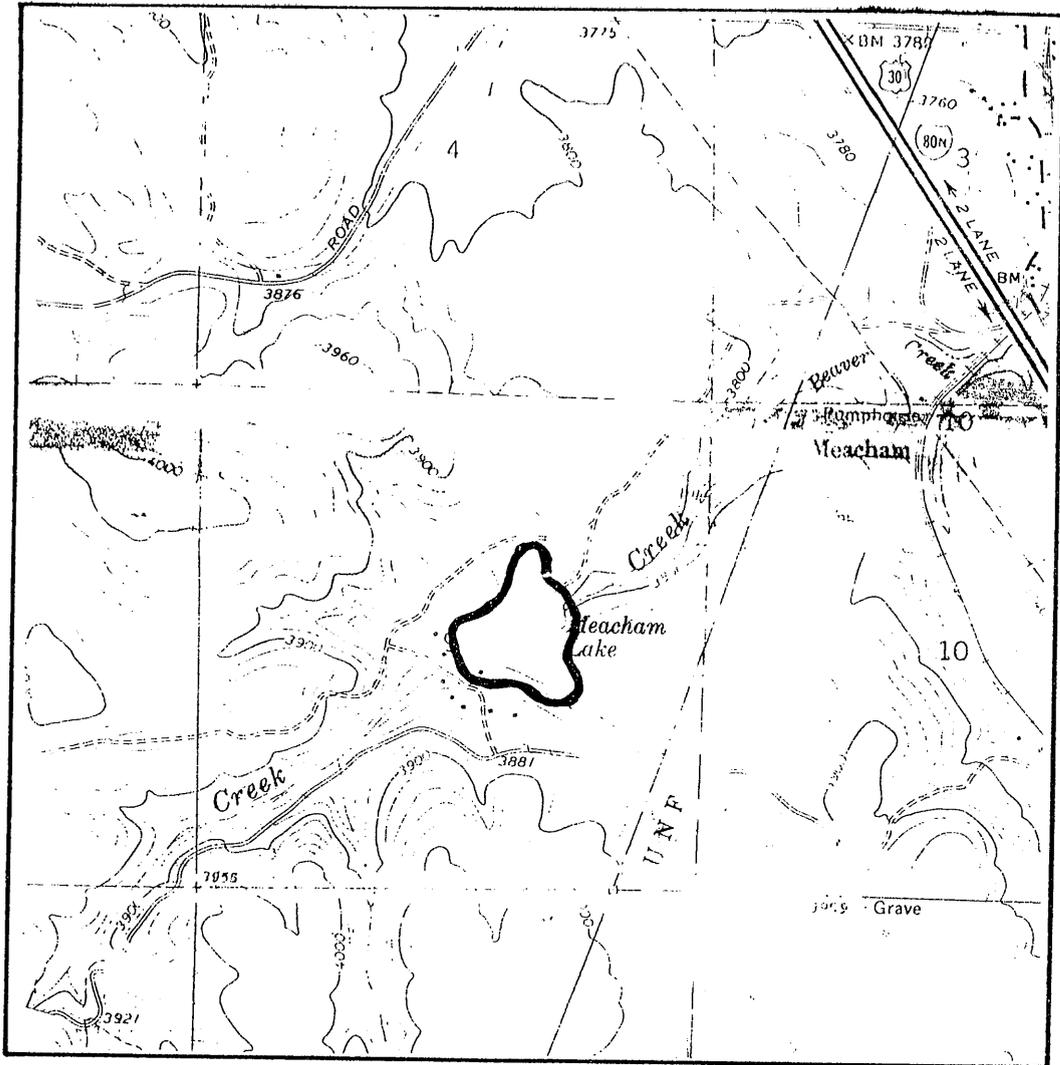
Management Program: Federal Wildlife Refuge

INVENTORY
SIGNIFICANT WETLANDS

MAP: D-55

AREA: Meacham Lake

T/R: T1S R 35 EWM; Section 9



Wetland Area  (Exact boundaries may require site inspection)

Map Source: U.S.G.S.

Plan Designation: Multiple-Use

Zoning Designation: Multiple-Use Forest (10 acre lot size)

Possible Land Use Conflicts: Residential Uses

Goal 5 Analysis: 3C; Limit Conflicting Uses

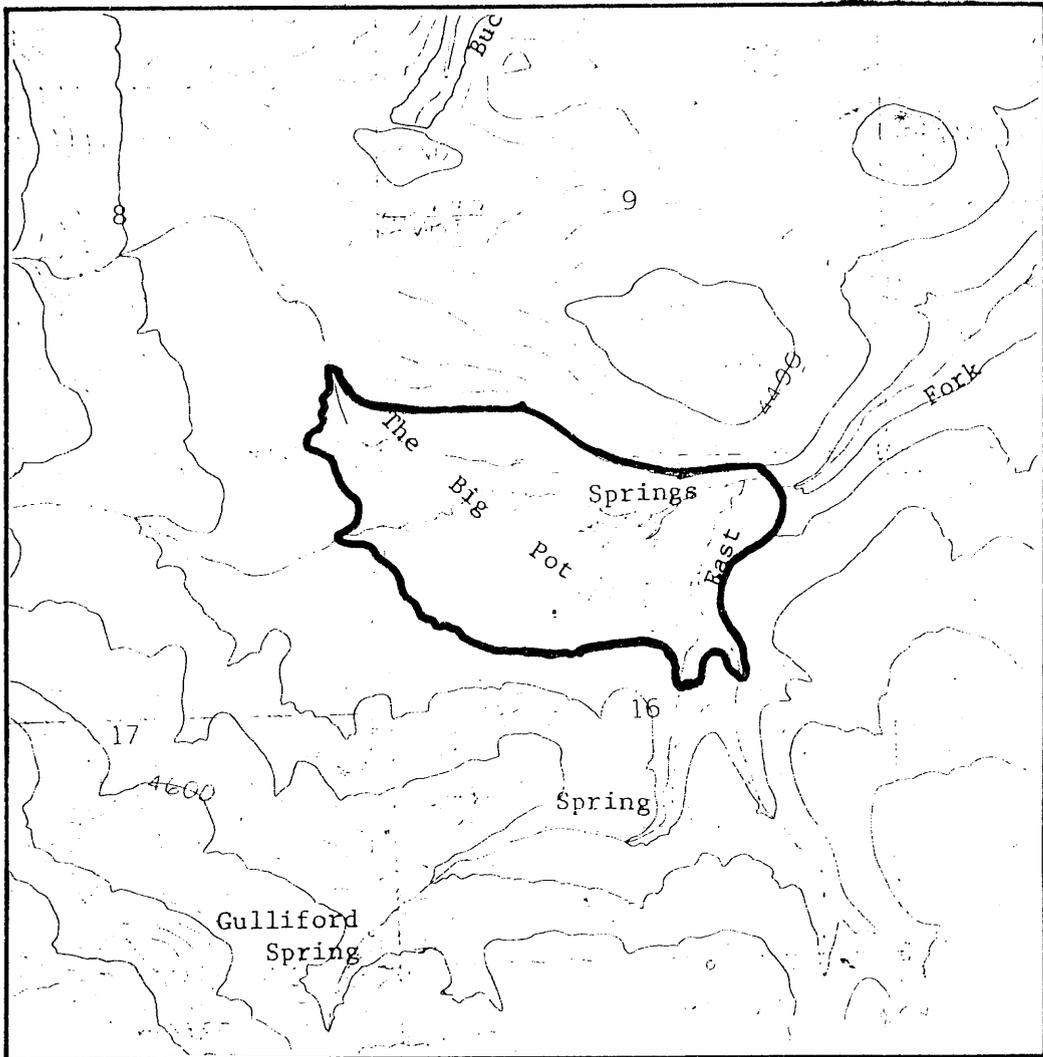
Management Program: Plan and zoning limit conflicting uses; 100 foot setback from wetlands and streams required for structures and sewage disposal installations.

INVENTORY
SIGNIFICANT WETLANDS

MAP: D-56

AREA: "The Big Pot" (Gurdane)

T/R: T4S R30 EWM; Sections 9-16



Wetland Area  (Exact boundaries may require site inspection)

Map Source: U.S.G.S.

Plan Designation: Agricultural

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: Some farming activities (draining wetlands; feedlots, lack of soil conservation practices).

Goal 5 Analysis: 3C; Limit Conflicting Uses

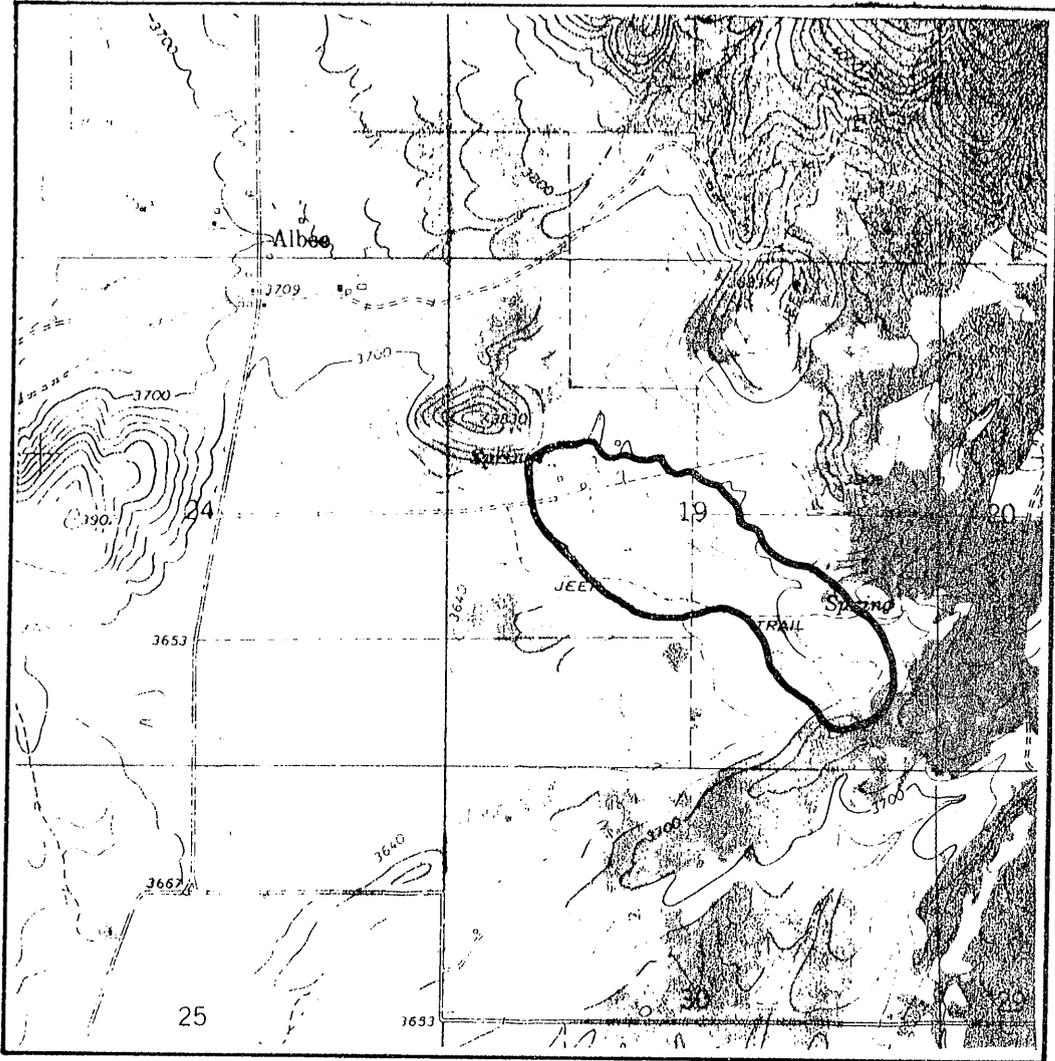
Management Program: Plan and zoning limit conflicting uses; 100 foot setback from wetlands and streams required for structures and sewage disposal

INVENTORY
SIGNIFICANT WETLANDS

MAP: D-57

AREA: Albee Area

T/R: T4S R32 EWM; Section 19



Wetland Area  (Exact boundaries may require site inspection)

Map Source: U.S.G.S.

Plan Designation: Grazing/Forest

Zoning Designation: Grazing/Farm

Possible Land Use Conflicts: Some farming and forest uses and activities (drainage, feedlots, poor soil conservation and timber management practices).

Goal 5 Analysis: 3C; Limit Conflicting Uses

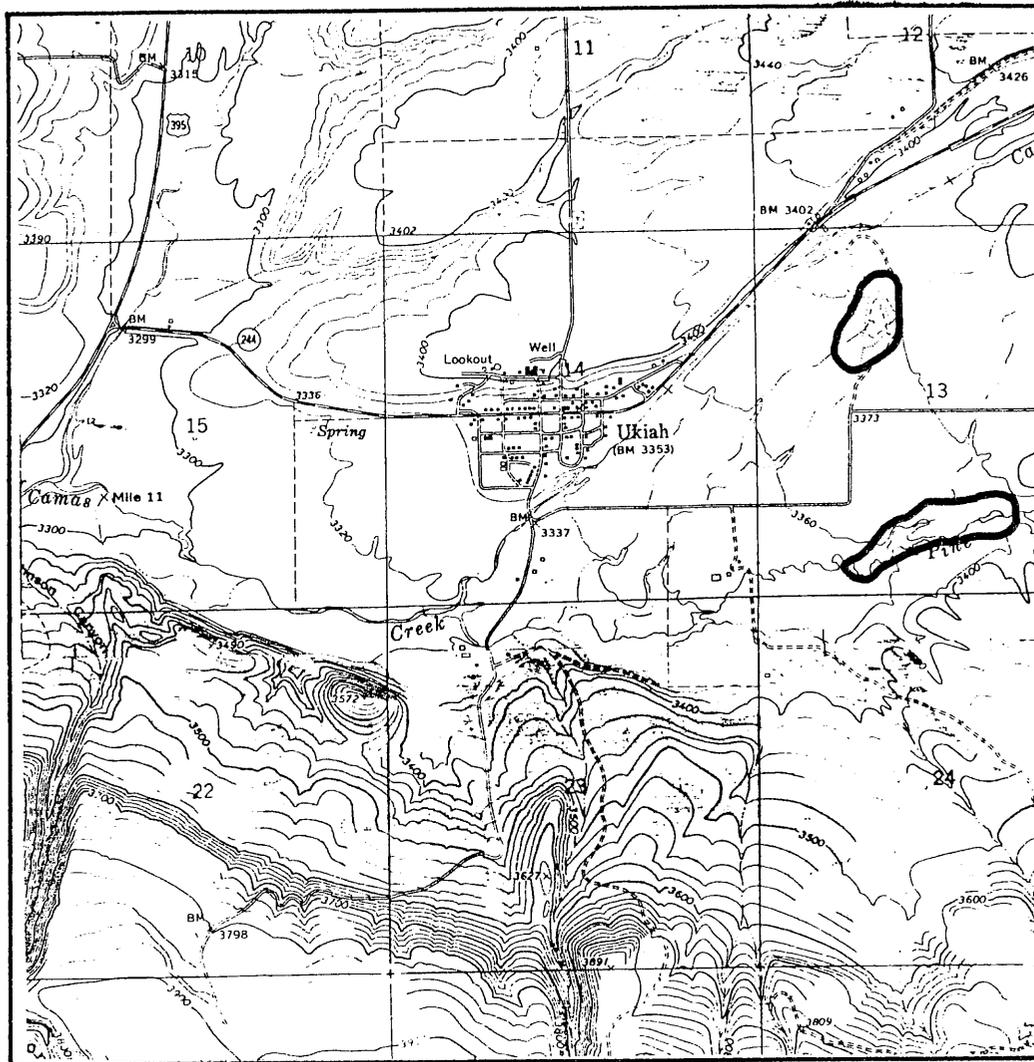
Management Program: Plan and zoning limit conflicting uses; 100 foot setback from wetlands and streams required for structures and sewage disposal installations; Forest Practices Act.

INVENTORY
SIGNIFICANT WETLANDS

MAP: D-58

AREA: Camas Creek Drainage

T/R: T5S R31 FWM; Sections 13, 14, 15, 23



Wetland Area  (Exact boundaries may require site inspection)

Map Source: U.S.G.S.

Plan Designation: Grazing/Forest

Zoning Designation: Grazing/Farm

Possible Land Use Conflicts: Some farming and forest uses and activities (drainage, feedlots, poor soil conservation and timber management practices).

Goal 5 Analysis: 3C; Limit Conflicting Uses

Management Program: Plan and zoning limit conflicting uses; 100 foot setback from wetlands and streams required for structures and sewage disposal installations; Forest Practices Act.

Besides the wetland areas listed in the previous table, a number of wetland areas are located within the urban growth boundaries of several cities; particularly Umatilla, Hermiston and Pendleton, and are presumably addressed in those plans.*

Most wetlands in the County are located in farm or grazing areas. It is the county's position that the Comprehensive Plan's policies regarding protection of wetlands and the standards and criteria of the Development Ordinance (especially setback provisions), adequately protect the important wetland sites listed above as well as wetlands in general.

In four cases, wetlands sites have been classified "3A", protected resource site. These are all state or federal wildlife areas. In one case, McNary Potholes - North, the site has been classified "3B", allow conflicting uses fully (See Map D-40). This is because it is part of the McNary Industrial Area, owned by the Port of Umatilla and site of the proposed Alumax plant. Most likely, most of the area will remain vacant "buffer lands" area after industrial development. There remains over a thousand acres of wetlands ("McNary Potholes" - Map D-39) just to the south of the site.

The positive economic consequences of conserving significant wetlands is directed toward the County's recreational industry. Providing secondary benefits, each wetland supports recreation through the propagation of fish and waterfowl. Through such activities as fishing and hunting, businesses receive revenue which benefits the local economy. Due to the economic benefits of conserving significant wetlands, attempts should be made to minimize future land use conflicts with important wetland areas. By regulating possible conflicts, the County would be assured of maintaining wetland values as well as providing economic diversification.

* Wetlands immediately adjacent to streams are included in the riparian corridors inventory.

The negative economic consequences of applying regulations to significant wetlands are borne by the property owner prevented from doing a specific land use activity. In Umatilla County, this applies particularly to lands zoned for residential and industrial expansion. In some instances, applying strict land use regulations to such areas would become a financial hardship. Agriculturally zoned areas should not be effected economically because normally farming practices are worked around wet areas, unless an area is drained to provide more farmland. Although strict land use regulations in significant wetlands would benefit Umatilla County's recreational industry, the opposite may hold true for the County's housing and agricultural industries. For those wetlands presently designated for residential development and agricultural uses, prohibiting such uses to continue may cause significant adverse impacts to the County's economy. In fact, agricultural practices--ie, irrigation, runoff--is the source or cause of many wetland areas.

The environmental consequences of regulating development in significant wetlands is positive. Opportunities for fish and wildlife as well as plant life to flourish without repeated interference or disturbances from man should be a positive environmental consequence.

With the exception of those areas presently designated for future development in the County's Comprehensive Plan, the energy consequences of regulating development in significant wetland areas should be positive. By regulating development in wetland areas, development is encouraged to locate in urban areas, therefore conserving energy through the reduction of transportation costs.

With the exception of those areas presently designated for residential and industrial development in the County's Comprehensive Plan, the consequences of regulating development in significant wetland areas would be positive. The wetlands have co-existed with current agricultural practices and as stated are a result of such practices. To prohibit or limit those practices would be both economically

detrimental and unnecessary to protect the resource. Maintaining an adequate setback from wetland areas would permit better wetland pollution control and preserve natural visual amenities. Therefore, in order to conserve important wetlands, the County should develop streambank setbacks within all or most zoning designations for structures and sewage disposal installations.

Other Sensitive Habitats [Revised]

Bald Eagle Nests

Bald Eagle numbers are very low throughout eastern Oregon (it is considered a threatened species; i.e., it may become endangered in the foreseeable future), and all nests merit protection. Nests are typically constructed in or near the top of tall conifers near large streams or lakes and may be used for many years. Eagles may alternate nests in different years and for this reason protection of all known nests is essential.

Osprey Nests

Osprey nests are typically constructed in the tops of dead trees, or trees with dead tops, but occasionally in live trees. Nests are usually located near large streams or lakes, often over water if suitable trees are available. Nests may be used for many years.

Conflicting Uses

Table D-XII indicates the locations of the known heron rookeries and osprey, prairie falcon, and eagle nests in Umatilla County. Many of these habitat sites are located within the National Forest (the bald eagle nest), the Umatilla Indian Reservation (the osprey nest), or on wildlife refuges (McNary, Cold Springs, etc.). However, others are located on private property where potential threats to their survival exist. Intensified agricultural practices, urban development, recreational activities, and even human interference, harassment and vandalism are major concerns where habitat and species protection is concerned.

TABLE D-XII
HABITATS OF RARE, THREATENED AND
ENDANGERED SPECIES IN UMATILLA COUNTY [Revised]

Species	Habitat Area	Goal 5 Analysis	Inventory Map Page
Prairie Falcon	1. Alkali Canyon Area	3C	D-63
	2. Pilot Rock Area	3C	D-96
Bald Eagle Nests	Bob Sled Ridge (T3N R37, Sec. 20) (in National Forest; nest inactive for 10 years) (ONHP Ref.#UM-34)	1A	Not Mapped
Osprey Nests	Along Umatilla River; below Mission Bridge (on Umatilla Indian Reserva- tion--only one in County)	1A	Not Mapped
Heron Rookeries	1. Along Walla Walla River near Tum-a-Lum (exact location unknown)	1B	Not Mapped
	2. Along Umatilla River, near Nolin (exact location unknown)	1B	Not Mapped
Long-Billed Curlews	1. Darr Flat (T2N R30, Sec. 25,36) (see significant natural areas) (ONHP Ref.#UM-3)	3A	D-90
	2. Cold Springs National Wildlife Refuge (ONHP Ref.UM-35)	3A/1A	D-45
	3. Pilot Rock Grassland (see significant natural areas) (ONHP Ref.#UM-43)	3A	Not Mapped
	4. Along Umatilla River (between Stanfield and .3-mile dam)	3C	D-64
	5. Alkali Canyon Area	3C	D-63
	6. Echo Meadows	3C	D-51

Sources: The Nature Conservancy, Oregon Natural Heritage Program (ONHP), April, 1978.
Oregon Department of Fish and Wildlife, 1983, 1984.

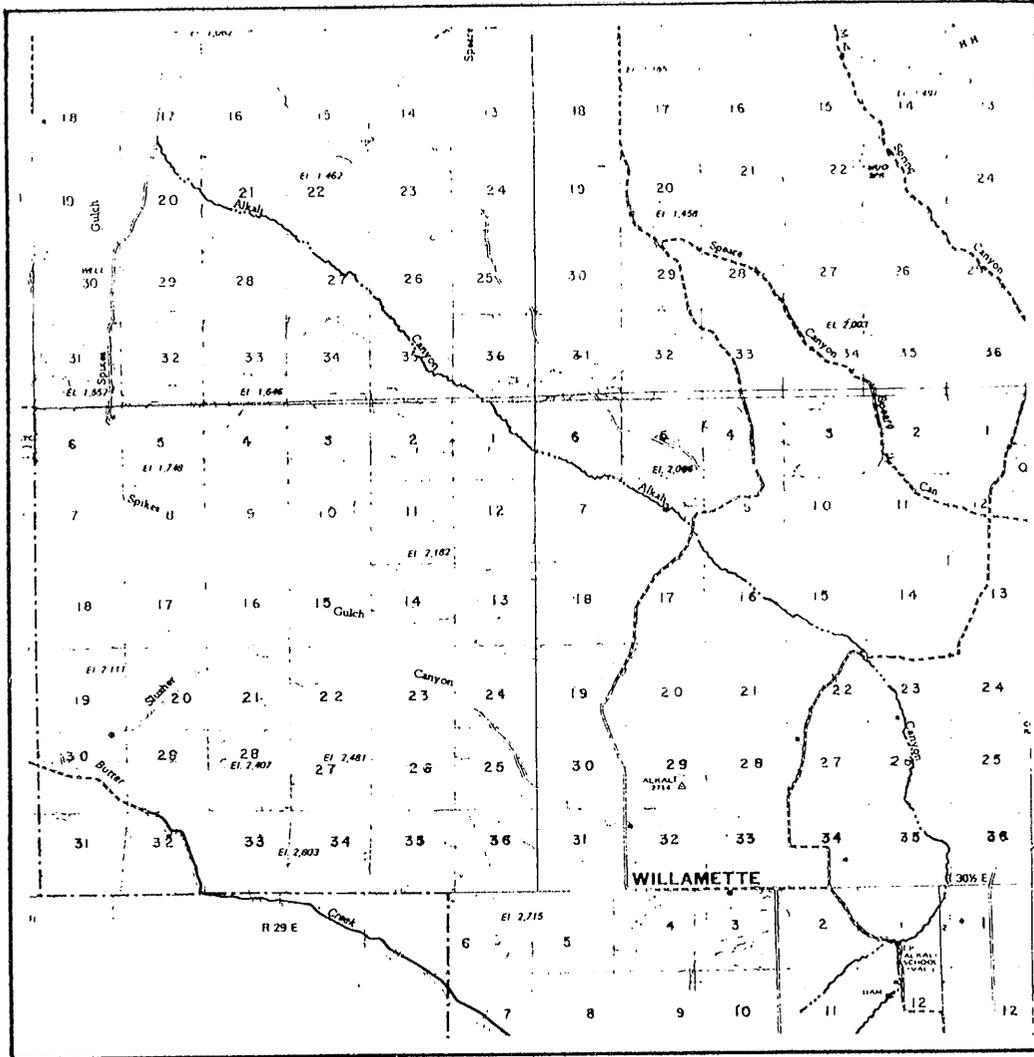
INVENTORY
**HABITATS OF RARE, THREATENED
 AND ENDANGERED SPECIES**

MAP: D-63

AREA: Alkali Canyon

Importance: Prairie Falcon nesting area/Curlews

T/R: T1N R30 E



Habitat Area Generalized for Species Protection

Map Source: State of OR, Hwy. Div.

Plan Designation: Agricultural

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: None significant--most grazing land

Goal 5 Analysis: 3C; limit conflicting uses

Management Program: Plan and zoning designations limit conflicting uses

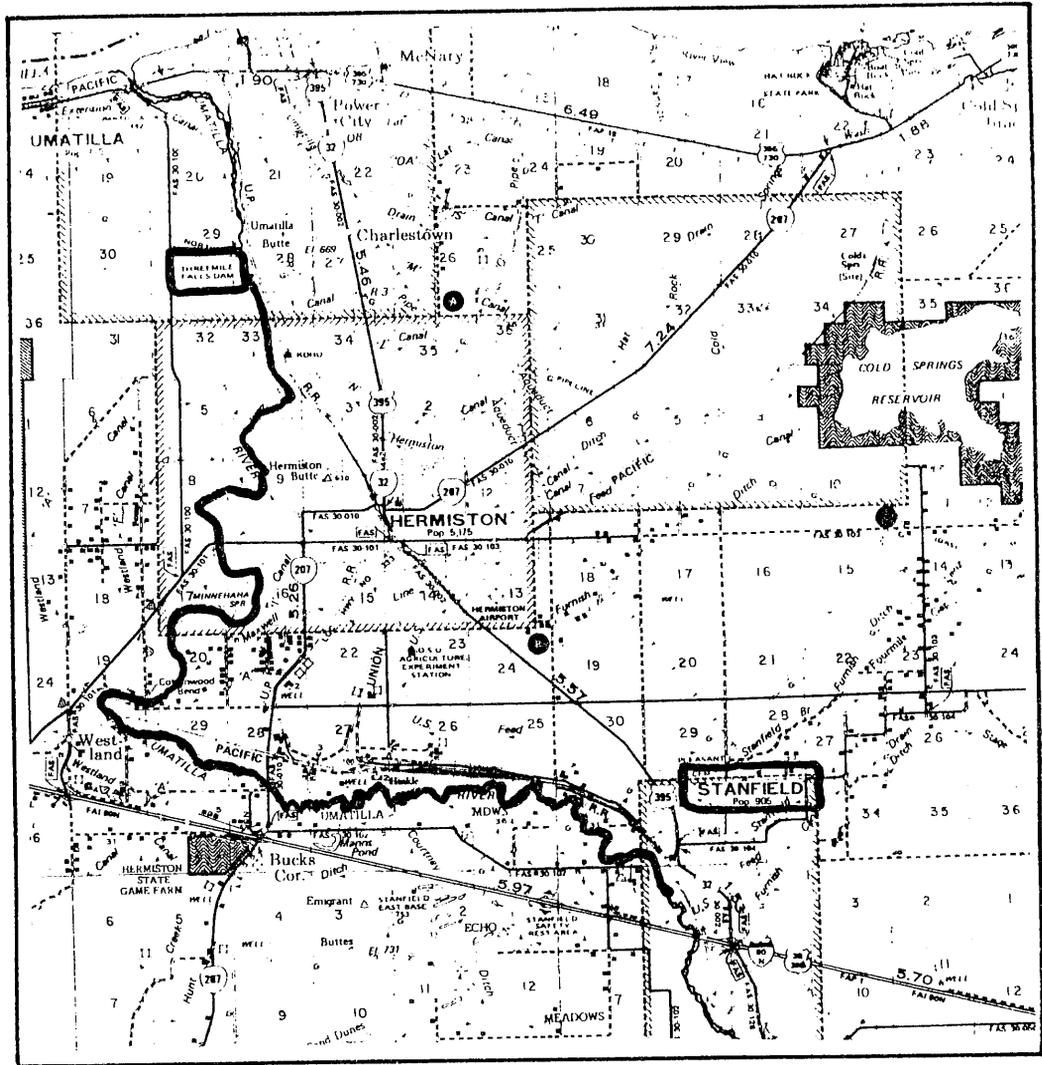
INVENTORY
**HABITATS OF RARE, THREATENED
 AND ENDANGERED SPECIES**

MAP: D-64

AREA: Lower Umatilla River

Importance: Heron rookeries / Curlews

T/R: Between Stanfield and 3 Mile Dam



Habitat Area Generalized for Species
 Protection

Map Source: State of OR,
 Hwy. Div.

Plan Designation: Agriculture, residential, industrial, UGB

Zoning Designation: Floodplain zoning

Possible Land Use Conflicts: Residential and urban uses

Goal 5 Analysis: 3C - limit conflicting uses

Management Program: Stream setbacks and floodplain zoning limits

conflicting uses

If conflicting uses are permitted without restriction, adverse consequences will result. Such consequences will include the potential loss of wildlife resource, which are important for their economic value (e.g. wildlife viewing), and their social value (aesthetics of native species).

If all conflicting uses are prohibited, there will be serious adverse economic consequences as needed uses (e.g. agricultural and forest residences, primary processing facilities, utility facilities, etc.) would be precluded. The prohibition of such needed uses would also have negative social consequences, as the lifestyles of many county residents would be disrupted.

Because of the adverse consequences of both permitting and prohibiting conflicting uses for these sensitive habitats, standards are needed by which such conflicts can be specifically limited. These standards will be developed by Umatilla County, as no other adequate programs are currently in operation.

It must be noted that because of the potential for disruption and vandalism by humans, it is unwise to pinpoint in this report locations of certain wildlife habitat such as prairie falcon nests. The Planning Department staff is aware of the general locations of such sites and will notify Fish and Wildlife officials of potential development that may interfere with wildlife habitat.

Fish Habitat

Sensitive areas for fish production as shown on Table D-XIII and Map, page D-⁷¹~~30~~ are "rivers and streams" and "lakes, reservoirs and ponds." "Headwater areas," as defined in the text, although not identified on maps, are sensitive through their affect on water quality and fish production downstream.

[New] The Nature Conservancy has noted two important good habitat areas for fish; the entire Squaw Creek drainage (most of which is within the Umatilla Indian Reservation) and the North Fork of the John Day River. (These areas are discussed further later in this chapter).

Table D-XIII
Fish Distribution, Umatilla County

	Summer Steelhead	Rainbow Trout	Dolly Varden	White- fish	White Crappie	Black Crappie	Sm.Mouth Bass	Lg.Mouth Bass	Blue Gill	Brown Bullhd.	Channel Catfish	Yellow perch
Columbia R. I	x		x	x		x	x	x	x			x
Umatilla R.	x	x	x	x								
Butter Creek		x										
Butter Cr., N.Fk.		x										
Caddy Creek		x										
Sp. Hollow Cr.		x										
Birch Creek	x	x										
Stewart Cr.	x	x										
Porter Gulch Cr.		x										
Birch Cr., W.Fk.	x	x										
Owings Creek	x	x										
Bear Creek	x	x										
Bridge Creek	x	x										
Stanley Creek	x	x										
Birch Cr., E.Fk.	x	x										
Calif. Gulch Cr.	x	x										
Pearson Creek	x	x										
So. Canyon Cr.	x	x										
McKay Creek		x										
McKay Cr., N.Fk.		x										
Bell Cow Creek		x										
Lost Pine Creek		x										
McKay Cr., S.Fk.		x										
Johnson Creek		x										
Tutuilla Creek		x										
Wildhorse Creek		x										
Greasewood Creek		x										
Greasewood, W.Fk.		x										
Buckaroo Creek		x										
Squaw Creek	x	x										
Meacham Creek	x	x										
Boston Canyon Cr.	x	x	x									x
Camp Creek	x	x										

Table D-XIII/Fish Distribution, Umatilla County--cont'd

	Summer Steelhead	Rainbow Trout	Dolly Varden	White-fish	White Crappie	Black Crappie	Sm.Mouth Bass	Lg.Mouth Bass	Blue-gill	Brown Bullhd.	Channel Catfish	Yellow Perch
Meacham Cr, N.Fk.	x											
Bear Creek	x	x		x								
Hoskins Creek	x	x		x								
Trap Creek	x	x										
Pot Creek	x	x										
Meacham Cr.E.Fk.	x	x	x	x								
Owsley Creek	x	x		x								
Butcher Creek	x	x		x								
Two Mile Creek	x	x										
Ryan Creek	x	x		x								
Bear Creek	x	x										
Lick Creek	x	x										
Umatilla R,N.Fk.	x	x	x	x								
Johnson Creek	x	x	x	x								
Umatilla R,S.Fk.	x	x	x	x								
Buck Creek	x	x	x	x								
Swamp Creek		x										
Lake Creek		x										
Thomas Creek	x	x		x								
Spring Creek	x	x	x	x								
Chimmiehorn Cr.	x	x	x	x								
Juniper Canyon Cr.		x										
Walla Walla R.	x	x	x	x								
Pine Creek		x										
Mud Creek, S.Br.		x										
Swartz Spring Cr.		x										
Johnson Creek		x										
Goodman Spring Br.		x										
Dugger Creek		x										
Dry Creek		x										
Mud Cr., Mid.Fk.		x										
Behnke Spring Br.		x										
Ford Branch		x										
Powell Branch		x										
Mill Creek		x	x									
Henry Canyon Cr.		x		x								

Table D-XIII/Fish Distribution Matilla County--Cont'd

	Summer Steelhead	Rainbow Trout	Dolly Varden	White-fish	White Crappie	Black Crappie	Sm.Mouth Bass	Lg.Mouth Bass	Blue-gill	Brown Bullhd.	Channel Catfish	Yellow Perch
Tiger Creek	x	x		x								
Cottonwood Cr.		x	x	x								
Birch Creek		x										
Spring Brook		x		x								
Couse Creek	x	x										
Walla Walla R., North Fork	x	x	x	x								
Big Meadow Cr.	x	x	x	x								
Walla Walla R., South Fork	x	x	x	x								
Elbow Creek	x	x	x	x								
Kees Canyon	x	x	x	x								
Burnt Cabin Gulch	x	x	x	x								
Skiphorten Creek	x	x	x	x								
Skookum Creek	x	x	x	x								
Reser Creek	x	x	x	x								
Rough Creek	x	x	x	x								
Barth Quarry Pond								x				
Dodd Pond								x				
Kiwanis Pond		x										
Spring-Mt. Pond		x										
Emigrant Pond					x							
Meacham Lake		x								x		
Hot Rock Pond		x										
Weston Pond		x										
McKay Res.		x										
McNary Pond		x										
Cold Sp. Res.		x										
Seven Mile Cr.		x										
Bassey Creek		x										
Coyote Creek	x	x	x	x								
Woodward Creek	x	x	x	x								
Low Ridge Creek		x	x	x								
Paradise Creek		x										

1 Columbia River also contains spring chinook, summer chinook, fall chinook, coho, sockeye salmon, shad and sturgeon.

Waters in Umatilla County are valuable for harvest, spawning and rearing and for migratory fish, resident trout and warm water game fish. Annual expenditure for the sport fishery harvest totaled over one million dollars in 1975. These data are presented in Table D-XIV angler pressure data and are based on 1970 and 1971 pressure. Angling pressure has continued to increase since this time. In addition to these figures, many steelhead produced in Umatilla County are taken by anglers in other counties, and in Washington, so expenditures shown are for Umatilla County only.

TABLE D-XIV
Effort and Economic Expenditure for Sport Fishery
in Umatilla County, 1975

Species	Angler Days	Angler Day Value	Gross 1975 Expenditures
Spring Chinook	2,890	\$30.80	\$ 89,012
Summer Steelhead	13,150	30.80	405,020
Sturgeon	480	8.82	4,233
Resident Trout	41,140	10.60	436,084
Warm Water Species	22,850	8.82	201,537
TOTALS:	80,510		\$1,135,886

Rivers and streams are defined as natural flowing waters, excluding man-made canals. They range in size from the larger rivers to the smallest tributary. The most important, from a fisheries standpoint, are those inhabited by, or that have potential for production of game fish or wildlife. Most rivers and streams in Umatilla County, including those with intermittent flows, are considered important to the fish resource by the State Fish and Wildlife Department. Table D-XIII shows the distribution of fish by streams, and the map on page D-71 illustrates distribution of summer steelhead in the Umatilla Basin.

State Department of Fish and Wildlife goals for rivers and streams include retaining riparian vegetation, channel integrity, meanders and stable banks that will protect water quality, preserving fish and wildlife habitat, and providing for a variety of recreational and aesthetic values.

Lakes and reservoirs are defined as natural and man-made bodies of water, regardless of size, that have present or potential value for fish production and/or angling. All lakes and reservoirs are considered important fish resource areas.

State Department of Fish and Wildlife goals for lakes and reservoirs include protecting water quality, preserving fish and wildlife habitat, retaining land adjacent to water areas in as near natural conditions as possible while allowing compatible land uses, maintaining public fishing areas and access, and preserving aesthetic values.

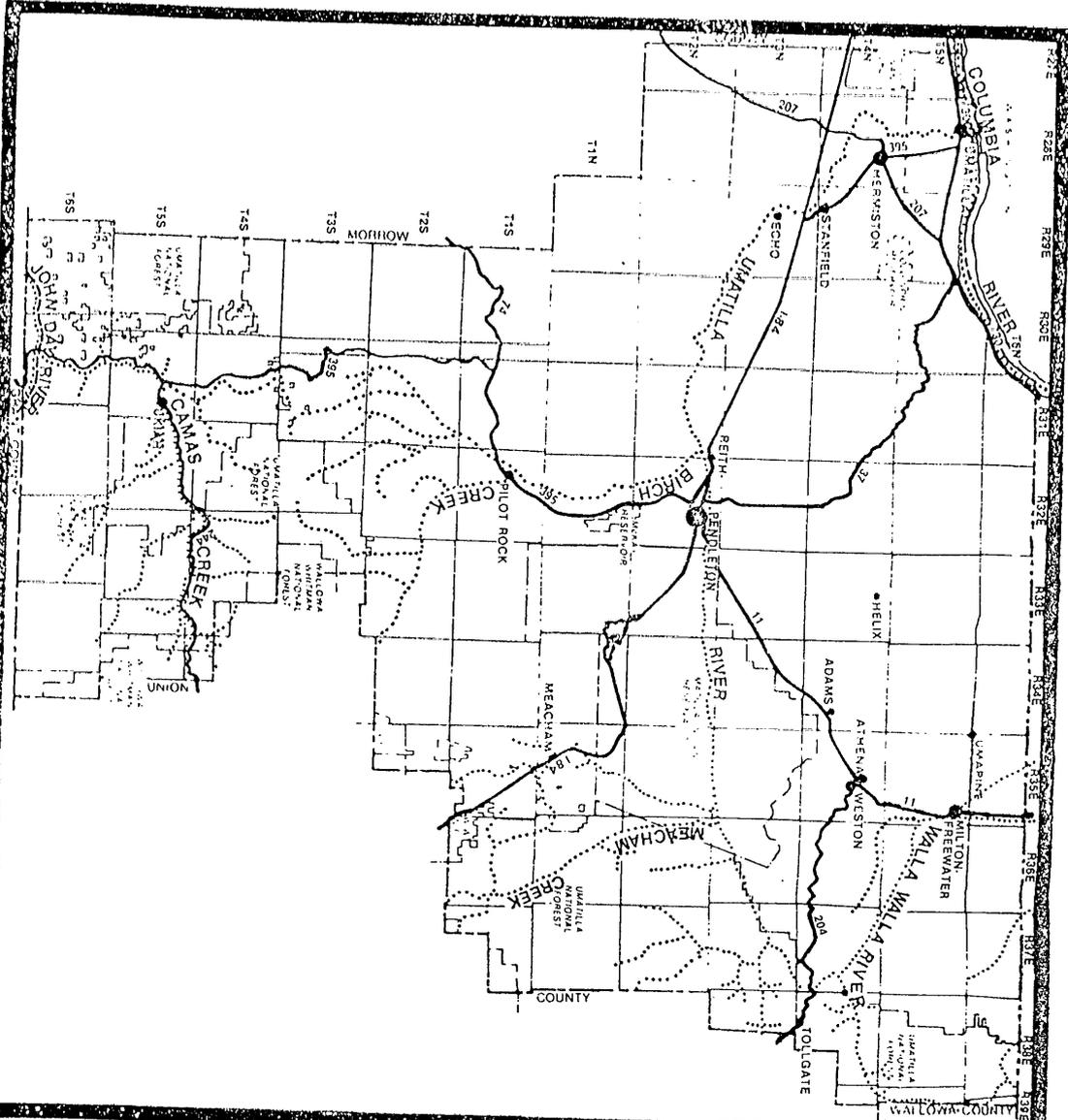
Headwater areas are defined as those sensitive areas in stream drainage patterns that fish generally do not inhabit, but where man's activities can cause direct impact on downstream water quality and fish production. Steep topography and highly erosive soils typify headwater areas.

[New] Specifically, headwaters are as defined in the Forest Practice Act as Class II streams:

"Class II streams" means any headwater streams or minor drainages that generally have limited or no direct value for angling or other recreation. They are used by only a few, if any, fish for spawning or rearing. Their principal value lies in their influence on water quality or quantity downstream in Class I waters. Streamflow may be either perennial or intermittent. OAR 629-24-101(3).

Or, on federal lands, headwater streams are as defined by the U.S. Forest Service as Class III and IV streams.

A State Department of Fish and Wildlife goal for headwater areas is to reduce erosion and turbidities by providing stable conditions in areas of steep topography where high erosion potential exists.

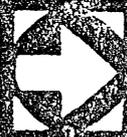


..... SUMMER STEELHEAD
 - - - - - SPRING CHINOOK

LEGEND

SOURCE: FISH AND WILDLIFE HABITAT
 PROTECTION PLAN FOR UMATILLA
 COUNTY Oregon Department of Fish and
 Wildlife, Eugene, OR, June 1978

ANADROMOUS FISH DISTRIBUTION
 UMATILLA COUNTY, OREGON



In general, uses or developments that require occupation of water surface area, channelization, removal of shoreline vegetation, alteration of natural streambanks, or filling into or removal from natural waterways may conflict with the protection of fish habitat. Obviously, such activities can potentially occur in conjunction with virtually any commercial, industrial or residential use. Whether or not a particular use would result in a conflict with fish habitats would depend on the particular circumstances and design of the development being proposed. Because of the uncertainty, it is not possible to be more specific about the location or nature of conflicting uses.

If all conflicting uses are allowed, the following general range of consequences may be expected:

- A. Negative economic consequences stemming from a reduction in the quality and quantity of the recreational and commercial fishery resources.
- B. Negative environmental consequences due to the degradation of water quality and fish habitat.
- C. Negative social consequences resulting from the reduction in quantity and quality of recreational angling opportunities.
- D. The potential for maintaining viable populations of native fish species for their aesthetic, scientific and educational value may be adversely affected.

If all conflicting uses are prohibited, the following general range of consequences may be expected:

- A. Many uses of major economic importance to Umatilla County and its citizens may require activities which would conflict with the preservation of fish habitat. Negative economic consequences would result from prohibition of these public, commercial, industrial and residential development.
- B. Negative social consequences may result from the prohibition of certain conflicting uses which fulfill a public need. Examples would be activities such as road, bridge and other transportation improvements, recreational development or needed housing types.

The potential consequences for either allowing or not allowing conflicting uses

would be widespread and far-reaching, due to the occurrence of areas of fish habitat through out the county.

Management Programs

It is neither practical nor desirable to categorically prohibit all conflicting uses. Likewise, the consequences of allowing all conflicting uses are such that some limitation of such is necessary. Several regulatory programs are currently in effect which place limitations on the conflicting uses and activities outlined above. Among these programs are the following: The Oregon Forest Practice Act, as administered by the Oregon Department of Forestry; Section 404 of the Clean Water Act as administered by the U.S. Army Corps of Engineers; the State Fill and Removal Law (ORS Chapter 527); and the Umatilla County Zoning Ordinance. Cumulatively, these programs provide a review for uses involving fill and removal, occupation of surface area, channelization and alteration of natural streambeds, waterway alterations and streamside vegetation removal in conjunction with forest operations. Each program provides for a review of proposed actions by the administering agency. Such reviews are conducted against a set of standards which address fish habitat considerations either directly or indirectly. Streamside vegetation removal in conjunction with non-forest use is not adequately addressed by any of the above programs. Clear and objective standards to address this concern and limit conflicting uses are needed.

ECOLOGICALLY AND SCIENTIFICALLY SIGNIFICANT NATURAL AREAS, INCLUDING DESERT AREAS

According to Statewide Planning Goal #5, the definition of "natural area" includes "land and water that has substantially retained its natural character and land and water that, although altered in character, is important as habitats for plant, animal or marine life, for the study of its natural historical, scientific or paleontological features, or for the appreciation of its natural features."

This broad definition of "natural area" would include hundreds of sites and areas within Umatilla County. In order to provide some selectivity in identifying natural areas worthy of recognition in the Comprehensive Plan, Statewide Planning Goal #5 requires inventories to designate "significant " natural areas. For the purposes of this inventory, "significant" is defined as follows:

Significant natural areas are sites which contain examples of unique or scientifically important natural resources which compare favorably in terms of quality and quantity with other examples of similar resources. These resources may include unique or scientifically important plant communities, aquatic types or geologic types. Sites are significant if they represent an assemblage of important resource types or an outstanding example of a single rare or unique resource. Individual species must generally be associated with other important species or resources to be considered as a "site."

The data base for this inventory of significant natural areas is contained in the Oregon Natural Areas Umatilla County Data Summary prepared by the Oregon Natural Heritage Program (OHNP) of the Nature Conservancy.³ Table D-XV is the actual inventory prepared by the Nature Conservancy.

Table D-XV
ONHP Site Inventory for Umtilla County

REF. NO.	SR	REFERENCE NAME	LOCATION T-R-S	PS	ELEMENT NO.	VO	ELEMENT NAME
UM-3	+	Darr Flat (pristine biscuit scabland)	2S, 30E 25, 36	3	1.18.986 1.28.910 1.28.911 2.02.557 2.02.654 2.02.881 4.10.120	V V V V V V V	Wetland shrubland Bluebunch wheatgrass-Idaho fescue Bluebunch wheatgrass-Sandberg's bluegrass Long-billed curlew Burrowing owl White-tailed jack rabbit Lowland pond, intermittent
UM-5		Upper Cottonwood Creek	5, 6N, 37E	3	5.17.806	V	Elk critical winter range
UM-6		Blalock Mountain and Flume Canyon	5N, 37E 31-34 4N, 37E 2-3	3	5.17.806	V	Elk critical winter range
UM-14		McNary Potholes	5N, 28E 13-15, 22-23	3	4.10.110 4.10.120 5.14.500 5.14.550	V V V V	Lowland pond, permanent Lowland pond, intermittent Waterfowl wetland Shorebird/marshbird habitat
UM-16		Stage Gulch Rangeland	3N, 31E SE 1/4 22	3	1.18.913 1.26.911	V V	Big sage/needlegrass Idaho fescue-bluebunch wheatgrass
UM-17		Anderson Park	1S, 33E 1 1S, 34E 6	3	1.06.710 1.16.722	V V	Ponderosa pine forests Snowberry
UM-19	+	Cabbage Hill	1N, 34E 7, 8, 18	3	1.06.710 1.16.724 1.26.910	V V V	Ponderosa pine forest Ninebark Steppe grassland
UM-20		South Fork Walla Walla River	4N, 37E 10, 14	3	1.06.620 1.06.630 2.02.265	V V V	Douglas fir forest Grand fir-white fir forest Margined sculpin

KEY: SR=Site Report

PS=Protection Status
1-preserved
2-legally protected
3-unprotected

VO=Verification of Occurrence
V-verified
NV-not verified

Table D-XV (cont'd)
 OENP Site Inventory for Umatilla County

REF. NO.	SR	REFERENCE NAME	LOCATION T-R-S	PS	ELEMENT NO.	VO	ELEMENT NAME
UM-21	+	Albee Area	4S, 32E 27-29, 32-33	3	1.06.710 1.16.722 1.26.911 1.26.656 1.26.912	V V V V V	Ponderosa pine forest Snowberry Idaho fescue-bluebunch wheatgrass Great gray owl Bluebunch wheatgrass-Sandberg's bluegrass
UM-22		Pilot Rock Area	1S, 31E	3		V	Special species occurrence
UM-25		North Fork Umatilla River	3N, 37E 13, 14, 15 3N, 38E 16-19	3	1.06.620 1.06.912 2.02.265 3.02.000 4.04.110	V V NV V V	Douglas fir forest Wetland forest Margined sculpin <i>Calypso bulbosa</i> Lowland stream segment, high gradient reach
UM-27		White Pine Spring	6S, 33E 22, 27	3	1.06.631 3.04.800	V V	Grand fir/thinleaf huckleberry Western white pine--isolated population
UM-34		Bobsled Ridge	3N, 37E 20	3	2.02.643	V	Northern bald eagle
UM-35		Cold Springs National Wildlife Refuge	4N, 29E 1-3, 12 5N, 29E 34-36 5N, 30E 31	2	2.02.503 2.02.557 2.02.654 5.14.500 5.14.550	NV V V V V	Special species occurrence White pelican Long-billed curlew Western burrowing owl Waterfowl wetland Shorebird/marshbird habitat
UM-36		McKay Creek National Wildlife Refuge	1N, 32E 2, 3, 10, 11, 12, 14, 23 2N, 32E 34, 35	2	5.14.500 5.14.550	V V	Waterfowl wetland Shorebird/marshbird habitat
UM-37		Bridge Creek Wildlife Management Area	6S, Ek 31E 6S, W 32E	2	5.17.804 5.17.806	V V	Deer critical winter range Elk critical winter range

KEY: SR=Site Report PS=Protection Status VO=Verification of Occurrence
 1-preserved 1-verified
 2-legally protected NV-not verified
 3-unprotected

Table D-XV (cont'd)
 OHNP Site Inventory for Umatilla County

REF. NO.	SR	REFERENCE NAME	LOCATION T-R-S	PS	ELEMENT NO.	VO	ELEMENT NAME
UM-38		Irrigon Wildlife Management Area	5N, 27E 14-17, 19-21	2	5.14.500	V	Waterfowl wetland
UM-39		Reith Area	2N, 31E NE $\frac{1}{4}$ 11	3	3.02.000	V	<i>Mimulus jungermannioides</i>
UM-40		Squaw Creek Overlook	1N, 35E N $\frac{1}{2}$ SW $\frac{1}{4}$ 9	3	3.01.049		<i>Lomatium minus</i>
UM-41		Squaw Creek	1N, 35E several 2N, 35E several 3N, 35E 35, 36	3	4.04.100 5.11.200	V V	Lowland stream, entire drainage Fish spawning area
UM-42		Kamela Area	1S, 35E 26	3	1.06.631	V	Grand fir/thinleaf huckleberry
UM-43		Pilot Rock Grassland	1S, 32E S $\frac{1}{2}$ 7	3	1.28.911 2.02.557	V V	Bluebunch wheatgrass/Sandberg's bluegrass Long-billed curlew
UM-44		North Fork John Day River	6S, 30-31E 7S, 29-31E	3	4.04.110 5.11.200 6.06.000	V V V	Lowland stream segment, high gradient reach Fish spawning area Recreation/open space/scenic features

KEY: SR=Site Report

PS=Protection Status
 1-preserved
 2-legally protected
 3-unprotected

VO=Verification of Occurrence
 V-verified
 NV-not verified

Source: Oregon Natural Heritage Program,
 Umatilla County Data Summary 1978

Site Reports

The Nature Conservancy has prepared detail site reports for some of the sites included in its inventory.^{3 4} These are summarized below.

Darr Flat (UM-3)

T 2S R30 EWM, S 1/2 of Sections 25,26, Sections 36,36; T 2S R30 1/2 EWM,
S 1/2 of Sections 25, 26, Sections 35,36
1500 acres, approximately
Ownership: Private

Description

The grassland-steppe vegetation zone of Oregon, where the climax native vegetation is bunchgrasses and associated herbaceous species covers millions of acres in the Columbia Basin and a small portion of southwest Oregon. Bluebunch wheatgrass is the dominant grass in the drier part of the zone at lower elevations, while Idaho fescue becomes prominent at higher elevations. No vegetation zone has been more greatly altered by man. Many decades of grazing and, more recently, widespread agriculture have left very few good quality representative native grasslands. Much of what is left in good condition is in gulleys and in other places inaccessible to cattle, and unusable for agriculture.

Darr Flat stands out as a high quality remnant of fescue-dominated grassland on typical rolling landscape in the upper Columbia Basin. An extensive Oregon Natural Heritage Program search has revealed no other example comparable in quality diversity or extent. In addition to the vegetation, a number of species of concern inhabit the area (see description below). This combination of natural elements makes Darr Flat one of the State's most significant potential natural areas.

Element Occurrences

Bluebunch wheatgrass and Idaho fescue communities
Bluebunch wheatgrass-Sandberg's bluegrass

As noted above, this is the outstanding site known to represent the moist community types of Oregon's grassland-steppe. Idaho fescue is the dominant grass. In addition, south-facing slopes support drier community types dominated by bluebunch wheatgrass; and shallow soils, drier slopes support a bluebunch wheatgrass-Sandberg's bluegrass community. Over 1500 acres of grassland is present. No other site compares to this one in terms of quality, size and diversity.

Western burrowing owl (Speotyto cunicularia hypugaea)

This is an Oregon Species of concern that is known to nest at the site. Nine occurrences reported elsewhere; uncertain population size at Darr Flatt makes comparison with other sites difficult.

Long-billed curlew (Numenius americanus parvus)

This in an Oregon species of concern that is known to nest at the site. Two nesting pairs were spotted in 1976. Again, uncertain population size makes

comparison with 14 other known occurrences (five in northern Oregon) difficult.

White-tailed jackrabbit (Lepus townsendii townsendii)

Oregon species of concern known to occur in this general area. Two seen at Darr Flat and four additional occurrences reported by the Oregon Natural Heritage Program.

Wetland Shrubland

This willow shrubland occurs along Webb Slough and has suffered severely from grazing. If allowed to recover, however, it can provide valuable wildlife habitat and can play a vital role in preserving and quantity and quality of the slough and spring water found on the site.

Threat to Element Occurrences

Presently this rangeland is well managed. If present grazing practices were to continue, present quality would be maintained. The most disturbed areas are Webb Slough and the homestead-spring adjacent to Webb Slough. Diversion of grazing animals from these areas would result in substantial upgrading of water quality, wildlife habitat and vegetation.

Discussion

High quality representatives of grassland steppe vegetation, such as that found at Darr Flat, are as rare and difficult to find as are populations of any rare plant, and they merit equal preservation efforts. The Idaho fescue-bluebunch wheatgrass communities are a high priority preservation need and the western burrowing owl and white-tailed jack-rabbit are unprotected species of concern. The long-billed curlew is a species which may be in danger of extinction.

Darr Flat is a very important site and, at a minimum, it is essential to preserve its present quality.

Albee Area (UM-21)

T 4S, R 32 EWM, portions of Sections 27-29, Sections 32,33
1600 acres, approximately
Ownership: Private

Description

This is one of the few remaining low elevation climax ponderosa pine sites in this province. It is an exceptionally large area that consists of about 800 acres of pine forest in a mosaic with Idaho fescue-dominated grassland. These communities sit on a gently southeast-sloping ridge at the foot of a series of hills supporting mixed conifer forest (grand fir, douglas fir, larch, ponderosa pine). The elevation range for the ponderosa pine forest is 1100-1220m (3500-4000 ft.). Several intermittent springs are located on the lower slopes of the hills.

Element Occurrences

Ponderosa pine forests

This stand is by far the largest old-growth climax ponderosa pine representative in ONHP files. Generally, this type of low elevation forest has been easily accessible and the vast majority of it has been logged. Most higher elevation stands on forest service land now dominated by ponderosa pine, have grand fir or douglas fir as the climax tree dominant. Such is not the case here, where only a few scraggly grand firs and western larches were noted amongst the pines. Fire control over the past 50-70 years has permitted the pine to regenerate and to become established in dense groups. Grazing has affected the composition of the understory, especially that of the herbaceous species. Shrub-dominated (snowberry, or bearberry) and grass-dominated (Idaho Fescue) understory types can be distinguished.

Idaho fescue-bluebunch wheatgrass Bluebunch wheatgrass-Sandberg's bluegrass

Almost 1000 acres of vernal moist grassland dominated by Idaho fescue, bluebunch wheatgrass, prairie junegrass, pine bluegrass, and Sandberg's bluegrass. Decades of grazing have had significant impact and grazing-increaser species are abundant. Nonetheless, the native species remain prominent, and rehabilitation is achievable. Species composition in the grasslands varies markedly with differences in soils moisture and soil depth.

Great Gray Owl (Strix nebulosa nebulosa)

The Great Gray Owl is a rare permanent resident in Oregon, largely in mountain ranges where lodgepole pine forest adjoin meadows. Here ponderosa pine adjoins meadows. A pair were cited by field surveyors and it is likely the owls nest on the site.

Intermittent stream Cold spring (intermittent) (may be just off site)

The vernal moist meadows are watered by several intermittent streams that originate in springs on the lower slopes of the adjacent hills.

Threat to Element Occurrences

Logging is an imminent threat to the ponderosa pine stand. Grazing damage to the understory and to the meadows continues, and removal of, or lessening of, grazing pressure would lead to improved quality particularly of herbaceous species.

Discussion

This site represents the best example in ONHP files of a rapidly disappearing forest type, and is a high priority natural area needed. In addition, the opportunity existing here to protect the critical forest-meadow ecotone habitat of the Great Gray Owl, and the vernal stream-moist meadow habitat with its range of moist to dry grassland types.

Anderson Park (UM-17) [Revised]

This site is a small (5-10 acre) piece of pure and uncut ponderosa pine forest surrounded by selectively cut and clearcut areas. This is one of the few areas in eastern Oregon where ponderosa pine is the true climatic climax species that hasn't been logged or overgrazed. The owner is protecting the site as it is. This site is located on the Umatilla Indian Reservation.

South Fork Walla Walla River (UM-20)

This site is a county park (Harris County Park) that harbors the margined sculpin (fish species of concern) in the Walla Walla River and two different forest communities on opposite slopes of the canyon that are botanically and geologically interesting. The area gets a lot of public use and apparently is not a truly high quality "natural area," though people familiar with the area may see it as such.

Millions of wintering "ladybugs" are a unique feature of the area. They congregate on riparian foliage, particularly on the trunks of rough-barked douglas fir trees. These beetles begin congregating in the canyon in late October and will reside there until late April or early May. They are a service to local agriculturists by eating destructive aphids, and are of economic importance for that reason.⁵

Pilot Rock Area (UM-22)

The special species occurrence found at UM-22 is that of nesting prairie falcons west of Pilot Rock. These birds are greatly reduced from their original numbers in Oregon and throughout their range due the habitat alteration and pesticide contamination.

Stage Gulch Rangeland (UM-16)

Pilot Rock Grassland (UM-43)

These two sites, along with Darr Flat (UM-3), are areas that have never been converted to agriculture or heavily grazed; this, much of the original plant community still exists. The Stage Gulch site (UM-16) is actually an area which is still dominated mostly by introduced species such as cheatgrass (Bromus tectorum) but which has not been grazed in 30 years and is beginning to recover significantly. The total extent of the two plant communities identified in the SE 1/4 of Section 22 is about 20 acres. UM-43 is about 30 acres in size and contains a fairly undisturbed native grassland.

Reith Area (UM-39)

Squaw Creek Lookout (UM-40)

Lomatium minus and Mimulus jungermannioides (UM-39, UM-40) are plant species whose known populations are low enough such that their future existence cannot be assured without active protection measures. The former is a member of the parsley family and grows in dry drainage channels or basaltic rocks. The later is a monkey-flower that grows in a few river canyons in eastern Oregon.

The other Umatilla county sites inventoried by The Nature Conservancy have not been studied in detail (UM 4, UM 5, UM 6, UM 14, UM 16, UM 20, UM 25, UM 27, UM 34, UM 35, UM 36, UM 37, UM 38, UM 41, UM 42, UM 43, UM 44). UM 19, Cabbage Hill, has a detailed site report, but is located within the Umatilla Indian Reservation, so is not discussed herein.

Analysis

The inventory and site reports prepared by ONHP have been further refined by Umatilla County based upon the definition of "significance" mentioned earlier. The sites on the original list have been categorized as follows:

1. Eliminated after Further Analysis

These sites have been removed from further consideration as significant natural sites for one or more of the following reasons:

- The natural area qualities of the site have been destroyed.
- Data gathering in the field or from secondary information sources, has failed to yield evidence of natural area qualities.
- Staff have failed to find the site in the field and there is good reason to believe that either the location is incorrect or the site no longer exists.

Any of these sites, as well as new sites, may be reconsidered if further information indicates a need to do so.

2. Good Habitat Areas

This category includes areas of value primarily as wildlife habitat.

They do not appear from current data to qualify as significant natural areas as defined above. These areas would be covered under the wildlife habitat provision of the Comprehensive Plan.

3. Species Occurrence [Revised]

These sites have been inventoried due chiefly to the occurrence of a single species of plant or animal which is included in the classification list in the Data Summary. These sites are placed into this special

category since they do not qualify as significant natural areas according to the criteria for determining significance.

4. Significant Natural Areas

These sites are reported to contain values which would qualify them as significant natural areas. It is not implied that all such inventoried sites will be protected as natural areas. Varying degrees of protection may or may not be provided to these sites depending upon the identification of conflicting uses, if any, and an analysis of the environmental, social, economic and energy consequences of alternative courses of action.

5. Outside of County Jurisdiction [Revised]

These are sites which occur within the corporate boundaries of a city or within boundaries of the Umatilla Indian Reservation, Umatilla National Forest, or a federal management area, and are thus outside of the county's jurisdiction. These sites have not been evaluated for the occurrence of natural area values.

The following information has been taken from the inventory list of sites which was included in the original ONHP Data Summary. This information has been used to classify each of the original inventoried sites into one of the above categories. Only sites listed as Category 4 sites are identified as significant natural areas as defined by Goal 5. This original ONHP list is included for informational purposes only, in order to allow reviews of this material to follow the process used to arrive at the final identification of sites. Table D-XVI gives the results of this site review process.

Site Evaluations for Significant Natural Areas, Species Occurance Areas and Good Habitat Areas [Revised]

UM-3 DARR FLAT (Significant Natural Area) (3A) [Revised]

See Site Report (page D-78) for a description of Darr Flat. This remnant of the one major plant community is "one of the state's most significant potential natural areas," according to the Nature Conservancy.⁵ The value of preserving this plant community is not just for aesthetics but

also for study and management application. The native grasses that once dominated much of Umatilla County (Agrophran spicatum, Festuda idahoensis, Poa sandbergii) have been adapting specifically for this climate and conditions found here for countless generations. It may be that we'll need to draw on these resources in the future, and if so, protection of these communities in high quality will be essential. Darr Flat is under private ownership. Cunningham Sheep Company (owners) have agreed to preserve the site in its present condition and it is on record that it will notify the County of any proposed changes in ownership or use. (See Appendix)

UM-4 LAZINKA RANCH (Eliminated) (1A)

Although listed in some ONHP inventories, no specific information is available as to why. Therefore, this site was eliminated because data gathered in the field or from secondary information sources failed to yield evidence of natural area qualities.

UM-5 UPPER COTTONWOOD CREEK (Good Habitat Area) (3C)

This area is an elk critical winter range. Most of the area is owned by large timber companies. Management provisions are discussed under the big game wildlife portion of this section and the Forest Lands section of this report.

UM-6 BLALOCK MOUNTAIN AND FLUME CANYON (Good Habitat Area) (3C)

This area is an elk critical winter range. Most of the area is owned by large timber companies. Management provisions are discussed under the big game wildlife portion of this section and the Forest Lands section of this report.

UM-14 McNARY POTHoles (Good Habitat Area) (3C) [Revised]

The McNary Potholes region covers a number of sections east of U.S. Highway 395 north of Hermiston and south of Umatilla. It is an area of scattered intermediate and permanent lowland ponds and marshes which is habitat for shore and marsh birds as well as many small mammals. Deer frequent the area, also. It is divided into numerous private ownerships. Several potential conflicts to preservation exists. The area could be drained and used for agriculture. Much of the area is within the Hermiston irrigation District (see map B-14). However, most of the soils are classified VIII or VI irrigated, or are unmapped scabland, so agricultural use is limited. Some pastureland and garzing exists in the area. These existing uses probably compliment the marsh wildlife habitat by providing additional open space.

Another potential conflict to preservation of the marsh habitat is the possibility of urban/suburban development. Some of the area is within the Umatilla urban growth boundary, and some suburban and commercial uses already exist along U.S. 395 and adjoining county roads. However, there are some natural factors that inhibit development of the area. The very "wetness" of the area is one limitation as well as are the foundation restrictive soils of the area.

There currently exists in the area a wildlife management area of approximately ninety acres, owned by the Bureau of Land Management and managed by the State Department of Fish and Game. Study should be given to whether

additional land should be included in this wildlife management area or if the existing refuge and the low risk or extensive urban/suburban development or more intensive agricultural use adequately insure continued use of the area as a good wildlife habitat area. The rest of the area is protected by exclusive farm use zoning. See also the discussion of this area under "Significant Wetlands."

UM-16 STAGE GULCH RANGELAND (Significant Natural Area) (1B)

Like Darr Flat, this site has never been converted to agricultural use or heavily grazed; consequently, much of the original plant community remains. Actually, the site consists of gully and slope areas not useful for agriculture. The area is privately owned, and management provisions should be determined to insure the site is permanently secured as a natural area.

UM-17 ANDERSON PARK (Outside of County Jurisdiction) (1A) [Revised]

As noted earlier, this small (5-10 acre) parcel contains a stand of climax species ponderosa pine. It is located on the Umatilla Indian Reservation, therefore, it is outside of county jurisdiction.

UM-19 CABBAGE HILL (Outside of County Jurisdiction) (1A)

This site contains some special species occurrence; however, it is located on the Umatilla Indian Reservation. Therefore, it is outside of county jurisdiction.

UM-20 SOUTH FORK WALLA WALLA RIVER (Good Habitat Area) (3C)

Harris County Park and some adjacent BLM land make up this good habitat area. Recently the county and BLM prepared a management plan for the area which will provide habitat protection; yet allow recreational uses.⁶

UM-21 ALBEE AREA (Significant Natural Area) (1B)

The Albee area site is described in detail earlier in this section. ONHP calls it "the best example . . . of a rapidly disappearing forest type, and is a high priority natural area need."⁷ Logging and overgrazing are listed as "imminent threats." The site is in several private ownerships, and management provisions should be developed to insure continuance of a significant natural area.

[New] Because of its size (1600 acres), multiplicity of ownership, and the scattered occurrence of the important natural features over a wide area, a more scattered occurrence of the important natural features over a wide area, a more detailed inventory and site analysis of the area should be done. Property owners should be notified of the importance of the area and a dialog established among the property owners. County, State Department of Forestry, Nature Conservancy and other interested parties as to the various possibilities for preservation and protection of the area.

UM-22 PILOT ROCK AREA (Species Occurrence) (3C)

This is an area where prairie falcons nest. These birds are greatly reduced in numbers in Oregon due to habitat alteration and pesticide contamination.

An entire township is included in this designation; a township with rangeland with a small amount of cultivated land. It is doubtful that protective measures are required other than notifying property owners of the situations and obtaining some indication from them of their awareness and concern.

- UM-25 NORTH FORK UMATILLA RIVER
- UM-27 WHITE PINE SPRING
- UM-34 BOBSLED RIDGE
- UM-35 COLD SPRINGS NATIONAL WILDLIFE REFUGE
- UM-36 MCKAY CREEK NATIONAL WILDLIFE REFUGE

These sites are on federal lands and are protected by the appropriate agencies. Thus, they are outside of the jurisdiction of the county. However, the County should enter into cooperative agreements with these federal agencies when necessary to promote or insure the viability of these sites.

- UM-37 BRIDGE CREEK WILDLIFE MANAGEMENT AREA (3C) [New]

This 13,086-acre big game (deer, elk) area is owned and managed by the State Fish and Wildlife Department. An adjacent 2000 acres within the Umatilla National Forest provides additional summer range.

- UM-38 IRRIGON WILDLIFE MANAGEMENT AREA (3C) [New]

This 930-acre wildlife area stretches along the Columbia River shore from Irrigon to the mouth of the Umatilla River, 425 acres of which is located in Umatilla County. It is managed by the State Fish and Wildlife Department primarily for upland game, waterfowl, shorebirds and raptors. The County and State have a signed management agreement for the area. Part of it is within the City of Umatilla Urban Growth Boundary.

- UM-39 REITH AREA (Species Occurrence) (3C)

This site contains Mimulus jungermannioides, a monkey-flower that grows in only a few river canyons in eastern Oregon and whose future existence cannot be assured without active protection measures. Since the plants are located along bluffs, road cuts and railroad tracks, some assurances from private property owners, the state and county highway departments, and the Union Pacific Railroad should be obtained, that herbicides will not be used in the area.

The locational information given in Table D-XV, the Data Summary, for the Mimulus as the NE 1/4 of section 11, is incorrect and should read the SW 1/4 of the SW 1/4 of section 12 and along the base of the basalt cliff in the SE 1/4 of section 11.

- UM-40 SQUAW CREEK OVERLOOK (Outside of County Jurisdiction) (1A)

This site is located on the Umatilla Indian Reservation and therefore is outside of county jurisdiction.

UM-41 SQUAW CREEK (Good Habitat Area/Partially Outside of County Jurisdiction) (3)

The entire drainage of Squaw Creek is included as an important fish spawning area. See the Fish Habitat portion of this chapter regarding Squaw Creek. Most of the stream is within the Umatilla Indian Reservation; however, the county should cooperate with the Tribe, State Fish and Wildlife Department, and State Forestry Department to insure the continued integrity of the stream for fish spawning purposes.

UM-42 KAMELA AREA (Series Occurrence) (1B)

Part of this ground fir/huckleberry habitat is located within the State Highway Department's Blue Mountain Forest Wayside. A detailed site report is needed to determine if additional protection measures should be proposed.

UM-43 PILOT ROCK GRASSLAND (Significant Natural Area) (3C)

This 30 acre site, like Darr Flat and the Stage Gulch site, has never been converted to agriculture or heavily grazed; thus, much of the original plant community still exists. The natural grassland is actually a remnant of rough hillside surrounded by dry land grain fields to the south, east, and west, and circle irrigated field to the north. Any protective measures should be limited to agreements arranged with the property owners.

UM-44 NORTH FORK JOHN DAY RIVER (Good Habitat Area) (3C)

Umatilla County contains only about seven miles of the North Fork of the John Day River, and part of that river mileage is within the State Highway Department's Ukiah-Dale Forest wayside. The river provides a multitude of recreation aspects as well as fish spawning areas. The entire North Fork (105.6 miles) is included in the U.S. Department of the Interior "Nationwide Rivers Inventory" for possible inclusion in the national wild and scenic rivers program.¹⁸ Further discussion of this area is found under the "waterways" portion of this chapter.

TABLE D-XVI [Revised]
 Site Evaluations for Significant Natural Areas, Species Occurance Areas and
 Good Habitat Areas [Revised]

<u>ONHP Site #/ Map Page</u>	<u>Site Name</u>	<u>Site Category (see below)</u>	<u>Goal 5 Analysis</u>
UM 3/D-90	Darr Flat	4	3A
UM 4	Lazinka Ranch	1	1A
UM 5/D-91	Upper Cottonwood Creek	2	3C
UM 6/D-92	Blalock Mountain and Flume Canyon	2	3C
UM 14/D-93	McNary Potholes	2	3C
UM 16/D-94	Stage Gulch Rangeland	4	1B
UM 17	Anderson Park	5	1A
UM 19	Cabbage Hill	5	1A
UM 20/D-95	South Fork Walla Walla River	2	3C
UM 21	Albee Area	4	1B
UM 22/D-96	Pilot Rock Area	3	3C
UM 25	North Fork Umatilla River	5	1A
UM 27	White Pine Spring	5	1A
UM 34	Bobsled Ridge	5	1A
UM 35	Cold Springs National Wildlife Refuge	5	1A
UM 36	McKay Creek National Wildlife Refuge	5	1A
UM 37/D-97	Bridge Creek Wildlife Management Area	2	3A
UM 38	Irrigon Wildlife Management Area	2	3C
UM 39	Reith Area	3	3C
UM 40	Squaw Creek Overlook	5	1A
UM 41/D-98	Squaw Creek	5/2	3C
UM 42	Kamela Area	5/3	1B
UM 43	Pilot Rock Grassland	4	3C
UM 44/D-99	North Fork John Day River	2	3C

Site Categories

- | | |
|--------------------------------------|-----------------------------|
| 1. Eliminated after Further Analysis | 2. Good Habitat Area |
| 3. Species Occurance | 4. Significant Natural Area |
| 5. Outside of County Jurisdiction | |

Conflicting Uses

As noted in the discussion of some of the natural areas, there is a wide range of potential conflicting uses which could threaten the continued existence of these special natural habitats. Several sites (South Fork Walla Walla River, North Fork John Day River, Kamela Area) have a high potential for more-or-less intensive recreational uses. Some sites (Darr Flat, Stage Gulch, Pilot Rock Area, Pilot Rock Grassland, McNary Potholes) could be affected by more intensive agricultural operations. McNary Potholes could be affected by urban development. Logging operations might threaten others (Upper Cottonwood Creek, Blalock Mountain, Anderson Park, Albee Area, North Fork John Day River, Squaw Creek, Kamela Area). And the uniqueness of some others could be destroyed by right-of-way maintenance herbicides (Reith Area, for example).

Preservation of all the sites designated as good habitat area, species occurrence or significant natural area, and that are under county jurisdiction, would not seem, with the information available, to cause any great economic impact on the community or property. However, further detailed study should be made of the site to determine if any economic impacts would outweigh the intrinsic, aesthetic and environmental value of site preservation.

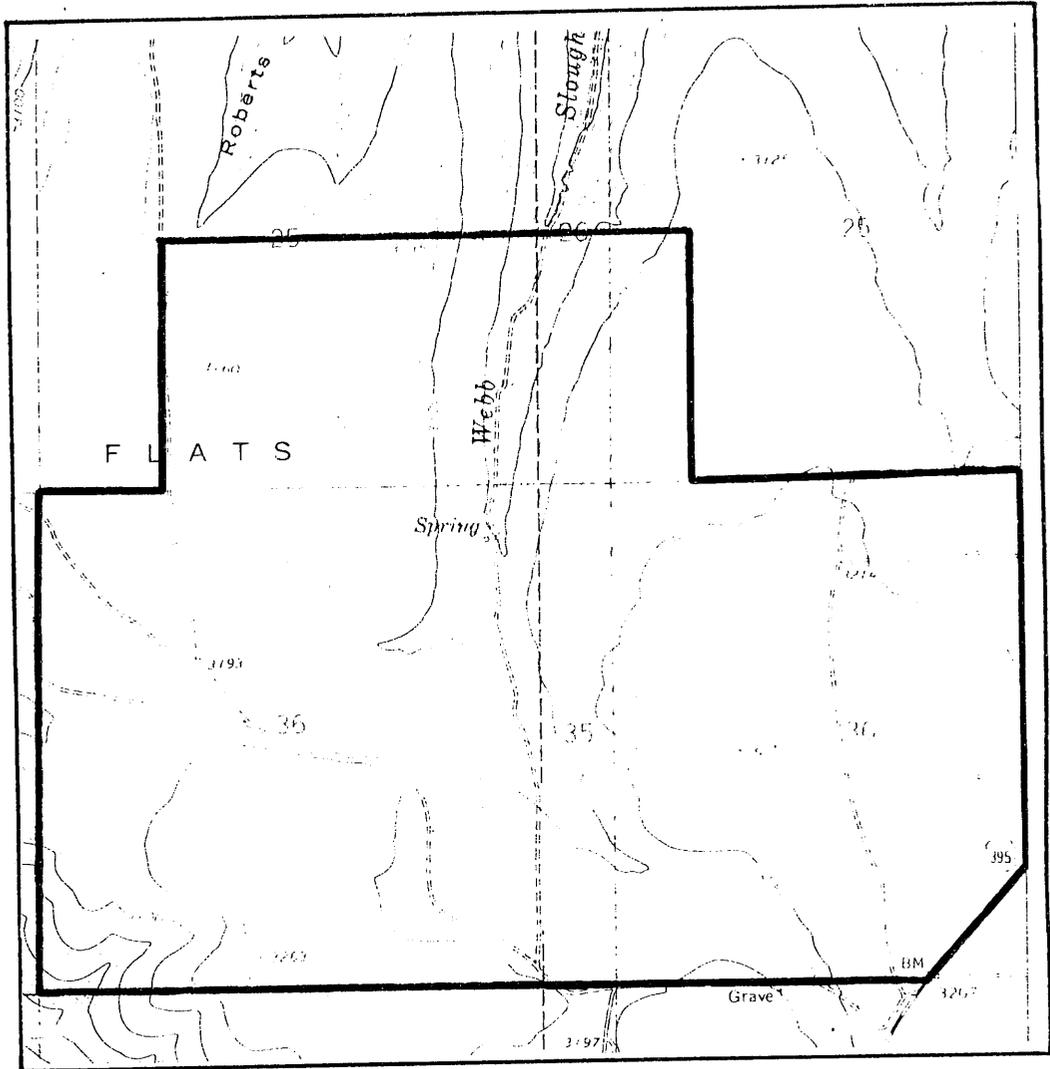
INVENTORY
SIGNIFICANT NATURAL AREAS

MAP: D-90

AREA: Darr Flat (UM-3)

Importance: Significant Natural Areas

T/R: T 2S R30; Sections 25, 26, 35, 36



Significant Natural Areas Generalized
for Habitat Protection

Map Source: U.S.G.S.

Plan Designation: Agriculture

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: Cultivation, overgrazing

Goal 5 Analysis: "3A" Protect the resource with cooperation of owners.

Management Program: Cunningham Sheep Company (owner) is on record that it will notify the County of any proposed changes in ownership or use.

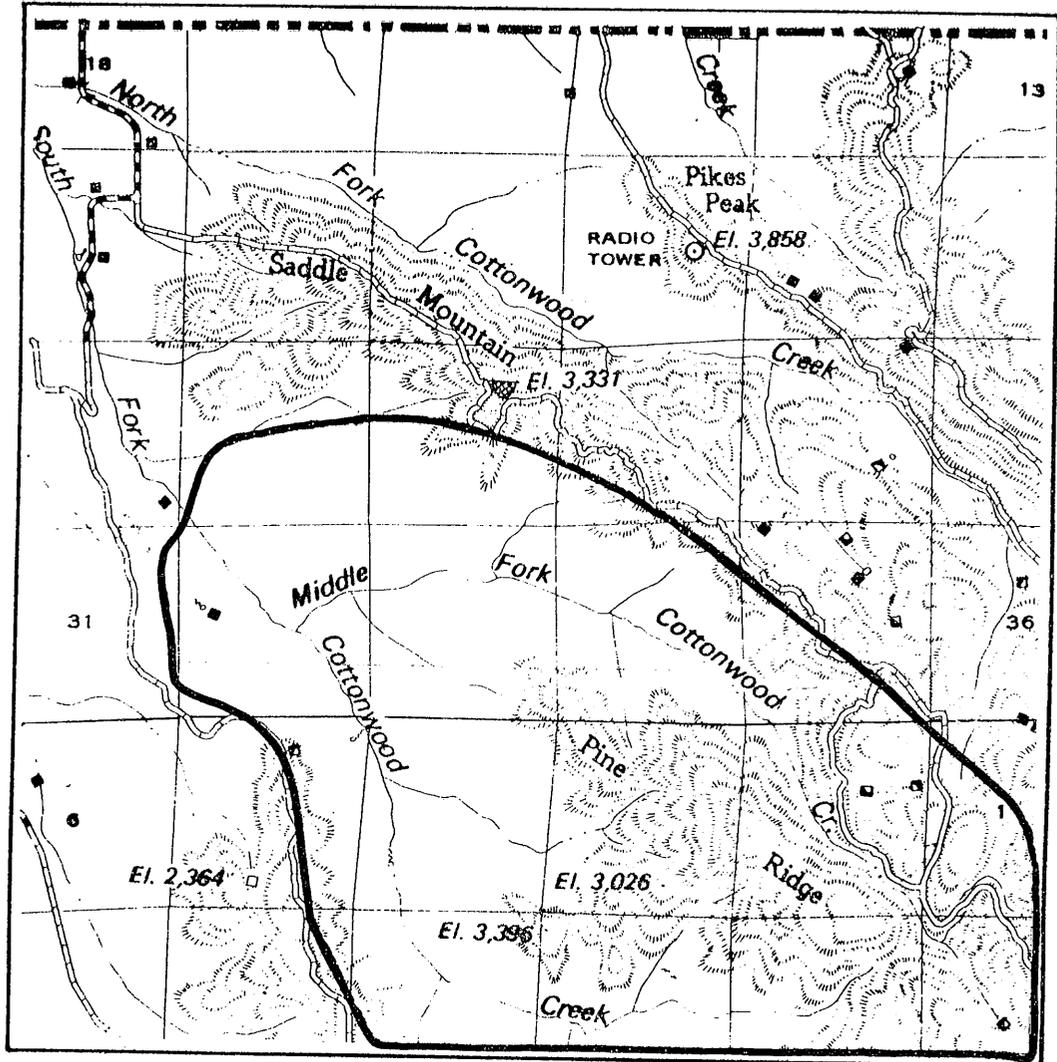
INVENTORY
SIGNIFICANT NATURAL AREAS

MAP: D-91

AREA: Upper Cottonwood Creek (UM-5)

Importance: Elk critical winter range

T/R: 5/6N R37



Significant Natural Areas Generalized
for Habitat Protection

Map Source: State of OR,
Hwy. Div.

Plan Designation: Agricultural

Zoning Designation: Exclusive Farm Use; CWR

Possible Land Use Conflicts: Overgrazing; poor soil conservation practices

Goal 5 Analysis: 3C; limit conflicting uses

Management Program: Critical winter range overlay

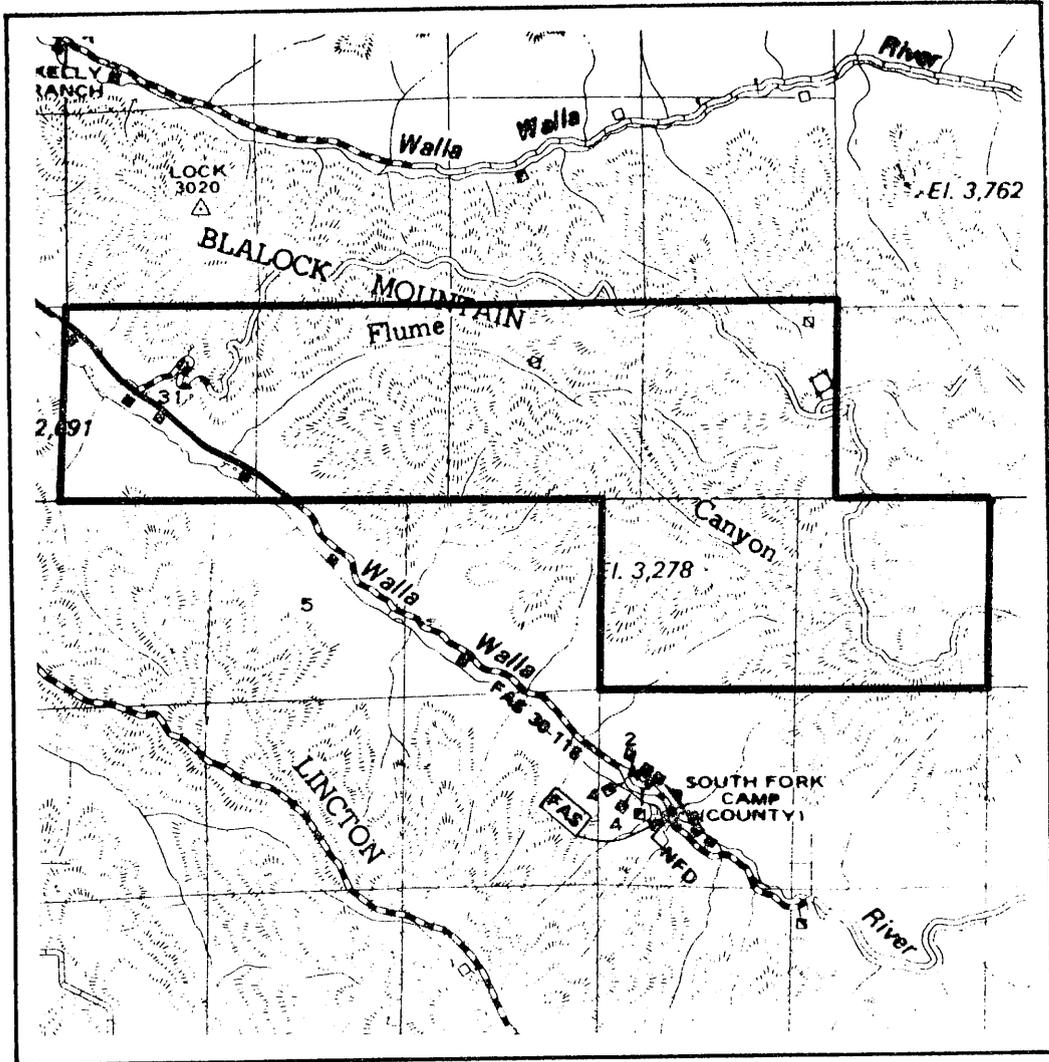
INVENTORY
SIGNIFICANT NATURAL AREAS

MAP: D-92

AREA: Blalock Mt. and Flume Canyon (IM-6)

Importance: Elk critical winter range

T/R: T 5N R37, Sections 31-34, T 4N R37, Sec. 2-3



Significant Natural Areas Generalized
for Habitat Protection

Map Source: State of OR,
Hwy. Div.

Plan Designation: Agriculture and Grazing Forest

Zoning Designation: EFU and Forest Conservation; CWR Overlay

Possible Land Use Conflicts: Overgrazing, poor timber management practices

Goal 5 Analysis: 3C

Management Program: Agriculture and Forest Timber zoning designations
with Critical Winter Range overlay.

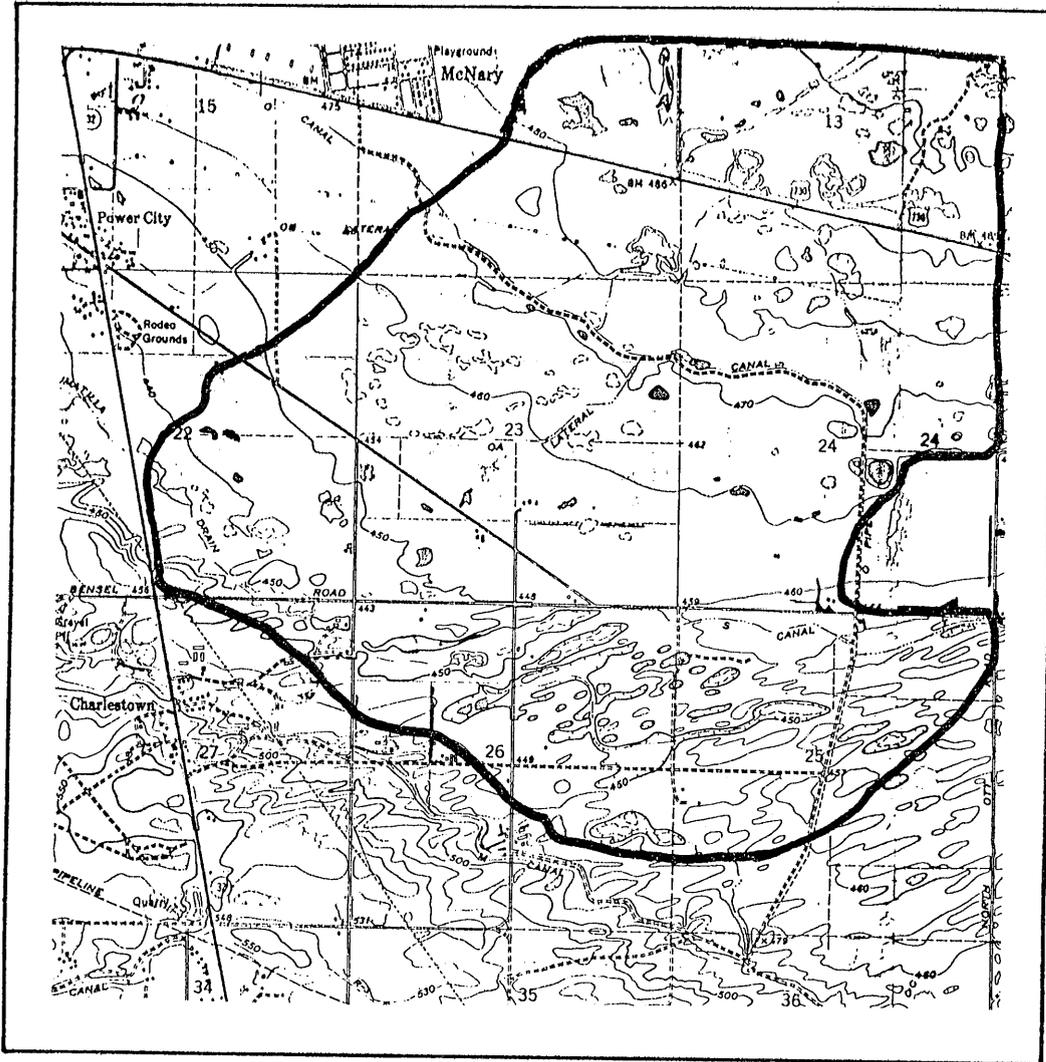
INVENTORY
SIGNIFICANT NATURAL AREAS

MAP: D-93

AREA: "McNary Potholes" (UM-14)

Importance: Wetlands

T/R: T 4N R 28E, Sections 13, 14, 15, 22, 23, 25, 26, 27



**Significant Natural Areas Generalized
for Habitat Protection**

Map Source: **State of OR,
Hwy. Div.**

Plan Designation: Agricultural/Industrial/UGB

Zoning Designation: Exclusive Farm Use/UGB/Industrial

Possible Land Use Conflicts: Adjacent residential, retail and industrial
uses; some farm activities.

Goal 5 Analysis: 3C; limit conflicting uses (3B; Section 13)

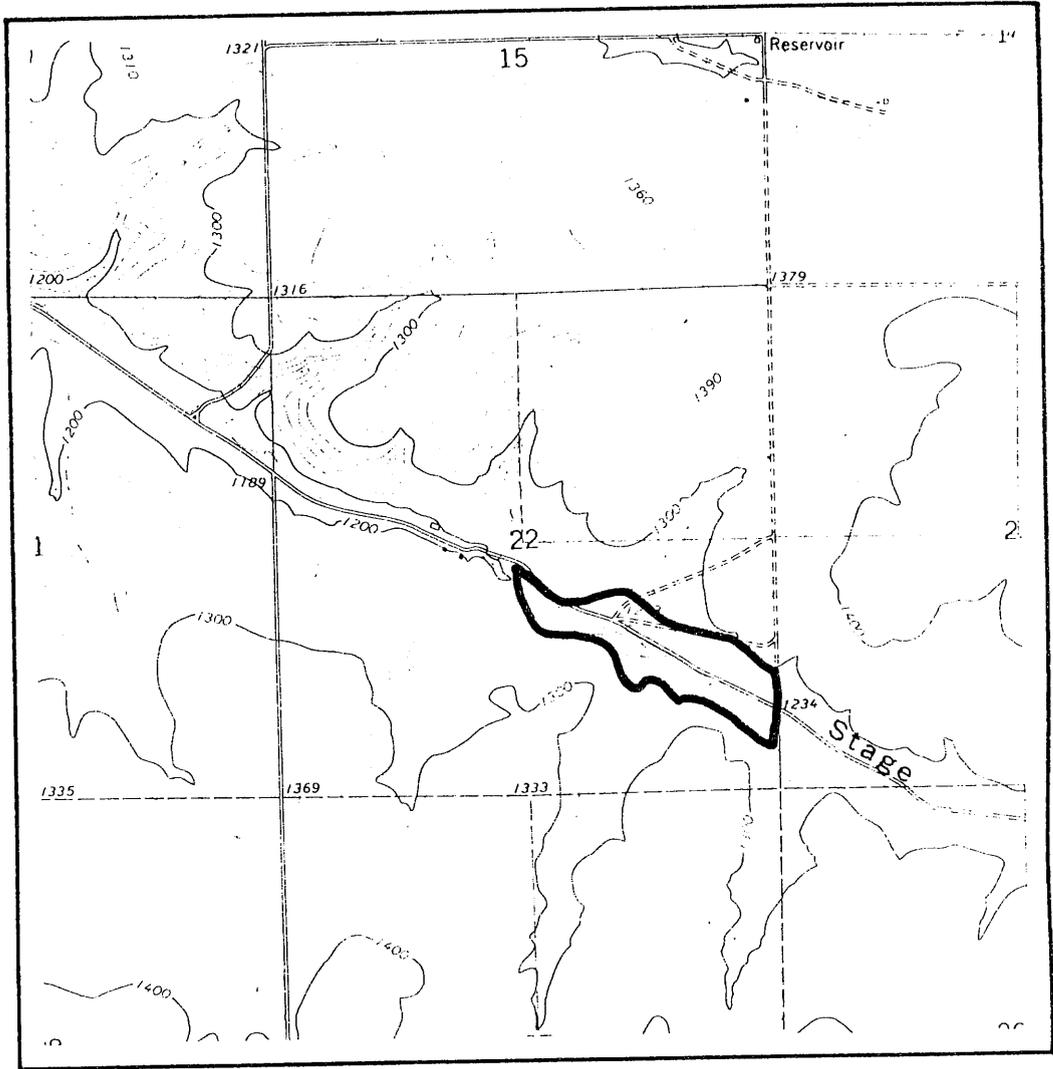
Management Program: Plan and zoning limit conflicting uses; see also
"Significant Wetlands" portion of this report.

INVENTORY
SIGNIFICANT NATURAL AREAS

MAP: D-94

AREA: Stage Gulch Rangeland (UM-16)

T/R: T 3N R31E, Section 22, SE $\frac{1}{4}$



**Significant Natural Areas Generalized
for Habitat Protection**

Map Source: U.S.G.S.

Plan Designation: Agriculture

Zoning Designation: Exclusive Farm Use; SNA overlay zone

Possible Land Use Conflicts: Cultivation and other agricultural activities

Goal 5 Analysis: 1B; Delay the Goal 5 process

Management Program: Significant Natural Area overlay zone may be
appropriate, based upon further analysis.

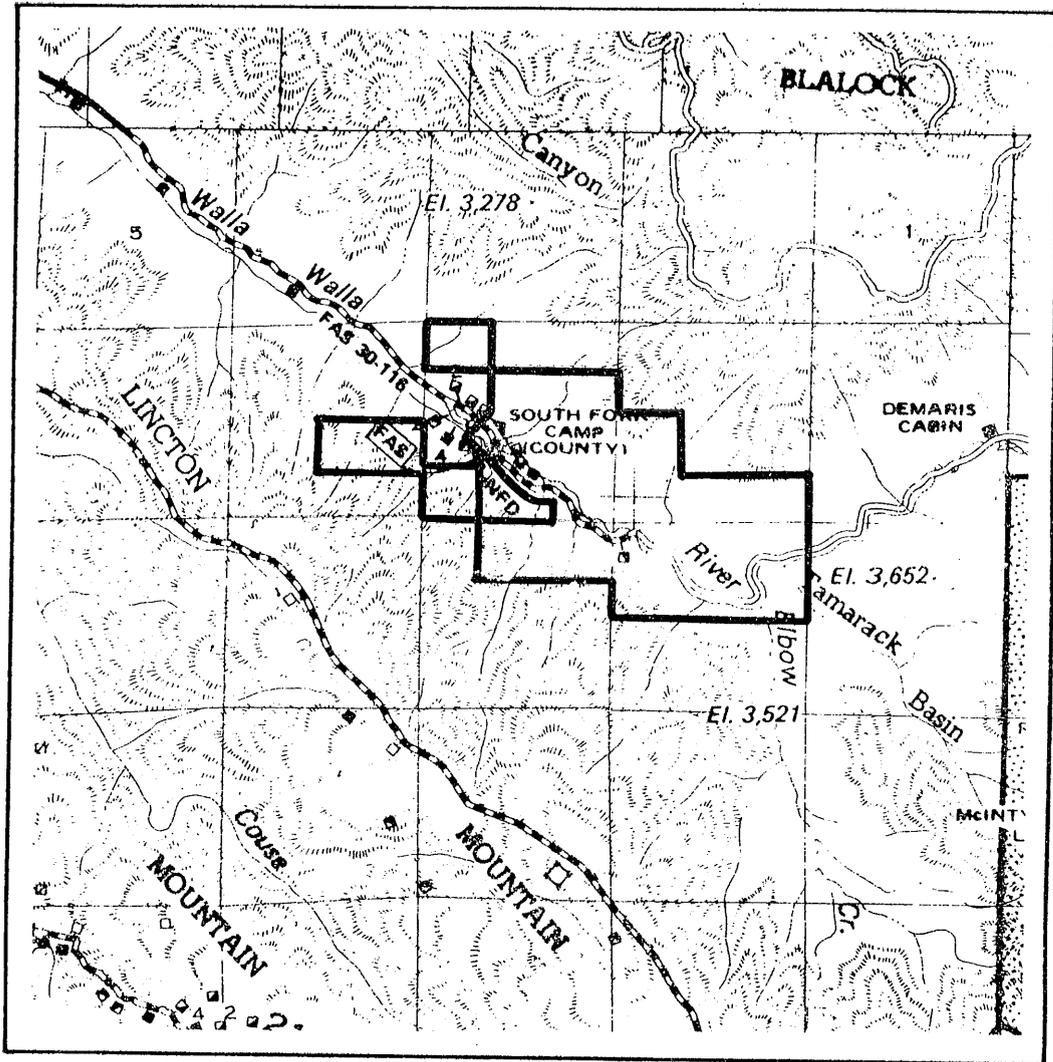
INVENTORY
SIGNIFICANT NATURAL AREAS

MAP: D-95

AREA: South Fork, Walla Walla River (UM-20)

Importance: Good Habitat

T/R: T 4N R37, Section 10



**Significant Natural Areas Generalized
for Habitat Protection**

Map Source: State of OR,
Hwy. Div.

Plan Designation: Grazing/Forest

Zoning Designation: Forest Conservation

Possible Land Use Conflicts: Recreation overuse. (County park and
adjacent BLM lands).

Goal 5 Analysis: 3C; limit conflicting uses

Management Program: Owned by County and BLM; see Management Plan,
prepared in 1982.

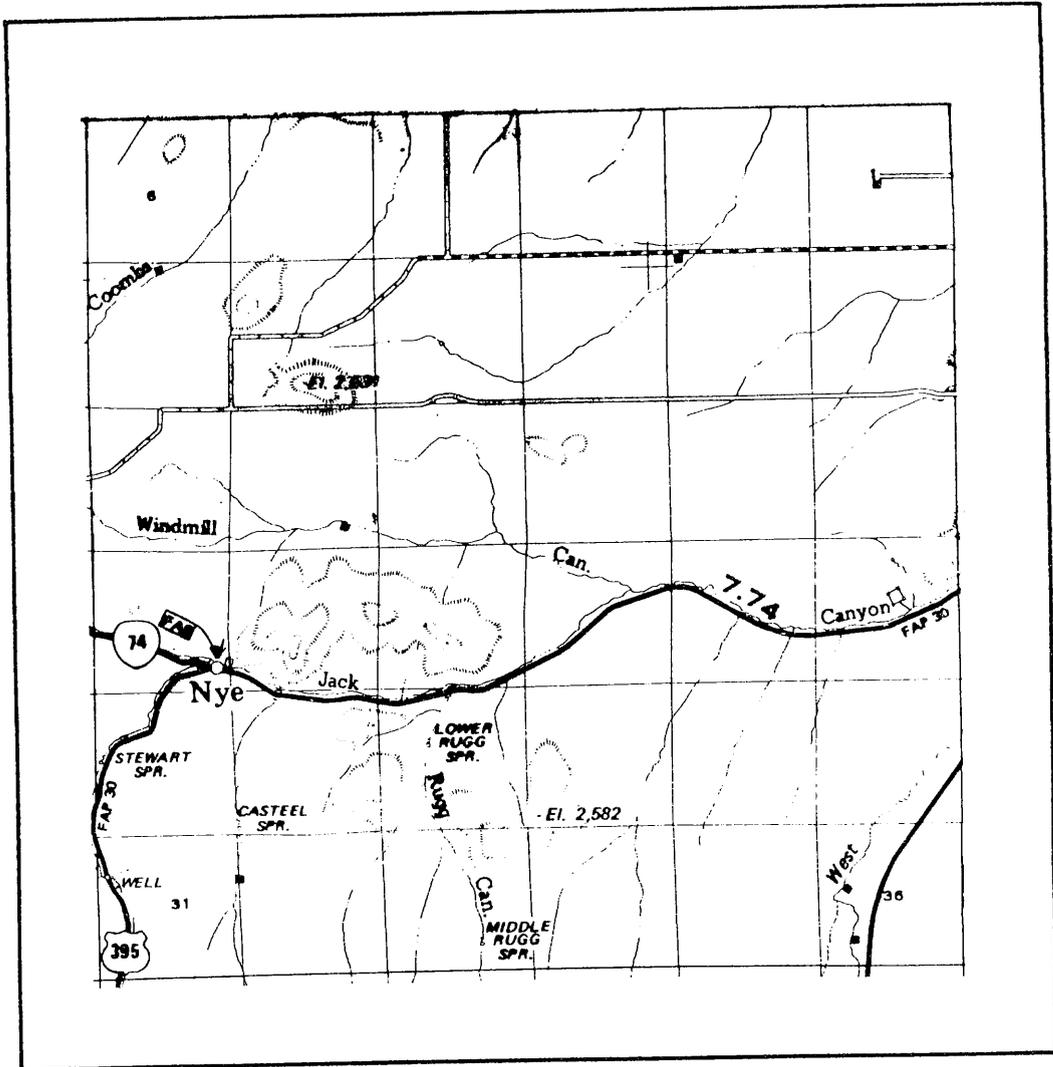
INVENTORY
SIGNIFICANT NATURAL AREAS

MAP: D-96

AREA: Pilot Rock Area (UM-22)

Importance: Prairie Falcon Nesting Area

T/R: T 1S R 31E



Significant Natural Areas Generalized
for Habitat Protection

Map Source: State of OR,
Hwy. Div.

Plan Designation: Agricultural

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: Some agricultural practices

Goal 5 Analysis: 3C; limit conflicting uses

Management Program: Agricultural zoning, will limit conflicting uses

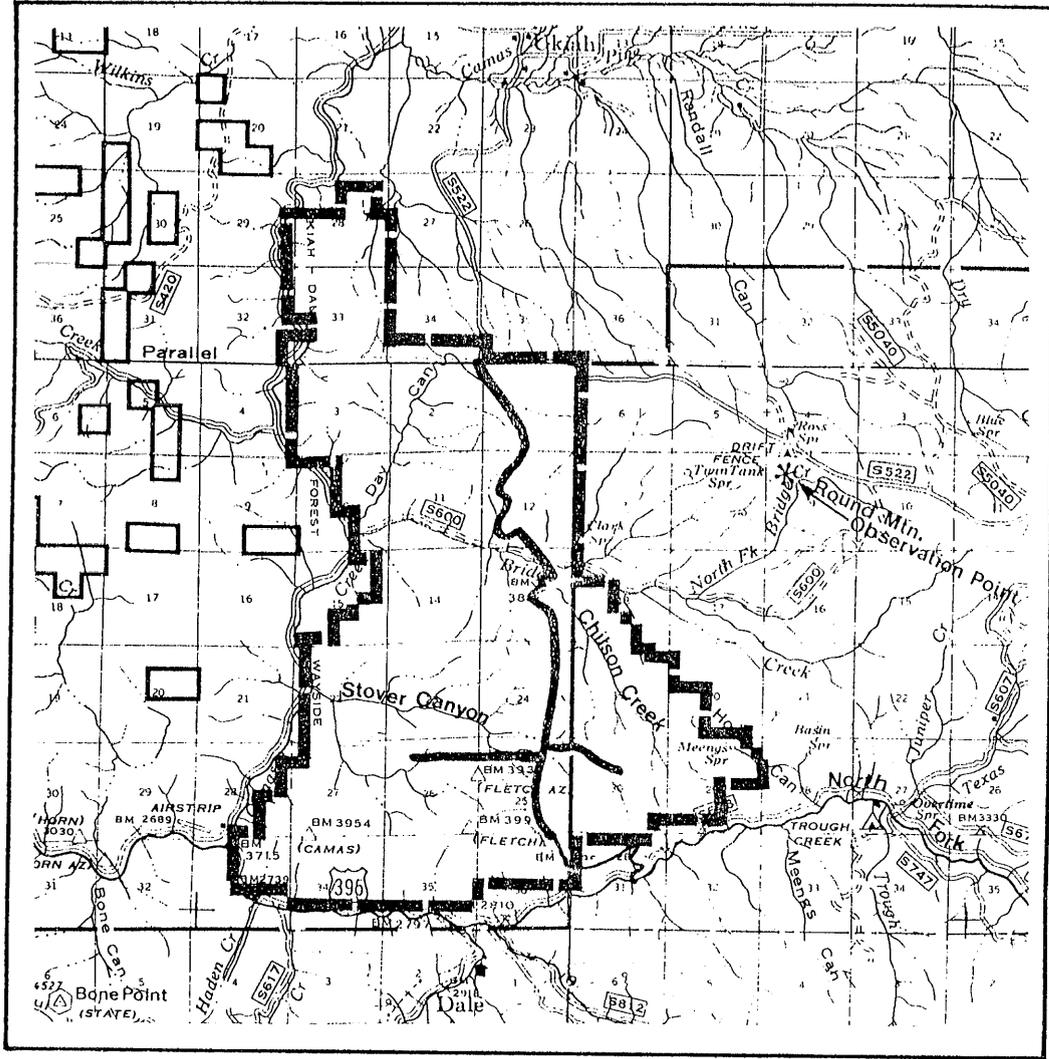
SIGNIFICANT NATURAL AREAS

MAP: D-97

AREA: Bridge Creek Wildlife Management Area (UM-37)

Importance: Deer and elk winter range

T/R: T 5S/6S R31/32



Significant Natural Areas Generalized for Habitat Protection

Map Source: **State of OR, Hwy. Div.**

Plan Designation: Grazing Forest

Zoning Designation: Forest Conservation; CWR Overlay

Possible Land Use Conflicts: None significant

Goal 5 Analysis: 3A; protect the resource site

Management Program: Critical Wildlife Overlay Zone; managed by Oregon Dept. of Fish and Wildlife

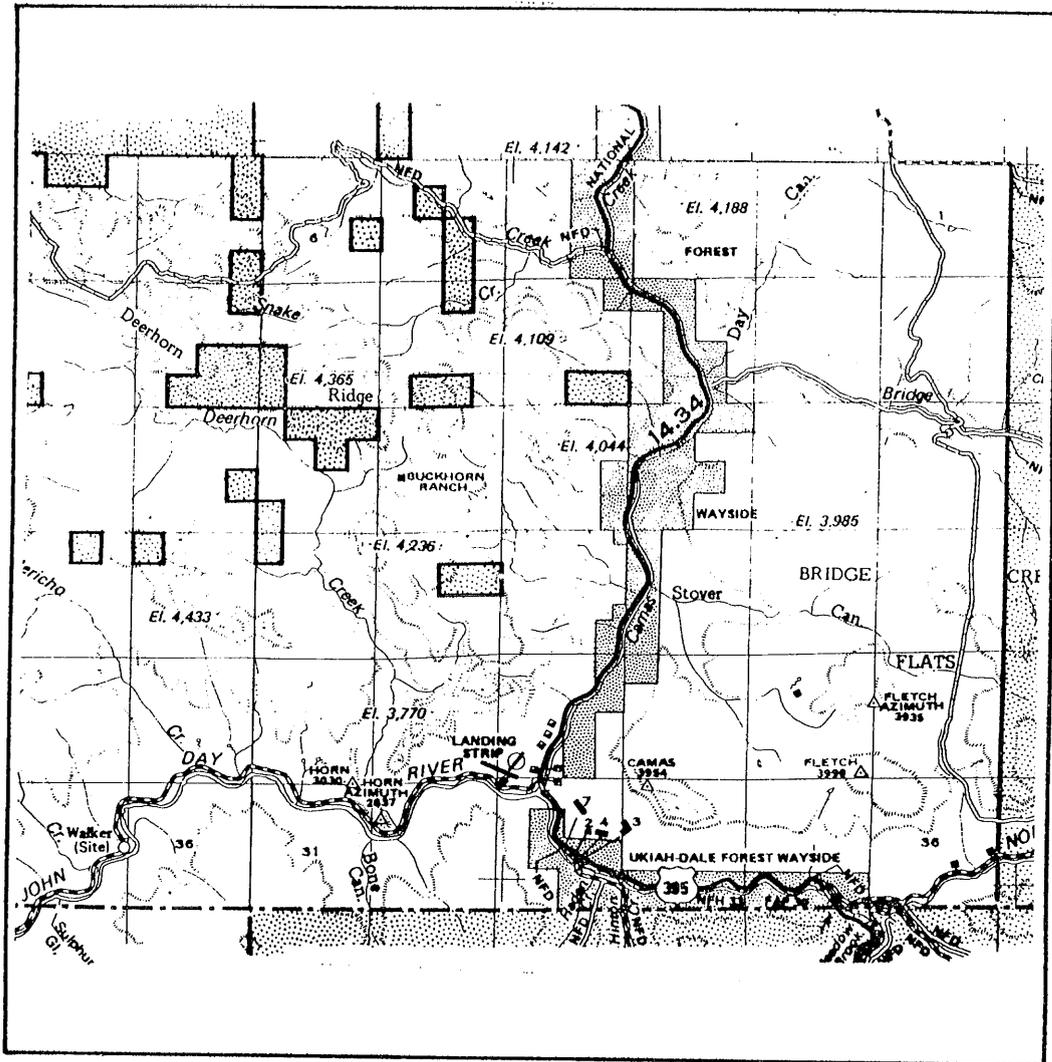
INVENTORY
SIGNIFICANT NATURAL AREAS

MAP: D-99

AREA: North Fork John Day River (UM-44)

Importance: Fish spawning area

T/R: 6S/7S R29/30/31 E



**Significant Natural Areas Generalized
for Habitat Protection**

Map Source: State of OR,
Hwy. Div.

Plan Designation: Grazing Forest

Zoning Designation: Grazing/Farm and Forest Conservation

Possible Land Use Conflicts: Poor timber management practices;
recreation over-use.

Goal 5 Analysis: 3C; limit conflicting uses

Management Program: Forest zones; Forest Management Act; CWR overlay.

[New] As noted, four areas have been designated as significant natural areas. The economic consequences of protecting the Darr Flat, Stage Gulch and Pilot Rock Grassland would be minimal since the sites do not have a potential for cultivation or other intensive farm use. Darr Flat is only a small spot in a vast rangeland so it is not likely that heavy grazing would be contemplated by the landowners. The Stage Gulch and Pilot Rock Grassland sites are steep slopes and hillsides too steep and rocky to cultivate.

[New] Economic losses of timber sales from the Albee sites (UM 21) are possible, but the amount of merchantable timber is not known. This is another aspect of the Albee area that needs to be determined before a Goal 5 determination is finally made.

[New] The social consequences of the protection of these four sites would mainly be the loss to this and future generations for educational and scientific purposes. Other than that, the sites are not directly related to the County's history or traditions, nor are they directly associated with cultural values, or current life-style or quality of life.

[New] The environmental consequences of protection means the preservation of several unique and important plant communities of the County and region for future education and scientific purposes. There appears to be no negative environmental consequences associated with protecting these sites.

[New] There would seem to be little or no energy consequences associated with protecting these sites.

[New] Two areas were determined to be species occurrence areas, the Pilot Rock area (UM 22) and Reith (UM 39). The Pilot Rock area covers an entire township and is an area where Prairie Falcons nest. No additional protection is necessary for this rangeland area so there should be no negative economic effects of the designation. The Reith site is a small area along the road and on some hillsides here the *mimulus jungermannioides* grows. Since no building sites or other development uses are involved, no negative economic effects of preservation are likely. For

the same reasons, no negative energy consequences should occur.

[New] The environmental consequences of not protecting these species occurrence areas would diminish the potential for survival of these species in Eastern Oregon. There appears to be no negative environmental consequences associated with these sites.

[New] Those sites determined to be good habitat areas fall under the discussions and policies of the wildlife portion of this report and the Comprehensive Plan.

[New] It must be noted that because of the potential for disruption and vandalism by humans, it is unwise to pinpoint in this report locations of certain wildlife habitat or species occurrence areas. The Planning Department staff is aware of the locations of such sites. Should it become necessary, the Department can make them known to prospective developers, etc.

Management Programs

Several management techniques are available to preserve these sites if warranted:

1. Detailed site reports (such as those for Darr Flat and Albee Area) should be completed for all sites designated good habitat area, species occurrence or significant natural area.
2. Property owners (public and private) should be notified of the significance of the sites and attempts made to insure cooperative protection.
3. The Comprehensive Plan should address these specific areas and set protection policies.
4. The land use development ordinance should contain provisions for protection of these areas.
5. The County should watch for potential threats to the areas and seek similar important areas with the help of the public.

WILDERNESS AREAS

Wilderness areas are, according to Statewide Planning Goal #5:

Areas where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. It is an area of undeveloped land retaining its premeval character and influence, without permanent improvement or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) may also contain ecological, geological or other features of scientific, educational scenic or historical value.

Although there are over 250,000 acres of forest and over 376,000 acres of U.S. Forest Service land in Umatilla County, none of it is currently or potentially wilderness areas as defined above. There are, however, about 172,000 acres of National Forest land classified as "roadless and undeveloped."⁹

OUTSTANDING SCENIC VIEWS AND SITES

There are areas and views which are commonly recognized as striking in their effect on those who experience them. Geological features, green vegetation, and water are major scenic features; human works and dry, shrub-steppe landscape are other attractions (Table D-XVII). So that areas do not lose their eye-catching attributes, plans attempt to identify "commonly recognized" scenic features, and suggest uses for these areas that minimize conflicts with the valuable features. Because of increased development and population pressures, some scenic areas in Umatilla County may lose their attractiveness as the beauty-sustaining elements are altered.

Certain developments or occurrences may conflict with scenic values. Industrial plants and energy facilities may create their own offensive scenic feature or obscure a natural scene. Residential subdivisions placed to take advantage of a view may be in turn more visible, covering higher ridges that are scenic features themselves.

Scenicly offensive development may ameliorate its effect by careful design, strategic placement of structures, and landscaping. Scenic regions that are lost to development may be found to be compensated by other benefits of the development for local society.

[NEW] Table D-XVII lists outstanding sites and views in Umatilla County. After Goal 5 analysis (OAR-16-000), 22 were determined to be not important enough to be included in the inventory, or not under the jurisdiction of the County (four in the Umatilla National Forest, two on the Indian Reservation, two within UGB's) ("1A"). Two other sites (Westland School and Oregon Trail) are discussed under the historical element of this chapter.

[NEW] Ten sites and vistas were classified as justifying limits to conflicting land uses ("3C"). The comprehensive land use plan designations and zoning classifications adopted by the county are meant, in large part, to maintain the

Table D-XVII

DESCRIPTION OF OUTSTANDING SITES AND VIEWS (Revised)

SITES QUALITIES OR POTENTIALS	GOAL 5 ANALYSIS	QUALITY OF INTEREST					HOW ENJOYED					EVALUATION		
		<i>Water</i>	<i>Geology</i>	<i>Vegetation</i>	<i>"Desert"</i>	<i>Human</i>	<i>To Look Upon</i>	<i>To Look From</i>	<i>To Travel Through</i>	<i>To Be In or Beside</i>	<i>Developed For Scenic Value</i>	<i>Potential Conflicts with Scenic Value</i>	<i>Additional Values (uses)</i>	<i>Notes</i>
(Hat Rock)	3C	X	X	X			X	X		X	X	Adjacent Residential Dev.	State Park Historic Site	
Wallula Gap	3A	X	X		X		X		X		<i>Partial</i>	Potential Development Aggregate	Recreational Development	Scenic Highway
Lake Wallula	3C	X					X			X	<i>Partial</i>		Power, Recreation, Transportation	
McNary Dam	1A	X				X	X				X			
Lake Umatilla	3C	X					X			X	X		Power, Recreation, Transportation	
Dam Viewpoint	1A	X	X			X	X				X	Urban Development		In UCB
Cold Springs Reservoir	3C	X		X			X	X		X	NO	Summer Drawdown	Irrigation, Wildlife Refuge	
Umatilla River downstream from Highway 207	1A		X	X			X			X	NO	Summer Low Flow	Irrigation, Fishing	Pleasant Rural Vistas
Umatilla/Echo Meadows	1A	X		X			X			X	NO		Floodplain, Agriculture	Pleasant Rural Vistas
Umatilla River upstream from Echo	1A		X	X	X					X	NO			
Canals <i>Eliminate</i>	1A	X					X	X		X	NO	Liability Concerns, Seasonal Flows	Irrigation	
Umatilla Butte	1A		X		X		X	X			NO	Municipal Reservoir, Nearby Industry Billboards		BLM
Hermiston Butte	1A		X		X		X	X			NO		Radio Towers, Microwave Relay	In City
Emigrant Butte	1A		X		X		X	X			NO	Nearby Feed Lots		Private
Service Buttes	1A		X		X		X	X			NO	Hard to Distinguish	Grazing	Private
Columbia District	1A			X			X		X	X	NO		Residences, Hobby Farms	Pleasant Suburban Vistas
Westland District	1A			X			X		X	X	NO		Agriculture, Residences	Pleasant Suburban Vistas

Table D-XVII (cont'd)

DESCRIPTION OF OUTSTANDING SITES AND VIEWS (Revised)

SITES	QUALITIES OR POTENTIALS	GOAL & ANALYSIS	QUALITY OF INTEREST					HOW ENJOYED				EVALUATION			
			Water	Geology	Vegetation	"Desert"	Human	To Look Upon	To Look From	To Travel Through	To Be In or Beside	Developed For Scenic Value	Potential Conflicts with Scenic Value	Additional Values (uses)	Notes
Minehaha		1A		X					X	NO		Residences, Hobby Farms	Attractive Suburban Vistas		
Cooney Lane		1A		X					X	NO		Residences, Hobby Farms	Attractive Suburban Vistas		
✓ Westland School <i>Delroy</i>		1A				X	X		X	NO	Industrial Area, Billboards	Possible Museum Historic			
McKay Reservoir		3C	X	X			X		X	NO	Summer draw-down	Recreation, Wildlife Refuge			
Oregon Trail		1A				X	X	X	X	Partial	Residential and/or Agriculture Development	Recreational	Public/Private		
Langdon Lake		3C	X	X			X		X	NO		Recreation Recreational Homesites	Private Forest Service Campground on West		
Umatilla Forks Forest Campgrounds		1A	X	X					X	X	Logging Operations	Camping Fishing Hiking	U.S.F.S. Managed		
Cabbage Hill Vista		1A		X	X			X				Picknicking	On Indian Reservation		
Squaw Creek Vista		1A		X	X			X				Picknicking	On Indian Reservation		
Table Rock Lookout Tower		1A		X	X			X				U.S.F.S. Fire Lookout Tower	In National Forest		
High Ridge Lookout		1A		X	X			X				U.S.F.S. Fire Lookout Tower	In National Forest		
Goodman Ridge Lookout		1A		X	X			X				U.S.F.S. Fire Lookout Tower	In National Forest		
Earnest S. Haney Vista		3C		X	X			X			X	Logging Activities	Picknicking		
* State Highway 204 <i>at night</i>		3C		X				X	X	X		Recreational Homesites	Important Transportation Route	Scenic Highway	
Elephant Rock		3C	X				X			NO		Historic			

existing land use patterns which have resulted in the "pleasant rural (or suburban) vistas," etc. described in Table D-XVII. Thus, it is the position of the county that the plan designations and zoning already limit conflicts by limiting land uses or by mitigating conflicts through ordinance criteria. Examples are:

- a. Density requirements
- b. Conditional use criteria
- c. Overlay zones
- d. Stream setbacks
- e. Sign standards
- f. Right-of-way, road, easement and driveway standards

However, to draw particular attention to "3C" designated areas, and to specifically address the potential conflicts noted earlier, the county should adopt a policy to insure special consideration of the following when reviewing a proposed change of land use:

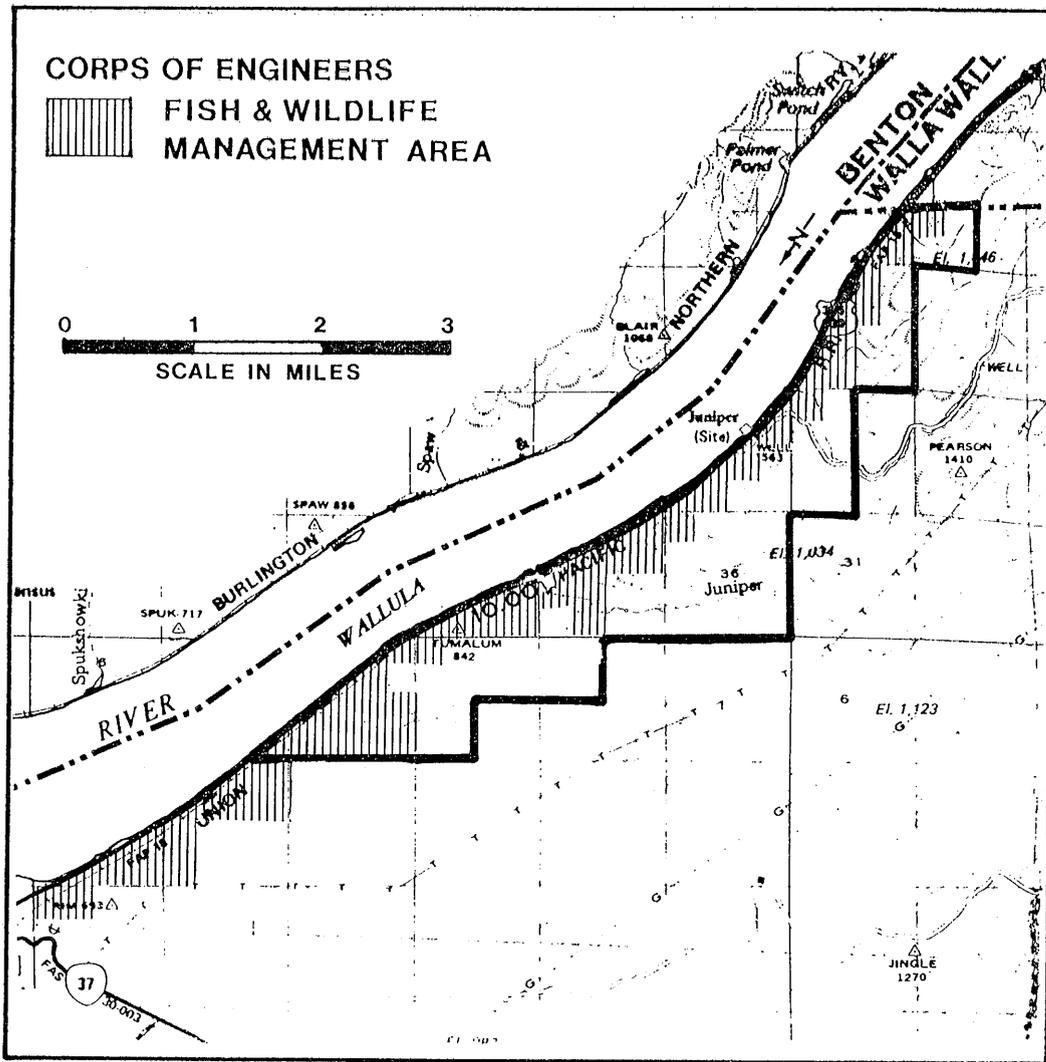
- a. Maintaining natural vegetation whenever possible.
- b. Landscaping areas where vegetation is removed and erosion might result.
- c. Screening unsightly land uses, preferably with natural vegetation or landscaping.
- d. Limiting rights-of-way widths and numbers of roads intersecting scenic roadways to the minimum needed to safely and adequately serve the uses to which they connect.
- e. Limiting signs in size and design so as not to distract from the attractiveness of the area.
- f. Siting developments to be compatible with surrounding area development, and recognizing the natural characteristics of the location.
- g. Limiting excavation and filling only to those areas where alteration of the natural terrain is necessary, and revegetating such areas as soon as possible.

SIGNIFICANT SCENIC AREA

MAP: D-108

AREA: Wallula Gap

T/R: T5/6N R 30/31 EWM



Scenic Area: 

Map Source: State Highway Div.

Plan Designation: North County Agriculture

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: Recreational uses; rock pits. Part of area controlled by Corps of Engineers.

Goal 5 Analysis: 3A, Protect the resource

Management Program: Specific Comprehensive Plan policy; apply HAC

Overlay Zone

- h. Protecting vistas and other views which are important to be recognized because of their limited number and importance to the visual attractiveness of the area.
- i. Concentrating commercial developments in areas where adequate parking and public services are available and discouraging strip commercial development.

[New] One area has been determined by the county as being so important, relative to conflicting uses, that the resource site should be protected and all conflicting uses prohibited ("3A"). The Wallula Gap is of great historic, geologic and scenic significance. It is the largest, most spectacular and most geologically significant of the several large water gaps in the Columbia River Basin. It has been a "landmark" for travelers since Lewis and Clark. The final environmental impact statement for the McNary Project states:

Although the concept of beauty is subjective, most people would agree that the Wallula Gap area is one of special natural attraction. At this point, the Columbia River narrows and turns more westerly in its course to the Pacific Ocean. The Gap is dominated by steep, basalt formations rising nearly vertically from both banks of the river. Aside from its natural beauty, this area is of particular geological interest. (9a)

[New] The United States Department of Interior has designated a portion of Wallula Gap just north of Umatilla County in Walla Walla County, Washington, as "Wallula Gap National Natural Landmark." (9b) And the Corps of Engineers, in its McNary Master Plan, has classified its lands along the Columbia through Wallula Gap as an area for "moderate management" for fish and wildlife. (See map D-108).

Therefore, because of its significance sited above, the county should develop a policy to protect the scenic, historic, and geologic landmark quality of Wallula Gap.

Historic and Scenic Highway Program [New Section]

The 1983 Legislature enacted the Historic and Scenic Highway Program (ORS 377.100[1] and ORS 377.105) to "maintain and preserve certain highways and highway related structures for their historical, engineering, recreational, scenic and tourism significance."

The Oregon Department of Transportation has requested the county to provide an inventory or list of suggested highways for consideration under this new program. The county provided the following:

1. I-84 - Besides its scenic value, especially through the Blue Mountains, its association with the Oregon Trail makes it a natural choice for the inventory.
2. Highway 730 - From Hat Rock to the Walla Walla County line is a very scenic and historic route (with geologic significance as well) as it follows Lewis and Clark's trail through Wallula Gap. Just across the Washington border is the Wallula Gap National Natural Landmark area.
3. Highway 395 - From Battle Mountain south, this highway is a beautiful route all the way to Mt. Vernon. It has historic value, too (ie, Battle Mountain State Park).
4. Highway 244 - From Highway 395/Ukiah to I-84 is a scenic drive with historic interest provided by Lehman, Hot Springs and Hiday Springs.
5. Highway 204 - From Weston to Elgin is an important scenic, historic and recreational route through Tollgate and Spout Springs.
6. Highway 37 - From Pendleton to Highway 730 is a nice pastoral drive through a variety of farmland with a spectacular viewpoint over the Columbia River at its north end.
7. Highway 11 - Historically, this highway follows the early route of the Oregon Trail to Whitman Mission. Perhaps this fact would qualify this highway for the inventory.

Besides these state highways, two other roads in Umatilla County should be examined for their historic and scenic significance:

8. County Road 900 - (Mission-Thornhollow Road). From Mission to the National Forest, this road travels the length of the Umatilla Indian Reservation, past historic Bingham Springs and the Bar-M Dude Ranch to a popular Umatilla National Forest campground area.
9. County Road 1300 - (Old Pendleton Echo Highway). This stretch of road follows the Umatilla River and the Oregon Trail.

The county recognizes in this report and the Comprehensive Plan the historic, geologic and scenic significance of Highway 730. Also, various Oregon Trail sites are inventoried and protected. Highway 204 through Tollgate is recognized as a recreation route. However, any further local response to this program at this time would be premature.

POTENTIAL AND APPROVED FEDERAL WILD AND SCENIC WATERWAYS AND STATE SCENIC WATERWAYS

Wild and scenic rivers in the state is a jointly coordinated effort consisting of the National Wild and Scenic Rivers system and the State Scenic Waterways Program. The purpose of the programs is to maintain the free flowing nature of designated rivers in order to preserve the scenic, historic, fish, wildlife, geologic, archeological, and recreational values.

There are no state-designated scenic waterways or potential scenic waterways in Umatilla County.⁽¹⁰⁾ However, the North Fork of the John Day River, a portion of which flows through Umatilla County, is included in the U.S. Department of the Interior "Nationwide Rivers Inventory" for possible inclusion in the national wild and scenic rivers program.⁽¹¹⁾ The inventory notes the "outstandingly remarkable values" for recreation, fish and other attributes of the river and elaborates:

Long undeveloped portion of major river system. Still accessible to anadromous fish-potential steelhead and salmon resource. Highly scenic canyon region. Area provides for many back-country opportunities.

The North Fork will be studied by the appropriate agencies as time and funding permits. Depending on recreational demand, the findings of the studies, and funding available for management or acquisition, and state and/or the federal government may designate all or part of the river as a scenic waterway, under any of several classifications. There is at present no specific schedule for study of the North Fork and no guarantee that it will ever be actually designated as a scenic waterway. However, it has been designated by the Wild and Scenic

Rivers Act as a 5(d) stream. Section 5(d) directs federal agencies to consider impacts to the river during the planning process.(12)

Much of the North Fork of the John Day River, which passes through Umatilla County, is within the Umatilla National Forest. A forest service report states that:

[Timber] allocations to the area adjacent to the segment of the North Fork John Day River from the western forest boundary to Big Creek . . . may create changes in the existing character of the areas. This could have an adverse effect on (the river) being classified as 5(a). Section 5(a) requires formal study for either Wild, Scenic, or Recreational status.(13)

Several more miles of the river is within the State Park Department's Ukiah-Dale Forest Wayside. It is assumed that protection for the river will occur in accordance with the defined purpose of a wayside.(14)

Umatilla County land use designations and zoning along the river provides for a continuation of existing resource land use patterns; ie, primarily forest and agricultural uses with residential designations in existing built and committed areas. Maintaining this existing use pattern will not substantially change the character of these areas along the river and therefore will not conflict with the potential for further study as a scenic waterway.

HISTORIC AREAS, SITES, STRUCTURES AND OBJECTS

The historical and archeological heritage of Umatilla County is an irreplaceable and nonrenewable environmental resource, an intrinsic cultural heritage to the people of the county and the state.

Historic resources are districts, sites, buildings, structures and objects which have a relationship to events or conditions of the human past. Archeological resources are those districts, sites, buildings, structures and objects which possess material evidence of human life and culture of the prehistoric and historic past and may be recorded and studied.

Historical and archeological resources are important in many ways. They offer present and future generations educational and scientific opportunities.

They are a cultural resource in that they allow us to better understand the ways, values and traditions of the past, and their effects on the county as we know it today. Historical and archeological resources have great aesthetic value, a product of age, uniqueness, beauty and the cultural aspect already mentioned. Not least of all, these resources are important for their economic value. The high cost of educational and scientific tools, of antiques and works of art point out the economic value of such resources. These historical and archeological resources are also important to the county's economy for their attraction to vacationers and tourists.

Historical and archeological resources are extremely valuable in many ways, and the value for one purpose such as a field trip for a history class, does not destroy the value for another purpose, such as a sight-seeing tour, if the resource is protected. However, if destroyed, or allowed to deteriorate, the loss is irreplaceable. For these reasons, it is important that these resources be identified (inventoried) and considered as a factor in the land use planning process.

The historic sites and buildings listed in Table D-XIII have been compiled from a variety of sources, including the 1976 Statewide Inventory of Historic Sites and Buildings, conducted by the Oregon State Historic Preservation Office. For purposes of analysis of conflicting uses, the sites have been placed into one or more of the following categories:

A. Symbolic Sites: These are historic sites which have value in a symbolic sense as the location of some event of cultural or historic significance or as a representation of some particular period in the past. These are simply geographical locations, such as an old wagon road, a townsite or the confluence of major rivers. Their value as historic sites is not associated with any specific building or other structure. These sites have a variety of zoning, generally compatible with the existing use or uses of the site. Generally, continuation of these uses will not conflict with the historic values of these sites. However, as a part of

the normal review of uses and activities by the county, the historic values of these areas should be considered, to avoid the negative social and economic consequences associated with activities which are located or designed in such a manner so as to negatively impact historic values.

- B. Public Structures or Buildings: These structures and buildings are in public ownership, and no activities are existing or anticipated which would conflict with their historic values. However, to the extent that any future activities in these areas are subject to normal zoning ordinance review, such activities should be considered in relation to the historic value of these structures.
- C. Private Residences and Other Buildings: These are privately owned buildings which have been identified as having historic value. Many are private residences which are currently in use. Others are abandoned or dilapidated and are not currently in use. These buildings are all located in conforming zones and plan categories. They can, under normal review procedures, be structurally repaired, improved or otherwise altered. The consequences of prohibiting these activities include negative social and economic impacts to landowners as a result of not being able to maintain their property, as well as potential public costs associated with taking claim. Allowing all of these activities without restriction may result in negative social and economic consequences associated with irreversible loss of historic resources. To ensure that these values are considered to the maximum practical extent, standards for historic values should be incorporated into the normal county review of these activities.
- D. Sites with Historic Articles Present: These are sites, the historic value of which is due to the presence of specific resources (other than buildings). Examples are pioneer or Indian cemeteries. Such sites can be disturbed and their value destroyed by almost any new land development activities, though it is usually possible to design such developments in a manner that minimizes adverse impacts, if historic values are considered. For this reason, all developments in these areas should be reviewed for consideration of historic

values to avoid the adverse social and economic consequences associated with irreversible loss of historic resources.

E. Archeological Sites: Comparatively little is known concerning archeological sites in Umatilla County. Based on existing knowledge of regional pre-history, it is apparent that important archeological sites certainly exist in Umatilla County. However, information on the location, quantity and quality of these sites is not sufficient at this time to allow for inclusion in this report. The Umatilla Tribal Development Office is currently developing a detailed archeological inventory.¹⁵ At such time that information does become available, identified sites will be evaluated and addressd in the Comprehensive Plan. However, many archeological sites must be protected from indiscriminant digging and from pilferage. A number of Indian related archeological sites do exist in Umatilla County outside of the existing reservation boundaries (see Map, page D-119). Tribal officials are reluctant to disclose specific locations of archeological sites for obvious reasons.¹⁶ The county should develop policies relating to protection of potential archeological sites in cooperation with the Umatilla Tribal authorities. (See also the discussion under "Cultural Areas").

[NEW] Activities or uses which may conflict with the conservation or protection of cultural, historical or archeological resources can basically be categorized as:

1. Exterior modifications which would alter the historical, archeological or cultural significance of a site or structure.
2. New construction or development which would alter the historical, archeological or cultural significance of a site or structure.
3. Demolition of a historical structure.

Table D-XVIII
Inventory of Umatilla County Historic Sites
and Buildings (Outside of Incorporated Towns) [Revised]

<u>Site Name</u>	<u>Location</u>	<u>Category*</u>	<u>Goal 5 Analysis</u>	<u>Comments/ Map No.</u>
Albee	T4S R31 EWM Sec. 13 and 24	A/C	1B	D-121
Battle Mountain	T3S R31 EWM Sec. 20 and 29	A	3C	State Park/ Monument/D-122
Beamer House	T4N R35 EWM Sec. 2	C	3C	D-123
Bingham Springs (Bar M Ranch)	T3N R37 EWM Sec. 17 and 18	A/C	3C	D-124
Birch Creek/ Grand Ronde Road	Pilot Rock to LaGrande	A	1B	
Buttercreek Crossing	T3N R27 EWM Sec. 25	A	1B	Oregon Tr./D-125
Cold Springs Landing/ Junction	T5N R 29 EWM Sec. 13 and 14	A	1B	D-126
Dorion Monument/Park	T5N R36 EWM Sec. 18	A/B	3C	D-127
Echo Meadows	T3N R28 EWM, Sec.20,21,22	A	1B	Oregon Tr./D-128
Emigrant Springs	T1N R35 EWM, Sec. 29	A	3C	Oregon Tr./D-129
Finnish Little Grease- wood Cemetery	T4N R33 EWM Sec. 34	D	3C	D-130
Fort Henrietta	Echo Area	A	1B	
Frazer Road	Starkey to Ukiah	A	1B	
German Cemetery	T4N R33 EWM Sec. 29	D	3C	D-131
Hidaway Hot Springs	T5S R33 EWM Sec. 16	C	3A	D-132
Hudson's Bay Co. Farm Site	T6N R34 EWM Sec. 16	A	3C	Monument/D-133
Klicker Springs	T6N R 38 EWM	D	3C	D-134
Lehman Hot Springs	T5S R34 EWM Sec. 12	C	3C	D-135
Lewis and Clark Trail	Columbia River	A	3C	
Locust Tree Campground	T3N R 29 EWM Sec. 36	A	1B	Oregon Trail/D-136
Marcus Whitman Trail	T1N, 1S; R36E, 37 EWM	A	1B	Oregon Trail
McCoy Cabin	North of Milton-Freewater	C	1B	
Meacham Hotel	Meacham	C	3C	D-137
Meacham (Townsite)	Meacham	A/C	3C	Oregon Trail/D-137
Meacham Cemetery	Meacham	D	1B	D-137
Mumm Ranch	T3N R32 EWM Sec. 10	C	3C	D-138
Old Log Cabin	Meacham	C	1B	
Olinger Monuments	Tollgate	D	1B	D-139
Oregon Trail	as mapped	A	1B	
Oregon Trail Monument	Meacham	D	3C	Oregon Trail
Osage Orange	T6N R34 EWM Sec. 17	D	1B	
Picket Rock	near Echo	A	1B	
Pine Grove	T3S R32 EWM Sec. 9	A	1B	D-140
Pioneer Lockout Tree	Basket Mt. Road	D	1B	
Prospect Farm	Stage Gulch Road	C	1B	

cont'd

<u>Site Name</u>	<u>Location</u>	<u>Category</u>	<u>Goal 5 Analysis</u>	<u>Comments</u>
Ten Mile House	Old Hinkle Road	D	1B	
Tollgate Road (Walla Walla Trail)	LaGrande to Walla Walla	A	1B	Oregon Trail
Unknown Dead Monument	T1S R35 EWM SEc. 3	D	3C	Oregon Trail
Upper McKay School	T1S R33 EWM Sec. 12	A	1B	
Walla Walla Trail (Umatilla Trail)	North County	A	1B	Oregon Trail
Westland School	T4N R27 EWM Sec. 25	C	1B	D-141
Willow Springs	T3S R 31 EWM Sec. 18	D	1B	D-142
Wooden Flume	Walla Walla River	D	1B	

-
- *Category A = Symbolic Sites
 Category B = Public Structures or Buildings
 Category C = Private Residences and Other Buildings
 Category D = Sites with Historic Articles Present
 Category E = Archeological Sites

SOURCES:

1. Oregon Federation of Garden Clubs, Blue Mountain District, Historic Trees and Shrubs, 1976.
2. Oregon State Historic Preservation Office, Statewide Inventory of Historic Sites and Buildings, 1976.
3. Swearingen, Mrs. Mervin, "Finnish Little Greasewood Cemetery," Pendleton, 1974.
4. Swearingen, Mrs. Mervin, "German Cemetery, Warren (Myrick) 1897-1934," Pendleton, 1974.
5. Tucker, G.J., Pilot Rock Emigrant Road, 1861-1862, n.d.
6. Umatilla County Historical Society, Umatilla County: A Backward Glance, 1980.
7. United States Department of the Interior, National Park Service, Oregon Trail Comprehensive Management and Use Plan, August 1981, (3 volumes).
8. United States Forest Service correspondence, October 20, 1980.

[NEW] The economic benefits of conserving historical, archeological and cultural resources are numerous. The opportunity to view sites and structures associated with our past attracts the interest of county residents as well as visitors. Most Umatilla County communities economically benefit from recognition and celebration of the area's colorful history: ie, the Pendleton Round-Up, Umatilla Landing Days, etc.

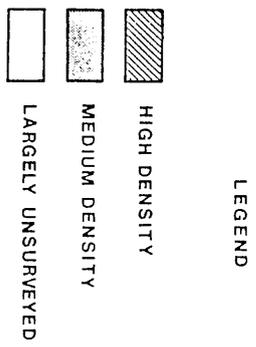
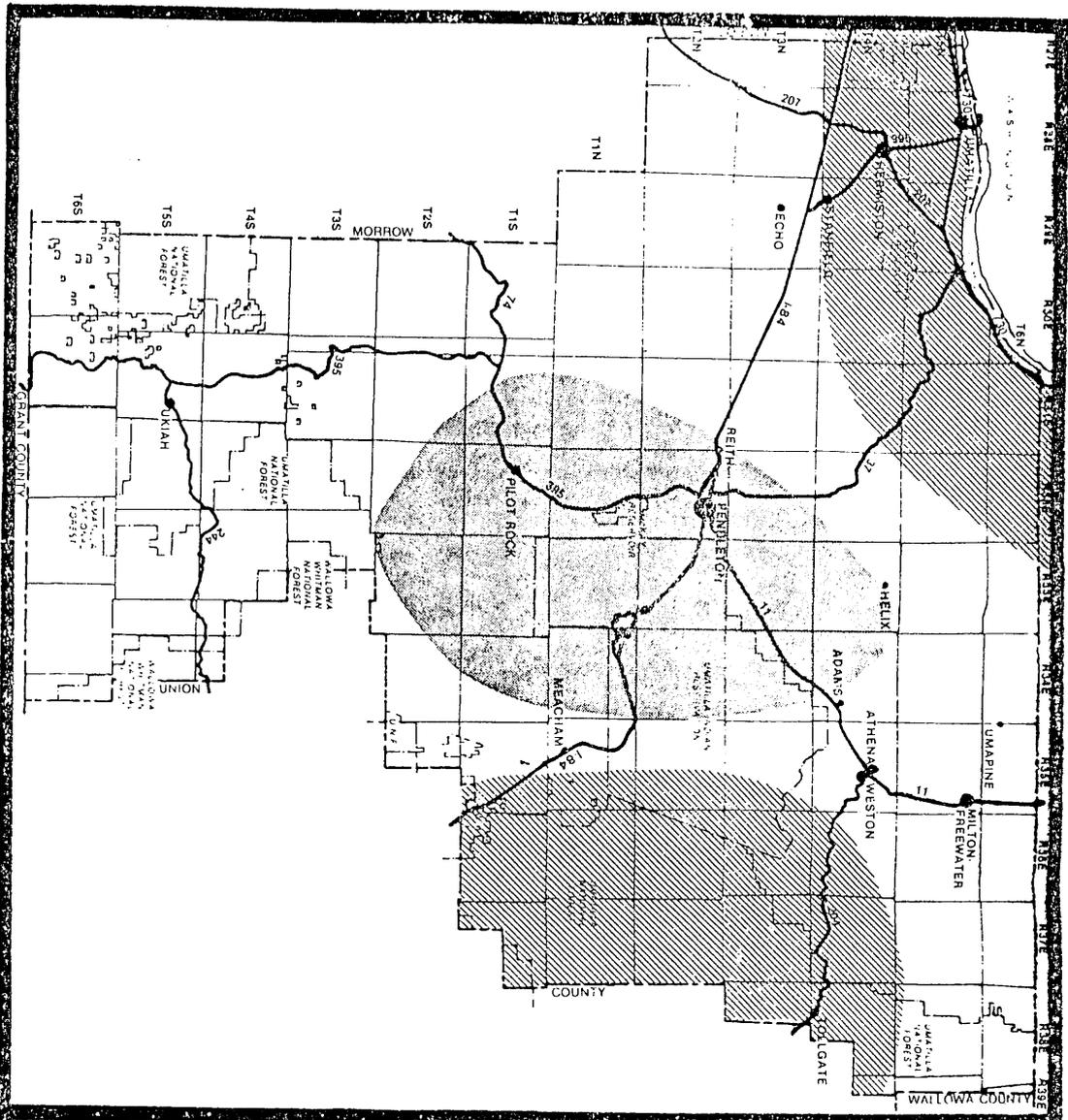
[NEW] Economically, historic preservation also increases the number of available structures to be used for residential and commercial purposes. Such rehabilitation efforts also provide some employment opportunity for the local building trade.

[NEW] The economic consequences of not preserving historic resources can be viewed from two perspectives. In a specific case, pre-emption of a new industrial or commercial venture in favor of the preservation of a historic resource may prevent establishment of a particular economic venture. However, Umatilla County has and will continue to recognize in its Comprehensive Plan ample land suitable for economic enterprises and, therefore, the possibility of this scenario occurring is remote.

[NEW] Also, the point can be made that restoration as a cost saving measure is not as economically beneficial in the short term to a community as new construction. However, additional jobs associated with restoration and the potential long-term tourism benefits accruing annually from historic preservation far exceed the minor short-term concerns.

[NEW] Socially, historic and cultural resource preservation is a positive attribute to a community. Historic resources retain a sense of "place" for a community as well as provide a wealth of educational opportunities for generations to come.

[NEW] Environmental consequences would be negligible overall and oriented to a specific site and issue.



SOURCE Oregon Statewide Comprehensive
 Outdoor Recreation Plan, U S Department of the
 Interior Bureau of Outdoor Recreation

ARCHEOLOGICAL SITE DENSITY MATILLA COUNTY, OREGON



[NEW] Energy consequences are minor but positive in that restoration of historic buildings often includes the insulation of non-insulated structures. Also, historic preservation attracts local tourists who might otherwise travel a greater distance to recreate.

[NEW] Based on the preceding findings, it is apparent that the overall long and short-term benefits derived from preserving the cultural and historic resources of the county will in most cases far exceed the negative consequences associated with preserving such a resource.

[NEW] The historical sites listed on Table D-XVIII have been reviewed according to the Goal 5 process (OAR 660-16-000). Twenty-six of the sites were designated as "1B." These are sites that are recognized in various publications and by the community as important to the preservation of our heritage but need further study to determine what, if any, protection measures are appropriate. The large number of these sites point out the need for the establishment of an historical inventory or register for the county.

[NEW] Fifteen sites are designated as "3C." These are established sites in which conflicting uses are limited by existing policies, plans and zoning and that do not require greater protection. However, in the near future, the Meacham Hotel, Bar M Ranch and several other notable structures now classified 3C should be further evaluated to see if additional protection measures are needed or desired.

[NEW] Hidaway Hot Springs, specifically the dance hall, is an outstanding historical and architectural structure that should be preserved and protected. It has been classified as "3A."

[Revised] The following is a brief description of each site.

Abiqua Trail (1A)

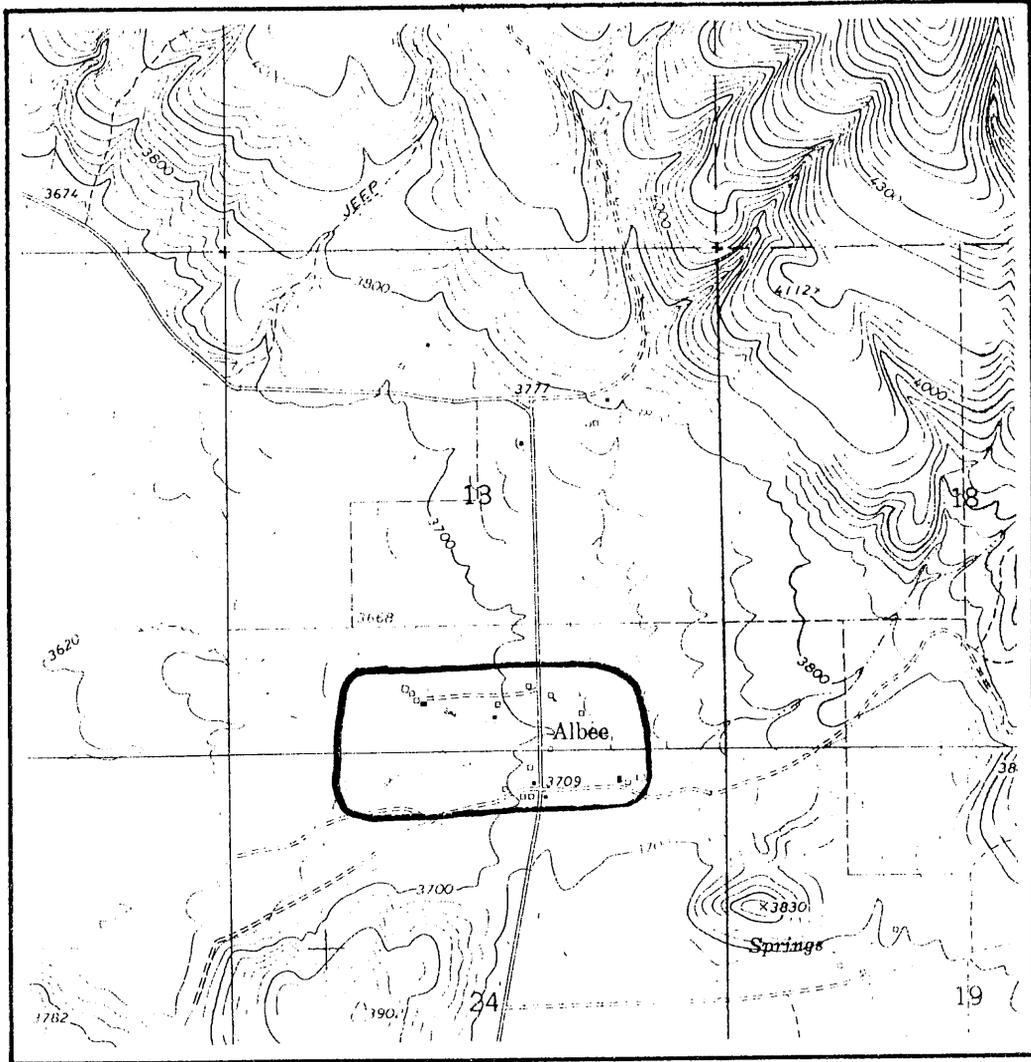
Although listed in the Oregon State Historic Preservation Office's Inventory for Umatilla County,¹⁷ the Abiqua Trail is not located in Umatilla County.

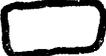
INVENTORY
HISTORIC SITES AND BUILDINGS

MAP: D-121

AREA: Albee Townsite

T/R: T4S, R31 EWM, Sections 13 and 24



Historic Site: 

Map Source: U.S.G.S.

Plan Designation: Grazing/Forest

Zoning Designation: Grazing/Farm

Possible Land Use Conflicts: Limited, but vandalism and destruction of old buildings a problem

Goal 5 Analysis: 1B; Study need to determine significance of site

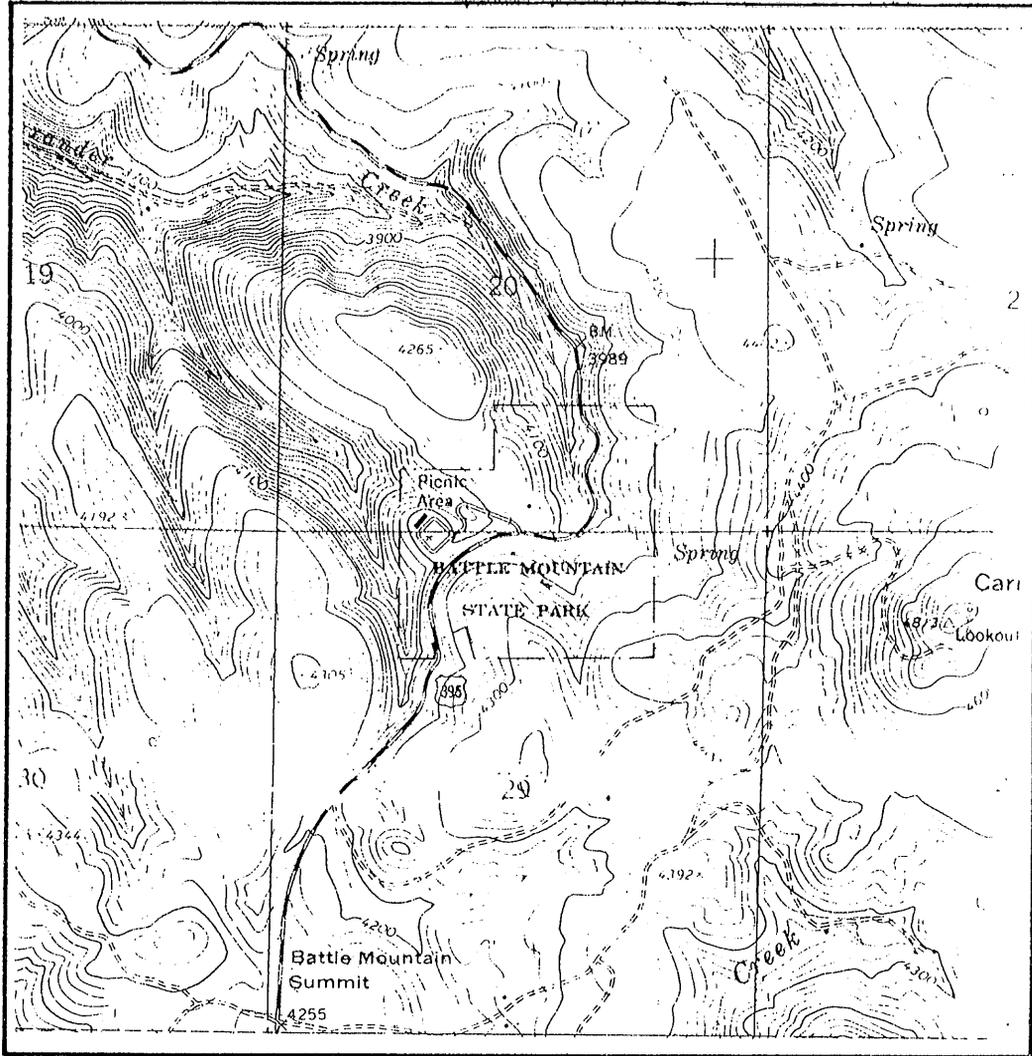
Management Program: Do site analysis to determine historical significance and necessary preservation.

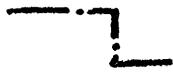
INVENTORY
HISTORIC SITES AND BUILDINGS

MAP: D-122

AREA: Battle Mountain

T/R: T3S, R31 EWM, Sections 20, 29



Historic Site: 

Map Source: U.S.G.S.

Plan Designation: Forest/Grazing

Zoning Designation: Grazing/Farm

Possible Land Use Conflicts: Unlikely since site is a state park

Goal 5 Analysis: 3C: Limit conflicting uses

Management Program: State park status and existing zoning is sufficient protection

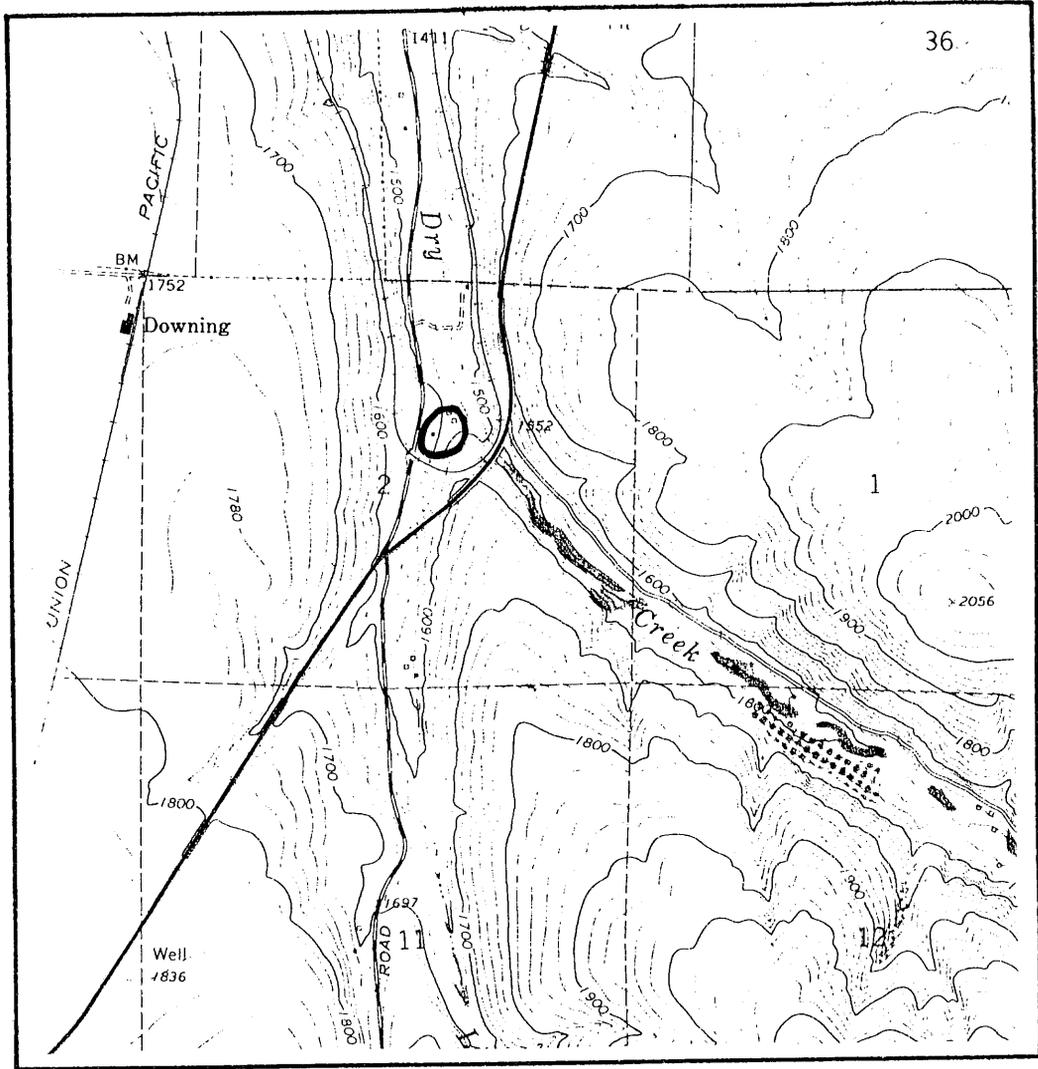
INVENTORY

HISTORIC SITES AND BUILDINGS

MAP: D-123

AREA: Beamer House

T/R: T4N R 35 EWM, Section 2



Historic Site: ○

Map Source: U.S.G.S.

Plan Designation: North County Agricultural

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: Limited by zoning; owners maintaining house

Goal 5 Analysis: 3C; Limit conflicting uses

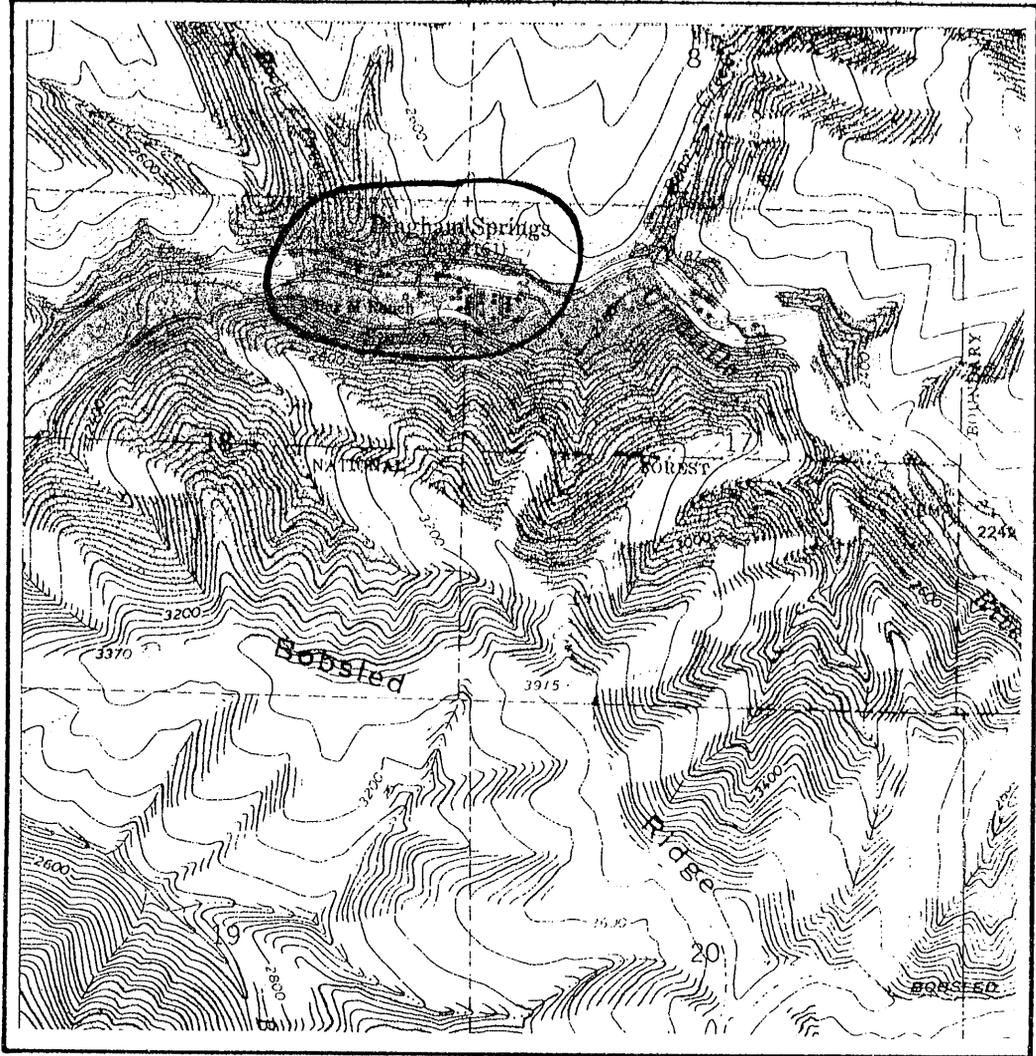
Management Program: Contact owners re: historical register

INVENTORY
HISTORIC SITES AND BUILDINGS

MAP: D-124

AREA: Bingham Springs/Bar M Ranch

T/R: T3N R 37 EWM, Sections 17, 18



Historic Site: 

Map Source: U.S.G.S.

Plan Designation: Grazing/Forest; Multiple Use

Zoning Designation: Grazing Farm/ Mountain Residential (MR)

Possible Land Use Conflicts: Limited by zoning, only existing

recreational subdivision is zoned MR

Goal 5 Analysis: 3C; Limit conflicting uses

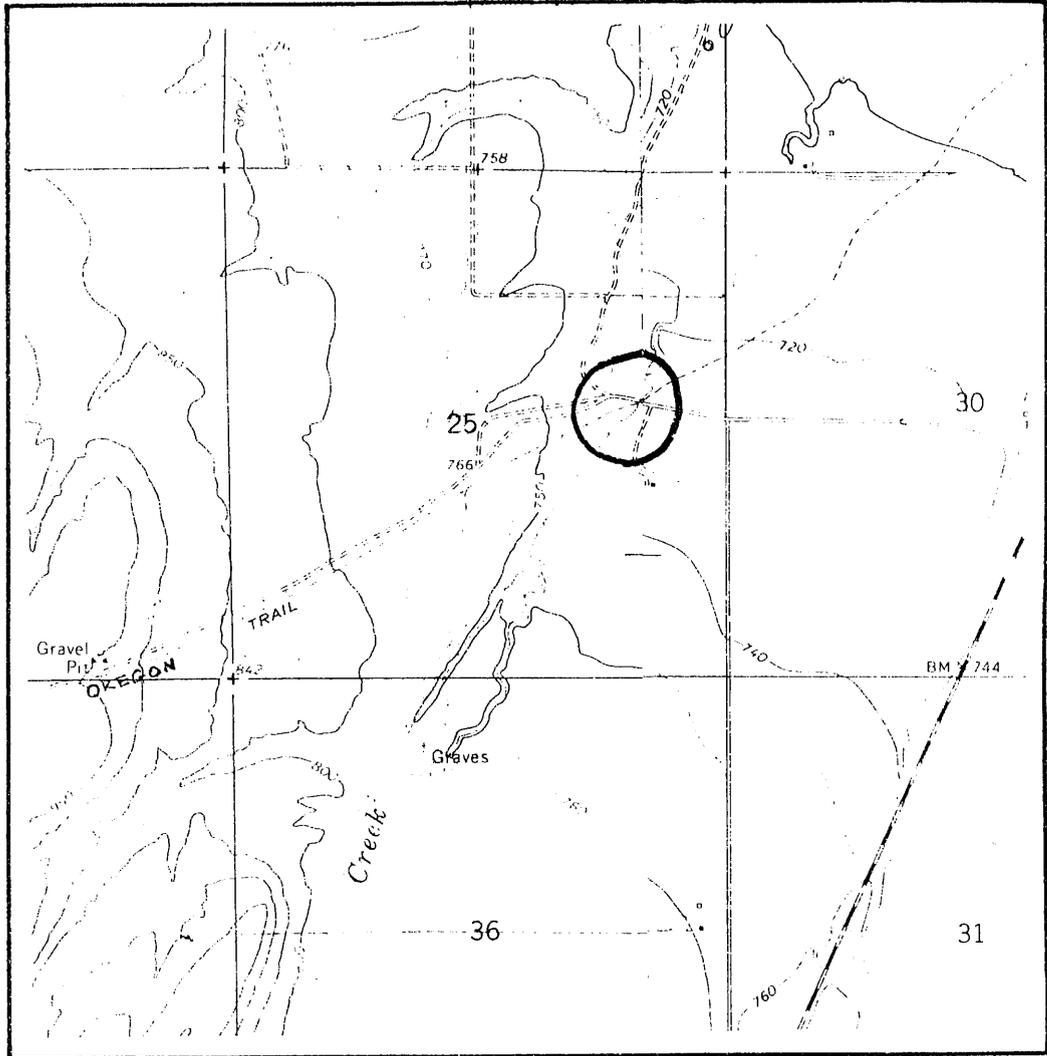
Management Program: No protective measures are appropriate or required

INVENTORY
HISTORIC SITES AND BUILDINGS

MAP: D-125

AREA: Buttercreek Crossing

T/R: T3N R27 EWM, Section 25



Historic Site: 

Map Source: U.S.G.S.

Plan Designation: North County Agriculture

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: Disruption of site by farm practices

Goal 5 Analysis: 1B, Delay Goal 5 process

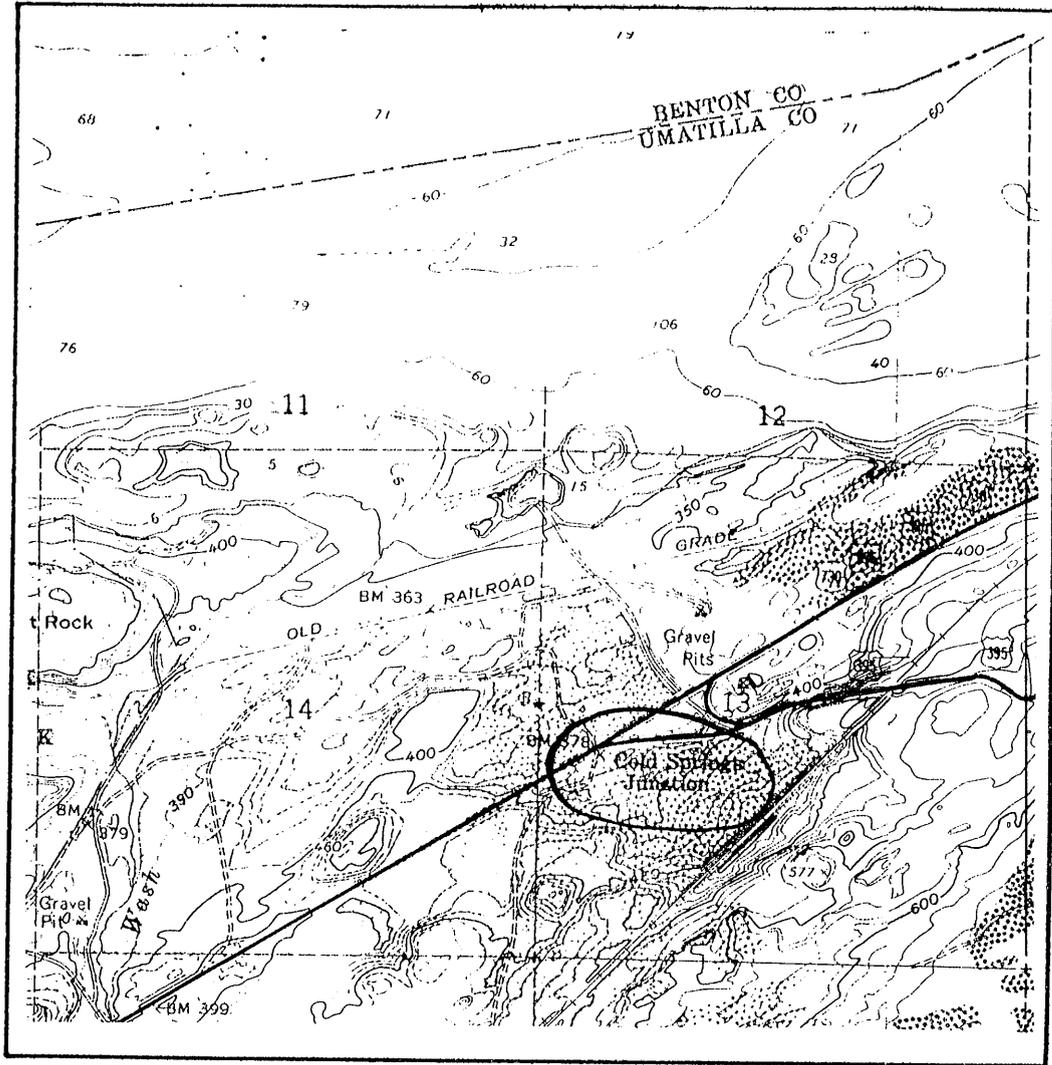
Management Program: Study site to determine if an interpretive marker or other preservation measures are warranted.

INVENTORY
HISTORIC SITES AND BUILDINGS

MAP: D-126

AREA: Cold Springs Landing/Junction

T/R: T5N, R29 EWM, Sections 13, 14



Historic Site: ○

Map Source: U.S.G.S.

Plan Designation: North County Agriculture

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: None

Goal 5 Analysis: 1B; Delay Goal 5 process

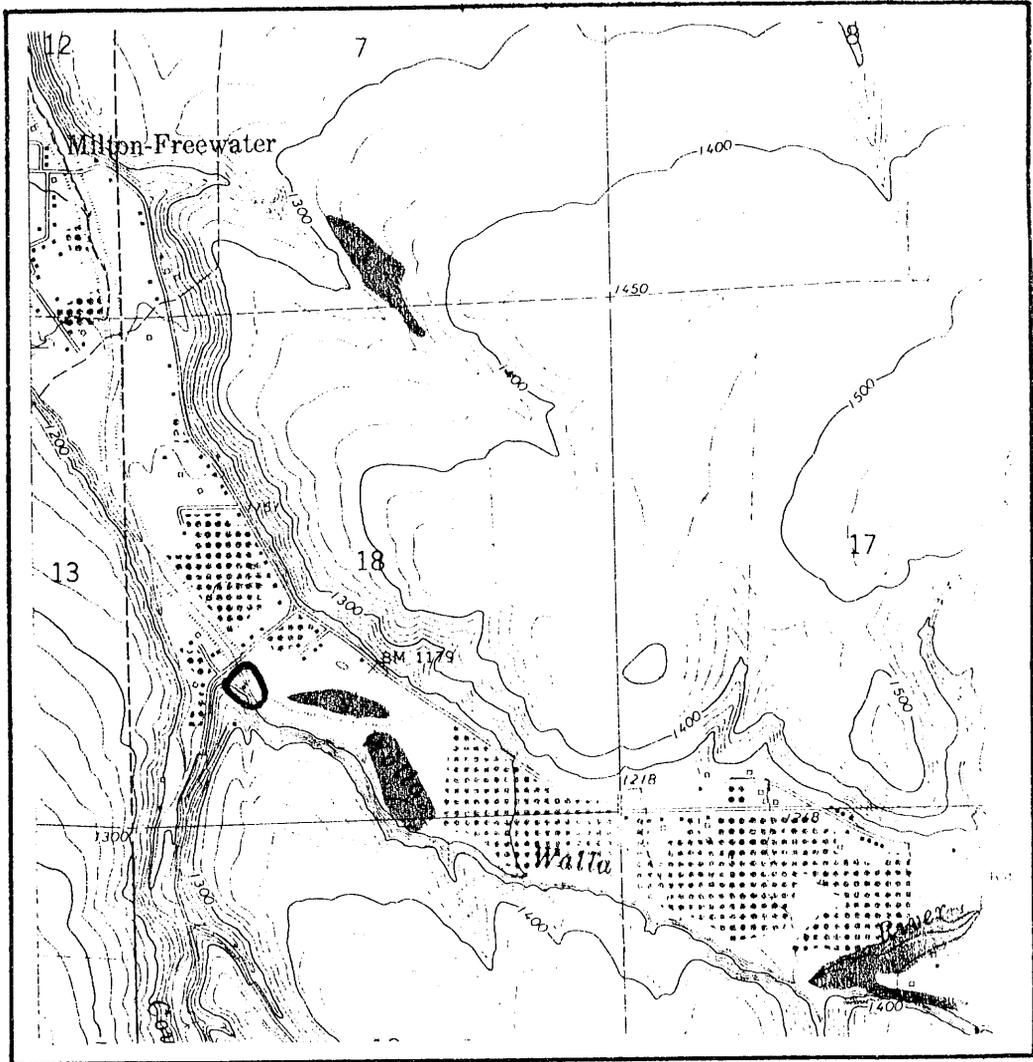
Management Program: Study should be given to an appropriately
located interpretive marker

INVENTORY
HISTORIC SITES AND BUILDINGS

MAP: D-127

AREA: Dorian Monument/Park

T/R: T5N R 36 EWM, Section 18



Historic Site: **D**

Map Source: U.S.G.S.

Plan Designation: Orchards District Plan

Zoning Designation: Exclusive Farm Use - 10 acre

Possible Land Use Conflicts: Limited, site is an existing park

Goal 5 Analysis: 3C; Limit conflicting uses

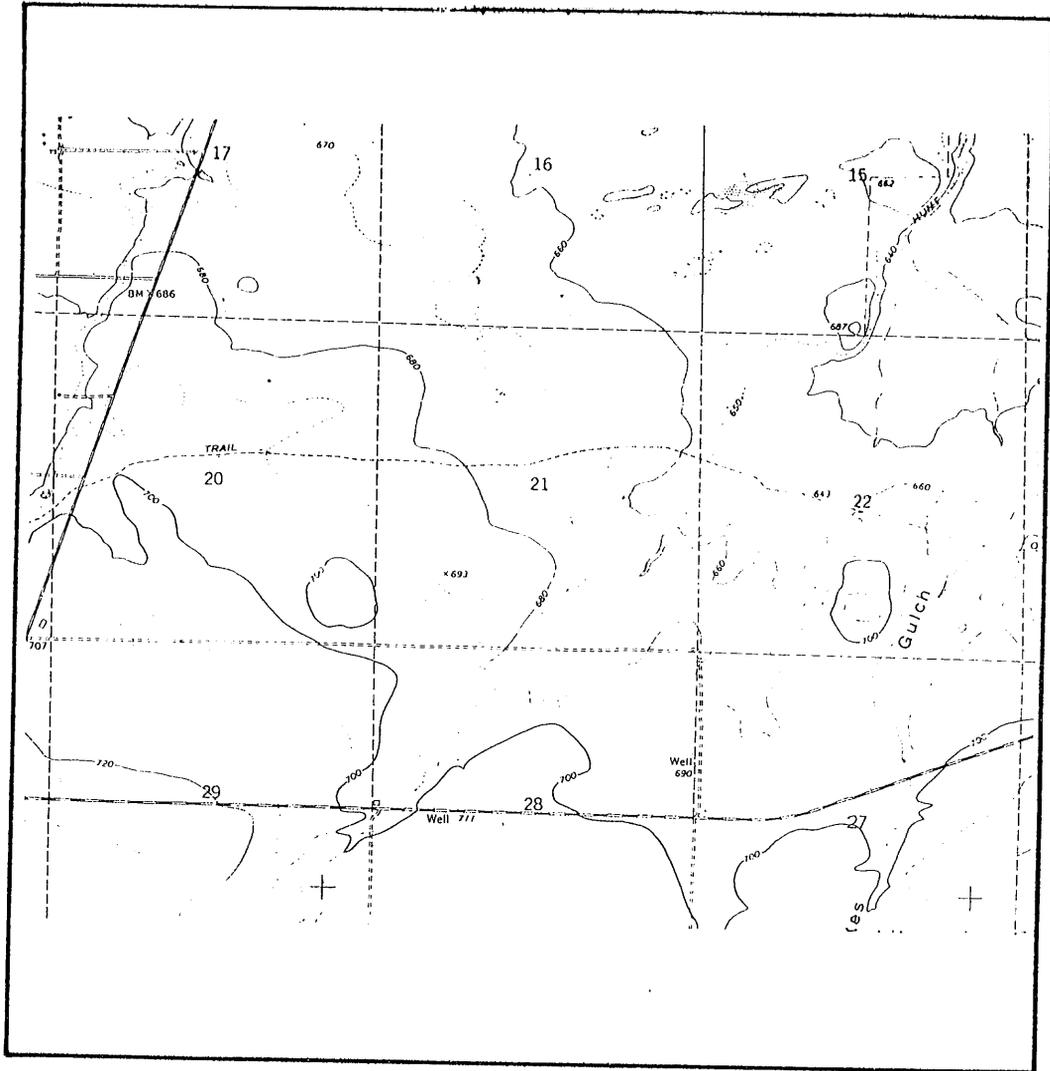
Management Program: No further protective measures are appropriate
or required.

INVENTORY
HISTORIC SITES AND BUILDINGS

MAP: D-128

AREA: Echo Meadows

T/R: T3N R 28 EWM, Sections 20, 21, 22



Historic Site: OREGON TRAIL -----

Map Source: U.S.G.S.

Plan Designation: Agriculture

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: Cultivation of land

Goal 5 Analysis: 1B, Delay Goal 5 process

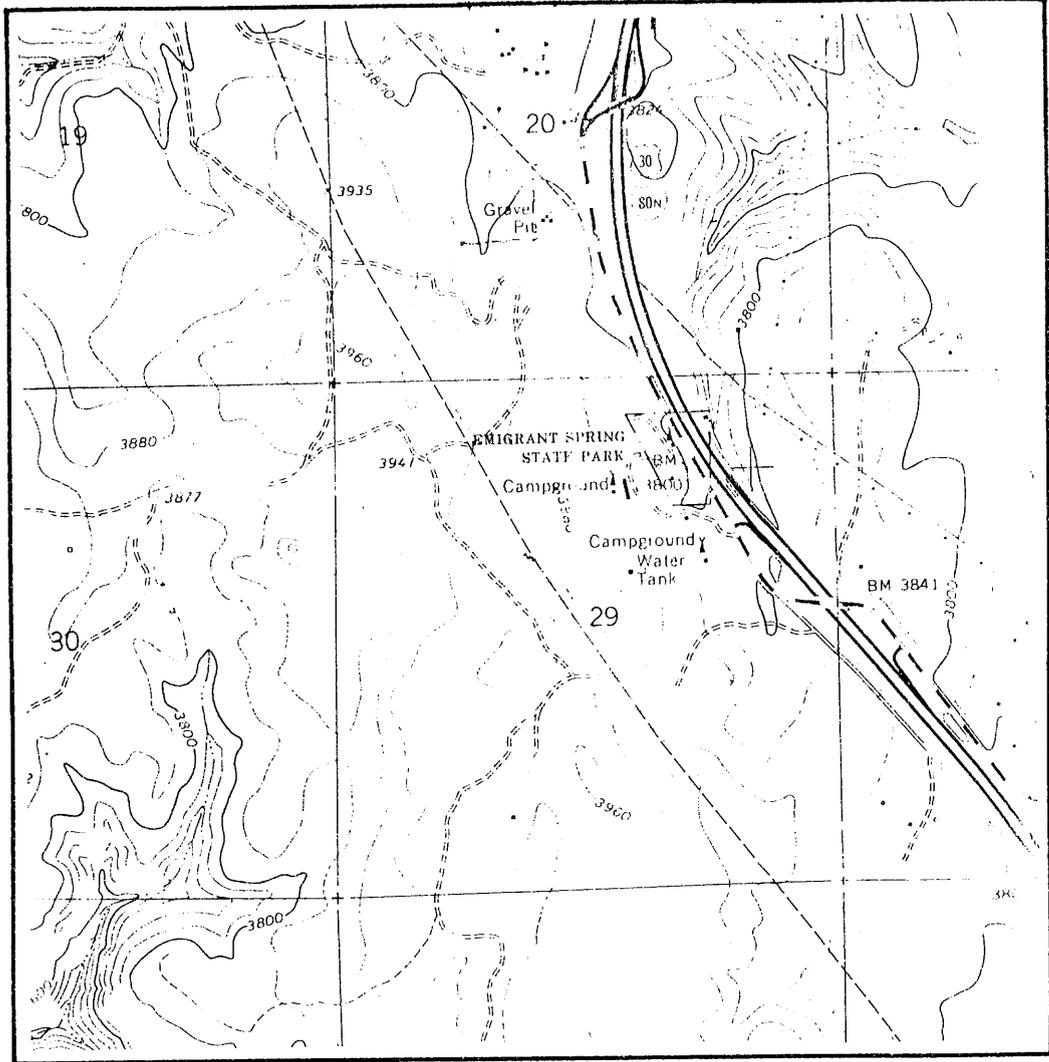
Management Program: Develop protection plan by working with private, state and federal landowners.

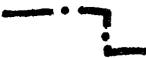
INVENTORY
HISTORIC SITES AND BUILDINGS

MAP: D-129

AREA: Emigrant Springs

T/R: T1N R35 EWM, Section 29



Historic Site: 

Map Source: U.S.G.S.

Plan Designation: Grazing/Forest

Zoning Designation: Forest Conservation

Possible Land Use Conflicts: Unlikely since site is a state park

Goal 5 Analysis: 3C - Limit conflicting uses

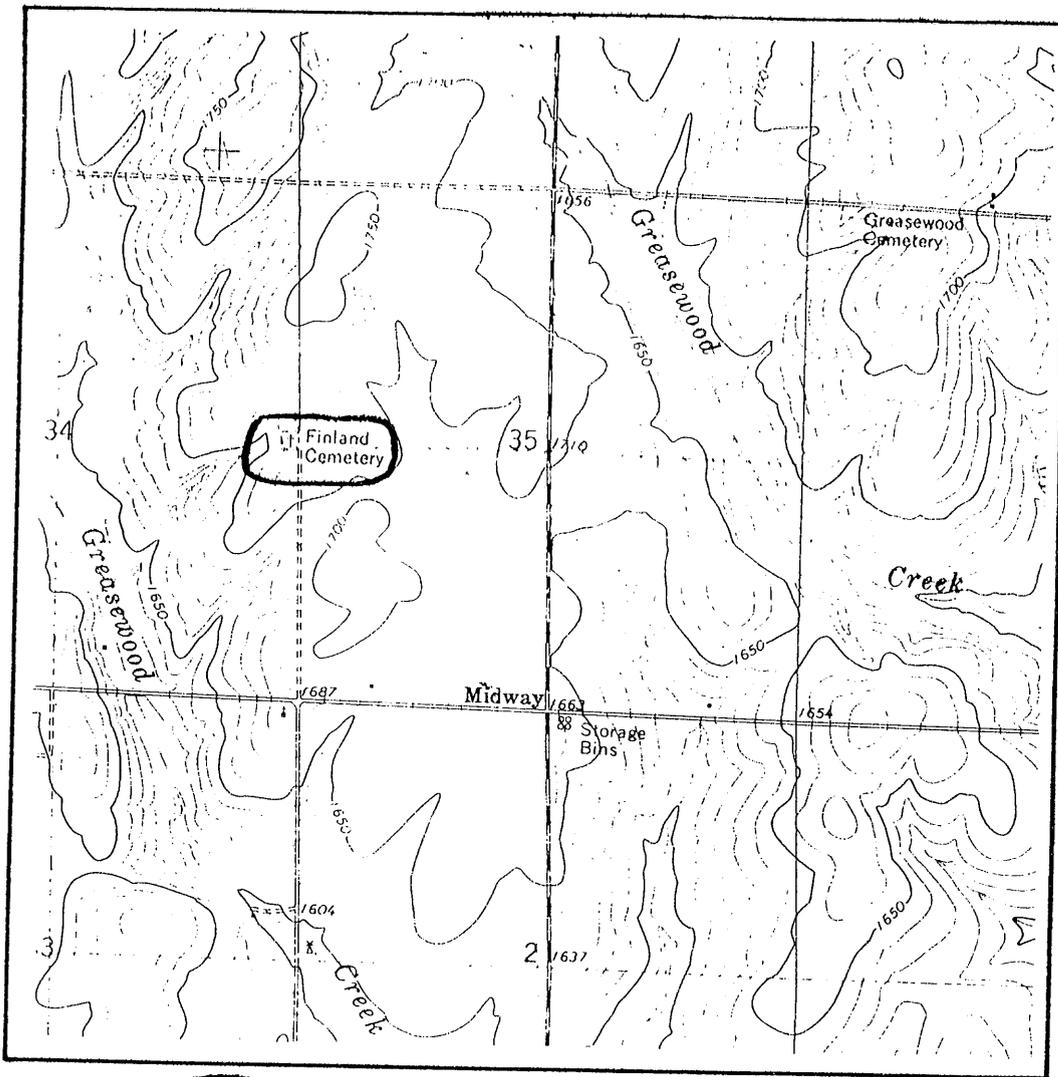
Management Program: State Park status and existing zoning is sufficient protection.

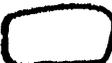
INVENTORY
HISTORIC SITES AND BUILDINGS

MAP: D-130

AREA: Finnish Little Greasewood Cemetery

T/R: T4N R33 EWM, Section 34



Historic Site: 

Map Source: U.S.G.S.

Plan Designation: North County Agricultural

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: None; existing cemetery

Goal 5 Analysis: 3C; Limit conflicting uses

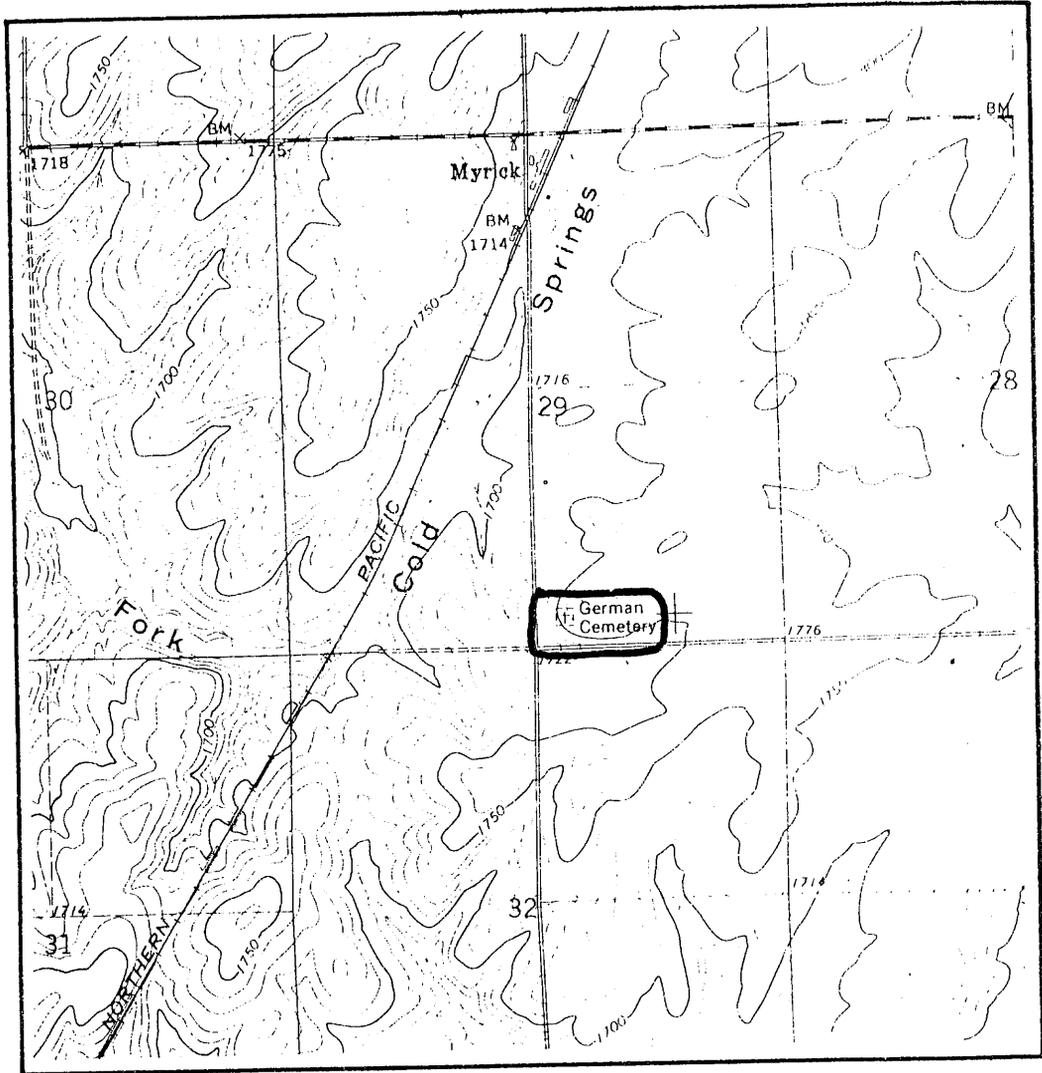
Management Program: No protective measures necessary

INVENTORY
HISTORIC SITES AND BUILDINGS

MAP: D-131

AREA: German Cemetery

T/R: T4N R33 Section 29



Historic Site:

Map Source: U.S.G.S.

Plan Designation: North County Agriculture

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: None significant

Goal 5 Analysis: 3C; limit conflicting uses

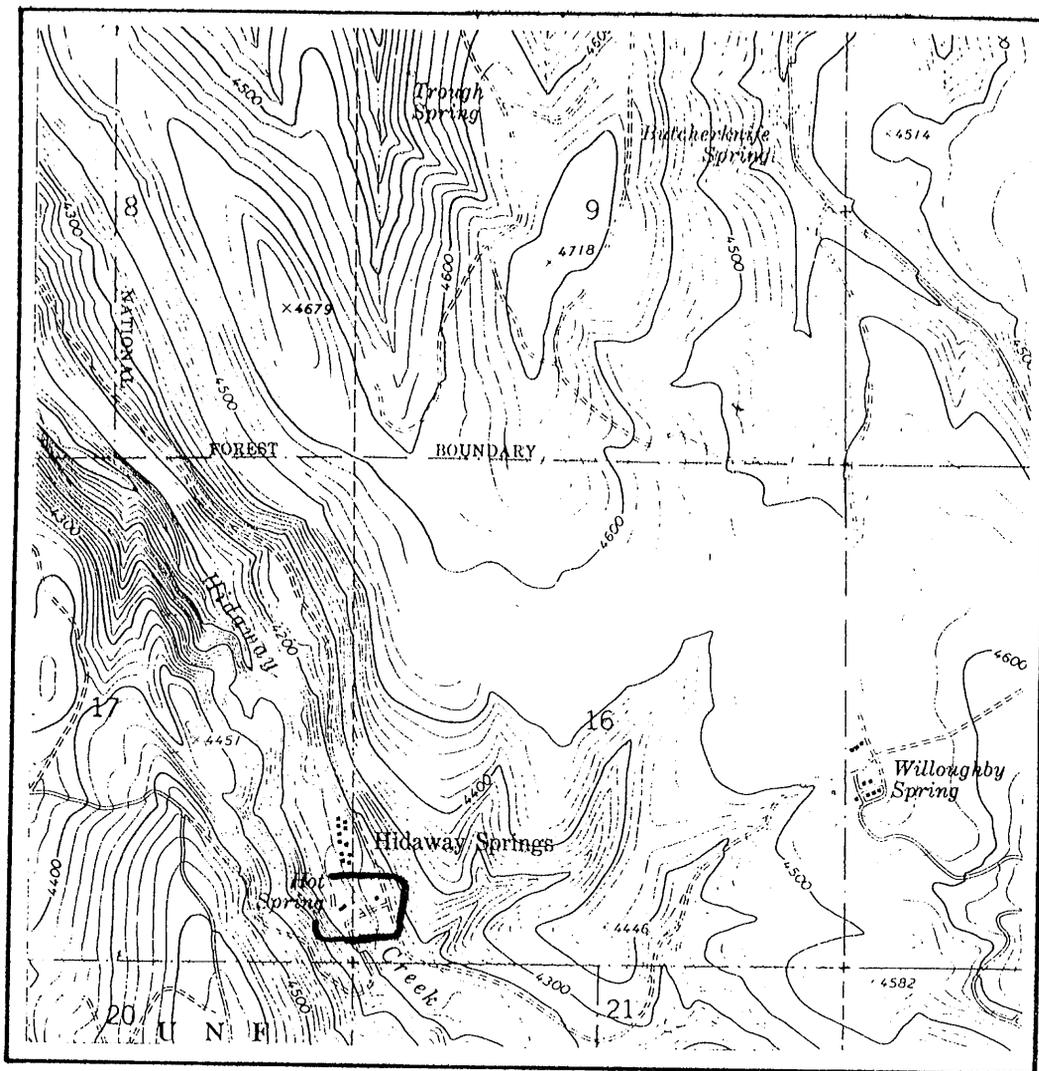
Management Program: None necessary

INVENTORY
HISTORIC SITES AND BUILDINGS

MAP: D-132

AREA: Hidaway Hot Springs

T/R: T5S, R33 EWM, Section 16



Historic Site:

Map Source: **U.S.G.S.**

Plan Designation: Grazing/Forest

Zoning Designation: Forest Conservation

Possible Land Use Conflicts: Limited; long established recreation facility

Goal 5 Analysis: 3A; Protect the resource

Management Program: Preserve historic buildings (dance hall, etc.)
with overlay zone

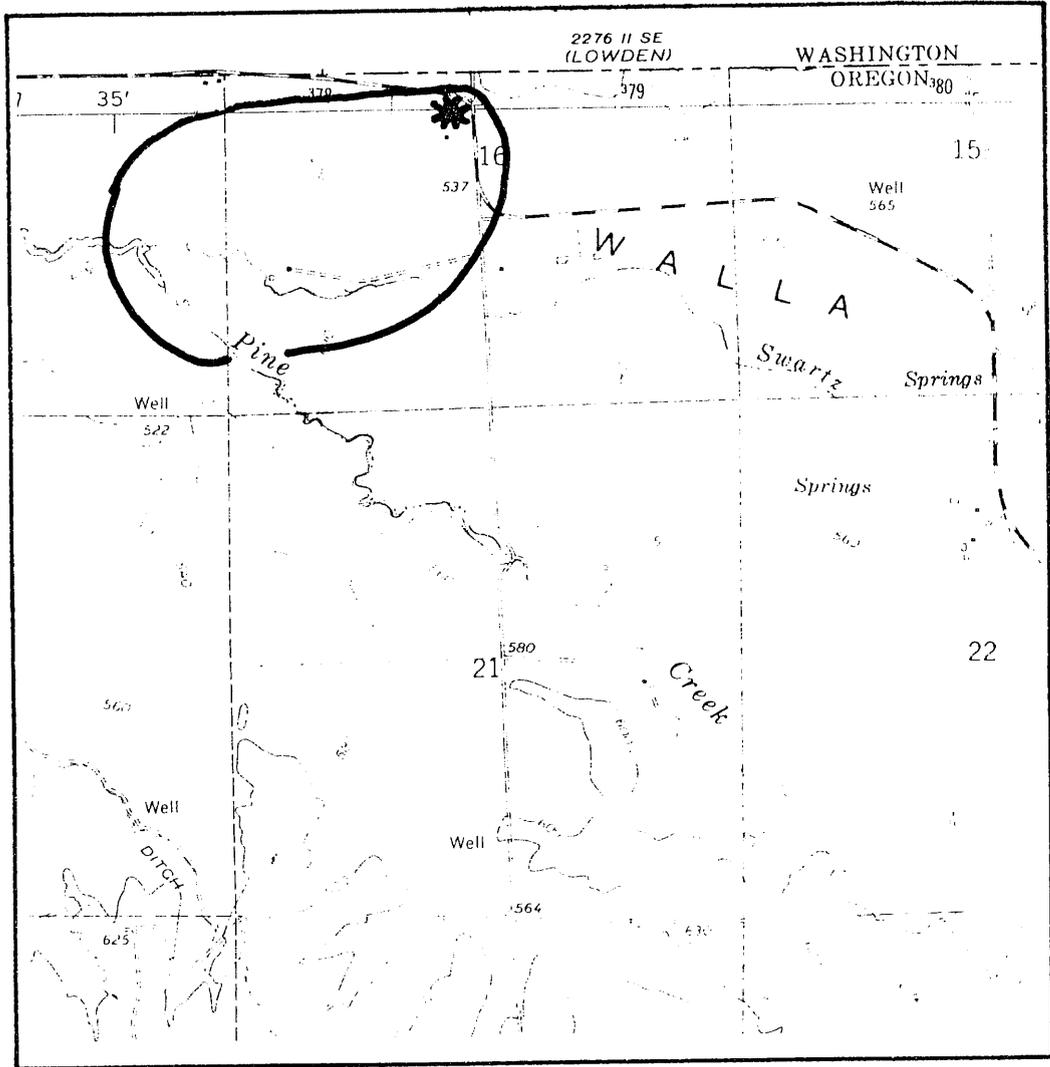
INVENTORY
HISTORIC SITES AND BUILDINGS

MAP: D-133

AREA: Hudson's Bay Company Farm and Osage

Orange Tree

T/R: T6N R 34 EWM, Section 16, 17



Historic Site:  *Existing Monument Map Source: U.S.G.S.

Plan Designation: North County Agricultural

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: Limited by zoning

Goal 5 Analysis: 3C-Farm Site/lB-Osage Orange

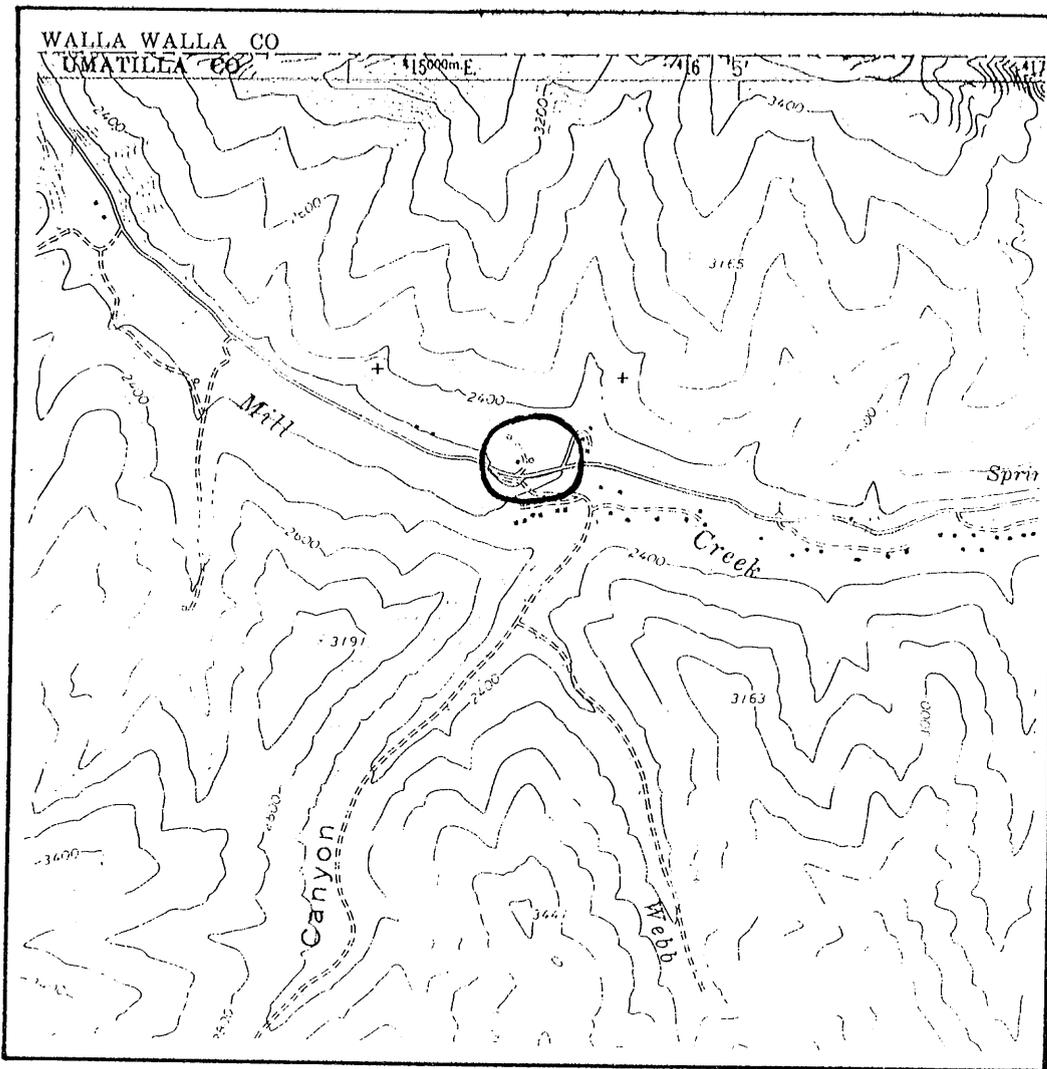
Management Program: Existing interpretive monument sufficient for farm site but historical significance of osage orange tree should be determined.

INVENTORY
HISTORIC SITES AND BUILDINGS

MAP: D-134

AREA: Klicker Springs

T/R: T6N R38 E4W



Historic Site: 

Map Source: U.S.G.S.

Plan Designation: Multiple Use

Zoning Designation: Forest Residential, FR-5

Possible Land Use Conflicts: Use of site as residential property;
destruction of mineral spring

Goal 5 Analysis: 3C; Limit conflicting uses

Management Program: Work with property owner regarding preservation
of site. Owner intends to establish monument.

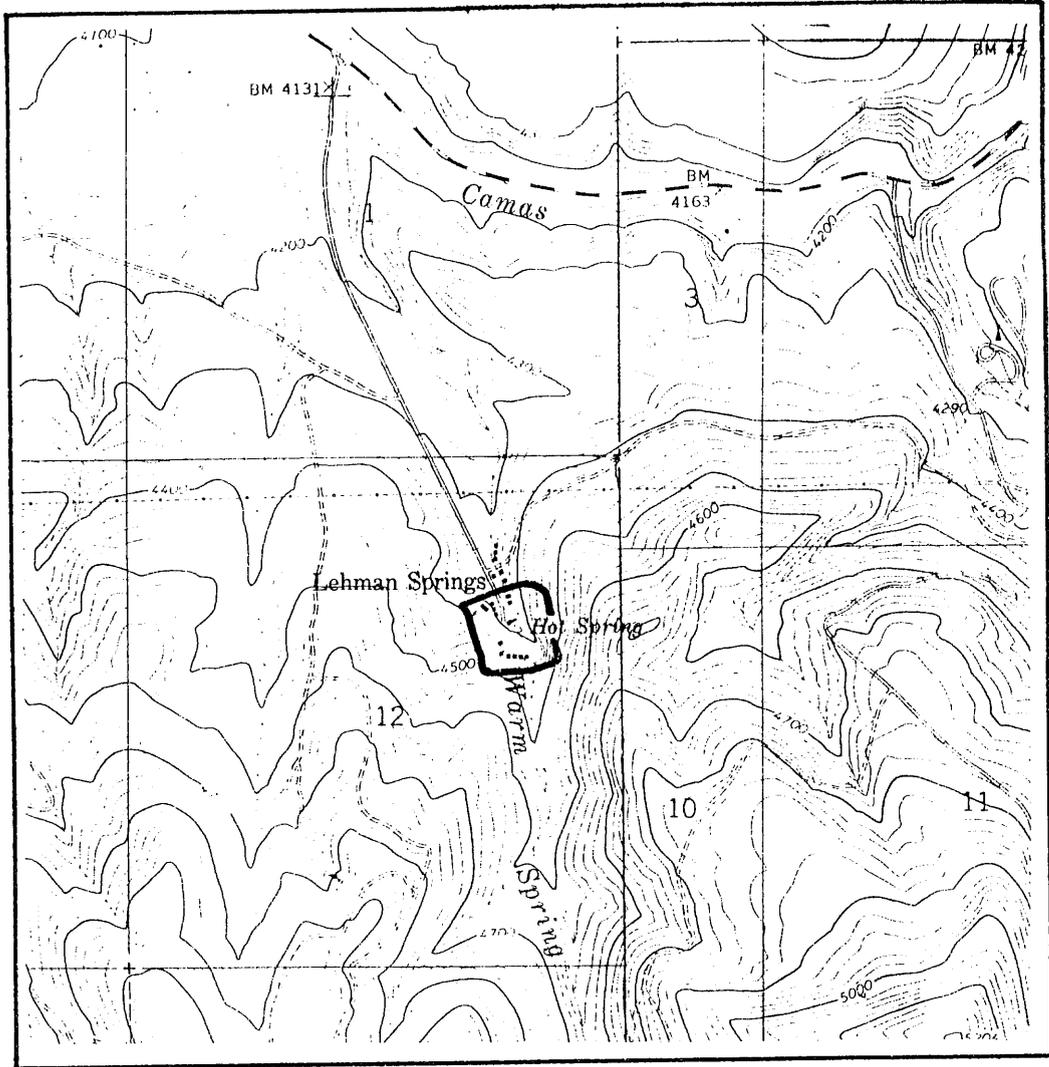
INVENTORY

HISTORIC SITES AND BUILDINGS

MAP: D-135

AREA: Lehman Hot Springs

T/R: T5S, R 34 EWM, Section 12



Historic Site:

Map Source: U.S.G.S.

Plan Designation: Multiple Use

Zoning Designation: Forest Residential

Possible Land Use Conflicts: Limited; long established recreation facility

Goal 5 Analysis: 3C; Limit conflicting uses

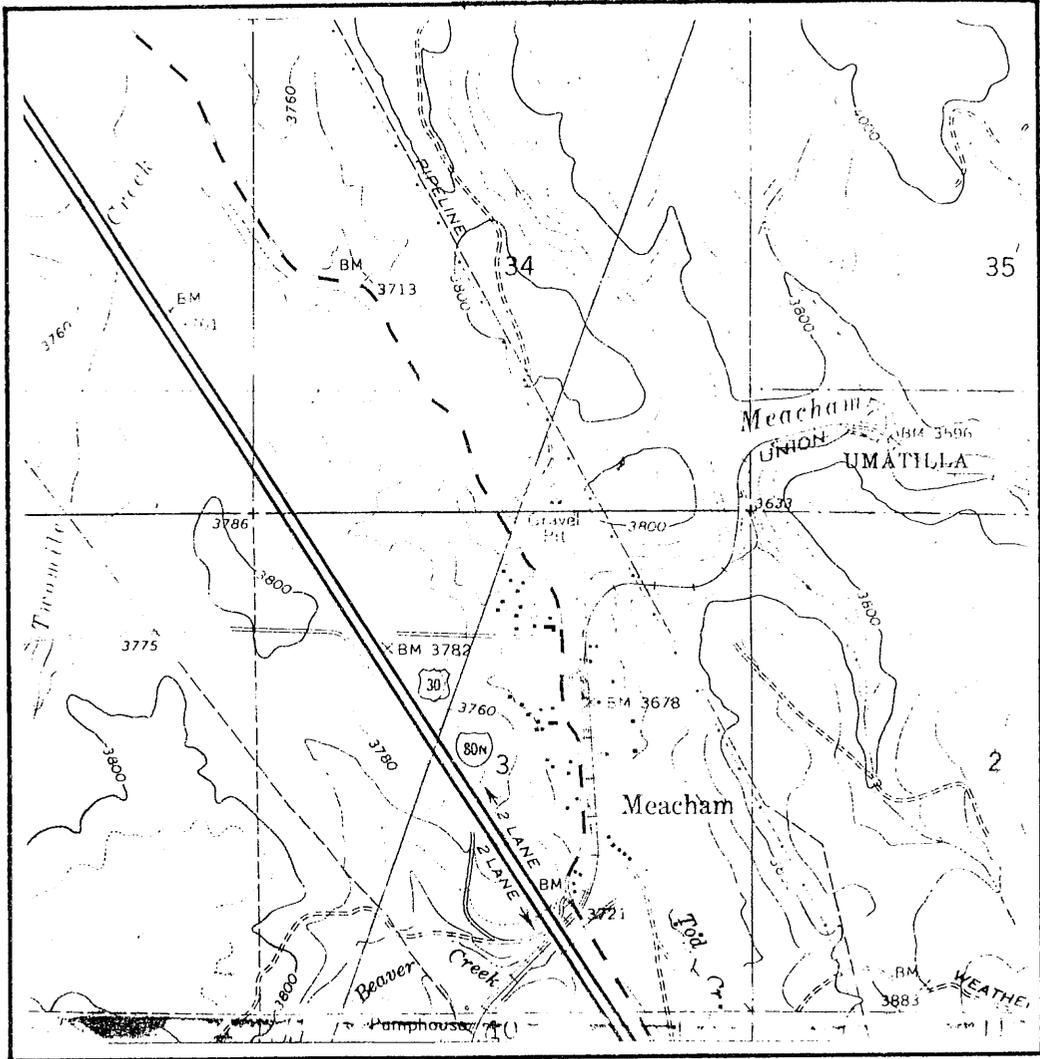
Management Program: Comprehensive Plan should recognize the importance of recreation facility and its potential to supply future recreational needs.

INVENTORY
HISTORIC SITES AND BUILDINGS

MAP: D-137

AREA: Meacham

T/R: T1S R35 EWM, Section 3



Historic Site: Townsite, Cemetery, Hotel,
Oregon Trail, Monument

Map Source: U.S.G.S.

Plan Designation: Unincorporated Community

Zoning Designation: Unincorporated Community

Possible Land Use Conflicts: Limited; but encourage preservation
of hotel

Goal 5 Analysis: 1B/3C

Management Program: Study ways to encourage interest in historical
aspects of community

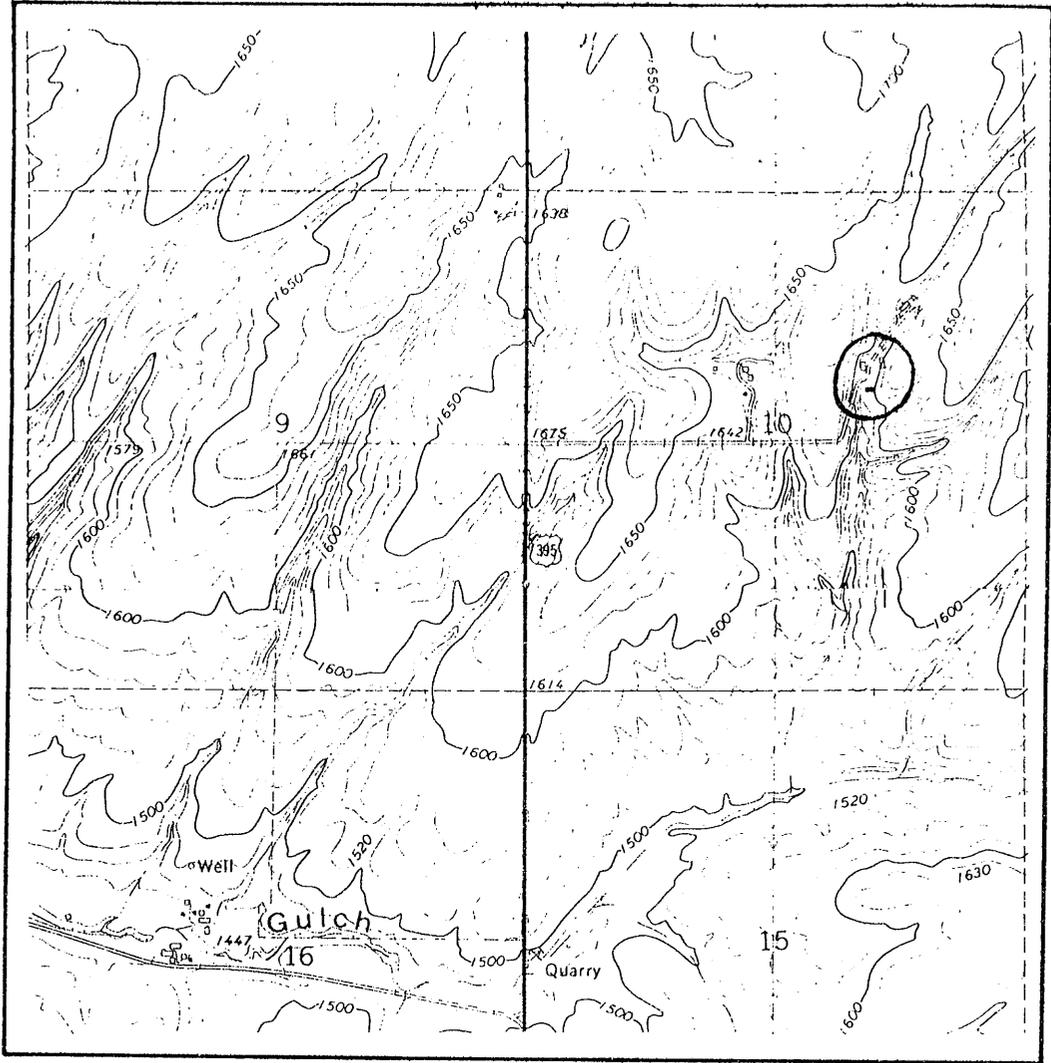
INVENTORY

HISTORIC SITES AND BUILDINGS

MAP: D-L38

AREA: Munn Ranch

T/R: T3N R32 EWM, Section 10



Historic Site: 

Map Source: U.S.G.S.

Plan Designation: North County Agricultural

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: Limited by zoning

Goal 5 Analysis: 3C; Limit conflicting uses

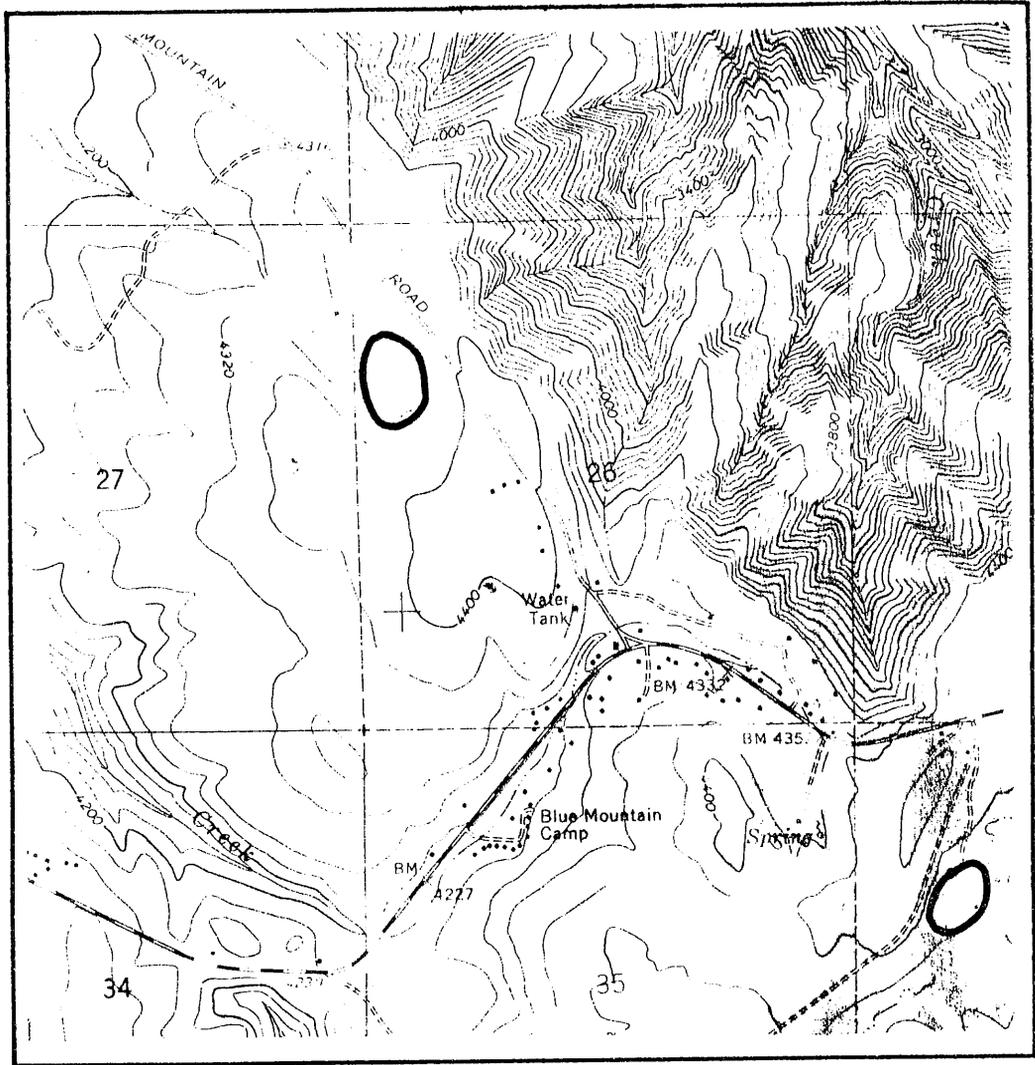
Management Program: Owner maintaining historic barn; no further protective measures necessary.

INVENTORY
HISTORIC SITES AND BUILDINGS

MAP: D-139

AREA: Olinger Monuments

T/R: T4N, R 37 EWM, Section 26



Historic Site: ○

Map Source: U.S.G.S.

Plan Designation: Grazing/Forest

Zoning Designation: Grazing/Farm

Possible Land Use Conflicts: Limited now; depends on location in future

Goal 5 Analysis: 1B; Delay Goal 5 process

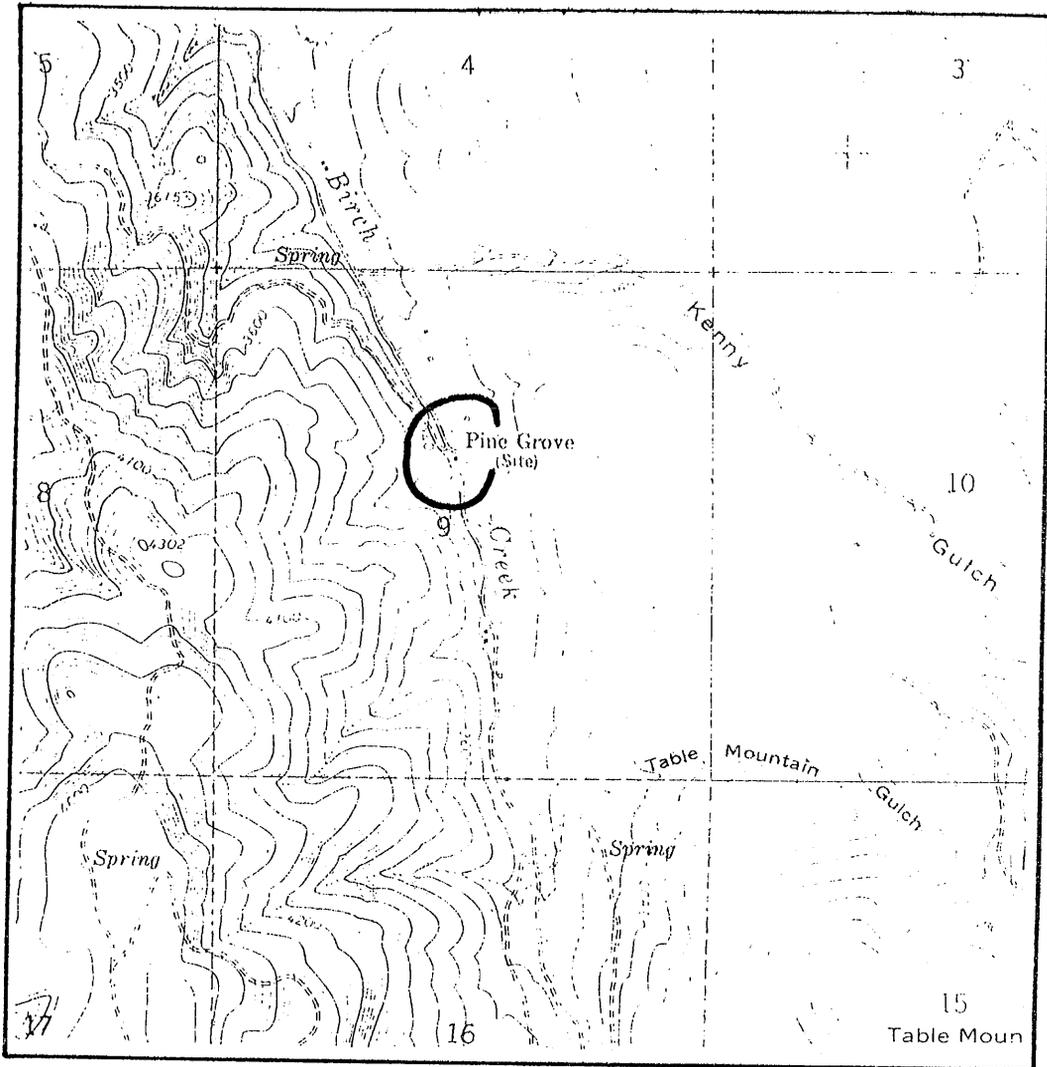
Management Program: Study to determine best location per monuments

INVENTORY
HISTORIC SITES AND BUILDINGS

MAP: D-140

AREA: Pine Grove

T/R: T 3S, R32 EWM, Section 9



Historic Site: 

Map Source: U.S.G.S.

Plan Designation: Grazing/Forest

Zoning Designation: Grazing/Farm

Possible Land Use Conflicts: Limited; isolated area

Goal 5 Analysis: 1B, Delay Goal 5 process

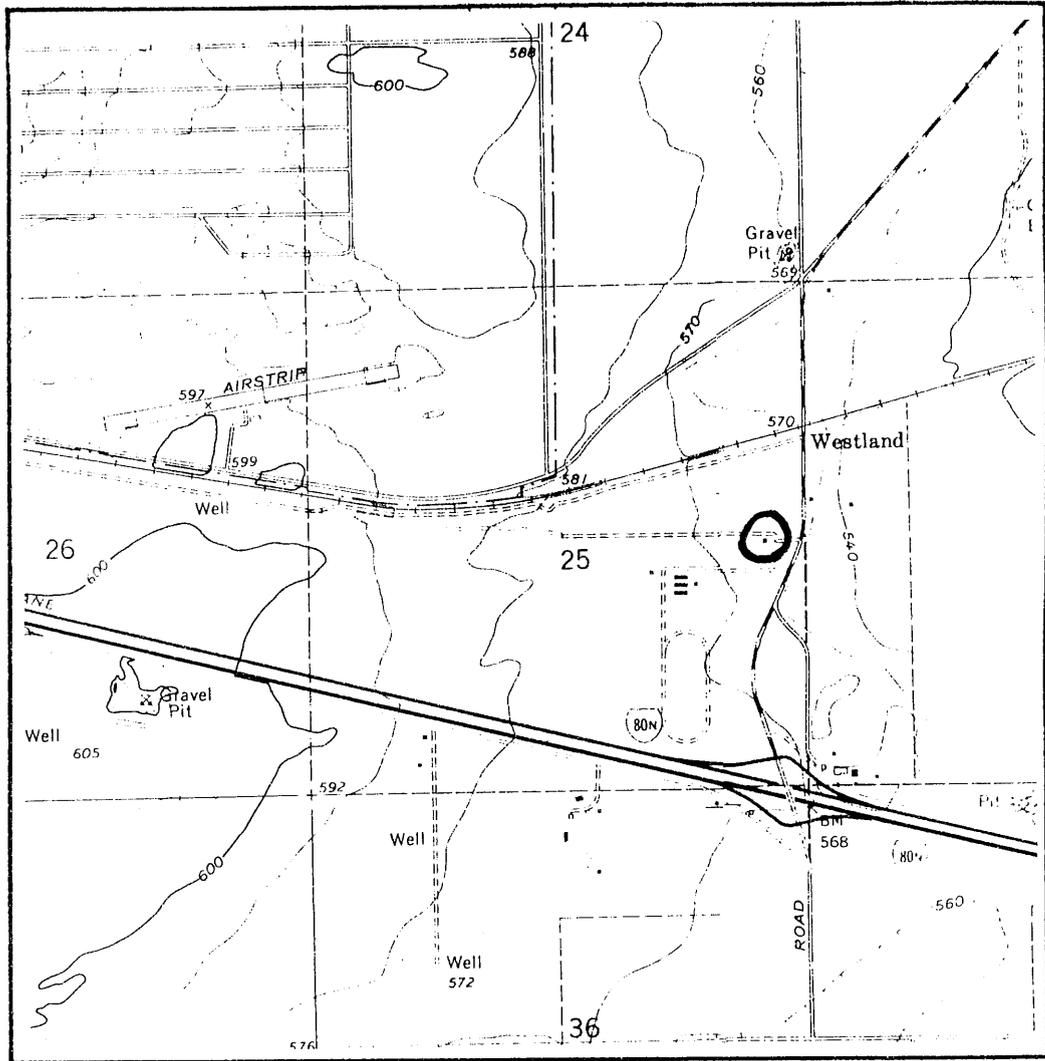
Management Program: Study need to determine any appropriate historical preservation measures

INVENTORY
HISTORIC SITES AND BUILDINGS

MAP: D-141

AREA: Westland School

T/R: T4N R27 EWM, Section 25



Historic Site: ○

Map Source: U.S.G.S.

Plan Designation: Agriculture; Future Industrial

Zoning Designation: Exclusive Fam Use; Future Industrial

Possible Land Use Conflicts: Industrial uses

Goal 5 Analysis: 1B, Delay Goal 5 process

Management Program: Determine historical significance and appropriate protection measures

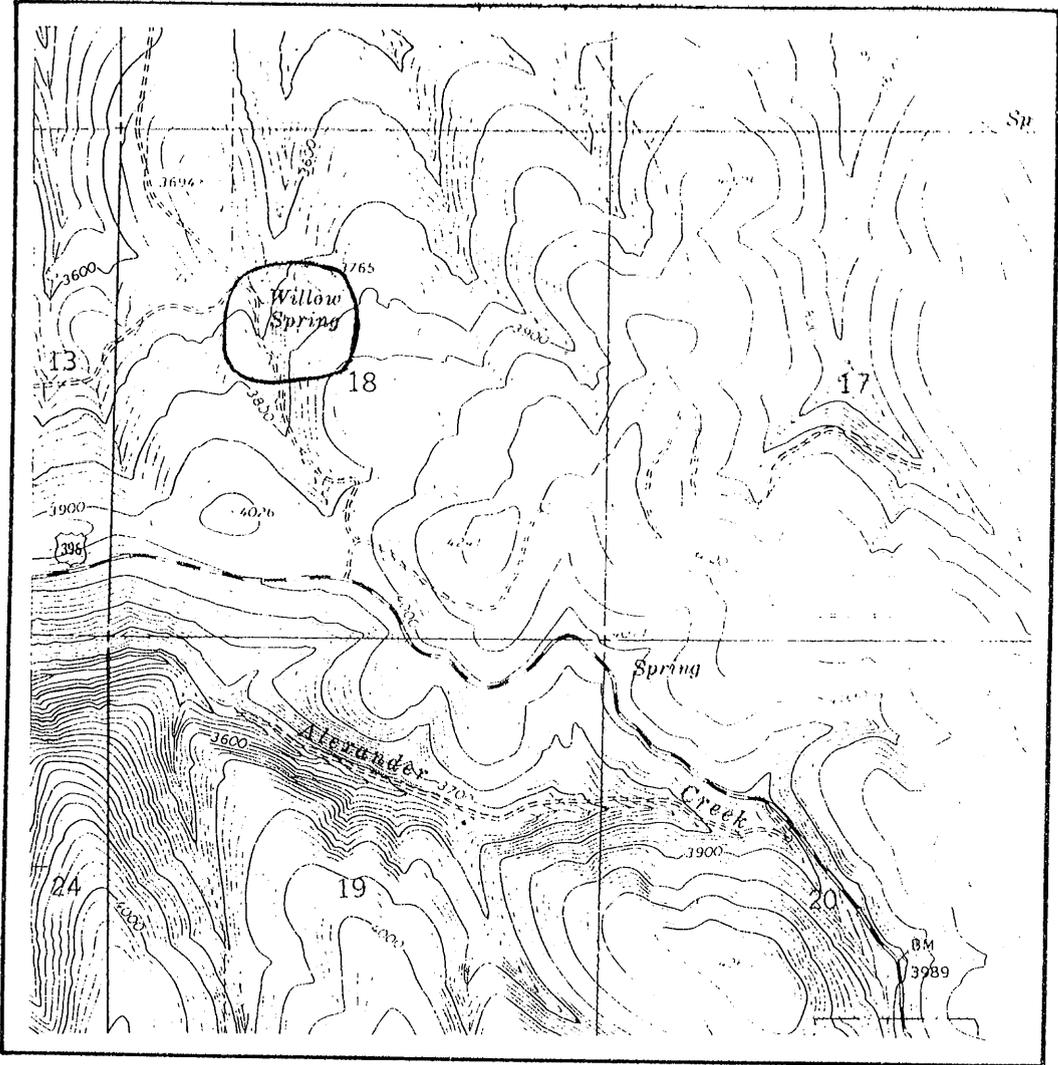
INVENTORY

HISTORIC SITES AND BUILDINGS

MAP: D-142

AREA: Willow Springs

T/R: T3N R31 EWM, Section 18



Historic Site:

Map Source: U.S.G.S.

Plan Designation: Exclusive Farm Use

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: Unlikely. This is open rangeland.

Goal 5 Analysis: 1B; Delay Goal 5 process

Management Program: Site should be studied to determine if historic preservation measures are necessary or appropriate.

Albee (Category A/C) (1B) [Revised]

Albee is the closest thing to a "Ghost Town" in Umatilla County. Settlement occurred in the 1880's and many of the original town buildings remain. Only a few are occupied. The area is platted into small lots and there is some interest in developing the plat as recreational homesites.⁽¹⁸⁾ The area should be inventoried to determine if preservation or restoration is possible or warranted.

Battle Mountain (Category A) (3C)

Battle Mountain was named for a fight between the white settlers against the Bannock and Paiute Indians in 1878. This was the last such battle in Oregon. There is a state park with an interpretive sign on the site.¹⁹ No further protective measures are appropriate or required.

Beamer House (Category C) (3C)

This beautifully restored Victorian home is located at the site of Downing, south of Milton-Freewater. The house is privately owned and well maintained.²⁰ No protective measures are appropriate or required.

Bingham Springs (Bar M Ranch) (Category A/C) (3C)

Bingham Springs was a stage stop on the Tollgate Road winding from the upper Umatilla River over the Blue Mountains to the Grande Ronde Valley. Warm springs on the site were sacred to the Indians. A hand hewn log hotel was constructed in 1864, which has been in use ever since. It was a popular resort for many years. Today the site belongs to the Bar M Dude Ranch.²¹ No protective measures are appropriate or required.

Birch Creek/Grande Ronde Road (Category A) (1B)

This old emigrant road traveled up East Birch Creek to the headwaters, these along the summit of the Blue Mountains to McCoy and Johnson Creeks and then south and southeast to Starkey Prairie.²² This trail route should be further researched to determine its relevant historic value and preservation needs.

Buttercreek Crossing (Category A) (1B)

This is where the Oregon Trail crossed Buttercreek. A grove of alder trees still exists that the pioneers used for a rest stop. It is the site of an old livery stable and a signpost erected by Ezra Meeker is still there. Trail ruts are still visible.²³ This site should be reviewed to see if an interpretive marker or other preservation measures are warranted.

Cold Springs Landing/Junction (Category A) (1B)

An earlier transportation route (since 1811) for fur trappers, emigrants and settlers.²⁴ Study should be given to an appropriately located interpretive marker.

Dorion Monument/Park (Category A/B) (3C)

Park owned by the City of Milton-Freewater dedicated to Marie Dorion, the only woman on the Astor Expedition of 1810. It is also the site of an early power plant operated by the city.²⁶ No further protective measures are appropriate or required.

Echo Meadows (Category A) (1B) [New]

Three miles of distinct ruts of the Oregon Trail. Mostly in private ownership but part owned by BLM. Oregon Trail Master Plan recommended preservation of this section of trail. BLM, County, and private landowners should work together towards this end.

Emigrant Springs (Category A) (3C)

Emigrant Springs was a favorite water source and camping spot on the Oregon Trail, but was first discovered by Jason Lee in 1834. A state park with an interpretive kiosk is located there. The Oregon Trail master plan recommends no further improvement or protection of the site.²⁷

Finnish Little Greasewood Cemetery (Category D) (3C)

This is a turn-of-the-century cemetery established by the Apostolic Lutheran Church.²⁸ No protective measures are appropriate or required.

Fort Henrietta (Old Umatilla Agency) (Category A) (1B)

The first Umatilla Indian Agency site called Utilla, was erected in 1851 near Echo, but was burned by the Indians in 1855. Immediately the army constructed Fort Henrietta on the site and occupied it until hostilities ceased. The Agency was moved to Mission in the 1880's.²⁹ The exact location of Fort Henrietta is not known. If future research locates the site, an interpretive marker would be appropriate.

Frazer Road (Category A) (1B)

Early emigrant road (1870) from Starkey vicinity to Ukiah.³⁰ This trail route should be researched further to determine its relevant historic value and preservation needs.

German Cemetery (Category D) (3C)

The German Cemetery at Myrick contains graves dated 1897 to 1934.³¹ No protective measures are appropriate or required.

Hidaway Hot Springs (Category C) (3A)

A popular hot springs resort of the early 1900's, the round dance hall (c. 1910) remains.³² The current owners should be encouraged to insure preservation of this unique building.

Hudson's Bay Company Farm Site (Category A) (3C)

An historical monument exists to commemorate the Hudson's Bay Company Farm, 1821-1856, where 500 head of horses and 100 cattle were pastured. The farm originally was bounded on the north by the Snake River, on the east by the Blue Mountains, on the south by the Umatilla River and on the west by the Columbia River.³³ The vicinity of the monument is now designated as agriculture (exclusive farm use). No further protective measures are required.

Klicker Springs (Category A) (3C) [New]

Klicker springs was a well-known vacation resort around the turn of the century. Facilities included a hotel, livery stable, camp ground and mineral springs for bathing. All that remains is the spring itself. However, the Klicker family intends to improve the site and erect a family memorial plaque and a sign noting the history of the area. Care should be taken by the county to protect the spring because of its proximity to the county road.

Lehman Hot Springs (Category C) (3C)

These hot springs east of Ukiah were discovered in 1870 and served as a popular resort clear into the 1960's.³⁴ Although none of the original buildings remain, the hot water pools still exist and are used by the current owner. A number of private cabins located adjacent to the hot springs have hot water piped to them. The hot springs owner is attempting to redevelop the site as a major recreation facility. Umatilla County has granted permits for commercial use of the hot springs and for tourist facilities, including a major recreation vehicle campground.

The new comprehensive plan should recognize the long history of the site as a recreation facility and its potential to supply future recreational needs.

Lewis and Clark Trail (Category A) (3C)

Lewis and Clark used the Columbia River as their route to the coast and home again in the early 1820's. The State Highway Department has placed Lewis and Clark markers along Highway 730. The State Parks and Recreation Department should consider an interpretive kiosk at Hat Rock State park, since Hat Rock was noted in the journals of Lewis and Clark.

Locust Tree Campground (Category A) (1B)

Located along the Umatilla River, this campground is at the bottom of the Oregon Trail's descent from Reith Ridge. A grove of locust trees (still standing) provided a shady rest stop for the wagon trains.³⁵ Ruts of the trail are clearly visible coming down the steep slope to the valley floor.

Should the landowner cultivate or otherwise disrupt the hillside, a very clear section of the Oregon Trail would be lost. Or should the locust grove be cleared, much of the historic impact of the site would be lost. Umatilla County should determine if this site warrants protection to insure preservation.

Marcus Whitman Trail (Category A) (1B)

Trail used by the Whitman Party who were some of the first emigrants to the Oregon country. Travels through Umatilla National Forest, Umatilla Indian Reservation and privately owned lands.³⁶ The exact route is not completely known. This trail route should be researched further to determine its relevant historic value and preservation needs.

McCoy Cabin (Category C) (1B)

The cabin built by Thomas McCoy in 1856 just north of Milton-Freewater is still standing. The title to the tract of land it occupies was the first deed recorded in Umatilla County.³⁷ The county should determine if the site and building warrant protective measures to insure preservation or, if such measures would be appropriate.

Meacham (Townsite) (Category A/C) (3C)

Meacham was established in 1848 when the U.S. Army camped there following the Whitman Massacre. In 1863 a hotel and tollroad were constructed along the Oregon Trail. Several Oregon Trail related sites are located in or near Meacham. The Oregon Trail master plan suggests that revised and additional interpretive markers be placed in Meacham. The plan states:

Meacham deserves more. Specifically, Umatilla County should correct the existing interpretive sign, and more interpretation should be added to adequately cover the area's history. Once that is accomplished, the Department of Transportation should provide signs on Interstate 84, indicating that Meacham is a historic site, and encouraging visitors to make a brief exit from the Interstate to appreciate its history.³⁸

Meacham Cemetery (Category D) (1B)

Oregon Trail pioneers and early Meacham settlers are buried in this little cemetery. Study should be given to the necessity of protective measures.

Meacham Hotel (Category C) (3C)

The Meacham Hotel is a large, two story, wood frame building which stands on the east side of the railroad tracks in Meacham, Oregon. This structure has a gable roof which is covered, at present, with sheet metal. The exterior is shiplap. A verandah reaches along the west (front) elevation of the building. The structure is in a "t" shape and the verandah thus has two parts. The building is in good condition.

The Meacham Hotel was probably erected at the time of the building of the Oregon Railway and Navigation Company line from Umatilla Landing to LaGrande between 1882 and 1884. It is possible, however, that this building may be earlier and may be the one erected by Alfred Meacham who owned the Blue Mountain Toll Road. The style and construction materials would, however suggest a date of construction in the late 19th or early 20th centuries. The hotel received additional guests when Highway 30 was dedicated in the 1920's. The hotel was abandoned from 1951 to 1966. In 1966 restoration began on the structure for use as a Quaker summer camp. In 1976 it became known as the Melody Mountain Camp.³⁹

No county action is required, other than encouragement of the owner to maintain the original character of the building.

Mumm Ranch (Category C) (3C)

The Jurgen Mumm farmstead (c. 1890), located a few miles north of Pendleton, is the site of an architecturally interesting barn and is typical of many well preserved and cherished farmsteads in the county.⁴⁰ No protective measures are appropriate or required.

Old Log Cabin (Category C) (1B)

The Pearl Bowman cabin, locally referred to as the "old log cabin," is one of the few remaining original settler's homes in the Meacham area.⁴¹ Study should be given to determine if the site and building warrant protective measures to insure preservation or if such measures would be appropriate.

Olinger Monuments (Category D) (1B)

Several concrete monuments are located on a Forest Service road near Tollgate, dedicated to individuals who died during pioneer days. They are located on private property. A study should determine if public access to the monuments should be obtained and protection measures established or if the monuments need to be moved to a more appropriate location. (See recommendations by the Tollgate Citizens' Advisory Committee.)

Oregon Trail (Category A) (1B)

The Oregon Trail is one of the most important historic elements of our nation. This importance is recognized by the federal and state agencies whose duty it is to preserve our heritage. The State Parks and Recreation Department have done an outstanding job in providing interpretive material in the parks and rest stops along I-84 which parallels the Oregon Trail. In 1980, the

U.S. Department of Interior, National Parks Service, completed a comprehensive management and land use plan for the Oregon Trail ⁴² which recommends specific preservation actions along the entire length of the trail. Some of these actions have been referred to herein for specific sites (Meacham, Emigrant Springs, etc.)

A wide range of conflicts have resulted in the past and will in the future when Oregon Trail preservation is proposed. Road and utility construction, urban development, and farming and forestry activities have destroyed much of the original Oregon Trail throughout Umatilla County. Only in isolated spots can the ruts of the trail now be found. The social consequences of the continued destruction of this remnant of our past must be weighed against the economic and other benefits of land development. The county should consider carefully the purpose of the Oregon Trail master plan, weigh the recommendations for specific sites, and take that action which will be of the most benefit to the public.

Oregon Trail Monument (Category D) (3C)

The Oregon Trail master plan recommends the State Parks and Recreation Department correct the errors on the signs and expand its information. No county actions are required.⁴³

Osage Orange Tree (Category D) (1B)

This unique tree is located on the banks of Schwartz Creek where it flows into Pine Creek west of Umapine. The Hudson's Bay Post and farm were located here, and the original road to the Whitman Mission is still visible in places.⁴⁴ It should be determined if the site or road warrants historic preservation measures.

Picket Rock (Category A) (1B)

This rock outcropping near Echo was used by the army as a lookout during the Indian hostilities of the 1850's.⁴⁵ It should be determined if the site warrants historic preservation measures.

Pine Grove (Category A) (1B)

Little remains of this early logging and mining area south of Pilot Rock along Birch Creek.⁴⁶ Study of this area may indicate some need for formal historic recognition.

Pioneer Lookout Tree (Category D) (1B)

There still exists the snag of a large yellow pine fifteen miles south of Milton-Freewater along Basket Mountain Road, that the pioneers used as a lookout point during the years of Indian hostilities.⁴⁷ It should be determined if any preservation measures are warranted.

Prospect Farm (Category C) (1B)

This landmark farm along Stage Gulch Road was the "Sixteen-Mile House" from Umatilla Landing (Umatilla) to Pendleton. It once had a post office and was called Morehouse. Some of the locust trees are over 100 years old and some of the rosebushes were brought across country by covered wagon.⁴⁸ The site is private property. No restrictive preservation measures would be appropriate; however, a historical marker might be.

Ten-Mile House (Category C) (1B)

The "Ten-Mile House" along the road from Umatilla Landing (Umatilla) is one and a half miles from Stanfield on the old Hinkle Road. On the site is the 100 year old plus "Stanfield Black Walnut" tree that is quite a local landmark itself.⁴⁹ A historical marker is planned for the site.

Tollgate Road (Walla Walla Trail) (Category A) (1B)

Tollgate Road was an early emigrant and market toll road that traveled from LaGrande to Walla Walla. A hotel and way station for travelers was located at the summit near the actual tollgate. Later Union and Umatilla Counties purchased the road and eliminated the charges.⁵⁰ Perhaps an appropriate historical marker should be placed at the route.

Unknown Dead Monument (Category D) (3C)

Commonly referred to as the "Unkown Dead Monument," the Old Oregon Trail landmark is a bronze plaque mounted on a shaft of granite that stands on the east side of Old U.S. Highway 30 in Meacham, Oregon. The plaque reads:

"In Memoriam. Erected 1925 by the Women's Community Club of Meacham, Oregon in honor of those who died blazing the Old Oregon Trail."⁵¹

No additional preservation measures are necessary unless it is part of an overall historic area plan for Meacham as recommended by the Oregon Trail master plan.⁵²

Upper McKay School (Category A/D) (1B)

Upper McKay school is just one of many abandoned early-day schools in the County. However, the site is especially interesting because it served for years as a cavalry parade grounds.⁵³ This site should be studied to determine if historic preservation measures are appropriate.

Walla Walla Trail (Umatilla Trail) (Category A) (1B)

This trail, from the Whitman Mission to the Stanfield area, was an early part of the Oregon Trail when wagon trains stopped at the mission for rest and food. Later emigrants did not go to the mission unless necessary for assistance, in order to avoid an additional week's travel. Very little of this trail has been identified.⁵⁴ Further research may locate portions worthy of historic note.

Westland School (Category C) (1B)

Westland School is another early day school but its location and architecture make it a west county landmark. It should be determined if historic preservation measures are appropriate.

Willow Springs (Category D) (1B)

Willow Springs, near Battle Mountain, is the location of several 1878 graves of settlers that wre killed by the Bannock and Paiute Indians.⁵⁵ It should be determined if additional historic preservation measures are appropriate.

Wooden Flume (Category D) (1B)

Only portions of the old wooden flume along the Upper Walla Walla River remain. Additional research is needed into the history of the flume and what appropriate preservation measures are necessary.

Additional OSHPO Sites [Revised]

A number of other sites are listed in the Oregon State Historic Preservation Office's, Statewide Inventory of Historic Sites and Buildings for Umatilla County.

The following is a list of these sites and why they have not been addressed in this report:

Deadman's Pass - On Umatilla Indian Reservation

Keyes Cemetery - Within Weston city limits

Umatilla River Arch - Within Umatilla city limits

Umatilla Landing Site - Within Umatilla city limits

St. Andrew's Mission - On Umatilla Indian Reservation

Pilot Rock - Within Pilot Rock city limits

Oregon-Wyoming Sheep Trail - No information available

Old School House - Within Umatilla city limits

Jail House - Within Echo city limits

Hat Rock - Mentioned in conjunction with Lewis and Clark trail. Also discussed in the "Outstanding Scenic Views and Sites" section of this report.

Farmhouse - Within Echo city limits

Elephant Rock - Discussed in the "Outstanding Scenic Views and Sites" section of this report.

Cayuse Post Office - On Umatilla Indian Reservation

Target Meadows - Within Umatilla National Forest

Also a number of historic buildings within incorporated towns are inventoried.

Century Farms

The Century Farm Program, sponsored by the Oregon Historical Society, in which a farm has remained in the same family ownership over one hundred years, currently has fourteen such farms in Umatilla County.⁵⁶ Most Century Farm families have purchased distinctive historical markers for their farms.

Management Programs

There are undoubtedly many additional sites of historical significance in Umatilla County. Local literature is full of interesting stories of the county's heritage that should be investigated for inclusion in the county's historic inventory. The county's greatest need in regard to historic preservation is to do a detailed historic site inventory. Once that is accomplished, there should be developed a historic preservation plan with appropriate preservation measures. The Umatilla County Historical Society could be instrumental in the preparation of the inventory and plan.

In the interim, the county should rely on an appropriate overlay zone to protect currently recognized sites.

Cultural Areas

A cultural area, according to Statewide Planning Goal #5, refers to "an area characterized by evidence of an ethnic, religious or social group with distinctive traits, beliefs and social forms."

In some ways, all of Umatilla County should be considered a "cultural area" under the above definition since it is within original territory of the Umatilla Indians. The existing Umatilla Indian Reservation contains about 8% of the total area of the county, but areas throughout the county still have cultural significance to the tribe.

The following quotations from a CH₂M Hill planning study⁵⁷ indicate the nature and scope of the Indian use of the land:

Root digging, wild fruit picking, fishing and hunting were the main staples of their food supply. The age-old custom of moving to the mountains at the beginning of hot weather was still common for years after the establishment of the Reservation. They lived in tiny shacks or tepees and were more or less nomadic during this season. They returned (to the Reservation) at intervals only to tend their gardens or to get a supply of vegetables....

Fishing areas for salmon were located along all the major rivers and streams of eastern Oregon and southeastern Washington. Different bands of Indians frequented favorite rivers throughout the region, with the location of the fish determining the sites that were fished in any particular year....

Hunting for deer, elk, and other wild game also took place throughout the region. Hunting ranged over broader areas than did fishing due to the mobility of game. Hunting patterns were similar to those for fishing, bands of Indians hunted in different areas. The hunting areas were dictated by the location of game.....

The diet of meat and fish was supplemented by wild roots, such as the camas root. Areas for digging roots were located on lightly timbered or open ridges. Bands and families used regular sites for digging....

The Indians' diet was also supplemented by wild berries, to a large extent, huckleberries. Huckleberry fields were located in the timbered areas surrounding the high mountain peaks, mostly east of the present Reservation..

While the Indians were foraging for food during the spring, summer, and fall, temporary campgrounds were located near the hunting and fishing areas. Many of these campgrounds were located on sites later settled by non-Indians, such as LaGrande, Cove, Union, and Baker. As a result, traces of these early Indian habitats have disappeared. During the winter months campgrounds were established at lower elevations for protection from the cold and snow. Typical sites included Imnaha and Tum-a-Lum before the Treaty of 1855 and along the Umatilla River after the Reservation was established.

The annual trips in search of fish and game led bands of Indians to distant points within the region. While on these trips the Indians sought sites for relaxation and bathing. Hot springs located in the far flung reaches of the mountain area provided sites for these restful interludes.

Confederated Tribes officials are reluctant to identify any specific areas for traditional cultural and religious practices within the county (off-Reservation).

A recent letter from the Tribal Planning Director states:

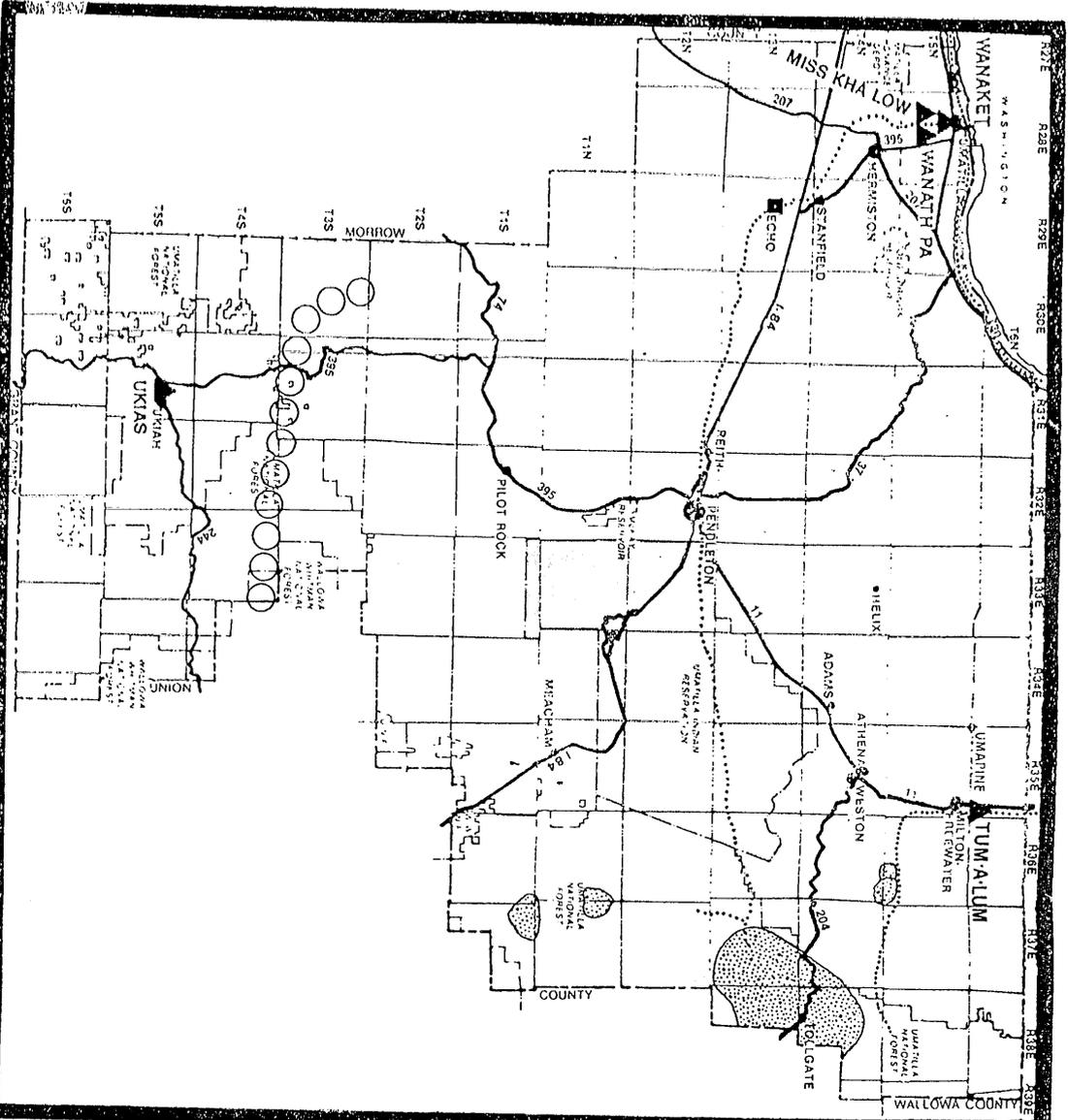
The area of concern to the Umatilla Confederation is known as the Ceded Boundaries and include approximately 6 to 8 million acres in northeast Oregon and southeast Washington. It is within these areas that the Tribes have reserved hunting, fishing, pasture, and root and berry picking rights . . .

As you may know, some of the issues and information are guarded and become very emotional. Sometimes the situation is most delicate.⁵⁸

There are indications that livestock grazing (timing and vicinity) may have potential conflicts with the ability of certain roots and herbs gathered now, primarily for religious/cultural reasons (no longer used extensively as food).⁵⁹ And of course, state hunting and fishing policies are of concern to the tribe. Local land use issues are also of interest, such as protection of deer/elk winter range near the reservation. The Tribe has been monitoring the county's planning program and submitted testimony on several occasions.

Besides assuring input by and coordination with the Tribe, there is little else the county can do at this time to instigate conflicts with Indian cultural sites. The State Commission on Indian Services is proposing legislation (The Oregon Archaeological Protection Act) which may alleviate some of the coordination problems.⁶⁰

Indian sites and landmarks identified so far by the Tribe are classified as follows: fishing areas, hunting areas, root digging areas, berry picking areas, campgrounds, hot springs, historic sites, historic buildings, corrals, and geographic areas. Specific sites in each category are listed in Table D-XIX. The table indicates the non-Indian and Indian names for each historic site, and comments regarding the significance of the site. Where possible, the comments also indicate the meaning of Indian names and the general location of the site. (See also, Map, page D-154).



LEGEND

- ▲ HISTORIC BUILDING
- CAMPGROUNDS
- FISHING AREAS
- HUNTING AREAS
- ROOT DIGGING AREA
- BERRY PICKING AREAS
- ▭ PRESENT RESERVATION

SOURCE: Planning for the Umatilla Indian Reservation, Initial Comprehensive Planning Investigation

INDIAN CULTURAL & HISTORICAL SITES UMATILLA COUNTY, OREGON (OFF RESERVATION)



TABLE D-XIX
 Off-Reservation Cultural/Historic Sites of
 the Confederated Tribes of the Umatilla Indian Reservation

<u>Category</u>	<u>Non-Indian Name</u>	<u>Indian Name</u>	<u>Location</u>	<u>Comments</u>
Fishing area	North Fork, John Day River	Moollee Shima	South County	Means "rapids"
Hunting areas			Throughout the area	
Root digging		Nuesh Nuesh Pa	South Fork Walla Walla River	Means "nose"
Berry Picking	Tollgate			
Campgrounds	McKay Reservoir			Caves on south end once used as homes. Campground also located near present dam.
Campground		Manaket	Near Umatilla	Camp site and fishing site.
Campground	Ukiah	Ukias		Camp, hunting fishing and root digging site.
Historic Building	Echo			Location of Indian Agency prior to Treaty of 1855.

SOURCE: CH₂M-Hill, Planning for the Umatilla Indian Reservation, 1973.

POTENTIAL AND APPROVED OREGON RECREATION TRAILS

There are no approved or potential Oregon or national recreation trails in Umatilla County.⁶¹ See the "historical area" section of this report for references to the Old Oregon Trail.

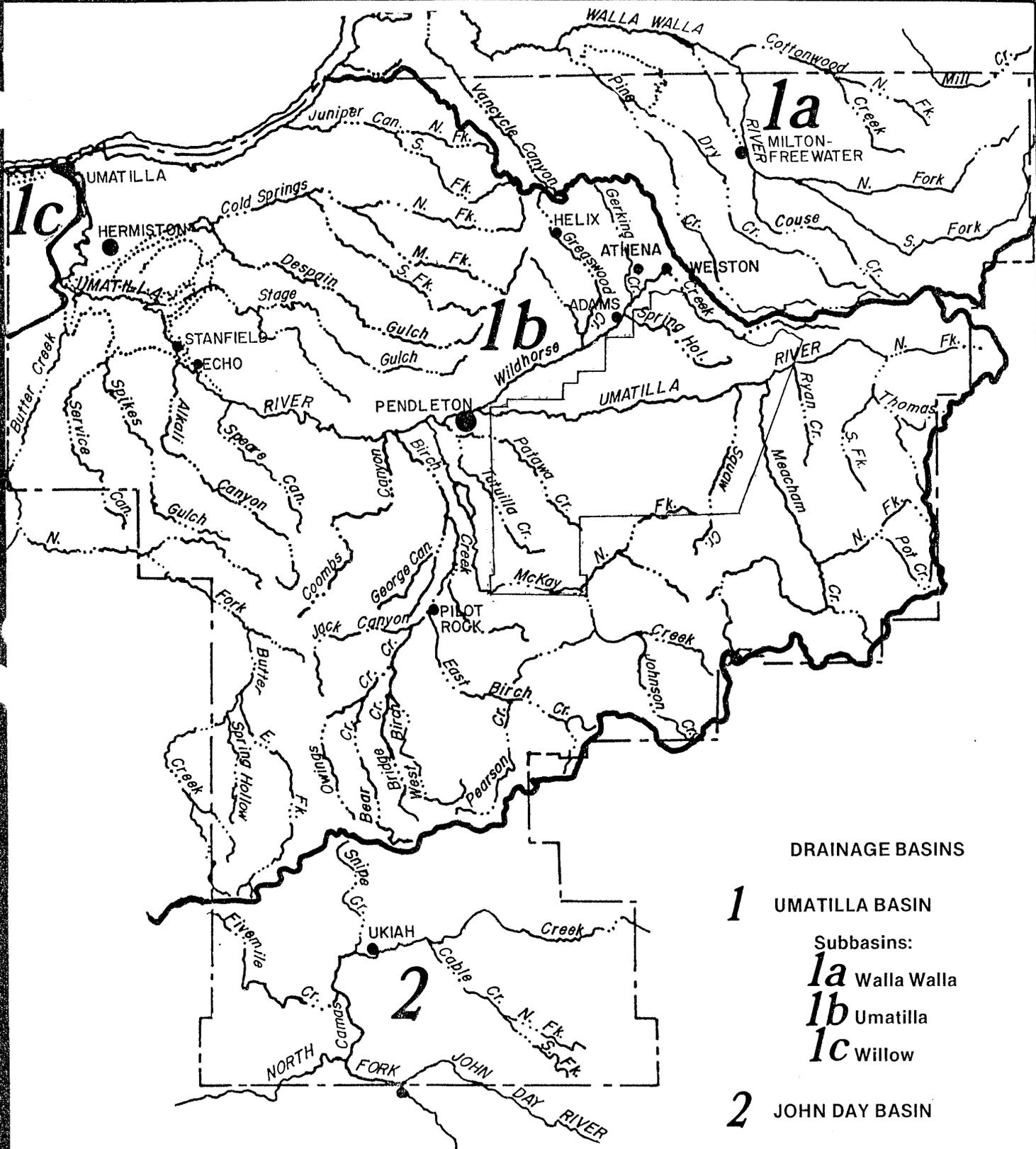
WATER AREAS, WETLANDS, WATERSHEDS AND GROUNDWATER RESOURCES

In this climate, water is often the limiting factor for agricultural, industrial, residential and urban development. Analysis of water supplies and use can lead to an approximation of "carrying capacity" and the basic strategies necessary to maintain and expand activities dependent on water.

Four sources of water are available to Umatilla County users: runoff in local streams and rivers, the Columbia River, groundwater in alluvial aquifers, and groundwater in basalt. Use of one source eventually affects use of other sources, especially when all sources are approaching full development. Many studies have been conducted concerning the quality, quantity, and availability of water in the county.⁶²

There are four major water areas in Umatilla County. They include the Columbia River, the Walla Walla Drainage, Umatilla Basin Drainage and the John Day Basin Drainage. Average annual runoff for the Walla Walla River near Milton-Freewater is 161,450 acre feet; the Umatilla River at Umatilla is 314,200 acre feet. The only measurement for the John Day Basin is Camas Creek near Ukiah which is 70,730 acre feet.⁶³ An important supplier of water to these streams is the snowpack in the Blue Mountains. At Meacham, the mean annual snowfall is 157 inches; this is the headwater area of the Umatilla River.⁶⁴

There are no major natural lakes in the county, but two man-made water impoundments have been constructed. They are McKay Reservoir located eight miles south of Pendleton on McKay Creek, and Cold Springs Reservoir approximately six miles east of Hermiston. McKay has a water surface area of 1,286 acres, and



DRAINAGE BASINS

- 1** UMATILLA BASIN
 - Subbasins:
 - 1a** Walla Walla
 - 1b** Umatilla
 - 1c** Willow
- 2** JOHN DAY BASIN



DRAINAGES
UMATILLA COUNTY, OREGON



TABLE D-XX
 RIVER BASIN DRAINAGE AREAS
 AND AVERAGE ANNUAL RUNOFF
 (Selected Streams) [Revised]

	Drainage Area in Square Miles (approx.)	Average Annual Runoff in Acre Feet
<u>Umatilla River</u>	2,355 (total)	
At Pendleton	637	355,000
Near Umatilla	2,290	315,000
McKay Creek at Pilot Rock	180	71,000
Birch Creek at Reith	291	34,000
<u>Walla Walla River</u>	396 (total)	
South Fork	63	127,000
North Fork	42	35,000
<u>JOHN DAY RIVER</u>	490 (total)	
Camas Creek at Ukiah	121	71,000

SOURCE: Oregon's Long-Range Requirements for Water, State Water Resources Board, 1969; Umatilla County Planning Department estimates.

Cold Springs has a water surface area of 1,500 acres.⁶⁵ These two impoundments collect water for release in late summer. McKay Reservoir, on McKay Creek above Pendleton, stores water for three irrigation ditches and down the Umatilla River to diversion points, below which little or no water may flow because water rights have been established for all releases. Cold Springs Reservoir stores water above its district area and off the main stem, diverting water during high flow months. Including all districts and private irrigators, the Umatilla River below Pendleton has a demand of 933.13 cubic feet/second, while river flow averages 26 cubic feet/second for some August days.

Four irrigation districts, several private irrigation companies, and individual landowners divert surface waters for agricultural purposes from both year-round and intermittent rivers and streams. They also serve as fish habitat, wildlife water and recreation. The rivers rise from precipitation over higher elevations in the eastern and southern parts of the county.

The waterway most over-used is the Umatilla River, especially the segment below Pendleton. The natural regime of the river has most of the flow from March to May; only 3% of the flow is in August and September, which are heavy irrigation months.

Appropriation of water is controlled by the state. Well logs must be submitted and water rights filed with the State Water Resources Board. One potential problem arises concerning the appropriation and use of water, and that is the status of treaty rights which the Confederated Tribes of the Umatilla Indian Reservation have. The tribe is in the process of adopting a water code which may have far-reaching implications.

One of the major sources for wetlands are areas of standing water resulting from high water tables, irrigation runoff, and restrictive soil features. The West County Vector Control District has conducted an inventory of standing water areas for the west portion of the county.

Unfortunately, this inventory does not cover the entire county. However, additional wetlands would be probable along streams and reservoirs in the county. Much of the wetland areas are habitat for waterfowl and fur-bearing animals. A map of this habitat appears on page D-24. These areas could also be described as wetlands. The quantity, quality and location are discussed elsewhere in this chapter.

There is one watershed and part of three others located in the county. The Umatilla watershed is the largest and encompasses about 2/3rd's of the county. It includes the drainage from Meacham, McKay, Birch, Wildhorse, and Buttercreeks. Table D-XX shows the areas and average runoff for these areas. The Umatilla Watershed begins just east of the diminished boundaries of the Umatilla Indian Reservation and passes through the reservation from east to west. The entire Indian Reservation is located within this watershed. It is uncertain what impacts the treaty has on the watershed.

The Walla Walla River watershed begins in Umatilla County and drains to the northwest before crossing into Washington State. This includes the north and south forks of the Walla Walla River (see Table D-XX). The headwaters of the forks of the Walla Walla begin on National Forest lands. Concerns have been raised recently over the future of logging within this area. Orchardists in the Milton-Freewater area are heavily dependant upon the Walla Walla River for irrigation, especially in July and August. Objectors to logging state that by removing cover from the slopes, the snow pack is melted faster, thus reducing the amount of available water needed during the critical months of July and August.

The Mill Creek watershed is partially located in the extreme northeast corner of the county (most is located in Wallowa County, Oregon and in Columbia County, Washington), and is the main domestic water source for the city of Walla Walla, Washington. Much of the area is protected by the U.S. Department of

Agriculture, Forest Service. Access into the watershed is restricted. Lower reaches of Mill Creek, in Oregon, pass through a rural subdivision area. Development along the stream is limited due to floodplain regulations. No figures are available for the area or average annual runoff for Mill Creek.

A portion of the John Day watershed is located in the extreme southern portion of the county. A small segment of the North Fork of the John Day River passes through the county on the southern county line. The major contributor to the John Day watershed located in Umatilla County is Camas Creek (see Table D-XX). Two potential sites for water storage have been identified in this watershed. They are along Camas Creek and Snipe Creek.⁶⁶ Both would supply irrigation water for farmers in the Buttercreek area. To date, these projects are only under consideration by federal agencies. No determination has been made as to whether or not these projects will be undertaken.

The Columbia River flows along the northwest corner of Umatilla County. Columbia River water, presently diverted for irrigation purposes, is under examination for industrial and municipal supply. Besides consumptive uses, the Columbia is a source of electrical energy, a transportation route, a recreation asset, and supports a variety of fish species.

The waterway most over-used is the Umatilla river, especially the segment below Pendleton. The natural regime of the river has most of the flow from March to May; only 3% of the flow is in August and September, which are heavy irrigation months. The Bureau of Reclamation is currently conducting a Umatilla River Basin Study which will address this issue as well as fish resource.

Two impoundments, McKay Reservoir and Cold Springs Reservoir, collect water for release in late summer. McKay Reservoir, on McKay Creek above Pendleton, stores water for three irrigation ditches and private irrigators in the west county. This water, when released, flows down the Umatilla River to diversion points, below which little or no water may flow because water rights have been established for all releases. Cold Springs Reservoir stores water above

its district area and off the main stem, diverting water during high flow months. Including all districts and private irrigators, the Umatilla River below Pendleton has a demand of 933.13 cubic feet/second, while river flow averages 26 cubic feet/second for some August days.

Four irrigation districts, several private irrigation companies, and individual landowners divert surface waters for agricultural purposes from both year-round and intermittent rivers and streams. They also serve as fish habitat, wildlife water and recreation. The rivers rise from precipitation over higher elevations in the eastern and southern parts of the county.

Irrigation water losses occur in distribution to users, storage, and on the fields through evaporation and percolation into the ground. About 45% of Hermiston Irrigation District (HID) water diverted from the river is lost before it reaches the field; other districts lose 30-35%.

In the case of HID, distribution and inefficient application losses combine to raise the shallow alluvial groundwater table in the Columbia District. This water is then pumped by shallow wells for both domestic and irrigation use. A drop in HID-diverted water during the 1977 drought was reflected in dropping levels in the shallow wells.

This shallow water table which results from irrigation practices causes some problems with septic tank installations and may even cause some septic tanks to leak sewage. It also maintains standing water in drainage ditches and pools used by waterfowl, which is good, and mosquitos, which is bad. The ditches return some of the shallow groundwater and runoff to the Umatilla and Columbia Rivers.

Discussed above, fish below diversion points suffer from this over-allocation. Both reservoirs, which also serve as wildlife refuges, and the river, do not have established minimum flow or storage standrads, which would require extensive reworking of existing water right priorities if flow were not supple-

mented at the same time. Recent studies indicated that sufficient water is available for storage and late summer release. The U.S. Fish and Wildlife Service is now examining different flow benefits, with study completion expected in 1979. Feasibility studies for construction of impoundments, insistence by the Confederated Tribes of the Umatilla Indian Reservation on fish runs could possibly reduce stream flow available for irrigation and impoundment proposal that could irrigate 96,000 acres and provide minimum fish flows.⁶⁷

A feasibility study has been completed for the Stanfield-Westland Irrigation Projection, but has run into further funding problems. The project is an attempt to maintain agricultural expansion in western Umatilla and northern Morrow counties without drawing on the three water sources whose problems are discussed above. Its proposal to use Columbia River water comes at the same time that states along the Columbia are beginning to discuss allocation between users. This project has three advantages over upriver irrigation proposals; (1) there is shorter pumping distance to overcome elevation differences; (2) Diversion will be below electricity-producing dams, reducing impact of water diversion on energy production of the Columbia system; and (3) Peak river flow coincides with the irrigation season.

There are two major sources of groundwater in Umatilla County: they are groundwater found in alluvial aquifers, and groundwater in basalt.

Alluvial aquifers are porous layers of gravel laid down by rivers in previous millennia. These aquifers are used by industry, rural residences, agricultural and cities. Some alluvial aquifers show a close correlation between river peak flows and water depth in wells, notably where gravel fans leave steeper mountain slopes (e.g. Walla Walla Valley north of Milton-Freewater). Other alluvial aquifers occur in lenses in which the gravel pinches out between impermeable layers.

Below the alluvial lenses, water lying in the basalt that it tapped by deep

wells has encountered more serious drawdowns. Developed aquifers in the basalt appear not to be recharged from any source.

Groundwater in basalt lies between major basalt layers in fracture zones and rarely flows between layers. This water is often of high quality, but is difficult to reach. Recharge of basalt aquifers is not documented. Apparently basalt east of the Service Anticline west of Hermiston is recharged from the Blue Mountains some 40 miles to the east. Critical groundwater orders have been issued for the Ordnance and Buttercreek areas west of this anticline, but have been successfully challenged; and presently there is no order in effect.(68)

Water that has traveled through the Westland Irrigation District High Line Canal and has pooled at Lost Lake after irrigation use is now pumped into porous soils in an attempt to recharge declining water levels in the Lost Lake-Depot area. Although this practice has sometimes uncertain returns, it is apparently maintaining groundwater levels for irrigation in this instance. Wells in this area yield from below 100 to 3,000 gallons per minute indicating both poor and good water yields. These aquifers have declined considerably with increasing domestic and irrigation use. The Columbia River has been suggested as a possible source for artificially recharging groundwater supplies. [New] Some recent information addressing the area's groundwater problems is contained in a 1981 preliminary study, "Hydrologic Studies in the Umatilla Structural Basin," prepared by State Water Resource Department hydrologists. So although this study is not officially recognized or adopted by the Department of Water Resources, this study does raise a number of questions which will need further study. Some of the more significant findings and conclusions from "Hydrologic Studies in the Umatilla Structural Basin" are as follows:

Findings:

1. The rate of recharge under steady state conditions is reflected in the carbon 14 apparent age dates. Groundwater now being withdrawn

was last exposed to the atmosphere from 2,570 to 27,290 years ago. Most of the water being withdrawn from the aquifer is in excess of 10,000 years old. A significant proportion of the study area has water greater than 22,000 years old. The long period of time since emplacement of the water indicates that the recharge rate is very slow and is minor when compared to pumpage.

2. Water level declines are clearly evident in the major basalt aquifer. The water level declines from 1965 to 1980 have dewatered 13 cubic miles of basalt aquifer. The average decline rate for areas that have experienced a lowering of water levels equals 5.1 feet per year.
3. Water level decline rates are increasing in portions of Stage Gulch, at the City of Pendleton, and at the City of Milton-Freewater.
4. The basalt aquifer is being overdrafted in over a 600-square mile area as evidenced by water level declines of 50 feet or more in the last 15 years.

Conclusions:

1. The amount of water that can be practicably recovered in aquifer storage to a depth of 500 feet below land surface is calculated to be 18.0 million acre-feet. Assuming that withdrawals remain constant, this represents approximately a 95 year supply of water for the 2,200 square mile region. However, centralized overdrafts of the aquifer are already restricting some appropriator's ability to withdraw water in intensely developed areas.
2. The water level declines are continuing at the same rate or at an accelerated rate in nearly all of the study area. There is no evidence to suggest that water levels are reaching a point of equilibrium of that in the near future water level declines will cease. In light of this information and realizing it is subject to revision, additional analysis will be necessary when the plan is updated, addressing the current groundwater shortage problems. In particular, these problems as they relate to future water needs (based on the projected population for the areas involved and anticipated water use to the year 2000) and projected water availability will need to be addressed. Modification of currently adopted land use planning decisions or the establishment of a county water resource priority system as it relates to the land use actions may be necessary in the future. This will necessitate a close working relationship between the County and the State Water Resources Department.

*From: Judge
11/14/80
1/12/81
1/15/81
1/18/81
1/21/81
1/24/81
1/27/81
1/30/81
2/2/81
2/5/81
2/8/81
2/11/81
2/14/81
2/17/81
2/20/81
2/23/81
2/26/81
2/29/81
3/3/81
3/6/81
3/9/81
3/12/81
3/15/81
3/18/81
3/21/81
3/24/81
3/27/81
3/30/81
4/2/81
4/5/81
4/8/81
4/11/81
4/14/81
4/17/81
4/20/81
4/23/81
4/26/81
4/29/81
5/2/81
5/5/81
5/8/81
5/11/81
5/14/81
5/17/81
5/20/81
5/23/81
5/26/81
5/29/81
6/1/81
6/4/81
6/7/81
6/10/81
6/13/81
6/16/81
6/19/81
6/22/81
6/25/81
6/28/81
7/1/81
7/4/81
7/7/81
7/10/81
7/13/81
7/16/81
7/19/81
7/22/81
7/25/81
7/28/81
7/31/81
8/3/81
8/6/81
8/9/81
8/12/81
8/15/81
8/18/81
8/21/81
8/24/81
8/27/81
8/30/81
9/2/81
9/5/81
9/8/81
9/11/81
9/14/81
9/17/81
9/20/81
9/23/81
9/26/81
9/29/81
10/2/81
10/5/81
10/8/81
10/11/81
10/14/81
10/17/81
10/20/81
10/23/81
10/26/81
10/29/81
11/1/81
11/4/81
11/7/81
11/10/81
11/13/81
11/16/81
11/19/81
11/22/81
11/25/81
11/28/81
11/30/81
12/3/81
12/6/81
12/9/81
12/12/81
12/15/81
12/18/81
12/21/81
12/24/81
12/27/81
12/30/81
1/2/82
1/5/82
1/8/82
1/11/82
1/14/82
1/17/82
1/20/82
1/23/82
1/26/82
1/29/82
2/1/82
2/4/82
2/7/82
2/10/82
2/13/82
2/16/82
2/19/82
2/22/82
2/25/82
2/28/82
3/1/82
3/4/82
3/7/82
3/10/82
3/13/82
3/16/82
3/19/82
3/22/82
3/25/82
3/28/82
3/31/82
4/3/82
4/6/82
4/9/82
4/12/82
4/15/82
4/18/82
4/21/82
4/24/82
4/27/82
4/30/82
5/3/82
5/6/82
5/9/82
5/12/82
5/15/82
5/18/82
5/21/82
5/24/82
5/27/82
5/30/82
6/2/82
6/5/82
6/8/82
6/11/82
6/14/82
6/17/82
6/20/82
6/23/82
6/26/82
6/29/82
7/2/82
7/5/82
7/8/82
7/11/82
7/14/82
7/17/82
7/20/82
7/23/82
7/26/82
7/29/82
8/1/82
8/4/82
8/7/82
8/10/82
8/13/82
8/16/82
8/19/82
8/22/82
8/25/82
8/28/82
8/31/82
9/3/82
9/6/82
9/9/82
9/12/82
9/15/82
9/18/82
9/21/82
9/24/82
9/27/82
9/30/82
10/3/82
10/6/82
10/9/82
10/12/82
10/15/82
10/18/82
10/21/82
10/24/82
10/27/82
10/30/82
11/2/82
11/5/82
11/8/82
11/11/82
11/14/82
11/17/82
11/20/82
11/23/82
11/26/82
11/29/82
12/2/82
12/5/82
12/8/82
12/11/82
12/14/82
12/17/82
12/20/82
12/23/82
12/26/82
12/29/82
1/1/83
1/4/83
1/7/83
1/10/83
1/13/83
1/16/83
1/19/83
1/22/83
1/25/83
1/28/83
1/31/83
2/3/83
2/6/83
2/9/83
2/12/83
2/15/83
2/18/83
2/21/83
2/24/83
2/27/83
2/29/83
3/3/83
3/6/83
3/9/83
3/12/83
3/15/83
3/18/83
3/21/83
3/24/83
3/27/83
3/30/83
4/2/83
4/5/83
4/8/83
4/11/83
4/14/83
4/17/83
4/20/83
4/23/83
4/26/83
4/29/83
5/2/83
5/5/83
5/8/83
5/11/83
5/14/83
5/17/83
5/20/83
5/23/83
5/26/83
5/29/83
6/1/83
6/4/83
6/7/83
6/10/83
6/13/83
6/16/83
6/19/83
6/22/83
6/25/83
6/28/83
6/30/83
7/3/83
7/6/83
7/9/83
7/12/83
7/15/83
7/18/83
7/21/83
7/24/83
7/27/83
7/30/83
8/2/83
8/5/83
8/8/83
8/11/83
8/14/83
8/17/83
8/20/83
8/23/83
8/26/83
8/29/83
9/1/83
9/4/83
9/7/83
9/10/83
9/13/83
9/16/83
9/19/83
9/22/83
9/25/83
9/28/83
9/30/83
10/3/83
10/6/83
10/9/83
10/12/83
10/15/83
10/18/83
10/21/83
10/24/83
10/27/83
10/30/83
11/2/83
11/5/83
11/8/83
11/11/83
11/14/83
11/17/83
11/20/83
11/23/83
11/26/83
11/29/83
12/2/83
12/5/83
12/8/83
12/11/83
12/14/83
12/17/83
12/20/83
12/23/83
12/26/83
12/29/83
1/1/84
1/4/84
1/7/84
1/10/84
1/13/84
1/16/84
1/19/84
1/22/84
1/25/84
1/28/84
1/31/84
2/3/84
2/6/84
2/9/84
2/12/84
2/15/84
2/18/84
2/21/84
2/24/84
2/27/84
2/29/84
3/3/84
3/6/84
3/9/84
3/12/84
3/15/84
3/18/84
3/21/84
3/24/84
3/27/84
3/30/84
4/2/84
4/5/84
4/8/84
4/11/84
4/14/84
4/17/84
4/20/84
4/23/84
4/26/84
4/29/84
5/2/84
5/5/84
5/8/84
5/11/84
5/14/84
5/17/84
5/20/84
5/23/84
5/26/84
5/29/84
6/1/84
6/4/84
6/7/84
6/10/84
6/13/84
6/16/84
6/19/84
6/22/84
6/25/84
6/28/84
6/30/84
7/3/84
7/6/84
7/9/84
7/12/84
7/15/84
7/18/84
7/21/84
7/24/84
7/27/84
7/30/84
8/2/84
8/5/84
8/8/84
8/11/84
8/14/84
8/17/84
8/20/84
8/23/84
8/26/84
8/29/84
9/1/84
9/4/84
9/7/84
9/10/84
9/13/84
9/16/84
9/19/84
9/22/84
9/25/84
9/28/84
9/30/84
10/3/84
10/6/84
10/9/84
10/12/84
10/15/84
10/18/84
10/21/84
10/24/84
10/27/84
10/30/84
11/2/84
11/5/84
11/8/84
11/11/84
11/14/84
11/17/84
11/20/84
11/23/84
11/26/84
11/29/84
12/2/84
12/5/84
12/8/84
12/11/84
12/14/84
12/17/84
12/20/84
12/23/84
12/26/84
12/29/84
1/1/85
1/4/85
1/7/85
1/10/85
1/13/85
1/16/85
1/19/85
1/22/85
1/25/85
1/28/85
1/31/85
2/3/85
2/6/85
2/9/85
2/12/85
2/15/85
2/18/85
2/21/85
2/24/85
2/27/85
2/29/85
3/3/85
3/6/85
3/9/85
3/12/85
3/15/85
3/18/85
3/21/85
3/24/85
3/27/85
3/30/85
4/2/85
4/5/85
4/8/85
4/11/85
4/14/85
4/17/85
4/20/85
4/23/85
4/26/85
4/29/85
5/2/85
5/5/85
5/8/85
5/11/85
5/14/85
5/17/85
5/20/85
5/23/85
5/26/85
5/29/85
6/1/85
6/4/85
6/7/85
6/10/85
6/13/85
6/16/85
6/19/85
6/22/85
6/25/85
6/28/85
6/30/85
7/3/85
7/6/85
7/9/85
7/12/85
7/15/85
7/18/85
7/21/85
7/24/85
7/27/85
7/30/85
8/2/85
8/5/85
8/8/85
8/11/85
8/14/85
8/17/85
8/20/85
8/23/85
8/26/85
8/29/85
9/1/85
9/4/85
9/7/85
9/10/85
9/13/85
9/16/85
9/19/85
9/22/85
9/25/85
9/28/85
9/30/85
10/3/85
10/6/85
10/9/85
10/12/85
10/15/85
10/18/85
10/21/85
10/24/85
10/27/85
10/30/85
11/2/85
11/5/85
11/8/85
11/11/85
11/14/85
11/17/85
11/20/85
11/23/85
11/26/85
11/29/85
12/2/85
12/5/85
12/8/85
12/11/85
12/14/85
12/17/85
12/20/85
12/23/85
12/26/85
12/29/85
1/1/86
1/4/86
1/7/86
1/10/86
1/13/86
1/16/86
1/19/86
1/22/86
1/25/86
1/28/86
1/31/86
2/3/86
2/6/86
2/9/86
2/12/86
2/15/86
2/18/86
2/21/86
2/24/86
2/27/86
2/29/86
3/3/86
3/6/86
3/9/86
3/12/86
3/15/86
3/18/86
3/21/86
3/24/86
3/27/86
3/30/86
4/2/86
4/5/86
4/8/86
4/11/86
4/14/86
4/17/86
4/20/86
4/23/86
4/26/86
4/29/86
5/2/86
5/5/86
5/8/86
5/11/86
5/14/86
5/17/86
5/20/86
5/23/86
5/26/86
5/29/86
6/1/86
6/4/86
6/7/86
6/10/86
6/13/86
6/16/86
6/19/86
6/22/86
6/25/86
6/28/86
6/30/86
7/3/86
7/6/86
7/9/86
7/12/86
7/15/86
7/18/86
7/21/86
7/24/86
7/27/86
7/30/86
8/2/86
8/5/86
8/8/86
8/11/86
8/14/86
8/17/86
8/20/86
8/23/86
8/26/86
8/29/86
9/1/86
9/4/86
9/7/86
9/10/86
9/13/86
9/16/86
9/19/86
9/22/86
9/25/86
9/28/86
9/30/86
10/3/86
10/6/86
10/9/86
10/12/86
10/15/86
10/18/86
10/21/86
10/24/86
10/27/86
10/30/86
11/2/86
11/5/86
11/8/86
11/11/86
11/14/86
11/17/86
11/20/86
11/23/86
11/26/86
11/29/86
12/2/86
12/5/86
12/8/86
12/11/86
12/14/86
12/17/86
12/20/86
12/23/86
12/26/86
12/29/86
1/1/87
1/4/87
1/7/87
1/10/87
1/13/87
1/16/87
1/19/87
1/22/87
1/25/87
1/28/87
1/31/87
2/3/87
2/6/87
2/9/87
2/12/87
2/15/87
2/18/87
2/21/87
2/24/87
2/27/87
2/29/87
3/3/87
3/6/87
3/9/87
3/12/87
3/15/87
3/18/87
3/21/87
3/24/87
3/27/87
3/30/87
4/2/87
4/5/87
4/8/87
4/11/87
4/14/87
4/17/87
4/20/87
4/23/87
4/26/87
4/29/87
5/2/87
5/5/87
5/8/87
5/11/87
5/14/87
5/17/87
5/20/87
5/23/87
5/26/87
5/29/87
6/1/87
6/4/87
6/7/87
6/10/87
6/13/87
6/16/87
6/19/87
6/22/87
6/25/87
6/28/87
6/30/87
7/3/87
7/6/87
7/9/87
7/12/87
7/15/87
7/18/87
7/21/87
7/24/87
7/27/87
7/30/87
8/2/87
8/5/87
8/8/87
8/11/87
8/14/87
8/17/87
8/20/87
8/23/87
8/26/87
8/29/87
9/1/87
9/4/87
9/7/87
9/10/87
9/13/87
9/16/87
9/19/87
9/22/87
9/25/87
9/28/87
9/30/87
10/3/87
10/6/87
10/9/87
10/12/87
10/15/87
10/18/87
10/21/87
10/24/87
10/27/87
10/30/87
11/2/87
11/5/87
11/8/87
11/11/87
11/14/87
11/17/87
11/20/87
11/23/87
11/26/87
11/29/87
12/2/87
12/5/87
12/8/87
12/11/87
12/14/87
12/17/87
12/20/87
12/23/87
12/26/87
12/29/87
1/1/88
1/4/88
1/7/88
1/10/88
1/13/88
1/16/88
1/19/88
1/22/88
1/25/88
1/28/88
1/31/88
2/3/88
2/6/88
2/9/88
2/12/88
2/15/88
2/18/88
2/21/88
2/24/88
2/27/88
2/29/88
3/3/88
3/6/88
3/9/88
3/12/88
3/15/88
3/18/88
3/21/88
3/24/88
3/27/88
3/30/88
4/2/88
4/5/88
4/8/88
4/11/88
4/14/88
4/17/88
4/20/88
4/23/88
4/26/88
4/29/88
5/2/88
5/5/88
5/8/88
5/11/88
5/14/88
5/17/88
5/20/88
5/23/88
5/26/88
5/29/88
6/1/88
6/4/88
6/7/88
6/10/88
6/13/88
6/16/88
6/19/88
6/22/88
6/25/88
6/28/88
6/30/88
7/3/88
7/6/88
7/9/88
7/12/88
7/15/88
7/18/88
7/21/88
7/24/88
7/27/88
7/30/88
8/2/88
8/5/88
8/8/88
8/11/88
8/14/88
8/17/88
8/20/88
8/23/88
8/26/88
8/29/88
9/1/88
9/4/88
9/7/88
9/10/88
9/13/88
9/16/88
9/19/88
9/22/88
9/25/88
9/28/88
9/30/88
10/3/88
10/6/88
10/9/88
10/12/88
10/15/88
10/18/88
10/21/88
10/24/88
10/27/88
10/30/88
11/2/88
11/5/88
11/8/88
11/11/88
11/14/88
11/17/88
11/20/88
11/23/88
11/26/88
11/29/88
12/2/88
12/5/88
12/8/88
12/11/88
12/14/88
12/17/88
12/20/88
12/23/88
12/26/88
12/29/88
1/1/89
1/4/89
1/7/89
1/10/89
1/13/89
1/16/89
1/19/89
1/22/89
1/25/89
1/28/89
1/31/89
2/3/89
2/6/89
2/9/89
2/12/89
2/15/89
2/18/89
2/21/89
2/24/89
2/27/89
2/29/89
3/3/89
3/6/89
3/9/89
3/12/89
3/15/89
3/18/89
3/21/89
3/24/89
3/27/89
3/30/89
4/2/89
4/5/89
4/8/89
4/11/89
4/14/89
4/17/89
4/20/89
4/23/89
4/26/89
4/29/89
5/2/89
5/5/89
5/8/89
5/11/89
5/14/89
5/17/89
5/20/89
5/23/89
5/26/89
5/29/89
6/1/89
6/4/89
6/7/89
6/10/89
6/13/89
6/16/89
6/19/89
6/22/89
6/25/89
6/28/89
6/30/89
7/3/89
7/6/89
7/9/89
7/12/89
7/15/89
7/18/89
7/21/89
7/24/89
7/27/89
7/30/89
8/2/89
8/5/89
8/8/89
8/11/89
8/14/89
8/17/89
8/20/89
8/23/89
8/26/89
8/29/89
9/1/89
9/4/89
9/7/89
9/10/89
9/13/89
9/16/89
9/19/89
9/22/89
9/25/89
9/28/89
9/30/89
10/3/89
10/6/89
10/9/89
10/12/89
10/15/89
10/18/89
10/21/89
10/24/89
10/27/89
10/30/89
11/2/89
11/5/89
11/8/89
11/11/89
11/14/89
11/17/89
11/20/89
11/23/89
11/26/89
11/29/89
12/2/89
12/5/89
12/8/89
12/11/89
12/14/89
12/17/89
12/20/89
12/23/89
12/26/89
12/29/89
1/1/90
1/4/90
1/7/90
1/10/90
1/13/90
1/16/90
1/19/90
1/22/90
1/25/90
1/28/90
1/31/90
2/3/90
2/6/90
2/9/90
2/12/90
2/15/90
2/18/90
2/21/90
2/24/90
2/27/90
2/29/90
3/3/90
3/6/90
3/9/90
3/12/90
3/15/90
3/18/90
3/21/90
3/24/90
3/27/90
3/30/90
4/2/90
4/5/90
4/8/90
4/11/90
4/14/90
4/17/90
4/20/90
4/23/90
4/26/90
4/29/90
5/2/90
5/5/90
5/8/90
5/11/90
5/14/90
5/17/90
5/20/90
5/23/90
5/26/90
5/29/90
6/1/90
6/4/90
6/7/90
6/10/90
6/13/90
6/16/90
6/19/90
6/22/90
6/25/90
6/28/90
6/30/90
7/3/90
7/6/90
7/9/90
7/12/90
7/15/90
7/18/90
7/21/90
7/24/90
7/27/90
7/30/90
8/2/90
8/5/90
8/8/90
8/11/90
8/14/90
8/17/90
8/20/90
8/23/90
8/26/90
8/29/90
9/1/90
9/4/90
9/7/90
9/10/90
9/13/90
9/16/90
9/19/90
9/22/90
9/25/90
9/28/90
9/30/90
10/3/90
10/6/90
10/9/90
10/12/90
10/15/90
10/18/90
10/21/90
10/24/90
10/27/90
10/30/90
11/2/90
11/5/90
11/8/90
11/11/90
11/14/90
11/17/90
11/20/90
11/23/90
11/26/90
11/29/90
12/2/90
12/5/90
12/8/90
12/11/90
12/14/90
12/17/90
12/20/90
12/23/90
12/26/90
12/29/90
1/1/91
1/4/91
1/7/91
1/10/91
1/13/91
1/16/91
1/19/91
1/22/91
1/25/91
1/28/91
1/31/91
2/3/91
2/6/91
2/9/91
2/12/91
2/15/91
2/18/91
2/21/91
2/24/91
2/27/91
2/29/91
3/3/91
3/6/91
3/9/91
3/12/91
3/15/91
3/18/91
3/21/91
3/24/91
3/27/91
3/30/91
4/2/91
4/5/91
4/8/91
4/11/91
4/14/91
4/17/91
4/20/91
4/23/91
4/26/91
4/29/91
5/2/91
5/5/91
5/8/91
5/11/91
5/14/91
5/17/91
5/20/91
5/23/91
5/26/91
5/29/91
6/1/91
6/4/91
6/7/91
6/10/91
6/13/91
6/16/91
6/19/91
6/22/91
6/25/91
6/28/91
6/30/91
7/3/91
7/6/91
7/9/91
7/12/91
7/15/91
7/18/91
7/21/91
7/24/91
7/27/91
7/30/91
8/2/91
8/5/91
8/8/91
8/11/91
8/14/91
8/17/91
8/20/91
8/*

*The Umatilla River is now over-allocated and does not flow below Three Mile Dam during some summers.

*Water rights as they now stand will not allow for recommended minimum Umatilla River flows until upstream reservoirs are built with their primary water right committed to minimum flows.

*Domestic wells are not regulated by the State Water Resources Department, while industrial, community, municipal, and irrigation wells are all regulated.

*The Water Resources Department has declared one critical groundwater area--
Ordinance Critical Groundwater Area. Agricultural and municipal users are regulated by the Water Resources Department.

*Minimum stream flows have not been determined for the Umatilla River.

*The Confederated Tribes of the Umatilla Indian Reservation are proposing a water code, and the implications to the county are undeterminable.

[New] *Modification of the current Comprehensive Plan and/or Development Ordinance may result from future State Water Resources Department studies and actions.

[New] *The Bureau of Reclamation is preparing a comprehensive Umatilla Basin Study.

*Many water-related problems can be dealt with only on a federal or state level. The county will continue to coordinate with federal and state agencies in dealing with these problems.

*The resources and the expertise of the county are limited when considering water-related problems. It is in the best interest of the county to rely upon the expertise of state and federal agencies in dealing with water issues.

MINERAL AND AGGREGATE RESOURCES

Mineral Resources

Virtually no mineral resources exist in Umatilla County; and certainly none exist of commercial quantity or quality.⁽⁶⁹⁾ Minor coal deposits do exist in isolated spots in the county (Pine Grove, etc.) that, in fact, were mined for a brief time in the early 1900's.⁽⁷⁰⁾ A USGS report notes, "Although lenses and thin beds of pure, good grade bituminous coal are present locally, they apparently are too thin, intimately mixed with carbonaceous shale, and structurally deformed to be of commercial interest."⁽⁷¹⁾ No other significant mineral deposits exist in the county.

Aggregate Resources (Rock Material Resources) [Revised]

Unlike mineral resources, Umatilla County enjoys an abundant aggregate resource. Although there is no known estimate of the total rock material (quantity), it can be assumed from the discussion below that it is more than adequate through the year 2000. In 1976, the State Department of Geology and Mineral Industries (DOGAMI) prepared a report entitled Rock Mineral Resources of Umatilla County, Oregon. Much of the information herein comes from that report.

Types of Rock Materials

Umatilla County has three main types of rock material resources:

- (1) Columbia River Basalt;
- (2) stream alluvium and fluvioglacial gravels;
- (3) and a group of other rock types. Their relative importance, ownership, and sources are discussed here.

Columbia River Basalt, a thick series of lava flows covering most of Umatilla County, contains 73 percent of the materials sites (Table D-XXI). Most of these sites represent small, remote quarries producing rock for local use. Chief exceptions are the several large quarries that produced basalt

rock for construction of I-84. However, little, if any, of this production was sold commercially. The basalt in the Blue Mountain region is particularly important as a resource for road construction by the Oregon Highway Division, the Umatilla National Forest, and Umatilla County. Quarry rock (basalt) will become more important for the urban areas in time, as nearby gravel sources become depleted.

Stream alluvium and fluvioplacial gravels, collectively covering about 17 percent of Umatilla County, represent important sources of commercial low-cost concrete aggregate (Table D-XXI). About 23 percent of the rock material sites in the county are in this alluvial and placiofluvial materials, and six large gravel pits produced 68 percent of the gravel used in the county.

Other rock types overlie about 25 percent of the surface area within the county. Those rock types utilized as materials resources are chiefly quartz diorite, phylite, and welded tuff occurring in patches in the southern part of the county. Most of the quarries are small, and the rock is used where gravel and Columbia River Basalt are lacking. Only 4.4 percent of the rock sources listed in Table D-XXII are located in these minor rock types (Table D-XXI).(72)

Most of the commercial aggregate produced in Umatilla County comes from the northwest part, the area where agriculture, industry, and population are predicted to expand at an accelerated rate in the near future. Alluvial gravel from the Umatilla River from Pendleton eastward to about Mission provides most of the commercial concrete aggregate used in the Pendleton area. The gravels are partly replenished by periodic floods; however, as the demand for rock increases in the Pendleton area, the Umatilla River gravel supply may not be sufficient, and additional rock from quarries will be needed. Insofar as possible, river gravel should be reserved for concrete aggregate, and crushed and broken quarry rock should be used for base rock and embankments.(73)

Table D-XXI
Materials Sources in Relation to Geologic Rock Types

Rock type	Percent of Area	Number of Sources	Percent Total Sources
Columbia River Basalt	68.0	197	73
Fluvioplacial Gravel	16.2	41	15
Alluvium	0.8	21	7.5
Other	25.0	12	4.4
<u>Total:</u>	100.0	271	99.9

Source: DOGAMI, Rock Mineral Resources of Umatilla County, Oregon, 1976.

Goal 5 Analysis [New Section]

Rock, sand and gravel are crucial resources for nearly all types of structural development. As basic building materials, their relative abundance can exert either a positive or negative influence on the development of a local economy. Not only does rock, sand and gravel provide the building materials for development, but their removal, transport and use provides jobs upon which a substantial part of the economy depends.

To protect rock material, resource sites through the resolution of conflicts between resource extraction and other competing uses (as identified) will certainly help to ensure a strong economic future. The economic consequences of not protecting mineral sites could be costly to the local economy through the loss of jobs and increased costs for basic building materials.

The negative economic consequences of applying regulations generally places a burden on individuals or firms who are prevented from undertaking structural development on a specific site. While this may be a short-term financial hardship for some, most individuals or firms eventually resolve their dilemma by building elsewhere.

The consequences of protecting rock resource sites is to preserve a way of life that all citizens have become accustomed to. Sewer systems, buildings, bridges, streets and highways all require sand and gravel or crushed rock. In order for the construction industry to build our modern society, it is necessary that rock quarries and rock crushers exist. There is no denying the nuisance characteristics of rock, sand and gravel operations. They do contribute to localized noise, dust and visual blight. However, without them, the advancement of our society would be quite limited.

The negative social consequence of applying regulations is similar to the negative economic consequences above in that some individuals may be inconvenienced in their building plans.

The importance of any rock extraction activity lies within its economic value (affected by its site specific location) and the relative scarcity of the resource activities, and requires that reclamation plans be submitted prior to permit approval. Reclamation plans provide for productive uses of property following an extraction operation and often include recreational features such as lakes and wildlife habitats.

Because the natural environment will, of necessity, be disturbed by rock resource extraction, the protection of resource sites may not result in positive environmental consequences. Extraction is temporary in nature and in most cases affects only the subsurface of the land. Farming, forestry and recreation can and do occur before and after a mining operation. In case of important resource sites, the positive economic and social benefits often outweigh the environmental consequences.

Because sand, gravel and crushed rock are bulky and heavy, the deposits nearest to developing areas are, of necessity, the best ones. In order to remain economically viable, only a small increase in hauling costs can be tolerated. Energy costs increase dramatically for every mile that material

is transported from a supply source. As a result, the energy consequence of protecting the best mineral resource sites (those close to construction areas) is entirely positive.

The consequences of establishing requirements which limit conflicting uses in identified resource sites should prove to be of substantial benefit to the economic, social and energy systems within which we live. As long as a provision for reviewing extenuating circumstances is included, the limitation of conflicting uses within identified resource sites is warranted.

Inventory [Revised]

Table D-XXI tabulates location and other pertinent information on 283 sources of rock material in Umatilla County. Information sources include: U.S. Bureau of Mines, Umatilla County Road Department, Oregon State Highway Division, DOGAMI, U.S. Forest Services and USGS. The table includes a quality rating for those laboratory tested. Comments regarding suitable uses for the material and general information related to present status or availability and additional location notes are included in the last column. The map on page D-188 shows how these sites are scattered county-wide.

Of the 283 rock material sources listed in Table D-XXII, the U.S. Forest Service has title to 25%; the State Highway Division, 10%; Umatilla County, 3%; the U.S. Army Ordnance Depot, 2%; and the Bureau of Indian Affairs, 2%. The remaining 58% are on private property. Active sites make up 70% of the total, while 17% were inactive, and 13% were abandoned.

Table D-XXII
 INVENTORY OF ROCK MATERIAL SOURCES IN UMATILLA COUNTY [REVISED]

LOCATION (SEC.)	OWNER	NAME	TYPE OF DEPOSIT	QUANTITY	REMARKS	Goal 5 ANALYSIS
T6N, R38E 22 SW/NW 23 SE/SW	USFS USFS	Indian Ridge Rd. Indian Ridge Rd.	Basalt Q Basalt Q	Small Small	Located in UNF Located in UNF	1A 1A
T6N, R37E 28 NE 1/4 30 NW/NE	Walla Walla County	Lynch Site	Basalt Q Basalt Q	Small	Abandoned Inactive	1A 2A
T6N, R36E 27 NW/NE 34 NE/SE		Birch Creek	Gravel Gravel		Inactive Inactive	3C 3C
T6N, R35E 16 NE 1/4 24 SW/SE 25 NE/SW 29 NE/NW 33 SE/NE 34 SW/SE 36 NW/NW 36 NW/NE	Ready-Mix Sand & Gravel Spencer and Son OSHD Ready-Mix Sand & Gravel County		Gravel Gravel Gravel Gravel Gravel Gravel Gravel Gravel	Small Small Small Small Small Small Large Small	Active Old commercial source Abandoned/dump Abandoned Abandoned Abandoned Commercial source Walla Walla River	3C 1A 1A 1A 1A 1A 3C 3C
T6N, R34E 35 NW/NW	Private	Cockburn Quarry	Basalt Q	Small	Inactive	1A
T6N, R33E 23 NE/SW 33 NE/SE	Private County	Harris Quarry	Basalt Q Basalt Q	Small Small	Inactive	1A 2A

Table D-XXII (Cont'd)
INVENTORY OF ROCK MATERIAL SOURCES IN UMATILLA COUNTY [REVISED]

LOCATION (SEC.)	OWNER	NAME	TYPE OF DEPOSIT	QUANTITY	REMARKS	GOAL 5 ANALYSIS
T6N, R31E	Private	Pearson Quarry	Basalt Q	Small	Active	2A
T5N, R38E						
1 NE/NE	USFS	Upper Tiger Creek	Basalt Q	Small	Located in UNF	1A
1 SE/SW	USFS	Tiger Saddle	Basalt prosp.		Located in UNF	1A
23 NW 1/4	USFS	Tiger Saddle	Basalt prosp.		Located in UNF	1A
T5N, R36E						
5 SE/NE	Private		Granite		Inactive	1A
7 SW/SW			Basalt Q		Inactive	2A
7 NW/SW			Basalt Q	Small	Abandoned	1A
18 SE/NW			Basalt Q	Small	Inactive	2A
22 SE/NW	Private	Graham	Basalt Q(?)	Small		1A
30 NW/NW	Private	Couse Creek Q	Basalt Q	Large		3A
T5N, R35E						
4 SW/NW	Private	Knosp Site	Basalt Q	Small	Inactive	3C
9 SE/SE	Private	Harder Q Site	Basalt Q	Small	Inactive	1A
13 NW/NE	Private		Basalt Q	Small	In M-F UGB	3C
35 NW/NE	OSHD		Basalt Q	Small	Inactive	3C
35 NE/SE	OSHD		Basalt Q	Large	MP 25.0 Hwy. 8	3A
T5N, R34E						
1 NE/NW	Private	Schubert Quarry	Basalt Q	Medium	Inactive	3C
9 SW/SW	Private	Rice Quarry	Basalt prosp.	Small	Inactive	1A
17 NW/NE	Private (UCRD)	Wayland Quarry	Basalt Q	Small	Active	3C
29 NE/NE	Private	Walker Quarry	Basalt Q	Small	Inactive	2A
31 SW/SE	Private	Rush Quarry	Basalt Q	Medium	Inactive	3C
35 SE/SE	OSHD		Basalt Q	Small	Inactive	2A

Table D-XXII (Cont'd)
INVENTORY OF ROCK MATERIAL SOURCES IN UMATILLA COUNTY

LOCATION (SEC.)	OWNER	NAME	TYPE OF DEPOSIT	QUANTITY	REMARKS	GOAL 5 ANALYSIS
T5N, R33E						
6 SE/NE	Private	Van Sickle Q	Basalt Q	Small	Inactive	1A
9 SW/NE	Private	Butler lease	Basalt Q(?)	Small	Inactive	1A
15 SW/SE	Private	Raymond Site	Basalt Q	Small	Inactive	3C
T5N, R32E						
5 NW/NW	County	Furnish	Basalt	Small	Active	3C
8 SW/SE	Private	Gordon Site	Basalt Q(?)	Small	Abandoned	-1A
9 NE/NE	Private		Basalt Q(?)	Small	Abandoned	1A
33 SW/SE	County	Engdahl	Basalt Q	Small	Inactive	3C
T5N, R29E						
22 SE/NW	OSHD		Basalt Q	Large	Unused	3A
20 SW 1/4	OSHD		Gravel	Large		1A
T5N, R28E						
16 NW 1/4	UCRD					1A
16 SW/NE	OSHD	Umatilla	Gravel	Large	In UGB	1A
16 NW/SW	Jones-Scott Co.		Gravel	Large	In UGB	1A
16 NE/SW	Jones-Scott Co.		Gravel	Large	In UGB	1A
16 SE/SW	Riverbend Construction		Gravel	Large	In UGB	1A
17 SW/NE	Umatilla Ready Mix Inc.		Gravel	Large	In UGB	1A
	Rhode Sand & Gravel		Gravel	Large	In UGB	1A
	Columbia Sand & Gravel					
	Jones-Scott Company					
17 NE/NE			Gravel			
20 NW/NW			Gravel			
21 NW/NE	Riverbend Quarry		Basalt Q	Large	Commercial	1A

Table D-XXII (Cont'd)
INVENTORY OF ROCK MATERIAL SOURCES IN UMATILLA COUNTY

LOCATION (SEC.)	OWNER	NAME	TYPE OF DEPOSIT	QUANTITY	REMARKS	GOAL 5 ANALYSIS
27 NW/NW 28 NE/SE 32 SW/SW	OSHD	Snipes Mountain Umatilla Butte	Gravel Basalt Q Sand Pit	Large	In UGB Inactive Inactive Active	3A 3C 1A 3C
T5N, R27E, 2S NE	Hermiston Ready Mix					
T4N, R37E 28 SW/SW 30 SW/SW 36 NE/NW	OSHD		Basalt Q Basalt Q Basalt Q		Exhausted Large	3C 1A 3C
T4N, R36E 22 NW/SW		Big Rayborn Can	Basalt Q			2A
T4N, R 35E 16 SE/NW 23 SE/NW 24 SW 1/4	OSHD OSHD	Weston Quarry	Basalt Q Basalt Q Basalt Q	Medium	Inactive Inactive	3C 3C 3C
T4N, R34E 10 NE/SW 22 NE/SW 31 NE/NW 35 SW/SW	OSHD UCRD	Catron Quarry McCormach Pit	Basalt Q Basalt Q Basalt Q Basalt Q	Large Large Small Small	Inactive Active Active Abandoned	3C 3C 3C 1A
T4N, R32E 2 SE/NW 5 NW/NW 23 NW 29 SE/NW	OSHD UCRD	Struve Pit Simpson Quarry	Basalt Q Basalt Q Basalt Q Basalt Q	Small Small Medium Small	Inactive Inactive Active Inactive	1A 1A 3C 3C

Table D-XXII (Cont'd)
 INVENTORY OF ROCK MATERIAL SOURCES IN UMATILLA COUNTY

LOCATION (SEC.)	OWNER	NAME	TYPE OF DEPOSIT	QUANTITY	REMARKS	GOAL 5 ANALYSIS
T4N, R30E						
7 SE/NW			Basalt Q	Small	Abandoned	1A
36 NW/SE			Basalt Q	Small	Inactive	1A
T4N, R29E						
7 NE/NE	County	Christley Pit	Gravel	Large	Active	3C
31 SW/NW			Gravel	Small	Abandoned	1A
T4N, R28E						
1 NW/SE			Gravel			1A
3 NW/NW			Gravel		Inactive	1A
9 NE/NE	City of Hermiston	Schell Pit	Gravel	Large	Active, in UGB	1A
11 SW/NE			Sand Pit		Abandoned	1A
14 SE/SE	OSHD	Airport Pit	Gravel	Large		1A
15 SE/SE			Gravel		Abandoned, filled	1A
16 NE/NW			Gravel		Abandoned	1A
17 SW 1/4		Westland Pit	Gravel	Large	Active	3C
17 SW/SW	UCRD		Gravel			3C
20 SW/NW			Gravel		Abandoned, filled	1A
21 NW/SE	OSHD		Gravel	Small		3C
21 SW/SE	OSHD		Gravel	Small		3C
22 SW/NW	Baker Redi-Mix		Basalt Q	Medium		3C
22 NE/NE			Gravel		Abandoned	1A
29 SW 1/4	Union Pacific RR	Hinkle Pit	Gravel		Active	3A
31 NW/NE	Private		Gravel		Abandoned	1A
T4N, R27E						
2 SE/SE	U.S. Govt.		Gravel		Ordnance Depot	1A
2 NW/SW	U.S. Govt.		Gravel		Ordnance Depot	1A
3 SE/SE	U.S. Govt.		Gravel		Ordnance Depot	1A

Table D-XXII (Cont'd)
INVENTORY OF ROCK MATERIAL SOURCES IN UMATILLA COUNTY

LOCATION (SEC.)	OWNER	NAME	TYPE OF DEPOSIT	QUANTITY	REMARKS	GOAL 5 ANALYSIS
T4N, R27E Cont'd						
10 NE/SW	U.S. Govt.		Gravel		Ordnance Depot	1A
10 SE/SW	U.S. Govt.		Gravel		Ordnance Depot	1A
15 NE/SW	U.S. Govt.		Gravel		Ordnance Depot	1A
22 NW/NW	U.S. Govt.		Gravel		Ordnance Depot	1A
24 SE 1/4			Gravel		Abandoned	1A
26 SE 1/4	U.S. Govt.	Ordnance Pit	Gravel	Large	Sewage Lagoon	3C
27 NE/SW			Gravel		Active	1A
27 SW/SW	Shockman Bros.		Gravel			3C
<hr/>						
T3N, R38E						
32 SE/NE	USFS	Summit	Basalt Q	Large	In UNF	1A
<hr/>						
T3N, R36E						
11 NE/NW		Brogioitti Quarry	Basalt Q	Small	Inactive	3C
29 NE/NE	BIA		Basalt Q	Small	On Reservation	1A
29 SE/NW	BIA		Basalt Q	Small	On Reservation	1A
<hr/>						
T3N, R35E						
3 NW/SE			Basalt Q	Small	Inactive	3C
3 SE/SE			Basalt Q	Small	Inactive	3C
32 NE/SE		Thornhollow	Basalt Q	Small	On Reservation	1A
33 SW	UCRD		Basalt Q		On Reservation	1A
36 SE/NW	City of Pendleton	Squaw Creek	Basalt Q	Large	On Reservation	1A
<hr/>						
T3N, R34E						
11 NE/NE	UCRD	UCRD	Basalt Q	Small	On Reservation	1A
35 NE/SW	BIA	Cayuse Pit	Basalt Q	Large	On Reservation	1A

Table D-XXII (Cont'd)
 INVENTORY OF ROCK MATERIAL SOURCES IN UMATILLA COUNTY

LOCATION (SEC.)	OWNER	NAME	TYPE OF DEPOSIT	QUANTITY	REMARKS	GOAL 5 ANALYSIS
T3N, R33E 22 SE 1/4 23 Center	OSHD	Elgin Quarry Havana Quarries	Basalt Q Basalt Q	Large Medium	Inactive Active	1A 3C
T3N, R32E 15 SW/NW 18 NE/NW 31 NW/SW	Pendleton	Airport Quarry	Basalt Q Basalt Q Basalt	Small Small Large	Inactive Inactive Active	1A 1A -1A
T3N, R31E 6 NE/SW 22 NE/SE 30 SE/NE	Private Roy Rew	Lorenzen Rew Prospect	Basalt Q Basalt Q Basalt Q	Small Medium	Abandoned Abandoned Never used	1A 1A 1A
T3N, R30E 6 NW/NE 9 NE/SW 9 NE/SW	County Vollendorf OSHD	Ransier Quarry Vollendorf Pr. Barth Quarry	Basalt Q Basalt Q Basalt Q	Large Large	Active Never used Water filled	3C 1A 1A
T3N, R29E 5 NE/SW 6 NW/NE			Gravel Basalt Q	Large	Inactive Reclaimed	3C 1A
T3N, R28E 3 NW/NE 5 NE/NE 5 NW Corner 6 NE/SE 22 NE/SW	Irwin Mann OSHD	Emigrant Butte Q	Basalt Q Sand Pit Sand Pit Sand Pit Gravel	Small Small Small Small		1A 1A 1A 1A 1A

Table D-XXII (Cont'd)
 INVENTORY OF ROCK MATERIAL SOURCES IN UMATILLA COUNTY

LOCATION (SEC.)	OWNER	NAME	TYPE OF DEPOSIT	QUANTITY	REMARKS	GOAL 5 ANALYSIS
T2N, R37E						
24 NE/NE	USFS	Prospect	Basalt Q		In NF	1A
24 NW/SW	USFS	Ruckel Jct.	Basalt Q	Large	In NF	1A
25 NW/NW	USFS	Ruckel Spring	Basalt Q		In NF	1A
25 NE/SW	USFS	Shimmiehorn Q	Basalt Q		In NF	1A
27 SW/SE	USFS	Black Mt. Q	Basalt Q		In NF	1A
31 SW/SW	USFS				In NF	1A
T2N, R36E						
5 SE/NW			Basalt		On Reservation	1A
T2N, R34E						
22 SW/NW			Basalt Q	Medium	On Reservation	1A
31 SE/SW	County		Basalt Q	Large	On Reservation	1A
T2N, R33E						
3 NW/SW	William Duff		Basalt Q	Large	On Reservation	1A
7 SW/NE	Pendleton Ready Mix		Gravel	Large	On Reservation	1A
7 SW/NW	Fletcher	Cent. Cement Prod.	Gravel		On Reservation	1A
16 SW/SW			Gravel		On Reservation	1A
25 NW/SE	County	Sampson Quarry	Basalt Q	Large	On Reservation	1A
25 E 1/2/SW	Eucon				On Reservation	1A
35 SE	Eucon				On Reservation	1A
T2N, R32E						
4 NE/NE	OSHD		Basalt Q	Small	In City	1A
5 SE/SE	P.E. Jellum	Jellum Quarry	Basalt Q	Medium	In City	1A
8 NW/NW	OSHD		Basalt Q	Large	Active, in UGB	1A
8 SE/NW	UCRD		Gravel		In UGB	1A

Table D-XXII (Cont'd)
 INVENTORY OF ROCK MATERIAL SOURCES IN UMATILLA COUNTY

LOCATION (SEC.)	OWNER	NAME	TYPE OF DEPOSIT	QUANTITY	REMARKS	GOAL 5 ANALYSIS
2N, R32E Cont'd 12 NE/NE 16 NE/SW 27 SE/NW 28 SE/NE			Gravel Basalt Q Basalt Q Gravel	Small	Abandoned, in UGB Exhausted, in City Abandoned Abandoned	1A 1A 1A 1A
T2N, R31E 12 SE 1/4 9,10,15-17 15 SE/NW 16 SW/NW 17 NE 1/4	Lewis Company Morrison-Knudsen M.-K. & County Morrison-Knudsen Lewis Company	Pendleton Ready-Mix Barnhart Barnhart Pendleton Ready-Mix	Gravel Basalt Q Basalt Q Basalt Q Gravel	Small Large Large Large Small	Inactive Active; comm'l Active; comm'l Active; comm'l Inactive	3A 3A 3A 3A 3A
T2N, R30E 1 SE/SE 7 NE/SE	Cunningham	Filler Pit Alkali	Basalt Q Basalt Q	Small Medium	Inactive Active	3C 2A
T2N, R29E 18 NW/SW	Roseamond-Monese		Basalt Q		Inactive	1A
T2N, R27E 34 NW/SE	OSHD	Buttercreek Jct.	Basalt Q	Medium	Unused	1A
T1N, R37E 7 SE/NW	USFS		Basalt Q		In UNF	1A

Table D-XXII (Cont'd)
INVENTORY OF ROCK MATERIAL SOURCES IN UMATILLA COUNTY

LOCATION (SEC.)	OWNER	NAME	TYPE OF DEPOSIT	QUANTITY	REMARKS	GOAL 5 ANALYSIS
T1N, R36E 12 NE/SW 16 NE/NW 21 SE/NW	USFS	Junction Quarry Prospect Prospect	Basalt Q Gravel Gravel		In UNF	1A
T1N, R35E 6 SE/SE 20 NE/SW 27 SW/SE 29 SE/NE 34 SE 1/4 34-35	Arthur Parr OSHD Private OSHD OSHD Steelman-Duff	Indian Quarry Emigrant Park Q Horse Q Borrow Pit Meacham Quarry	Basalt Q Basalt Q Basalt Q Basalt Q Basalt Q Basalt	Large Small Large Large	On Reservation Roadcut Active Active	1A 3C 3C 3C 3C 3C
T1N, R34E 6	Orval McCormmach Q		Basalt	Large	On Reservation	1A
T1N, R33E 2 SE/NE 2 NW/SE 12 SW/SE	BIA OSHD Orval McCormmach Q		Basalt Q Basalt Q Basalt Q	Medium Large	On Reservation On Reservation Inactive	1A 1A 1A
T1N, R32E 17 SE/SW 23 SW/NE	Private OSHD	Schuening Q	Basalt Q Basalt Q		Inactive Inactive	3C 3C
T1N, R31E 18 SE/SW	Private		Basalt Q		Inactive	3C

Table D-XXII (Cont'd)
INVENTORY OF ROCK MATERIAL SOURCES IN UMATILLA COUNTY

LOCATION (SEC.)	OWNER	NAME	TYPE OF DEPOSIT	QUANTITY	REMARKS	GOAL 5 ANALYSIS
T1N, R30E 8 Sw/NE 12 Sw/NE	Private County	Alkali Canyon Q Four Corners Q	Basalt Q Basalt Q	Large	Inactive Active	2A 3C
T1S, R37E 8 NE/SW 10 NE/SW 15 NW/SE 20 SE/NE 20 NE/SW 30 NW/SW	USFS USFS USFS USFS USFS USFS	Hoskin Springs Q Summit "D" Green Mt. Drumhill Ridge Prospect Spring Mt.	Basalt Q Basalt Q Basalt Q Basalt P Basalt P Basalt Q		In UNF In UNF In UNF In UNF In UNF In UNF	1A 1A 1A 1A 1A 1A
T1S, R36E 22 SE/SW 34 SW/SW	USFS USFS	Boundary Pit	Basalt Q Basalt Q	Large	In UNF In UNF	1A 1A
T1S, R35E 14 SE/NW 24 SE/SW	OSHD OSHD		Basalt Q Basalt Q	Small	In UNF	1A
T1S, R33E 5 NE 1/4	UCRD				In UNF	1A
T1S, R32E 5 NW/NE 8 NE 13 NW/NE 17 SE/SW 19 NW/SW 30 NE/NW	OSHD Louisiana Pacific County OSHD OSHD OSHD	Hoeft Pit West Birch Creek	Basalt Q Basalt Q Basalt Q Basalt Q Basalt Q	Large Medium	Inactive Active Active Inactive Inactive	3C 3C 3C 1A 3C 3C

Table D-XXII (Cont'd)
 INVENTORY OF ROCK MATERIAL SOURCES IN UMATILLA COUNTY

LOCATION (SEC.)	OWNER	NAME	TYPE OF DEPOSIT	QUANTITY	REMARKS	GOAL 5 ANALYSIS
T1S, R31E						
19 SE/SW	OSHD	Nye Quarry	Basalt Q	Small		2A
22 SW/NE	OSHD	Jack Canyon Q	Basalt Q	Medium		2A
22 SE/NE	OSHD		Basalt Q			2A
24 NE/SW	OSHD		Basalt Q	Medium		2A
T1S, R30E						
2 NE/NE	Roumagoux	Victor	Basalt Q		Inactive	3C
22 SE/SE	OSHD		Basalt Q			3C
26 NW/NE	OSHD		Basalt Q			2A
31 NW/SW	OSHD	Burl Stuart Q	Basalt Q			2A
T2S, R35E						
29 SW/NE	USFS		Basalt Q		In UNF	1A
T2S, R33E						
18 NW/NE	Private	Hunter Quarry	Basalt Q		Inactive	2A
T2S, R32E						
10 NW/NE	Private	East Birch Creek	Basalt Q		Inactive	3C
T2S, R31E						
7 SE/NW		Whittaker Flats	Basalt Q	Small	Inactive	1A
T3S, R33E						
4 NW/SE	USFS	Low'r Pearson Cr.	Basalt Q		In UNF	1A
7 SW/NW	USFS	Prospect	Basalt Q		In UNF	1A

Table D-XXII (Cont'd)
 INVENTORY OF ROCK MATERIAL SOURCES IN UMATILLA COUNTY

LOCATION (SEC.)	OWNER	NAME	TYPE OF DEPOSIT	QUANTITY	REMARKS	GOAL 5 ANALYSIS
T3S, R33E Cont'd 9 NW/NE 31 NE/NE 32 SW/NW	USFS USFS USFS	Bear Wallow	Qts. Diorite Q Basalt Q Basalt Q		In UNF In UNF In UNF	1A 1A 1A
T3S, R32E 23 NE/SE 36 NE/NE	USFS USFS	Pearson Creek	Basalt Q Basalt Q	Large	In UNF In UNF	1A 1A
T3S, R31E 20 NW/NW 29 SE/NW	OSHD	Battle Mt. Q	Granite Q Basalt Q	Small	Borrow Borrow	1A 1A
T3S, R30 1/2E 1 NE/NW 12 SW/SE	OSHD OSHD		Basalt Q Basalt Q	Medium	Inactive Inactive	3C 3C
T3S, R30E 27 NE/NE	County	Gurdane	Basalt Q		Inactive	3C
T4S, R34E 31 NW/SW 32 SW/SE	USFS USFS		Basalt Q Basalt Q		In UNF In UNF	1A 1A
T4S, R33 1/2E 35 SW/NE 36 SE 1/4	USFS USFS		Basalt Q Basalt Q	Medium	In UNF In UNF	1A 1A

Table D-XXII (Cont'd)
 INVENTORY OF ROCK MATERIAL SOURCES IN UMATILLA COUNTY

LOCATION (SEC.)	OWNER	NAME	TYPE OF DEPOSIT	QUANTITY	REMARKS	GOAL 5 ANALYSIS
T4S, R33E 6 SE/SE	USFS		Basalt Q		In UNF	1A
T4S, R31E 34 NW/NE 34 NW/NE	OSHD OSHD		Basalt Q Basalt Q	Small Small	Inactive Inactive	3C 3C
T4S, R30E 5 NW/SE 16 NW/SW 27 NE/SW 31 SW/SE 33 NE/SW	USFS USFS USFS	Gurdane Quarry Five Mile Cr. Q Prospect	Basalt Q Basalt Trench Basalt Trench Basalt Q Basalt	Large	Active In UNF In UNF In UNF	2A 2A 1A 1A 1A
T5S, R33E 3 NW/NW 10 SW/NW 10 SE/NE 28 SE/NW 34 NW/SW	USFS USFS USFS USFS USFS	Butcherknife Sp. Cable Creek	Basalt Q Basalt Q Basalt Q Basalt Q Basalt Q	Small Small	In UNF In UNF In UNF In UNF In UNF	1A 1A 1A 1A 1A
T5S, R32E 4 NE/SE	OSHD		Basalt Q	Large	In UNF	1A
T5S, R31E 14 NW/NW 14 SE/SW 16 NE/SW 21 NE/NW	Private Private	Ukiah Gravel Pit	Gravel Gravel Basalt Q Basalt Q	Small	Inactive Exhausted	3C 1A 3C 3C

Table D-XXII (Cont'd)
 INVENTORY OF ROCK MATERIAL SOURCES IN UMATILLA COUNTY

LOCATION (SEC.)	OWNER	NAME	TYPE OF DEPOSIT	QUANTITY	REMARKS	GOAL 5 ANALYSIS
T5S, R31E Cont'd						
21 NW/NE	OSHD		Basalt Q	Small		3C
21 NW/SE	OSHD		Basalt Q		Talus slope	3C
28 NE/NW	OSHD		Basalt Q	Large	Active	3C
T5S, R30E						
2 NE/NE	USFS		Basalt Q		In UNF	1A
3 SE/NE	USFS		Basalt Q		In UNF	-1A
4 NE/NW	USFS		Basalt Q	Small	In UNF	1A
5 SW/SE	USFS		Basalt Q	Small	In UNF	1A
7 SE/NW	USFS	Gillman Ranch	Basalt Q	Small	In UNF	1A
9 NW/SE	USFS	Sugar Bowl	Basalt Q		In UNF	1A
11 SW/SW	USFS	Wolf Springs	Basalt Q		In UNF	1A
18 SE/NE	USFS		Basalt Q		In UNF	1A
21 SE/SW	USFS	Dry 5-Mile Cr.#1	Basalt Q		In UNF	1A
31 NW/NW	USFS	Divide Well	Basalt Q		In UNF	1A
T6S, R35E						
19 NW/NE	USFS	Big Creek	Welded Tuff Q		In UNF	1A
T6S, R34E						
28 SW/SW	USFS	Winom Meadows	Rhyodacite Q		In UNF	1A
T6S, R33E						
17 NE/SW	USFS		Basalt Q	Large	In UNF	1A
25 NW/SE	USFS	Oriental	Rhyolite Q		In UNF	1A
28 NE/SE	USFS	Oriental	Welded Tuff Q		In UNF	1A
30 NE/NE	USFS	Texas Bar	Granitic Q		In UNF	1A
35 NW/NW	USFS	Oriental	Granitic Q		In UNF	1A
35 NW/NW	USFS		Granitic Q		In UNF	1A
36 SW/SW	USFS		Granitic Q		In UNF	1A

Table D-XXII (Cont'd)
 INVENTORY OF ROCK MATERIAL SOURCES IN UMATILLA COUNTY

LOCATION (SEC.)	OWNER	NAME	TYPE OF DEPOSIT	QUANTITY	REMARKS	GOAL 5 ANALYSIS
T6S, R32E						
4 NW/SW	USFS	Ross Springs	Basalt Q		In UNF	1A
24 SE/SE	USFS	Prospect	Basalt Q		In UNF	1A
27 SW/NW	Private	N. Fk. John Day	Welded Tuff Q	Small	In UNF	1A
30 NE/SE	USFS		Basalt Q		In UNF	1A
T6S, R31E						
15 NE/NW	OSHD		Basalt Q		Rip-rap	1A

Sources: DOGAMI, Rock Material Resources in Umatilla County, 1976; Umatilla County Road Department files, 1983;
 DOGAMI files, 1983.

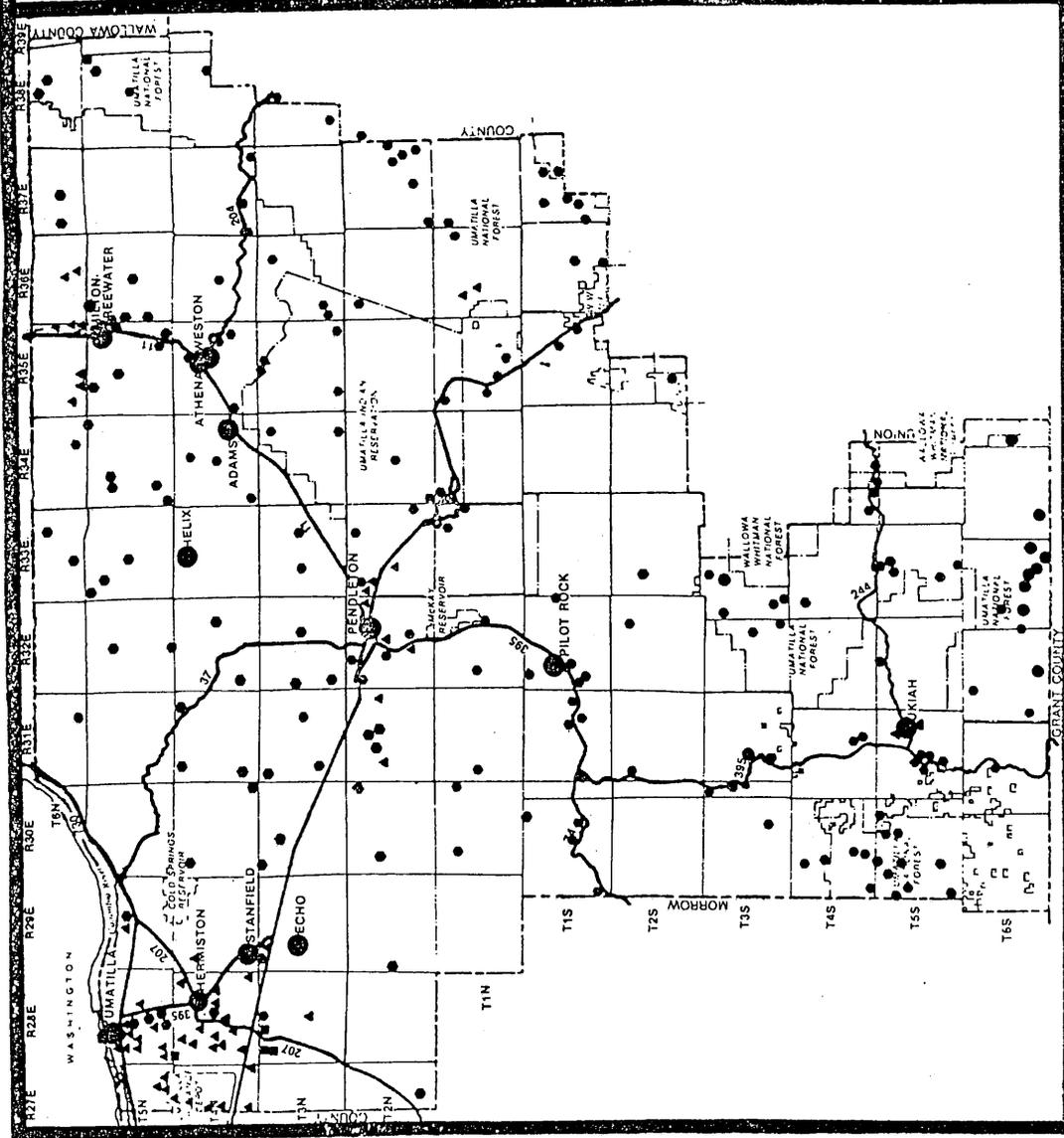
ROCK MINERAL RESOURCES UMATILLA COUNTY, OREGON



LEGEND

- BASALT QUARRY
- ▲ GRAVEL QUARRY
- SAND PIT
- QUARTZ/DIORITE/GRANITE/
RHYOLITE/WELDED TUFF QUARRY
- CITY

SOURCE Rock Mineral Resources of Umatilla
County, Department of Geology and Mineral Industries,
1976



[NEW] Using the Goal 5 analysis process described at the beginning of this chapter, each rock material source was individually analyzed to determine its significance or relative importance. One hundred fifty-eight sites were eliminated from the inventory (designated "1A" on Table D-XXII). The major reasons were as follows:

Within the Umatilla National Forest (UNF)	68 sites
Within the Umatilla Indian Reservation	21
Within city limits or UGBs	7
Within Umatilla Ordnance Depot	18
Abandoned or unused sites	27
Small "borrow pits" used only by property owner	17

[NEW] Seventeen sites were identified as having or causing no conflicting uses (shown as "2A" on Table D-XXII). These sites are characteristically located on scab land bluffs far from any residential and intensive farming (cultivated) areas. All are small sites of two acres or less and all are inactive; ie, not currently being used.

[NEW] The other 108 sites were determined to be important enough to warrant ESEE analysis. Several sites are so significant that they should be protected from conflicting uses ("3A" on Table D-XXII). These sites are existing major rock material sources that provide much of the current and will provide much of the future commercial and transportation aggregate needs of Umatilla County. Some of these sites are already industrially zoned. However, it is recommended that for these sites that a protective aggregate resource overlay zone be established. The following is a description of the resource sites recommended for "3A" protection:

1. Location: T5N R35 Sec. 35, TL 6200, 5900; approximately four miles south of Milton-Freewater adjacent to State Highway 11 (Map D-191).
Acreage: Approximately 30 acres.
Owner/
Operator: Oregon State Highway Department
Resource: Basalt rock quarry

- Quality: Good
Significance: Major Highway Department quarry used for highway maintenance.
2. Location: T5N R29E Sec. 22, TL 800 ("Sharps Corner"); intersection of Highways 730 and 204; approximately 8 miles east of the City of Umatilla (Map D-192).
Acreage: Approximately 19 acres
Owner/
Operator: Land: Lewis & Clark College; Mineral rights: ODOT.
Resource: Basalt rock quarry
Quality: Good
Significance: Major Highway Department quarry used for highway maintenance.
3. Location: T5N R28E Sec. 27, TL 1100; south of City of Umatilla Urban Growth Boundary (Map D-193).
Acreage: 40 acres
Owner/
Operator: Snipes Mountain Sand and Gravel, Inc.
Resource: Sand and gravel
Quality: Good
Significance: Major commercial source
4. Location: T4N R28E Sec. 28, 29, TL 4000 (Map D-194)
Acreage: 227.53 acres
Owner/
Operator: Union Pacific Railroad
Resource: Gravel
Quality: Good
Significance: Used by Railroad at Hinkle Rail Classification Yards.
5. Location: T2N R31E Sec. 15, 16, 17, TL 400, 800, 3100 (Map D-195)
Acreage: 100+ acres
Owner/
Operator: Dean Forth, Morris and Knuetson, Umatilla County (several quarries)
Resource: Basalt rock quarries
Quality: Good
Significance: Major commercial rock source for central Umatilla County.

[NEW] The remaining sites (labeled "3C" on Table D-XXII) are sites where use of the rock material resource may conflict with other adjacent uses. However, the sites are important enough to try to limit the conflicting uses so that use may still be made of the rock resource. The most common "conflicting use" is agriculture, where rock quarries and gravel pits have been established in farming areas. Usually these sites are small and designed to take advantage of unfarmed scab rock. However, their very presence can cause problems of dust,

INVENTORY

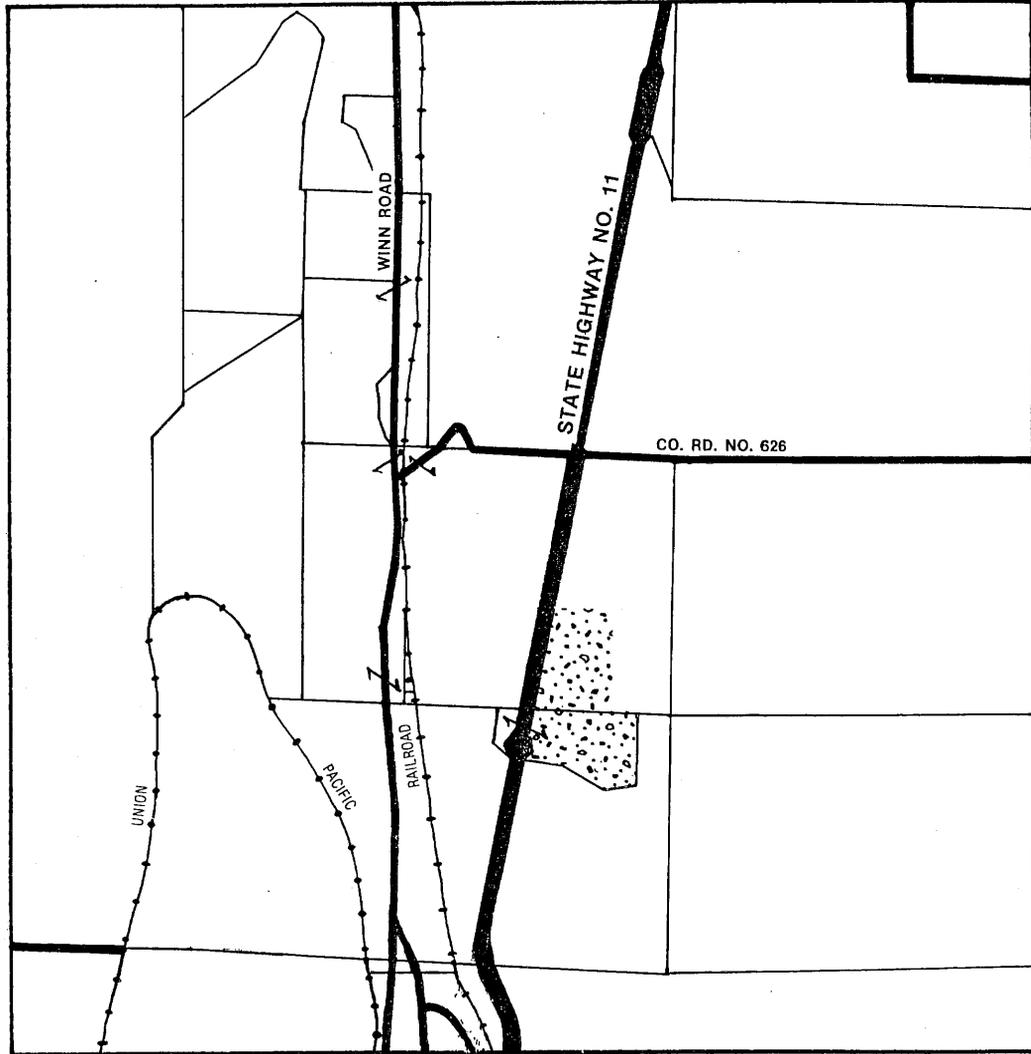
SIGNIFICANT AGGREGATE RESOURCES

MAP: D-191

AREA: Highway Department Quarry

1" = 2000'

T/R: T5N R35 EWM



RESOURCE AREA 

MAP SOURCE: Umatilla County

Plan Designation: Agriculture

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: None significant; long-used pit in area of extensive agriculture.

Goal 5 Analysis: 3A; Protect the Resource

Management Program: Aggregate Resource Overlay Zone

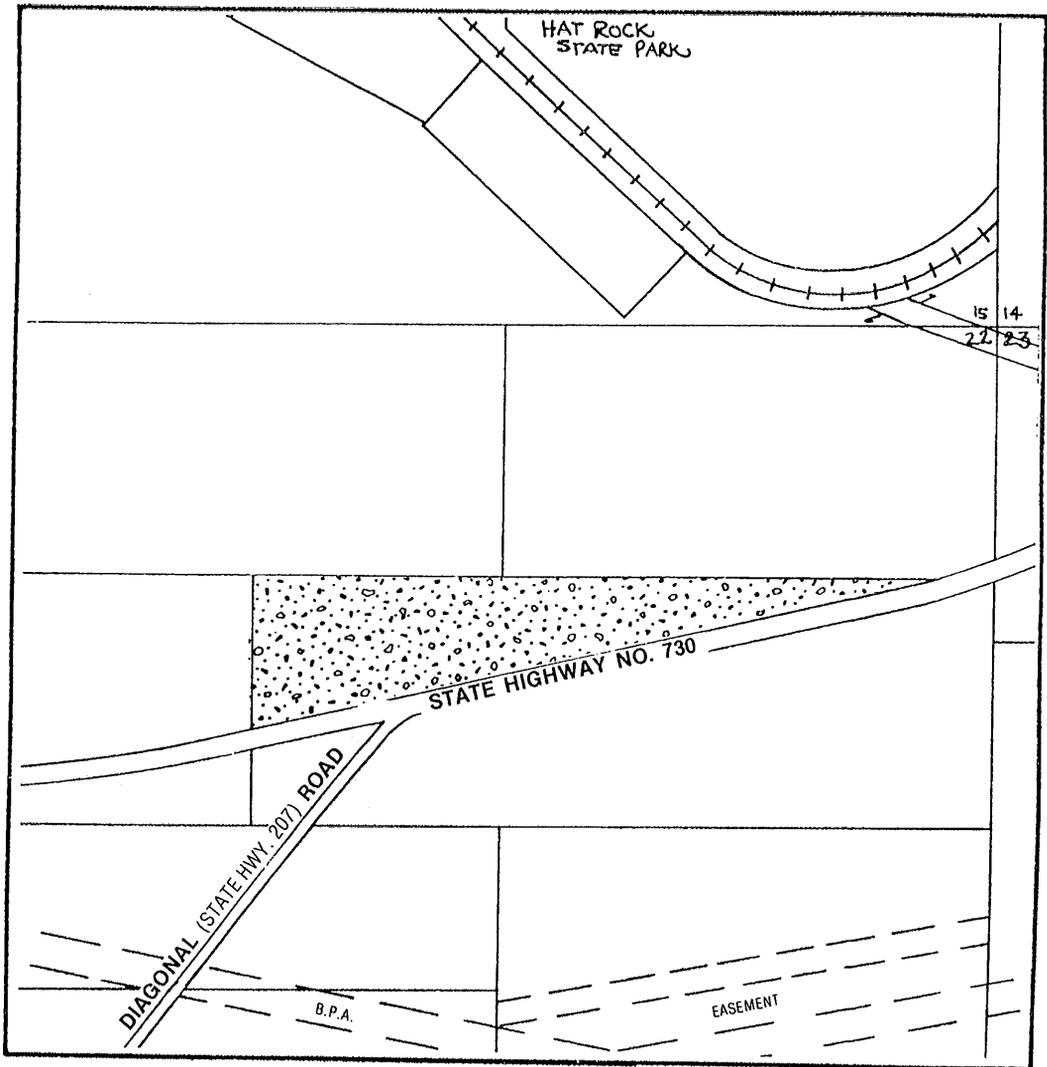
INVENTORY
SIGNIFICANT AGGREGATE RESOURCES

MAP: D-192

AREA: Diagonal Road Quarry

Scale 1" = 1000'

T/R: T5N R29E, Section 22



RESOURCE AREA 

MAP SOURCE: Umatilla County

Plan Designation: Agriculture

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: None significant; rock source for Highway Department in grazing land area.

Goal 5 Analysis: 3A; Protect the Resource

Management Program: Aggregate Resource Overlay Zone

INVENTORY
SIGNIFICANT AGGREGATE RESOURCES

MAP: D-193

AREA: Bensel Road Quarry

Scale 1" = 600'

T/R: T5N R28E, Section 27



RESOURCE AREA 

MAP SOURCE: Umatilla County

Plan Designation: Industrial

Zoning Designation: Light Industrial

Possible Land Use Conflicts: Other industrial uses

Goal 5 Analysis: 3A; Protect the Resource

Management Program: Aggregate Resource Overlay Zone

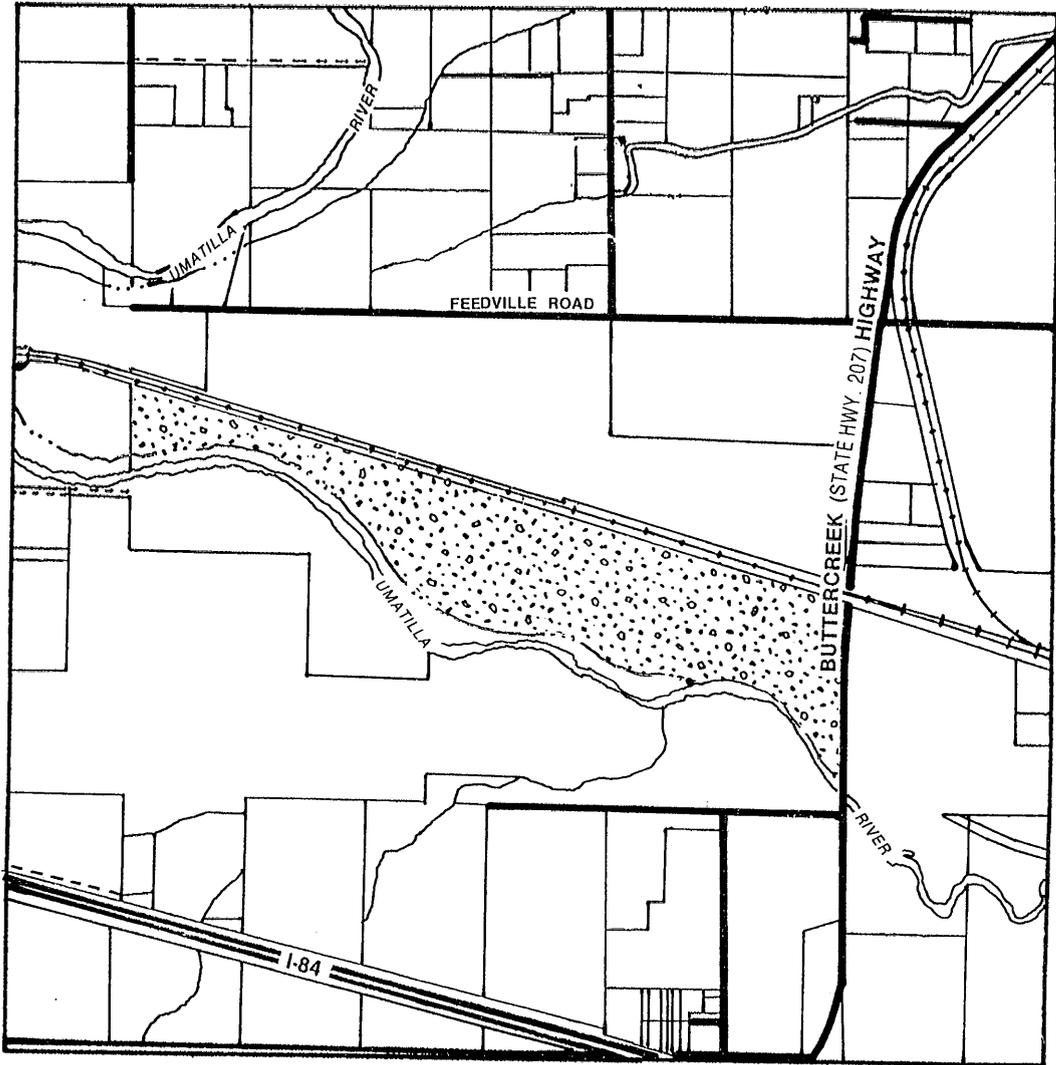
INVENTORY
SIGNIFICANT AGGREGATE RESOURCES

MAP: D-194

AREA: Union Pacific RR Ballast Pit

Scale 1" = 2000'

T/R: T4N R28E, Sections 28 and 29



RESOURCE AREA 

MAP SOURCE: Umatilla County

Plan Designation: Industrial

Zoning Designation: Heavy Industrial

Possible Land Use Conflicts: None significant; part of railroad switching yard

Goal 5 Analysis: 3A; Protect the Resource

Management Program: Aggregate Resource Overlay Zone; stream setback; part of railroad's development plan.

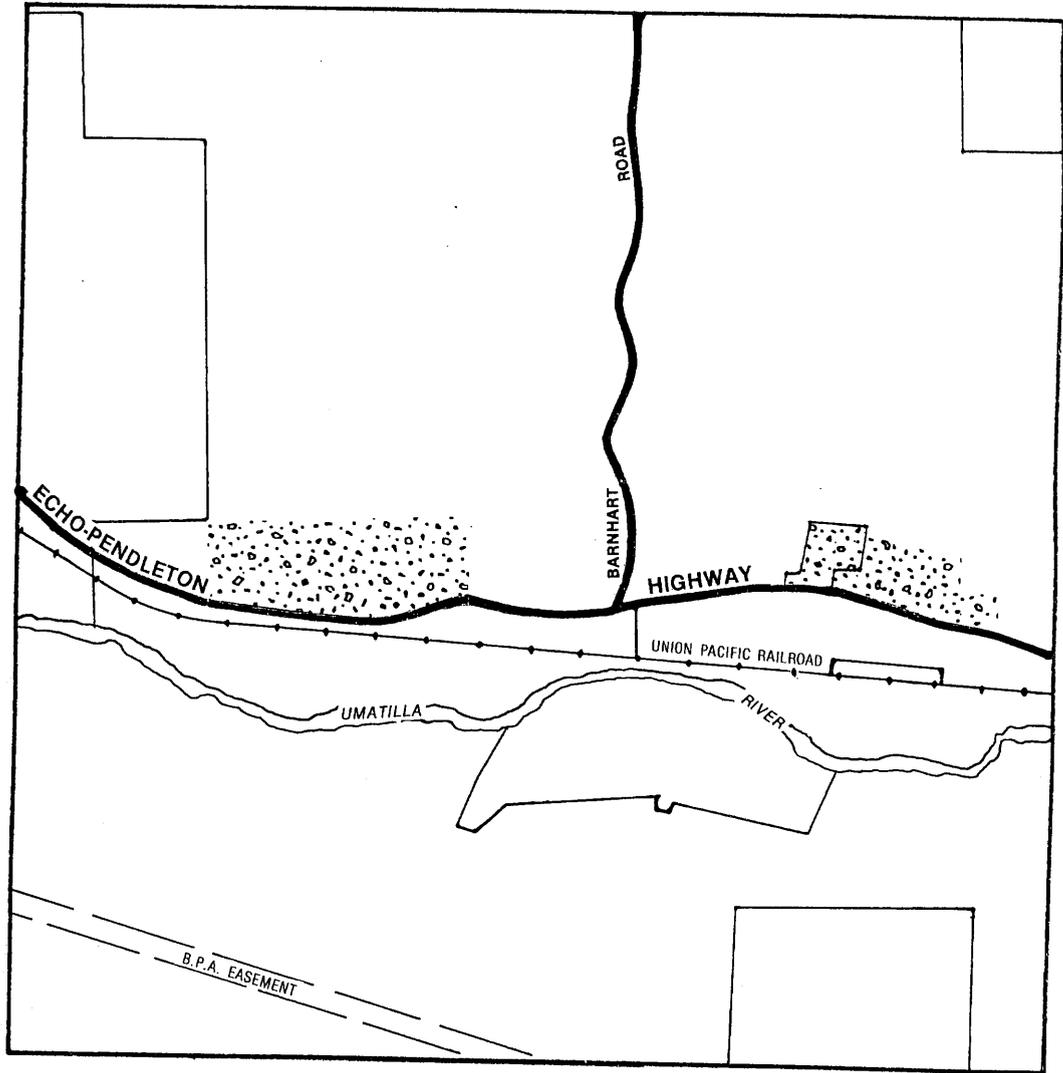
INVENTORY
SIGNIFICANT AGGREGATE RESOURCES

MAP: D-195

AREA: Barnhart Pits

Scale 1" = 2000'

T/R: T2N R31E, Sections 15, 16, 17



RESOURCE AREA 

MAP SOURCE: Umatilla County

Plan Designation: Industry

Zoning Designation: Heavy Industrial

Possible Land Use Conflicts: None significant, resource extraction

has occurred for years

Goal 5 Analysis: 3A; Protect the Resource

Management Program: Aggregate Resource Overlay Zone

encroachment on cultivated lands, disturbance of ground water tables, etc.

But these sites provide an important local source of material for farm use, road and highway maintenance and construction and small commercial activities.

[NEW] Conflicting uses can be limited or mitigated by allowing rock material mining and associated activities via the conditional use permit process. These activities are allowed only by conditional use permit in Umatilla County (except where an aggregate resource zone is established). Criteria for rock and gravel operations is found in Section 7.060(17) in the Development Ordinance. It should be noted here that a conditional use permit would be required even for those sites determined not to have conflicting uses ("2A"). Note also that a conditional use permit may not be required if the material to be removed is below a certain amount (see ordinance).

[NEW] About 30 "3C" and "2A" resource sites are owned by operated by the Oregon State Highway Department and County Road Department. Most of these sites are small (under four acres) and are used as material resources for road repair and construction. Costs and energy are saved by having scattered material sources available through the county.

[NEW] Most of the small gravel pits owned and/or operated by the county are used only periodically for road maintenance or construction. Therefore, the county should establish a simplified permit system for selected, specific gravel pit sites in resource areas to allow for rapid availability. Conditions for qualification for this system should include:

1. Sites are owned and/or operated by the county and used specifically for county road projects only.
2. Sites are located in isolated agricultural or forest zones on non-productive land.
3. Sites are long-established pits.

4. Crushing operations would be for limited periods only.
5. Sites may be used to stockpile rock materials.
6. The physical scale or extent of operation would be limited.
7. The operation would still require a zoning permit and would be subject to standards and criteria of the Development Ordinance.

Rock Material Requirements

Part of the rock material in Umatilla County is used for the construction of new homes, streets, sewers, churches, business and municipal buildings, and many other facilities and can be directly related to population growth. Another portion of the rock used in Umatilla County is related to large federal and state construction projects bearing little relation to local population. Since 1950, the Oregon Highway Department has been building the I-84 freeway, which traverses Umatilla County east-west, and I-204 which will link I-84 with the Tri-Cities. During certain periods, the construction of this major freeway involved mainly earthwork and preparation of the roadbed, requiring very little rock from outside of the highway right-of-way. During other periods, much quarry rock--sometimes seven or eight times the amount used locally in the county in a specific year--was taken for fill, subbase, base, and paving rock. Between 1950 and 1975, construction of the McNary Dam required enormous amounts of gravel and rock. For these reasons the total annual gravel and rock production in Umatilla County has fluctuated enormously (Table D-XXIII).

Analysis of materials used in the county is complicated by the fact that there are two separate products: (1) rock which is quarried from in-place lavas; and (2) gravel which is dug from alluvial deposits. To give a clearer picture of long-term county needs, production statistics for both materials were combined on Table D-XXII. Another complication is that each product is produced both commercially for the private sector and non-commercially for county, state and federal agencies. In addition, some of the commercial gravel and stone is produced for the non-commercial sector.(74)

In order to determine the normal rock consumption of the county, a DOGAMI study de-emphasized the rock used for construction of special projects not dependent upon local population growth. The study found that during the

period 1960-69, per capita use averaged 19.5 tons, of which quarry rock accounted for 11.22 tons and gravel 8.28 tons. The total annual per capita use of commercial rock material was 7.18 tons and of non-commercial, 12.32 tons. From 1970 to 1974, the total annual per capita use of rock materials (commercial and non-commercial combined) dropped from 19.5 to 16.04 tons, probably as a result of winding down or completion of the large state and federal construction projects.(75)

From the foregoing information, it appears that the state and federal construction projects dominated the rock-materials industry from the early 1950's to the present. It is logical, therefore, to assume that in the future, commercial production will continue at the present rate, whereas non-commercial production will be reduced by at least 50 percent. Using the figures for the period 1970-1974, 5.9 tons per capita annual commercial consumption plus 5.07 (half of 10.14) tons per capita annual non-commercial consumption gives about 11.0 tons of aggregate used per person per year, a figure which corresponds with that of Josephine County at 11.3 tons per capita per year, and that of Jackson County at 10.2 tons per capita per year (for gravel only). At the rate of 11 tons per capita, the county should consume a total of 15 million tons of rock materials between 1975 and 2000 if the projected population is reached. The assumed 11-ton per capita figure is reasonable or slightly conservative because the per capita use of aggregate is greater for a growing population than for one that is stable.(76)

In addition to fulfilling the need for rock in Umatilla County, sand and gravel may be exported in large amounts to communities down river from Umatilla. The Portland-Vancouver metropolitan area has a scarcity of future reserves. Most of the areas containing gravel and stone in the Portland area have been built over, and it is becoming increasingly difficult to get zone changes which would allow the development of outlying sites. Therefore, as the present gravel sources in the Portland area are mined out, a greater amount will have to be imported.

Because of the availability of gravel adjacent to the Columbia River in Umatilla County, together with economical barge transportation to Portland, up to 5 million tons per year could conceivably be exported annually. By the year 2000, about 120 million tons could have been exported, 7.7 times more than the 15 million tons which will be used locally. The combination of export and local usage of rock could total as much as 136 million tons by the year 2000.(77)

Table D-XXIII
Annual Production of Sand and Gravel
and Quarry Rock in Umatilla County

Year	Commercial Production	Non-Commercial Production	Total
1950	152,981	28,000	180,981
51	585,556	5,077	590,633
52	385,313	0	385,313
53	289,865	17,550	307,415
54	341,010	99,943	440,953
55	237,332	343,222	580,554
56	112,488	656,941	769,429
57	123,909	518,809	642,718
58	94,913	971,645	1,066,558
59	419,783	542,542	962,325
60	285,769	640,110	925,879
61	269,330	220,859	490,189
62	518,345	521,276	1,039,621
63	346,591	698,114	1,044,705
64	309,699	74,205	383,904
65	351,901	115,848	467,749
66	255,465	659,175	914,640
67	412,254	2,182,650	2,594,904
68	110,000	258,249	368,249
69	81,000	268,947	349,947
70	126,752	217,683	344,435

--cont'd--

Table D-XXIII/cont'd

Year	Commercial Production	Non-Commercial Production	Total
71	266,352	457,431	723,783
72	167,977	288,482	456,459
73	244,557	420,001	644,558
74	484,900	832,762	1,317,662

(Statistics not available for 1975-1984)

Source: [same as D-XXI]

Potential Rock Material Sites

Due to the widespread availability of rock resources, there has been no comprehensive search for potential rock material extraction sites. A recent NASA/DOGAMI research project attempted to determine if potential mining sites could be determined by Lansat and U-2 imagery. The results were inconclusive.(78)

However, DOGAMI notes that in order to meet the future construction needs of Umatilla County as well as any export opportunities, care should be taken to preserve some of the fluvioglacial deposits of the west county area for the gravel industry. This highly desirable sand and gravel resource is threatened by agricultural, industrial and residential uses. DOGAMI also feels quarries in Columbia River Basalt are needed to supplement commercial gravel used in urban areas and for road construction in rural mountainous areas lacking in large gravel deposits. In urban areas gravel is needed and should be reserved for concrete aggregate, but available quarry rock can be used for fill, base rock, and rip-rap.(79)

Potential for Conflict and Management Programs

The following discussion from the DOGAMI report outlines the conflict potential of rock mining activities and the State's position in the conflict resolution process:

When the planner or the land use decision maker tries to accommodate surface mining to a comprehensive land use plan, he has conflicts with other objectives of the plan. If the mineral resource is in a residential area, the planner must protect the area from noise, dust, vibration, traffic, and unsightliness of pits and quarries. At the same time, he must ensure that the mineral resource can be mined in order to supply the area with low-cost construction materials. Because transportation is a major cost factor, the surface mine needs to be near the market, even though it lies in or near the residential area. The two extreme answers to the conflict are: (1) prohibit mining, or (2) exempt mining from regulations.

The State 1971 Legislative Assembly provided a compromise by passing a mined-land reclamation law having two purposes:

- (1) To provide that the usefulness, productivity, and scenic values of all lands and water resources affected by surface mining operations within this state shall receive the greatest practical degree of protection and reclamation necessary for their intended subsequent use.
- (2) To provide for cooperation between private and governmental entities in carrying out the purposes of the Mined Land Reclamation Law.

Judicious planning can result in wise land use and conservation of our mineral resources. The diverse use of land for agriculture, recreation, residential and commercial-industrial development, and mining can be integrated with foresight and determination to serve everyone's purpose . . . The trend for the future should be for governmental agencies at various levels to pre-plan sequential land use in cooperation with the mining operator, whether the operator is a governmental agency or a private party . . . Although not directly charged by state law, Umatilla County, through its zoning laws, also is involved with carrying out the purposes of the Mined Land Reclamation Law. Within their respective roles both agencies have the right to modify or veto a reclamation plan submitted by a mining operator (an operator can be a private party, a corporation entity, or a city, county, state, or federal agency that operates a stone quarry or a gravel pit). The two roles are complementary: The Department has a large range of expertise in mining geology, mining techniques, and reclamation processes; the county has the knowledge of the local needs.

The Department's role should include acquainting planning bodies with the idea of preserving mineral lands. The need for preserving other natural resources, such as farmland, is recognized by the progressive planners, but the idea of preserving mineral land is relatively new. The land should be zoned for open-space uses which would allow it to be maintained as recreation or wildlife preserves or used for other purposes such as farming, timber, or grazing until the need for the underlying minerals becomes more pressing. Urban expansion can kill mineral resources or add to the operation costs . . .

Reclaimed use should be a major consideration in zoning resource areas. For example, a gravel resource area could be kept for open space use, such as farming, and urban development allowed to encircle it. After the resource has been mined, a secondary use might be for sanitary landfill, and a tertiary use might be for residential development or for a community park. The County Planning Department must set guidelines which take into account these secondary and tertiary uses. The guideline plans should be firm enough to ensure that an area reserved for rock-material extraction could be mined when the need arises even though surrounded by urban development.

The operator's role should not be as adversary to the two agencies. The operator has as much stake in carrying out the purposes of the Reclamation Law as any agency. Reclamation is not something added to a mining operation to increase the operator's cost but rather a process that allows the operator to maximize his total profits through optimal utilization of the mined-out land.⁽⁸⁰⁾

The County's role, as suggested in the above discussion, is to develop and administer a land use plan that will provide the best possible living and working environment for the citizens of Umatilla County. This involves compromise, mitigation, and regulation in order for all needed and desired land use activities to co-exist. The county, in the past, has placed mitigative provisions upon zoning approvals for mining activities and shall develop an overlay zone for protection and regulation of mining activities.

Many of Umatilla County's rock mining activities are small and remotely located on lands planned and zoned for forest uses. As noted earlier, 25% are on Forest Service land. The use of these small deposits is generally intermittent, usually as a source of crushed rock for forest roads. Aggregate extraction of this nature is a normal activity in forest areas and is compatible with other uses which are present or anticipated in the county's

forested areas. Other uses of forest lands which are permitted or reviewed on a conditional basis will not conflict with or pre-empt the use of these forest quarries.

Approximately another third of the county's rock quarries are located in agricultural areas. Usually quarries are located on sites not usable for agriculture, such as steep bluffs, river beds and scab land. Many are gravel pits for county road maintenance; however, several of the major commercial pits are located in agricultural areas. However, occasionally serious conflicts do arise. As an example, several years ago a major gravel extraction site north of Milton-Freewater in the Orchards District was the center of a major community conflict. Farmers and orchardists charged that dust from gravel pit activities affected crops by coating the leaves of plants, interfering with photosynthesis, and promoting "dust mites." Groundwater quantity and quality were also alleged to be affected.

Some of the major commercial rock material sites of Umatilla County are located in urban or rural residential settings, especially in the west part of the county. Those very problems mentioned in the DOGAMI quotation earlier (noise, dust, vibration, traffic and unsightliness) are the reasons quarries are often unacceptable in developed areas.

[REVISED] A review of conditional use permit requests for rock material extraction and related activities from 1975 through 1983 reveals the number of conditional use permits issued per year were as follows:

1975 = 1	1979 = 2
1976 = 1	1980 = 4
1977 = 3	1981 = 13
1978 = 2	1982 = 4
	1983 = 1

[REVISED] All of these requests were approved by the Hearings Officer (however, several were appealed). Most were approved with conditions attached which would help mitigate any adverse effects of the mining activity. At least thirteen of the thirty-one requests were to reopen existing pits or to continue activity at existing pits (eight of the thirteen in 1981). Several others were temporary activity to take advantage of existing rock resource at construction sites, such as the railroad's request when realigning some trackage. Thirteen applicants were private operators; seven requests were from the Umatilla County Road Department, six were from the State Highway Department (ODOT), three were railroad requests, and two were other public agencies. Eight sites were located on the Umatilla Indian Reservation. All were located on land zoned F-1 exclusive agriculture except one, which was in a forest zone.

Creation of an "aggregate resource subdistrict" is recommended that would protect known and potential rock resources from conflicting uses and activities, and bolster the current conditional use method of potential conflict resolution. If fifteen million tons of rock material are extracted by the year 2,000 as DOGAMI predicts, protective measures will be required to insure the rock resource is available when needed, and its mining activity can occur without substantial conflict with neighboring land uses.

ENERGY SOURCES

Of the three major components of Oregon's energy picture--electricity, petroleum, and natural gas, only electricity is commercially generated in Umatilla County. And as low-cost hydroelectric sites have neared complete development, the Pacific Northwest has turned to imported fuel to run expensively constructed and maintained thermal power plants. Experimental energy sources--solar, wind, and others--may also provide part of future Pacific Northwest power needs.

Land use is a consideration in the expansion of power facilities: Nuclear thermal plants are incompatible with dense populations; coal thermal plants need access to rail; the cost of reservoirs is partially tied to the removal of existing land uses; and nearby electrical distribution lines lower the public cost of tying a new facility into the regional network.

Energy generation in Umatilla County is by the Army Corps of Engineers at McNary Dam on the Columbia River. Fourteen generators have produced some 3.5 to 7 million watt hours per year in this run-of-river project.⁽⁸¹⁾ The Corps has scheduled the addition of ten generators to the McNary Second Powerhouse for construction during the 1980's. The project will add an additional 1,050 megawatts of peaking capacity to the system.⁽⁸²⁾

Land use requirements for other generation facilities are only speculative at this time. Wind-power sites could most likely be located along Wallula Gap, near the funneling effect of the steep river walls. Such facilities, associated noise, substations, and powerlines would conflict with the gap's scenic values.

Solar-power sites could possibly be located in Umatilla County. Hanford meteorological station (30 miles north of the west county cities) averages 200 sunny days per year, making commercial solar energy facilities in this area a definite possibility. Further consideration of land use conflicts must await research into large-scale solar collection facilities and their needs.

Individual solar collectors are already feasible as a heating alternative when combined with adequate insulation and back-up heat units. Higher building cost can be defrayed by energy savings during the life of the structure. Assurance of solar exposure has been made an element of some zoning ordinances. Location of facilities would be incorporated into individual buildings.

A study of the potential for low-head hydroelectric power in Oregon determined that the Umatilla River basin (fourteen reaches along ninety-five

river miles) did not pass preliminary feasibility screening.⁽⁸³⁾ However, preliminary engineering is underway on a privately developed "run-of-the-river" system that would divert a portion of the Umatilla River near Hermiston into a canal. The canal, which would act as a forebay, would be about 5300 feet long. It would lend to a penstock that would drop the water about twenty-five feet through two low-head turbines back into the Umatilla River. The turbines would be located at the site of an abandoned powerhouse. The maximum output would be approximately 9.2 kilowatts. Some initial opposition to the project due to concern for preservation of the pristine nature of the shoreline seems to have been overcome by careful design and community education. A conditional use permit for the project has been granted by the county.

Although the State's Geothermal Task Force Report indicates some low temperature geothermal resource areas in Umatilla, there are no areas suggested for exploration.⁽⁸⁴⁾

There are currently several oil companies negotiating oil and gas leases in Umatilla County. Much of the wheatland north of Pendleton and the National Forest land has been or soon will be tied up with such leases. However, the potential for discovery of oil and gas resources is questionable. However, to avoid potential problems with exploratory drilling or future extraction, the county should develop relevant land use policies and regulations.

The advent of other alternate energy sources such as alcohol fuels and biomass or "back yard" energy like "microhydro," wind generators and passive and active solar, and of the popularity and necessity of energy conservation, may create land use conflicts not yet experienced in the county. Noise, visual impacts, solar orientation, etc. may create community problems that the county may have to mediate or regulate. The county should be prepared with policies and zoning criteria.

[NEW] Adequate information on wind, oil, gas and other such alternate energy resources at the level of detail necessary to fulfill OAR 660-16-000 (Goal 5 analysis) is not available ("1B").

LAND AND RESOURCE PROTECTION PROGRAMS

Inventories of resource lands are not enough to insure their continued availability and use over the periods embraced in the comprehensive plan. Once identified, specific programs need to be employed for land and resource protection. This section described techniques now available for protecting resource areas, open spaces, and scenic and historic areas.

These resources and sites can be fully protected only through the use of the wide variety of preservation techniques by, and cooperative actions of, private organizations, individuals and local, state and federal agencies. Techniques range from the broadly applicable approach of advising landowners of the value of their land and securing their cooperation to the effective but limited method of land acquisition and legal dedication. All of the varied methods have validity, but the best program for protection of resource lands will use a range of techniques which matches the level of protection to the significance of the resource.

Landowner Notification

This involves simply alerting the landowner, private or public, to the value of the lands. It may include a formal ceremony with the presentation of a certificate, such as the National Natural Landmarks Program of the National Parks Service, or it may be informal. A high degree of protection is, of course, not provided, but it is more than may usually be expected.

Voluntary Agreement with Landowner

An agreement may be signed between a landowner and a public agency or private group to preserve some quality of the lands. It may include a provision for notification of the agency in case of a planned land use change, or it may involve an option to buy. This is obviously a very flexible protection device and may be used effectively with large corporate landowners.

<u>Land Character of Value</u>	<u>Program</u>	<u>Administering Agency</u>
Pheasant Cover	Placement Watering Stations	State Department of Fish and Wildlife

Registration

Lands may be given formal recognition of their values through a registration procedure. The State Natural Area Preserves Advisory Committee maintains the Oregon Registry of Natural Areas which includes potential natural area preserves. Another program utilizing this technique is the National Register of Historic Places. Registration does not normally involve legal restrictions on use, but may include a signed agreement.

<u>Land Character of Value</u>	<u>Program</u>	<u>Administering Agency</u>	<u>Ownership Qualifying</u>	<u>Compensation</u>
Ecologically significant lands	National Natural Landmarks	National Park Service	Public or private (except NSP), not otherwise protected	Registration, informal agreement
Historic, archeologic buildings, sites, districts	National Register of Historic Places	National Park Service	Public or private	Federal funds available (with strings)
Historic, cultural	National Historic Landmarks	Advisory Board on national parks, historic sites, buildings and monuments, Department of Interior, NPS	Public or private	Bronze Plaque grants in aid
Historic farm operation	Century Farms	Oregon Department of Agriculture and Oregon Historical Society	Same family for 100 years	Registration as long as remaining in same family

Tax Incentives [NEW]

In some cases the state provides tax incentives to encourage conservation. An example is the Riparian Land Tax Incentive Program. Private landowners can receive a complete property tax exception for lands adjoining a stream if they are included in a cooperative management plan worked out with the Oregon State Department of Fish and Wildlife. Private lands that are zoned for agriculture, forest or range are eligible for inclusion in the program.

In addition to the property tax exemption allowed under the program, an income tax credit for up to 25% of private expenditures is available for instream improvement projects (gabions, bank stabilization, etc.).⁽⁸⁵⁾

Other tax programs, such as exclusive farm use, farm tax deferral and forest tax deferral are also important for Goal 5 issues because they help promote resource land uses.

<u>Land Character of Value</u>	<u>Program</u>	<u>Administering Agency</u>
Riparian Corridors	Riparian Land Tax Incentive Program	State Dept. of Fish and Wildlife
Resource Uses, Open Spaces, Wildlife Habitat	Special Assessment Provisions for farmland	Assessor, Department of Revenue
Resource Uses, Open Spaces, Wildlife Habitat	Special Assessment Provisions for forest lands	Assessor, Department of Revenue

Easement

This is a technique for an organization to acquire certain interests in lands while basic ownership is retained in private hands. The specific restrictions of the easement can be flexible but usually involve a forfeiting of rights to destroy a particular quality of the land. The restrictions are legally binding and pass to future landowners. Since the sale value and potential use of the land may be altered, taxes may sometimes be diminished. In Oregon both private and public organizations can enter into easement agreements.

<u>Feature</u>	<u>Program</u>	<u>Agency</u>
"Natural or existing state of recreational, cultural, scenic, historic or other appropriate places of public significance." ORS 271.710	Conservation Easements	State, county, city, recreation district; non-profit conservation organization
Road access limitation to transportation highways	Access Permits	ODOT Highway Department

Fee Acquisition

Organizations or agencies committed to certain values often acquire and set aside lands for those uses and values. Occasionally restrictions on use of the land may be placed in the deed by the seller.

<u>Land Character of Value</u>	<u>Program</u>	<u>Administering Agency</u>	<u>Comments</u>
Wild/scenic view	State Scenic Waterways Program	State Parks and Recreation	None yet in Umatilla County
Natural values	Preserves	The Nature Conservancy	None yet here; some transferred to government ownership

Designation

Most public agencies may formally designate a unit of land for preservation by internal procedures. State Parks, for instance, designates lands in parks for "Resource Protection" through the Park Master Plan. Both the designation and undesignation of the lands may be accomplished by the agency without answering to an outside authority. Certain internal agency procedures may, by law or agency rules, involve citizen involvement or coordination with the comprehensive land use plan.

<u>Land Character of Value</u>	<u>Program Available for Protection</u>	<u>Administering Agency</u>	<u>Level of Gov't</u>
Natural area	Research Natural Area	U.S. Forest Service Committee on USFS, BLM, FWS, NES lands	Federal
"Protect and . . . foster public use and enjoyment of scenic, geological, historical, botanical, zoological, paleontological or other special characteristics."	Special Interest Areas	U.S. Forest Service on USFS lands	Federal
Natural	Outstanding Natural Area	BLM on BLM land	Federal
Scenic, wildlife habitat, historic, archeological, ecological	Primary Resource Protection Areas	ODOT Parks and Recreation Branch on State Park land	State
Ecological monitoring	Scientific and Educational Preserves	Board of Higher Education (their land)	State
Scenic values	Scenic Conservancy Program	Oregon Dept. of State Forestry	State
Easily damaged lands, fish and wildlife habitat	Protective Conservancy Program	Oregon Dept. Fish and Wildlife	State
Hunting, fishing, crop manipulation, water control for wildlife management purposes	Wildlife Management Areas	Oregon Dept. Fish and Wildlife	State

Dedication

Agency lands may also be dedicated for preservation by a public body outside the agency. The Congress, for instance, dedicates Wilderness Areas on National Forest lands. Likewise, it requires an act of Congress to declassify them. The Oregon State Natural Area Preserve Program, through the State Land Board, is similarly structured in that Land Board members represent the public. This is the highest level of protection for natural areas which is normally used.

<u>Land Character of Value</u>	<u>Program Available for Protection</u>	<u>Administering Agency</u>	<u>Dedicating Body</u>
Wilderness	Wilderness Areas	U.S. Forest Service	Congress
Natural areas on State Lands	Natural Area Preserve	State Lands	State Land Board
Outstanding natural and historic features	National Parks and National Monuments	National Park Service	
Wildlife habitat	National Wildlife Refuge System	U.S. Fish and Wildlife	Legislature
	Areas of Critical State Concern	L.C.D.C.	State Legislature

Land Use Control

Local Comprehensive Land Use Plans and Zoning Ordinances may utilize techniques for protecting resource areas which restrict the owner's rights to change the use of his/her land. The technique is worthy of further exploration since it may be an effective tool, but a high level of protection may require compensation for lost land use rights.

<u>Land Character of Value</u>	<u>Program Available for Protection</u>	<u>Agency</u>	<u>Compensation</u>
Space for industrial or energy production development	Plan designation	Planning Commission	Interim agricultural or recreational use, eventual sale for development
Mineral and aggregate resources	Open Space Lands	Private individual applies to County Assessor and to Planning Commission	Reduced taxes, assurance of farm use continuation
Farmland	Exclusive Farm Use Assessment	County/State	Reduced taxes, assurance of farm use continuation
Airport clear area	Airport Clear Zone	City and County Zoning	
Flood overflow area	Flood Hazard Zoning Ordinance	County Zoning; federal insurance HUD Federal Insurance Administration	

Environmental Laws [NEW]

Finally, there is a myriad of local, state and federal laws designed to protect air, water and land environmental degradation. A comprehensive list would cover pages and pages. However, some of the more far-reaching are the National Environmental Policy Act (NEPA), Endangered Species Act (16 USC 1531), National Historic Preservation Act (16 USC 470), Fish and Wildlife Coordination Act (16 USC 661), Federal Water Pollution Control Act (33 USC 1251), Clean Air Act (42 USC 1857), Reclamation of Mining Lands (ORS Chapter 517), Forest Practices Act (ORS Chapter 527), Appropriation of Water (ORS Chapter 537), Minimum Stream Flow (Senate Bill 225).

All of these laws contribute to the overall conservation of resources in Umatilla County.

SOURCES

1. Oregon Department of Fish and Wildlife, Fish and Wildlife Habitat Protection Plan for Umatilla, June, 1978, 59 pages.
2. Chris Carter, Letter from Oregon Department of Fish and Wildlife, June 16, 1982, to Brian Little, Umatilla County Planning Department.
3. The Nature Conservancy, Oregon Natural Areas, Umatilla County Data Summary, Oregon Natural Heritage Program, April 1978.
4. Curt Soper, Letter from The Nature Conservancy, June 1, 1982, to Dennis Olson, Umatilla County Planning Department.
5. The Nature Conservancy, op.cit.
6. Eastern Oregon State College, A Management Plan for Harris Park and Adjacent BLM Land on the South Fork of the Walla Walla River, Umatilla County, Oregon, March, 1982.
7. The Nature Conservancy, op.cit.
8. The National Park Service, U.S. Dept. of the Interior, The Nationwide River Inventory, January, 1982, p. "2, Oregon."
9. United States Forest Service, USDA.
- 9(a) U.S. Corps of Engineers, Final Environmental Impact Statement, McNary Project, Columbia River, Washington and Oregon, 1976, p 2-42.
- 9(b) U.S. Corps of Engineers, McNary Master Plan, 1983, pp SD39-43.
- 9(c) Ibid., plat 8.1.
10. Oregon State Parks and Recreation Branch, Department of Transportation, Oregon State Parks System Plan, Amendment, 1977-1983, Fall, 1976, p. 57.
11. The National Park Service, op.cit.
12. ibid.
13. U.S. Forest Service, USDA, Final Environmental Impact Statement, Land Management Plan, Desolation Planning Unit, December 26, 1979, p. 145.
14. Oregon State Parks and Recreation Branch, Department of Transportation, Oregon Comprehensive Outdoor Recreation Plan, 1978, p. A 19.
15. Michael J. Farrow, Letter from Tribal Development Office, Confederated Tribes of the Umatilla Indian Reservation, July 16, 1982, to Dennis Olson, Umatilla County Planning Department.
16. ibid.
17. Oregon State Historic Preservation Office (OSHPD), Statewide Inventory of Historic Sites and Buildings, Umatilla County, 1976.

18. Umatilla County Historical Society (UCHS), Umatilla County, A Backward Glance, Pendleton, 1980, pp. 249-252.
19. *ibid.*, p. 248
OSHPO, *op.cit.*
20. UCHS, *op.cit.*, p. 64
21. *ibid.*, pp. 144-145
OSHPO, *op.cit.*
22. Tucker, G.J., Pilot Rock Emigrant Road, 1861-1862, Pendleton, n.d.
23. Oregon State Federation of Garden Clubs (OSFGC), Blue Mountain District Number 10, Historic Trees and Shrubs, 1976.

United States Department of the Interior, National Park Service, Comprehensive Management and Use Plan, Oregon National Historic Trail, August 1981, Appendix II, Sheet 303; Appendix III, pp. 360-361.
24. OSHPO, *op.cit.*
25. U.S. Dept. of Interior, *op.cit.*, Appendix II, sheet 296; Appendix III, pg. 351.
26. UCHS, *op.cit.*, p. 71
27. OSHPO, *op.cit.*
U.S. Dept. of Interior, *op.cit.*, Appendix II, sheet 295; Appendix III, p. 349.
28. Swearingen, Mrs. Mervin, "Finnish Little Greasewood Cemetery," Pendleton, n.d.
29. UCHS, *op.cit.*, p. 31, 135
OSHPO, *op.cit.*
30. OSHPO, *op.cit.*
31. Swearingen, Mrs. Mervin, "German Cemetery, Warren (Myrick), 1897-1934," Pendleton, 1974.
32. UCHS, *op.cit.*, pp. 257-258.
33. *ibid.*, p. 94
OSHPO, *op.cit.*
34. UCHS, *op.cit.*, pp. 259-262
35. OSFGC, *op.cit.*
36. United States Forest Service, communication of October 20, 1980, to Umatilla County Planning Department.
37. UCHS, *op.cit.*, p. 72
38. U.S. Dept. of Interior, *op.cit.*, Appendix II, sheet 295; Appendix III, p. 347.
UCHS *op.cit.*, pp. 131-133

39. OSHPD, op.cit.
40. UCHS, op.cit., p. 43
41. ibid, p. 128
42. U.S. Dept. of Interior, op.cit., three volumes.
43. ibid, p. 347
44. OSFGC, op.cit.
45. UCHS, op.cit., p. 30
46. OSHPD, op.cit.
47. OSFGC, op.cit.
48. ibid.
49. ibid.
50. UCHS, op.cit., p. 70
OSHPD, op.cit.
51. OSHPD, op.cit.
52. U.S. Dept. of Interior, op.cit., Appendix III, p. 347.
53. UCHS, op.cit., p. 245
54. OSHPD, op.cit.
55. ibid, p. 247
56. Information on the Century Farm Program is available from the Oregon Historical Society in Portland. The Umatilla County Planning Department maintains a list of county participants.
57. CH₂M Hill, Planning for the Umatilla Indian Reservation, December, 1973, pp. 48-50.
58. Michael J. Farrow, op.cit.
59. U.S. Forest Service, op.cit., p. 130
60. Michael J. Farrow, op.cit.
61. Oregon State Parks and Recreation Branch, Department of Transportation, Trails for Oregon, A Plan for a Recreation Trails System, 1979.
62. Umatilla River Basin Survey of Literature, Oregon State Water Resources Board, January 1962 - Addendum, September, 1968; and Bibliography of Available Groundwater Information in Oregon, H.R. Sweet, 1974.
63. Oregon's Long-Range Requirements for Water, State Water Resources Board, 1969, p. 115 and p. 133.

64. *ibid*, p. 132
65. *ibid*, p. 134
66. USDA Report on Water and Related Land Resources, John Day River Basin, Oregon; Economic Research Service, Forest Service, Soil Conservation Service, 1961.
67. Umatilla Basin Project, Bureau of Reclamation, Region 1, U.S. Department of the Interior; May 1970.
68. Discussion with State Watermaster's Office, Pendleton, Oregon.
- 68(a) Hydrolic Studies in the Umatilla Structural Basin, Water Resources Department, May, 1981 (Preliminary).
69. United States Geological survey, Mineral and Water Resources at Oregon, 1969, p. 65.
70. UCHS, *op.cit.*, p. 264
71. United States Geological survey, "Reconnaissance Geologic Map of the Pendleton Quadrangle, Oregon and Washington," 1973.
72. Department of Geology and Mineral Industries (DOGAMI), Rock Material Resources of Umatilla County, Oregon, 1976, p. 4.
73. *ibid*.
74. *ibid*, p. 8
75. *ibid*, pp. 9-10
76. *ibid*, p. 12
77. *ibid*, p. 12
78. National Aeronautics and Space Administration and Oregon Department of Geology and Mineral Industries, Umatilla County, Oregon Surface Mining Inventory Demonstration Project, May, 1980.
79. DOGAMI, *op.cit.*, pp. 19, 25
80. *ibid*, pp. 20-22
81. U.S. Army Corps of Engineers, Walla Walla District, McNary Dam and Lake Project, Final EIS, 1976.
82. U.S. Army Corps of Engineers, McNary Second Powerhouse, Final EIS, 1976, p. 4-13.
83. Water Resources Research Institute, Oregon State University, A Resource Survey of River Energy and Low-Head Hydroelectric Power Potential in Oregon, April 1979. pp. 57-61; Appendix 7.
84. Geothermal Task Force, Final Report, June, 1980.
85. "Rx for Riparian Zones," Oregon Wildlife, July, 1983, pp. 3-4.

These documents are on file and available
for inspection at the Umatilla County Planning Department.

AIR, LAND AND WATER QUALITY

Recently, there has been a community awakening to environmental quality concerns. Citizens are recognizing that clean air, land and water, once considered limitless, are now finite resources demanding protection. Also, people are realizing that land development may adversely affect the natural environment if improperly designed or constructed. Consequently, local air, land and water quality limitations and capacities are increasingly analyzed and the results measured against proposed development.

Oregon's planning laws require all jurisdictions' comprehensive plans to maintain their quality of air, land and water resources (eg. Goal #6). This is no easy task, with pollution sources not always within an area's jurisdiction and authority for maintenance under state and/or federal control. Nevertheless, the following examines the air, land and water quality of unincorporated Umatilla County. A discussion of noise is also included.

Air Quality

Umatilla County's air quality is considered good by the Department of Environmental Quality, who is responsible for protecting Oregon's public health and welfare from known adverse effects of air pollution. State studies, along with federal guidelines, give the County an air quality status of Class II PSD (Prevention of Significant Deterioration). Class II areas have air quality cleaner than minimum national ambient air standards, and are permitted moderate air pollution increases.¹ In other words, air quality standards are not a major constraint on where development may locate. Interviews with local DEQ officials also confirm the healthy air quality status in Umatilla County.²

While present air quality is sufficient, how will growth plans affect this area's future clean air status? Predictions are possible when existing and potential pollution sources are known. Unfortunately, such data is not available for Eastern Oregon areas. For example, automobiles emit carbon monoxide (CO), a known air pollutant. DEQ has set standards for future acceptable CO levels based on traffic volumes and speeds occurring over an eight hour period. If the projected volumes and speeds exceed the (CO) standard, appropriate measures can be applied; however, the lack of future traffic volume figures for Eastern Oregon does not allow this analysis.

Predicting future pollution problems is also not possible for sulfur dioxide and suspended particulate pollutants generally associated with industrial emissions. Various industries emit different types of pollutants and predictability of specific industrial activity locating in an area is nearly impossible. Future industrial pollution is therefore controlled through a preconstruction and premodification permit process whereby potential industrial source emissions are not to exceed the numerical "increments" for the air shed's classification, and that the best available control technology be employed.

DEQ administers the controlling permit program. Both site and non-site pollution activities require state approval before construction. These activities are associated with land use development and interrelate both the DEQ permit process and local comprehensive land use plans. A cooperative effort is necessary to achieve the continued clean air environment by reducing local impacts associated with air emission activities. This effort should include a statement of compatibility by the governing body before DEQ Air Contaminant Discharge Permits are issued.

Environmental laws and rules are altered as situations change. In accordance with State and Federal laws, the Environmental Quality Commission (EQC) is given legal authority in Oregon to adopt new administrative rules or changes to existing regulations (includes other quality law and rule changes in addition to air). Such changes, especially impacting land use, need local input before adoption. Currently, this county is notified of most rule-making proposals and should continue to be notified of all applicable actions of EQC and its administrative body, DEQ.

Discussed earlier, under state and federal standards, pollution is permitted in the air shed within controlled guidelines. This practice partially ignores local compatibility and liveability.

Most pollutants have associated odors or other irritating characteristics. In Umatilla County these air quality problems are generally in two forms-- (1) odor from commercial feedlots; and (2) dust particles caused by strong winds transporting exposed soil off fallow fields.

The feedlot odor problem is compounded by downwind locations of expanding urban and suburban development. This is especially true in the West County where prevailing southwesterly winds carry the odor into suburban and urban Hermiston for short periods of time. Persistent winds scour out the stagnant air, so this problem is fortunately not an everyday occurrence.

Feedlots are difficult to move and relocate. Because of their importance, protection should be afforded them. Various strategies may need to be added to existing zoning laws (eg. buffering, low density developments) providing necessary protection and minimizing local air quality unpleasantnesses. More importantly, proper location of new feedlots upwind of incompatible developments will help ensure against additional air quality problems of this type. These land-use considerations are made more important by the fact that no other agency monitors dust or smell. There is a common misconception that DEQ regulates these two by-products of feedlot activities, but at present this is not so.

The second localized air quality problem is the seasonal problem of wind generated dust during cultivation or harvest, and from the large fallow acreage in the county. Several times during the year, dust clouds over highways and roads, creating hazardous driving conditions. Several deaths have been attributed to these vision impairing dust storms. Again, the sporadic winds and alternate rotation practices of farmers make this air quality problem a regional one and one difficult to mitigate. The "208" water quality committee investigated this non-point problem, but did not give it a high priority because it does not significantly contribute to water quality degradation.³ Cooperation by local farmers to employ mitigating soil erosion measures, both in adjacent Morrow County and Umatilla County, appears to be the only solution (see National Hazards Technical Report for map of severe wind erosion areas).

Concluding, the air mass over the county represents a positive natural resource. Except for the few localized problems earlier mentioned, the generally high air quality has attracted many residents, tourists, clean industries and energy facilities here.⁴ State and federal air pollution standards, properly administered, will help maintain the present good air quality. Local input and coordination with these agencies will help strengthen air quality standards and programs. Local plans and implementation ordinances can also help mitigate some local air quality problems.

Noise Quality

Noise can be defined as unwanted sound. Its impact is related to the magnitude and pitch of sounds, the frequency of occurrence at various noise levels, and the compatibility of new sounds with existing noise levels. Most noise is then a combination of many individual sounds and intensities.

Research has shown that a variety of adverse effects on human health and welfare can be caused by noise. For example, noise can cause or aggravate headache, muscle tension, fatigue and other reactions. Feelings of annoyance, such as irritability, distractibility and frustration are also caused by noise and affect communication, rest, study and sleep. These adverse effects on humans illustrate why excessive noise is recognized as a serious threat to public health and welfare.

What does noise have to do with comprehensive planning? Development, especially land development, is usually a major source of noise. Depending on its design and function, future development can either be a source or noise, or its design can reduce the impact of some noise levels. Therefore, noise control is significant in the planning process. Oregon land use laws also recognize potential noise impacts from future development by requiring local plans to keep this development within noise quality standards. However, the major objective of a required noise element within a comprehensive plan is to ensure noise compatible land use planning.

Because of the relatively small, dispersed population found in the planning area, noise is not currently a threat to the environment.⁵ However, if the expected population increases locate associated housing and other land use activities near noise sensitive areas, noise "pollution" complaints are likely. Examples of noise generating land uses locally are Pendleton and Hermiston Airports and the Hinkle Classification Yard. These are extremely important facilities which emit noise and need protection from nearby incompatible, noise sensitive, development. Established crushing sites are also noise emitting activities and require similar protection.

An effective implementation tool that can substantially reduce potential noise incompatibilities is the zoning ordinance. Besides separating land activities in areas or zones of compatibility, these ordinances can also specify construction practices or site design details tending to mitigate noise problems. For example, buffer strips can be required between proposed residential areas and existing noise emitting activities. This is practical where residential lot sizes are relatively large so that backyards can be incorporated as part of the buffer area without any unusual hardship. Since county residential lots are large and rural in nature, buffering noise in this manner could be quite practical. Plantings or ground cover within the

buffer will also enhance its sound deflecting purpose. Noise barriers (eg. earth barns, fencing) without gaps and strategic height restrictions are additional sound proofing mechanisms easily incorporable within zoning ordinances.

In addition to protecting noise sensitive uses from existing noise sources, zoning can be used to ensure that new noise sources are built on compatible sites. Industrial noise sources could be grouped within industrial parks having locations where the necessary transportation and utility services are available. Adequate buffers and other recreational uses serving as buffers could be planned as a part of these parks. Noise abatement should also be considered for mineral extraction and processing operations, motor vehicle racing facilities and off-the-road vehicle use areas.

Zoning in and around commercial uses should also address adjacent noise compatibility situations. Some commercial operations may be appropriate as buffers between arterial streets and residential uses. However, those commercial uses attracting large volumes of vehicles must be carefully planned to direct traffic away from surrounding sound-sensitive land uses.

The existing Umatilla County Zoning Ordinance does not have any of the above noise abatement regulations. As more of the county is inventoried for noise problems, a comprehensive approach will become practical. In the meantime, DEQ regulates noise emissions and sets standards for new noise source uses. Continuation of this permit process is recommended with coordination between the planning and DEQ staffs to assess the cumulative impacts of noise. This is important because although individual developments may meet DEQ standards, at what time in the future will the total magnitude of noise adversely affect human health and welfare? Such a task is not easy and will require on-going study.

Only recently has noise been considered as a significant force that can affect the environment. Thus, most noise programs are just now being developed with more definitive program activities anticipated in the future. Various noise programs that DEQ is presently developing should be mentioned. The first program is proposed noise control regulations on motor vehicles racing facilities. Several of these facilities exist in the West County with the possibility of additional facilities in the future. Other noise impact programs pertaining to airports, public road design and residential heat pumps point to the continued need of cooperation when regulating land use development with state permit programs. Local participation is vital if any noise program is to work effectively.

Land Quality

It is difficult to separate land quality problems and situations from air and water quality issues because land development affects all environmental quality types. To assist the reader, discussion of those activities most nearly relating to the use of land are categorized under the land quality section.

Land resource quality must address solid waste disposal. These waste materials, if not properly disposed, can be a detriment to public health and safety. Generally disposed collectively and under federal, state and local regulations, solid waste sites become vital public facilities to land and water quality and the safety and social needs of the people.

The State Solid Waste Control Act provides authority for counties of Oregon to establish a coordinated plan that will include all aspects of solid waste management. Umatilla County initiated this authority by developing the Umatilla County Solid Waste Management Plan under the supervision and approval of the Department of Environmental Quality, who has state responsibility for solid waste management. This plan, adopted February 15, 1974, regulates solid waste disposal for all of Umatilla County. Considering its comprehensiveness, the plan is referenced as an integral part of this area's land use plan.

Specific refuse problems particular to Umatilla County are scattered dumping of waste, and in particular, old car bodies. The Solid Waste Plan suggests that if a properly designed and constructed automobile storage area were developed by a private operator or by Umatilla County, perhaps enough cars could be accumulated to justify a mobile auto crusher and some of the abandoned autos would be removed from unauthorized dumping areas. In the meantime, a joint county-state program preventing further illegal dumping appears to be a logical approach.

Storage of environmentally harmful materials is deserving of brief discussion. Although no storage sites for hazardous materials presently exist or are contemplated, future sites planned for storing environmentally hazardous wastes will require strict supervision and location. Storage of "environmentally" hazardous waste defined in ORS 459.410(6) (eg. radioactive materials) are now restricted to state-owned land and subject to strict specifications.

Water Quality

Water resources quality is extremely important to future growth possibilities in Umatilla County. Should the present water supply drastically deteriorate in quality, domestic consumption could be restricted and population growth curtailed. Natural vegetation, fish and wildlife habitations would also be endangered if water quality declined beyond life sustaining levels.

Directly related to water quality is the functional relationship of water quantity. Water supplies or quantities can either cause quality degradation (eg. storm water runoff of agricultural chemicals into streams) or they can abate polluting activities leading to water quality deterioration (eg. diluting discharge sewage into streams and rivers from community treatment plants). Adequate water supplies are similarly important to the economic health of the area, which is heavily dependent upon irrigated agriculture and related industries.

The above observations indicate that water supply (quantity) and quality are critical limiting factors to most growth potentials. Federal regulations could plan a strategic role in these growth capabilities by requiring water supplies to meet stringent quality standards for certain uses. Stricter federal laws have been proposed that make water treatment more difficult and expensive. Significant here is the fact that some local municipal water supplies are now declining and their transport systems are deteriorating. New quality standards could require necessary improvements at considerable expense to local communities. Specific county water quality regulations have also been proposed to prevent rural activities contributing to water quality degradation, and entail similar financial responsibilities (eg. (1) controlling the sediments, chemicals, pesticides, animal wastes washing off agricultural land into streams; (2) runoff from road building; (3) industrial discharges; (4) septic tank effluent discharge).

These federal programs proposing new water quality standards have centered around the Federal Water Pollution Control Act of 1972. Having the most impact is Section 208 of this act, a program attempting to alleviate non-point sources of water pollution. Under it, the federal government is supposed to distribute grant money to agencies to develop Water Quality Management Plans. These plans are required to investigate the different categories of non-point pollution sources, develop plans outlining solutions or management practices, and establish an implementation program addressing the problems identified.

Statewide, a portion of the federally given funds have gone into a study of Columbia Basin counties on the Oregon side. It pertains mostly to agricultural non-point source problems and solutions. Included in the study titled "Sediment Reduction Project - 208 Non-Point Source Pollution Control Program," are preliminary findings of non-point pollution activities (mostly agriculture related) for Umatilla County, developed by a local water quality committee. Listed below are those findings relating to Umatilla County:

- Non-irrigated cropland practices (eg. summer fallow rotation) creates a serious wind erosion problem around Hermiston and Stanfield. The local committee is concerned about this erosion problem but did not give it a high priority because of its non-significant contribution to water quality degradation. (See Wind Erosion Map, in the Natural Technical Report following page F-9).
- Surface water activities create a variety of water quality problems, streambank erosion being the most critical. The Umatilla River is subject to most of the severe instream problems including excessive withdrawal associated questions (eg. algae aquatic plant growth and elevated water temperatures). This river also experiences severe streambank erosion and excessive withdrawal associated questions (eg. algae aquatic plant growth and elevated water temperatures). This river also experiences severe streambank erosion and excessive debris problems from human activities (eg. logs, slash).
- The only other stream in the county reported to have an instream water quality problem is Butter Creek, with severe water withdrawal during the summer months, mostly due to irrigation farming.
- Other activities creating local water quality problems are construction site development causing wind erosion, county road/drainage problems of sedimentation and erosion, and several localized septic tank problem areas north of Milton-Freewater in the the Westland and Diagonal Road vicinities.
- Irrigated cropland, ranging activities and livestock feedyard operations are not serious contributors of non-point water pollution.

Several preliminary base maps showing the approximate areas or locations of each type of Instream Water Quality problem for Umatilla County streams are available at the SCS offices in Pendleton.

The status of further funding, and for that matter the 208 program itself, is not known. Federal monies have dried up considerably. For the present, it appears that existing federal and state rules, status, and programs relating to water quality will have to be relied upon to protect Umatilla County water sources.

SOURCES

1. Handbook for Environmental Quality Elements of Land Use Plans,
Department of Environmental Quality, July 1978, pg. C-21.
2. Interview, Steven Gardels, Director of the Department of
Environmental Quality, Eastern Region, February, 1979.
3. Sediment Reduction Project - 208 Non-Point Source Pollution Control
Program for Wasco, Sherman, Gilliam, Morrow, and Umatilla Counties,
Oregon, Draft, State Soil and Water Conservation Commission,
August, 1978, pg. 44.
4. "Overall Economic Development Program Committee, Economic Element:
Technical Report," East Central Oregon Association of Counties for
Umatilla County Planning Department, January 25, 1979, pg. G-12.
5. Interview, Steven Gardels, DEQ, February, 1979.

NATURAL HAZARDS AND DEVELOPMENT LIMITATIONS

Introduction [Revised]

Historically, man has not recognized the inherent dangers and limitations of the natural environment. The annual loss of life and property through flooding in many parts of the United States attests to the fact that man's development habits, inconsistent with physical land constraints, can be costly in both financial and human terms.

Particularly susceptible to misuse, mismanagement and unnecessary danger to life are natural hazard areas and lands possessing developmental constraints. They can be defined as areas which due to unique physical characteristics are subject to events that can result in the death and/or costly damage or endangerment to the works of man.

The following sections analyze, describe and define the nature and extent of the problems of natural hazard in areas of Umatilla County. Several additional development limitations and hazards are discussed to comply with inventory requirements of State Planning Goal #7. However, upon examination, natural hazards are not considered serious in terms of special regulation, either because they are limited in area, not conclusively mapped, or are already controlled by other agencies' programs and regulations.

Flooding and Floodplain Management

Two different weather conditions cause floods in the county--snowmelt and convection storms. The most routine flooding is caused by winter and spring runoff combined with rain. The most serious floods of this type usually occur when the ground is frozen. Convection storms, or cloudbursts are frequent during spring and summer, but affect only a limited area. Nearly all water courses in the county are susceptible to flash flooding caused by these intense storms.

Of all the rivers in the county, the Umatilla River floods most frequently, impacts the most people, and inflicts the most damage. But other waterways are also susceptible to flooding, including the Walla Walla River, Mill Creek, Birch Creek, McKay Creek, Tutuilla Creek, Butter Creek, and the John Day River. In addition, irrigation projects constructed during the 1920's and 1930's, with extensive feeder and drainage canals, occasionally flood, especially where impediments exist.

The Columbia River, by far the largest river in the region, is not now as susceptible to flooding as in the past. Due to an extensive network of dams, built primarily for the purpose of generating electricity, water levels are better controlled.

Floodplains are integral parts of most natural water courses. They are formed from sediment deposits removed from the intermittent overflow of the stream above its ordinary channel. The degree of overflow and hazard within an area flooded will vary considerable from place to place. Some areas in a flood are subject to large volumes and high velocities of water; other areas are only subject to storage of relatively shallow, slow-moving waters. For explanation purposes, the nature of these two areas are defined below:

A "floodway" is the stream channel and adjacent floodplain which is needed to discharge water from a flood. It is within this area that the major volume of floodwater is discharged. Water depth, velocity and the degree of hazard are relatively high.

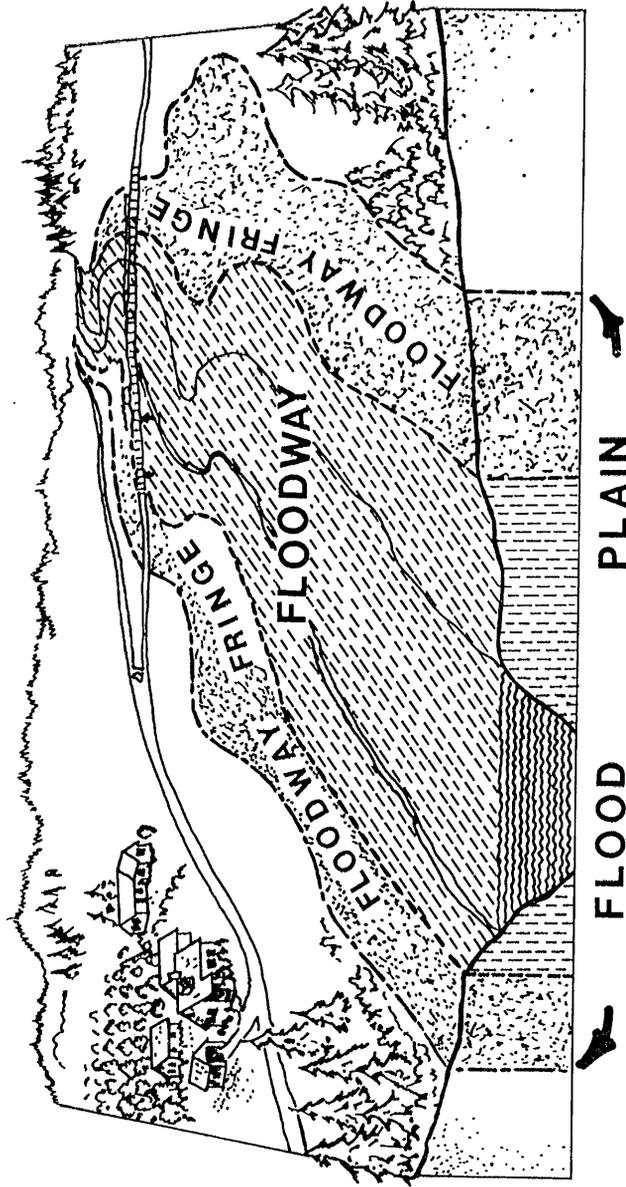
A "floodway fringe" is that portion of the floodplain lying outside of the floodway but within the flood limits. Water depth, velocity, and degree of hazard is generally less than in the floodway (see figure on following page).

Floodplains involve two of the most important and basic natural resources, land and water. Unfortunately, floodplains are seldom appreciated or recognized as being of value.

A primary function of floodplains is the obvious one of carrying greater than normal quantities of water. While this function is natural, the physical attributes and qualities of floodplains as they relate to man and his survival constitute the major uses of floodplains.

Probably the most extensive county use of floodplains is for the growing of crops. Inherent with most floodplains are fertile soils, level land, and available water, all essential to the economic production of crops. Floodplains also provide habitat for fish and wildlife, which in turn create recreational opportunities in the form of fishing and hunting. In 1976, recreational hunting in Umatilla County accounted for over \$7 million in expenditures.¹ Another recreational benefit of a floodplain is open space-aesthetic scenery, not measurable in dollar amounts but very important to the recreation industry and the basic needs of man.

Figure F-1
FLOOD PRONE AREA DIAGRAM*



* SOURCE: FLOOD PLAIN MANAGEMENT-FOR OREGON CITIES & COUNTIES
Bureau of Governmental Research & Service, Jan. 1978; page 3.

Water retention is another important use of floodplains. In regions where water is not constantly available, or where flooding is a problem, these broad flat regions along rivers have been used in retaining water behind dams for water supplies during needed demand times, for flood control purposes, or a combination of the two. McKay Reservoir near Pendleton is a case in point using a floodplain for irrigation storage.

Urban development has traditionally been attracted to floodplain areas because of their desirable physical qualities, such as level buildable land, transportation capabilities due to the ease of construction of roads and railroads, and availability of water for municipal and agricultural uses.

Man and man-related activities, however, have created conflicts in floodplain areas. Because of the low population density in early settlement days and the respect for the potential hazards of these lands, man and the floodplain co-existed in relative harmony. But due to demands for more residential, industrial, and commercial development, man has increasingly appropriated and unwisely used floodplain areas. Increased floodplain development has resulted in higher property damages, which in turn has resulted in a number of attempts to control floodwaters.

Since the 1920's, attempts have been made nationwide to reduce flood damage through structural control of floodwaters (ie. dikes, drainage systems, and rip-rapping). More than \$450 million has been spent in the last 30 years by the Corps of Engineers alone on flood control works in Oregon.² While these efforts have been of unquestionable value in reducing flood losses, the fact remains that flood damage continues to rise because of increased intrusion and development within floodplains. Annual flood damage in Oregon is estimated to be about \$17 million based on 1965 price and development levels.³ Without further flood control or regulation of floodplain development, flood damages are expected to average over \$60 million annually by the year 2020.⁴

For flood management purposes, the Federal Emergency Management Administration usually defines future flood areas into two categories, the "Base Flood" and the "Standard Project Flood." The Base Flood is defined as one that could occur in 100 years, or is a flood having a one percent chance of occurring in a single year. The Standard Project Flood is the most severe flood (500 year flood) that could occur resulting from a severe combination of weather and water conditions that are reasonably characteristic of a drainage area. It should be pointed out that major floods of an infrequent nature may occur in two or more consecutive years and more than one major flood within any one year. In addition, floodplains are subject to constant change due to disturbances of topography and drainage patterns, and the construction of urban uses which often cause added runoff. Consequently, it is not possible to predict the exact limits of flood waters of future floods.

Location of areas having flooding potentials, and the levels that they may attain, is based upon the relationship between the frequency and magnitude of floods in a given area. Records showing the highest flood levels inundated by recent floods (more complete records are available), and the frequency of past floods of various levels, make it possible to estimate the extent of flood prone areas in the future.

Upon request by local government agencies, flood studies are available from the Federal Emergency Management Agency. On flood insurance rate maps and studies issued by the administration, flood profiles are compiled delineating the floodway and floodway fringe areas and identifying the depth of the floodwaters to be expected. Such detailed flood studies have been completed for some areas in Umatilla County. Preliminary studies, showing probably 100 and 500 year floodplains, have also been prepared for some additional stream sections. Maps are on file with the Umatilla County Planning Department showing designated

floodplains and areas thought to be floodplains but which have not yet been analyzed.

Previous county land use regulations stipulated buildings and other restrictions only where detailed base flood studies were completed. However, recent amendments in the National Flood Insurance Program necessitated additional regulations be adopted locally to include other areas susceptible to flooding as a condition to remain eligible for subsidized flood insurance under the National Flood Insurance Program.

Earthquakes

Earthquakes are the shaking of the earth in response to the breaking of rock formations along faults. They are by far nature's most catastrophic and devastating event, destroying large cities and taking thousands of lives in only a few seconds. Damage values to property and transportation systems are astronomical after such events occur.⁹

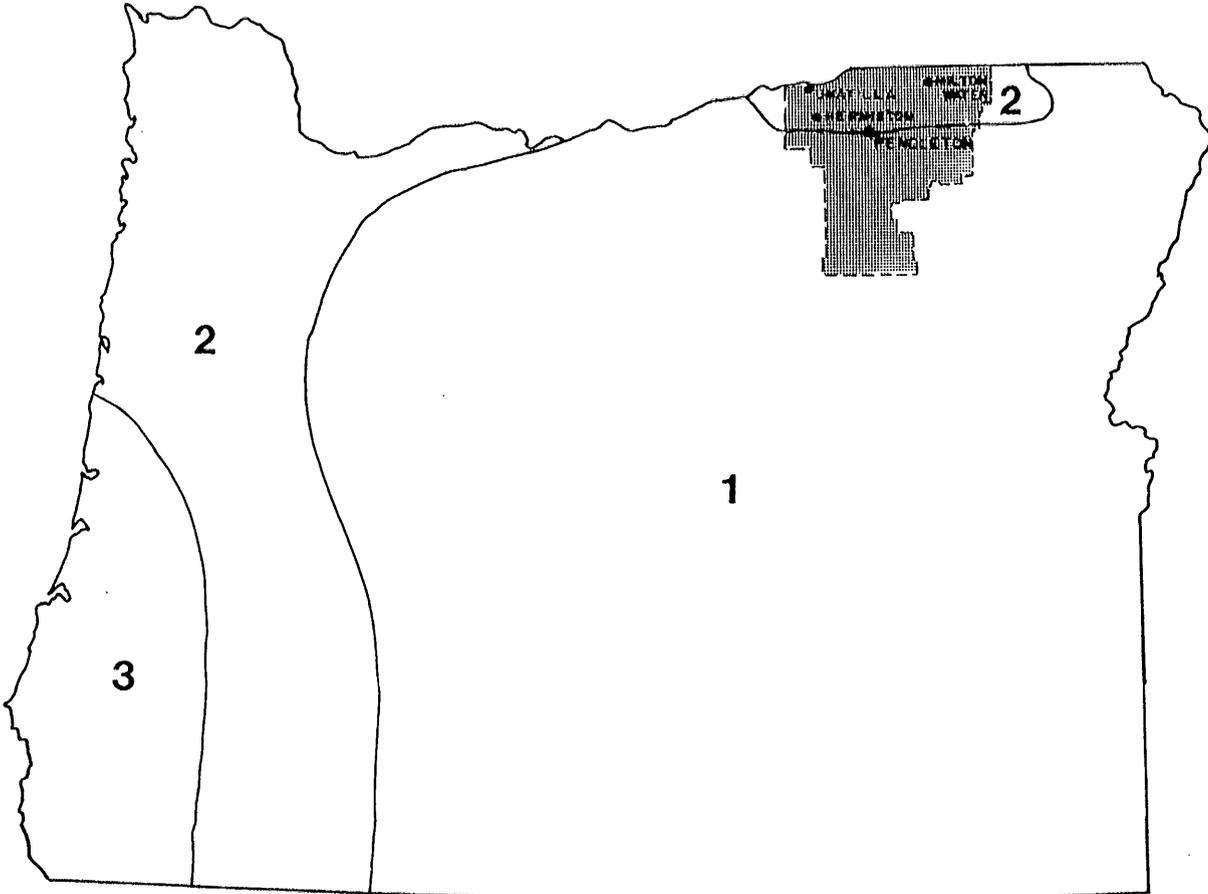
Although uncommon in the county, several small earthquakes have been reported as far back as the 1890's, one of which caused slight property damage.

Based upon previous information, land formations, and present data gathering techniques, Seismic Risk Zones have been established assessing possible future earthquake occurrences and their potential devastating effects. A generalized map prepared by the Emergency Services Division of the State of Oregon classifies the county into two Seismic Risk Zones. The boundary between these two zones has an east-west orientation that runs through Pendleton (see map on next page).

High Water Tables [Revised]

High water table areas often present annoying building site limitations. Building foundations are subject to water damage, cracking due to settling, and

SEISMIC RISK ZONES FOR OREGON



ZONE	INTENSITY (MM)	DEGREE OF DAMAGE
0	INTENSITY I-VI	NO DAMAGE
1	INTENSITY VI-VIII	MINOR DAMAGE
2	INTENSITY VIII-IX	MODERATE DAMAGE
3	INTENSITY IX-X	MAJOR DAMAGE



UMATILLA COUNTY

SOURCE: Earthquake Hazard Study-Draft, Emergency Services Division State of Oregon, 1978.

flooding, if basements are present. Also, septic tanks will not properly function due to insufficient filtration of sewage effluent. Another example--utilities are subject to infiltration, creating costly repairs and interrupting service. The degree of hazard a high water table area presents is usually limited to local property damage or increased building costs.

No known problems of damage to buildings from standing water nor extensive problems with septic tank function due to high water table can be documented. Although seasonal water tables exist in several areas of the county (eg. irrigation districts in east and west Umatilla County), most all development has been directed away from suspected areas.

Weak Foundation Soils [Revised]

Weak foundation soils are those soils which do not possess the necessary qualities to support, or are restrictive to, building foundations. Several physical factors determine the construction suitability of a soil such as shear strength (the ability to bear the loads of buildings) and composition (physical make-up of the soil determining its stability). Soils possessing a low shear strength or poor stability qualities present special problems in providing adequate building foundations. Also, utility and road siting is restrictive on weak foundation soils due to the potential damage from cracking, slumping, or settling of these soils.

According to soil scientists from SCS and based upon recent preliminary soil surveys, the limited areas having weak foundation soil characteristics are located away from development areas designated in the Comprehensive Plan.

Severe Slopes/Landslides [Revised]

Severe slopes are topographic features which tend to prohibit or severely limit development. Development is restricted on severe slopes in several ways.

First, as steepness of a slope increases (usually between 12% and 20%), the cost of building also increases because of the expense of constructing foundations, streets, and locating utilities.¹² Second, severe slopes are associated with landslide topography, which usually is unsuitable for development because of the potential hazards to human life and property from earth movement.

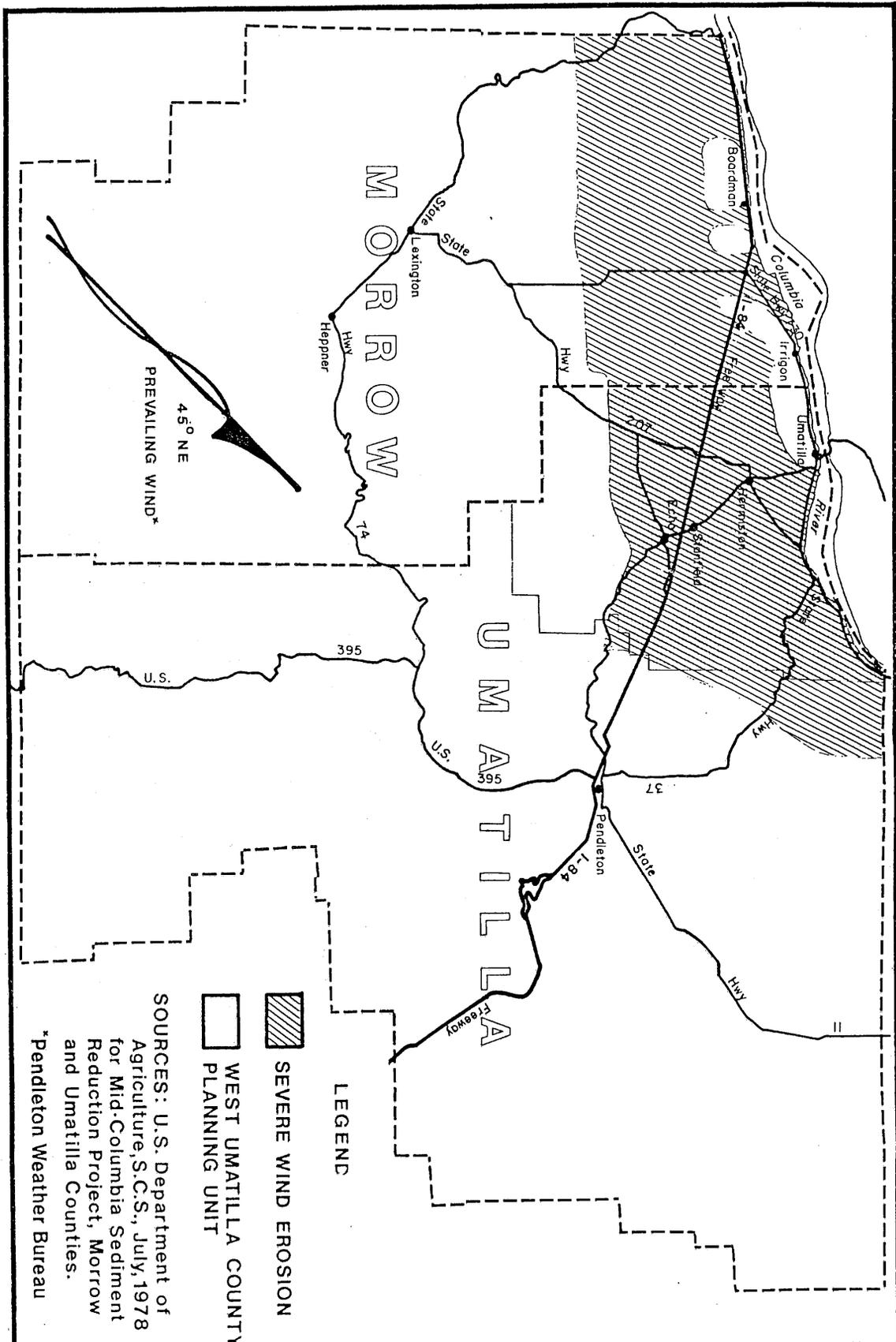
In talking with soil scientists, recent soil surveys show that only the footslopes of the Blue Mountains contain soil qualities, weather and slope conditions, where landslide/slope combinations are possible. Development has been directed away from this grazing/resource area.

Erosion Areas [Revised]

Erosion is the displacement of soil by force of moving water, wind, or gravity. Soil erosion has been referred to as a silent thief that robs topsoil from farms, leaves gaping scars in landscapes, undermines houses, roads, and bridges, and contributes to flooding. Sedimentation, erosion's counterpart, is another problem. Sedimentation is the process by which mineral or organic matter is detached, transported, or deposited by moving water, wind, or gravity. The detachment process is erosion, and the detached particles being transported or deposited become sediment.

Erosion and sedimentation occurs naturally. However, man's use of land has often led to an increase in soil erosion. In the United States billions of tons of soil are lost each year because of man-related activities. Moreover, evidence shows that erosion and sedimentation is five to 500 times greater in suburbanizing areas than rural areas.¹³

Erosion is a problem in the county. However, it is limited to agricultural problems. Wind erosion is especially damaging in West Umatilla County because of the low rainfall, sandy soils and occasionally gusty winds. The West County is in one of the windiest areas of Oregon, having high and many prolonged periods of strong winds (see map on following page).



SEVERE WIND EROSION MORROW & UMATILLA COUNTIES



LEGEND

 SEVERE WIND EROSION
 WEST UMATILLA COUNTY PLANNING UNIT

SOURCES: U.S. Department of Agriculture, S.C.S., July, 1978 for Mid-Columbia Sediment Reduction Project, Morrow and Umatilla Counties.
 *Pendleton Weather Bureau

Most areas of the county have minimal water erosion hazards, but certain places do have problems. Of significance, they are situated away from existing or planned development. The rural areas around Pendleton, Athena, and Helix are rated by the State Soil and Water Conservation Commission as having a moderate water erosion problem. The only extensive severe water erosion hazard area lies along the Blue Mountain foothills, where livestock grazing and similar resource activities occur.¹²

Conclusions [New]

The above discussion fulfills the inventory responsibility of all known types of hazards and development limitations having potential impacts upon life and property in Umatilla County. An overall examination of each of the hazard/development limitations in this chapter leads to several findings: (1) That flooding is the only hazard in the county which possesses a frequent threat to life and property; (2) The county has developed pertinent policies, regulations and standards in the plan for flooding hazard situations, the purpose being to help protect people in the county from natural hazards and disasters.

SOURCES

1. Fish and Wildlife Habitat Protection Plan for Umatilla County, Oregon, Department of Fish and Wildlife, June 1978, pp. 3.
2. Oregon's Flood Plains, State Water Resources Board, State of Oregon, December 1972, pp. 2.
3. Ibid, pp.2
4. Ibid, pp.2.
5. Water and Related Land Resources - Umatilla Drainage Basin, Oregon, Economic Research Service - Soil Conservation Service, December 1962, pp. 78.
6. Flood Plain Information - Umatilla River, Echo-Stanfield, Oregon and Vicinity, Department of the Army, Walla Walla, Corps of Engineers, June 1974, pp. 7.
7. Water and Related Land Resources, pp. 79.
8. Phone conversation with Bud Skeen, U.S. Army Corps of Engineers, interviewer Bob Perry, County Planning Staff, June 1978.
9. Keller, Edward A., Environmental Geology, Charles E. Merrill Publishing Company, Columbus, Ohio, 1976, pp. 127.
10. Keller, Edward, Environmental Geology, pp. 101.
11. Ibid, pp. 207.
12. Interview with Alan Makinson, Soil Scientist, USDA, with Bob Perry, County Planner, January 1984.

RECREATIONAL NEEDS

Introduction

A basic human need is to pursue activities that refresh mental and physical condition. From children learning to socialize through play, to elderly people pleasure-walking or sitting in the sun, recreation is important to the whole life cycle.

Implementation of a recreational system is considered a public responsibility, although many agencies and private parties provide system components. What to provide is based on "need," that is, an examination of population characteristics and that population's activities. Need changes as the population changes in age, income, technology, or degree of urbanization.

Portions of Umatilla County, especially in the West End, are growing rapidly. Many existing facilities cannot serve the demand and entirely new types are requested. By inventorying present facilities and estimating future needs, recreational facilities and sites can be planned for.

Information on Umatilla County recreation has been collected from several sources, no one of which included all aspects. "Demand" came from the State Comprehensive Outdoor Recreation Plan (SCORP), with revision of statistical tables to correct minor computation errors and to substitute more accurate population projections. Voiced demand lists also from SCORP were supplemented by recreation needs cited during the comprehensive planning process.

Existing supply of recreational facilities was collected from several sources. A generalized summary was included in SCORP. Computer print-outs of some specific background information were collected with help from interested county residents and from a land-use survey. Information about facilities not included in SCORP is limited.

Potential recreational sites were obtained from State Fish and Wildlife inventories, State Highway Department budgets, State and National inventories of historic sites, and from citizens during public involvement meetings.

Meeting Recreational Needs

Recreational needs can be dealt with in several ways. In developing or expanding industrial, residential, or historic sites, recreational areas can be included. Costs may be assumed by a private party, such as a required park dedication for a proposed subdivision; by a community group, such as a picnic area at a historic site; or by a government agency, such as a campground by a reservoir or highway.

Historical features occurring in Umatilla County are attracting increasing interest. Recreational development can be an appropriate accessory use to the primary use of historical preservation. Accessory recreational development may range from a wayside sign describing an historical landscape feature, to picnic tables and play area next to a site, to an explanatory trail, to a highly developed tourist attraction.

Recreation may also be an accessory use for open lands that are required around a potentially offensive industrial use. Opportunities of this sort will arise as companies apply for permits and develop their grounds.

A good example of local, state, and federal agencies working together in providing public recreational opportunities is found west of the Umatilla River on a site referred to as the South Shore River Area. Here the Army Corps of Engineers has leased shoreline to the State Department of Fish and Wildlife, who in turn has agreed to cooperate with the County in supplying public access to the eastern half of the site. Tentative plans call for maintaining the site in a relatively unimproved, natural setting.

Development of recreational areas often carry public costs. For example, individual lots of a subdivision may sell for more; industrial products may carry the cost of a recreational facility in their purchase price; and a highway's cost is spread over everyone's gasoline taxes. This must be balanced against the cost that would eventually be required to build the facility elsewhere, at a later time, or after demand increases.

Occasionally, public and private funds are available to assist local governments to improve or purchase recreational sites. In Umatilla County, Bureau of Outdoor Recreation funds are allocated yearly by a distribution priority committee. The cities and the county will prepare programs competing for these monies.

Local governments provide all recreation fields and swimming pools. Support of school district facilities comes from each land owner within the districts themselves. These facilities have been used for community recreational activities while school is not in session, and maintained by the district. Community groups in the county have in the past aided in the provision and maintenance of city recreational facilities by soliciting paint and other materials, and organizing work crews. Future supply of fields, courts and most developed parks will probably continue to locate where people can get to them most easily, in cities and with schools. Both schools and cities need help, in provision and maintenance of facility and in organization of uses, to continue to provide adequate service.

Determining Future Needs

Umatilla County recreational needs are growing and changing along with the population. The Parks and Recreation branch of Oregon's Department of Transportation has prepared over the past three years documents on demand, supply and needs, as part of a State Comprehensive Outdoor Recreation Plan (SCORP). The two following tables (Table G-I, G-II) have been taken from the "Needs

Bulletin." For those needs, expressed per thousand people, population data adopted by the Comprehensive Plan are used.

Because Umatilla County activity information collected by the State was statistically unreliable (too few county residents were contacted), Umatilla County activity occasions are in proportion to State occasions as county population is to the State's. This makes the first table unreliable in that an activity very popular in Umatilla County may not enjoy the same popularity statewide. Therefore, the second table includes local citizen preferences in addition to the statistical table.

Examining both tables, it becomes apparent that both locally improved recreational facilities (i.e. neighborhood parks, ball fields) and dispersed unimproved recreation area (i.e. campsites, stream access) are experiencing increased demand. Only golf courses, regional parks and swimming pools are in enough supply across the county to avoid both the table of voiced demand and statistical demand computed for 1990.

Some trends identifiable today will affect recreational demand, although in what ways and to what degree is uncertain. The trend with possibly the most visible affect is the rising costs of diesel and gasoline. What may occur from higher fuel costs is that many people will recreate closer to their homes and may shift from sports that consume large amounts of fuel to more primitive but less costly pastimes, such as bicycling or sailing.

Urbanization of an area changes its population's recreation preferences as well. As more people live in towns, recreation activities that took place on one's own or a friend's land (such as hunting or fishing) lose their relative popularity to activities occurring on community-maintained parks.

The growing portion of the population between the ages of 25 and 44 implies new

TABLE G-I
UMATILLA COUNTY NEEDS (RECREATIONAL)

Facility	Unit	Supply	Gross Needs	Net Need	
				1975	1980
Campsites	Site	273	389	116	156
Picnic Table	Table	662	267	(395) ¹	(376)
Swimming Pools	Pool	8	5	(3)	(2)
Boat Launch Lanes	Lane	14	5	(9)	(8)
Swim Beach	Feet	1,300	1,154	(146)	(83)
Walking Trails	Mile	3	18	14	16
Hiking Trails	Mile	0	21	21	22
Biking Trails	Mile	5	10	5	6
Bridle Trails	Mile	0	49	49	52
Ballfields	Field	30	40	10	17
Tennis Courts	Court	20	19	(1)	3
All Purpose Courts	Court	11	19	8	12
ORV Trails	Mile	0	25	25	26
Golf	Holes	45	36	(9)	(9)
Neighborhood Parks	Acres	65	241	176	217.5
Community Parks	Acres	92	482	390	473
District Parks	Acres	211	723	512	636.5
Regional Parks	Acres	3,721	1,205	(2,516)	(2,308.5)

SOURCE: SCORP Technical Document III
Updated Population Figures: East Central Oregon Association of Counties (ECOAC)
¹Numbers in parentheses are surpluses

TABLE G-II
HIGH PRIORITY NEEDS ASSESSMENTS FOR UMATILLA COUNTY*

Boat launch lanes
Hiking trails
Bike trails
Multiple Use Trails
Ballfields
Access to streams and rivers
ORV trails and areas
Picnic tables
Bridle trails
Tennis courts
All-purpose courts
Historic site survey
Neighborhood parks
Community parks
District parks
Waysides

*Source: SCORP Technical Document III, p. 126.

WEST COUNTY HIGH PRIORITY NEEDS**
Fairgrounds (new site)
Gun club (new site)

**Source: Citizen Involvement Meetings.

recreation needs. These people take a more active part in community field sports, and their children increase the use of neighborhood parks. Ball games are increasing in organization and number, creating heavy pressure on existing fields.

Recreational considerations may be approached from the direction of supply as well. Certain features occur in the West County that may not occur elsewhere. Development of these features may exceed recommended standards as set for the population of the County, yet may be inadequate for the use they receive. This may be best exemplified by a ski resort in an unpopulated mountainous county that must expand to serve out-of-county users.

Present and Potential Recreational Sites

A variety of existing and potential recreational sites and facilities are available in Umatilla County (see Table G-III, G-VI and Recreational Facilities Maps). The Columbia River is a major resource that attracts many recreationalists to the western part of the county. Hat Rock State park and McNary Beach are improved and maintained parks with access to the Columbia River. Hat Rock State park also has a fishing pond and hiking trails in its 30 acres of development. Both have additional unimproved acres, with potential for further development.

The Corps of Engineers is preparing a master plan for the McNary pool behind McNary Dam. Several improvements to recreational areas along the shoreline are proposed. The Corps and the Port of Umatilla Are negotiating to move McNary Beach further east to allow for industrial expansion along the river frontage. The proposed relocation and expansion of McNary Beach would provide for additional recreational opportunity along the Columbia River.

The Parks and Recreation branch of the State Highway department stated in their six year (1979-1985) Parks System Plan that three-fourths of the funds assigned for Umatilla county are intended for construction projects at Hat

Rock State Park. According to the plan, the boating/swimming lagoon would receive the greatest share of money. Other projects planned for include a new play area, picnic shelter, restroom, boat dock, floating foot bridge and installation of a sprinkler system.

Three federally owned refuges are located in the county. Being close to urban centers, they offer recreational activities for many residents. Facilities include parking areas, trail signs and some picnic tables. Fishing and hunting are allowed, but controlled by special regulations.

Management plans for these areas are being drafted and recreational areas are being included. The county has reviewed the draft plans for both McKay National Wildlife Refuge and Cold Springs National Wildlife Refuge. Both draft plans call for additional boat access, increased day use facilities such as toilets and picnic tables, and management of hunting areas for nature study and hiking.

The county's mountains attract many people because of the variety of recreational opportunities that occur there. The best data available are for the National Forests. Table G-VII shows the breakdown of visitors' activities for the Oregon portion of the Umatilla National Forest in 1977.

The Umatilla National Forest is currently preparing a management plan for the National Forest. The management plan will address recreational opportunities in the forest along with several other issues. The county has maintained a close working relationship with the Regional Office of the Forest Service and will continue to do so.

Data on the economic value of these activities to Umatilla County is available for only the largest category, "Fishing and Hunting".

Approximately 80,000 days of fishing are taken in Umatilla County each year by recreational anglers, based on 1975 data. Associated with these angling days

are expenditures of about \$3.4 million annually. Again, the proportion of these expenditures made in Umatilla County is unknown. Net benefits of around \$1.2 million annually are associated with this recreational activity.

The hunting of big game, upland game and waterfowl provided 226,000 days of recreation in Umatilla County in 1981. Associated with these recreational days are hunter expenditures of around \$8.8 million. Some unknown proportion of these expenditures were made in Umatilla County. Also associated with the days of hunting are net benefits (hypothetical access charge) to hunters of about \$5 million. Although not as important as recreational hunting, trapping and furbearer hunting provide some 1500 days of activity and yielded a harvest of pelts worth approximately \$27,600 at first sale.

Private recreational areas have existed in Umatilla County for several years at varying levels of intensity. Two of the large developments are currently closed to public use. They are Lehman Hot Springs and Hidaway Hot Springs. Both were developed areas with swimming pools, overnight activities, lodges, a dance hall and other outdoor recreational activities. Lehman Hot Springs is in the process of reopening to the public, while Hidaway is being upgraded by private individuals for private use.

The Tollgate area has three existing recreational commercial areas. These include the Tollgate Chalet (restaurant and bar), Tamarack Inn (restaurant with a liquor license) and the Tollgate Shopping Center (store facilities, gas, trailer spaces). Citizen and property owner comments for the area indicate that no new commercial areas are necessarily needed or desired along the Tollgate Highway Corridor at present and if new commercial uses are proposed, they should be the expansion of existing commercial centers and allowed under special conditions or requirements. Similar comments were made by residents in other recreational areas of the county.

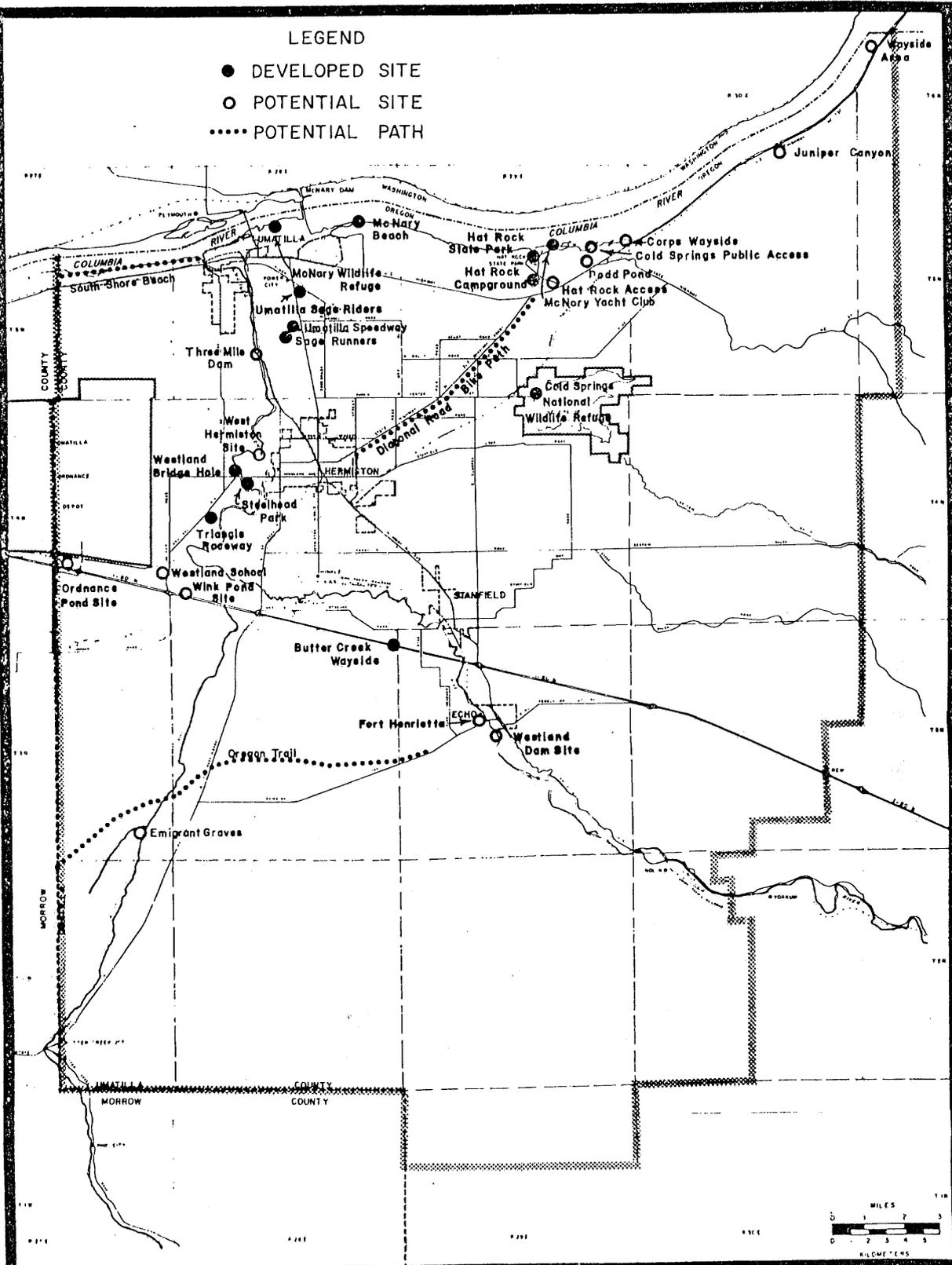
The county's only major park, Harris Park, southeast of Milton-Freewater, has run into financial problems due to budget cuts in the recent years. The county has tried to maintain the park on a very limited basis. Approximately 1000 acres of lands owned by the Bureau of Land Management lies adjacent to Harris park. A study was conducted by a graduate student for the Bureau of Land Management and Umatilla County. The BLM would like to turn the land over to the county for expansion of the park. The result of the study was a proposed management plan for the area, but again the management plan called for capital improvements to be made and the likelihood of that money will be available to implement the plan appear bleak.

Conclusion

Although Umatilla County residents presently enjoy an assortment of recreational sites, facilities and opportunities, shortages do exist. The "Oregon Outdoor Recreation Needs Bulletin", U.S. Department of the Interior, 1977, analyzes recreational needs within each Oregon county. The analysis portrays a continuing need in Umatilla County for more campsites, walking trails, hiking trails, biking trails, bridle trails, all-purpose courts, off-road vehicle trails, neighborhood parks, community parks, and district parks. Plans underway by the Oregon Department of Transportation call for the improvement and addition of many such facilities to existing state parks ("Oregon State Parks System Plan, 1979-1985", ODOT).

LEGEND

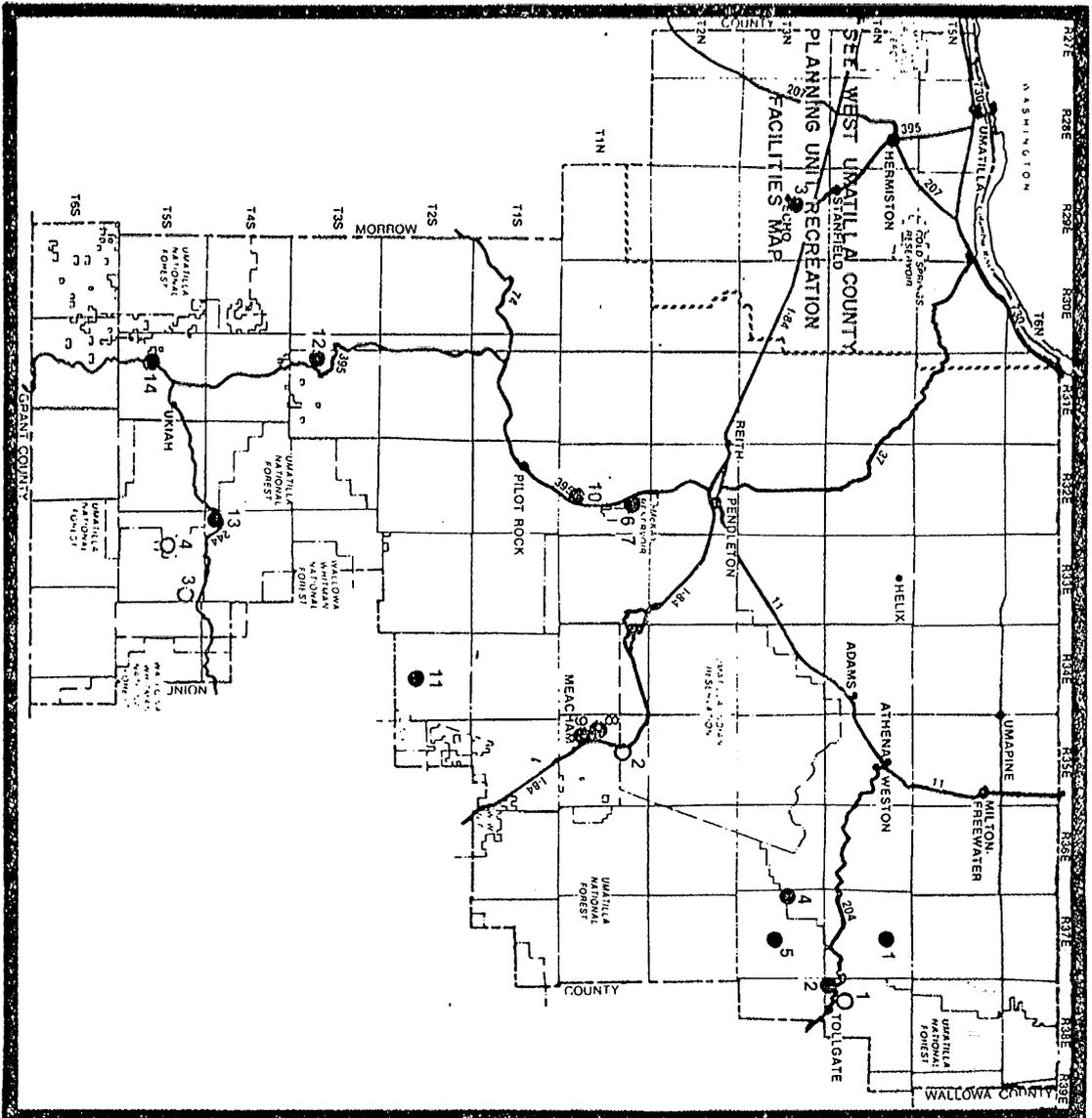
- DEVELOPED SITE
- POTENTIAL SITE
- POTENTIAL PATH



RECREATION FACILITIES

WEST UMATILLA COUNTY PLANNING UNIT

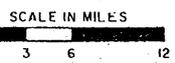




● EXISTING SITES

○ POTENTIAL SITES

1. HARRIS PARK
2. WOODWARD CAMPGROUND
3. ECHO GOLF COURSE
4. BAR M RANCH RESORT
5. UMATILLA FORKS FOREST CAMPGROUND
6. MCKAY RESERVOIR
7. MCKAY NATIONAL WILDLIFE REFUGE
8. POND LOREE
9. EMIGRANT SPRINGS PICNIC & CAMPGROUND
10. PENDLETON COUNTRY CLUB
11. INDIAN LAKE CAMPGROUND
12. BATTLE MTN. STATE PARK
13. BEAR-WALLOW CAMPGROUND
14. UKIAH-DALEWAYSIDE



Does not include West Umatilla County

RECREATIONAL FACILITIES

UMATILLA COUNTY, OREGON



TABLE G-III
DEVELOPED RECREATION SITES IN WEST COUNTY

<u>NAME</u>	<u>AGENCY</u>	<u>JURISDICTION</u> <u>(Facilities)</u>	<u>DESCRIPTION</u>
Steelhead Park	County	Community Organization Horse arena	NE1/4NE1/4 of Sec. 17 T. 4N R. 28 E.W.M. River Access, restroom, 7.40 acres
Umatilla Sage Riders	Private (non-profit)	Community Organization Horse arena	NE1/4NW1/4 of Sec. 22 T. 5N R. 28 E.W.M. Developed Rodea Grounds, 27.58 acres
Sage Runners	Private (non-profit)	Community Organization Sand drag track	NW1/4SW1/4 of Sec. 27 T. 5N R. 29 E.W.M. Four Wheel Drive, 22.40 acres
Westland Bridge Hole	Private	Easement only Fishing	SE1/4SE1/4 of Sec. 8 T. 4N R. 20 E.W.M. Fishing Easment
Hat Rock State Park	State	Park and Recreation Branch 179 picnic sites, fishing swimming, boating, scenic view, hiking	Sec. 15, 16 T. 5N R. 29 E.W.M. Boat Lanes, 725.23 acres
Buttercreek Wayside	State	Dept. of Transportation Rest Area Picnic Facilities	SE1/4NE1/4 of Sec. 1T. 3N R. 28 E.W.M. Rest Stop, 15 acres
Cold Springs National Wildlife Refuge	Federal	U.S. Fish and Wildlife Fishing, Hunting, swimming, boating, nature study, hiking	Sec. 1, 2, 3, 12, T. 4N R. 29 E.W.M. Sec. 34, 35, 36 T. 5N R. 29 E.W.M. Sec. 31, T. 5N R. 30 E.W.M. Reservoir, Fishing, 3,117 acres
McNary Wildlife Refuge	Federal	Corps of Engineers nature study	SW1/4 Sec. 10, SE1/4 Sec. 9, T 5N R 29 E.W.M., 425 acres
McNary Beach	Federal	Corps of Engineers hiking, swimming, boating	River frontage Sec. 11, 12, T 5N R 28 E.W.M., Boat Lanes, 57 acres
Hat Rock Campground	Private Profit	Picnicing, store facilities	SW1/4SE1/4 of Sec. 15 T. 5N R. 29 E.W.M., 25 campsites, store, 15 acres

TABLE G-III cont'd

<u>NAME</u>	<u>AGENCY</u>	<u>JURISDICTION</u> (Facilities)	<u>DESCRIPTION</u>
McNary Yacht Club	Private Profit	Boating	NW1/4NE1/3 of Sec. 15 T. 5N R. 29 E.W.M. Membership docking facility
Umatilla Speedway	Private Profit	Racing	NE1/4NW1/4 of Sec. 17, T. 5V R. 29 E.W.M. Spectator Racetrack 21.26 acres
Triangle Raceway	Private Profit	Racing	SW1/4SW1/4 of Sec. 27, R. 5N R. 29 E.W.M. Auto racetrack, 22 acres
Diagonal Road Bike Path	State	Dept. of Transportation Bicycle Path	Highway 207 from Hermiston City limits to junction with U.S. Highway 730
Barth's Quarry Pond	State	Dept. of Transportation Detp. of Fish and Wildlife	SE1/4SW1/4 of Sec. 9 T. 3N R. 30 E.W.M. Fishing Access

TABLE G-IV

POTENTIAL RECREATION SITES IN WEST COUNTY

<u>NAME</u>	<u>AGENCY</u>	<u>JURISDICTION</u>	<u>DESCRIPTION</u>
West Hermiston Site	City	Hermiston	NW1/4NE1/4 Sec. 9T 4N R 28 EWM, Fishing Access
Westland Dam Site	Private	Easement	SE1/4NE1/4 Sec. 27T 3N R29 EWM, Fishing Access
Dodd Ponds	Private and State	Easement	SE1/4NE1/4 Sec. 14T 5N R 29EWM, Fishing Access
Ordinance Pond Site	Private	Easement	SE1/4NW1/4 Sec. 17 T 4N R 27 EWM, Fishing Pond
Wink Pond Site	Private	Easement	NW1/4NE1/4 Sec. 31 T 4N R 28 EWM, Fishing Pond
Hat Rock Access	Private	State Parks	NW1/4NW1/4 Sec.23 T 5N R 29 EWM, Entry Corridor
South Shore Beach	Federal	Agency Lease	River Frontage Sec. 13,14,15 T 5N R 27 EWM, Sec. 18 T 5N R 29 EWM, Public Access
Cold Springs Public Access	Federal	Corps of Engineers	NW1/4NW1/4 Sec. 13 T 5N R 29 EWM Fishing and Boating Access
Corps Wayside	Federal	Dept. of Transportation Lease	NW1/4SW1/4 Sec.35 T 6N R 20 EWM, Scenic Wayside
Juniper Canyon	Federal	Corps of Engineers	NW1/4SW1/4 Sec. 35 T 6N R 30 EWM Fishing and Boating Access
Wayside Lease	Federal	Dept. of Transportation Lease	Scenic Wayside
Oregon Trail	Private	Unknown	Historic Wayside, Interpretive Trail
Westland School	Private	Unknown	NE1/4SE1/4 Sec. 25T 4N R 29 EWM, Museum
Fort Henrietta	Private	Unknown	SE1/4NW1/4 Sec.16T 3N R 29 EWM, Historic Wayside
Emigrant Graves	County	Unknown	NE1/4NW1/4 Sec. 36T 3N R 27 EWM, Historic Site
Three Mile Dam	Federal	Bureau of Land Management	SW1/4SW1/4 Sec. 28 T 4N R 28 EWM, Fishing Access

TABLE G-V
RECREATION SITES IN UMATILLA COUNTY*

<u>NAME</u>	<u>JURISDICTION</u>	<u>FACILITIES</u>	<u>LOCATION</u>
Harris Park	County	4 Picnic sites, fishing hiking, motorcycle, ORV	NE1/4NW1/4 of Sec. 10 T 4N R 37 South Fork of Walla Walla River
Umatilla Forks Forest Campgrounds	U.S.F.S.	7 Trailer sites, 30 picnic sites, camping, picnicking and fishing, hiking, pit toilets and water	NW1/4NW1/4 of Sec. 22 T 3N R 37 North Fork of Umatilla River
Woodward Campground	U.S.F.S.	20 Tent sites, 18 picnic sites, camping, picnicking, hunting, hiking, pit toilets and water	NE1/4SW1/4 of Sec. 31 T 4N R 38 Langdon Lake
Emigrant Springs Picnic and Campground	State	18 Trailer sites, flush toilets, 33 tent sites, 124 picnic sites, camping, hunting, theater, picnicking, nature study, scenic view	NW1/4NE1/4 of Sec. 29 T 1N R 35 Near Meacham
Ukiah - Dale Wayside	State	25 Trailer or tent sites, camping, fishing, hunting, scenic view, flush toilets	SE1/4SE1/4 of Sec. 21 T 5S R 31 South of Ukiah
Battle Mountain State Park and Wayside	State	66 picnic sites, hiking, nature study, scenic view, flush toilets and water	SE1/4SW1/4 of Sec. 29 T 3S R 321 North of Ukiah (also Sec. 20 and 32)
Indian Lake Campground	Confederated Tribes	59 campsites, day use area fishing, boating, swimming, pit toilets and water	Sec. 21,22,27,28, T 2S R 28 Indian Lake
Bear - Wallow Campground	U.S.F.S.	16 trailer sites, 9 tent sites, camping, fishing, hunting, pit toilets and water	NE1/4NW1/4 of Sec. 32 T 4S R 33
McKay Reservoir	U.S. Bureau of Reclamation	Picnicking, fishing, nature study, boating	Sec. 2,3,19,11,14 T 1N R 32 South of Pendleton

TABLE G-V cont'd

<u>NAME</u>	<u>JURISDICTION</u>	<u>FACILITIES</u>	<u>LOCATION</u>
McKay National Wildlife Refuge	U.S. Dept. of Fish and Wildlife	Hunting, nature study	Sec. 1,2,3,10,11,12,13,14,15,2 T 1N R 32, Sec. 34,35 T 2N R
Pond Loree	Private	Camping, fishing, hiking	NW1/4 of Sec. 22 T 1N R 35 South of Meacham
Bar M Ranch Resort	Private	Overnight facilities, swimming, fishing, horse-back riding, scenic view	NE1/4 of Sec. 18 T 3N R 37 Thornhollow Road
Echo Golf Course	City	9 hole golf course, club house facilities	NE1/4NE1/4 & N1/2SE1/4NE1/4 T 3N R 29 Lexington-Echo Highway
Pendleton Country Club	Private	9 hole golf course, swimming, tennis, club house facilities (eating and drinking)	N1/2NE1/4SW1/4 of Sec. 15 T 5N R 32 Highway 395 South of Pendleton
McNary Golf Club	Private	18 hole golf course, club house facilities	NE1/4NE1/4 of Sec. 14 T 5N R 28
Target Meadows Campground	U.S.F.S.	10 trailer sites, 4 tent sites, 14 picnic sites, camping, picnicking, hunting, berry picking	SE1/4SW1/4 of Sec. 21 T 4N R 37
Deadman's Pass	State	20 picnic sites, rest stop facilities	T 1N R 34 Sec. 1 Indian Reservation
Frazier Campground	U.S.F.S.	30 trailer or tent sites, 11 picnic sites, camping, picnicking, hunting, fishing	SE1/4SE1/4 of Sec. 2 T 5S R 33 1/2
Lone Creek Campground	U.S.F.S.	10 tent sites, camping, hunting, fishing	SW1/4SW1/4 of Sec. 29 T 4S R 33

*Does not include West County

TABLE G-VI
 POTENTIAL RECREATION SITES IN UMATILLA COUNTY*

<u>NAME</u>	<u>JURISDICTION</u>	<u>LOCATION</u>
Hideaway Springs	Private	T 5S R 33E, Section 16
Lehman Springs	Private	T 5S R 33E, Section 12
Squaw Creek Overlook	State	T 1N R 35E, Section 9
Earnest J. Haney Vista	State and Private	T 4N R 38E, US Highway 204
Bureau of Land Management adjacent to Harris Park	Bureau of Land Management	T 4N R 37, Section 10 SW1/4 Sec. 11, N1/2 Sec. 14

*Does not include West County

TABLE VII
 BREAKDOWN OF 1977 VISITOR DAYS
 UMATILLA NATIONAL FOREST

Activity	Recreational Visits	Camping	Picnicking	Motorized Travel	Water Sport, Boating	Winter Sports	Fishing, Hunting	Riding, Hiking
Visitor Days (in 1,000's)	299.6	318.4	42.6	226.6	16.6	15.3	326.5	75.6
% of Total	--	29	4	20	1	1	30	7

Activity	Resort Use	Organized Camping	Recreational Residence	Gathering	Nature Study	Viewing	Visitor Information	TOTAL DAYS
Visitor Days (in 1,000's)	2.8	9.7	11.0	22.4	3.6	10.5	16.7	1098.3
% of Total	.2	.8	.1	2	.3	1	1	--

SOURCES

1. "Columbia River (Bonneville to Washington Border); Master Plan for Angler Access and Associated Recreational Uses; Lands Section, Oregon State Game Commission; May 1969.
2. Fish and Wildlife Sites of the Mid-Columbia Waterfront area; Oregon State Game Commission for the Division of Planning and Development, Department of Commerce, State of Oregon; July 1965.
3. "Gilliam, Morrow, Umatilla Counties Lakes and Reservoirs;" Master Plan for Angler Access and Associated Recreational Uses; Lands Section, Oregon State Game Commission; November 1967.
4. McNary Second Powerhouse, Final Environmental Impact Statement; Office of the Chief of Engineers, Department of the Navy, Washington, D.C., April 1976.
5. Oregon Outdoor Recreation Demand Bulletin 1975 Technical Document I of the Statewide Comprehensive Outdoor Recreation Plan; Parks and Recreation Branch, Department of Transportation, State of Oregon; September 1976.
6. Oregon Outdoor Recreation Supply Bulletin 1976 Technical Document I of the Statewide Comprehensive Outdoor Recreation Plan; Parks and Recreation Branch, Department of Transportation, State of Oregon; January 1977.
7. Oregon Outdoor Recreation Needs Bulletin 1977 Technical Document III of the Statewide Comprehensive Outdoor Recreation Plan; Parks and Recreation Branch, Department of Transportation, State of Oregon; September 1977.
8. Oregon State Parks System Plan 1979-1985; Parks and Recreation Branch, Department of Transportation, State of Oregon, Spring 1978.
9. "Umatilla River Basin;" Master Plan for Angler Access and Associated Recreational Uses; Land Section, Oregon State Game Commission; June 1967.
10. "Walla Walla River Basin;" Master Plan for Angler Access and Associated Recreational Uses; Lands Section, Oregon State Game Commission; July 1967.

ECONOMY

The economic data within this section is excerpted from the Umatilla County Economic Statement, (February 1979), East Central Oregon Association of Counties.

It represents concerted efforts of a citizen task force to analyze present conditions (findings) and suggest the direction for future County actions (recommended policies). Detailed information used to formulate findings and policies can be found in the technical reports of this publication.

Also in this section at the end is the coordinated county population projections with justification. This information was required by LCDC and is important in developing plans for various land use needs.

SUMMARY STATEMENT
UMATILLA COUNTY ECONOMIC ANALYSIS

I. Introduction

The economic analysis of Umatilla County was prepared in two stages. First, through the help of a specially formed citizen advisory group (the Overall Economic Development Committee - OEDC), public officials and other local residents, information about various aspects of the economy was collected, discussed, and analyzed. The citizen advisory group then helped to summarize this data (see Technical Reports) and to formulate guidelines for implementing their conclusions about each aspect of the economy (see Findings and Policies). For purposes of the analysis, Umatilla County's economy was divided into eleven sectors - Agriculture, Construction, Finance, Government and Services, Manpower, Manufacturing, Natural Resources, Recreation and Tourism, Trade, Transportation, and Utilities.

Second, this Summary Statement was prepared as a means for discussing the county's total economy - the relationships between various sectors, the present and future status of the economy, specific problems and opportunities facing Umatilla County, and the identification of certain economic goals to be achieved through the planning process or other means. The available economic data together with the large amount of citizen involvement in preparing this document allowed the analysis to reflect a fairly accurate picture of the Umatilla County economy.

II. General Discussion of the Economy

Economic data about the various sectors is usually based on different economic indicators, or benchmarks, and is not directly comparable between the sectors. In other words, there is no way of determining and comparing the actual dollar value contributed by each sector to the county's economy. Also, the recent growth of county populations and the development of irrigated cropland, agribusiness and diversification of other industries in Umatilla County have invalidated much of the available data. The consequences of these changes have not yet been quantified into measurable data so they are not reflected in existing projections of county growth. For these reasons, county employment and payroll data present some of the most accurate economic indicators available for Umatilla County at this time. But this factual information can be tempered with information obtained from interviews with local government and business leaders and from the perceptions of the citizen advisory group (the OEDC).

A. Resource Base, Historical Development, and Local Perceptions

Agriculture has been, is, and probably will remain the mainstay of the Umatilla County economy. Annual estimates released by the Oregon Extension Service indicate that Umatilla County consistently ranks among the top three Oregon Counties in annual agricultural production. In recent years, the county has annually produced about \$100 million in gross sales of farm products. Although this figure cannot be directly compared to gross sales or contributions from other sectors (because of

different benchmarks), it can be said that Agriculture makes a substantial contribution to the economy. Many of the other sectors originally developed in response to the needs of Agriculture. For example, the main purpose of local transportation route development was to carry farm products to local, state or regional markets. Financial institutions in the county generally show healthy investment records largely due to Agricultural investments and money management practices. Several government agencies, industries, jobs, services and retail trade outlets exist in Umatilla County mainly because of the demand created by the agriculture sector. Recent agribusiness development and population growth have increased available manpower and have affected the entire Umatilla County economy, especially the agriculture, manufacturing and trade sectors.

The Umatilla County Agriculture sector has experienced a certain degree of diversification although wheat production continues to be the primary farm crop. The diversification has resulted from the increase in irrigated crop land and the associated shift to intensive cropping patterns involving potato, alfalfa and other crops. Food processors have located in the county as a result, and now provide a substantial portion of total manufacturing employment. These developments have led to growth throughout the agriculture sector and have provided the county with revenue from several different crops new to the county such as potatoes and sweet corn. In addition, surplus potatoes grown in the west county area can now be used by local starch processing plants and by cattle feedlots.

Other sectors of the Umatilla County economy, though contributing much less than agriculture, are important sources of employment and most have realized significant growth in response to increased county population. The largest sectors include trade, government, and manufacturing (both lumber and wood products and food processing industries). Forest lands in the county and the timber industry also contribute to county revenues through payments in lieu of taxes (federal payments on the basis of timber sales) and Eastern Oregon Severance Tax Receipts (a tax from private timber harvest). Transportation, trade, finance and service employment have all increased in recent years and improved service in each of these support sectors has in turn benefitted Umatilla County's basic industries.

B. Employment and Payrolls

Table I summarizes 1972 and 1976 employment and income data for Umatilla County obtained from the Oregon Department of Economic Development, Bureau of Economic Analysis. This type of data represents the most recent information available for analysis of the relative contributions made by each category to the Umatilla County economy.

The full impact of agricultural employment and personal income under Table I can be realized only by combining certain categories such as "Farm Proprietors", "Farm" employment and personal income, at least a portion of the "Agriculture Services, Forestry, Fish, Other", and "Manufacturing- Nondurable goods" (mostly food processing). The agriculture totals under Table I then equal:

For 1972
27% of Total Employment, At least 18% of Total
Income by type (Farm Proprietors), 29% of Total
Income by Industry.

For 1976

24% of Total Employment, at least 8% of Total Income by Type (Farm Proprietors), 23% of Total Income by Industry.

With these adjustments, Agriculture, with its closely related food industries, becomes the largest employer of county residents. Government, especially state and local government, ranks a close second to agriculture. Trade, Services and Manufacturing (partially included in Agriculture) are the other major employers of county residents.

Graph I uses 1950 to 1976 historical employment data and 1980-1995 employment projections to show graphically the substantial amount of growth occurring in the county. Any substantial changes in future employment, such as the presence of major construction projects in the area, will affect the projected employment figures.

The Bonneville Power Administration projected 1980-1995 employment figures for various sectors of the Umatilla County economy. These projections are shown under the "Low" projections in Table II. The "High" projections in Table II represent an attempt to account for certain construction projects proposed for Umatilla County.

Although the employment projections in Graph I and Table II give some indication of the county's expected growth, several factors must be considered when applying these figures to the total economy. First, several projects have been proposed for the Umatilla County area including construction of a second powerhouse at McNary Dam, expansion of facilities at the Port of Umatilla, construction of highway I-82N, construction of energy facilities in Gilliam County, development of industrial parks near the Pendleton Airport, Mission and Rieth. These projects, in any combination, would first affect construction employment in the county provided that county residents have the necessary skills to do the work. The extent of the affect on local construction employment depends upon how many employees are imported into the area by the general contractors for the jobs. Secondary effects from these proposed projects include increased demand for local aggregate mining production, addition of new residents and businesses to the county, and increasing the attraction of Umatilla County as a good location for certain types of industries.

Second, the projected changes in employment for various sectors may not reflect the changes in economic growth that will occur in each sector. For instance, employment in wood products manufacturing is expected to decrease through 1995. Decreasing timber supplies could be responsible for the expected decrease in employment and a corresponding decrease in the wood products manufacturing industry. But, the expected decrease in employment could also be due to increased mechanization in wood products industries. In this case, decreased employment would not necessarily correspond to decreases in the size of the industry. At any rate, one of the ways in wood products manufacturing can continue to contribute its proportionate share to the county's economy is to promote diversification of the local industry so that more processing of final wood products can be done in Umatilla County. The same concept can be applied to other sectors - manufacturing, agriculture, food products.

TABLE I
Employment by Type and Broad Industrial Sources

	1972 ¹		1976 ²	
	Employment (Numbers)	% Total Employment	Employment (Numbers)	% Total Employment
Total Employment	19,976	100	23,421	100
Number of Proprietors	3,195	16	3,312	14
Farm Proprietors	1,586	8	1,595	7
Non-Farm Proprietors	1,609	8	1,717	7
Total Wage and Salary Employment	16,781	84	20,109	86
Farm	1,618	8	2,038	9
Non-farm	15,163	76	18,071	77
Private	10,700	54	13,184	56
Ag. Services, Forestry, Fish, Other	(D)	(D)	123	0.5
Mining	(D)	(D)	49	0.2
Construction	513	3	575	2
Manufacturing	2,948	15	3,748	16
Nondurable goods	1,314	7	1,953	8
Durable goods	1,634	8	1,795	8
Transportation & Public Utilities	1,085	5	1,189	5
Wholesale Trade	631	3	1,056	5
Retail Trade	2,673	13	3,167	14
Finance, Insurance, Real Estate	335	2	459	2
Services	2,379	12	2,818	12
Government & Govt. Enterprises	4,463	22	4,887	21
Federal Civilian	993	5	702	3
Federal Military	297	1	295	1
State & Local	3,173	15	3,890	17

(D) Not shown to avoid disclosure of confidential information. Data are included in totals.
 * See Table D-9 on page D-20 for breakdown of services included in this category.
 1 1972 Estimates based on 1967 Standard Industrial Code (SIC).
 2 1976 Estimates based on 1972 SIC.

SOURCE: Regional Economics Information System, Bureau of Economic Analysis, Department of Economic Development, Tables 5.00 and 25.00, 1978.

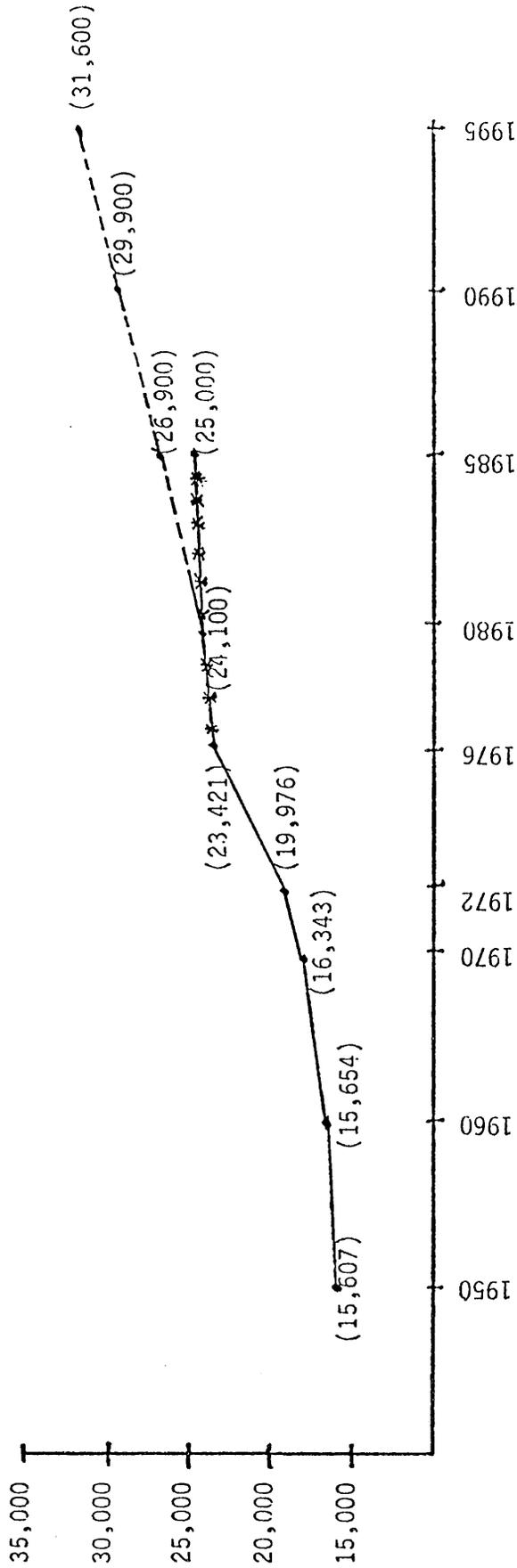
TABLE I (continued)

Personal Income by Major Sources

	1972 ¹		1976 ²	
	Income \$ 1000	% Total Income	Income \$ 1000	% Total Income
Income by Type (total)	158,789	100	219,290	100
Wage & Salary	108,090	68	171,034	78
Other Labor	6,194	4	13,127	6
Proprietor's Income	44,505	28	35,129	16
Farm	29,198	18	16,615	8
Non-Farm	15,307	10	18,514	8
Income by Industry (total)	158,789	100	219,290	100
Farm	36,172	23	29,599	13
Non-Farm	122,617	77	189,691	87
Private	87,568	55	142,731	65
Ag. Services, Forestry, Fish, Other	(D)	(D)	1,416	1
Mining	(D)	(D)	777	0.3
Construction	8,047	5	10,421	5
Manufacturing	24,168	15	41,570	19
Nondurable goods	10,445	6	20,284	9
Durable goods	13,723	9	21,286	10
Transportation & Public Utilities	12,917	8	19,344	9
Wholesale Trade	5,710	4	13,200	6
Retail Trade	17,693	11	26,452	12
Finance, Insurance, Real Estate	3,206	2	5,080	2
Services	14,754	9	24,471	11
Government & Govt. Enterprises	35,049	22	46,960	21
Federal Civilian	12,069	8	10,529	5
Federal Military	621	0.4	783	0.4
State & Local	22,359	14	35,648	16

For Source and Footnotes, see first page of Table I

GRAPH I
 UMATILLA COUNTY
 1950-1976 Employment Statistics and
 1980-1995 Employment Projections



— Historical Employment data.
 - - - Projections of the Bonneville Power Administration.
 ***** Projections of Oregon Employment Division.

SOURCES: 1950, 1960 and 1970 data derived from the U.S. Census of Population for Oregon in those years. 1972 and 1976 data derived from information supplied to ECOAC from the Oregon Department of Economic Development, Bureau of Economic Analysis (see Table I). 1980-1995 projections (- - -) from Oregon: Population, Employment and Housing Units projected to 1995, Bonneville Power Administration, U.S. Dept. of Interior, 1976. 1985 projection (****) from Oregon Employment Service, Umatilla County, based on population projections of Portland State University and historical data.

TABLE II
Employment Forecasts for Umatilla County, 1980-1995, by Industry

	1980		1985		1990		1995	
	High ¹	Low ²	High	Low	High	Low	High	Low
TOTAL EMPLOYMENT	24,260	24,100	28,670	26,900	32,400	29,200	35,355	31,600
Agricultural	4,143	4,150	5,120	4,750	6,650	4,900	6,860	4,950
Non-Agricultural	20,117	19,950	23,550	22,150	25,750	24,300	28,495	26,650
Mining	50	25	25	25	30	25	50	50
Construction	1,410	1,400	1,120	1,050		1,000		1,050
Manufacturing	4,682	4,650	5,420	5,075	5,995	5,400	6,430	5,750
Food & Kindred Products	1,600	1,600	1,860	1,750	2,040	1,825	2,085	1,875
Lumber & Wood Products	610	600	570	550	520	475	460	425
Transportation & Public Utilities	1,165	1,150	1,290	1,200	1,360	1,225	1,380	1,250
Trade	4,780	4,750	5,965	5,600	7,095	6,400	8,090	7,225
Finance, Insurance, Real Estate	560	550	690	650	810	725	885	800
Services	3,200	3,175	4,040	3,800	4,830	4,375	5,550	4,975
Government	4,270	4,250	5,000	4,750	5,630	5,150	6,110	5,550

¹ The "High" forecasts for nonfarm employment are based on modifying the "Low" forecasts by assuming all of the proposed projects and new firms in the next five to seven years located in the District, e.g., Alumax, Pebble Springs, and McNary Dam. The implicit compound annual growth rates are 4.0% for 1975-1980, 2.6% for 1980-1985, 2.2% for 1985-1990, and 1.9% for 1990-1995.

² The "Low" forecasts for nonfarm employment do not include any of the proposed projects and new firms for the District, e.g., Pebble Springs and Alumax. The implicit compound annual growth rates are about 3.4% for 1975-1980, 2.0% for 1980-1985, 1.6% for 1985-1990 and 1.3% for 1990-1995.

SOURCE: Bonneville Power Administration, Requirements section, OREGON: POPULATION, EMPLOYMENT & HOUSING UNITS PROJECTED TO 1995, Portland, Oregon; Bonneville Power Administration, U.S. Department of Interior, December 1976.

III. Survey of Major Industrial Sites

TABLE III
UMATILLA COUNTY
MAJOR INDUSTRIAL SITES

AREA	ACRES	TYPE	PHYSICAL PROBLEMS	SERVICES	TRANSPORTATION ACCESS	SPECIAL NOTES
Adams	Approx. 12 acres between Hwy 11 and abandoned railroad right-of-way (Union Pacific)	Light or heavy industry	None	No city water or sewer to site at present. Water lines could be extended if city's Water Supply is increased. Adams has no sewer system. Septic tanks (domestic waste) - easily developable.	Direct Access to Highway 11 (to Pendleton and Walla Walla).	Over half of site developed for grain storage. Mostly owned by Union Pacific Railroad. Site separated from town by Hwy. 11 and 1/2 mile wide farmland strip.
Athena	Approx. 75 acres designated in comprehensive plan.	Preference for Light Industry of "clean" small-scale heavy industry.	Small flood hazard areas along Waterman Gulch and Wildhorse Creek currently being mapped by Army Corps of Engineers. 8 acres located on sloping land.	Limited supply of city water and sewer services because of strained capacity of city's wells and sewage plant. May not be able to handle metallic or chemical-rich industrial wastes.	Only 8 acres could not be provided with rail access. Other areas have direct rail access (Union Pacific, Burlington Northern). Highway access to Hwy 11, and Hwy 204.	Industrial facilities occupy 25 acres but many are vacant or underutilized. Remaining 50 acres contained within large tracts. Over half of the sites currently owned by two railroads.
Echo	Approx. 219 acres set aside for industrial use within Urban Growth Boundary.	43 acre area partially inside city limits planned Light Industrial. 176 acre area near Interstate 80N planned 80% Light Industrial, 20% Commercial.	North end of 43 acre area lies at the beginning of a steep bluff. Other areas relatively flat.	43 acre area: city sewer line runs by property. City water lines could be extended 176 acre area: No city sewer or water to property at present. Echo will have capacity to handle both services after new water system completed.	43 acre area: Rail service (Union Pacific) highway service to Interstate 80N access. 176 acre area: Only Industrial site in County adjacent to freeway.	Echo presently has little interest in heavy industry development.
Helix	Approx. 20 acres along Burlington Northern Railroad.	City would accept most types of industries suited to the site.	Some portions subject to shallow flooding. Area currently being mapped by Army Corps of Engineers.	City water mains serve site but can only provide domestic water use. City well does not have present capacity	Rail access (Burlington Northern) Hwy access to Hwy 11.	Over half of site is developed and occupied by grain storage, Agri-chem, Brogotti Farm Supply, Burlington

Table III
Page 2

AREA	ACRES	TYPE	PHYSICAL PROBLEMS	SERVICES	TRANSPORTATION ACCESS	SPECIAL NOTES
Helix contd.				to provide large volumes of water. City has no sewer system. Septic tanks easily developable.		Northern owns most of site.
Hermiston	Approx. 1,455 acres within Urban Growth Boundary. 900 acres lie within the present city limits.	Both Heavy and Light Industries - zoned as Planned Unit Development Industrial Zone.	None	City sewer and water can be extended to those sites within corporate city limits.	Access to Hwy. 395 connecting to Interstate 80N and Washington State, Rail service air service through Hermiston Airport, barge service through Port of Umatilla (5 miles north).	City Council has adopted policy of not extending city sewer/water lines beyond city's corporate limits. Industrial development outside city limits need to develop own sewer/water systems or seek annexation to city to obtain city services
Milton-Freewater	310 acres within Urban Growth Boundary on Comprehensive Plan (to year 2000.)	Light or Heavy Industry Preference for "clean" industries (relatively)	None	City sewer and water available to or adjacent to most sites. One 45 acre tract is some distance from sewer/water but it could be extended. City owned power very competitive.	Industrial sites on main thoroughfares with access to Hwy 11 (to Pendleton and to Walla Walla.) Areas served by railroad facilities.	City encourages diversified industries and would like industries that provide year-round employment.
Pilot Rock	374 acres within Urban Growth Boundaries shown on Comprehensive Plan Map.	89 acres, presently undeveloped, set aside for Light Industrial use. 285 acres, half developed, set aside for Heavy Industrial use.	All areas less than 12% slope. 89 acre site less than 6% slope. Flood plain between two areas - not on either area.	Water and sewer can be supplied by city upon annexation. Main sewer line presently passes through Industrial area to sewage ponds north of growth boundary. Also have potential water tank site on plan map for additional well.	Rail service through area on west side of Birch Creek. Hwy 395 ruins on east side of Birch Creek (connects to Pendleton). Need road and bridge over Birch Creek to connect Industrial area with Hwy 395.	City wants heavy or light industry and encourages location of diverse industries (wood products only industry at present). City presently seeking technical assistance grants to make feasibility study for Industrial Park.

TABLE III
Page 3

AREA	ACRES	TYPE	PHYSICAL PROBLEMS	SERVICES	TRANSPORTATION ACCESS	SPECIAL NOTES
Pendleton	Approx. 2,600 acres within city limits plus another 1,000 - 1,300 acres outside city limits but within urban area.	Within city limits - 1,950 acres designated Light-Industrial use and 650 acres designated Heavy Industrial use. Both uses allowed in other areas. About 1,500 industrial acres within the city limits are presently vacant.	Some steep slopes or hills.	Sites within city limits served by city water and sewer. Sites outside city limits provide own facilities or must obtain extension of city services (annexation).	Most sites served by gravel or paved roads or have right of way. Transportation facilities include major airline service at Pendleton Airport, good highway access to State and Interstate (80N) highways, rail transportation (Union Pacific).	Major areas outside city limits include area around the airport, Rieth and Mission areas.
Stanfield	588 acres within Urban Growth Boundary.	138 acres for Light Industrial use (2 areas). 450 acres for Heavy Industrial use - mostly owned by Union Pacific Railroad.	None	City water and sewer Presently services one of the light industrial areas. Extension of city services to other areas relatively easy.	Areas have access to State highways and Interstate 80N. Located near Union Pacific's Hinkle switchyard. Rail lines serves Stanfield. Hermiston Airport within 5 miles. Port of Umatilla (barges) within 10 miles.	About 2/3 of the Heavy Industrial area will be used by Union Pacific as a permanent buffer for the Hinkle Switchyard.
Ukiah	21 acres within Urban Growth Boundary plus potential expansion area if needed.	Light or Heavy Industrial Use.	Harsh winter climate. Some Flood Plain area near existing developments.	Sewer and water available from city. Water supply excellent. Telephone service fair.	Highway access to U.S. Hwy. 395 (to Pendleton) and to U.S. Hwy 244 (to La Grande and I-80N). Roads in fair to good condition.	Shingle mill only existing development at present.
Umatilla	Approx. 210 acres within Urban Growth Boundary. Also close to Port of Umatilla industrial property.	Preference for Light Industry, at present. May be subject to change if heavy industry compatible.	Most areas under 12% slope. Some small portions in 12% to 24% slope.	City water and sewer available to some present industrial sites. Can be extended to others upon annexation. New water and sewer system can support about 11,000 people plus industries.	Access to U.S. and State highways, including I-82N when constructed; Hermiston Airport about 7 miles south; rail lines serve industrial sites; water traffic available through Port of Umatilla.	New water storage facilities will serve locations above 491 ft. elevation (with pumping).

TABLE III
Page 4
AREA

AREA	ACRES	TYPE	PHYSICAL PROBLEMS	SERVICES	TRANSPORTATION ACCESS	SPECIAL NOTES
Weston	Approximately 110 acres.	Could accommodate Light or Heavy Industry.	Large factories currently on site are built on steep hillside. Some portion may lie in floodplain area. Other parts on small slope.	Existing industrial plants share well with City. Water lines could be extended to sites. City is upgrading water system. Industrial sewage disposal arranged by each industry.	Union-Pacific Railroad spur serves existing industries on west side of site. Site borders Hwy 204, has access to Hwy 11.	Jones-Normal controls over half the site (major vegetable canning and freezing facility). Site also has Lamb-Weston (frozen food processor), grain elevator, PP&L power substation.
Area near Hinkle Switchyards	Rough Estimate - 500 acres. But exact area undetermined at this time.	General Industrial use.	Some flood plain in small area - can be filled.	Undeveloped at present, Need wells and septic tanks.	Railroad, Highway.	Owned by Union Pacific Railroad, development plans indefinite
Mission	20 acres planned as industrial sites, on Umatilla Indian Reservation.	Preference for Light Industry.	On drainage basin but not flood plain area.	Mainline water and sewer connections from Pendleton could be made available.	Railroad access. Access to main highways and to Interstate 80N.	Areas presently in grain production. Owned by tribal members in trust. Tribe would negotiate on proposed developments.
PORT OF UMATILLA- 1. City Site	16 Acres, mostly vacant, owned by Port.	Light Industry	Partially filled to Flood Plain.	City water on site. City sewer adjacent. In Rural Fire District.	Highway access to U.S. 730 and U. S. 395, Rail service (Union Pacific), Water traffic - Port of Umatilla, Air Service-Hermiston and Pendleton (7 miles and 30 miles.)	One acre has soils Laboratory at present.
2. McNary Industrial Park	Approximately 1,310 acres near Umatilla.	Either Light or Heavy Industrial Use	Some slopes on North end (going toward North end.)	Umatilla city water and sewer, 2,000 gpm water storage and	Access to Port of Umatilla, railroad, Highways (730, 395	983 acres under option to Alamax.

TABLE III
Page 5

AREA	ACRES	TYPE	PHYSICAL PROBLEMS	SERVICES	TRANSPORTATION ACCESS	SPECIAL NOTES
McNary continued				distribution on part of site. In Umatilla Fire Protection District.	I-80N) and airport.	

SOURCES: City Comprehensive Plans from Umatilla County, January 1978; Information compiled by
ECOAC from local officials and county residents.

Table III represents a summary of major industrial sites located in Umatilla County on city or county comprehensive plans. Several other sites do exist in small areas scattered throughout the county. More information about the industrial sites listed on Table III or other sites may be found by contacting the county or from specific comprehensive plans.

IV. Problems and Opportunities

The economic data and citizen output compiled for this analysis underlined several overall problems and opportunities in the Umatilla County economy. Many of these will be discussed below and will be addressed again in the county's Economic Goals (see Part V). Additional information on the county's plans for implementing solutions to the problems and for promoting the opportunities may be found in the most recent Umatilla County Economic Development Plan (OEDP) or Comprehensive Economic Development Strategies (CEDS).

- A. The continued availability of adequate water and power sources may be the greatest problem facing all sectors of the Umatilla County economy. Several factors have threatened the county's present water sources. The potential designation of a large part of the county's farmland as a critical groundwater area may force the shutdown of many groundwater wells currently used for agricultural irrigation. Loss of this water for irrigation could seriously damage agricultural production in the county. This damage would have serious repercussions on the rest of the county's economy. Also, other water sources presently used by municipalities, industries and wildlife would be threatened as irrigators try to find replacement water sources. Commodity-oriented forest management practices may degrade many natural watershed areas in the county. This would affect fish and wildlife populations as well as domestic users of water. The use of water conservation techniques by all county residents would alleviate the problem somewhat. Protection of adequate water sources (groundwater, surface water, watersheds) may be so important to the county that decisions concerning management protection and availability of these sources should take prime consideration in county decisions.

Hydro-electric power sources from Columbia River Power Pool have provided competitive energy sources to Umatilla County in the past. This may change as competition increases for Columbia River water and power supplies at state, regional and national levels. Encouraging the use of power conservation methods by county residents, promoting the development of alternative energy sources (wind, solar, geothermal, nuclear) in the county and continuing, active participation in the Columbia River Power Pool are necessary goals for the county to achieve.

- B. Greater diversification of Umatilla County industries would help stabilize the general economy. In the past, the focus of economic development in Umatilla County fell mainly on resource based industries, and particularly on agriculture and forest products. Other segments of the county, such as transportation, manpower, business and services, developed in response to the needs of these resource based industries. This characteristic caused the county's economy to fluctuate with changing agricultural markets and commercial timber supplies.

As the county grew, some horizontal and vertical diversification of industries, such as food and wood processors, transportation equipment and electrical equipment, occurred in the county. This diversification helped change some of the dependence of the economy on resource based industries. Although agriculture continues to be the largest contributor

to the Umatilla County economy, diversification within agriculture itself (new crops, local processing of local products) would help the industry. For this reason the county should actively promote the location of diverse industries inside Umatilla County.

However, the county should also encourage local producters and industries to fully investigate the actual market demand for new products before they undergo diversification. Diversification stabilizes the economy only if the products it produces can be profitably marketed.

- C. Along with the need to diversify county industries there follows a need to provide for adequate industrial sites throughout the county. Major problems facing industrial site development include the need for zoning changes in certain communities or areas, the lack of sufficient utility supplies to these areas, and the need to develop better transportation facilities within these sites. Because the competition for use of land will continue to intensify as populations grow, industrial sites need to be set aside now in proper, compatible areas or the county will lose some of the potential to attract new industries.
- D. Competition for use of county lands emphasizes another growing problem in Umatilla County. As communities expand and different types of interests move into adjacent land areas, the chance of incompatible uses of land developing close together greatly increases. For example, residential areas that expand around an existing airport encounter many safety conflicts. The residential areas may interfere with the airport's clear zones and the airport may interfere with residential peace and quiet. Another example is the strip development that often occurs along major highways, interfering with the original intent to provide a transportation corridor for through traffic. Umatilla County already has begun to experience the problems associated with incompatible land use development, particularly with the displacement of agricultural lands by other uses. Again, proper land use planning at this point presents a start toward handling the problem. Unless the planning is followed by the necessary zoning changes and enforcement measures, the county will continue to have the problem.
- E. One concern expressed by many employers involved in the economic analysis process concerned the lack of an adequately trained labor force in Umatilla County. The number of workers available in the county attracts certain types of industries based on mass production or unskilled labor. But the lack of trained labor discourages some types of skilled industries from entering the county or require these industries to import workers from outside the county. Improvement of job skills among employees would help existing industries and provide potential employees for new industrial and commercial development. Several training programs already available to county residents do help the situation. These programs include on-the-job training by employers, classes at Blue Mountain Community College and opportunities through the Comprehensive Employment and Training Act, Oregon Rural Opportunities or the Blue Mountain Economic Development Council. However, these programs may not meet their intended goals unless fully supported by county employers through employer input concerning training needs and by job placement of trainees.

On the positive side, employers indicated that the attitude of workers in the Umatilla County area compares most favorably with attitudes found elsewhere in Oregon and in the nation. Umatilla County workers generally are willing to obtain the training necessary to improve job skills, and have a low rate of "unaccounted for" time off from work. In other words, most Umatilla County employees work hard at their jobs and have relatively low absenteeism.

- F. Basic characteristics of different local industries attract large numbers of temporary populations and workers to the county for various periods. The cyclical nature of county agriculture and food processing attracts many migrant-type workers during the busy harvest and processing season. Construction of major projects (Highway I-82 , second powerhouse at McNary Dam, Carty coal plant) attract longer term temporary populations who remain for the duration of the project. The temporary nature of these populations creates distinct problems for county planning and the supply of services and housing. Unless the county can design special, cost-effective methods for meeting the needs of these temporary populations, county residents will continue to carry the full cost of providing services to these people. For example, the county could investigate the feasibility of providing temporary classrooms (i.e. trailers) for school-age-children in areas where temporary populations concentrate. This would avoid the higher cost of providing permanent school structures.
- G. Adequate and affordable housing, utilities and associated services (e.g., education, medical care) must also be provided for permanent Umatilla County residents. Recent debate over property tax relief, the curtailment of excessive government spending at all levels and rising inflation costs place much strain on the ability of all sectors to provide affordable housing and services to county residents. Although the county's educational system and other amenities have been of relatively high standards in the past, continued support of these items will be necessary to sustain the county's present populations and to attract new residents and industries.
- H. Another problem that appeared to be common to several sectors concerned the need for better communication between county residents, local officials and government agencies when identifying and solving county problems. Along with this problem, much concern was expressed about the enormous amount of government regulation and involvement in private sectors. Although no immediate solution exists to these problems, local residents should try to better utilize existing lines of communication and encourage local initiative in evaluating and implementing state and federal programs. On the other hand, government agencies should try to simplify their regulations and avoid duplication of services whether through the agency's own initiative or through external pressures such as the "Sunset Laws".
- I. Regardless of the problems or potentials facing the Umatilla County economy, two overriding issues must be considered. The first issue involves the irrevocable commitment of resources that occurs when certain types of economic decisions are made. The second issue involves the capacity of the county, or any other single entity, to fully

implement all of the recommendations set forth by the citizen advisory groups. (See Technical Reports, Findings and Policies for each sector and the Goals at the end of the Summary Statement.)

During the process of developing this project, the citizen advisory groups handled the irrevocable commitment of resources. The discussion and analysis of these issues led to formulation of specific Findings and Policies (see individual sectors). One example occurred during a discussion of recreational developments for residential use on commercial forest lands. The advisory groups felt that while such developments may promote certain economic activities (construction, recreation), other factors must also be considered when making the decision to permanently commit forest land resources to particular uses. Depending on the location of the proposed development, the other factors to be considered include potential interference with wildlife migration routes, decrease of the county's timber base which reduces revenues received by the county from state and federal tax laws, degradation of natural watersheds located in county forest lands, and alternative locations more suitable for such developments. As a result of this discussion, the advisory group recommended that the county adopt a set procedure for handling proposed developments of this type (see Natural Resources, Finding and Policy #12). This recommended procedure requires several factors to be considered before the county makes a land use decision that will commit county resources to an irrevocable use.

A more difficult issue of this type that confronted the citizen advisory groups involved the use and allocation of county water supplies. Because water is a scarce resource, one that will be exhausted by overuse, the advisory groups recognized that commitment of water and other natural resources (forest lands) to certain uses could irrevocably change the availability of good water supplies to the county. For instance, certain types of construction activities (road building) near natural watershed areas can degrade water quality making it unusable for domestic use. Commitment of water to certain types of uses (certain industrial uses) usually results in an irretrievable loss of that water. Commitment of water to other uses (certain agricultural uses) may allow some water resources to be recycled for use in generating hydro-electric power or in industry.

The advisory groups made an attempt to assess the relative merits of committing water and other natural resources that affect water to particular uses. But the complexity of the problem and the fact that much of the decision making falls beyond local control to state and federal authority, forced the advisory groups to make few decisions on the actual allocation and commitment of water resources. Instead, the advisory groups recommended that the county become actively involved in water decisions at the state and federal level. This is particularly necessary in light of the possible designation of a large critical groundwater area in Umatilla County and the recent decision by Washington State to appropriate vast amount of Columbia River waters for its own use.

These two examples merely highlight the process used by the citizen advisory groups when they handled questions involving an irrevocable commitment of county resources. The analysis and parameters of certain complex issues, such as water allocation policies, fell beyond the technical ability of the advisory groups or support staff. If specific issues are identified, if quantifiable parameters are obtained, if the desire for a technical analysis exists, and if technical assistance is available, then the county could implement Cost/Benefit Analysis or Opportunity Cost Analysis. These types of processes would provide an objective indication of the direction to be taken.

Members of the citizen advisory groups also expressed much concern over the ability of any one entity to act upon the guidelines set forth in the Findings, Policies and Goals of this economic analysis. Recognizing that certain issues fall outside local authority (formulation of Columbia River water allocation policies, changing Interstate Commerce Commission railroad freight rates or encouraging businessmen to invest in local enterprises), the advisory groups recommended that the county work through its state or Congressional representatives to affect changes or at least adopt a particular attitude toward supporting or not supporting certain issues. Another suggestion made by advisory groups was that the county delegate its authority to act upon some of the suggested guidelines to other local groups, commissions or boards. At any rate full, beneficial use of this economic analysis can be achieved only by active promotion and review of the recommendations.

- J. Although the above list of problems facing the Umatilla County economy appears to be almost overwhelming at first glance, a general mood of optimism pervaded the several meetings of the citizen advisory group (the OEDC). Most of this optimism centered around the generally high quality of life enjoyed by the county residents and around the attitudes and quality of people who seem to be attracted to Umatilla County. Despite the large amount of growth that has occurred in Umatilla County in the last ten years, the residents have been able to maintain a certain level of economic stability and high standards of services for permanent residents. One of the main forces contributing to this stability is the fact that a large, stable agricultural sector supports the economy.

V. Economic Goals

The County supports the following economic goals for Umatilla County:

1. To ensure that the county receives adequate water supplies for all users - domestic, agricultural, industrial, power, and natural resource needs.
2. To encourage the development of competitively-priced power supplies from all sources that maintain high environmental standards within Umatilla County.
3. To diversify local business, industries and commercial activities and to promote the economic growth and stability of the county.
4. To increase the income level of county residents by providing good job training and educational programs in response to employer needs and by

encouraging the location of industries in the county which will hire local residents. To encourage business and educational organizations to work together in providing curriculums which will produce a suitably trained and qualified work force from within the county.

5. To develop adequate, affordable services and utilities to communities and industrial sites in the county. The county encourages the continued cooperation between those public and private sources who provide funding assistance for such services and utilities.
6. To better coordinate the development of transportation corridors through the county and to improve transportation facilities of all types inside the county and to markets outside of the county.
7. To encourage the development of compatible land uses throughout the County.
8. To encourage local producers to identify new markets for local products and to seek out new products that are in demand in the marketplace and that can be produced locally.
9. To provide adequate, economical, housing facilities, utilities, and general services that satisfy the needs of permanent residents and the special needs of temporary populations present in Umatilla County during major construction projects or during seasonal peaks in local industries.
10. To encourage the continued support of those educational and cultural amenities in the county that add to the quality of life in Umatilla County.

The county believes that pursuit of the above economic goals will maintain the integrity of liveability in Umatilla County for years to come.

Findings and Policies

Findings

1. Agriculture is the mainstay of the Umatilla County economy, producing about \$100 million in direct income annually and supporting local food processing, transport, construction, trade, service and government employment and payrolls.
2. Umatilla County has always been important to the agricultural economy of Oregon, consistently ranking first or second and rarely third in total productivity among Oregon counties.
3. Partly responsible for Umatilla County's continuingly large share of state farm income has been the recent expansion into previously under - or unused land of potato, alfalfa and grain production, made possible by private investment in sprinkler irrigation technology relying on deep well groundwater and diverted or impounded surface water sources.
4. At present, conflicting statutory and water law rights to use and manage river resources exist among federal and state agencies and water right holders, as well as between states, so that no clear allocation or use-priority system has been agreed upon.
5. Surface water from new impoundments and the Columbia River will be required both to maintain present levels of agricultural productivity and to bring more presently unused land into production.

Policies

1. The needs of the farm community shall be considered in evaluating all county policies and future development projects in other sectors of the economy, and should be given high priority over the requirements of all other sectors, where conflicts arise.
2. The County shall ensure that the State of Oregon encourages the maintenance and expansion of agricultural productivity in Umatilla County, especially in light of continuing conversion of Western Oregon farmland to other uses.
3. In order to protect the agricultural capital investment of local companies and resident individuals, county and state government shall promote the preservation of access to cheap, reliable power and adequate water supplies through participation in ongoing Bonneville Power Administration and Columbia River Compact resource allocation processes.
4. The county shall develop its own water resource priorities and allocation preferences, and shall urge the State of Oregon and Federal Government to do the same, through promoting testimony of local water users at public hearings, through its own policy statements and memorializing higher authorities, and through cooperation with the Columbia-Blue Mountain Resource Conservation and Development Project and the Economic Development District.
5. The county shall cooperate with state officials in formulating surface and ground water resource allocation policy both between Oregon irrigators and instream users and among the four Columbia drainage basin states for all uses.

6. Agricultural lands in the county could produce a wider variety of crops than at the present, given sufficient irrigation development and capital investment.
7. The Water Resources Department has identified the Ordinance critical groundwater area and has imposed restrictions on pumping for irrigation in those areas. A similar situation may be developing in the Milton-Freewater, and Stage Gulch areas near Pendleton.
8. Full, good use is currently being made of Umatilla River water for irrigation. Other claims do exist to presently undeveloped diversion rights to the river water, the exercise of which could lead to overexploitation of the water resource.
9. Existing county zoning and planned designation of potentially productive agricultural land for residential or commercial uses interferes with future cost-effective, rational agricultural development and with current farm practices such as chemical spraying and operation of machinery at night.
10. Land in the Walla Walla Valley fruit producing region of the county is under pressure for conversion to residential and commercial use, limiting the future expansion of production from this valuable land resource, which accounted for 9% of county farm income in 1977.
11. A variety of high value per acre crops not currently grown in the county could be successfully produced here if processing facilities were locally available.
6. County and State government and regional development organizations shall encourage Umatilla Basin projects to make Columbia River water available in the county, to facilitate investment through loan guarantees or bonding power, and to promote research to determine agronomically and economically suitable new crops.
7. The county shall support proposed new surface water irrigation projects, such as Snipe Creek dam and the Stanfield-Westland project, that could cost-effectively provide Umatilla County farmers with reliable supplies of surface water, since surface water is a renewable resource.
8. The county shall take an active role in bringing together representatives of the Confederated Tribes, downstream users, State Fish and Wildlife Department, Water Resources Department, Federal agencies, and other relevant groups to reach agreement over use of the Umatilla River.
9. The county shall evaluate rural residential designations and zoning to remedy potential conflicts with future agricultural needs and ensure that land use designations in and around all cities are compatible with farm practices and preserve the most productive agricultural lands.
10. The county shall designate Milton-Freewater area orchard land for agricultural use and encourage efforts of farmers and extension agents to solve the problems of producing horticultural commodities in other parts of the county.
11. The county and Port of Umatilla shall participate in efforts to attract and finance a local vegetable facility and other processing plants, which would increase county revenues, jobs, and personal income.

12. Expansion of field crop cultivation increases the possibility of re-viving farm animal production in the county to levels at or above that of previous decades, and could help support livestock industries such as feed lots, meat packing plants and dairying.
13. Capital-intensive agriculture requires adequate transportation and storage facilities, housing for temporary workers and reliable sources of power, water, supplies, and machinery parts.
14. Fluctuations in domestic and international demand for locally produced commodities and generally inelastic markets for farm commodities stress the need for further diversification of Umatilla County agriculture.
15. Factors that determine the health of the county's agricultural economy not only include those financial, contractual and transportation problems associated with producing and delivering commodities to markets. They also include commodity market development and use of more sophisticated market expertise. Traditional agricultural education, technical advice and research stress aspects of production, rather than marketing training, even though aggressive cooperative and professional sales efforts have proved vital to the marketing of local commodities in the past.
16. Farm truck licenses (F plate) allow farmers to haul their own unfinished products or farm supplies without being subject to the highway use tax. The apportioned farm license (AF plate) provides for uses similar to the F plate, but in addition allows farms to haul for hire a certain amount of products or supplies for other farms. The AF plate is subject to the highway use tax. Both plates are important to Umatilla County farmers and their efficient marketing and trans-shipment of produce and supplies.
12. The county shall cooperate with local development associations, financial institutions, irrigators and stockmen to locate a meatpacking plant locally and to promote development of the county's dairy industry.
13. Other elements of county and city comprehensive plans shall allow for the resource, public facility, safety and migrant housing needs of agriculture, especially if labor-intensive vegetable production is developed in the county.
14. The county shall support research efforts aimed to develop new varieties of crops suited to this area, and programs designed to expand both overseas and domestic markets.
15. The county shall encourage local Farm and Ranch Associations to take the lead in promoting research, development of new markets, and identifying processing sites in the county in educating producers. These groups shall work with the Extension Service, State Departments of Economic Development and Agriculture, commodities' commissions, local financial institutions, legal firms and transportation concerns to achieve this end.
16. Umatilla County supports the F and AF Farm licenses and PUC regulations that allow farmers some flexibility in licensing and utilization of farm trucks.

B. Construction

Findings and Policies

Findings

Policies

- | | |
|---|---|
| <p>1. Although it is not always a major employer in Umatilla County, the construction sector pays well for individual county residents and contributes much to county employment, particularly when large, special projects are underway.</p> <p>2. The county's construction sector grows in proportion to general county growth but is also influenced by factors external to the county, e.g. existence of major construction projects or condition of national money markets.</p> <p>3. Large construction projects create special problems for county planning because of the temporary nature of short-term, large employment. The list of large projects planned for the county includes the second powerhouse at McNary Dam, the I-82N highway, expansion of facilities at the Port of Umatilla, and the Snipe Creek Project.</p> <p>4. Housing demand projections indicate that county demand for residential construction should grow in the near future.</p> | <p>1. The county will encourage employment of county residents by employers involved in construction projects in this region.</p> <p>2. The county should try to promote Umatilla County as a good location for basing general contract construction companies by emphasizing the county's transportation systems, regional location, aggregate and natural resources.</p> <p>3. The county recognizes the need for planning for short term employment and population changes in the county resulting from large construction projects, and encourage sponsors of these projects to help the county plan for and handle temporary populations of construction employees.</p> <p>4. The county recognizes that residential housing needs will continue to grow and encourages construction of affordable housing of all types, in line with projected housing demands.</p> |
|---|---|

C. Finance

Findings and Policies

Findings

1. Financial data from banks, savings and loan associations and credit unions is difficult to obtain. Without adequate information a thorough analysis of the county's financial sector cannot be performed.
2. The 1976 loan to deposit ratio in Umatilla County at 65.99% ranks third in the state. Despite its high position, Umatilla County could make more efficient use of local deposits available. The balance of deposits not invested represents lost opportunities for capital formation. The picture is clouded by lack of concise data regarding debt financed by intermediaries outside of the region, and debt financed by organizations other than commercial banks or savings and loan associations. This confuses the issue for two reasons: one can determine neither if the capital investment taking place is financed by local dollars, nor, if surplus deposits are being invested outside the region.
3. Umatilla County is one of the wealthiest in the state; local savings institutions have over twice the savings balance per capita as the state average. Excess savings are evidenced by considerable activity in the stock and bond markets.
4. Umatilla County maintains a favorable balance of trade. Its role as exporter of products means it sells more outside the county than it consumes from the outside. Also a greater amount of tax money is spent here than is paid to outside taxing authorities. This situation means that the county's capital base will continue to grow.

Policies

1. The county should spend more effort interviewing local recognized financial experts to help analyze the county's financial well-being and determine overall signs of potential strength and weakness. The county should analyze legislation pertaining to rural development and choose policies which will best improve the financial structure of the area.
2. The county should recognize funds available to it through loans as a source of relatively lower cost capital financing, and encourage financial institutions to keep local capital resources in the area.
- 3-4. The potential for capital formation in Umatilla County is great, given that capital holders are willing to remove their assets from institutions and become market participants. The county should seek out and develop effective tools to make private individuals aware of the opportunities that exist for investment, reduce risk and make the formation of capital attractive to holders of excess funds.

5. The goal of the economic element is to diversify the economy of the area. Many local financial institutions may be unfamiliar with potential industry that may want to locate in Umatilla County and the risks involved with different manufacturing processes, or the status of their prospective markets, and consequently, diversification of the economic base in Umatilla County is more difficult because of unfamiliarity with different kinds of industry.
6. The establishment of land use classification (zoning) on a county wide basis assumes that land development takes place in an orderly fashion. Comprehensive land use planning mitigates the probability of land prices being bid up disproportionately by speculation, or bid down by incompatible uses that lower land values. Thus, decision parameters bounding land use remain constant, providing land investors with a reliable basis for land investment decisions.
7. The array of public funding available to entrepreneurs and the procedure used to obtain it is poorly understood by the area's businessmen and could be used more extensively.
5. The county should emphasize to local financial institutions the desirability of a locally diversified economy, and encourage them to give potential basic industries additional study and review in the interests of total community development.
6. The county should encourage its planners to actively consult with local agents and land developers. The price stabilizing effect of land use planning combined with monitored growth policies will efficiently work for the benefit of all when information influencing land investment is shared.
7. The county should encourage public agencies involved in business development assistance to become more active in the area, provide additional outreach and information, and generally help coordinate private and public sector investment activities. In addition, the county should encourage private businesses to research public sector business development assistance available to them for expanding their operations in or into Umatilla County.

D. Government and Services

Findings and Policies

Findings

1. Umatilla County is a regional center for government agencies. The government sector is a major employer of Umatilla County residents. The proportion of government employees relative to the total labor force has steadily decreased over the last few years indicating that employment in other sectors has grown faster than government employment.
2. Government contributes a large proportion of payrolls to the county's economy relative to the number of residents employed in the sector. Federal government payrolls provide the largest proportion of total sector payrolls relative to employment and local government supplies the smallest proportion of payrolls.
3. Fire protection and miscellaneous funds receive increasing proportions of county tax dollars while proportionate contributions to the Port District and General County funds decline.
4. There is a need for improved communication and coordination among governmental units.
5. The type and amount of services available to Umatilla County residents varies greatly between the cities and the rural areas of the county. Certain services, such as fire, ambulance and police protection need to be improved in many areas of Umatilla County.
6. The services sector is a major employer of Umatilla County residents and contributes much to county payrolls.

Policies

1. The county will continue to promote Umatilla County as a regional center for state and federal governmental agencies in Eastern Oregon. The county supports the expansion of local government and employment in Umatilla County when it is based upon demonstrated need and voter support.
- 2-3. The county supports efforts by appropriate state, federal, and local appointed and elected officials to reduce government spending, lower taxes and still maintain essential services.
4. The county will help coordinate governmental services among communities and public agencies to avoid duplication of services and to provide better levels of service to all communities in the county.
- 5-6. The county will specifically consider the effect of governmental land use decisions on the capabilities of existing public services to handle any changes.

7. The county recognizes that, both directly and indirectly, federal taxes have a substantial impact on county residents and therefore encourages responsibility in seeking federal funds.
8. Particularly for decisions involving public expenditures, the county recognizes the importance of citizen participation in the decision-making process; generally, the county supports efforts by government officials and agencies to better communicate with county residents.

E. Manpower, Education, and Training.

Findings and Policies

Findings

Policies

- | | |
|--|---|
| <p>1. A wide variety of institutions and programs have been established to provide job training for the Umatilla County labor force. They include the on-the-job training and apprenticeship programs by employers, Blue Mountain Community College, Blue Mountain Economic Development Council, Comprehensive Employment and Training Act, Oregon Rural Opportunities and the Umatilla Indian Reservation.</p> <p>2. It is the opinion of some area residents that many locally raised and trained young people have sought employment outside the county and therefore emigrated, at great social and economic cost to our communities.</p> <p>3. Since 1970, increases in local employment opportunities have slowed this trend toward emigration somewhat and have enabled many workers of all ages to obtain work in the area.</p> <p>4. Between 1970 and 1976, the number of employees in Umatilla County increased substantially and the unemployment rate decreased. This occurred even though the absolute number of unemployed persons increased during the same years.</p> <p>5. Effective training programs require consultation with present employers about future labor force needs, projections of future patterns of growth in various employment categories and planning to develop instruction in advance of job opportunities.</p> | <p>1. The county encourages the District Manpower Advisory Council, local community development associations, and local institutions and programs offering employment training to cooperate in the development of an overall manpower training strategy for Umatilla County.</p> <p>2. The county should encourage local, private and public economic development efforts to more efficiently utilize the talent and skills of locally trained and educated residents.</p> <p>3. The county should attempt to ascertain on a continuing basis the skills and experience prevalent among all age groups of local men and women seeking jobs, and direct economic development efforts toward industries that require abilities identified as common among unemployed people in the county.</p> <p>4. The county should attempt to separate the resident and in-migrant components of the increasing number of unemployed persons in the county, and to identify those local individuals suffering from chronic joblessness, in order to enroll them in training programs, if necessary.</p> <p>5. Manpower planning and job training agencies in the county should attempt to integrate training and education programs with area development plans through cooperation with community, county and district economic agencies and private development associations.</p> |
|--|---|

6. Prospective employers, whether locating here anew or planning expansion of existing facilities, need information about the availability of local trained labor to determine what part of their work force to import from outside the county.
7. Due to the seasonal nature of resource-based employment, Umatilla County suffers from underemployment and experiences considerable fluctuation of unemployment rates during the year.
8. Households with two or more wage earners have increased in Umatilla County since 1972, while employment has increased in white collar salaried and wage positions. Increased interest in leisure pursuits and continued education have occurred at the same time.
6. Local manpower planners should periodically develop profiles from public records and through interviews and surveys of the un- and underemployed, classification by duration of unemployment, demographic characteristics and the kinds of jobs acceptable by industrial and skill categories.
7. The county should attempt to determine through consultation with employers and the unemployed themselves, the extent to which different sections of the county economy display a seasonal component, and develop plans to lessen the associated fluctuations.
8. The county should seek to provide, through its economic development efforts, the mix of full-time, part-time, and seasonal employment that best coincides with the needs of industry and the characteristics of the local labor force.

F: Manufacturing

Findings and Policies

Findings

1. Manufacturing in Umatilla County, including food and wood processing, accounts for 22.5% of average annual wage and salary employment, third behind the trade and government sectors, and 25.2% of total covered payrolls, second only to government in 1976.
2. The 30% growth in manufacturing employment between 1970 and 1976 was led by a 69% increase in annual average food processing employment, which continues to post gains.
3. Manufacturing is a basic industry in Umatilla County, ranking behind agriculture in value of production, but capable in future of substantial expansion and diversification, and presently supporting jobs and payrolls in secondary sectors such as trade, transport, services and government.
4. The two leading components of the manufacturing sector, food processing and wood processing, which together account for about two-thirds of total sector employment, are both resource-based industries. Opportunities exist in the local wood processing industry to make more efficient use of our natural resource raw materials base.
5. Resource-based industries are particularly subject to fluctuations in market demand and production supply, being influenced by relatively uncontrollable phenomena such as agricultural productivity,

Policies

1. The county should consider the need of food processing, forest industries, camper and trailer fabricators and general manufacturing in preparing its comprehensive plan, especially requirements for water, land and timber resources, transportation and energy.
2. The county should consider the development of an "P.I.R.P."* program and request existing agencies and the Overall Economic Development Program Committee to develop information and market analysis to attract desirable types of industry. The county should then work actively to assist existing economic development groups in the promotion of industrial prospects.
3. The county should assist the communities in the county to offset potential growth problems by actively working increased funding for community development facilities.
4. Since continued growth in food and wood processing requires assurance of adequate supplies of water, agricultural and commercial timberlands, the county should encourage cost-effective irrigation projects, agricultural lands preservation and forest management practices that promote long-term productivity of timber and watershed quality.
5. The county should encourage the diversification of its industrial base through its fiscal and planning powers, in cooperation with the Port of Umatilla, relevant state and federal development agencies, ECOAC, and the Blue Mountain

* Preferred Industry Recruitment Program.

5. Continued . . . federal forest administrative practices and general construction activity, based in turn on such variables as weather, insect infestations, politics and national business cycles and interest rates. Conservation and Development Project, to promote expansion of present industries and the location of new ones, consonant with the demonstrated desire of current county residents for environmental quality and a predominately rural atmosphere.
6. There is a need for diversification of the county industrial base, including both development within existing industries and the location here of new classes of firms. 6. The county should review and prioritize economic development projects on a yearly basis to provide recommendations to state and federal funding agencies and the county's top priority projects.
7. At present wood processing in Umatilla County is dominated by lumber production for construction purposes. 7. To promote diversification and reduce the direct dependence on construction activity, the county should encourage production of alternative wood and lumber uses, such as salvage for small wood products, increased chipping and possible pelletizing of beetle-killed pine for fuel and further processing of lumber for construction and furniture, where economically feasible.
8. Producers of manufactured housing and recreational vehicles have located in the county since the mid-1960's, attracted by local labor force characteristics. 8. The county should publicize its suitability for trailer and camper production to attract more firms in this line, since they tend to employ local labor.
9. At present, many components used in trailer and camper manufacture that could be produced in Umatilla County are purchased from suppliers elsewhere. 9. The county should seize on this opportunity to generate more dollars locally from the existing wood resource by promoting the semi-processing of raw lumber into components for local home and trailer builders, and encourage meetings between local builders and wood products industry representatives to explore the possibilities of co-operation.
10. The number of jobs in Umatilla County has increased substantially since 1970 and the unemployment rate has decreased. 10. The county should emphasize the skills and experience of locally unemployed people in evaluating the desirability of new industry.
11. Closures of, or underproduction at, currently operating industrial plants have been problems in recent years. 11. The county should consider the needs of existing industries as well as encouraging new businesses to locate here.

2. A serious shortage of sites exists in the Pendleton industrial area and in the county.

13. Potential sites for future industrial development, well-served with facilities and transportation access, abound in the West End of Umatilla County, especially at the Port of Umatilla property on the Columbia River, at Hinkle and on the U. S. Army Depot.

14. The Port's Commercial dock has recently developed the capacity to handle containerized cargo, and the Union Pacific Railroad Company has developed the Hinkle facilities as its major Pacific Northwest switchyard.

15. Recent industrial development in Umatilla County has been generally labor-intensive, employing large numbers of people relative to the assessed value of physical plant.

16. Food processing development has provided jobs for many previously un- or underemployed established residents of the county, especially housewives looking for less than year-around full-time employment, to supplement household income.

17. Employing present residents has less of an impact on provision of community services than developments requiring industrial skills not prevalent in the county. This also generates a lesser level of secondary employment.

18. Undeveloped potentials in West End food processing include a new potato processing facility, vegetable facility and meat-packing plant.

12. The county should support on-going studies on the proposed Pendleton Air Industrial Park, on the Port of Umatilla, on possible developments at the Mission Industrial Park on the Reservation, and in the Pendleton Industrial area.

13- The County should draw the attention of state and federal development agencies to the suitability of this area for rural light industrialization transshipment and warehousing, reminding state government of its commitments to develop the economy of Eastern Oregon, and with federal policy to disperse jobs to rural areas, to ease the migration of unemployed people from rural to urban areas, and take steps itself to inform appropriate industries of the advantages of Umatilla County for development.

15. The county should encourage the location here of capital-intensive industries, that is, those industries with a higher ratio of assessed valuation to number of employees.

16- The county should attempt to discover from food processing employers the demographic characteristics of their workers, and learn if the high personnel turnover at their plants presents problems in production.

18. The county should encourage the development of these agricultural processing facilities as a high priority in seeking grants and private development capital.

19. Recent closures of the Kerns wood processing plant in Pilot Rock and the Western Farmers Association cannery in Milton-Freewater were made good by reopening under new ownerships.
20. Umatilla County offers industry comparative advantages over other developing rural areas in terms of labor availability for most kinds of processing and assembly work, cheap and plentiful land, very competitive electrical energy costs and excellent access to distribution facilities, including the Columbia River, I-80 freeway, Union Pacific rail and air freight transport.
21. Prospective industries need to know local labor, housing energy, land and facility costs and availability, and to be assured of readily buildable, easily serviced sites.
22. The Umatilla Indian Reservation possesses prime industrial sites, near rail and freeway transport and serviced with all necessary facilities on level land, and offers fiscal advantages from federal development programs relative to other similar but non-Indian owned locations.
23. Many smaller communities in Umatilla County, such as Athena and Pilot Rock, possess good industrial sites, and need commercial and industrial development to finance community and population growth, since residential development alone does not pay for itself.
24. Such smaller communities, while possessing available sites, often lack the necessary sewer, water, and other public facilities and systems to develop to their fullest potential or to the desired degree.
19. The county should continue to support local development organizations publicizing and offering assistance to firms and individuals seeking to redevelop closed facilities.
20. The county should establish a standing committee of citizens concerned with economic health of the area to work with existing Chambers of Commerce, the Port of Umatilla and other agencies, to receive requests for and from plants facing problems before closure becomes necessary, to help find buyers or support for such firms, and generally to publicize the county's advantages and to search for appropriate industries.
21. The county should intensify its efforts to identify industrial sites, to designate them as such in the comprehensive plan, and ensure the sites so designated are provided with services and access to labor and transport.
22. The Planning Department of the Tribal Council, the Pendleton Industrial Development Council, the Chambers of Commerce of Pendleton, Athena and Weston, ECOAC and the county should cooperate in attracting industries to Mission that satisfy the specific needs for employment among local people, especially members of the Confederated Tribes of the Umatilla Reservation.
23. The County should ensure that its efforts to promote industrial development attempt to strike an equitable distribution of new or expanded industries among the geographical subdivisions of the county, and that cities as well as the county benefit from increased revenues.
24. The county should assist its communities in offsetting potential growth problems by actively working for increased funding for community development facilities.

25. County and community planning for industrial development has become necessary due to the needs of industry for readily developable sites, to the increasing competition among Northwest jurisdictions for relocating industries and to recurrent closures at and underproduction of Eastern Oregon industrial plants.

26. The planning and development process will require up-dates as the county's economic situation changes.

27. Present and prospective industries, and the local government officers seeking to help them, require good technical information concerning the costs in wages, taxes, land, physical plant and raw materials that they may be expected to pay in the future.

25. To aid proposed on-going economic planning and development efforts the county should establish evaluative criteria leading to a "Preferred Industry Recruitment Program" and request existing agencies and the Overall Economic Development Program Committee to develop information and market analysis to attract desirable types of industry. The county should then work actively to assist existing economic development groups in the promotion of industrial prospects identified favorably.

26. The OEDP Committee should review and prioritize economic development projects on a yearly basis to provide recommendations to state and federal funding agencies and the county's top priority projects, up-dating and revising its basic planning document at appropriate intervals as better data become available or new development evaluative criteria emerge from the political and citizen involvement processes.

27. The OEDP Committee should attempt to keep the county, Port, Economic Development District, Chambers of Commerce, Community Development Associations and Tribal Development Council provided with the best possible information about problems, potentials and existing economic conditions in the county. The OEDP Committee should conduct interviews with knowledgeable businessmen and conduct surveys of present firms, as necessary, in order to provide the county with a good data base to attract, develop, and maintain preferred industries.

G. Natural Resources

Findings and Policies

Findings

1. The wood products industry is the second most important source of basic employment, payroll and public revenue in Umatilla County, supporting secondary employment in the transport, construction, trade, finance, service, and government sectors.
2. Land management plans currently being developed by the Forest Service for the Umatilla National Forest Units and for private holdings in the Pendleton, Pilot Rock, Ukiah and Athena timber impact area by other large landowners will have a substantial impact on the supply of timber required to sustain future employment in logging and wood processing.
3. Some existing timber sales administrative rules, slash piling requirements and logging road construction requirements, including high design spur standards, are more than adequate to protect wildlife habitat, watershed quality and public safety.
4. Commercial stands of timber on land owned in small private parcels could contribute significantly to the future availability of logs in Umatilla County.
5. While some thickets and brushy understory are required for avian habitat and game feeding and thermal cover, the prevalence of overstocked and slow-growing stands of lodgepole pine in the county adversely affects local forest productivity and increases fire hazard.

Policies

1. The needs of the wood products sector should be considered in evaluating county policies and future developments in recreation, trade, transport and other sectors of the county economy, as well as in local involvement with state and federal economic or environmental decisions.
2. The county should ensure that local officials and citizens have sufficient time and ample opportunity to participate in the formulation, review, and approval of public plans concerning forest resource management that materially affect the county economy and its quality of life.
3. The county should undertake to identify instances of construction overdesign and impracticable administrative requirements and to notify responsible public officials and administrators of public lands of the opposition to those requirements found to be in excess of conservation needs.
4. The county should cooperate with the Oregon Department of Forestry in its efforts to provide technical and financial assistance to smaller private timberland owners wishing to manage their forest resources more productively.
5. The county should encourage state and federal government to allocate sufficient funds to ensure that the best timber management techniques are practiced on Northeast Oregon forests, especially thinning and reforestation.

6. Among commercial timber species other than lodgepole, a major forest management problem in Umatilla County is reforestation. The lack of funds for this problem threatens long-term resource supply.
7. Prescribed burning has been an underused timber management tool in Umatilla County in the past, and, while entailing some risks, could be profitably applied to thick understory and slash situations in future.
8. Recent infestations of tussock moth and mountain pine bark beetle have seriously eroded the supply of merchantable saw timber and increased fire danger while simultaneously enhancing the supply of wood for chipping, shaking and small wood products manufacture, etc.
9. Overreliance on a limited number of wood products such as lumber, plywood and chips renders the county industrial economy vulnerable to economic fluctuations beyond local control, primarily in national construction activity.
10. Allowable cuts on National Forest land have increased at the same time as the local timberland has decreased due to reservations of or limitations on commercial land for Wilderness study, roadless area inventory, and from previous over-exploitation, leading to potential future overcutting on the remaining available land.
11. In the past, inadequate silvicultural practices have resulted in reforestation problems on poor soils
12. Umatilla County's private timberland base is being reduced annually due to subdivision developments. This reduction results in decreased county revenues, employment and future timberlands.
6. The county should seek Federal legislative action which would return a greater percentage of timber revenue for reforestation purposes within the county.
7. The county should support prescribed burnings on its forest land, under proper supervision of private and federal foresters, where deemed appropriate by state and federal fire control officers.
8. The county should support ongoing studies into alternative uses for products derived from insect-killed wood, such as wood products marketing studies and the OSU research into pelletized fuel potentials.
9. The county should encourage the development of secondary wood products manufacturing, using primary manufactured wood products from the area and the presently underutilized salvaged wood resource and seek to promote a stable raw lumber base
10. The county should take steps through management plan reviews and memorials to Congress either to reduce allowable cuts to lower, stable levels or to urge prompt resolution of conflicts regarding withdrawals for whatever reason of commercial land from harvest.
11. The county should encourage the U.S. Forest Service to utilize better forest management practices on poor tree regeneration sites.
12. To retain the private timberland base, the county shall require major land partition and subdivision development applicants on commercial forest lands to address the following four items:

- a) reasons why the applicant's proposed use should be allowed;
- b) alternative locations within the area that the applicant could use;
- c) the long term environmental, economic, social and energy consequences to the locality, the region or the state for permitting the applicant's proposed use;
- d) reasons why the proposed use would be compatible with other adjacent uses of the land.

NOTE: For purposes of this policy, "Commercial forest lands" means those forest lands containing commercial species capable of annually producing 20 cubic feet of wood fiber per acre. The county recognizes that some lands containing commercial species may be impractical to harvest due to silvicultural practices and physical conditions, and that these lands may be best used for other purposes such as wildlife habitat, natural watersheds, or grazing land.

13. Umatilla County has a relative abundance of fish and wildlife habitat, including Wildlife Refuges, reservoirs, the upland game bird country of the Columbia Plateau, and the deer and elk range and stocked and native fish-bearing streams and lakes of the Blue Mountains.

13. County policy as expressed in other elements of the comprehensive plan should recognize the present importance of resource conservation and potential economic significance to Umatilla County of the relatively undegraded environment, as well as the benefits to the health, welfare and productivity of its residents of living and working in clean, orderly developed and naturally attractive surroundings. This will require close coordination with conservation programs of the USDA, county extension agents, and private landowners.

14. Outdoor recreation is important both to residents of the county, as evidenced by its high per capita number of sportsmen and boaters, and to the future economic development potential of the county.

15. While still supporting more fish and game than most parts of Oregon Umatilla County's fishing and hunting resources have suffered in recent years from habitat destruction, increased numbers of sportsmen and agricultural chemical effects.

15. Recent attempts to develop coordinated resource planning for areas of the county through cooperation and negotiation among private landowners, the SCS and extension agents promise to improve sporting recreation opportunities in Umatilla County.

17. The proposed reservoir on Snipe Creek and diversion dam on Camas Creek above Ukiah require further study and more thoughtful design before a determination can scientifically be made as to its effect on fisheries, water quality and erosion.

14. The county should cooperate with private landowners and with responsible state and federal agencies to preserve the quality of fish and wildlife habitat in the county, and should encourage the development of planned recreational sites such as Indian Lake, Hideaway Springs, Hat Rock and marinas in order to increase the local circulation of recreational dollars and create employment opportunities in service industries.

15. The county should seek to protect its fish and game resources, which account for an estimated \$7 million of income in 1977, from further degradation in future. To maintain present levels of fish and game production, local soil Conservation Service and Agricultural Extension agents should be requested to discourage use of heptachlor and excessive drawdowns for irrigation on county reservoirs.

16. The county should take every opportunity to publicize the benefits of cooperative private and public planning, to encourage land owners to participate with the State Fish and Wildlife, SCS and Extension Service in developing joint wildlife resource management plans and to provide such positive incentives to voluntary coordination as may be deemed appropriate and effective in helping to preserve our game resource.

17. The county should encourage further study of the Snipe Creek project, with special attention to its recreation potential, soil permeability at the reservoir site, effects on minimum flows in Camas Creek and capacity of Tunnel Creek or Upper Birch Creek to accommodate the projected volume of transferred water, before making a decision on the desirability of the Butter Creek Irrigators' proposal.

18. Umatilla County has benefited in past from projects designed to conserve or develop natural resources on a regional basis, such as McNary Dam and Bureau of Reclamation projects on McKay Creek and Cold Springs Canyon.
19. Past overgrazing of commercial stock on private and public range and forest land has been detrimental to the long-term productivity of the livestock industry's land base, contributing to the decline of sheep and cattle numbers in the county.
20. Private landholders have suffered financial losses in the public interest by permitting wild game species to forage on their farm and range land.
21. The conventional energy-generating facilities recently attracted to northeast Oregon by its high air quality, adequate water resources and access to power and transportation grids could be augmented by small scale hydropower generation at future surface impoundments.
22. Air quality in Umatilla County, while seasonally lowered by dust generated by generally windy conditions at times when fields are being cultivated or harvested, and from the large amount of fallow acreage in the county, is usually high, and constitutes a recreational and health resource on which county residents have come to rely, being free of inversion threats that limit development and health in many areas of Oregon.
18. Umatilla County should continue promoting regionally beneficial developments in cooperation with other north-eastern Oregon counties, and federal and state agencies, especially through the Columbia Blue Mountain Resource Conservation and Development Project, the efforts of which toward planning for and developing wise and efficient regional management programs for land, air, water, fish and wildlife resources should prove constructive in the future.
19. Umatilla County should encourage, as part of cooperative range management programs among Fish and Wildlife, SCS, Extension Service, private and public landowners, and other state and federal land and wildlife management agencies, development of overall systems of forage allocation among wild and domestic species, erosion control and forage-planting practices most likely to revive the range-fed livestock industry and conserve soil.
20. The county should promote cooperation among the Forest Service, Oregon Department of Fish and Wildlife and local landowners, ranchers' associations and hunters to determine the extent of damage caused by wild game foraging and to reach agreement on permissible animal numbers, forage allocation plans and controlled hunts where needed.
21. The county should attempt to locate a demonstration low megawattage hydro plant project in concert with the federal Department of Energy, Northwest utilities active in the county and state and private research or prospecting institutions or firms.
22. The County should consider the impacts on air quality in evaluating the desirability of new industries and economically-significant activities.

23. Umatilla County needs more small volume surface impoundments to store spring run-off water on the headwaters of Blue Mountain streams for flushing pollutants and maintaining minimum flows at critical times for fish runs, and to provide more camping and fishing opportunities at higher elevations through creation of artificial lakes such as that at Jubilee Meadows.
24. Logging and gravel dredging operations in and around spawning grounds are injurious to fish.
25. Hydroelectric and irrigation impoundments in the past have overlooked requirements for survival of fish.
26. Oxygen deprivation from high temperatures injurious to salmonids, excessive turbidity and water levels too low to support migrations have degraded the quality of the recreational resource constituted by the populations of native and introduced trout, char and salmon in the Umatilla, Walla Walla and John Day Basins.
27. The Forest Practices Act, as applied to logging operations, offers adequate protection for the soil, water, wildlife and timber resources of the County and would help maintain the long-term productivity of all woodlands resources.
23. The county should encourage the efforts of the State Fish and Wildlife Commission to cooperate with the U.S. Forest Service in identifying potential sites for storage of water on the headwaters of Ryan, Squaw, Thomas and Buck Creeks, as well as the North Fork of Meacham Creek and the North and South Forks of the Umatilla River, to augment summer flows, urge the Bureau of Reclamation to develop fish ladders at McKay Dam and/or hatchery capacity above the reservoir on McKay Creek, and to support local Forest Service agents in their attempts to obtain funding for forest lake facilities.
24. The county should support local conservation and municipal water preservation advocates in monitoring our extractive industries' activities on the upper reaches of county watersheds, and should review Forest Service management plans and timber and gravel sale and removal permits with protection of the fisheries resource in mind.
25. The county should ensure that any future impoundments are bound to provide for the maintenance of the fisheries resource.
26. The county should recognize the recreational value of fisheries by encouraging all local in-and out of-stream users of the county's surface water resources to cooperate with the State Fish and Wildlife Commission and the Umatilla Indian Reservation in securing the established minimum flows necessary to sustain the present already seriously reduced levels of salmonid game fish populations, while maintaining present economically valuable diverted uses, where necessary through increased storage capacity explicitly designed to protect minimum flows for the downstream migration of smelts, the upstream movement of adults and the spawning and rearing of young.
27. The county should encourage private woodlands owners to adopt the features of the Forest Practices Act applicable to their acreages, and to cooperate with state and federal resource management agencies in developing plans for implementing the best soil, water, game, domestic forage and timber husbandry practices on private holdings.

28. Degradation of water quality in Umatilla County streams and ground reserves could adversely affect municipalities by reducing acceptable water supplies or by requiring improved or larger water treatment facilities.
- 28-29. County government should cooperate with appropriate agencies (EPA, SCS, U.S. F.S. County Extension Agent, the Oregon Department of Fish and Wildlife, the DEQ, the Oregon Department of Forestry) to promote maintenance or enhancement of water quality in streams and ground reserves, especially the 208 Water Quality Program. The county should encourage agricultural practices which minimize agricultural chemical run-off and soil erosion.
29. Timber harvesting activities and road building are the major contributors to water quality degradation on the upper reaches of Umatilla County streams, while soil erosion runoff, agricultural chemicals, animal wastes, and industrial discharges may be the major contributors to water quality degradation in the lower reaches. Septic systems are probably the major causes of ground water quality degradation.
30. Wind and flood erosion have been serious problems in Umatilla County in the past.
30. The County should take advantage of potential increased volumes of available surface water to further efforts to reduce attrition of topsoil through wetting lands subject to wind erosion, planting wind breaks, and cover crops, practicing new no-till agricultural techniques and considering flood control aspects in the design of impoundment dams, while taking due care to preserve fisheries on the spring from the effects of recharging the Westland area aquifer with Umatilla River Water for erosion suppression.
31. County government often has no direct authority over individuals or agencies engaged in actions which will degrade water quality.
31. The county might be most effective in a "watchdog" role - notifying cities (or public citizens) of proposed actions which may adversely affect water quality. Such "watchdog" activities by the county could help assure that any action which might bring about a drop in water quality will be both legal and acceptable to the community(ies) which will be affected by the drop in quality.
32. Presently experimental but potentially economical sources of energy that could feasibly be developed in Umatilla County include solar and wind-power electrical generation.
32. The county should encourage firms and agencies seeking to study these potential power sources to locate trial projects here, through a publicity campaign directed at interested institutions, business concerns and public agencies.

33. Potentially economically developable geothermal energy-producing sites exist in the southern part of the county
34. In addition to Harris County Park on the Walla Walla South Fork. Umatilla County has other suitable sites for public recreational development, at which to encourage a variety of leisure activities with beneficial economic consequences for the county, as well as to isolate incompatible uses of presently developed and underdeveloped sites, thereby allowing a higher quality recreational experience for each use and user.
35. Aggregate mining in Umatilla County contributes much to the county's economy, allows for secondary uses to be made of quarry sites, and will play an important role in future construction projects such as the I-82 interchange near Hermiston.
33. The county should study the potential geothermal sites for power generation, vacation home heating or recreational purposes, and determine the economic and environmental constraints on such development.
34. The County should attempt to acquire certain recreational sites, or encourage private enterprise to acquire those sites, through purchase or donation of private land or through other title change from federal or state ownership. The sites so acquired should represent all geographic areas of the county and all terrains at different elevations in order to provide residents and tourists with a wide variety of recreational uses, such as primitive and developed camping, fishing, hunting, flora and fauna observation, riding, recreational vehicle operation, skiing, hiking and other leisure activities. The recreational uses of the sites should be developed at locations most suitable for each use or for compatible uses where mutually beneficial to public and private owners.
35. The county recognizes the need for data research and identification of suitable county sites for aggregate mining. Continued aggregate mining in the county depends on the compatibility of other adjacent land uses.

H. Recreation And Tourism

Findings and Policies

Findings

1. Tourist commercial activity is significant in Umatilla County, particularly along I-80, in Pendleton during Round-Up and the Pendleton Arts Festival, in Athena, Milton-Freewater, Ukiah, Weston, and Umatilla during their respective summer celebrations, and in Hermiston during the County Fair.
2. Hunting and fishing associated purchases in Umatilla County produced over \$7 million in 1977.
3. Many ideal but as yet undeveloped recreational sites exist in the County, such as Hat Rock and Hidaway Springs. If developed with vacation or resort facilities, these sites could provide employment for high school age youth and the locally unemployed, and increase County property taxes and personal income without materially affecting permanent population and demand for services.
4. Umatilla County and various communities in the County have produced in the past or have expressed an interest in producing brochures, films, and an overall program of tourism and recreational promotion.

Policies

1. The County should seek to provide adequate tourist commercial land along the freeways where it doesn't conflict with agricultural requirements. Where such tourist lands would conflict with agriculture, the County should seek to provide adequate and convenient access and sign notification from freeways to the cores of freeway-neighboring cities. The County should cooperate with the City of Pendleton and the Round-Up association in accomodating the needs of people attending the Round-Up, with the Chambers of Commerce of other cities, and with the Fair Board in providing service accomodations for and promoting their tourist-based activities.
- 2-3. Since tourism and recreation figure prominently in the present commercial economy of Umatilla County, and could produce more value in the future, the County should protect fish and game resources and encourage resort and vacation residential development where not in conflict with timber, agricultural, and wildlife habitat requirements. Local skiing, vehicular recreation, bird-hunting, and fishing should be promoted at appropriate locations, while attempting to keep the number of game mammal hunters proportionate to County game populations.
4. Since the whole County economy benefits from increased flow of dollars through any of its communities and since significant savings can be realized through joint production of promotional materials, the County should encourage cooperation between communities, the County, constituent jurisdictions, and neighboring counties in developing, distributing and promoting such information.

Findings

5. Tourist dollars increasingly derive from destination-oriented vacationers, who often take advantage of group rates on package deals including transportation, accommodation and activity charges, (hunting, sailing, skiing, etc.), and arrangements under one sponsorship.
6. The State of Oregon Office of Tourist Information has not adequately promoted the attractiveness of Eastern Oregon destinations and facilities, relative to expenditures of time and money in publicizing other areas of Oregon.

Policies

5. The County should encourage the development of private resorts and public parks, based on special Umatilla County attractions, that provide the convenient recreational experiences sought by urban vacationers.
6. The County should make its own promotional materials available to the State for distribution, and encourage the State's tourism functionaries to visit our area more frequently to assess the potential for generating recreational income here.

I. Trade

Findings and Policies

Findings

1. The trade sector of the Umatilla County economy accounts for about one fourth of the county's total annual employment, more than any other sector. But, trade ranks behind the government and manufacturing sectors for share of covered payrolls, indicating a comparatively lower level of wage scale.
2. Trade employment in Umatilla County increased by 26% between 1970 and 1976, while total wage and salary employment grew by 23% and population by only 11%. Growth in the number of retail and wholesale jobs has therefore about kept pace with increases in basic employment (29% in manufacturing and around 20-25% in agricultural production).
3. The volume of trade in Umatilla County is directly dependent on fluctuations in agricultural income. Increases in wholesale trade during recent years has largely been in response to increased activity in supply and construction for agriculture, manufacturing, and housing.
4. A major impediment to the further expansion of the trade sector of Umatilla County's economy is the attraction exerted on Oregon residents of large shopping centers in the Tri-Cities and Walla Walla, Washington, which offer a greater variety of goods at lower prices (for tax card holding Oregon residents).
5. Retail and wholesale outlets in the Milton-Freewater area attract residents of Washington wishing to escape their state sales tax. In addition, many people employed in Walla Walla County have chosen to reside in eastern Umatilla County and commute to work, partly as a result of cheaper prices for retail goods.

Policies

- 1-3. As a secondary sector, the long-term best interests of wholesale and retail trade are best promoted by county policies encouraging development within the agricultural and manufacturing sectors.
4. Through its assessment and planning functions, the county should encourage the development of a greater variety of retail goods and establishments in the county, especially in the West End, but should also consider the effects of such commercial expansion on present local merchants.
5. The county should seek to consolidate and contain commercial development between Milton-Freewater and State-line, and to restrict new development to the Milton-Freewater Urban Growth Boundary, in order to conserve land and gasoline, and to guard against overbuilding in case Oregon should ever adopt a sales tax or Washington ever restricts its own further.

Findings

6. Many Umatilla County residents make major purchases in Portland or elsewhere outside the county, including furniture, clothing and automobiles.
7. The smaller cities of Umatilla County have lost most of their commercial business to the trade centers of Pendleton, Hermiston, and Milton-Freewater, since locally-owned establishments cannot compete with the franchise retail outlets located in these cities and because easy access is afforded to these centers by county roads and state and federal highways
8. Small towns have expressed a desire to preserve at least grocery stores and gas stations for the convenience of residents, especially the elderly.
9. Traditional commercial cores of Pendleton, Hermiston, and Milton-Freewater lack the ease of parking and multiple choice of stores conveniently located together that make urban fringe shopping centers attractive to automobile-driving shoppers. Consequently, downtowns in these cities cannot compete with outlying malls, to the detriment of municipal revenues (from idle buildings) and of energy conservation (from excessive motoring).
10. Many kinds of purchases can be stimulated by improving retail marketing practices, such as training courses in effective salesmanship, promotional campaigns, advertising techniques and public information programs.

Policies

6. The county should publicly promote patronage of local business by residents wherever possible, and encourage the location here of competitive concerns supplying the quantity and quality of goods available in larger urban centers, so far as possible within the constraints of market size and profitability.
- 7-8. The county, Port District, and economic development agencies should direct much of their efforts to locating industries and financing commercial development in the smaller nine incorporated cities of the county, especially those with declining employment bases, a high proportion of older people, and the desire for new developments.
9. Since the county can have an impact on the development of retail locations through its taxation and comprehensive planning functions, it should encourage the revitalization of downtown cores in cooperation with the cities concerned. Appropriate measures to promote concentration of development in commercial cores include considerations of road design, unrestricted parking, higher assessment on new as opposed to renovated structures, support for rehabilitation grants, re-routing of downtown traffic, discouragement of strip commercial development and restrictions on commercial malls in rural areas of the county.
10. The county should encourage Blue Mountain Community College and school districts to cooperate with local merchants in developing sales training programs and in increasing participation in commercial work study.

J. Transportation

Findings and Policies

Findings

1. Umatilla County is served by rail, highway, water, pipelines and air transportation systems. These facilities give Umatilla County the potential to become an important West Coast cross-roads for shipment of goods.
2. Although transportation is not a major employer of Umatilla County residents, the sector is a stable employer which grows in proportion to county growth and supports jobs in other sectors.
3. Increases in traffic volume along major roads and rapid growth in the county necessitate improvements in present road conditions and safety measures.
4. The planned Highway I-82N in the county's west end may improve north-south traffic flow in that area and will affect the county's economy.
5. Funding presents the biggest problem to needed road building, maintenance and improvement projects in the county. The present desires of county citizens regarding public support of road construction and maintenance needs to be ascertained.
6. The Oregon Public Utility Commissioner's permit system and freight rate structure were established to promote fair, affordable and competitive motor carrier service within the state.

Policies

1. It is the policy of the county to help the appropriate authorities improve all modes of county transportation and coordinate them into an integrated network.
2. The county recognizes the importance of transportation as an employer of county residents and encourages county-wide programs supporting transportation improvement projects.
3. The county recognizes the need to study reasonable methods to relieve high traffic volumes on certain county roads and will seek out additional funding sources for needed improvements.
4. The county recognizes that the presence of highway I-82N in the county's west end may relieve north-south traffic flow problems in that area. The county should analyze the effects of the highway on the county's economy for use in county planning actions.
5. Because of the importance of good highway transportation, Umatilla County will try to develop new methods of financing highway maintenance and construction projects, and will promote any new alternatives before appropriate Federal, State and local or private authorities.
6. The county should continue to study the effects of Oregon's motor carrier rates and permit systems on Umatilla County and should encourage the Public Utility Commissioner to carefully analyze the carrier regulations for the county.

7. The Port of Umatilla already presents an economical way of transporting some forest and agricultural products to domestic and foreign markets. Proposed plans to expand commercial dock facilities could attract other industrial and commercial developments to the Port. Barriers to full use of the Port center around overuse of present Port facilities and government administrative delays on proposals for expansion.
8. The Pendleton and Hermiston Municipal Airports aid transportation into and out of the county, tie together regional population centers, provide services to agriculture and help to attract new businesses and industries to the area.
9. Commercial airline service to both airports makes Umatilla County a regional center for major air carrier and commuter air service.
10. The recent opening of Union Pacific's Hinkle switchyards created the potential for Umatilla County to become a major crossroads for trans-shipment of goods in the Pacific Northwest.
11. The rate structure set by the federal ICC for railroad freight transport often harms Umatilla County's economy because it sets different rates for goods traveling east than for goods moving west, and it discriminates between rates set for raw or semi-processed materials and for manufactured goods.
12. Umatilla County residents have made use of mass transportation systems, such as Amtrak and bus service, located throughout the county.
13. Umatilla County has a high number of "transportation disadvantaged" residents who are restricted by insufficient, affordable public transportation. The uncertain and fairly limited scope of medical care in southern Umatilla County, and the dangerous and isolated nature of much local employment, place a premium on rapid and mobile removal of
7. The county should promote development of additional facilities at the Port of Umatilla.
8. The county should seek to avoid incompatible adjacent land uses when planning for areas near the county's airports.
9. The county recognizes that commercial airline service to Umatilla County will play an important role in the future of the county's economy and recognizes the need to plan for future expansion of airport facilities.
10. The county acknowledges the importance of Union Pacific Railroad's Hinkle switchyard and encourages the continued development of present rail facilities throughout the county.
11. The county will encourage its Congressional representatives to evaluate the existing railroad freight rate structure for the Umatilla County area and to press for any changes indicated by the evaluation.
12. The county supports the continued existence and any necessary expansion of mass transportation services to Umatilla County.
13. The county should continue to seek out public and private financial sources to aid the county in developing affordable public transportation and emergency services for isolated and transportation disadvantaged county residents.

sick or injured citizens to area treatment centers.

14. Several areas of the county have experienced loss in transportation services because of the development of incompatible land uses adjacent to transportation facilities.

14. The county should be flexible in determining dimensions of lot size for any type of land use located next to transportation facilities. The county should consider factors such as the effects of increased traffic flow, volume, speed, loss of service and accessibility when making the determinations.

K. Utilities

Findings and Policies

Findings

1. Employment and payroll for Umatilla County utilities remained fairly stable from 1970 to 1976. The sector is a minor employer of county residents, but provides vital services to the county.
2. Public utilities in many county communities will need improvements in future years, especially with tougher governmental standards for water and public health control. Funding will continue to be a problem for communities planning to make improvements.
3. As hydro-electric power from the Columbia River becomes more expensive, other energy sources (oil, gas, solar, coal, nuclear energy) gain in importance for county residents.
4. Significant damage to underground utility lines often results when county residents or firms excavate without first locating utility lines.
5. Indications are that groundwater is an exhaustible source of water supply for agricultural, municipal and industrial needs. The development of future agricultural, municipal, and industrial water supply, especially in the county's west end, is predicated on the availability of raw water from the Columbia River.

Policies

1. The county recognizes the importance of utilities for sustaining present populations and for encouraging future growth in Umatilla County.
2. The county should cooperate with and assist its communities in planning and financing the construction and improvements of municipal sewers, storm drains, water supply systems, and sanitary landfills.
3. The county should work closely with appropriate government officials at all levels to ensure that the county continues to receive its share of the Columbia River power pool. In addition, the county should encourage the development and use of energy production sites in the area, alternative energy sources, and energy conservation.
4. The county should publicize and promote the services of the Utility Coordinating Council, which makes free information available to the public about the location of underground utility lines.
5. To provide for the availability of Columbia River water for foreseeable future needs of agriculture, municipalities, and industries, the county should request allocation to be made of those flows sufficient to meet those needs.

UMATILLA COUNTY

Population Indicators in the Year 2000

November, 1979

Introduction

Information in this report has been compiled from economic and population reports previously submitted to the Umatilla County Board of Commissioners. In an effort to provide a comprehensive summary of the major issues surrounding the preparation of population projections, some of these concerns are discussed herein and others are referenced. Those wishing more detailed information are urged to contact the Umatilla County Planning Department or the East Central Oregon Association of Counties.

Summary

Population growth in Umatilla County can be expected to grow at an accelerated rate through the year 2000. The latest estimate of County population in 2000 is 121,248 within a \pm range of 109,123 to 133,372. This figure was obtained by analyzing past population trends and projecting those past growth rates into the future. Economic conditions and activities during the base years (1970-1978) were compared to potential economic conditions and activities in the coming twenty years. This was done as a reliability check on the choice of base years and trend analysis, and includes the basic employment sectors of agriculture, manufacturing, and construction.

Projection Techniques Review

Five techniques for population projections are presented in Technical Paper #39, "Guide for Local Area Population Projections" printed by the Bureau of the Census, U.S. Department of Commerce (1977). The five are (1) mathematical extrapolation, (2) ratio, (3) cohort-component, (4) economic base, and (5) land use.

Each technique has advantages and disadvantages, but all share common weaknesses when applied to Umatilla County: the size of the base population is too small to provide statistically reliable data.

In discussing general characteristics of projections, the Guide offers these thoughts:

Population projections have not been very successful as predictions (p. 3).

In general, the smaller the area, the greater the error to be expected (p. 5).

These studies (county projections in North Carolina and Oregon, indicating an error factor of 7% and 14%, respectively, over a ten year period) shows that even in the relatively short term, substantial errors are possible. A long period of experience and testing will be required before the accuracy of local population projections can be estimated, especially for longer time periods (p. 5).

One procedure detailed in the Guide, indicates that a method... "well suited to small areas like census tracts..." (p. 27) is the land use method. Although this assumes an existing zoning pattern, it has been relatively accurate.

The procedure has further backing when discussing the impact of government action on population growth:

By regulating residential construction through zoning restrictions, issuance of building permits, and construction for water and sewage, population growth can be encouraged or, if desired, practically stopped (p. 9).

The East Central Oregon Association of Counties (ECOAC) undertook a preliminary population projection in 1977. This effort involved a cohort-survival method coupled with an economic base analysis of major proposed economic activity. This technique is costly and time consuming, primarily because it involved computer analysis in matching birth and death rates with projected members of women in child-bearing years. The resulting natural growth rate was then matched with potential job creation due to several construction and industrial activities to produce a net migration population figure.

Although this relatively sophisticated technique is accurate given the list of specific economic assumptions actually happens, it is not as useful as a general indicator of population, and it is very expensive to keep current.

The mathematical extrapolation technique is the easiest to use, least complex, and is easily updated. An analysis can be undertaken with the aid of a calculator and set of future value tables. The key is in the choice of base years from which to build the analysis which is truly indicative of long-term trends.

An economic base analysis is the least well developed technique as it is the latest to gain general acceptance. However, there seems to be some relationship between economic activity and population movement or growth. Research on this technique has focused upon trying to identify independent economic variables, such as unemployment, distances between labor market

areas, number of transportation linkages, and their effect on migration. The results, so far, have not been conclusive, although there is a recognized causal relationship among the variables.

In this analysis, the use of an economic base analysis is not nearly so rigorous. It attempts to identify, in very general terms, that the accelerated growth rate in Umatilla County in the last eight years happened in relation to certain economic conditions and activity. Furthermore, that if similar conditions and activities will continue into the next ten to twenty years, then population growth will continue at the same rate.

The analysis is very simple, and is tied to basic economic factors in three sectors. These are: land, water, labor force, capital, and geographic/environmental location. They are most useful in the Agricultural and Manufacturing sectors, and directly related to the third, Construction.

The Base Years: 1970-1978

The base years, 1970-1978, were selected for several reasons. They provide the most recent census data and estimates of population. There were no major federal actions effecting employment during that period. In past decades, federal construction projects (McNary Dam, I-80N) and defense activities (Umatilla Army Depot) have produced boom-bust cycles that are not indicative of long term growth based upon the area's basic economic capability.

The seventies saw the first of a major inflationary economy. Before 1970, inflation was running at 3%, since 1970, it has been running at 9%. This condition is expected to continue into the future and its presence dictates investment, development, pricing and spending patterns that were not evident before, especially in agriculture production and processing.

An example is in the higher cost of housing which has forced many households to seek employment for both husband and wife. This is one cause of the increasing consumption of food prepared outside of the home. This increasing trend is expected to continue into the future. Some estimates indicate processed food will constitute over 50% of food consumption in the coming decades.

This impact on Umatilla County is tremendous because of the County's role in growing, processing, and exporting processed food, especially potatoes, onions, and other row crops.

Another rationale for selecting the 1970's is that the nation experienced a major recession in 1973-1974. Despite the downturn in the economy, the County grew during the period. This result is indicative of the County's and Northwest region's apparent recession-resistant economy, and will weather well national dislocations in the years ahead.

If the period 1975 to 1978 was selected as the base years, the projected growth rates would approach 14% per year. Selection of base years of such small duration is not unprecedented, and is in fact used consistently in private marketing projections, especially for five and ten year increments. The choice of the eight year period rates, somewhat, the later period growth surges and should be more reasonable as projections are prepared for a twenty year period.

Trend Analysis

Table A lists the populations at years 1970 and 1978 for jurisdictions in Umatilla County. The analysis of growth trends was undertaken in two segments. The west-end communities of Umatilla, Hermiston, Echo, and Stanfield as a high growth centers, and the balance of the County as experiencing moderate growth.

It is important to note that the high rate of growth in the west-end communities was not due to annexation. The largest single annexation at the City of Umatilla, which included the McNary Townsite, brought in only fifty additional residents.

TABLE A

<u>Jurisdiction</u>	<u>1970</u>	<u>1978</u>
Pendleton	13,197	15,000
Milton-Freewater	4,105	5,500
Pilot Rock	1,612	1,760
Athena	872	975
Weston	660	620
Adams	219	255
Helix	152	162
Ukiah	-	330
Rural	17,164	16,375
Sub-total	37,981	40,980
Hermiston	4,893	8,150
Umatilla	679	2,920
Stanfield	891	1,350
Echo	479	500
Sub-total	6,942	12,920
TOTAL	<u>44,923</u>	<u>53,900</u>

The growth rate for west-end communities was 3% per year. The growth rate for the balance of the county was 1% per year. Continuing those growth rates to the year 2000, then combining them, indicates a population in Umatilla County of 121,248, within a range of 109,123 to 133,372 ($\pm 10\%$).

In this analysis, rural residential population will continue to grow, but at a slower rate than the cities. Also, the analysis may be skewed because it is not reasonable to expect the balance of Umatilla County to grow at a rate of 1% per year, which is less than the State's growth rate of 2.1%, given the economic and public policy decisions focusing growth in rural areas.

On balance, the analysis provides a reasonable estimation of population in 2000, and a figure for which each jurisdiction's planning in a collective sense should accommodate.

Relationship to City Projections

Table B lists the Cities' population projections for which they are presently prepared to provide city services and facilities over the next twenty years. The total of the Cities is compared to the County's projection.

TABLE B

<u>Jurisdiction</u>	<u>Target 2000</u>
Pendleton	20,500
Milton-Freewater	8,875
Pilot Rock	4,346
Athena	2,000
Weston	1,900
Adams	375
Helix	450
Ukiah	400
Hermiston	32,800
Umatilla	11,200
Stanfield	6,860
Echo	<u>4,064</u>
City Total	93,770
Rural Residential	27,478
Umatilla County	121,248 (range: 109,123-133,372)

Economic Base Analysis

Following is a summary analysis of the agricultural, manufacturing, and construction sectors of the economy in Umatilla County from 1970 through 2000. Most of the information and data used in the discussion is contained in the Umatilla County Economic Statement (1979). Specialty documents, primarily from Oregon State University Extension Service and Oregon Department of Water Resources, provided information on projected agricultural developments. General resource documents provided information on multipliers, employment averages, and aggregate data not available on a county basis.

Agriculture

In 1974, at the last farming census, Umatilla County had 93,809 acres of land under irrigation. It is generally held that irrigated agriculture and its related development was the single largest contributor to economic growth during the 1970's. Twenty-four percent of total employment in 1976 was related to agriculture.

In June, 1978, the Oregon Water Resource Department issued a preliminary report entitled An Economic Analysis of Irrigation Feasibility in Oregon's Mid-Columbia Study Area. The report analyses cropping patterns based on soil type and market conditions based on 1977 sales. This information is compared to production costs and distance/lift data from the Columbia River for the provision of water.

The report identified three scenarios for agricultural production in Umatilla County. Utilizing the current irrigated cropping pattern, a mix of wheat, potatoes, alfalfa, and row crops; an additional 66,480 acres of land could be brought under irrigated cultivation within an average of 8.7 miles from the Columbia River. The second scenario included the possibility of adding sugar beets to the current cropping pattern, which would economically allow an additional 136,000 acres to come into production within an average of 12.7 miles from the Columbia River.

However, if all the land were brought under irrigated cultivation and return to land and water was maximized utilizing unlimited water, the additional acreage for irrigation is 423,000 acres within 25.1 miles of the river.

It is important to note that this is net of existing groundwater irrigated lands, and assumes no further groundwater irrigation is developed. Recently, however, wells have been used within the 25.1 mile and from the Columbia River which indicates irrigated farming will continue to expand whether or not Columbia River water is available, but probably at a slower rate.

For analytical purposes, this report selected the second scenario of an additional 136,000 acres as being reasonable even if sugar beets do not develop as a major crop.

Using OSU Extension Service estimates for on-farm employment of 6.9 jobs per 1000 acres of irrigated farmland by weighted crop type, the 136,000 acres could support 939 employees. Factoring out the estimated 135 presently employed farm workers engaged in dryland farming, there is a net increase of on-farm employment of 804, inclusive of the owner-operator. The Water Resource Department uses a CH₂M Hill multiplier of off-farm employment generation of 1.25 (Community Impacts, 1975). These off-farm employees would show up in the service and retail sectors as well as government employment. As a result, the new farm jobs would generate additional off-farm jobs of 1,005. Total new employment attributable to these potential irrigated acres would be 1,809.

Other segments of the Agricultural sector can also be expected to grow. The livestock industry suffered a decrease in revenues from 1974 to 1976, due primarily to a nationwide production cut-back in response to over supply. But, as noted in the Economic Statement, expansion of irrigated farmlands, development of cold-resistant forage crops, availability of stock byproducts from local potato processors and availability of sugar beet tops, corn and other silage crops will increase the potential for development of the beef packing industry, including more and larger feedlots.

A northwest firm has already announced that they will locate a major sheep processing plant in the area. This firm will employ about 120 individuals when on-line. The location of a beef processing plant in the west-end of the County is a definite possibility, with the number of cattle and calves increasing since 1975.

Hansell Brothers Farms, major producers of hogs and pork products, recently announced the expansion of their operation, adding facilities to produce and process 33% more hogs.

Fruits are also rebounding from the low sales years experienced in 1974-75. Experimentation in orchards in the west-end of Umatilla County could well lead to an important new break through for agriculturists.

Whether or not this growth in agriculture will occur is dependent upon several major factors. First is the availability of water for continued irrigation development. Much pressure is being placed upon the Columbia River, both from competing uses and competing users. Basalt aquifers have become suspect over the past several years as a long term water supply. However, recent reports indicate that some of the deep aquifers are recharging, and that the critical nature of the groundwater problem may be abating. This new evidence is purely suggestive, and a full report of the groundwater situation by the Water Resources Department is due in about eighteen months. Wells drawing from the more shallow, sandy aquifers appear to be consistent producers.

The Corps of Engineers has undertaken an environmental impact review of the Columbia River, and its conclusions will be extremely important in further water-use decisions relating to the river.

Second, the cost of energy to pump and distribute water to crops is critical in determining the overall economic feasibility of irrigated farmland. The Northwest Energy Bill holds a key to this factor, but its ultimate form is yet unknown. Energy production from hydro-electric dams may or may not be competitive with irrigation depending on where the water is removed from the river, alternate energy production possibilities, and final electricity pricing policies contained in the new legislation.

Third, market conditions will determine the benefit side of the irrigated farmland potential. Because agriculture remains as the United States single best export, it is reasonable to assume foreign market development will continue at all levels. For the northwest, the far and middle east hold the greatest potential for export. Also to be considered is that the Water Resources Board study used 1977 prices in determining economic feasibility for their return to land and water investments. This was a depressed market year for agricultural products. For example, wheat sold then for \$2.77 per bushel. Currently, local wheat is selling for \$3.84 per bushel at Portland. This higher level (greater than inflation) is expected to continue and increase, further improving the economic feasibility of irrigation development.

Fourth, financing for irrigation development has been eased considerably with the availability of Water Development Bonds through the State of Oregon. The bonds are currently being sold at 6.5% on the open market, as compared with 15% to 16% commercial money costs from financial institutions.

Manufacturing

The manufacture of durable and non-durable goods provides the greatest potential for growth in the coming two decades. Non-durable manufacturing is the most certain to grow with increases in food processing operations (Simplot: doubling of employees) already announced.

At the same ratio of non-durable employees per 1,000 acres of irrigated farmland in 1976 to continue into the 1980's, there would be an additional 2,856 employees serving the additional 136,000 irrigated acres. When the same multiplier for supporting and service jobs, 1.25 is used, the result is in an additional 3,570 jobs. Totally, food processing could provide 6,426 jobs.

The manufacture of durable goods will provide industrial diversification. An aggressive Port District working with local area interests in industrial development provides a solid basis for manufacturing growth.

Also to be considered are state and federal policies and programs which promote growth in more rural areas. These include governmental concerns about carrying capacities for air sheds, water sheds, and protection of high yield agricultural land, especially those lands in the Willamette Valley.

Just as the natural resources of land and water have led to the development of non-durable goods manufacturing, excellent transportation (highway, air, rail, and water) and a growing labor force will lead to increased durable goods manufacturing, especially when Umatilla County's unique location among the Portland-Seattle, Spokane and Boise-Salt Lake City market areas is considered.

In a general sense, the amount of durable goods manufacturing in the coming years will be tied to the amount of industrial land and community facilities available to accommodate it. Currently, there is approximately 7,840 acres of industrially zoned land within the county. Of the 7,840 acres, approximately 1,500 acres are now in industrial use.

The net available industrially zoned acreage is 6,340 acres. Assuming only 50% of the available land is developed because of need for public use, market factors, steep slopes, etc., the industrial land could support an additional 7,925 employees on a 2.5 employee per acre average. Using the same multiplier of 1.25 for non-manufacturing employment, 9,906 jobs could be developed in the service sectors, for a total of 17,831 potential new jobs.

The type of industry expected to locate in Umatilla County is extremely diverse. Alumax Corporation retains an option on a 165 acre plant site at the Port of Umatilla. When operational, this plant will employ 800 individuals.

The City of Pendleton, the Port of Umatilla, and the Pendleton Chamber of Commerce are now actively seeking industrial location at the Pendleton airport industrial park of an industry employing 200 to 500 individuals, primarily from the electronics industry group.

An alcohol production firm has expressed an interest in locating at the Port of Umatilla, and will be following up soon on potential sites. Additional interest in the manufacturing and export of food products from existing food processing wastes has brought investors into the area.

Expansion plans of commercial docking facilities at the Port of Umatilla have led to increased activity. Goods already designed for expanded movement over the dock include logs and lumber, containers, construction materials, and petroleum products.

Of special interest is the studies which identify Umatilla County as a prime location for thermal power generation. Also, Juniper Canyon has been selected as a site for off-peak hour power generation.

Page Ten
Population Indicators
Umatilla County

Manufacturing activity outside of Umatilla County will also have a positive impact upon population patterns within the county. A recent study by Sales and Marketing Management Magazine identified the Richland, Kennewick, Pasco area of Washington (twenty-five miles to the north) as the second fastest growing area in the nation over the next five years.

This is truly significant for population estimates in Umatilla County because Umatilla County from the City of Umatilla to Pendleton is considered as being within the Tri-City Labor Market area, as defined by the U. S. Department of Labor. Industrial development in the Tri-Cities area will be felt in Umatilla County because of the good and improving transportation linkages with that area (I-82) and the lower cost of living in Oregon as compared to Washington (the impact of Washington's sales tax).

The Tri-Cities area is expected to grow 26.4% over the next five years, with primary growth in energy production, agricultural development, wood products, and general industrial development at the Port of Pasco.

Another area of growth that will impact heavily upon Umatilla County is the development in Morrow County. Agriculture and agriculturally related activities have a definite impact upon cities in Umatilla County. A survey of food-processing workers in Boardman in 1976 reported that 70% listed their place of residence as the Greater Hermiston Area.

This percentage would have decreased significantly from 1976 because of increased housing opportunities in the Northern Morrow County area. However, expansion at the Port of Morrow Industrial Park will continue to impact Umatilla County, but at a decreasing rate.

There are currently over 30,000 acres available to come under irrigation in Morrow County. Using the same formulas for on- and off-farm employment, 1,885 new jobs would be generated in Morrow County. Assuming 40% of those individuals so employed would live in Umatilla County, 754 jobs would impact directly upon Umatilla County's population.

The development of the Carty Reservoir coal fired energy plant is also having an effect on Umatilla County cities. In their latest update on Housing and Community Facility Requirements (1979), Skidmore, Owings, and Merrill, estimate that for three energy plants (one coal and two nuclear) that the impact on Hermiston, Umatilla, and Stanfield will be 595 new residents during the next ten years.

It is important to note that this analysis includes the Pebble Springs nuclear plants which are another twenty miles from Umatilla County. The possibility is very great that additional coal units will be built at Carty Reservoir before the Pebble Springs development occurs, further increasing the impact on Umatilla County.

RURAL RESIDENTIAL*

Buildable lands for residential use are construed to be primarily those urban and urbanizing lands of those cities within the County. Rural housing is not intended to meet the needs of all household income levels. Inventory of existing rural housing in the more rapidly developing West County is found in the following Technical Staff Report No. 4. Also included is the East Central Oregon Association of Counties 1979 population projections to year 2000 for Umatilla cities and county.

The basic calculations establishing future rural residential lands needs and the identification of specific lands to accommodate needs are presented in the Plan Map section of the Comprehensive Plan.

* The format for this Section of the Technical Report varies slightly.

SUMMARY OF FINDINGS

A land use survey of the unincorporated area of the West Umatilla County Planning Unit, conducted in January, 1977, identified 2,664 dwelling units. Of these, 1,671 were single family dwellings, 760 were mobile homes on lots, 183 were mobile homes in mobile home parks, and 50 were apartment or multi-family units.

The Housing Survey contacted 1,089 (40.9 percent) of these dwelling units. Three thousand, three hundred and fifty-six persons lived in the units contacted, giving a persons per household average of 3.08. Recognizing the qualifications below, this gives an estimate of 8,258 person living in unincorporated West Umatilla County. Since this survey was conducted door-to-door during the daytime, it may have found no one at home at households in which all adult members worked. Also, the survey started at denser areas nearer cities, and time ran out before more remote, more rural houses could be approached.

Approximately 14 percent of the housing stock was evaluated to need either minor or major structural repair.

Between 3.7 and 7.9 percent of the population were living in crowded conditions (more than two per bedroom).

At the time of the survey, unincorporated areas of the West County Planning Unit needed from 174 to 254 units to compensate for substandard and over-crowded units, and to maintain an adequate vacancy rate (the range in units reflects assumptions about current vacancy rates).

To more closely define need and distribution of types of new housing units will require more information and analysis than the following survey. Unincorporated West County housing is part of a market that includes West County cities. Ideally, decisions on housing policy will integrate cities and county information.

HOUSING DEMAND

This section describes the social and economic characteristics of the persons who live in Western Umatilla County. The analysis includes a description of the total population, household incomes, and special types of households.

Since this housing survey is the first delineation of the "Western Umatilla County" planning unit, there is no information from the 1970 census directly comparable to this area which can be used to determine any changes or trends. Although some comparisons are made with Umatilla County as a whole, it should be remembered that these two areas are not directly comparable.

Total Population

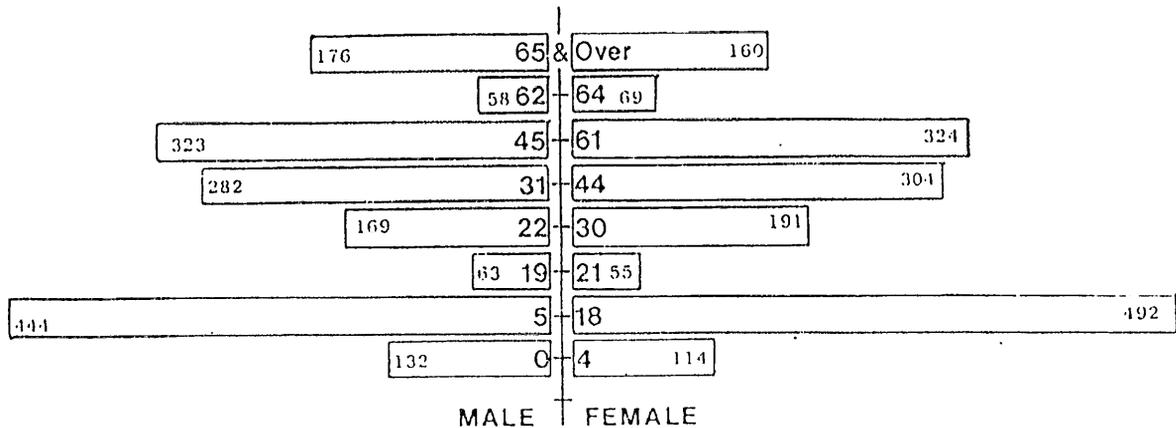
Based on the results of the survey, some general population characteristics can be determined. The population seems to be distributed about equally between males (49.4 percent) and females (50.6 percent), which is almost identical to the 1970 figures for Umatilla County as a whole. Approximately 85 percent of the household heads are married while the remaining 15 percent are single.

The age distribution of the population of the western portion of the county approximately parallels the 1970 distribution for both the state and Umatilla County as a whole. As can be seen by Table I and Chart I, slightly more than one third of the population is under 19, what is often considered the dependent age group, and slightly less than one third of the population is between 19 and 44, or the "working age" population.

TABLE I
Age Distribution of Unincorporated
West Umatilla County Residents

<u>Age Group</u>	<u>Number</u>	<u>Percent</u>
0 - 4	246	7.3
5 - 18	936	27.9
19 - 21	118	3.5
22 - 30	360	10.7
31 - 44	586	17.5
45 - 61	647	19.3
62 - 64	127	3.8
65 and over	336	10.0
TOTAL	<u>3,356</u>	<u>100.0</u>

CHART I
Age Distribution by Sex of
Unincorporated West Umatilla County



Stability of Population

The population of unincorporated West Umatilla County seems to be of fairly recent origin. Approximately one third of the residents have lived in their current area of residence for five years or less. Equal percentages of approximately one third of the population have also been in their current area of residence between six and 20 years, and over 20 years.

TABLE II
Length of Residence in Area of
Current Residence

<u>Length of Residence</u>	<u>Number</u>	<u>Percent</u>
Less than one year	138	12.7
2 to 5 years	231	21.3
6 to 10 years	175	16.2
11 to 20 years	175	16.2
21 to 30 years	152	14.0
over 30 years	152	14.0
TOTAL	<u>1,083</u>	<u>100.0</u>

This recent influx of population is probably due to the increased agricultural productivity and agriculture-related businesses in the area. The increase in these industries has resulted in similar increases in secondary businesses and industries necessary to support the growth in the population.

The major reasons cited by the respondents for remaining in their current dwelling are: satisfied with the dwelling (32.3 percent); the convenience of

location (24.3 percent); desired housing too expensive (9.9 percent); and some other, unspecified reason (26.8 percent).

Household Income

The total household income directly affects a household's ability to purchase housing. The total amount of money available to a household often determines the quality, site, type and location of the housing. The amount of money remaining for other necessities such as medical expenses, food, clothing, and so forth is often dependent upon the amount of money spent on housing.

Table III shows the distribution of household incomes in Western Umatilla County. It should be noted that this is household income, which includes one person households and unrelated individuals living with a family, as opposed to family income. Generally, family income is higher than household income.

The categories which were used to obtain "household income" tended to be quite broad. This, along with the fact that the information regarding income was not obtained by exact income figures which would have allowed grouping of the data into obvious categories, makes it impossible to obtain a mean or a median income level for this report.

TABLE III
Household Income

<u>Income</u>	<u>Number</u>	<u>Relative Percent¹</u>	<u>Adjusted Percent²</u>
\$0-\$5,999	273	25.1	28.5
\$6,000-\$11,999	257	23.6	26.8
\$12,000-15,600	169	15.5	17.6
Over \$15,600	260	23.9	27.1
No Response	130	11.9	Missing
TOTAL	<u>1,089</u>	<u>100.0</u>	<u>100.0</u>

1 "Relative percent" has the "no response" included in the percentage.
 2 "Adjusted percent" has the "no response" excluded from the percentage.

As can be seen, the distribution of responses among the categories is approximately equal, with the exception of the \$12,000-15,600 category which covers a shorter income range than the other. Although the income breakdowns of this survey are not comparable to those used by the 1970 census, the category of those earning over \$15,000, which is roughly comparable to those earning "over \$15,600" of the survey, shows a large increase of from 13.3 percent for Umatilla County as a whole in 1970 to 27.1 percent in the West County in 1977. This increase is probably due mainly to wages and salaries rising to keep pace with inflationary trends, and an increase in the number of families with two major wage earners.

The allocation of this income can be significantly affected by the size of the household, which will be discussed in a later section.

Occupational Status

Approximately two thirds of the West County households receive their income from employment, with slightly over 11 percent dependent upon Social Security and an equal percentage relying on Social Security, pension, or disability and some other form of income. (See Table IV, following page.)

Of the 1,089 households surveyed, 135 responded that there was more than one major wage earner (defined as contributing to the payment of household expenses) in the household. This accounts for 12.4 percent of the total households surveyed.

However, 17.8 percent of those who indicated that at least a portion of the household income came from employment, indicated that two major wage earners resided in the household. This indicates that approximately one eighth of the total households, and one sixth of those households receiving at least a portion of the household income from employment, have two major wage earners.

TABLE IV
Source of Income

<u>Source of Income</u>	Residents	
	<u>Number</u>	<u>Percent</u>
Employment	715	66.9
Social Security	126	11.8
Social Security, pension or disability; and other	119	11.1
Pension	42	3.9
Social Security and employment	35	3.3
Disability	15	1.4
Public assistance	7	0.7
Investments or land sales	5	0.5
Unemployment	4	0.4
TOTAL	1,068	100.0

The employment of the Western County residents tends to be concentrated in government (17.3 percent), agriculture (15.1 percent), food processing (12.6 percent), contract construction (11.0 percent), retail trade (8.6 percent), and the railroad (7.7 percent). The majority of these persons tend to be involved in production and maintenance (63.5 percent), as manager or officers (15.2 percent), or as professionals (10.0 percent), with between three and four percent each in services, sales, and clerical occupations. 17.8 percent of these households (or 12.4 percent of the households surveyed) have two major wage earners.

As can be seen by Table V, most of those employed work in the Hermiston area. Nearly 20 percent of the population travel outside of the West County area for their employment, with the majority of those traveling to Boardman, other points in the county, and outside of the county to points not as frequently specified.

TABLE V
Location of Employment of the Employed

<u>Location of Employment</u>	<u>Number</u>	<u>Percent</u>
Hermiston	523	58.6
Umatilla	67	7.5
Boardman ¹	62	6.9
Hinkle	60	6.7
Outside of area* ¹	37	4.1
McNary Dam	29	3.3
Pendleton ¹	25	2.8
County Area ¹	21	2.4
Echo	18	2.0
Ordnance	16	1.8
Tri-Cities ¹	11	1.2
Stanfield	8	0.9
Wallula ¹	6	0.7
Walla Walla ¹	4	0.5
Weston ¹	3	0.3
Pilot Rock ¹	1	0.1
Athena ¹	1	0.1
TOTAL	893	100.0

In evaluating the effects of education on income, the only general statement which can be made is that the largest percentage of households in which at least one of those over 25 years of age had only an elementary education had incomes under \$6,000.

TABLE VI
Level of Education and Household Income
of Males over 25 (in percent)

<u>Household Income</u>	<u>Elementary Not Completed</u>	<u>Elementary</u>	<u>High School</u>	<u>Two Years College</u>	<u>College</u>	<u>TOTAL</u>
\$0-\$5,999	3.0	11.8	7.2	0.6	1.8	24.4
\$6,000-\$11,999	1.2	7.7	13.2	0.4	3.6	26.1
\$12,000-\$15,600	0.4	2.9	11.3	1.6	3.6	19.8
Over \$15,600	0.0	3.4	17.6	2.6	6.4	30.0
TOTAL	4.6	25.8	49.3	5.2	15.4	100.3*

*Does not add to 100.0 because of rounding.

*"Outside of Area" includes all places of employment besides Umatilla County, Boardman, Wallula, Walla Walla and Tri-Cities. ¹These areas are located outside of Western Umatilla County Planning Unit.

TABLE VII
 Level of Education and Household Income
 of Females over 25 (in percent)

<u>Household Income</u>	<u>Elementary Not Completed</u>	<u>Elementary</u>	<u>High School</u>	<u>Two Years College</u>	<u>College</u>	<u>TOTAL</u>
\$0-\$5,999	1.5	11.2	11.2	0.8	2.6	27.3
\$6,000-\$11,999	1.1	5.7	14.2	1.2	3.5	25.7
\$12,000-\$15,600	0.0	2.5	12.4	1.2	2.5	18.6
Over \$15,600	<u>0.0</u>	<u>2.7</u>	<u>18.4</u>	<u>1.9</u>	<u>5.4</u>	<u>28.4</u>
TOTAL	2.6	22.1	56.2	5.1	14.0	100.0

As can be seen, most of the population over 25 has completed high school. The next largest group for both men and women is of those who only completed elementary school, followed by those completing college.

1970 census data for Umatilla County as a whole may not be comparable to the 1977 housing survey of the Western County due to the West County's unique industrial developments, and the diversification and stability of the agricultural economy with the expansion of the irrigation systems. However, it is interesting to note that while 57.2 percent of the 1970 Umatilla County adult population had completed high school, 72.6 percent of the West County population over 25 in 1977 had completed high school.

Special Households

For the purpose of this survey, two types of households were classified as "special households." They are (1) large family households (those with five or more persons); and (2) elderly households (households with members 62 years of age and over).

Although households with handicapped or disabled members are often included as "special households" in housing studies due to their probable lower earning capacity and the need for specific architectural features, since only 8.7 percent of the households surveyed had handicapped persons, it was

felt that this was not a large enough number from which to draw significant information.

Large family households, which are often lower income households, also tend to have the unique problem of a more limited choice of housing units available to them to accommodate the size of their households. This also limits where they may live, as the availability of housing with more than three bedrooms is not as large as smaller sized dwellings.

Elderly households often are on low, fixed incomes; live in older houses which characteristically need an ever increasing amount of maintenance and repair, and are often too large for their needs.

These household types will be analyzed in greater detail in the section of Housing Problems. The percentage representation of these households in the total population is:

Large families (5 or more members)	15.8
Elderly	
Over 62	25.6
Over 65	18.4
Other	58.6

There may be some overlapping in these percentages as large families may also have elderly members.

The following tables show the incomes of large families and those households which have persons 62 years of age and over and 65 years of age and over. As can be seen, the largest portion of large families have incomes of over \$15,600, followed closely by the earning between \$6,000 and \$11,000 and also between \$12,000 and \$15,600. Of those over 62 and over 65 years of age, nearly two-thirds earn below \$6,000, followed by approximately one quarter earning between \$6,000 and \$12,000. This is probably due to the lower, fixed incomes of these households.

TABLE VIII
Income Levels of Large Families

Family Size	\$0-\$5,999		\$6,000-\$11,999		\$12,000-15,600		Over \$15,600		TOTAL	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
5	11	6.4	26	15.1	25	14.5	40	23.3	102	59.3
6	3	1.7	14	8.1	12	7.0	14	8.1	43	24.9
7	4	2.3	3	1.7	1	0.6	7	4.1	15	8.7
8	1	0.6	1	0.6	1	0.6	2	1.2	5	3.0
9	1	0.6	1	0.6	1	0.6	4	2.3	7	4.1
TOTAL	20	11.6	45	26.1	40	23.3	67	39.9	172	100.0

TABLE IX
Income Levels of Elderly Households

	\$0-\$5,999		\$6,000-\$11,999		INCOME \$12,000-15,600		Over \$15,600		TOTAL	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Over 62	171	61.3	74	26.5	16	5.7	18	6.5	279	100.0
Over 65	136	67.7	46	22.9	11	5.5	8	3.9	201	100.0

Due to the income categories which were used in obtaining the data, it was difficult to determine the proportion of each group below the poverty level. However, using the Community Services Administration's poverty level guidelines (below), some very general conclusions were made.

TABLE X
Poverty Level Guidelines
Community Services Administration, 1977

Size of Family	Non-Farm Family	Farm Family
1	\$2,970	\$2,550
2	3,930	3,360
3	4,890	4,170
4	5,850	4,980
5	6,810	5,790
6	7,770	6,600
Each additional member	960	810

This survey did not make a distinction between farm and non-farm families. Although a large portion of the employed West County households are dependent upon farm income, most of the households are "non-farm" families. Thus, the "non-farm family" poverty level guidelines will be used.

The only guideline which generally corresponds to the income categories used, is the family of four which earns less than \$5,850 per year. All families with four or more persons which are earning below \$6,000 per year will be considered below the poverty level. Of those families, 15.0 percent, or 3.5 percent of the total households, would be considered below the poverty level. However, this does not allow for the determination of those families with five or more persons earning over \$6,000, or those families with fewer than four persons earning below \$6,000, which are below the poverty level. Because of this, the figures of those below the poverty level are a gross underestimation.

Summary

The 1977 population profile of unincorporated West Umatilla County is similar to the 1970 profile for the county as a whole as reported in the 1970 census. There are approximately the same number of males and females; 85 percent of the heads of households are married; and approximately one-third of the population is below 19 years of age, between 19 and 44, and over 44, with 14 percent 62 years of age or over. Nearly one third of the residents of this area, however, have arrived within the last five years.

Slightly less than one third of the population falls into each of the income categories of below \$6,000, \$6,000 to \$11,999, and over \$15,600 with approximately 15 percent earning between \$12,000 and \$15,600. There seems to have been a significant increase in those earning over \$15,600 when current West County incomes are compared to Umatilla County in 1970. If these two areas are assumed to be comparable, this income group has increased from approximately 13 percent to 27.1 percent.

EXISTING HOUSING SUPPLY

This section deals with the supply of housing in the unincorporated areas of Western Umatilla County. Generally, two main topics will be discussed; first, a description of the characteristics of the housing stock including structure-type, age of housing stock, and the cost of existing housing; and secondly, the condition of existing housing.

General Characteristics

1. Current Housing Stock

The land use survey completed in unincorporated West Umatilla County in January, 1977, found 2,664 housing units. Table XI indicates the distribution, by housing type, of the 1,089 dwellings contacted through the 1977 housing survey:

TABLE XI
Structure Type

<u>Housing Type</u>	<u>Number Surveyed</u>	<u>Relative Percentage¹</u>	<u>Adjusted Percent²</u>
House, single family	721	66.2	66.6
Mobile Home	348	32.0	32.1
Apartment	9	0.8	0.8
Camp trailer	4	0.4	0.4
Duplex	1	0.1	0.1
3 of 4 plex	1	0.1	0.1
No response	5	0.5	Missing
TOTALS	<u>1,089</u>	<u>100.0</u>	<u>100.0</u>

Not surveyed: 1,575

Total unincorporated dwellings: 2,664

1 "Relative Percentage" - has the "no responses" included in the percentage.

2 "Adjusted Percent" - has the "no responses" excluded from the percentage.

It is not surprising that the greatest concentration of housing units are in single family, detached houses. However, it is interesting to note that nearly one third of all of the housing units are mobile homes. Comparing the current number of housing units in this area with the "Umatilla County Housing

Survey of 1972", single family houses have increased by almost 33.0 percent, while mobile homes have increased by 55 percent. Thus, it seems that the increase in the percentage representation of mobile homes in the overall housing stock which has been evident since 1961 (Umatilla County Housing Survey of 1972), housing stock has continued since 1972, and will probably continue due to the lower cost and ready availability of mobile homes as opposed to most single family, detached houses, the construction of which appears unable to accommodate the unflux of population.

2. Age of Housing Stock

The age of the housing stock is often indicative of potential housing problems, especially of structural condition. Nearly two thirds of the dwellings in this area were constructed within the last 20 years. Of these, 43.8 percent (or 28.9 percent of the total housing stock have been constructed within the last five years, with nearly 60 percent being mobile homes. Thus, it seems that the age of the housing stock in this area tends to be quite new with less than one fifth over 30 years old.

The "Umatilla County Housing Survey of 1972", in its use of the County Tax Assessor records, discovered a sharp increase in the number of units constructed between 1946 and 1960 which it attributed to the construction of the McNary Dam on the Columbia, and the influx of workers with it which led to new housing construction. Another increase in the period from 1961 to 1972, was attributed to the rapid population and economic growth of the area in the later part of that period. This trend has continued since the 1972 housing survey, resulting in the large concentration of dwellings constructed in the last five years.

3. Tenure

Tenure refers to whether a dwelling is owner or renter occupied. There

is a very low rental rate in this area of the county with only 11.0 percent of the dwellings renter occupied, while 87.5 percent are owner occupied and approximately 1.5 percent of the dwellings coming with the job of the resident. These units which "come with the job" are generally dwellings owned by the local farmers or ranchers who provide them, rent free, to their farm or ranch help.

4. Vacancy Rates

The number and location of housing vacancies are important analytical tools for determining the current state of the housing market. Vacant houses and apartments are necessary to provide a choice of location and price ranges to housing consumers since prices tend to rise if there are few vacancies.

No information was available on the number of vacancies in the unincorporated West County. Results from this door-to-door survey would be inaccurate because dwellings which might be classified as vacant may actually be abandoned or summer homes, the residents may simply not have been home to answer the questionnaire, or some vacant residences may have been overlooked. Utility figures aggregate West County residential vacancies with all accounts from the entire service area, and compile only month-long inactive accounts. The Post Office does not compile vacancy information of the West County either.

However, in response to a question asking residents to indicate what they felt were major problems in the West County area, the greatest response was that housing was too expensive and that not enough was available. Similarly, a representative of the Umatilla County Housing Authority indicated that through the Housing Authority's dealings with people, it was generally felt that there was a lack of vacant units. Thus, it seems that the number of vacant units available is probably far below the rate recommended for proper market functioning (approximately 1.5 percent for owner-occupied units and 6.0 percent for renter-occupied units.).

5. Cost of Existing Housing

Table XII shows the monthly housing costs for dwelling units in West Umatilla County. Housing costs were defined as mortgage payment or rent; utilities such as electricity, gas, oil and water, but not telephone or cable television; and property taxes. In obtaining the information regarding housing costs, several categories were used. However, at the conclusion of the survey the highest category, "over \$175", was determined to be extremely low in light of present day housing costs. As can be seen, nearly 50.0 percent of those who responded indicated that their monthly housing costs were "over \$175". However, it is unknown how much over \$175 such respondent's housing costs were. Thus, an accurate estimation of the upper ranges of housing costs is impossible.

TABLE XII
Monthly Housing Costs

<u>Housing Costs</u>	<u>Number</u>	<u>Relative Percent¹</u>	<u>Adjusted Percent²</u>
\$-\$60	185	17.0	19.1
\$60-\$70	41	3.8	4.2
\$70-\$80	30	2.8	3.1
\$80-\$90	21	1.9	2.2
\$90-\$110	53	4.9	5.5
\$110-\$130	63	5.8	6.5
\$130-\$150	42	3.9	4.3
\$150-\$175	62	5.7	6.4
Over \$175	473	43.4	48.8
No Response	119	10.9	Missing
TOTAL	<u>1,089</u>	<u>100.0</u>	<u>100.0</u>

¹ "Relative Percent" has the "no response" included in the percentages.

² "Adjusted Percent" has the "no response" excluded from the percentages.

Since information on housing costs of unincorporated West Umatilla County residents is not available from the 1970 census or any other source, the housing cost data gathered from this survey is the only source for such information, making any type of comparison impossible

Condition of Housing

The goal of the 1949 Housing Act was to "provide a decent home and a suitable living environment" for each American. An essential element of such a home or environment was the physical condition of the structure. The dwellings in the West County Planning Unit were evaluated by each surveyor prior to, during, or following each interview. Three different aspects were evaluated with the "overall housing condition" being a sum of these various parts. The foundation condition; walls, roof, and trim; and porch, fence, and yards were all evaluated as to whether the condition of each of these were adequate, in need of minor repair, or in need of major repair. A decision was then made, after having considered these areas, as to whether the overall housing condition was adequate or in need of minor or major repairs. The criteria which were used in evaluation of these three areas tended to be quite subjective, not only in the definition of terms, but also in terms of the prejudices and perspective of the individual surveyors.¹ Nevertheless, terms of the overall housing condition, the majority of the dwellings were evaluated as "adequate" (85.6 percent), with 12.2 percent in need of "minor repair" and 2.2 percent in need of "major repair".

The 1972 "Umatilla County Housing Survey" used the percent of depreciation of each dwelling as an indication of its structural condition. Based on the Assessor's records, if a dwelling had depreciated by 0-25 percent it was in "good" condition, 26 to 50 percent was considered "average", 51 to 75 percent was "fair", and 76 to 100 percent depreciation was "poor" condition. Thus, according to this system, a dwelling could be considered "fair" even though its value was only 25 percent of its replacement cost. In 1972, 25 percent of the housing units were more than 50 percent depreciated, with 45 percent of dwellings classified as "average", having depreciated between 25

¹ See Appendix D for criteria used in the evaluation of housing conditions.

and 50 percent. Thus, even with the new construction that has occurred in the last ten years, it seems that the evaluation of the structural deterioration in the 1977 housing survey has resulted in under-estimations of such conditions by classifying 85.6 percent of the dwellings as "adequate".

TABLE XIII
Age and Physical Condition of Housing Structures

<u>Age of Structure</u>	<u>Adequate</u>		<u>Minor Repair</u>		<u>Major Repair</u>	
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
0-5 Years	217	33.4	5	5.4	1	5.9
6-10 Years	121	18.6	4	4.3	1	5.9
11-20 Years	138	21.3	14	15.2	2	11.8
21-30 Years	93	14.3	27	29.4	2	11.8
31-50 Years	55	8.5	24	26.1	4	23.5
51-75 Years	20	3.1	12	13.1	4	23.5
Over 75 Years	5	0.8	6	6.5	3	17.6
TOTAL	649	100.0	92	100.0	17	100.0

In comparing the physical condition of the year the structure was built, it can be seen that the older the dwelling, the more likely it was to be in need of repair.

Summary

From the sample of the 2,664 housing units in this area, it was found that two thirds of the dwellings were single family houses, with mobile homes representing one third, showing a substantial proportional increase since 1972. Nearly two thirds of the dwellings had been constructed in the last 20 years with almost 20 percent constructed in the last five years probably due to the large influx of population in recent years. Owner-occupied dwellings predominated with only 11.0 percent renter-occupied. The cost of these units appeared to be quite high as nearly one half of the households were paying over \$175 per month in housing costs, while the second greatest concentration of housing costs were the 20 percent of households paying below \$60 per month. Although the structural deterioration of the dwellings was probably under-estimated, 85.6 percent of the dwellings were classified as adequate, 12.2 percent in need of minor repair, and only 2.2 percent in need of major repair.

RELATED HOUSING PREFERENCES

One of the unique aspects of the survey was its emphasis on attempting to determine the desires of unincorporated West Umatilla County residents concerning housing related issues. Questions were asked regarding tenure, housing type, and number of bedroom preferences; the type of housing the respondents would like to see built in the area; and the reason why, if their present housing wasn't satisfactory. In comparing the responses of these questions with less value-ridden questions, some interesting relationships were brought to light.

As previously noted, nearly 90.0 percent of the households own their dwellings while approximately 11.0 percent rent. When asked if they would prefer to own or rent 94.1 percent responded that they would prefer to own while slightly less than five percent indicated that they would prefer to rent. In comparing these two responses, it was found that at 96.2 percent of those who presently own would prefer to own; while nearly 80.0 percent of those who currently rent would also prefer to own. Of the five percent who indicated that they would prefer to rent, slightly more than half currently own. Thus it seems that whether a household currently owns or rents, it would prefer to own.

When looking at the responses to questions pertaining to the type of housing which is currently occupied, and that type which households would prefer to occupy, it can be seen that while two thirds of the households live in houses and one third in mobile homes, nearly 80.0 percent would prefer to live in houses while only 15 percent would prefer to live in mobile homes. Of those who currently live in mobile homes, nearly half would prefer to live in houses, approximately 42 percent in mobile homes; with the other ten percent dispersed among other housing types. Focusing exclusively on those who would prefer to live in mobile homes over 85 percent currently live in mobile homes

with slightly over 11 percent currently live in mobile homes, with slightly over 11 percent living in housing. It seems equally true that of those who would prefer to live in houses, the largest percentage, 79.2 currently live in houses. Although the largest number of responses within each housing type would prefer to live in houses, the largest number of responses of those who would prefer to live in either mobile homes or houses currently live in their respective type of housing.

Slightly over half (53.9 percent) of the respondents would prefer to see houses built in their area. As can be seen by Table XIV, when the ten percent indicating "house and other" are combined with those preferring "houses", nearly two thirds of the households would prefer to see houses built. What is interesting to note is that the second most frequent response was that the households would prefer not to see any type of housing built in their area. In fact, most of those who responded in this manner were quite adamant.

TABLE XIV
Desired Housing Type

<u>Desired Housing Type</u>	<u>Number</u>	<u>Percent</u>
House	572	53.9
None*	120	11.3
House and other*	116	10.9
No Preference*	98	9.2
Lower cost*	60	5.7
Mobile Homes	44	4.2
Apartments	21	2.0
Whatever the owners want*	18	1.7
Duplex	12	1.1
TOTAL	<u>1,061</u>	<u>100.0</u>

* Did not appear as a choice on the questionnaire; that is, people insisted on these answers.

It is also interesting to note that although 32.1 percent of the population live in mobile homes, approximately 15.4 percent would live in mobile homes if they had a choice and 15.1 percent of the households would like to see mobile homes brought into the area, when "house and other" are combined with mobile home preference. Of neighborhoods, North Highway 395 residents approve most

of mobile home development in their area, (19.6 percent), while Umatilla/Echo Meadows, (5.9 percent), South Hermiston, (8.4 percent), and Stanfield Loop (10.5 percent), approve least. (See Neighborhood Map, page 41).

Table XV illustrates that most of the dwellings in this area have three bedrooms (46.4 percent) followed by two bedroom dwellings (37.4 percent). In looking at the number of bedrooms that the population would prefer to have, dwellings with four or more bedrooms increase from their current representation of approximately ten percent to slightly over 20 percent, while the desired number of two bedroom dwellings decreases slightly (8.9 percent) from its current situation.

TABLE XV
Current and Preferred Number of Bedrooms (in percent)

<u>Number of Bedrooms</u>	<u>Current Number of Bedrooms</u>	<u>Preferred Number of Bedrooms</u>
None (studio)	0.3	0.5
One	5.8	3.3
Two	37.4	28.5
Three	46.4	47.4
Four or more	10.1	20.3

When the responses from these two questions are compared, it is seen that for households having two or more bedrooms, a larger percentage prefer the number of bedrooms that they currently have, with the next largest group preferring dwellings with one additional bedroom. Of those households which have one bedroom dwellings, the largest percentage would prefer two bedroom dwellings, with the next largest group preferring one bedroom units. In looking more closely at those who would prefer "four or more" bedroom dwellings, it is seen that slightly over 50 percent of those households currently have three bedroom dwellings. However, any conclusions which might be made regarding the construction of larger units should be made in light of the concern over rising housing costs, of which size of the dwelling plays a role, and with regard to the energy consumption and expense in larger dwellings.

The majority of respondents (85.4 percent) were satisfied with their present housing. Of those who were not satisfied, 50.6 percent indicated that their housing was too small, followed by 6.8 percent, indicating that it was "too small and too old", with 22.8 percent specifying an answer not offered as an alternative. However, "too small" and "too old" were the first two possible responses in a lengthy list of alternatives. Thus, it could have been that the alternatives towards the end of the list were not chosen because the surveyor was not able to offer them as possible choices since one of the first alternatives was chosen.

Summary

In looking at the preference of the residents of the West County area, it is seen that most persons own their dwelling, and an even larger number would prefer to own. Similarly, while nearly two thirds of the respondents live in houses, and one third in mobile homes, nearly 80 percent would prefer to live in single family detached dwellings while only 15 percent would prefer to live in mobile homes. Of those who would prefer to live in one of these housing types, the greater percentage of people currently live in their respective type of housing. Single family houses are the type of dwelling most persons, (53.9 percent) would like to see built, with the next largest group (11.0 percent), indicating that they would prefer to see no housing built in their area. While 32.0 percent of the households live in mobile homes, 15.0 percent would like to live in them and 15.1 percent would like to see them developed in their area. Most persons have two or three bedroom dwellings and would prefer to have that many bedrooms, followed by the next largest percentage preferring one additional bedroom.

HOUSING PROBLEMS

The realization that many American families are in need of housing assistance was first acknowledged by the United States Congress in the 1949 Housing Act when the goal of a "decent home and a suitable living environment for every American family" was established. However, as is evident by the housing situation of many Americans, this noble goal has not been met.

Although many types of housing problems exist, three major types have been defined: households living in crowded conditions; households paying an excessive amount of their income on housing costs; and, as indicated in an earlier section, households living in physically inadequate housing. A "decent home" should, at a minimum, be a dwelling with sufficient space for the occupants, in good condition, and not placing an undue financial burden on the household. How these criteria are defined and how they relate to the unincorporated areas of West Umatilla County will be the subject of this chapter.

Crowding

Crowding occurs when an appropriate relationship between the size of a household and the size of a housing unit has been exceeded. This relationship can be measured in terms of persons per bedroom or in terms of persons per room, with 1.01 persons per major room (Bureau of the Census definition) or more than two persons per bedroom considered crowded.

The housing survey uses the measurement of "number of bedrooms" to denote crowding. It should be noted that this definition of crowding will result in a fewer number of units being classified as "crowded" than under the Bureau of Census' definition. Under the "two persons per bedroom" definition of crowding, a family of eight could be accommodated in a six-room house, assuming that the housing unit has two rooms for living purposes (kitchen and living room) in addition to bedrooms. Under the "1.01 person per room" definition, an eight room house would be required.²

² Karin M Seidel, "Development of a Housing Information Base", (Bureau of Governmental Research, Univeristy of Oregon, 1971) p. 19.

Under the "two persons per bedroom" definition, crowding in the western portion of the county does not seem to be a major problem. As can be seen in Table XVI, only 3.7 percent of the households have more than two persons per bedroom with the possibility that those households having nine persons in "four or more" bedrooms might also be crowded. Thus as is shown by those responses to the right of the solid line, 3.7 percent of the houses are crowded with the possibility that 4.2 percent might be crowded.

TABLE XVI
Persons Per Bedroom (in percent)

Number of Bedrooms	PERSONS PER HOUSEHOLD									TOTAL	
	1	2	3	4	5	6	7	8	9		
None	0.2 ¹	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
One	1.5	3.5	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	5.8
Two	5.6	20.9	5.4	4.1	1.0	0.4	0.0	0.0	0.1		37.5
Three	1.7	13.6	8.1	10.6	8.0	2.9	1.1	0.1	0.2		46.3
Four or more	0.4	0.8	1.4	2.3	2.3	1.6	0.6	0.4	0.5		10.1
TOTAL	9.4	39.9	15.6	17.1	11.3	4.8	1.7	0.5	0.7		100.0

¹ Each cell percentage is the percentage of the total responses to these questions

Of those households which are crowded, most of them fall under the definition of "large households" with five or more persons. Thus, at least 15.0 percent (or 17.4 percent if the nine person households with "four or more bedrooms" is considered crowded) of the large family households are considered crowded as compared to 3.7 percent of all of the households.

Spending an Excessive Amount of Income on Housing

1. Overall Population

It is usually acknowledged that households which are paying more than 25 percent of their income on housing have excessive housing costs (Housing Division, State of Oregon). Housing costs of 25 percent or more of the income are likely to create significant financial problems for the household as an inadequate amount would be left for medical expenses, food, clothing, and other necessities.

Table XVII shows the percentage of households in each income bracket by the housing costs which they pay. Due to the categories which are used in obtaining the income and monthly housing cost information, a precise determination of the number of persons spending in excess of 25 percent of their income on housing is impossible. For instance, housing costs of \$125 or more per month would be 25 percent of the incomes of those earning \$6,000 per year. Although all of the persons in that income bracket earn below \$6,000, the exact income is unknown, which makes comparisons with housing costs below \$125 per month inaccurate. Although the exact amount of household incomes and housing costs is unknown, making a determination of those spending in excess of 25 percent of their income on housing impossible, it would be unfair and inaccurate to simply ignore all of the households spending less than \$125 per month on housing costs. Thus, in Table XVII, all of those to the right of the heavy black line are certainly paying in excess of 25 percent of their income on housing, while those falling to the left of the heavy black line and to the right of the dotted line may possibly be spending more than 25 percent of their income on housing.

TABLE XVII
Income and Housing Cost

Row Percentage ¹	Housing Costs									Percentage of Total
	\$0-60	\$60-70	\$70-80	\$80-90	\$90-110	\$110-130	\$130-150	\$150-175	Over \$175	
\$0-\$5,999	36.6	7.9	2.4	3.1	7.5	7.5	4.3	5.5	25.2	28.2
\$6,000-\$11,999	15.6	3.7	5.3	1.2	6.6	6.6	5.3	7.0	48.8	27.1
\$12,000-\$15,600	11.1	2.5	1.9	2.5	3.7	9.3	4.9	10.5	53.7	18.0
Over \$15,600	8.3	2.1	2.1	0.8	3.3	4.2	2.9	3.3	72.9	26.7
Percent of TOTAL	18.9	4.2	3.0	1.9	5.4	6.7	4.3	6.2	49.4	100.0

¹ Each percentage, exclusive of the "percent of total" is the percent of households within that income bracket spending that specific amount on housing costs.

Of those earning below \$6,000, at least 35.0 percent of the households (or 9.9 percent of the total households) are paying in excess of 25 percent of their incomes on housing. It is also possible, although not at all probable, that up to 100 percent of those households have excessive housing costs. Of those earning between \$6,000 and \$11,999, it is possible that up to 61.1 percent

of those households are paying expenditures in excess of 25 percent of their income on housing. 53.7 percent of those earning between \$12,000 and \$15,600 and 72.9 percent of those earning over \$15,600 might also be spending in excess of 25 percent of their income on housing. However, when considering these upper income levels, it is assumed that these households have made the decision to spend a higher portion of their income on housing. The range of housing choices for higher income households is also much more extensive than for lower income households. Because of this, the possibility of such a large percentage of these households spending in excess of 25 percent of their incomes on housing should be viewed with less concern than those earning below \$12,000 per year.

2. Elderly Households

It was found that no household had more than two members who were 62 years of age or over. Tables XVIII and XIX show the incomes and housing costs of households which have members over 62 and over 65 respectively. Those to the right of the solid line are certainly spending in excess of 25 percent of their incomes on housing while those to the left of the solid line and the right of the dashed line may be spending less than the amount of their income on housing.

TABLE XVIII
Income and Housing Costs of Households with Members Over 62 Years of Age

Row Percentage ¹	Housing Costs									
INCOME	\$0-60	\$60-70	\$70-80	\$80-90	\$90-100	\$100-125	\$125-150	\$150-175	Over 175	Percentage of Total
\$0-\$5,999	52.6	8.8	1.8	3.5	7.0	1.8	2.3	5.3	9.9	61.3
\$6,000-\$11,999	32.4	4.1	9.4	1.0	9.4	1.2	1.3	4.1	25.7	26.5
\$12,000-\$15,600	50.0	6.2	6.2	6.0	4.0	6.5	6.0	6.2	12.5	5.7
Over \$15,600	5.6	0.0	5.6	5.6	13.2	11.1	9.0	11.1	38.9	6.5
Percent of Total	44.1	6.8	4.3	2.9	4.6	4.0	1.8	5.4	16.1	100.0

¹ Each percentage, exclusive of the "percent of total" is the percent of households within that income bracket spending that specific amount on housing costs.

TABLE XIX
Income and Housing Costs of Elderly 65 Years of Age and Over

Row Percentage ¹	Housing Costs									
INCOME	\$0- 60	\$60- 70	\$70- 80	\$80- 90	\$90- 110	\$110- 130	\$130- 150	\$150- 175	Over \$175	Percentage of Total
\$0-\$5,999	52.2	9.6	2.2	4.4	8.1	8.1	1.5	4.4	9.6	67.7
\$6,000-\$11,999	37.0	2.2	8.7	2.2	10.9	10.9	0.0	4.3	23.9	22.9
\$12,000-\$15,600	54.5	0.0	9.1	0.0	9.1	18.2	0.0	0.0	9.1	5.4
Over \$15,600	0.0	0.0	0.0	12.5	25.0	0.0	0.0	25.0	37.5	4.0
Percent of Total	46.8	7.0	4.0	4.0	9.4	8.4	1.0	5.0	13.9	100.0

¹ Each percentage, exclusive of the "percent of total" is the percent of households within that income bracket spending that specific amount on housing costs.

As is noted previously, the categorization of income and housing costs makes it difficult to determine the exact percentage of the West County population which is spending an excessive amount of their income on housing costs. A similar situation exists in looking at the element of the population 62 and over. However, it is certain that at least 17.5 percent of those 62 and over and 15.5 percent of those 65 and over who are earning below \$6,000, are spending over 25 percent of their income on housing. It is also possible that approximately 30.0 percent of those 62 and over and of those 65 and over, earning between \$6,000 and \$11,999 are spending an excessive amount of their income on housing. Twelve and a half percent of those 62 and over and 9.1 percent of those 65 and over earning between \$12,000 and \$15,600, may also be spending over 25 percent of their income on housing costs. Of those earning over \$15,600, slightly less than 40.0 percent of those both 62 and over and 65 and over may possibly be spending an excessive amount of their income on housing. Thus, it appears that an inordinate number of persons both 62 and over and 65 and over may be spending an excessive amount of their income on housing.

Housing Conditions

As was indicated in the previous discussion of the housing conditions of dwellings in unincorporated West Umatilla County, 12.2 percent were in need of minor repair, while 2.2 percent were in need of major repair with the remaining 85.6 percent in adequate condition. Of those dwellings which were over 30 years old, there seemed to be a greater percentage of those in need of both major and minor repair than of those in adequate condition.

Both the elderly and large households tend to have approximately the same distribution according to condition and age of the structure as the total population. The elderly tend to have slightly older dwellings while the large households tend to have slightly new dwellings than the total population, but the differences are not significant.

Summary

Crowding more than two persons per bedroom, for the population as a whole, is not serious, with only five percent of the households in that condition. However, if "large" households or those with more than four persons are considered, the degree of crowding increases to 15 percent of these households. Thus, it appears that "large" households have need of assistance in this area.

Households spending an excessive amount of their income on housing appear to be a major problem in this area. Although the categories used for obtaining income and housing cost data were only applicable to a small portion of the population, it appears that, at the minimum, 9.9 percent of the households are spending in excess of 25 percent of their income on housing. Of those earning below \$6,000, at least 35 percent of the population have excessive housing costs. In asking the residents of this area what they view as major problems, the largest group, 13.4 percent, indicated that "housing" is a problem in that it is too expensive and not enough is available. Thus, not only do the

residents view housing costs as a problem, but the results of the comparison of housing costs and income show that many households are paying an excessive amount of their income on housing.

The housing inventory did not enumerate enough dwellings in need of repair for the condition of housing to appear a major problem. It is suspected, however, that the evaluation of the dwellings in the 1977 Housing Survey resulted in an under-estimation of the deteriorated housing units, especially when it is realized that the Umatilla County Housing Survey of 1972 found the condition of housing to be major problem.

Forecasting Housing Needs

There appears to be a need at the present time for additional housing units in the western portion of the county. As shown by the following table, there are at least 174 units, with the possibility of up to 254 units, needed at this time to compensate for substandard and over-crowded units. The range in units needed exists because the current number of vacant units is unknown. If it is assumed that there are an adequate number of vacant units in this area, then only 174 units are needed. However, if it is assumed that no vacant units exist, then 254 units (an additional 80 units needed for vacancies) are needed to provide enough flexibility in the market to allow for immigration and movement of the current residents. The vacancy rates used are calculated to provide an adequate supply of housing units so as not to create unnaturally high housing costs, yet avoid an excess of units which would deflate the price of housing and depress the construction industry in the area.

It is hoped that a wide variety of housing units would be built, utilizing a variety of structural types, unit size, etc. Although multi-family units capture only 1.9 percent of the housing stock and may thus be in need in the unincorporated areas of the West County, their construction

should probably be limited to those areas having or planned for water and sewer system--the urbanized areas. Realizing that mobile homes have become a popular form of housing, provisions should continue to accommodate this type of housing as an alternative to the single family detached house.

The following table calculates the total housing needs in the summer of 1977 in unincorporated West Umatilla County through a system recommended by the Oregon State Housing Division. Actual need should include urban area characteristics, which were unavailable when this report was compiled.

TABLE XX
Calculating Housing Need

	<u>Owner Occupied</u>	<u>Renter Occupied</u>	<u>Other</u>		
Housing Stock	947	119	23		1,089
Subtract Substandard Units ¹				-	37
Usable Housing Stock					1,052
Total Households	947	119	23		1,089
Adjust for Overcrowding ²				+	38
Adjust Total Households					1,127
Deficiencies (1127 less 1089)					38
Add Units for Reasonable Vacancy Rate ³	19	8			0
Total Needed (1127 + 0)					1,127
(1127 + 29)					1,156
Total Deficiency (1127 - 1052)					75
(1156 - 1052)					104
Applicability to Total Housing Stock ⁴					174
					254

1 Only those units in need of "major repair" were used as sub-standard units.

2 Those units which had more than two persons per bedroom were considered "over crowded."

3 Since the vacancy rate for the area is unknown, two possible vacancy rates are utilized. First, it is assumed that there are adequate vacancies and no units are needed for a reasonable vacancy rate. Second, it is assumed that no vacancies exist and two percent for owner-occupied units and 8 percent for renter-occupied units are added. These rates are recommended for rapidly growing areas such as the West County. Thus, a range is created, based on these two assumptions.

4 This operation $\frac{1089}{2664} \times \frac{75}{Y}$ and $\frac{1089}{2664} \times \frac{104}{Y}$ takes the ratio of the number of housing units in the West County (2664) and applies it to the number of units in deficiency in the sample (75 or 104 depending on the assumed vacancy rate) to obtain the number of units in deficiency for the entire housing stock in the West County.

PUBLIC FACILITIES [Revised]

In an isolated setting, one provides for most of his or her own needs. In an urban setting, the individual often handles only specific duties for many people, while agencies, companies and governments provide services for the general public.

Different levels of development are accompanied by demands for appropriate types and levels of service. To remain within the limits of available resources, fiscal and physical planning must match public services with the demands.

The costs of providing services may be assumed by individuals, as in a single-family dwelling using a septic tank and well on a large lot, or by corporations and tax dollars in densities high enough to support centralized services. Total cost, including both individual and tax costs together, is generally higher for lower density development. (13)

Some services guide change, while others are expected to cope with the results of change. Planning can coordinate those services guiding change to implement local development goals, while continuing to forecast the results of change to phase the introduction and expansion of facilities to serve the general public as inexpensively and efficiently as possible. (9)

Water and Sewer

Water and sewer availabilities tend to guide land development. Dense development is required to support centralized water and sewer, or their extension. In Umatilla County, only cities presently provide both services. The community water systems outside cities serve residential and commercial subdivisions whose average lot sizes range from one acre to 10,000 square feet--more dense than surrounding lots. Community water systems have had problems with variation in water pressures, depletion of groundwater, or increasingly strict health standards and water development limitations. A regional water system that would draw water

from the Columbia for municipal and industrial use is currently under examination. These areas of community water systems represent small areas, though as a majority of the systems, they are within urban growth boundaries of the various cities in the county. These community water systems represent small clusters of development. By definition, a community water system is a facility that serves more than three users. The areas served by community water systems that remain outside of urban growth boundaries are small and inconsequential when compared to water districts that are present in western and southern Oregon counties.

The lack of any coordinated water systems outside urban growth boundaries is one of the reasons why the county chose a rural housing density of two and four acres. The shallow water bearing aquifers throughout the county have historically provided domestic water for rural development in the county. These aquifers, unlike the more publicized deepwater aquifers, are recharged annually by the winter's precipitation. By spacing dwellings out every two to four acres, groundwater supplies are protected and adequate water remains available from the aquifer to supply domestic needs. During the formulation of the comprehensive plan, the citizens' input received favored maintaining a two to four acre density as to protect the groundwater supplies.

In 1980 the county conducted a survey of the water systems in the county, both municipal and private. There are 59 systems in the county, with 12 municipal, 26 private systems within urban growth boundaries, five systems on the Umatilla Indian Reservation, and 16 systems in the rural areas of the county. Five systems are in the western portion of Umatilla County serving 96 customers, and represent three small subdivisions and the Union Pacific rail facilities at Hinkle.

Six systems serve 118 customers in the central portion of the county all around the Pendleton area. The largest is the Reith Water District, which has 68 customers in the unincorporated community of Reith. Many of the lots in Reith are 5,000 to 10,000 sq.ft. The remaining five systems are located south of Pendleton in developed subdivisions ranging in size from 1/2 to five acres.

Water Systems
in Umatilla Co.

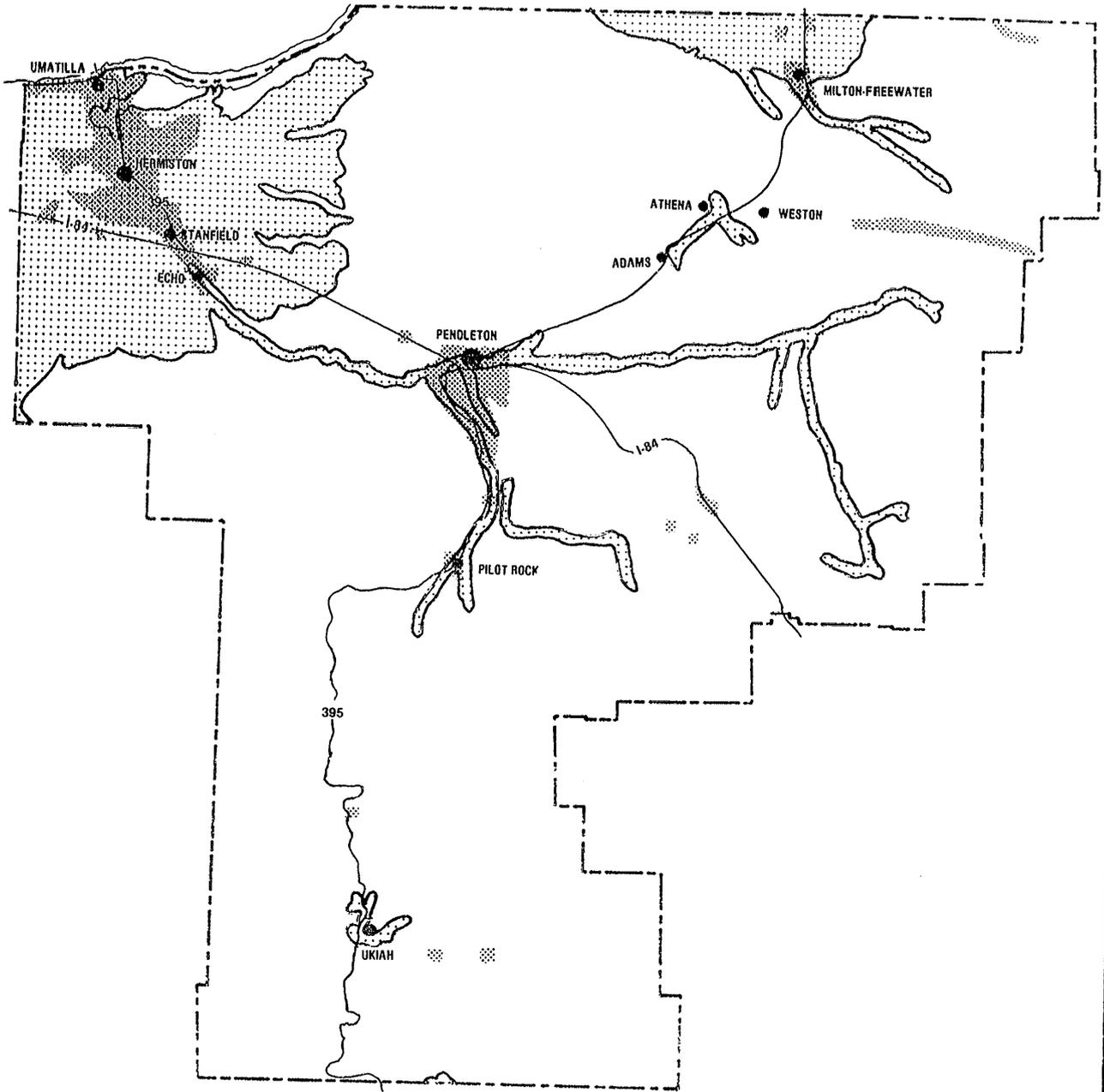
The unincorporated community of Umapine, located northwest of Milton-Freewater, also has a water system that serves 49 customers. Umapine is very much like Reith, with small lots compacted in a small area. A mobile home park north of Milton-Freewater also has its own water system that serves 75 customers.

There are three recreational subdivisions in the mountain areas of the county. Mill Creek Glen is located near the Oregon-Washington border, has 30 customers, and receives water that is being transported to the City of Walla Walla from the Mill Creek Water Shed, which provides the domestic water for the City of Walla Walla, Washington. 59 customers are served at the Langdon Lake development in the Tollgate area, and 13 customers are served at the Papoose Woodlands Subdivision near the unincorporated town of Meacham.

Table I gives the results from the survey conducted by the county. The survey indicates that there are few problems with the existing systems, the quality of the water, or the monitoring that is conducted.

Since the areas covered by community water systems are small compared to the amount of rural residential land identified in the county, a majority of the rural residential land in the county is served by individual wells. A large groundwater aquifer exists in the west county area where a majority of the county's development has occurred and is likely to continue to occur. Smaller groundwater aquifers exist north of Milton-Freewater and in the Pendleton-Pilot Rock area where other residential development has occurred and is expected to continue.

Accurate data on the amount of water available is unavailable at this time; however, state agencies (namely, Water Resources Dept. and Dept. of Environmental Quality) are beginning to study the groundwater aquifers at all levels because of the concern over the draw-down of the deepwater aquifer by large agricultural wells. In the meantime, projects requiring large amounts of water are being reviewed on a case by case basis by the county.



LEGEND



GROUND WATER AQUIFERS



NON RESOURCE DESIGNATED LANDS

SOURCE: Sweet, Edwards and Associates, Inc.

**IDENTIFIED GROUND WATER AQUIFERS
FOR UMATILLA COUNTY**



Port

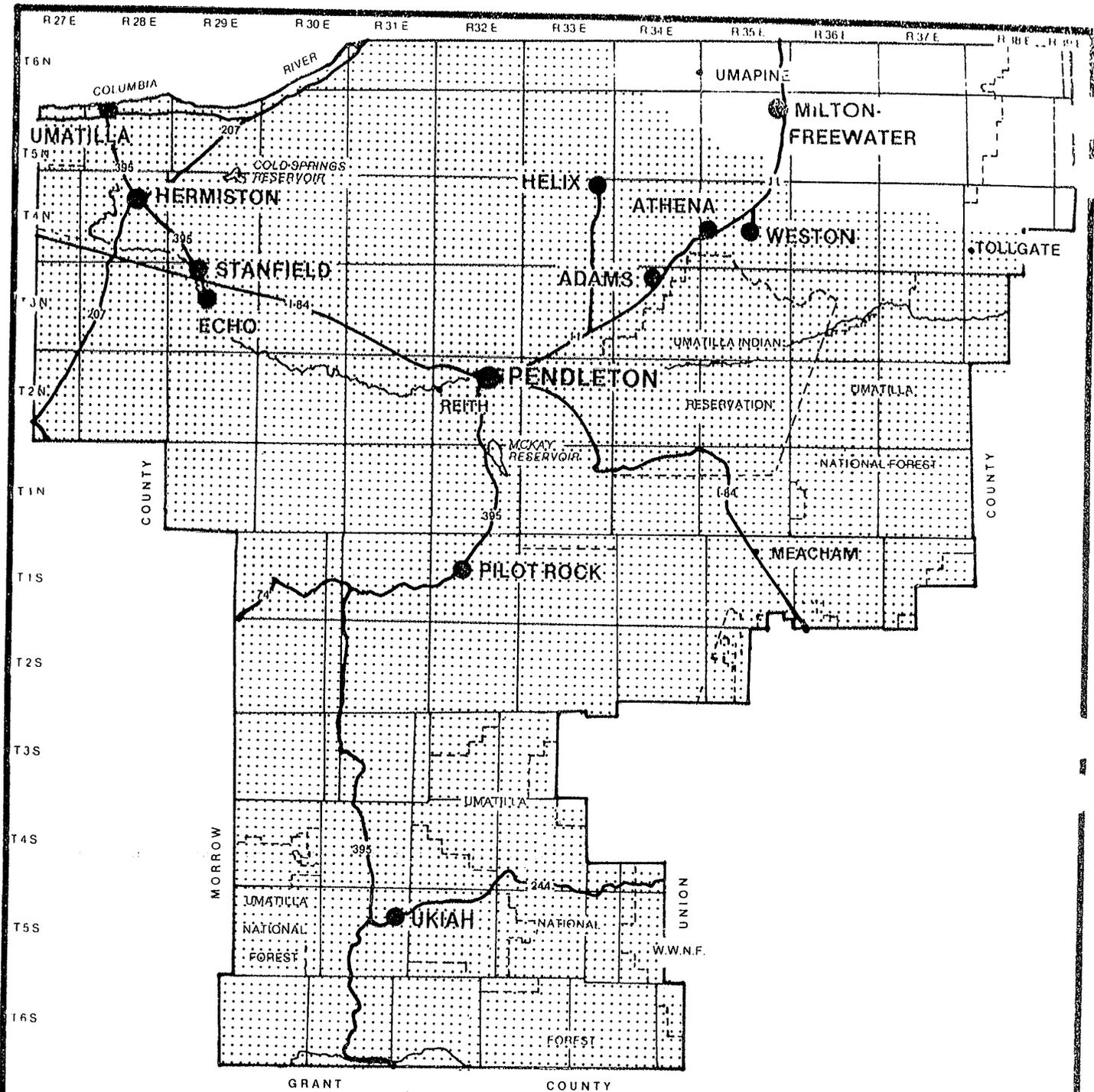
The Port of Umatilla serves as a land use attraction. Its most extensive land holdings are immediately east of the City of Umatilla; other property holdings are in Umatilla and Pendleton. The Port has assisted in arranging for sewer and water services and zoning designations. The Port may also back bonds for buildings and extension of services to industries. The Port is presently working on a master plan for future development of Port lands. The master plan will give direction to the Port's commission.

Water Control

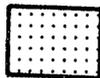
There are four major water control districts in the county. The Umatilla River Water Control District #1 (425 acres), Umatilla River Water Control District #2 (8,142 acres), and the Birch Creek Water Control District (12,000 acres) were established in 1958, 1966, and 1958, respectively, to conduct drainage, irrigation, flood or surface water control work. These districts' major activities have been to remove stream debris, bank trees and minor repairs to levees and other water containment devices, while the Army Corps of Engineers construct major physical control projects.

The Milton-Freewater Water Control District (7,500 acres) was formed in 1950 to take over maintenance and minor repairs of the levee constructed by the Army Corps of Engineers along the Walla Walla River from just below the forks of the river to McCoy Bridge. The main emphasis of this district is to provide flood control along the river.

Levees and stream channelization may conflict with public values for fish and wildlife by blocking wildlife access to the river, regularizing the stream bottom, and raising water temperatures. But such control measures also attract development to the level, relatively undeveloped areas protected from flood hazard, thereby theoretically paying for the cost of flood control improvements.



LEGEND



PORT OF UMATILLA

**PORT OF UMATILLA
UMATILLA COUNTY, OREGON**

0 3 6 12



SCALE IN MILES



TABLE I
WATER SYSTEMS ASSESSMENT
COUNTY SUMMARY OF SURVEYS

A. <u>DESCRIPTION OF WATER SYSTEMS</u>	<u>4-15 Hookups</u>	<u>%</u>	<u>15+ Hookups</u>	<u>%</u>	<u>Total</u>
1. How many systems responded to survey? *2 respondents reported only 1 hookup	9*	21	34	79	43
2. How many hookups are there in the county?	69	1	13,938	99	14,007
3. How many customers?	70		25,822		25,892
4. How many systems have surface sources?	0	0	3	100	3
5. How many systems have ground-water sources? *1 receives water from City of Pendleton	8*	20	32*	80	40
6. How many systems have reservoirs?	5	14	32	86	37
7. What is the total storage capacity in gallons?	45,500	1	16,599,170	99	16,644,670
8. How many systems treat with chlorine only?	2	12	14	88	16
9. How many use other treatments?	1	50	1	50	2
10. How many systems do not treat water?	6	23	20	77	26
 B. <u>WATER QUALITY</u>					
1. Determinations of water quality are made by:					
federal government	0	0	21	100	21
state governments	4	29	10	71	14
county government	0	0	1	100	1
self	3	37	5	63	8
other	1	20	4	80	5
2. This determination is made:					
weekly	0	0	4	100	4
monthly	1	4	27	96	28
every six months	2	66	1	34	3
yearly	1	50	1	50	2
other	3	75	1	25	4

Table I - cont'd

	<u>4-15</u> <u>Hookups</u>	<u>%</u>	<u>15+</u> <u>Hookups</u>	<u>%</u>	<u>Total</u>
3. The means for determining is:					
on-site	3	100	0	0	3
review lab test	4	11	33	89	37
other	1	100	0	0	1
4. How many systems feel water quality review is sufficient?	4	14	24	86	28
5. How many systems feel water quality review is not sufficient?	0	0	1	100	1
6. How many systems don't know whether water quality review is sufficient?	3	28	8	72	11
7. How many water systems feel that determinations on whether they meet water quality standards should be made by the:					
federal government?	0	0	11	100	11
state government?	3	19	13	81	16
county government?	0	0	6	100	6
self?	2	50	2	50	4
other?	1	50	1	50	2
8. How many feel the determination on meeting water quality standards should be made:					
weekly?	0	0	3	100	3
monthly?	0	0	17	100	17
every six months?	1	14	6	86	7
yearly?	2	40	3	60	5
other?	3	100	0	0	3
9. How many systems have met water quality standards at all times in the past year?	5	16	26	84	31
10. How many have not?	0	0	5	100	5
11. How many do not know?	2	40	3	60	5
12. How many had problems with:					
bacteria?	0	0	4	100	4
chemicals?	0	0	0	0	0
turbidity?	0	0	1	100	1
other?	0	0	0	0	0

Table I - cont'd

	<u>4-15</u>	<u>%</u>	<u>15+</u>	<u>%</u>	<u>Total</u>
	<u>Hookups</u>		<u>Hookups</u>		
13. How many water systems would improve water quality by improving:					
source?	1	17	5	83	6
treatment?	1	17	5	83	6
storage?	1	8	12	92	13
distribution?	0	0	12	100	12
other?	1	50	1	50	2
14. Total estimated cost:	\$15,000	1	\$9,318,000	99	\$9,333,000
 C. <u>SUPPLY, GROWTH & SERVICE AREAS</u>					
1. How many systems have a water supply adequate for present demands?	6	18	28	82	34
2. How many systems do not have a water supply adequate for present demands?	0	0	6	100	6
3. How many do not know?	1	100	0	0	1
4. How many water systems have a possibility of conflict with another water system if they expand?	1	50	1	50	2
5. How many do not know if they have a possibility of conflict?	4	80	1	20	5
6. How many systems feel that their water quality could be improved by expansion, merger, or other combined management function (with another system)?	3	75	1	25	4
7. How many do not feel quality could be improved in this manner?	2	7	26	93	28
8. How many do not know?	3	50	3	50	6
9. How many water systems are within an urban growth boundary?	2	10	18	90	20
10. How many feel that coordination of services is a problem in urban or rapidly growing areas?	0	0	6	100	6

Table I - cont'd

	<u>4-15</u> <u>Hookups</u>	<u>%</u>	<u>15+</u> <u>Hookups</u>	<u>%</u>	<u>Total</u>
11. How many water systems know of a plan or intergovernmental agreement which spells out future service area responsibility for their area?	0	0	7	100	7
12. How many do not know whether there is a plan or agreement?	6	29	15	71	21
13. How many have no plan or intergovernmental agreement on service areas?	1	9	10	91	11
14. How many water systems believe their water supply will be adequate in 20 years?	1	8	11	92	12
15. How many water systems believe their water supply will not be adequate in 20 years?	0	0	6	100	6
16. What is the total estimate for improving present source/supply?	\$5,000	1	16,786,000	99	16,791
17. What is the total estimate for improving source/supply for the 20-year future?	0	0	36,327,000	100	36,327

Eventual development may raise potential flood damage costs to a point that exceeds the standards the improvements were built to meet.

The reason for district formation still remains--protection of property and life in the flood area. Permits for any construction below the mean high water line are required from Oregon's Division of State Lands and from the Corps of Engineers.

Irrigation Districts

Irrigation districts were formed under the auspices of the Bureau of Reclamation in the early 1900's to divert surface water onto the west county's sandy soils. The districts are private organizations of landowners whose yearly assessments maintain district facilities and repay the water distribution system's construction costs.

The technology of the early 1900's, including surface water impoundment, gravity flow canals and pipes, and flood irrigation, continue to be used. Some modification has only recently been employed in the form of sprinkler irrigation.

Recent residential development has fragmented land holdings since the 1950's in the Hermiston Irrigation District (HID) and increasingly so in others also. The increase in the number of small lots and the non-farm orientation of their owners lessens the stake of any one of the new, small-parcel landowners in the district.

Farmers in the Stanfield Irrigation District recently invested in sprinkler systems. Besides lowering water requirements from those needed for flood systems, improving soil drainage, and decreasing the mosquito problem, the area has tended to remain in agricultural use in order to pay for the improvements.

Many of the irrigators in the Orchards District are changing from flood irrigation to overhead sprinklers. This reduces the amount of water needed to grow the fruit. One potential cost of this changeover is that flood irrigation recharged the water table north and west of the Orchards District; and since the

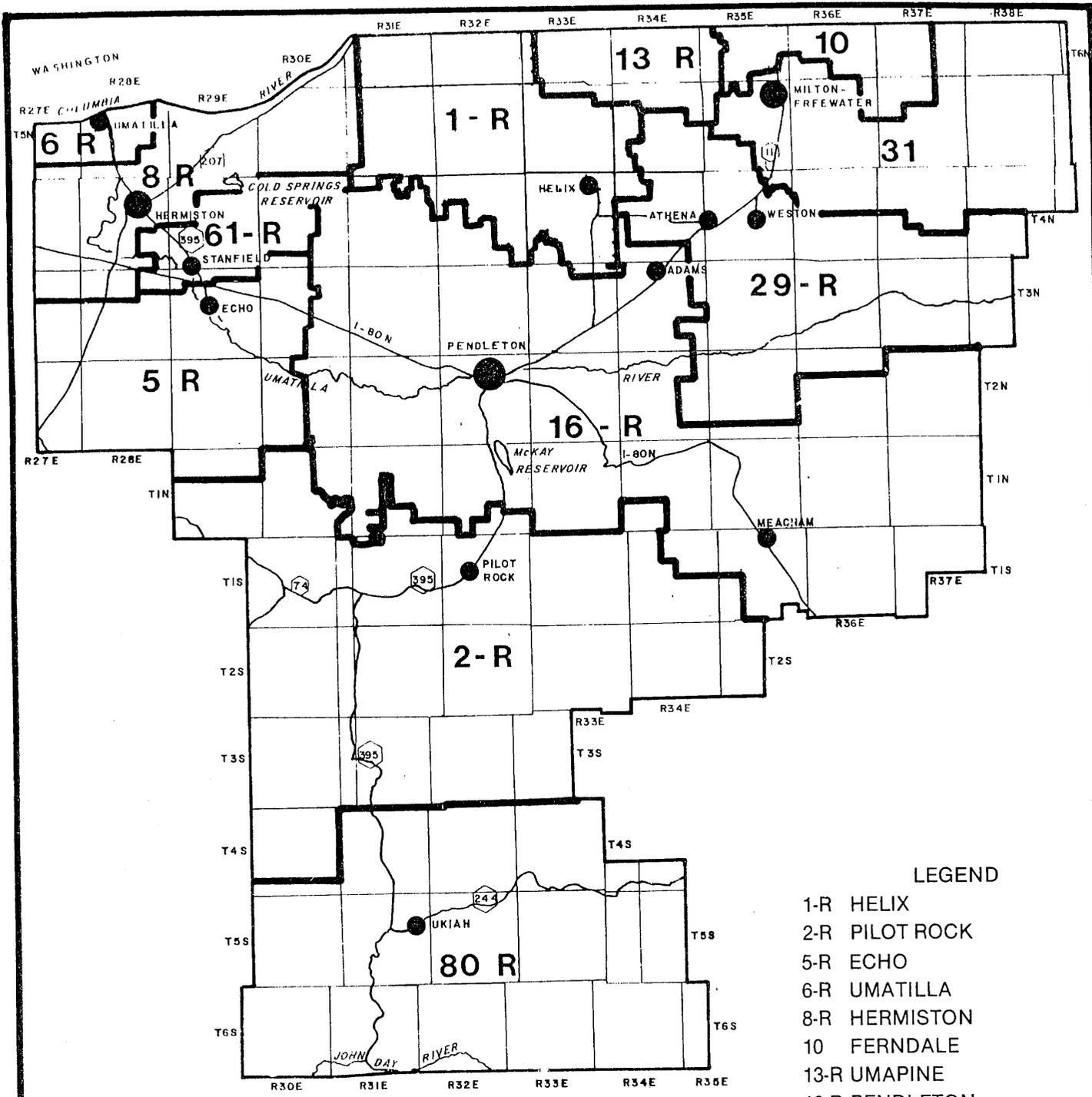
use of overhead sprinklers have increased, the water table to the north and west has dropped. This could potentially alter farming practices in the area.

The Orchards District and the West County District are faced with additional problems as areas within the districts or near diversion ditches develop into residences. Ditchbanks become places to play, increasing chances of drowning and vandalism. Those fencing a ditch right-of-way assume some liability for failure of the fence to restrict access, while fencing across a right-of-way delays ditch riders and maintenance projects. Nearby activity requiring earth moving or crossing of pipes has the distinct possibility of destroying the over 50 year old concrete.

Schools

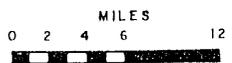
Public schools in Umatilla County are divided into thirteen school districts (see map). The districts support twenty-five (25) elementary schools, five junior highs and eleven senior highs. 1980-81 enrollment for these schools totals 10,952 students. Some private schools also operate in the county, including three schools affiliated with the Seventh Day Adventist Church. In addition, Blue Mountain Community College in Pendleton offers college level class work and night classes for area residents. (14)

Districts must cope with growing student populations and inadequate facilities. Compounding growth problems is the unequal distribution of capital improvements and consequent property valuation and tax inequities between districts. Districts have had difficult times recently passing tax levies to support increased levels of services. Inadequate tax bases adopted many years ago coupled with high inflation during the late 1970's and early 1980's have outstripped the 6% automatic increases in the tax bases. Also, state basic school support has dropped, thus transferring additional tax burden to district taxpayers.



- LEGEND**
- 1-R HELIX
 - 2-R PILOT ROCK
 - 5-R ECHO
 - 6-R UMATILLA
 - 8-R HERMISTON
 - 10 FERNDALE
 - 13-R UMAPINE
 - 16-R PENDLETON
 - 29-R ATHENA-WESTON
 - 31 MILTON-FREEWATER
 - 61-R STANFIELD
 - 80-R UKIAH

SOURCE: Umatilla Education Service District, Pendleton, Oregon, June, 1982



SCHOOL DISTRICT BOUNDARIES UMATILLA COUNTY, OREGON



A school district will often attract families to establish households within the district, while the parents work outside the district. For instance, many who work at Morrow County processing plants live in Umatilla County.

Districts frequently own undeveloped property outside city limits. Some districts have small parcels far from the cities, with one Umatilla District parcel located six miles inside the Hermiston School District boundary.

The Stanfield School District encompasses 80 acres of the City of Hermiston, presenting a potential problem for the County Elections Department. Houses in city areas that lie across school district boundaries must have new precincts unless the boundary is adjusted--and recent referenda in the county have gone against even minor adjustments.(6)

Mergers of districts, both for trial purposes and permanent consolidation, have occurred during the past few years. The Athena and Weston school districts tried a merger and ended up consolidating into one district. Echo and Stanfield had a two-year trial merger, but voters rejected a consolidation move. The Tum-a-Lum and Ferndale elementary school districts north of Milton-Freewater are the county's most recently merged districts. One of the advantages of a merger is the increased valuation of the district and the elimination of duplicate services.

Much of the growth expected to occur during the next 20 years will be directed towards urban growth boundaries. The total percentage of population living outside urban growth boundaries is expected to go from 35% at present to 23% by the year 2000. The demands on school facilities will be less than that caused by urban development. Nevertheless, the rural population will have an impact on the ability to provide for an adequate education without overcrowding the present school facilities. All thirteen school districts were contacted by the county to seek their input on the coordinated population projections for the county and what impact this proposed growth would have on their facilities.

Of the districts that responded, concern was expressed that their existing facilities would not meet the demands placed on them by the increased population. Unfortunately, the county's review of the acknowledged city plans, where most of the population will be located, shows a lack of coordination between the cities and school districts. Many of the school districts were not even aware of the comprehensive plans of the cities.

Based on this information, the county believes that its best course of action would be as a coordinator between the school districts and appropriate cities. Through its coordination function, the county will work with the cities and school districts to insure that the school districts maintain their ability to accommodate projected growth increases.

Utilities

Four electric utilities and one natural gas company serve Umatilla County residents. (14) Pacific Power and Light serves the largest portion of Umatilla County. Their service area covers primarily the communities of Umatilla, Hermiston, Stanfield, Echo, Umapine, Weston, Helix, Reith, Pendleton, Pilot Rock, and much of the rural area north and south of Pendleton. The Columbia Basin Electric Co-op's primary service area is in Morrow, Wheeler, and Gilliam Counties. However, they serve a part of southwestern Umatilla County near the town of Vinson. Milton-Freewater Light and Power serves a 60 square mile area in and around the City of Milton-Freewater. They have an adequate power supply to serve most loads. The Umatilla Electric Cooperative Association's service area in Umatilla begins on the western county line and runs to a point approximately seven miles west of Pendleton. On the east side of Pendleton, the Umatilla Electric Cooperative Association's service is in a triangular shape to the towns of Meacham and Tollgate.

Cascade Natural Gas Company is the only utility company providing natural gas to Umatilla County and presently serves the following communities: Pendleton, Hermiston, Milton-Freewater, Pilot Rock, Stanfield, Athena, Umatilla, and Weston.

Three telephone companies operate in Umatilla County. Pacific Northwest Bell serves the majority of north county users. Helix Telephone Company, a small company around and north of Helix, also provides service to the north county area and the Meacham area. Telephone Utilities of Eastern Oregon supplies telephone service to the southern portion of Umatilla County.

Utilities have experienced a large increase in demand during the late 1970's as was visible at the local level because of delays in hook-up and replacement of trunk lines. Because these utilities serve each and every request and because so many activities use electricity and rely on telephone, recent growth has impacted these utilities. The power companies had been served with a 1983 shortage of power notice by BPA. However, demand for electrical power has slumped greatly in recent years and an actual surplus is predicted. Part of this trend could be attributed to the recession of the early 1980's and to the Northwest Power Act. Recent correspondence with local utility companies indicates that they have sufficient capacity to serve the projected increases in population.

Police Protection

Unincorporated areas are patrolled by the Umatilla County Sheriff's Department. The department has 31 employees, nine of which are road deputies. There are resident deputies stationed in Hermiston and Milton-Freewater and are assisted by officers from Pendleton. There are also 11 reserve deputies who must put in 16 hours a month.

Umatilla County's crime rate is higher than most counties, and may be expected to grow with continued population growth and only current levels of law enforcement programs. The clearance rate for index offenses was 13.4 percent in 1977 compared with the 1976 state average of 19.6 percent.

The Board on Police Standards and Training advised (in 1978) the addition of personnel to relieve demands on patrolmen's time and to supplement the resident deputies. Since 1980 much has been done to improve this situation.

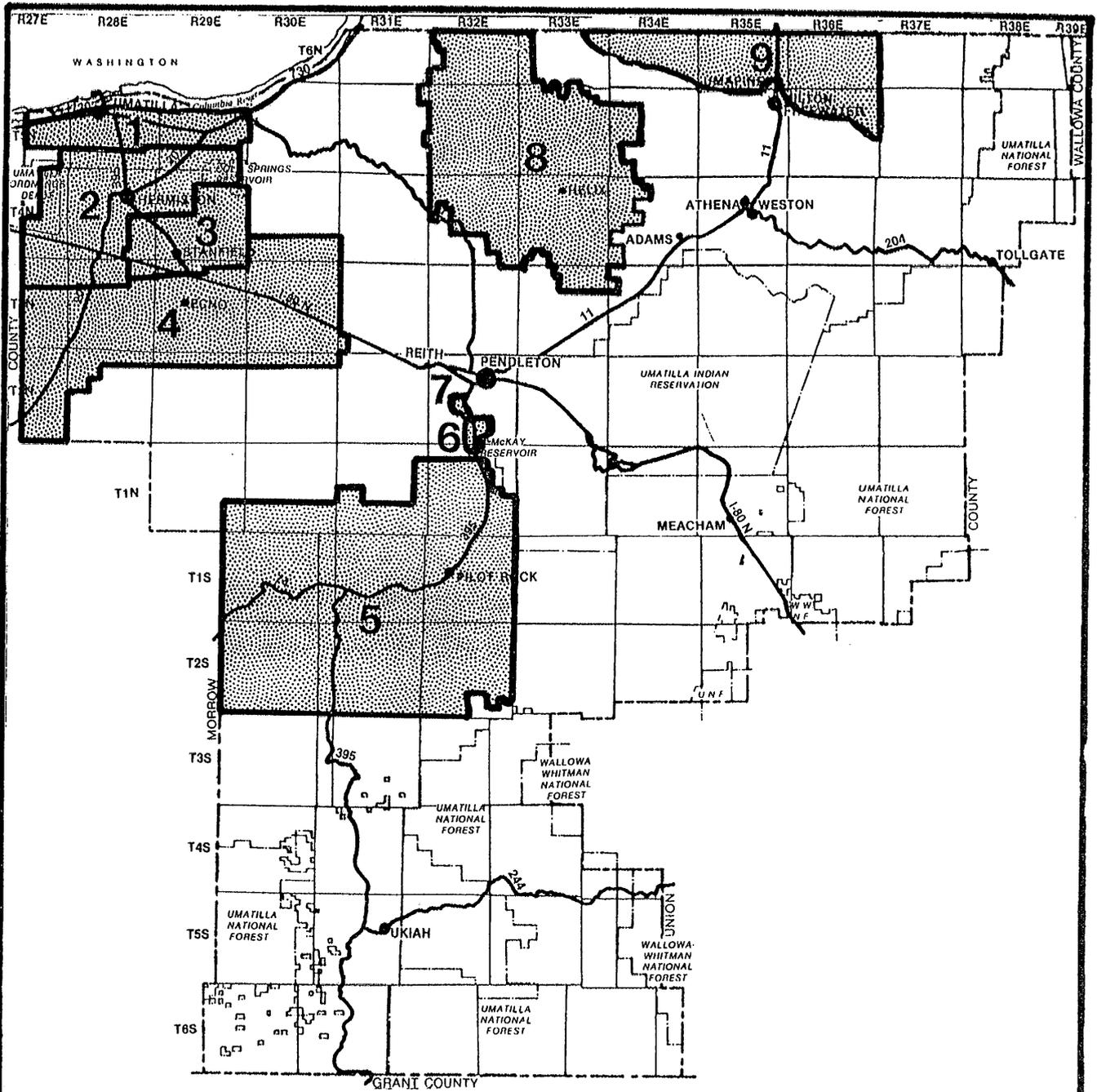
A major addition and total remodeling of the county jail was completed in 1983. Additional staff was hired to relieve the pressure placed upon the road deputies to fill in at times for jail staff. Additional deputies were assigned to rural areas as resident deputies to equal out the distribution of deputies throughout the county. Currently the statewide average for police officers is .34 per 1,000 people. Umatilla County, at the present time, exceeds that minimum and desires not to fall below that level. The coordinated population projections for the year 2000 would not exceed this ratio provided that the county maintains the current level of staffing in the department.

Fire Protection

Many of the cities in Umatilla County house a combination city-rural fire protection district. For example, Hermiston RFPD employs professional fire-fighters and emergency medical technicians in addition to its volunteers. Other rural districts depend totally on volunteers.

Umatilla, Echo, Stanfield, Helix, Pilot Rock, Athena, and Weston all have volunteer fire departments that cover the rural area. Two small fire protection districts exist to the south of Pendleton and in the past have contracted with the Pendleton Fire Department which is staffed by a full-time fire fighting unit. The districts have been successful in obtaining funds to purchase a tanker truck for needed water supply. The City Fire Chief has indicated that this addition is a very valuable asset to protecting the rural homeowners. Recently interest in joining into these rural fire districts has been expressed by adjoining rural residents.

In 1982 a private fire company received county approval to provide services on a contract bases to rural property owners in the Milton-Freewater/Orchards District Area. Many of the fire districts located in the rural residentially settled areas of the county have expressed concerns over increased development. The Hermiston Rural Fire District is seriously considering adding satellite



LEGEND

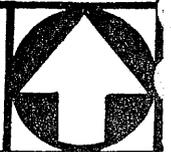


RURAL FIRE DISTRICTS

- 1 UMATILLA RFD
- 2 HERMISTON RFD
- 3 STANFIELD RFD
- 4 ECHO RFD

- 5 PILOT ROCK RFD
- 6 MCKAY DAM RFD
- 7 LOWER MCKAY CREEK RFD
- 8 HELIX RFD
- 9 MILTON-FREEWATER RFD
(CONTRACT PROTECTION)

**RURAL FIRE DISTRICTS
UMATILLA COUNTY**



stations to put them closer to the rural areas they serve as all the rural equipment is currently housed with the City of Hermiston's equipment near the downtown area. The Fire Chief believes that the consolidation of both entities into a Fire Protection District would greatly enhance the district's ability to protect both urban and rural development. This would also enhance the district's ability to protect property and life in the rural areas.

Rural fire-fighting has its own equipment requirements. Pumper trucks provide water for rural protection. Volunteers are notified by siren or plectron and provide their own transportation to the fire. Investment in equipment has the direct effect of improving insurance ratings, thus lowering rural homeowners' insurance costs. Because of the lack of an adequate water source, fires in densely built-up areas have the potential to run tankers dry before fires are brought under control. This is another reason that the county chose a two and four acre rural housing density. Fire is less likely to spread from structure to structure on larger sized lots, thus limiting the quantity of water needed. None of the fire districts responding said that they would not be able to service projected population increase in Umatilla County, but that measures were needed to insure that delivery of services could be provided in an efficient and timely manner.

Delivery of ambulance and fire protection services has been complicated by house location and access problems. Road names are repeated on several roads, may be one of several names for the same road, or may be missing altogether. In addition, easements are often unimproved, too narrow for fire vehicles, or difficult to determine to which houses they belong. To help remedy this situation, the county believes that a rural addressing system needs to be implemented. Funding through the 911 System is being looked at as a possible funding source to implement an accurate locational guide for dispatching emergency services.

Unprotected lands include much of the south and central area of the county and the mountain lands. Some landowners can buy fire patrol protection for their

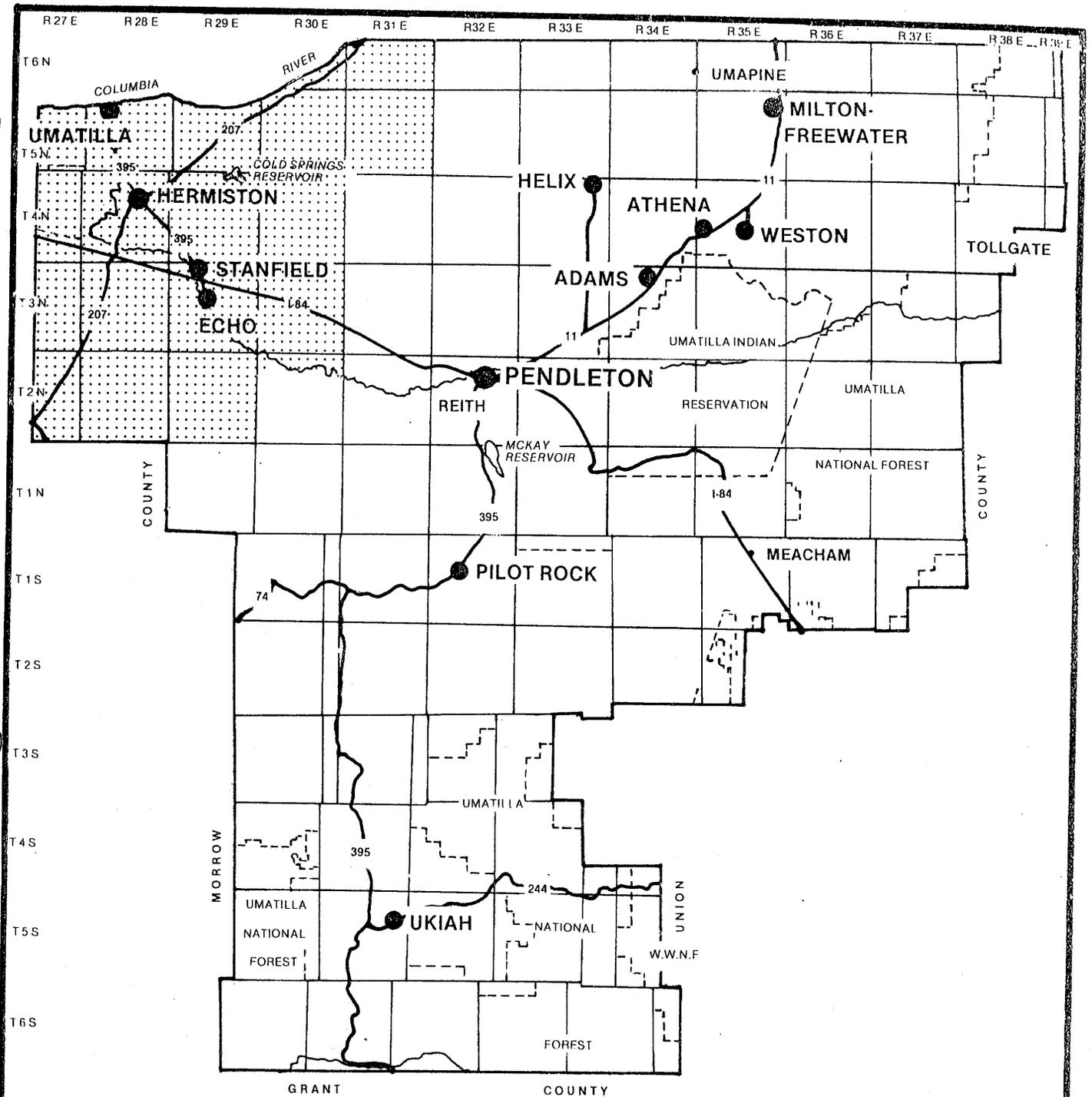
land in the mountain lands. Otherwise, the Oregon Department of Forestry is responsible for fire suppression on private forest and rangeland, and the U.S. Forest Service is responsible for National Forest Lands. Neither is in the business of protecting residential structures; rather, the land resources.

Haphazard patterns of subdivision and partitioning development have caused concern among fire authorities. The problem of homes within forested areas (Tollgate, Mill Creek, Meacham) is producing difficult patterns of fire-fighting. Fire protection for forest lands are designed to control wildland fires. In many cases, this can no longer be done. All protection agencies are concerned because many developments lack proper controls or consideration for fire safety measures, resulting in a design for disaster. Protection agencies and planners must work together in the planning and plat or partitioning approval processes to determine the level of fire protection required for the proposed development. One useful guide that the county believes will be helpful, especially in mountain areas where fire protection is at a minimum, is the Oregon Department of Forestry's publication, "Fire Safety Considerations for Developments in Forested Areas." These safety considerations, administered through the county's implementing ordinances, will help mitigate potential fire safety related problems.

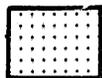
All of Umatilla County is served by Lifeguard III, an air ambulance service stationed in Pendleton. The City of Pendleton and the Hermiston Rural/City of Hermiston Fire Department provide ambulance service for a wide area of south, central and western Umatilla County. These ambulances are manned by full-time emergency medical technicians. Weston and Athena provide a volunteer ambulance service in the east portion of the county.

Vector Control

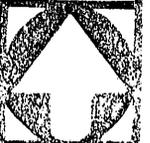
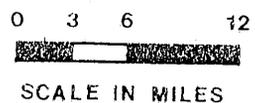
The West Umatilla Vector Control District and the East Umatilla County Chemical Control District were organized in an effort to control mosquitos. The special districts lower the cost to cattle ranchers resulting from disease and enhance outdoor recreation opportunities.



LEGEND

 WEST UMATILLA
VECTOR CONTROL DISTRICT

VECTOR CONTROL DISTRICT
UMATILLA COUNTY, OREGON



Land use can affect the operations and costs required to relieve mosquito problems. Conversion to sprinkler irrigation has lessened mosquito production in areas that were flood irrigated, while increasing production from previously dry ground. Small acreage homesites in flood irrigation areas make less efficient use of water and disturb or do not improve distribution and drainage systems, consequently worsening vector control problems.

Irrigation also leaves pools in roadside ditches and in the Umatilla River channel that become mosquito sources.

Some wildlife management techniques conflict with chemical control of mosquitos, allowing breeding upwind of cities and ranches. Control may be approached by the physical means of improving drainage, lowering the water table, removing cattle, or by biological means.

Health Services

Three hospitals, with about 225 liscensed beds, are located in Umatilla County; one in Hermiston, and two in Pendleton. The Eastern Oregon Hospital and Training Center, also located in Pendleton, provides inpatient care for the retarded and mentally ill in Eastern Oregon. Approximately 50 physicians reside in Umatilla County. Additional physicians and hospitals in Walla Walla and the Tri-Cities area (Richland, Pasco, and Kennewick) of Washington also serve many county residents. (14)

The Umatilla County Mental Health Clinic conducts mental and emotional disability problems, alcohol and drug abuse treatment programs, and mental retardation and developmental disability services. Their Hermiston office brings all three major programs to the West County. (7) The West County and northern Morrow County have a developing population of highly mobile construction workers and their families who are particularly in risk of mental health problems. It is anticipated that more workers will come seeking employment than jobs are available, compounding the problems usually accompanying this group of people. (2)

Human Service

Human service has been predominately an activity of the State of Oregon. The Adult and Family Services Division, Employment Division, Children's Services Division, Corrections Division, and Vocational Rehabilitation have offices in Hermiston. Other state offices are located in Pendleton, including Workmen's Compensation Department, Department of Veteran's Affairs, Health Division, and Food Stamp Certification. Umatilla County Housing Authority is located in Hermiston, while the Veteran's Service Office and Community Action are in Pendleton. Federal offices for the Social Security Administration and the Internal Revenue Service are also in Pendleton. Some private organizations also provide services, notably the Hermiston Day Care Center and the Seventh Day Adventist Community Center.

These services are located in or near cities to serve residents more efficiently. Access for rural residents is restricted if they do not drive. Day care services are now limited to daytime operation, presenting problems to the increasing number of families whose employment is at night in the new agricultural processing plants.

Solid Waste

The county is divided into five areas (Milton-Freewater, Athena-Weston, Pendleton, Pilot Rock, and Hermiston) for delivery of services. (14) The Hermiston solid waste landfill serves the North Morrow County area of Boardman-Irrigon. The county has adopted a solid waste management ordinance. (12)

Recently the county secured for expansion a lease on an additional 120 acres of land adjacent to the existing landfill near Hermiston. The land is owned by the U.S. Government (Bureau of Land Management) and is ideally suited for landfill activities. In addition, the county proposes to develop a landfill overlay zone to protect identified landfill sites from frivolous appeals by adjacent and sometimes not so adjacent landowners. The county believes that

landfill sites should be protected from encroaching non-resource related development.

In discussion with the Eastern Regional Office of the Oregon Department of Environmental Quality, it was found that solid waste sites throughout the county were sufficient to meet the area's needs well into the next century, especially with the additional land obtained for the Hermiston site, where a majority of the county's growth is expected to occur (50%). The Milton-Freewater, Athena-Weston, and Pilot Rock landfills are all located in agricultural areas where expansion poses little problem, although these sites are not in areas expected to experience large population increases.

The landfill site near Pendleton has leased options from the City of Pendleton on land through the year 2012. With the addition of new equipment and changes in operating procedures, the landfill's capacity, according to a recent City of Pendleton study, can be expanded to provide service for approximately the next 50 years. Much of the site for expansion of the landfill site lies outside the City's Urban Growth Boundary; and the county, through the planning process, can incorporate further findings from a proposed city study to be conducted in late 1984 as a plan update matter.

Library

The county's library system is best described as a cooperative system. That is because each city in the county supports their specific library and the county budget augments total expenditures. The county's library director has no direct authority over each city's library--only advisory, with the exception of the library in Pendleton which is almost entirely maintained through county support. Athena, Echo, Helix, Hermiston, Milton-Freewater, Pilot Rock, Pendleton, Stanfield, Weston, and Umatilla all have library facilities, with the Hermiston and Milton-Freewater libraries originally being Carnegie funded libraries. Drop stations in outlying areas are located at Adams, Ukiah, Meacham and the Woods Camp (south of Ukiah), and plans are to add one in Umapine.

A seven-member lay committee called the Umatilla County Library Board consists of seven members representing all the county. The Board is charged with making recommendations for operating libraries and developing a formula for dispensing county funds to each library.

As of May 1982, the county library system had 108,604 books. Circulation figures for fiscal year 1981 are the most recent figures available and show that 247,845 items were circulated.

Other Facilities

One major type of facility which no public agency is directly involved with is day care. Day care is very important, especially to the shift workers in the processing plants in the west and east county agricultural areas. Day care centers are provided in the county's three major cities; however, hours of operation usually cover only early mornings through late afternoons.

The county does not provide any senior citizen rest homes or convalescent homes. This is left entirely to private enterprise. Federal programs for seniors are handled through the East Central Oregon Association of Counties and in activity programs and senior meals programs. Several seniors groups have been active lately and have resulted in new or improved senior centers being constructed or improved in Hermiston, Stanfield and Milton-Freewater.

Rural and Urban Service Levels

In evaluating the services available for rural development, it becomes evident that the level of services needed and desired by rural development is less than that provided and expected in an urban setting. The following table is designed to indicate what level of services are needed for different service levels.

LEVELS OF SERVICE REQUIRED IN URBAN AND RURAL AREAS

<u>Density</u>	<u>Urban</u>	<u>Rural Residential</u>	<u>Multiple Use</u>	<u>Rural Ind./Commercial</u>	<u>Resource</u>
	Per adopted Comprehensive Plan and Joint Management Agreements for UGB Areas	2 and 4 acres per dwelling unit	1 and 10 acres per dwelling unit	1 acre unless DEQ can approve a system on a smaller lot	The size that continues the existing resource use
<u>Service Level</u>					
1. Sewer	Yes	No (1)	No	No (1)	No
2. Water	Yes	Limited (2)	No	Limited (2)	No
3. Fire Protection	Yes	Partial	No (4)	Partial	Limited
4. Police Protection	Yes	Yes	Partial	Yes	Limited
5. Surface Water Drainage	Yes	Partial (3)	Yes	Partial (3)	No
6. Road Standards	Yes	Yes	Yes	Yes	Yes

- (1) A few small water districts exist in rural areas; however, most water comes from individual wells.
- (2) Area around Pendleton is not within a fire district at this time.
- (3) Surface water drainage in the west county area is not always needed because of low rainfall and porous soils.
- (4) Sheriff's patrols are infrequent in mountain areas where multiple use areas occur. State Police Department also provides protection in multiple use areas.

SERVICE LEVEL DEFINITIONS

1. Density

- A. Urban - As determined appropriate by Joint Management Agreements.
- B. Rural Residential - For new lots of two and four acres as determined through the Comprehensive Plan process. Pre-existing sub-standard lots that fall below these minimums may be occupied, provided that the Oregon Department of Environmental Quality (DEQ) can permit a sub-surface disposal system on the lot in accordance with Oregon law.
- C. Multiple Use - Generally a minimum of five acres, except for developed areas where a one acre minimum is allowed, and big game corridors where a 10 acre minimum is required. As in Rural Residential areas, development on pre-existing substandard lots is allowed.
- D. Rural Industrial and Commercial - One acre, unless DEQ can approve a system on a smaller lot. Generally it takes at least an acre to place a septic tank and drainfield on a lot and meet the setback requirements from wells and water sources and leave enough room for a replacement drainfield.
- E. Resource - Resource-related dwellings are only allowed on lots that have been found to meet the test of continuing the existing commercial agricultural enterprises within the area. New non-farm residences will be limited to non-productive agricultural land and be limited to a maximum of five acres.

2. Sewer

Sewage is only found within urban areas and is not appropriate for rural, multiple use, or resource development unless a closed system is proposed in a cluster development in a rural or multiple use area. In any case, sewage for resource areas is inappropriate.

3. Water

- A. Urban - Water is provided in an urban setting.
- B. Rural Residential, Rural Industrial/Commercial, Resource - Water in limited areas is provided by a community water system, but generally is provided by an individual's own well.

4. Fire Protection

- A. Urban - Full protection.
- B. Rural Residential, Rural Industrial/Commercial - Protection from rural fire districts in most cases. The Pendleton area lacks rural fire protection for all developed areas. Efforts to expand the districts and protections provided is encouraged.

- C. Multiple Use - None.
 - D. Resource - Limited in most cases to volunteer efforts by local farmers, ranchers and farm cooperatives. A few rural districts cover farmland within their districts.
5. Surface Water Drainage
- A. Urban - Curbs and gutters required.
 - B. Rural Residential, Rural Industrial/Commercial, Multiple Use - Ditching along roads is required for access permits. Development in multiple use areas must have a plan for surface water drainage.
6. Roads
- A. Urban - Full road standards required per city requirements.
 - B. Rural Residential, Rural Commercial/Industrial, Multiple Use - Minimum requirement of a "D" road standard as set forth in county road manual (10" of compacted gravel).

SOURCES

1. Administrative Services Section; "Annual Personnel and Budget Study of Oregon Law Enforcement Agencies, Fiscal Year 1976-77"; Board on Police Standards and Training; Salem, Oregon.
2. American Hospital Association Guide to the Health Care Field, 1976 Edition; American Hospital Association; 1976.
3. Beck, R.W., and Associates; Solid Waste Management Plan Final Draft; Umatilla County Board of Commissioners; February 14, 1984.
4. Cascade Natural Gas Company; Operating Maps; May 1978.
5. "Emergency Medical Services"; Oregon State Health Division; 1978.
6. Environmental Concerns, Inc.: "Hermiston School District #8R, Senior High School, Evaluation of Facility and Development Alternatives", Preliminary Draft; Hermiston School District; May 22, 1978.
7. "Oregon Community Mental Health Program Plan, Fiscal Year 1976-77"; Umatilla County Mental Health Program; 1976.
8. Pacific Northwest Bell Telephone Company; Fundamental Maps; November 1977.
9. Plan for Development, A: Part II of the Comprehensive Plan for Umatilla County, Oregon; Umatilla County Planning Commission; April 6, 1972.
10. Planning for Land Use: Part I of the Comprehensive Plan; Umatilla County Planning Commission; 1970.
11. Research and Management Services Section; "Staffing Assessment: Umatilla County Sheriff's Department, 1978"; Board on Police Standards and Training; Salem, Oregon.
12. "Solid Waste Ordinance," Umatilla County Court, August 1970.
13. Real Estate Research Corporation, The Costs of Sprawl; sponsored by CEQ, HUD, EPA; Washington, D.C.; April 1974.
14. Two Year Work Program, Overall Economic Development Program Revision, April 1977, East Central Oregon Association of Counties.

INTERVIEWS

UMATILLA COUNTY PLANNING DEPARTMENT

- Bruce H. Barnes, Program Director; Umatilla County Mental Health Program; 1977.
- Jimmie Bevans, Director; Hermiston Irrigation District; September 29, 1977.
- Barbara Bishop, Librarian; Umatilla County Library; 1983.
- Jim Carey; Umatilla County Sheriff; 1983.
- Terry Cave, Cascade Natural Gas Company; 1977.
- Charles A. Dougherty, Area Engineer; Pacific Gas Transmission Company; October 10, 1977.
- Steve Eldridge, Engineer; Umatilla Electric Cooperative Association; September 14, 1976.
- Steve Gardels, Manager; Eastern Regional Office, DEQ; January 1984.
- Bill Gilbert, Director; Stanfield, Westland, and West Extension Irrigation Districts; January 1977.
- Gil Hargreaves, Waste Management Specialist; Department of Environmental Quality, April 1984.
- Dave Hickock, Umatilla County Health Officer; by telephone; March 1978.
- Richard Hopper, Fire Chief; City of Pendleton; January 1984.
- Mike Kincaid, District Engineer; Pacific Northwest Bell Telephone Company, 1977.
- Bill Kopacz, Service Representative; Umatilla Electric Coop Assn.; February 1984.
- Pete Langner, Umatilla Engineer; Pacific Northwest Bell Telephone Company; 1977.
- Hugh Little, Chief; Umatilla Rural Fire Protection District; 1977.
- Ed Lynch, Assistant Chief; Hermiston Rural Fire Protection District; 1976.
- Dennis McFarland, District Manager; Pacific Power and Light Company, January 1984.
- Dan McFarling, Emergency Services Coordinator; East Central Oregon Association of Counties; August 1978.
- Marsh Myers, Director; West Umatilla County Vector Control District; 1977.
- Larry Nunn, State Watermaster, District 5; December 1983.
- John Schull, Fire Chief; Hermiston Rural Fire District, January 1984.

Dick Snow, Board Member; Umatilla River Water Control District #2;
February 4, 1977 (telephone).

Philip A. Stanley, Superintendent; Echo Public Schools; May 1978.

Wes Stone, Manager; ABEL Cable Television Company; 1977.

Bernice Warren, COMED; August 1978.

Erv Williams, Purchasing Agent; Umatilla Ordnance Depot; February 17, 1978.

Robert Witherall; Secretary/Treasurer, Rural Fire Protection District #7-409
and #7-410; January 1984.

Pat Wright, Customer Representative; Pacific Power and Light, September 1976.

Skip Zimmerman, Hermiston Engineer; Pacific Northwest Bell Telephone Company;
1977.

TRANSPORTATION

Of today's municipal, suburban, and rural problems, none has more effect on people than transportation. The two or three car family, demand for greater mobility, and suburban living have caused a circle of problems, all of which create, or are affected by, transportation problems.

Transportation systems get us, or do not get us, from home to jobs, to shopping, to recreation areas. Special considerations in land use planning must then be devoted to providing a transportation system that moves people in a safe and convenient manner and also promotes the movement of goods and services to and from major distribution centers.

Within Umatilla County there is not presently a unified plan encompassing all modes of transportation. Such considerations as the effects of cities' plans, impacts of I-82, and the needs of various population segments (eg. transportation disadvantages) have yet to be integrated into a master plan.

State and Federal Highway Plans

A classification system developed by the State of Oregon grouped major roads and highways according to the character of service they are intended to provide. Those roads that predominately provide access to adjacent property are classified at the lowest priority level. The higher level priority roads provide more service to the mobility function such as intra and interstate traffic.

Principal Arterial - Interstate

The highest priority level road in the state highway classification system is the Principal Arterial - Interstate which serves long haul traffic, provides maximum mobility with high speeds and continued movement, carries high volumes of traffic, and is part of an integrated and continuous system. Interstate I-84 is classified as a Principal Arterial - Interstate Highway. It appears adequate to handle additional growth in the county area for some time into the future.

I-82 Interstate Freeway

There is one proposed Principal Arterial - Interstate Freeway to be constructed in the West County Planning Unit. The demand for a freeway connecting I-84 and I-90 on the east side of the Cascades resulted in this route approval by the National System of Interstate and Defense Highways in 1957. Of the nine proposed corridors in Oregon, the "J" Route Corridor was considered the most likely route to be constructed.

"Corridor J" originates at a junction with I-84 about 3/4 mile west of the Westland Interchange. The route then proceeds northerly just inside the east boundary of the Umatilla Ordnance Depot and bends northeasterly to the Columbia River. Southbound traffic will use the present Umatilla Bridge as its crossing.² A new bridge will be constructed just upstream from the present bridge for northbound traffic.

What effects this freeway will have on existing land uses in the area should be considered and examined during the plan update. Residential, commercial and industrial developmental pressures will certainly occur when construction is completed. Also, the proposed freeway will affect traffic patterns on existing roads and highways, thus requiring additional considerations in the transportation master plan.

Principal Arterials

These highways are intended to serve through traffic with limited service to adjacent lands. High to moderate operating speeds are characteristic. Highways in Umatilla County meeting this classification include State Highways 11, 204, 207, and U.S. Highway 395 and 730. In areas where these highways traverse urban/rural development, the through traffic carrying capacity is hindered by frequent accesses directly to adjacent properties. Both Highway 11 and Highway 395 have been improved to four-lane roads with a continuous left-turn refuge. State Highway 204, the Weston-Elgin Highway, passes through the Tollgate area which

has a history of recreational use. Forest Service land offers a wide range of recreational opportunity less than an hour away from Pendleton. A ski area is just across the county line (in Union County), making the area attractive for year-round recreation. One problem that the Highway Division has is the removal of snow from the road. There are times when the Highway Division must use a snowblower. This removes snow and blows it with quite a force for a considerable distance. Problems occur when cabins or homesites are put close to the road and vegetation is removed. Encroachment into the snowblowing zone creates potential problems and the county should require additional setbacks along this highway.

Another problem along this highway is the lack of off-highway parking during winter months. Often cars and trucks pull off wherever the snow has been plowed out a little more than for two lanes. This presents potential problems for other passing cars and usually means that someone has trespassed to get to their favorite winter sporting area. Additional off-highway parking is needed along Highway 204 near public lands.

County Roads

There is no functional road system plan for county roads in Umatilla County. Data is scattered and not compiled in any meaningful form. There are increasing pressures on the county road system, especially in the West County area.

With the recognition of a great need for a road plan, the County Road Department has started a road map index system to integrate all existing county roads and their corresponding numbers in one book. Once adopted, road naming projects and carrying capacity studies can then be accomplished to head in the direction of a desperately needed road plan.

County Road improvement plans are even more tentative than the State Highway's. As needs arise, funding is sought and if available is implemented where the greatest pressure exists. There is a serious money problem in Umatilla County to finance all the needed road improvements. With this in mind, only general

indications of needed improvements are available with very little idea of when or if the improvements will be made. Maintenance programs, however, should be a major consideration in development of the Transportation Master Plan.

Improvements for non-federally designated county roads are paid for entirely out of local funds. For Umatilla County, these funds come from the state tax on gasoline and revenues from federal timber sales. These revenues have declined over the past few years while road improvement costs have skyrocketed, thus putting a squeeze on road improvements.

Another form of roads in the county is public roads. These are roads which may be used by the public, but which have no governing agency funding their maintenance. Public ways are under the jurisdiction of the Umatilla County Board of Commissioners; however, the Board of Commissioners are not required to spend any money on these roads. If the property owners pay to have a public way improved to a paved road, the Board of Commissioners will accept the road into the county maintained road system. This is usually done through a local improvement district.

A proliferation of access points to a street, road or highway can: destroy the traffic function of the street, road or highway; create safety hazards; and result in costly highway improvements at the expense of the public and individual property owner. Access control along highways can often provide the most cost-effective means of maintaining manageable highway capacity and should be implemented wherever feasible. Strips of residential or commercial development along rural highways are not only hazardous, they also unnecessarily waste land resources.

A number of problems arise from inadequate transportation planning. It should be remembered that a major cause of scatteration of development is the extension of streets, roads, and highways in rural areas. And, vehicular noise is usually the principal source of community noise.

One attempt to cope with the proliferation of roads in the west portion of the county is the Master Road Plan for the Diagonal Road Study Area. This is the first attempt by the county to guide road dedication and requirements in the heavily developed rural residential area around Hermiston. Basically it sets minimum road widths at 50 ft. and placement of roads along government survey lines (section lines, 1/4 sections, 1/16 sections, etc.).

The following issues and concerns were expressed at various citizen involvement meetings by local citizens:

1. Efforts should be made to help alleviate traffic congestion problems on Highway 395 north of Hermiston.
2. Concerns raised about traffic safety measures to be taken on Highway 730 when construction begins on the Second Powerhouse at McNary Dam and if Alumax (large aluminum reduction plant) is constructed.
3. Citizens recognized a need for more north-south through roads to allow shorter routes to developing areas. Several suggestions were to extend and improve Craig and Sagebrush Roads through to Highway 730.
4. A need exists for limited mass transit, especially for commuting workers, but not at this time because of no local support and lack of funds to operate these systems.
5. Extreme need for a coordinated road naming system to facilitate emergency services delivery.

Air Transportation

The Hermiston Municipal Airport is the primary airport facility in West Umatilla County. Recent improvements including lighting, runway lengthening and strengthening, a new terminal building, and upgrading the airport access road have increased the airport's ability to serve increased air traffic. Agricultural-

oriented flying activities (pesticides and fertilizers), private use, aircraft rental and maintenance, and private business use will remain the dominant activities of the airport. No commercial flight improvements are anticipated for the Hermiston Airport for at least twenty years.

Pendleton Municipal Airport is a Class V "Continental," all-weather airport located 3.5 miles west of the center of Pendleton, with facilities which include a city-owned terminal building and a restaurant with lounge. The airport is situated at the junction point of nine federal airways systems and has five runways, the longest being 6,300 feet. Instrument landing systems, approach lighting, FAA Air Traffic Control Tower, communication stations, and weather bureau are provided. Services include charter, engine repair, fuel sales and instruction. Two studies presently underway provide for financing and development of the Pendleton Airport's facilities and of the area adjacent to the airport. The Master Plan - Pendleton Municipal Airport, prepared by Wadell Engineering Corporation and adopted by the city, calls for extensive reconstruction improvements to the airport's present air carrier operating system. The Feasibility Study, Pendleton Air Industrial Park, Draft Final Report, prepared by Parametrix, Inc., plans for development of an air-industrial park around the Pendleton Municipal Airport. Recommendations include infrastructure improvements along existing roads, road improvements, development of office and industrial sites, construction of a lower access road, development of an all-cargo facility at the airport, and general improvements in access transportation to the airport.¹⁰

Marine Transportation

The Port of Umatilla is the only water port transportation terminal in Umatilla County. Grain, woodchips, logs and containerized agricultural commodities account for the major part of the export tonnage. Oil and other petroleum products are major imports that use the Port's facilities. There is potential for increased containerized cargo facilities.⁶

The Port of Umatilla is an economic asset to the county. The Port generates the fourth largest payroll within the Port district system in Oregon. Expansion of facilities are anticipated to increase economic growth. Some of these projects are increased docking sizes, additional water frontage, light industrial park facilities at old north Umatilla townsite, and more grain storage, liquid fertilizer, petroleum tank facilities and additional future industrial sites east of Hat Rock.⁷

Railroads

Three railroad companies serve Umatilla County over two major tracks and numerous branch lines in the county's north end. Union Pacific operates a mainline through the Columbia River Gorge, Pendleton, Baker, and Ontario, connecting the county with the Midwest and the East Coast. A new switchyard facility at Hinkle provides additional connections with Union Pacific's north-south lines in eastern Washington. Burlington Northern lines connect the county's north end with the railroad's major track in southern Washington. Amtrak passenger service from Salt Lake City to Portland runs over Union Pacific's mainline to the north end.

Bicycles

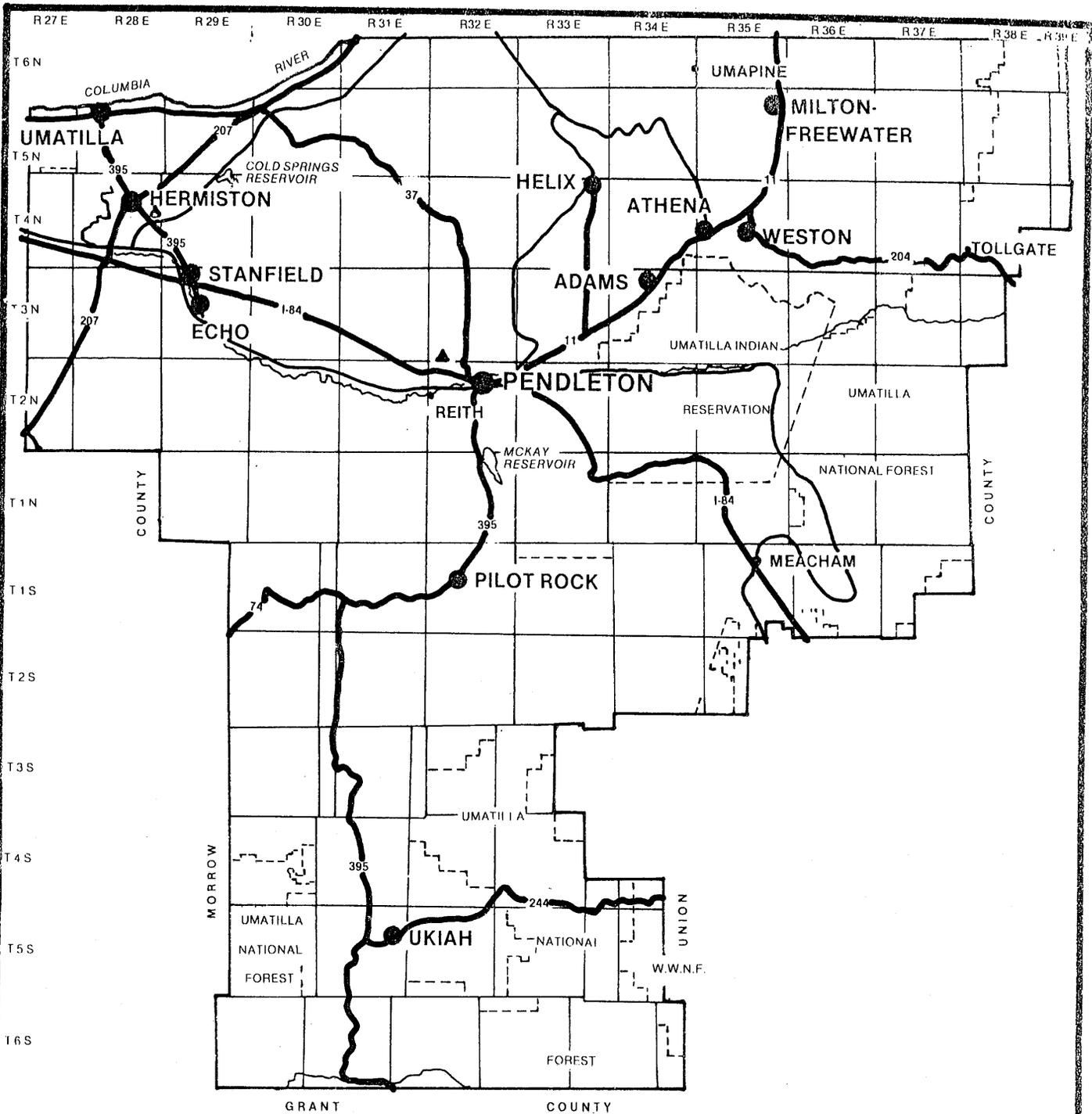
Facilities for bicycles in the county have not existed until recently. Entirely within the city limits of Hermiston, Highland Avenue widening between Highway 395 and Buttercreek Highway included a bicycle lane. Recent projects for the widening and overlay of Highway 395 south from Pendleton to McKay Reservoir and Diagonal Road from Hermiston to Highway 730 included a bicycle lane. The county has agreed to divide its portion of the bicycle fund equally between the west, central and eastern cities in the county, providing the city requesting the funds has a plan.

Pipelines

Three major pipelines lie within the Umatilla County borders. The Pacific Gas Transmission line begins in Washington state, crosses the Columbia River near Umatilla, and continues through Oregon to its California destinations. This pipeline transports natural gas through Oregon but has no distribution outlets in Umatilla county. The Pacific Northwest Pipeline carried natural gas from Canada through Oregon and Umatilla County, and to southern markets. Natural gas users in Umatilla County generally obtain their gas supplies from this pipeline. The third pipeline (Standard Oil) carries oil from Salt Lake City to Spokane. It runs through eastern Umatilla County but has no distribution outlets in the county. A fourth pipeline has been constructed by Union Pacific Railroad (UP) to carry diesel fuel from Columbia River barges to UP's engines at the Hinkle switchyards.¹⁰ An additional Alberta-California pipeline system paralleling the existing Pacific Gas Transmission line was completed in 1981.

Electrical Transmission Lines

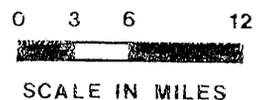
BPA maintains two lines: (1) 500 KV running NE/W; and (2) 230 KV running SE/NW with proposed addition of another 500 KV line in conjunction with existing capacity.⁹

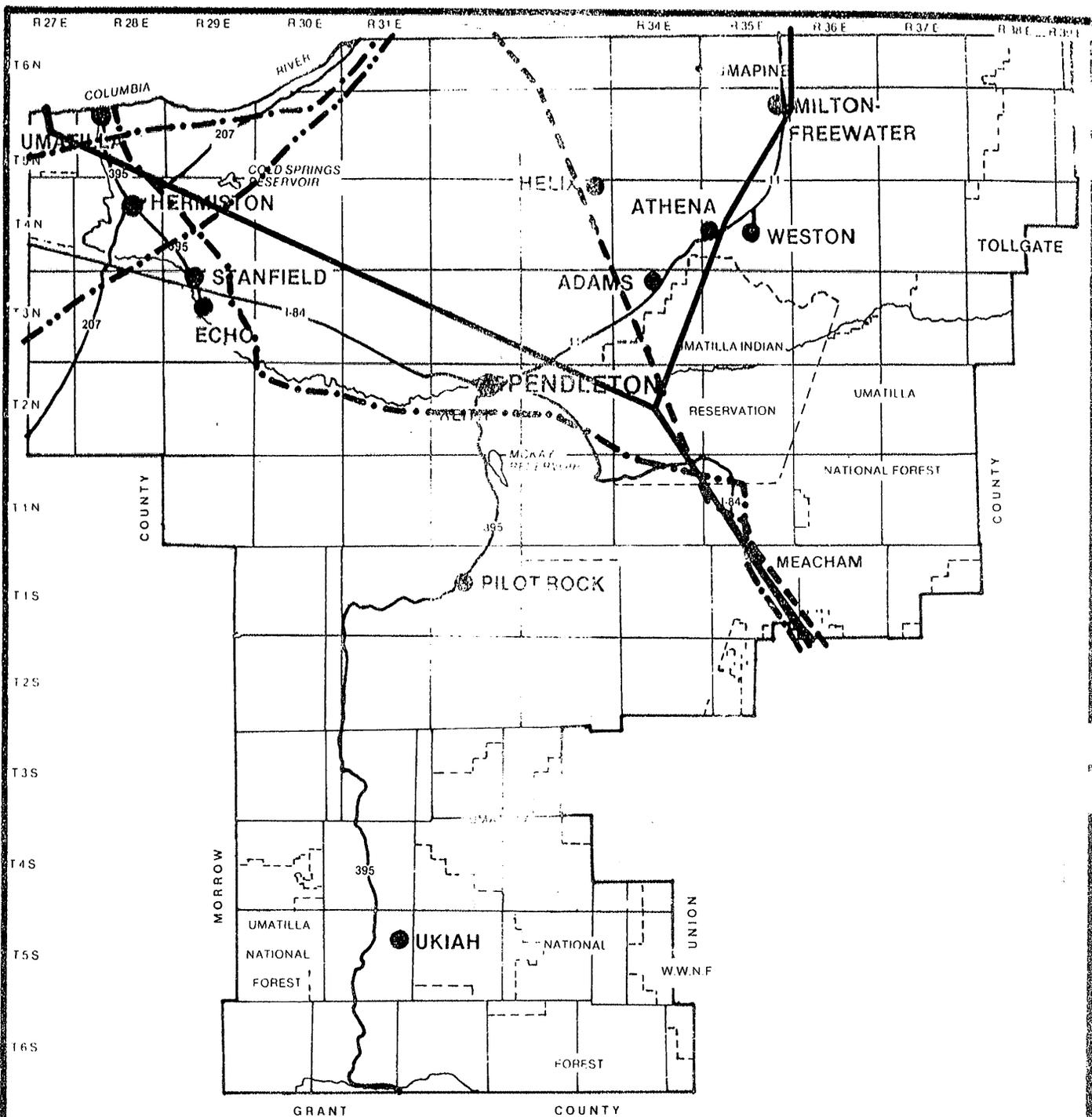


LEGEND

-  MAJOR HIGHWAYS
-  MAJOR RAILROADS
-  MAJOR AIRPORTS

**MAJOR TRANSPORTATION
UMATILLA COUNTY, OREGON**

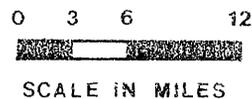




LEGEND

-  BONNEVILLE POWER ADMINISTRATION TRANSMISSION LINES
-  PACIFIC GAS TRANSMISSION LINE
-  STANDARD OIL PIPELINE
-  NORTHWEST GAS PIPELINES

**MAJOR UTILITY LINES
UMATILLA COUNTY, OREGON**



SOURCES

1. East Central Oregon Association of Counties, Overall Economic Development Program Phase I, 1970.
2. Oregon Department of Transportation, I-82 Corridor Study, October 1972.
3. Oregon State Highway Division, Traffic Volume Tables, 1975.
4. Oregon Department of Transportation, Six Year Highway Improvement Program 1979-1984, 1978.
5. Umatilla County Road Department, Road Maps, March 1977.
6. East Central Oregon Association of Counties, Overall Economic Development Program Phase II, 1977.
7. Industrial Land Location Study, Cornell, Howland, Hayes and Merryfield, January 1965.
8. Meyers, Joseph D., Plan for Development of the Mid-Columbia Waterfront, State Department of Commerce, 1966.
9. Proposed Fiscal Year 1979 Program Facility Planning Supplement Southwest Oregon Area Service, Final EIS, U.S. Department of Energy, January 1979 DOE/EIS-0005-DS-2.
10. Umatilla County Economic Analysis, East Central Oregon Association of Counties, January 1979.
11. The Alberta-California Pipeline System Environmental Report, Pacific Gas Transmission Company and Pacific Gas and Electric Company, 1972.

ENERGY CONSERVATION

The era of inexpensive and unlimited energy has come to an end.¹ As world and United States supplies of heavily depended upon fossil fuels dwindle, prices have and will continue to rise. Electrical energy, which is predicted to become increasingly depended upon in the next 20 years in the United States, is likely to follow a similar fate.

Rising energy costs affect everyone. Energy experts say energy consumption cannot continue at the present wasteful rate without considerable ramifications to basic lifestyles. A United States Department of the Interior report postulated that in 1975, Americans wasted more fuel than was used by two-thirds of the world's population.² It is clear that Oregonians and other Americans must come to grips with problems of energy availability and usage.

Are there solutions to today's energy problem? Fortunately, there are numerous methods available to better utilize energy supplies and improve the overall energy picture. In total, these methods can be termed energy conservation.

Energy conservation has many benefits. It has been estimated that the United States could meet all its needs for the next 25 years by improving the efficiency of existing uses. In addition, conservation programs could save billions of dollars yearly.³ It creates jobs especially benefitting unskilled labor. Energy conservation reduces pollution and conserves scarce resources. Finally, producing energy through conservation is six times less expensive than building new power plants.⁴

Knowing that conservation is important will not conserve energy. Some say national policies are necessary to initiate effective conservation actions. It is interesting, however, that many energy experts believe local governments have better techniques for dealing with energy problems than the federal government. Through the exercise of legislative, regulatory, administrative, and political power, local energy conservation planning can result in immediate and significant energy savings far greater than national energy programs.⁵

Energy Conservation

Conservation measures applicable to Umatilla County can be divided into three categories: (1) use of renewable energy sources supplemental to existing supply types, (eg, solar heating in summer-electric or gas heating in winter); (2) other conservation programs and projects, (eg, recycling metallic/non-metallic wastes and utilization of regional pump storage facilities); (3) use of applicable land use planning measures reducing energy requirements, (eg, building codes regulations reducing material costs to solar built home).

Supplemental Renewable Energy Resources

Eastern Oregon sun and wind are two renewable energy sources which can play important future roles in conserving traditional and depleting resources. An analysis of each follows:

- A. Sun. Use of the sun for energy is practical in many parts of the Pacific Northwest according to an Environmental Protection Agency Report dated May 1978. The report concluded that the abundant amount of sunshine days (200 in some parts of Eastern Oregon and Washington) and other favorable weather considerations (eg. small heating requirements when comparing daytime and nighttime temperature differences) were major assets for economical solar energy application. Surprisingly, Oregon receives more useful solar radiation for heating than many southern states.⁷ This is primarily due to the length of the heating season.

Solar heating is also becoming less expensive. For many years using the sun for heat sources was too expensive--more costly than heating with conventional fuels. Now, however, the price of oil isn't far behind. With future OPEC price hikes on petroleum and new federal energy taxes, these trends will continue.⁶ Heat from the sun, which costs nothing, and with technology improving solar equipment efficiency and costs, the use of the sun's energy will probably become a future reality in the planning area.

Another reason solar energy can be a practical energy source is that minor potential air, land, water, solid waste, and health impacts result from its wide spread use. This is especially true when comparing environmental risks involved with nuclear power development.

Finally, solar energy has a practical use today--providing an alternative energy supply to oil, gas and electricity. This not only helps lower overall consumption of these conventional sources, but also provides local residents with a more flexible and reliable supply system.⁷ For example, depending on geographical location, about 65 percent of the energy needs to operate a home will be used for space heating and about 20 percent for hot water. If some of the non-renewable fossil fuels used to generate that energy could be put to other uses, oil and gas supplies will last longer and provide more time to develop other energy sources.⁸

It is important that this technical report outline some of the current practical uses of solar energy in Eastern Oregon. Although detailed analysis of both the resource potential and development cost of solar energy (for that matter most other renewable resources except hydro-electric development) has not been made for this area of Oregon. Preliminary studies indicate the following potential solar energy uses: swimming pool heating; residential space heating; residential water heating; agricultural crop drying; and process heating for industries.

For brevity, swimming pool heating will not be analyzed other than to mention that active solar swimming pool heating (active meaning solar energy collected and distributed by mechanical means) in the Pacific Northwest is the most cost effective application of solar energy. Typical years-to-peak even periods are less than ten years.⁹

Solar use for agricultural crop drying or for industrial process heating will also not be analyzed because virtually no data, especially economic, exists for such applications. There is significant solar use potential for these two activities, however.

Solar space and water heating for residential purposes are worth discussing. Oregonians on the average use 31 percent of their personal energy supply for space heating and six percent for water heating. Moreover, space heating is the single greatest user of energy in the home, often using as much as 80 percent of the household energy budget.¹⁰ With such a significant portion of energy used and budgeted for space heating, solar energy has tremendous potential for supplementing other energy sources used for residential space heating.

Locally, as well as regionally, solar space heating can include both active and passive systems. Active systems, as earlier defined, are those where solar energy is collected and distributed by mechanical means. Passive systems use solar energy naturally, contain little mechanical hardware and require little or no energy to distribute the heat in the building.

Residential space heating in Eastern Oregon is more effective and economical when passive systems are used. These systems are generally limited to new construction which can be integrated into architectural plans at little additional cost. According to a University of Oregon study, some passive systems can meet 60 to 70 percent of a residence's space heating needs in the Northwest. Passive solar space heating systems are the most cost effective application of solar heating to date.¹¹

Active solar space heating for residential home use is less cost effective than other solar applications. Typical payback periods are longer than ten years.¹² A solar/heat pump combined cycle studied by the Northwest Energy Policy Project group has typical "years-to-break-even" periods longer than 15 years in the Northwest and Eastern Oregon.

Water heating by solar radiation appears to be attractive in Eastern Oregon. Such heating requires an average amount of sunlight and is not usually affected by outside air temperatures. Again, passive water heating systems are most cost effective.

- B. Wind. The largest potential use of wind in Eastern Oregon is for pumping or moving irrigation water. Used successfully in the past, economics and technology are again stimulating the possible use of wind for pumping water. Estimations of energy savings using wind compared with electricity to move water are not presently available nor will likely be in the near future. Potential sites are being examined, however, and many sites in the Columbia Gorge are promising. With the tremendous development of irrigated agricultural pumping water from the Columbia and escalating electricity costs, wind energy to pump water here seems a distant possibility.

Generation of electricity is another potential use of wind. Currently, the economics of electric wind generation as a viable energy source or even a supplemental source is speculative. The unpredictability of wind is the major problem. Normally, adequate storage areas also undermine the economical operations of a wind generating plant. This is not true in the Pacific Northwest where large water reservoirs can be utilized as the storage system for captured wind energy.

Concluding, detailed studies are needed to evaluate the most appropriate and efficient uses of wind power. Initially, the future appears bright. Opportunities such as preserving sites for future wind generation and economical incentives to stimulate the development and operation of wind machines should be pursued. Should wind power prove to become economically feasible in the future, millions of dollars will be saved by not using other depleting non-renewable energy sources.

Energy Conservation Opportunities from Metallic/Non-Metallic Waste Reuse and Recycling

Utilization of waste material for its energy content and supplemental energy source now plays a significant role in Oregon's energy picture. It is estimated that about 15 percent of Oregon's total energy supply is from woodwaste alone. Studies indicate that by the year 2000, the use of woodwastes as an energy source will increase by one and one-half to two times its present use.¹³

There is a potential for much greater use of other waste materials to produce usable energy. Crop residues, municipal wastes, and wood by-products are available in or adjacent to the planning area. These materials and other wastes which have often been discarded may well become important sources of energy.

Local analysis of recycling waste or discarded materials for reuse and energy are nearly non-existent. Existing and future energy saving contributions are also unknown. Area businessmen, industrial concerns and the Umatilla County Solid Waste Committee have, however, indicated that recycling presently has problems. The chief obstacles are economic--mainly the cost of separating out the waste, transporting it to a center for processing and competition from virgin materials.¹⁴ Other local problems with recycling are insufficient quantities of materials and difficulty in locating a sustained, profitable market for the waste materials.¹⁵

Some attempts to reuse and recycle the waste materials are meeting with limited success. One method is the voluntary separation of materials such as paper, glass and metal from normal household garbage so that it can be kept separate for recycling purposes. Individuals have viewed this procedure as inconvenient. Another method consists of setting up centers where individuals can bring recyclable materials. By and large, the above activities have met with only limited success because of the effort that is required on the part of the individual or business to operate or deliver materials to a collection point. Limited quantities and markets, as earlier noted, are added negative factors.

Even though economic recycling to date is not efficient, the tremendous potential use of waste material as an energy form and the savings involved in recycling valuable depleting resources, warrants future encouragement and opportunities.

A less obvious opportunity to conserve energy locally has come about through studies by the Corps of Engineers suggesting a regional pumped-storage facility. The pump storage concept offers additional peaking supplies of hydroelectric generating potential. Water is pumped from a lower elevation during lesser electricity demand periods, to a reservoir above the generating facilities for use during high demand periods. This enhances the hydroelectric characteristic which enables steam generated plants to operate at constant, more efficient levels with daily peaking demands met by stored, easily activated hydro power.

The proposed Juniper Canyon site has the necessary qualities for storing water to provide some future power peaking needs in the region. For example, the site affords relatively low development cost, is near a load center, and initially appears to be the most environmentally and socially acceptable of the numerous sites studied.¹⁶ Potential irrigation benefits are possible should the site prove useful when advanced reconnaissance studies are finished.

Energy Conservation Through Regulatory Techniques

Pre-planning and well thought out policy application can significantly reduce future energy requirements. There are numerous conservation opportunities available if local regulatory ordinances and rules (eg. comprehensive plans, zoning and subdivision ordinances) are modified to recognize the benefits of conserving energy. If each of these energy conservation oriented laws is applied in a systematic way, significant savings can result. Following are analysis and recommendations most effectively facilitating conservation opportunities.

Comprehensive Plan

Comprehensive land use plans are an effective way to encourage wide-spread energy conservation measures. They encompass all recommendations which guide land use decisions of a county, city, or special district. A conservation conscious plan can require that local land use controls such as zoning and subdivision ordinances and building permits consider energy saving techniques.

Controlling urban sprawl is one area in which comprehensive planning policies can have a great impact upon reducing energy consumption. Sprawl development spreads land uses over a large area, thus both increasing the public's bondage to private auto use and city and county costs for additional road and utility extensions. So important is the aspect of controlling urban sprawl that the Oregon Legislature proposed and adopted an Urbanization Goal (Goal #14). Each city is required to jointly establish with their respective county an urban growth boundary where city services including streets, water and sewer service, street lights, etc. can be logically and economically provided. This has the effect of permitting new development in areas around a city where lower energy costs for services and transportation can be realized. Joint management agreements are essentially "management plans" allowing the county to administer a city plan for the urban growth area. These agreements are necessary because complete city control over these "county" lands are not presently statutorily possible. The Urban Growth Boundary and Joint Management Agreement, along with coordinated and consistent county land use actions outside these boundaries, will conserve enormous amounts of energy. Periodic review and updating of urban growth boundary areas will continue to facilitate energy conservation.

Transportation policies in the plan can also be instrumental in conserving energy. Possibly the most pertinent policies for county consideration are those which shift some traffic to more fuel efficient modes. For example, railroads are the most fuel efficient means for overland transportation of freight, using only one quarter as much energy to carry cargo as a truck.¹⁷ Their operation for this purpose should be encouraged whenever possible. Since rail transportation in the planning unit is used heavily for transporting agricultural products, and offers farmers favorable rate schedules for the diversified crops grown, planning policies encouraging increased rail use are appropriate and energy conserving.

Use of mass transit systems can also save many gallons of fuel daily. Although more economically efficient within urban concentrations where people, jobs and shopping places are located, several experimental and rural-oriented mass transit programs may prove to be energy saving. The Umatilla-Morrow Demonstration Transportation Project (UMOTRA) is one example. UMOTRA is a commuter service in northern Morrow and western Umatilla County funded by the Federal Highway and Urban Mass Transportation Administration. Passenger vehicles purchased with grant monies provide daily commuter transit to and from industries and agricultural processing facilities. Operating costs are borne by the local participants. Currently this pilot project has not developed for lack of needed matching funds.

The effectiveness of UMOTRA cannot be assessed until realization and advancement of the program. More study needs to be done on this and other rural mass transit projects. In the meantime, the county should encourage successful programs and provide technical assistance to participants.

Energy saving land use policies are also applicable to commercial and industrial designated lands. Properly situated uses (eg. small rural commercial facilities located near rural residential concentrations to conserve transportation fuel and building orientation to the sun offer energy alternatives and savings) and appropriate weatherization, insulation, and landscaping requirements can produce energy savings.

Some industries offer opportunities for cogeneration of electricity or generating electrical energy and using associated waste heat for additional processing.

Industries also offer another energy conservation alternative--community waste energy systems. They would use waste heat from industrial processes as heat for a district or local residential heating network. This type of system is currently being used in other locations quite successfully. Locally, the feasibility of such systems is unknown. Future consideration is recommended in light of the agri-related and other industrial development occurring in the county.

Although Oregon's statewide planning law encourages provisions for solar energy, the act stops short of requiring local governments to adopt solar energy provisions in their ordinances. Since initial studies show local advantages of solar energy use, this plan will encourage such use and will recommend appropriate modifications to existing ordinances. The reader should examine each of the following management systems for specific solar energy recommendations as well as other energy conservation techniques.

Zoning Ordinance

Solar energy use and future protection to that source would profit most from altering zoning ordinances to include energy conservation measures. Zoning prescribes setback and height limitations both influencing how sunlight may reach solar equipment for space heating purposes.

Several new setback arrangements permit greater use of the sun. Termed zero lot-line and clustering (see figures 1 and 2), both allow necessary flexibility to the traditional rigid setback requirements which often poorly utilized outdoor space. These two setback types are now incorporated into the existing zoning ordinance, but are seldom used by developers and builders and not correlated with solar energy use. In other words, the benefits of flexible site planning need to be impressed upon developers, builders, residents and decision makers.

Future improvements that may cast shadows on neighboring homes will require height and non-obstruction regulations. Some cities have adopted ordinances, or amended their zoning ordinances to permit acquisition of "air space easements" or "solar skyspace easements" so adjacent property owners can protect their right to use the sun for heating. Private parties would be allowed to enter into agreements (eg. easements, covenants) in deed or other instrument forms which will legally protect the solar skyspace of an existing or proposed solar energy system. The easement would forbid or limit activities or land uses interfering with access to solar energy. County residents would benefit if similar provisions were incorporated into the county zoning ordinance and other applicable implementing plans. Care must be taken, however, in drafting a zoning ordinance that protects sunlight because in certain instances the resulting reduction in property rights of adjacent landowners may be so great as to constitute a taking. This is especially true in cities where structures are clustered closer together. Scrupulous examination should precede the above recommendation.

Landscaping can provide valuable contributions to energy conservation. If required in a zoning ordinance, all uses (eg. residential, commercial, industrial) could collectively be required to shade their buildings.

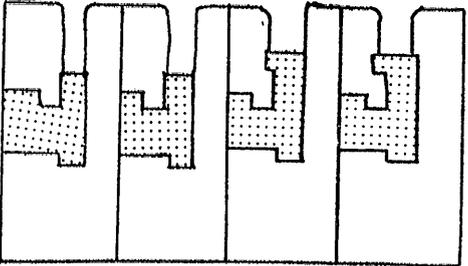
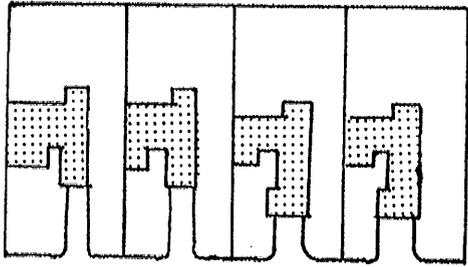
Especially beneficial is the thermal performance of landscaping. During winter, shrubs, bushes, and particularly trees can act as wind breaks and reduce heat loss from buildings. In the summer their surfaces (ie. leaves) absorb radiation, provide shade, and create cooling by evaporation processes.¹⁸ Here in Umatilla County, landscaping could play a particularly useful energy saving role with our hot summers and windy weather.

To achieve efficient shading, trees need to be placed strategically on lots, especially those aligned with solar use in mind. For example, morning and late afternoon sunshine is at a low altitude. Trees or landscaping would have their best performance if located on the southeast, southwest, or west sides of a home, business or industry. While shade is valuable in summer, sunlight is more welcome in winter. Therefore, trees located on the south, southeast or southwest sides of a building should be the type that shed their leaves in winter.

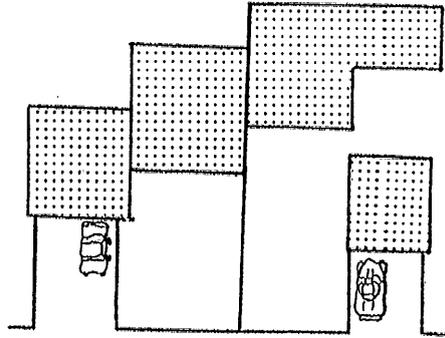
An additional note about landscaping is its wind breaking benefits and corresponding reduction of heating requirements. Calculations indicate that the heating load on a house with a 20 mph wind is about 2.4 times as great as with a 5 mph wind.¹⁹

Encompassing a variety of energy conservation techniques is the Planning Unit Development concept. Often located within zoning ordinances, PUD's offer a more creative approach to the development of land than possible through the strict application of both zoning and subdivision requirements. Traditional lot design and rectangular street patterns can be varied--taking advantage of aesthetic open space qualities, natural landscaping capabilities and interesting building schemes. When considering solar energy use, if lots, streets and buildings can be planned together, maximum protection and use is afforded. PUD's best facilitate this coordination. Other incentives include increasing densities and lessening street standards if open space amenities are provided. Neighborhood streets, if properly planned, can be considerably reduced and standards lessened without impeding either the flow of traffic or the safe operation of fire equipment. This means that the total paved area is less, reducing both the energy and resources involved in installation. Similarly, commercial and industrial developments may also take advantage of the Planning Unit Development.

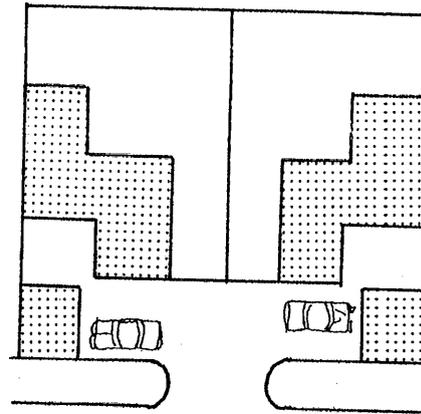
Figure 1
Zero Lot Line
Layouts



Planned Unit Development

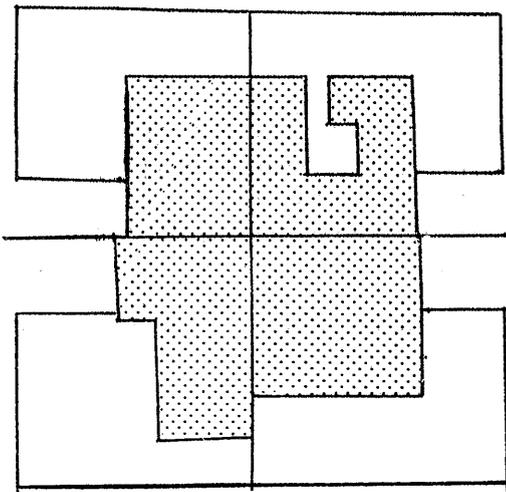


Seperate Identity
Common Wall

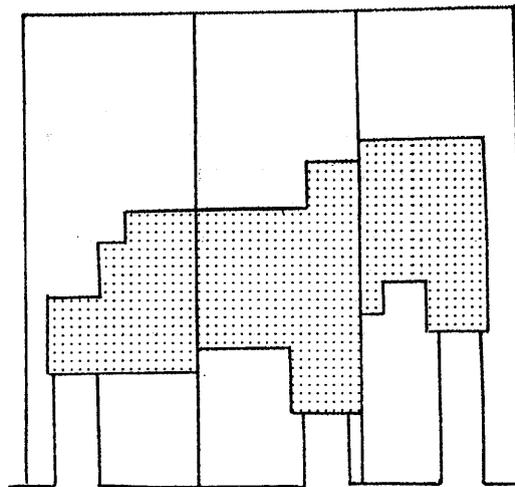


With Reduced Front Setback

Figure 2
CLUSTERING



Back to Back
4--Unit Cluster



Triplex Or Townhouse
Cluster

At present, Umatilla County has a PUD procedure in the county zoning ordinance. This is being eliminated in favor of a cluster development approach. In appropriate areas, cluster developments should be encouraged, especially where energy conservation and solar energy use is advocated and the development can be integrated successfully into the surrounding community.

Subdivision Ordinance

Subdivision laws can also produce energy conservation savings. For example, landscaping considerations are equally effective included here as in the zoning ordinance earlier examined. When subdivisions and partitions are proposed, landscaping plans could be imposed as one prerequisite for approval. More importantly, however, is the aspect of optimum solar orientation that can be achieved through pre-planned subdivision designs. Streets laid out in easterly and westerly directions along with lots designed to capture maximum north and south exposures, will help insure future opportunities for solar energy utilization. Existing subdivisions should be encouraged to seek solar sky space easements and other protective programs included within the zoning ordinance.

Subdivision laws regulate street standards. The significance here is that often jurisdictions require excessive street standards or improvements. If properly planned to meet safety and circulation needs of the community, pavement widths and required rights-of-way could be relaxed. This action can save valuable land and conserve natural resources (eg. sand and gravel). Although not particularly the case in the planning area where road standards have often been too lax, future partitions and subdivisions should still be reviewed with land and other natural resource depletions in mind, yet still allowing safety and circulation. Please note that flexible road standards and designs are allowed in Planning Unit Developments discussed earlier in the Zoning Ordinance section above.

Building Codes

Building code regulations greatly affect space heating efficiency. Since space heating consumes nearly 80% of the household energy budget and the low energy rates once enjoyed by area residents are rising, there is now economic incentive to encourage space heating efficiency. Installation of insulation is effective in this regard. Umatilla County is subject to the Statewide Uniform Building Code. The code is administered by the State Department of Commerce. Regulations stipulate that new housing have insulation, but these requirements are minimal. With escalating energy costs, homeowners will likely be forced to weatherize beyond current state requirements.²⁰ Also, Eastern Oregon sustains longer and more severe cold periods further necessitating increased insulation standards. Design features such as less glass area, double glazing of windows, and building methods reducing outside air infiltration are additional approaches to conserve fuel by minimizing heat loss.

A logical approach helping to insure local energy savings is the initiation of a county administered building code. This program would recognize local peculiarities and situations relating to energy needs and conservation opportunities. It must be made clear that these local energy conservation measures will be most cost effective during new construction. Lending institutions need also be stimulated to recognize insulation and other heat retention benefits when computing construction loans. Perhaps loan rates and/or amounts could be reduced

if effective conservation measures are incorporated into building blueprints. It is important then, as soon as practical, to investigate the feasibility of establishing a county building department with required energy conservation standards.

Existing homes, especially older residences, present different energy conservation problems than newly constructed ones. Some communities are applying conservation performance standards when a home is offered for sale. The house has to meet certain standards improving heat loss amounts before it is allowed to be sold. Locally, it would be more practical to provide public education and consulting programs for homeowners who wish to weatherize their homes. Also, Oregon homeowners now can take advantage of certain tax relief measures available when weatherizing existing dwellings. Local residents would benefit if made aware the program exists. Similar tax measures might also be supported.

A locally managed building code should also encourage solar-designed construction. Often building codes are prohibitive in this area, either allowing special designs and materials with a costly review procedure or having no latitude for solar construction at all. Oregon's statewide building code is a minimum code, adopted prior to development of today's solar technology. To remove the above impediments a local designed building code becomes an advantage.

SOURCES

1. Oregon Energy Conservation and Resource Development Plan, Oregon Department of Energy, February 1977, p. 3.
2. "Relationships of Energy to Land Use," Yamhill County Planning Department - Energy Office, November 1977, p. 1.
3. Ibid, p. 1.
4. Ibid, p. 41.
5. Ibid, p. 1.
6. National Wildlife Federation Magazine, "How Solar Energy Can Work For You," Volume 16, No. 3, April-May 1978, p. 40.
7. Oregon's Energy Future, Oregon Department of Energy, January 1, 1978, pp. 57, 58.
8. "Solar Energy and Your Home," U.S. Department of Housing and Urban Development, information pamphlet, no date, p. 4.
9. Solar Energy for Pacific Northwest Residential Heating, U.S. Department of Energy and U.S. Environmental Protection Agency, Region X Office, May 1978, p. I-15.
10. "Relationships of Energy to Land Use," p. 7.
11. Solar Energy for Pacific Northwest Heating, p. III-58.
12. Ibid, p. I-5.
13. Oregon's Energy Future, p. 60.
14. Solid Waste Management Plan - Umatilla Region; R.W. Beck and Associates, Seattle, Washington, February 15, 1974, p. IV-20.
15. Ibid, p. IV-2.
16. "Studygram," U.S. Army Corps of Engineers, North Pacific Division Issue 78-01, February 27, 1978, p. 2.
17. "Relationships of Energy to Land Use," p. 35.
18. Ibid, p. 16.
19. Ibid, p. 17.
20. Ibid, p. 8.

APPENDIX

- A. Cultivation Parcel Size Review, C. Reeder
- B. Homesite Number and Location Summary, Rural Areas,
Umatilla County, C. Reeder
- C. Helen Timmerman Testimony
- D. Resolutions
- E. Grazing/Forest Land Assessment Sheets
- F. Steven Corey Letter
- G. Boise Cascade Letter
- H. Tollgate Committee Report
- I. South County Mountain Report
- J. Cunningham Sheep Company Letter

A

CLINTON B. REEDER, PhD

Agricultural Economist

Star Rte, Box 421

Pendleton, Oregon 97801

503-276-9278

Umatilla County Planning Department

Umatilla County Court House

Pendleton, Oregon

CULTIVATION PARCEL SIZE REVIEW

General Comments

As indicated in our previous discussions, the background data base in the technical report section of the Umatilla County Comprehensive Plan, relative to the appropriate parcel size for the county did not, in my opinion, adequately consider the "natural" parcel sizes caused by physical terrain features, plus roads, railroads, etc. so common throughout the area, nor does the current data base in the proposed Plan for the county adequately consider "cultivation units" (parcels farmed separately from one another due to various farm management goals, as well as due to the terrain and other natural features). The emphasis on "ownership units" considers only the configuration of deed lines and does not reflect the manner in which farm land is cultivated. It seems reasonable to me that "continuing the existing commercial resource use" criteria will require that the likely manner of continued cultivation take precedence over deed lines in evaluating the appropriateness of land parcels.

These "cultivation units" are each formally identified and measured as separate parcels on the Agricultural Stabilization and Conservation Service Maps (ASCS/USDA). These maps are one of the primary tools by which the government farm programs are managed in the local counties. They constitute a primary basis for reviewing proper program compliance by land owners/operators, and for making or denying payments to farmers and landowners participating in the government programs. These maps are made from aerial photos, are regularly updated, are definitive enough to show the pattern of cultivation and harvest in the fields, and are readily available for periodic review.

I have reviewed and summarized each such cultivation unit, a total of 1,233 measured units, in over eight complete townships in Umatilla County. If one considers that many measured units on the ASCS maps are farmed in multiple cultivation units, as indicated in the attached summaries, the number of cultivation units reviewed was 1,811.

The townships reviewed were selected to fairly reflect the overall land use patterns for the various parts of the county that are actively farmed,

extending up into the foothills areas where the transition from field cultivation to grazing occurs. The areas reviewed are:

1. North West County
2. North East County
3. South County
4. East County Foothills
5. South County Foothill

The data was summarized to document differences in basic land use patterns, with respect to cultivation unit size, among the various areas of the county. Areas 1,2,3 each reflect both irrigated and dryland practices; areas 4 and 5 are presented both separately and aggregated into a single "foothills area".

The data is presented in the following formats:

1. Township summaries-- frequency distributions showing the distribution of cultivation units among various acre size categories and among various boundary configurations, indicating both the number of parcels in each category and the percent of parcels in each category.

This summary also indicates the total acres in parcels measured on the ASCS maps that are farmed in multiple cultivation units and the number of cultivation units therein for each. Two such township areas constitute the sample from which a Major Area summary was developed.

2. Major Area summaries-- each includes two township areas, showing the percent distribution of cultivation units among various acre size categories, for each township, and the same type distribution for the aggregate of the two townships, to reflect the overall land use pattern for the Major Area.

3. Major Area graphs--graphic presentation of the distribution of cultivation unit sizes in each Major Area, compared to overall distribution pattern among all Major Areas of the county combined.

4. County-wide summary--the distribution of cultivation units for all the Major Areas of the county combined.

5. County-wide graph--graphic presentation of the distribution of cultivation units among the various acre size categories for each Major Area plus the graph of the combined distribution thereof for the overall county.

General Findings

The aerial photo maps indicate farm land in Umatilla County is subdivided into various parcel sizes based on the following factors:

1. Natural landform features
2. Transportation features
3. Man-made features, for conservation purposes
4. Irrigation
5. Estate settlements
6. Homebuilding and farmstead establishment

A. Natural Landform Features: For the most part, it becomes obvious from the review of the aerial photos of the county farmland that the cultivation units are defined primarily by the natural features of the landscape--rock outcroppings, shallow soils, drainages, rivers and streams, bluffs, and steep slopes. It is for this primary reason, that the distribution of cultivation units among the various size categories among the various Major Areas of the county is almost identical. (See illustration maps No. _____)

RECOMMENDATION. No Comprehensive Plan requirements are likely to cause any major alteration in the configuration of these parcel sizes, for Nature, not man has been the predominant force in determining the size of land unit that will be independently cultivated. The comprehensive plan should realistically account for these permanent cultivation parcel sizes and not place parcel size requirements upon land use that cannot be satisfied due to natural landform features.

B. Transportation features: The apparent second major factor in determining the configuration of cultivation units is the various modifications to the landforms that are man-made, especially roads and railroads, for the primary purpose of moving farm products to market and bringing farm production supplies to the farms. These features create permanently isolated independently cultivated units that, depending upon the nature of the boundaries other than the road or railroad, may remain isolated. Often a road or railroad will isolate a triangular piece of land with corners that are difficult to farm into efficiently, or which is difficult to move machinery into across the road or railroad, that could be efficiently combined into a parcel on the other side of the road or railroad. (See illustration map No. _____)

RECOMMENDATION. The comprehensive plan should likely provide a convenient avenue to create (deed separately) relatively small parcels for various farm management purposes, so that land trades and financing can be arranged to facilitate recombining land that has been isolated by man-made "barriers".

C. Man-made features, directly for farming purposes: It is very obvious from the aerial photos that when farmers undertake more intensive agricultural practices, such as the terracing and strip-cropping, the *size of cultivation units is decreased*. These conservation practices are increasingly encouraged by public policy and are becoming more mandatory under the government farm programs. (See illustration map No. _____)

As terraces, especially, are built on a zero grade, following contour lines, the configuration of cultivation units becomes more complex, and will no doubt influence changes in farming practices and in size and nature of machinery developed in coming years, as farmers attempt to develop means of efficiently moving among smaller cultivation units

in a way that maintains or improves farming efficiency relative to the efficiency of farming larger cultivation units. Often, existing practices on larger field sizes cannot be continued in a manner that sufficiently provides for longterm conservation of the land.

RECOMMENDATION. Every attempt should be made to develop provisions in the Comprehensive Plan which both allow for and encourage the development and implimentation of general farming and land management practices that conserve the soil for future generations, even though the new practices involve significant diversion from current practice. If the plan is too restrictive in permitting deviations from current practice, the continued development and conservation of the land will be hindered rather than enhanced by the plan, thereby depriving rather than providing for future generations.

D. Irrigation: The maps clearly indicate that the average size of cultivation unit decreases when the land is changed from dry land management practices to irrigation. The cultivation pattern is especially complicated by the use of the more efficient "circle" technology, which leaves significant acreage in the "diamonds" in among the circles, and the "triangles" on the outer boundaries of the circles. The increased intensity of such farming leads to the use of a completely different complement of machinery, different timing of planting and harvest, and a much wider variety of crops, many of which require having marketing contracts.

RECOMMENDATION. With the increased competition from other areas of the country and the world for markets for the intensive crops grown in Umatilla County, plus increases in energy costs, plus developing "water problems", plus the ongoing changes in the railroad system (roadbeds, line abandonments, regulation and deregulation, etc.) and the possible advent of costly "user fees" for water transportation, etc. it will likely be wise to protect adequate and flexible means in the Comprehensive Plan for land to be divided and recombined conveniently, so the land can be moved into and out of various irrigated-intensive uses, as the economics of various cropping alternatives change over the years.

E. Estate Settlements: The farm land in this area is relatively "new", most of it now owned by only the forth or fifth generation since the original ownership patents were issued. As the land moves from generation to generation, in most cases undivided interests are created among heirs. In settling estates, for various reasons, it often becomes necessary to separately identify each party's interest to facilitate financing estate tax payments, or for financing so that one heir can transfer ownership to another, or to a third party/parties. These land divisions are evidenced most obviously on the ASCS maps by deed lines that equally divide a given area of land into exactly equal sized units, where no obvious reason for such a division can be seen from natural or man-made land features. (See map illustration No. _____)

Undivided ownership interests can have severe negative impact upon management of the land. For example, if a parcel of 300 acres has severe water erosion problems that terracing could control in a material manner, all land owners in that parcel would have to agree to (a) doing the terracing, and (b) paying their fair share of the cost of terracing before the project could proceed. The government has "matching money" programs available to encourage such conservation projects, but the matching money contracts generally require the signature of all owners of the property.

Also, the government commodity farm programs generally require participation contracts signed by all owners of a parcel of land. While there are at times means of allowing some owners to participate while others do not, such is not always the case--and when it is possible, the process is generally complex and time consuming, and requires farming the parcel in much smaller cultivation units, which is more costly.

Only one dissenting vote among the undivided interests can indefinitely stop such a conservation project or severely complicate participation in other government farm programs. The larger the number of undivided interests, the more difficult it can be to get agreement. While at times there is one or more owner in such a situation that is simply "difficult", there can be legitimate reasons such as inadequate personal financial status at a point in time to be able to participate, or differences in financial-tax status among owners that make participation attractive to some owners but not to all.

RECOMMENDATION. The Comprehensive Plan can likely best provide for efficient and economic continued commercial use of the land by providing flexibility in partitioning undivided ownership interests, so that land recombinations are enhanced following estate settlements and so that conservation and other land use practices can proceed on that share of the land where there are no objections, thus best maintaining-improving the economics of land use and accelerating the process of conserving the land for future generations.

There should likely be a careful review of the pattern of cultivation unit size in any given area to determine the likely minimum size that is economic to manage for continued farm/resource use, so that even in estate settlements the Comprehensive Plan protects the land against too small a partition. While partitioning undivided ownership interests is desirable in general, the overall public interest must become limiting when the partitions create parcels too small to be of interest to commercial users of the resource lands.

I also recommend that the Plan, if it can legally do so, require that land cannot be partitioned in a will or gift in a manner not allowed otherwise in the Plan.

F. Homebuilding: The maps indicate that for the most part there are not a lot of homes in the rural areas, and the homes tend to be located so as to

not too adversely interfere with farming good land. The majority of rural homesights have a long history, and were located where water could be reached by hand dug wells and where horse drawn wagons could be moved efficiently from farm to trading centers and back. Newer rural homesight location can be located most anywhere, with current well drilling and roadbuilding equipment. The maps suggest considerable care has historically been given to rural homesight location, and such a heritage should be continued if resource lands are to be protected. (See map illustrations No. _____)

The maps suggest, for the majority of the county, there are available sites that would support rural homes sufficiently isolated from nearby farm lands so that the homes would not jeopardize the current land use pattern--unless the density of homes became too great. The available sites are generally smaller, created, by natural land features, and are isolated by landforms such as bluffs, steep slopes, and/or unproductive land areas. In certain parts of the county, there is not much "marginal land" based on soils classification, but there are parcels that are determined by natural and permanent man-made boundaries that are so configured as to make them inefficient and uneconomic to farm commercially. These parcels would possibly be legitimate potential homesights for "resource related dwellings" (farm homes), --and possibly nonfarm homes--with criteria developed to protect the continued commercial use of surrounding lands. (See map illustrations No. _____)

RECOMMENDATION: It seems wise to develop the Comprehensive Plan in such a manner that parcel size itself is not the limiting factor on housing, for that will tend to preclude legitimate farm management uses of the land. Minimum parcel size would likely be more appropriately determined by the reasonable economic uses of the land for farming purposes, strongly considering the distribution of cultivation unit sizes summarized herein. Future housing, especially nonfarm housing, might more appropriately be limited by criteria that prevents homes from being built, for the most part, on good farm land, and/ or on locations that would jeopardize the continued commercial farming use of the land.

Conclusion

There is no "typical" or "average" or "representative" farm parcel size in Umatilla County, which as a "single parcel size" fairly represents the actual parcel size situation in the county. "Typical" is a rather wide range of cultivation parcel sizes, primarily determined by natural terrain features,

with a distribution county-wide as follows (see the county-wide data summary):

<u>Cultivation Unit Size</u>	<u>Percent of Parcels (county-wide)</u>
1. Less than 20 acres	29.2 %
2. 20 to 60 acres	20.9 %
3. 60 to 100 acres	18.5 %
4. 100 to 200 acres	22.4 %
5. Over 200 acres	9.1 %

If the goal of the Comprehensive Plan is to protect the "continued existing commercial use of the land", and the existing commercial use is in a wide range of cultivation parcel sizes as documented herein, then it seems more than reasonable that creation of new parcels in the future should consider this "typical pattern" of land use, rather than some arbitrary "average lot size". Resource protection for the future in Umatilla County must not be handicapped by "housing paranoia". The comprehensive plan should provide for considerable flexibility in parcel size for farm management purposes if efficient and economic use of the land is to be continued over time. Use criteria other than simply parcel size should be developed to limit the placement of homes in rural areas.

If the goal is to protect the land for production of food and fibers for future generations, then the flexible management of the land for commercial resource use must be protected first of all in the comprehensive plan. The plan should not only permit but encourage the development and conservation of the land for continued resource use.

A Parting Thought

When large "minimum lot size" is used as the "discouragement factor" to control housing, the community ends up having too many parcels of too large a size created and owned by persons who have too little appreciation for the never-ending challenge of economically managing the resource over time, who generally have too little knowledge of how to manage the resource effectively, who all too often soon tire of "fighting weeds" and "feeding the cows" and let the land "return to nature". These too large rural homesites create a major problem in weed control for nearby farmers. It seems much more "conservation minded" to restrict the amount of land used with a home in the country, to require that no more than is necessary be taken up by a rural homesite.

The larger the minimum lot size required with a home, the greater the likelihood that small acreages of productive land will have to be deeded with unproductive land to meet the "minimum ownership lot size" required by the Plan. Such a practice has high potential to generate very small cultivation units that are not naturally isolated, even though the ownership units may be larger. Such a consequence of a resource use "protection"

regulation would be contradictory. Efficient and economic land conservation for future generations requires that primary attention be given to the impact partitions have on "cultivation unit size" rather than "ownership lot size" and deed lines per se.

CULTIVATION PARCEL SIZE SUMMARY, NORTHWEST COUNTY AREA (T4N, R30E), UMATILLA COUNTY

FARM PARCEL SIZE (ACRES)	TYPE OF PARCEL BOUNDARIES							TOTAL PARCELS	PERCENT OF PARCELS	NUMBER OF TRIANGLE UNITS*
	ALL SECTION THREE SECT. BOUNDARIES	ONE SECT. TWO LINE, NATURAL	ONE SECT. THREE LINE, NATURAL	ONE SECT. TWO LINE, NATURAL	ONE SECT. THREE LINE, NATURAL	ONE SECT. TWO LINE, NATURAL	ONE SECT. THREE LINE, NATURAL			
< 5	0	0	0	0	0	11	11	5.09%	0	
5-9.9	0	2	0	0	29	31	31	14.35%	2	
10-19.9	0	1	2	15	18	18	18	8.33%	2	
20-39.9	0	0	1	22	23	23	23	10.65%	0	
40-59.9	0	2	3	8	13	13	13	6.02%	0	
60-79.9	0	1	0	16	18	18	18	8.33%	0	
80-99.9	1	2	1	35	40	40	40	18.52%	0	
100-159.9	1	3	0	25	30	30	30	13.89%	0	
160-199.9	4	2	2	10	19	19	19	8.80%	1	
200-239.9	0	0	0	0	1	1	1	0.46%	0	
240-299.9	1	0	1	0	2	2	2	0.93%	0	
300-399.9	1	2	0	0	3	3	3	1.39%	0	
>400	0	2	2	0	7	7	7	3.24%	0	
Totals	8	17	12	171	216	216	216	100.00%	5	
Percent	3.70%	7.87%	5.56%	79.17%	100.00%	100.00%	100.00%		2.31%	

* Included in the numbers to the left--NOT additional parcels

**ACSC measured management units farmed in more than one cultivation unit: 1st number is acres, 2nd number is no. of cultivation units.

577/3 166/2 346/3 622/4 604/4 407/5 135/3 196/2 829/4 150/2 102/15 (S) 418/3 181/2
 168/3 106/3 309/2 147/2 433/4 for a total of 5,896 acres farmed in 66 cultivation units for
 an average of 90 acres per unit

Source: ASCS/USDA (Umatilla County) maps F8-10, G9-10, H8-10

CULTIVATION PARCEL SIZE SUMMARY, NORTHWEST COUNTY AREA (T4N, R32E), UMATILLA COUNTY

FARM PARCEL SIZE (ACRES)	TYPE OF PARCEL BOUNDARIES										PERCENT OF PARCELS	NUMBER OF TRIANGLE UNITS*
	ALL SECTION THREE NATURAL	TWO SECT. NATURAL	ONE SECT. NATURAL	ALL THREE NATURAL	ONE SECT. TWO LINE, THREE BOUNDARIES							
<5	0	0	1	2	9	12	5.58%	74				
5-9.9	0	0	3	1	5	9	4.19%	total				
10-19.9	0	0	1	2	3	6	2.79%	for				
20-39.9	0	0	3	6	5	14	6.51%	all				
40-59.9	0	2	7	3	0	12	5.58%	maps				
60-79.9	0	2	3	0	0	5	2.33%	reviewed				
80-99.9	5	4	1	1	1	12	5.58%					
100-159.9	8	12	4	2	3	29	13.49%					
160-199.9	12	6	1	0	0	19	8.84%					
200-239.9	0	2	3	1	0	6	2.79%					
240-299.9	1	5	0	0	0	6	2.79%					
300-399.9	4	2	3	0	1	10	4.65%					
>400	2	2	3	0	3	10	4.65%					

Totals 32 37 33 18 30 150 100.00% 74
 Percent 21.33% 24.67% 22.00% 12.00% 20.00% 100.00% 49.33%

* Included in the numbers to the left--NOT additional parcels

**ACSCS measured management units farmed in more than one cultivation unit: 1st number is acres,

2nd number is no. of cultivation units.

161/2 156/2 157/2 418/3 221/3 469/4 178/3 338/2 347/2 62/2 362/3 524/3 887/8 22/2
 109/2 357/6 156/4 360/4 159/5 485/4 130/5 123/2 139/4 172/3 100/2 470/4 291/3 167/3
 132/4 402/5 215/4 428/7 493/6 550/4 246/3 45/2 163/4 29/2 152/2 160/3 41/2 366/4
 177/3 159/2 164/2 164/2 327/3 152/3 98/2 193/2 158/3 23/2 239/3 81/2 40/2 551/8 732/6
 732/6 630/7 360/3 322/3 298/4 273/4 421/3, for a total of 16,777 acres farmed in 213 cultivation
 units = 78.8 average acres per cultivation unit

Source: ASCS/USDA (Umatilla County) maps F13-15, G13-15, H13-15

NORTHWEST COUNTY CULTIVATION PARCEL SIZE SUMMARY, UMATILLA COUNTY

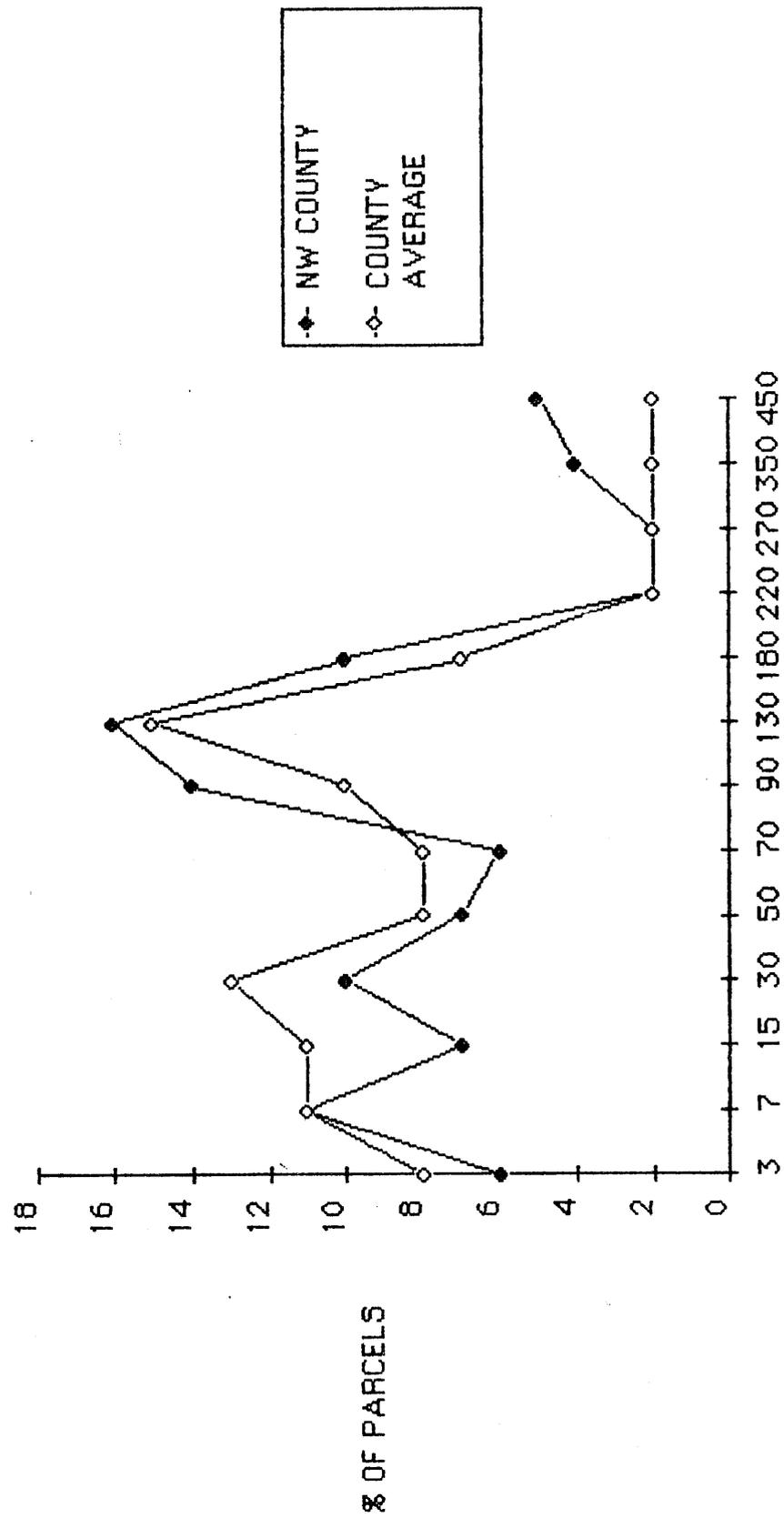
FARM PARCEL SIZE (ACRES)	T4N, R30E*		T4N, R32E*		AREA COUNT	
	PARCEL COUNT	percent	PARCEL COUNT	percent	TOTAL	percent
< 5	11	5.09%	12	8.00%	23	6.28%
5-9.9	31	14.35%	9	6.00%	40	10.93%
10-19.9	18	8.33%	6	4.00%	24	6.56%
20-39.9	23	10.65%	14	9.33%	37	10.11%
40-59.9	13	6.02%	12	8.00%	25	6.83%
60-79.9	18	8.33%	5	3.33%	23	6.28%
80-99.9	40	18.52%	12	8.00%	52	14.21%
100-159.9	30	13.89%	29	19.33%	59	16.12%
160-199.9	19	8.80%	19	12.67%	38	10.38%
200-239.9	1	0.46%	6	4.00%	7	1.91%
240-299.9	2	0.93%	6	4.00%	8	2.19%
300-399.9	3	1.39%	10	6.67%	13	3.55%
>400	7	3.24%	10	6.67%	17	4.64%

Totals	216	100.00%	150	100.00%	366	100.00%

* Number of cultivation units in respective size categories, EXCEPT ASCS measured management units farmed in more than one cultivation unit are counted only once, as if they were cultivation units the size of the measured units (See illustration "Cultivation Unit Definition")

Source: ASCS/USDA (Pendleton, Ore.) aerial photo maps

SIZE DISTRIBUTION, CULTIVATION PARCELS, NORTH WEST
UMATILLA COUNTY



SIZE CATEGORY, ACRES

CULTIVATION PARCEL SIZE SUMMARY, NORTHEAST COUNTY AREA (T4N, R34E), UMATILLA COUNTY

FARM PARCEL SIZE (ACRES)	TYPE OF PARCEL BOUNDARIES						TOTAL PARCELS	PERCENT OF PARCELS	NUMBER OF TRIANGLE UNITS*
	ALL SECTION LINE BOUNDARIES	THREE NATURAL	TWO SECT. NATURAL	ONE SECT. NATURAL	ALL IRREGULAR BOUNDARIES	THREE PARCELS			
<5	1	0	3	1	2	7	3.26%	4	
5-9.9	1	0	8	3	4	16	7.44%	11	
10-19.9	3	5	9	5	7	29	13.49%	14	
20-39.9	1	7	7	3	19	37	17.21%	10	
40-59.9	2	5	1	7	3	18	8.37%	8	
60-79.9	6	8	4	2	1	21	9.77%	2	
80-99.9	4	7	5	0	2	18	8.37%	5	
100-159.9	12	18	5	0	3	38	17.67%	5	
160-199.9	9	7	1	1	1	19	8.84%	0	
200-239.9	1	1	2	0	1	5	2.33%	0	
240-299.9	2	0	0	0	0	2	0.93%	0	
300-399.9	2	1	0	0	0	3	1.40%	0	
>400	0	1	0	0	1	2	0.93%	0	

Totals 44 60 45 22 44 215 100.00% 59
 Percent 20.47% 27.91% 20.93% 10.23% 20.47% 100.00% 27.44%

* Included in the numbers to the left--NOT additional parcels

**ASCS measured management units farmed in more than one cultivation unit: 1st number is acres, 2nd number is no. of cultivation units.

- 85/3 135/3 155/3 137/2 142/2 276/3 181/2 113/3 178/4 77/5 97/2 149/4(T) 118/3 156/2
- 315/11(T) 317/3 447/6 74/2 75/2 127/2 146/3 110/2 159/3 169/2 174/5(T) 179/8(T)
- 309/2 163/2 106/2 250/4 167/5(T) 146/2 189/2 143/4 171/2 541/3 470/3 104/3 152/4
- 210/3 79/3 41/2 160/3, for a total of 7,766 acres farmed in 141 cultivation units = 55 acres average cultivation unit size, in fields where each cultivation unit is not separately measured on ASCS map

CULTIVATION PARCEL SIZE SUMMARY, NORTHEAST COUNTY AREA (T5-6N, R36E), UMATILLA COUNTY

FARM PARCEL SIZE (ACRES)	TYPE OF PARCEL BOUNDARIES										PERCENT OF PARCELS	NUMBER OF TRIANGLE UNITS*
	ALL SECTION LINE BOUNDARIES	THREE LINE BOUNDARIES	TWO SECT. NATURAL	ONE SECT. NATURAL	ALL IRREGULAR BOUNDARIES	TOTAL PARCELS						
< 5	0	0	2	1	7	10					4.90%	1
5-9.9	0	1	5	0	7	13					6.37%	4
10-19.9	0	0	2	2	4	8					3.92%	0
20-39.9	1	2	11	5	4	23					11.27%	6
40-59.9	0	1	9	1	6	17					8.33%	7
60-79.9	5	5	7	4	4	25					12.25%	6
80-99.9	7	8	9	5	2	31					15.20%	7
100-159.9	6	12	16	6	0	40					19.61%	9
160-199.9	2	10	5	0	0	17					8.33%	0
200-239.9	1	2	1	1	1	6					2.94%	0
240-299.9	0	6	1	1	1	9					4.41%	0
300-399.9	0	2	1	0	0	3					1.47%	0
>400	1	1	0	0	0	2					0.98%	0
Totals	23	50	69	26	36	204					100.00%	40
Percent	11.27%	24.51%	33.82%	12.75%	17.65%	100.00%					19.61%	

* Included in the numbers to the left--NOT additional parcels

**ASCS measured management units farmed in more than one cultivation unit: 1st number is acres in the measured unit, 2nd no. is the no. of cultivation units.

124/5(T) 218/2 259/2 559/5 141/3 80/3 74/2 257/5 262/2 197/3 280/2 85/2 136/2 129/2
 126/3 149/2 123/2 121/2 160/2 112/2 125/2 118/3 110/3 91/2 79/2 27/2 174/6 117/2
 208/2 156/3 63/2 219/3 270/2 404/2 98/2 78/2 80/2 108/3 83/2 99/2 307/3 47/4 91/5
 82/4 171/3 47/2 192/3 89/2 191/4(T) 60/2 112/2 177/2 for a total of 8,946 acres farmed in 165
 cultivation units, for an average of 54 acres per unit

Source: ASCS/USDA (Umatilla County) maps A23-25, B23-25, C23-25

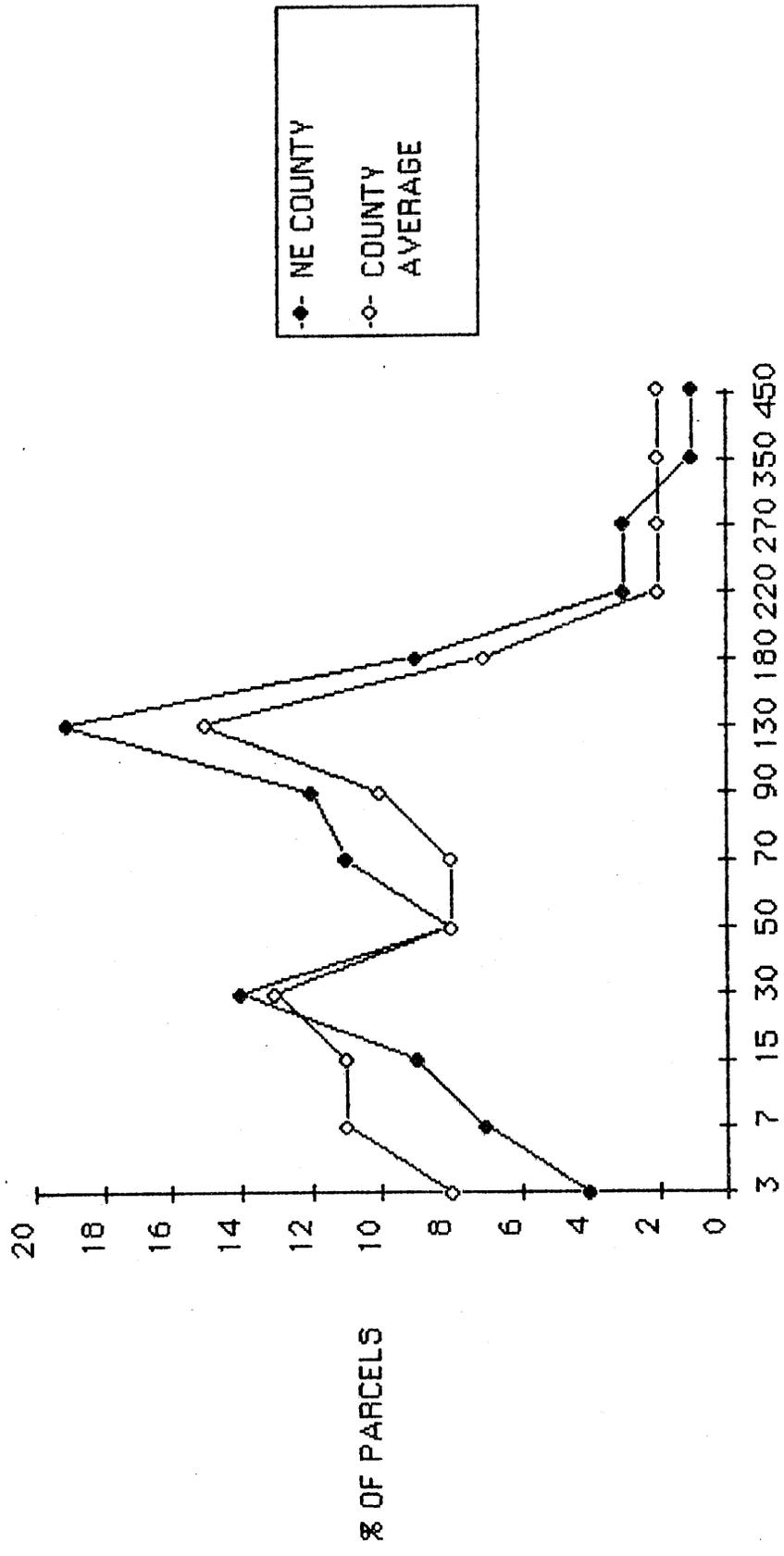
NORTHEAST COUNTY CULTIVATION PARCEL SIZE SUMMARY, UMATILLA COUNTY

FARM PARCEL SIZE (ACRES)	T4N, R34E*		T5-6N, R36E*		AREA COUNT	
	PARCEL COUNT	percent	PARCEL COUNT	percent	TOTAL	percent
< 5	7	3.26%	10	4.90%	17	4.06%
5-9.9	16	7.44%	13	6.37%	29	6.92%
10-19.9	29	13.49%	8	3.92%	37	8.83%
20-39.9	37	17.21%	23	11.27%	60	14.32%
40-59.9	18	8.37%	17	8.33%	35	8.35%
60-79.9	21	9.77%	25	12.25%	46	10.98%
80-99.9	18	8.37%	31	15.20%	49	11.69%
100-159.9	38	17.67%	40	19.61%	78	18.62%
160-199.9	19	8.84%	17	8.33%	36	8.59%
200-239.9	5	2.33%	6	2.94%	11	2.63%
240-299.9	2	0.93%	9	4.41%	11	2.63%
300-399.9	3	1.40%	3	1.47%	6	1.43%
>400	2	0.93%	2	0.98%	4	0.95%
Totals	215	100.00%	204	100.00%	419	100.00%

* Number of cultivation units in respective size categories, EXCEPT ASCS measured management units farmed in more than one cultivation unit are counted only once, as if they were cultivation units the size of the measured units (See illustration "Cultivation Unit Definition")

Source: ASCS/USDA (Pendleton, Ore.) aerial photo maps

SIZE DISTRIBUTION, CULTIVATION PARCELS, NORTHEAST
UMATILLA COUNTY



SIZE CATEGORY, ACRES

CULTIVATION PARCEL SIZE SUMMARY, SOUTH COUNTY AREA (T2N, R29E), UMATILLA COUNTY

FARM PARCEL SIZE (ACRES)	TYPE OF PARCEL BOUNDARIES							TOTAL PARCELS	PERCENT OF PARCELS	NUMBER OF TRIANGLE UNITS*
	ALL SECTION LINE BOUNDARIES	THREE SECT. NATURAL	TWO SECT. NATURAL	ONE SECT. NATURAL	ALL IRREGULAR BOUNDARIES	THREE PARCELS	TOTAL PARCELS			
<5	0	0	1	1	3	5	9.26%	1		
5-9.9	0	0	0	0	0	0	0.00%	0		
10-19.9	0	0	3	0	3	6	11.11%	3		
20-39.9	0	0	2	0	2	4	7.41%	0		
40-59.9	0	1	1	0	2	4	7.41%	0		
60-79.9	1	0	0	1	0	2	3.70%	0		
80-99.9	0	1	0	3	0	4	7.41%	1		
100-159.9	1	3	5	1	1	11	20.37%	0		
160-199.9	2	1	0	0	1	4	7.41%	0		
200-239.9	1	0	1	0	0	2	3.70%	0		
240-299.9	0	2	1	0	1	4	7.41%	0		
300-399.9	2	0	2	0	1	5	9.26%	0		
>400	1	0	0	1	1	3	5.56%	0		

Totals	8	8	16	7	15	54	100.00%	5		
Percent	14.81%	14.81%	29.63%	12.96%	27.78%	100.00%		9.26%		

* Included in the numbers to the left--NOT additional parcels

**ACRS measured management units farmed in more than one cultivation unit: 1st number is acres ,
2nd number is no. of cultivation units.

324/2 523/4 360/2 291/2 53/2 112/3 300/2 163/2 306/2 , for a total of 2,432 acres farmed in
21 cultivation units, for an average of 116 acres per unit

Source: ASCS/USDA (Umatilla County) maps L5-7, M5-7, N5-7

CULTIVATION PARCEL SIZE SUMMARY, SOUTH COUNTY AREA (T1S, R32E), UMATILLA COUNTY

FARM PARCEL SIZE (ACRES)	TYPE OF PARCEL BOUNDARIES										TOTAL PARCELS	PERCENT OF PARCELS	NUMBER OF TRIANGLE UNITS*
	ALL SECTION LINE BOUNDARIES	THREE LINES, ONE NATURAL	TWO SECT. TWO LINE, NATURAL	ONE SECT. THREE NATURAL	ALL IRREGULAR BOUNDARIES								
< 5	0	0	1	5	21	27	10.23%	1					
5-9.9	0	0	1	15	35	51	19.32%	2					
10-19.9	0	1	6	14	24	45	17.05%	2					
20-39.9	1	2	13	9	8	33	12.50%	5					
40-59.9	0	1	6	7	4	18	6.82%	0					
60-79.9	2	3	3	3	5	16	6.06%	1					
80-99.9	1	3	5	3	6	18	6.82%	1					
100-159.9	5	3	7	7	10	32	12.12%	1					
160-199.9	1	3	0	2	3	9	3.41%	0					
200-239.9	0	1	3	0	1	5	1.89%	0					
240-299.9	0	1	2	0	0	3	1.14%	0					
300-399.9	1	0	3	2	0	6	2.27%	0					
>400	0	0	0	1	0	1	0.38%	0					
Totals	11	18	50	68	117	264	100.00%	13					
Percent	4.17%	6.82%	18.94%	25.76%	44.32%	100.00%		4.92%					

* Included in the numbers to the left--NOT additional parcels

**ASCS measured management units farmed in more than one cultivation unit: 1st number is acres ,

2nd number is no. of cultivation units.

236/2	90/2	331/8	509/3	240/3	128/3	152/2	153 2	56/2	113/6(T)	210/21(T,S)	101/5	125/5
111/2	148/3	26/4	33/4	159/2	92/3	150/2	49/2	278/4	78/4	24/2	236/3	221/2
114/4	173/4	133/2	54/2	38/3	322/5	163/5	84/3	67/5	145/2	91/2	135/4	106/3
31/4	349/2	126/5										367/6

18/2 for an average of 43 acres per unit

SOUTH COUNTY CULTIVATION PARCEL SIZE SUMMARY, UMATILLA COUNTY

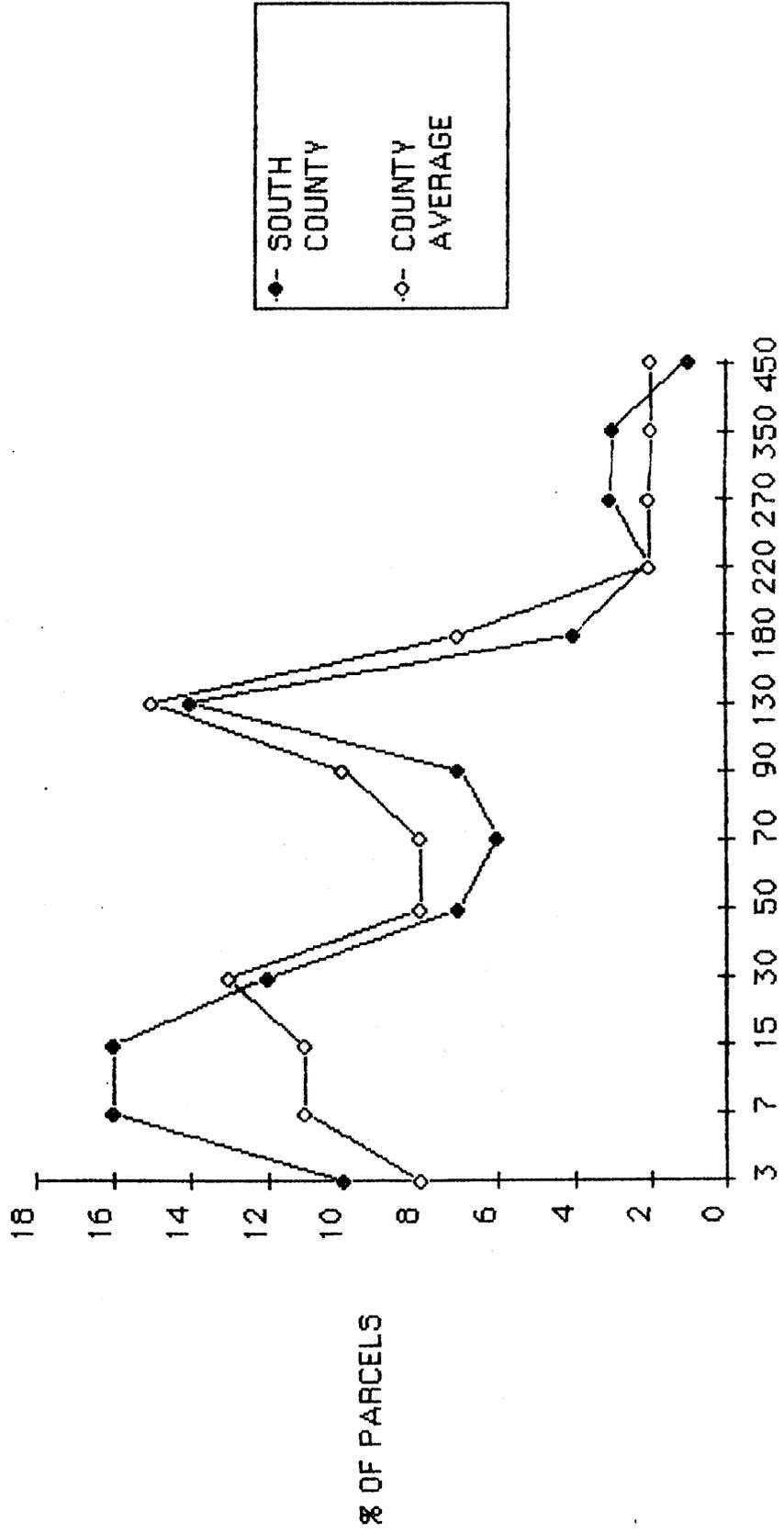
FARM PARCEL SIZE (ACRES)	T2N, R29E*		T1S, R32E*		AREA COUNT	
	PARCEL COUNT	percent	PARCEL COUNT	percent	TOTAL	percent
< 5	5	9.26%	27	10.23%	32	10.06%
5-9.9	0	0.00%	51	19.32%	51	16.04%
10-19.9	6	11.11%	45	17.05%	51	16.04%
20-39.9	4	7.41%	33	12.50%	37	11.64%
40-59.9	4	7.41%	18	6.82%	22	6.92%
60-79.9	2	3.70%	16	6.06%	18	5.66%
80-99.9	4	7.41%	18	6.82%	22	6.92%
100-159.9	11	20.37%	32	12.12%	43	13.52%
160-199.9	4	7.41%	9	3.41%	13	4.09%
200-239.9	2	3.70%	5	1.89%	7	2.20%
240-299.9	4	7.41%	3	1.14%	7	2.20%
300-399.9	5	9.26%	6	2.27%	11	3.46%
>400	3	5.56%	1	0.38%	4	1.26%

Totals	54	100.00%	264	100.00%	318	100.00%

* Number of cultivation units in respective size categories, EXCEPT ASCS measured management units farmed in more than one cultivation unit are counted only once, as if they were cultivation units the size of the measured units

Source: ASCS/USDA (Pendleton, Ore.) aerial photo maps

SIZE DISTRIBUTION, CULTIVATION PARCELS, SOUTH COUNTY AREA
UMATILLA COUNTY



SIZE CATEGORY, ACRES

CULTIVATION PARCEL SIZE SUMMARY, SOUTH COUNTY FOOTHILLS AREA (T1S, R34E), UMATILLA COUNTY

FARM PARCEL SIZE (ACRES)	TYPE OF PARCEL BOUNDARIES						TOTAL PARCELS	PERCENT OF PARCELS	NUMBER OF TRIANGLE UNITS*
	ALL SECTION LINE BOUNDARIES	THREE NATURAL	TWO SECT. NATURAL	ONE SECT. NATURAL	ALL IRREGULAR BOUNDARIES	ALL IRREGULAR BOUNDARIES			
< 5	0	0	0	0	13	14	27.45%	0	
5-9.9	0	0	0	0	4	6	11.76%	0	
10-19.9	0	0	1	2	9	12	23.53%	0	
20-39.9	0	1	0	1	8	10	19.61%	0	
40-59.9	0	1	1	4	0	6	11.76%	0	
60-79.9	0	0	0	0	0	0	0.00%	0	
80-99.9	0	1	0	0	0	1	1.96%	0	
100-159.9	0	0	0	1	0	1	1.96%	0	
160-199.9	0	0	0	0	0	0	0.00%	0	
200-239.9	0	0	0	0	0	0	0.00%	0	
240-299.9	0	0	0	0	0	0	0.00%	0	
300-399.9	0	0	0	0	1	1	1.96%	0	
>400	0	0	0	0	0	0	0.00%	0	
Totals	0	3	2	11	35	51	100.00%	0	
Percent	0.00%	5.88%	3.92%	21.57%	68.63%	100.00%	100.00%	0.00%	

* Included in the numbers to the left--NOT additional parcels
 **ACCS measured management units farmed in more than one cultivation unit: 1st number is acres in the measured unit, 2nd no. is the no. of cultivation units.
 432 acres farmed in 13 cultivation units, for an average of 33 acres per unit
 50/3 48/2 254/6 80/2 for a total

SOURCE: ASCS/USDA (UMATILLA COUNTY) maps R18-20, S18-20

CULTIVATION PARCEL SIZE SUMMARY, EAST COUNTY FOOTHILLS (T5N, R37E), UMATILLA COUNTY

FARM PARCEL SIZE (ACRES)	TYPE OF PARCEL BOUNDARIES										PERCENT OF PARCELS	TOTAL PARCELS	PERCENT OF PARCELS	NUMBER OF TRIANGLE UNITS*
	ALL SECTION THREE SECT. LINE BOUNDARIES	TWO SECT. NATURAL	ONE SECT. NATURAL	THREE NATURAL	TWO LINE, IRREGULAR BOUNDARIES	ONE LINE, THREE BOUNDARIES	TWO LINE, THREE BOUNDARIES	THREE NATURAL	THREE NATURAL	THREE NATURAL				
< 5	0	0	0	1	6	7	8.86%	7	0	0	0	0	0	0
5-9.9	0	0	0	0	6	6	7.59%	6	0	0	0	0	0	0
10-19.9	0	0	1	2	8	11	13.92%	11	0	0	0	0	0	0
20-39.9	0	0	2	5	9	16	20.25%	16	0	0	0	0	0	3
40-59.9	0	1	0	3	5	9	11.39%	9	0	0	0	0	0	1
60-79.9	0	0	2	2	9	13	16.46%	13	0	0	0	0	0	0
80-99.9	0	0	1	2	1	4	5.06%	4	0	0	0	0	0	1
100-159.9	0	0	0	1	3	4	5.06%	4	0	0	0	0	0	0
160-199.9	0	1	0	1	2	4	5.06%	4	0	0	0	0	0	0
200-239.9	0	0	1	1	1	3	3.80%	3	0	0	0	0	0	0
240-299.9	0	0	2	0	0	2	2.53%	2	0	0	0	0	0	0
300-399.9	0	0	0	0	0	0	0.00%	0	0	0	0	0	0	0
>400	0	0	0	0	0	0	0.00%	0	0	0	0	0	0	0
Totals	0	2	9	18	50	79	100.00%	79	5	5	5	5	5	5
Percent	0.00%	2.53%	11.39%	22.78%	63.29%	100.00%		100.00%						6.33%

* Included in the numbers to the left--NOT additional parcels

**ACRS measured management units farmed in more than one cultivation unit: 1st number is acres in the measured unit, 2nd no. is the no. of cultivation units. 269/4 116/3 9/2 60/2 49/3 279/4 32/2 52/2 231/3 229/7(T) 179/6 for a total of 1,505 acres farmed in 38 cultivation units, for an average of 41 acres per unit

Source: ASCS/USDA (Umatilla County) maps C26-28, D26-28, E26-28

FOOTHILLS AREA CULTIVATION PARCEL SIZE SUMMARY, UMATILLA COUNTY

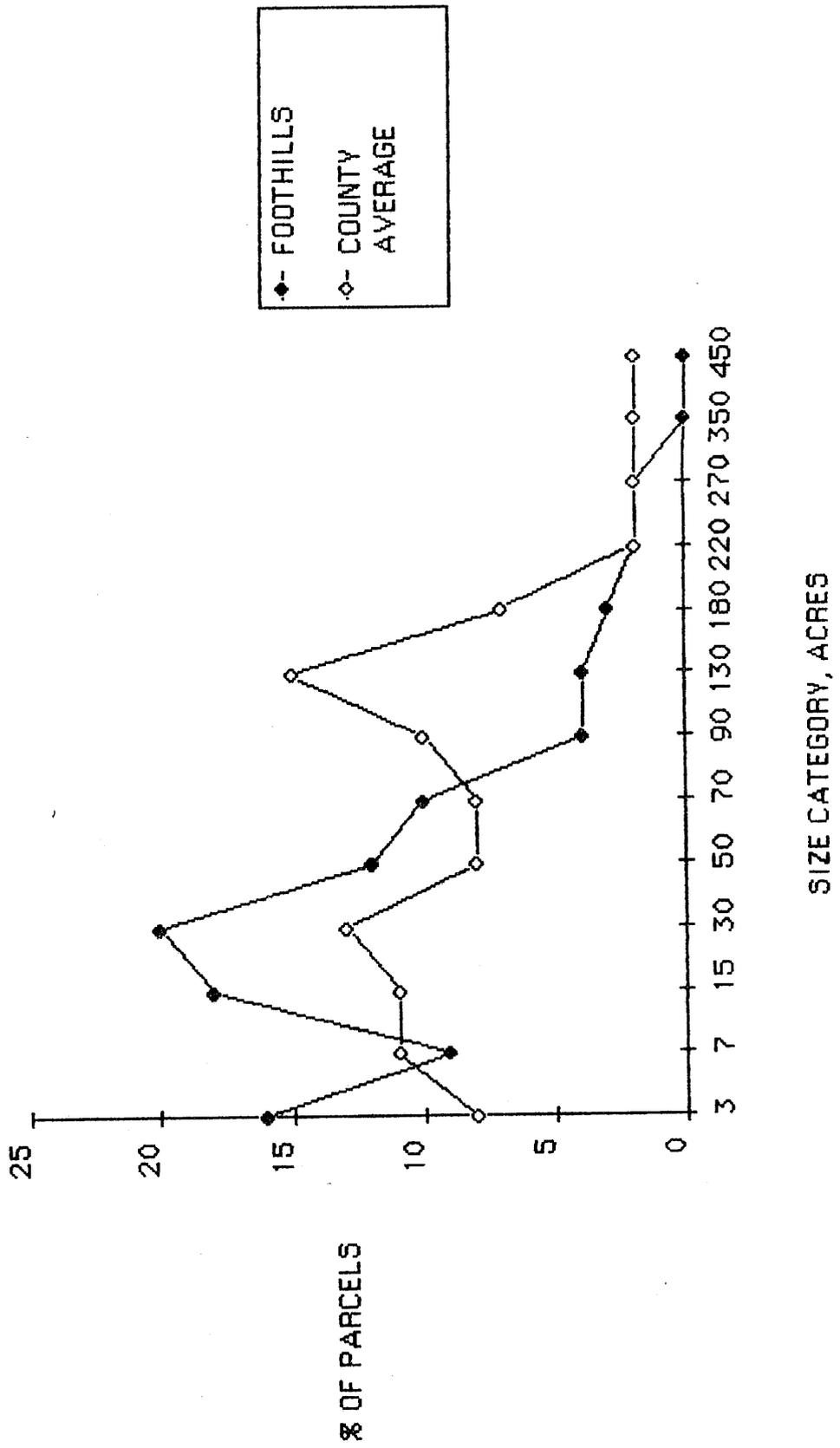
FARM PARCEL SIZE (ACRES)	T1S, R34		T5N, R37E*		AREA	
	PARCEL COUNT	percent	PARCEL COUNT	percent	TOTAL COUNT	percent
< 5	14	27.45%	7	8.86%	21	16.15%
5-9.9	6	11.76%	6	7.59%	12	9.23%
10-19.9	12	23.53%	11	13.92%	23	17.69%
20-39.9	10	19.61%	16	20.25%	26	20.00%
40-59.9	6	11.76%	9	11.39%	15	11.54%
60-79.9	0	0.00%	13	16.46%	13	10.00%
80-99.9	1	1.96%	4	5.06%	5	3.85%
100-159.9	1	1.96%	4	5.06%	5	3.85%
160-199.9	0	0.00%	4	5.06%	4	3.08%
200-239.9	0	0.00%	3	3.80%	3	2.31%
240-299.9	1	1.96%	2	2.53%	3	2.31%
300-399.9	0	0.00%	0	0.00%	0	0.00%
>400	0	0.00%	0	0.00%	0	0.00%

Totals	51	100.00%	79	100.00%	130	100.00%

* Number of cultivation units in respective size categories, EXCEPT ASCS measured management units farmed in more than one cultivation unit are counted only once, as if they were cultivation units the size of the measured units (See illustration "Cultivation Unit Definition")

Source: ASCS/USDA (Pendleton, Ore.) aerial photo maps

SIZE DISTRIBUTION, CULTIVATION PARCELS, FOOTHILLS AREA
UMATILLA COUNTY



SIZE CATEGORY, ACRES

COUNTY-WIDE CULTIVATION PARCEL SIZE SUMMARY, UMATILLA COUNTY

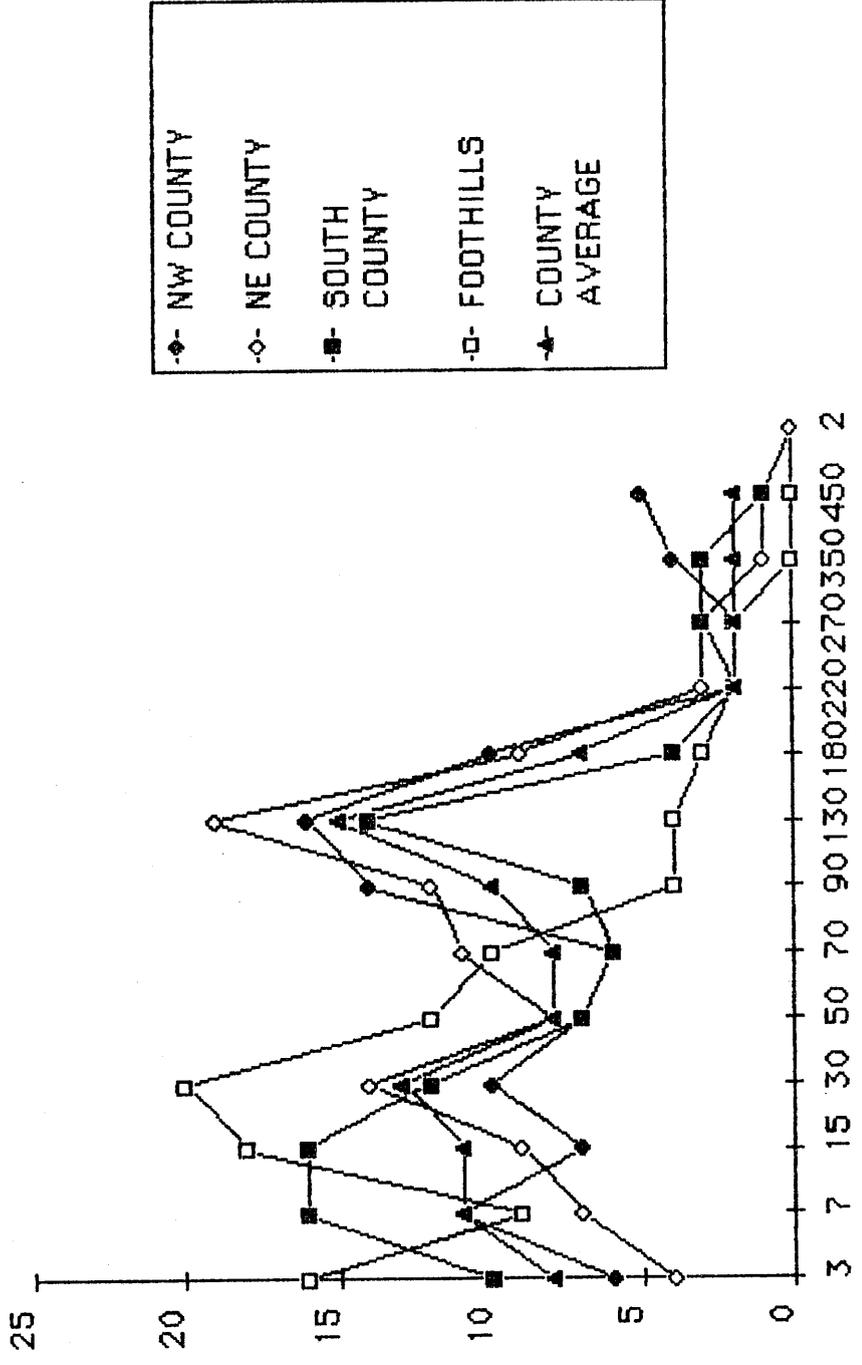
FARM PARCEL SIZE (ACRES)	COUNTY GRAND TOTAL*	percent
< 5	93	7.54%
5-9.9	132	10.71%
10-19.9	135	10.95%
20-39.9	160	12.98%
40-59.9	97	7.87%
60-79.9	100	8.11%
80-99.9	128	10.38%
100-159.9	185	15.00%
160-199.9	91	7.38%
200-239.9	28	2.27%
240-299.9	29	2.35%
300-399.9	30	2.43%
>400	25	2.03%

Totals	1233	100.00%

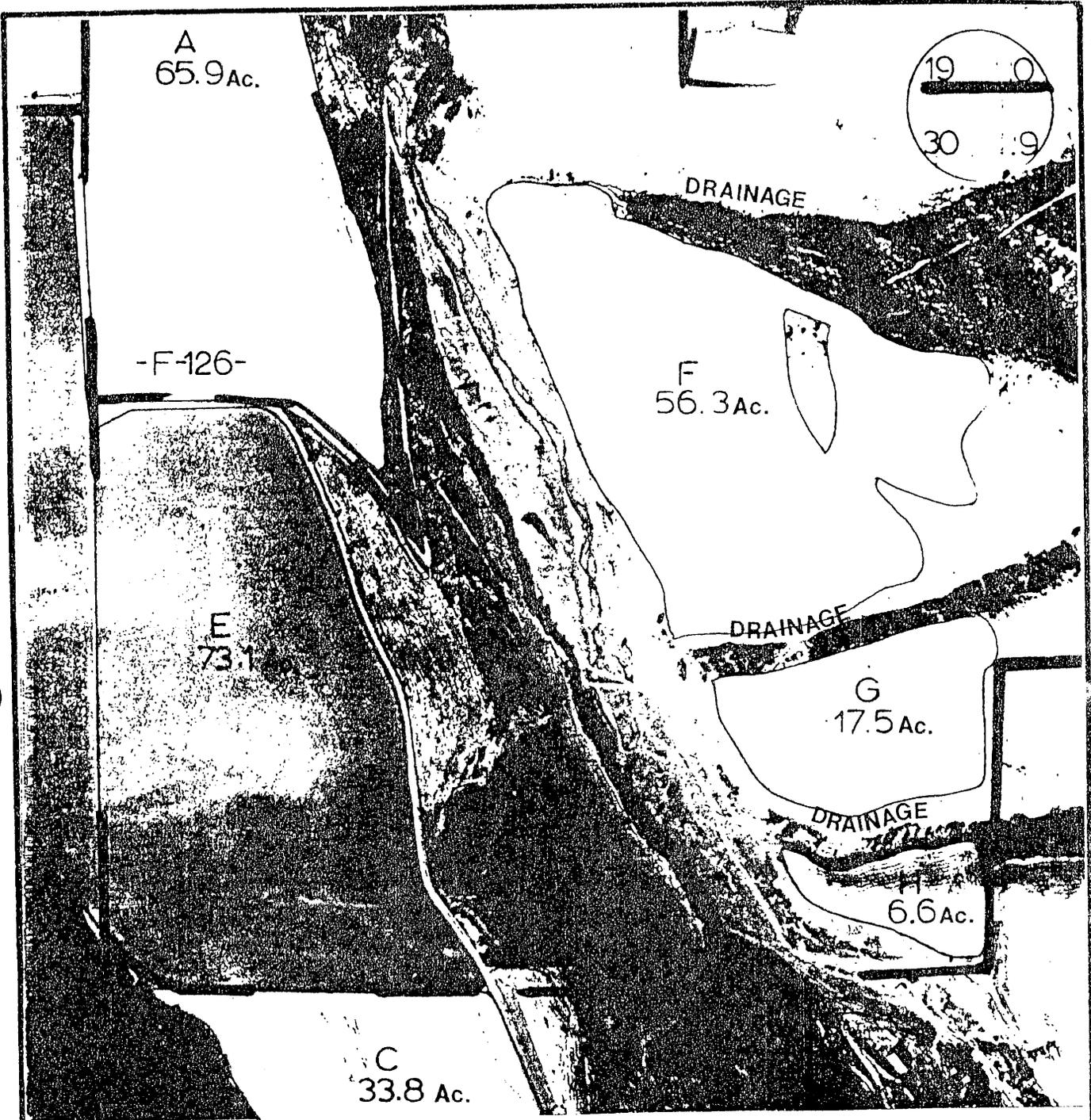
* County-wide cultivation parcel count--number of cultivation units in respective size ca
measured management units farmed in more than one cultivation unit are
counted only once, as if they were cultivation units the size of the
measured units (See illustration "Cultivation Unit Definition")

Source: ASCS/USDA (Pendleton, Ore.) aerial photo maps

SIZE DISTRIBUTION, CULTIVATION PARCELS, NORTHEAST
UMATILLA COUNTY

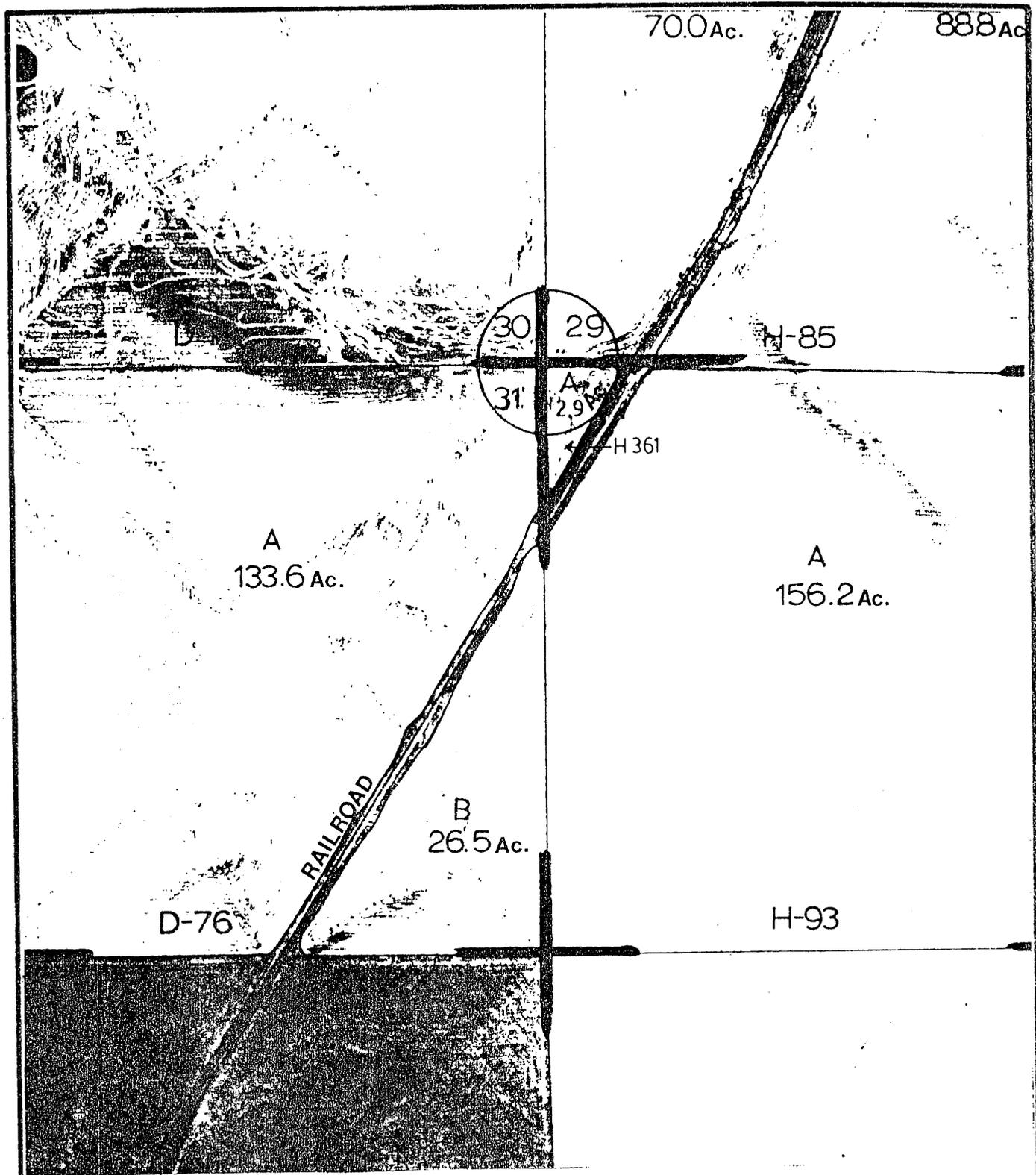


SIZE CATEGORY, ACRES



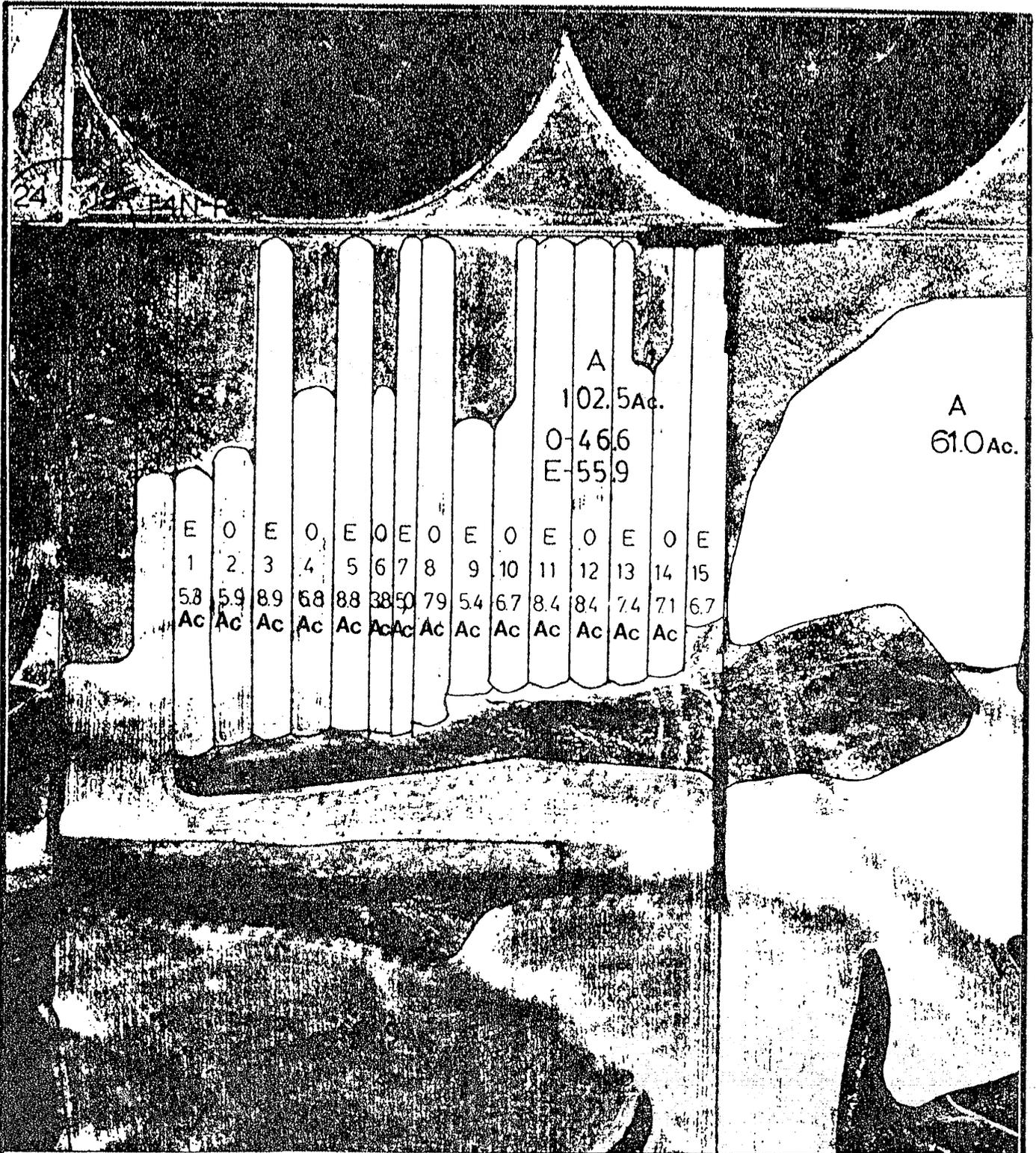
SOURCE: U.S.D.A., A.S.C.S. Aerial Photo No.
B-25M (T6N, R37E), September, 1980.

**NATURAL LANDFORM FEATURES
AERIAL PHOTO ILLUSTRATION NO. 1**



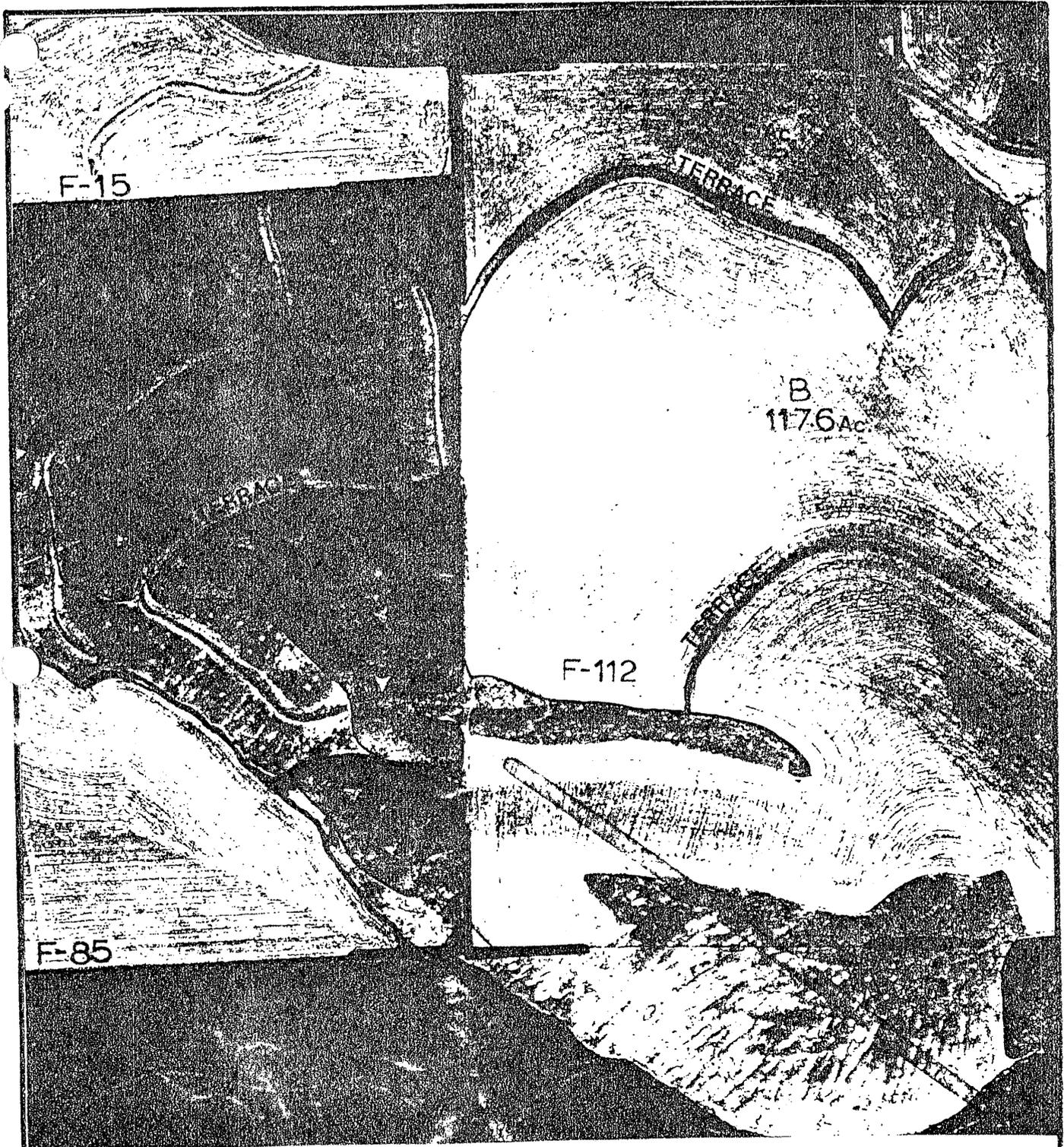
SOURCE: U.S.D.A., A.S.C.S. Aerial Photo No. H-16 (T4N, R33E), September, 1980.

**TRANSPORTATION FEATURES
AERIAL PHOTO ILLUSTRATION NO. 2**



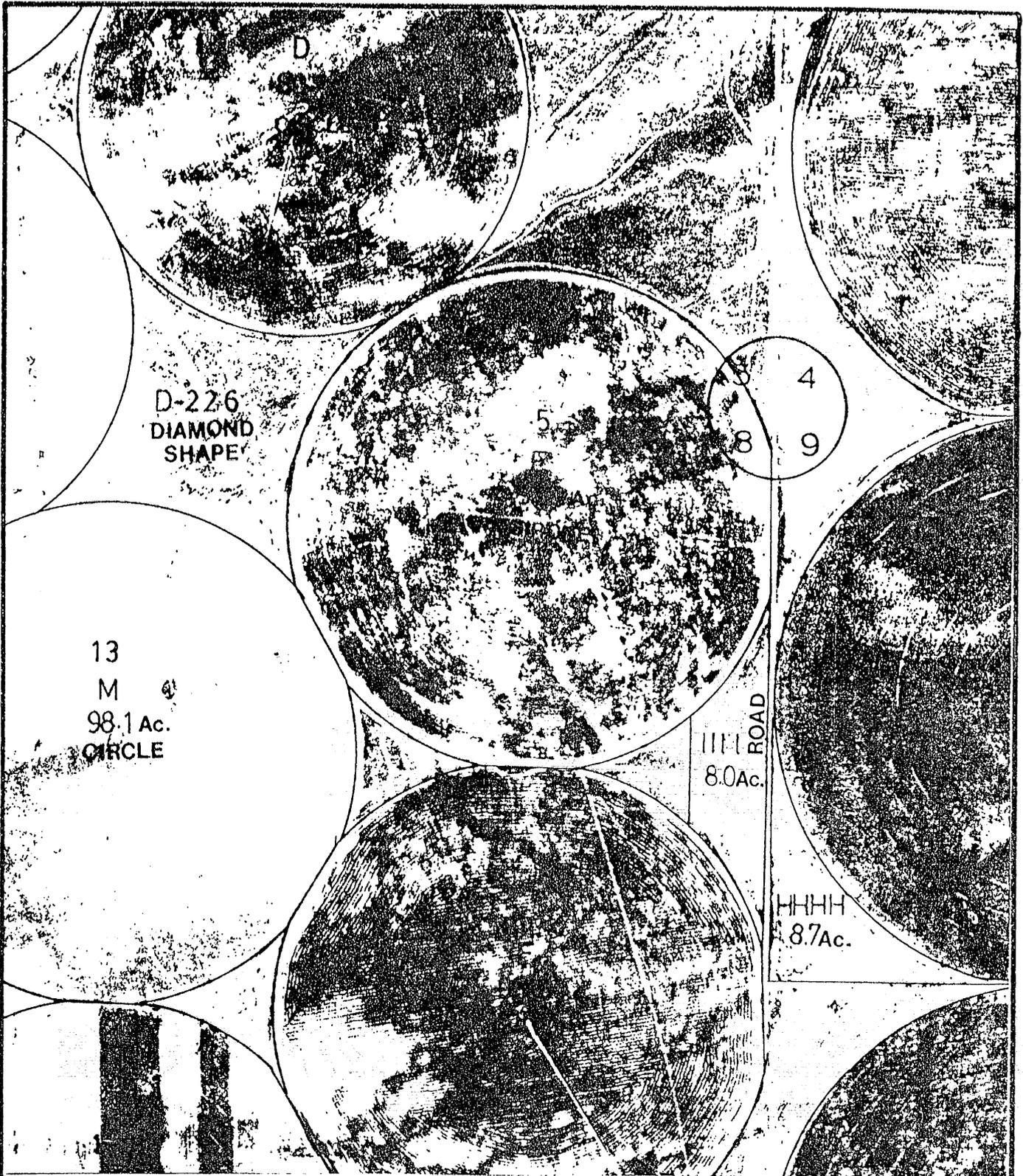
SOURCE: U.S.D.A., A.S.C.S. Aerial Photo No.
H-8 (T4N, R30E), September, 1980.

MAN MADE FEATURES (for conservation purposes)
AERIAL PHOTO ILLUSTRATION NO. 3



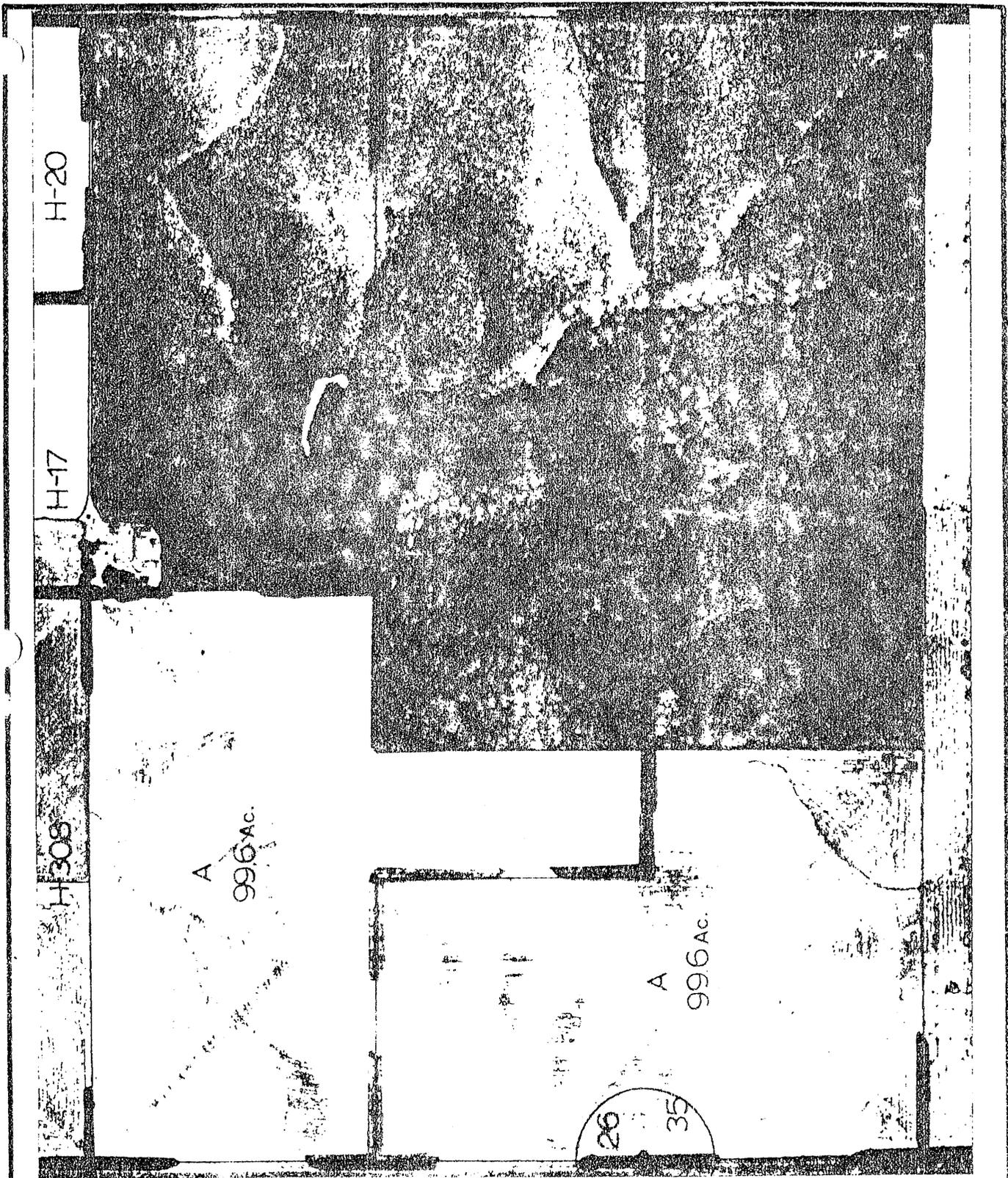
SOURCE: U.S.D.A., A.S.C.S. Aerial Photo No.
C-24M (T5N, R36E), September, 1980.

MAN MADE FEATURES (for conservation purposes)
AERIAL PHOTO ILLUSTRATION NO. 3



SOURCE: U.S.D.A., A.S.C.S. Aerial Photo No.
G-19 (T4N, R30E), September, 1980.

**IRRIGATION
AERIAL PHOTO ILLUSTRATION NO. 4**



SOURCE: U.S.D.A., A.S.C.S. Aerial Photo No. H-15 (T4N. R32E), September, 1980.

ESTATE SETTLEMENTS AERIAL PHOTO ILLUSTRATION NO. 5

B

CLINTON B. REEDER, PhD

Agricultural Economics
Star Rte, Box 42 1
Pendleton, Ore. 97801
503-276-9278

Umatilla County Planning Department
Umatilla County Court House
Pendleton, Oregon

**HOMESITE NUMBER AND LOCATION SUMMARY
RURAL AREAS, UMATILLA COUNTY**

General Comments

Questions have been raised in the course of developing the Umatilla County Comprehensive Plan concerning the number and location of rural homesites, usually with concern about the nature of possible adverse impact upon agricultural resource lands. This review will provide some interesting insight to homesite location, and will I believe reduce the concern some have about the adverse impact rural housing to date is having on conservation of farm lands.

The ASCS/USDA (Pendleton Office) maps were used for the basic data in this review. The maps are developed from aerial photos, and homesites are generally easily identified thereon.

I attempted to identify the amount of acreage the homesites were associated with, but the maps generally show the homesites to be not much larger than the acres necessary to encompass the buildings and possibly in the areas where there are more livestock, some pasture area. It is not possible to tell from the maps which cultivation parcels the homesites are "attached to".

The critical question, however, pertains to the location of the homesites in relation to how they affect the cultivation pattern in the fields. Hence, the review does indicate whether the homes are in (a) bottom lands (stream boottoms, drainage areas, etc. where there are small natural parcels and/or noncropland, generally); (b) in field corners (where the interference with cultivation patterns is usually greater than in the bottom lands, but less than if the homesite were on field edges or in field centers); (c) on field edges (which tend to cause more cultivation pattern inconvenience than in corners but less than if in field centers); and (d) in field centers (i.e., with a driveway that runs out into the field in such a manner as to rather severely disrupt the field cultivation pattern). For a pictorial presentation of these location categories, see the table labelled "Number and Location of Homesites on Farm Parcels, Umatilla County".

The Major Areas of the county, and the particular townships reviewed are the same ones that were surveyed in the "Cultivation Parcel Size

Review", so that homesite data might be directly compared to the cultivation parcel data. Such a comparison is presented in the table labelled "Homesites, Acres Per Homesite and Cultivation Units Per Homesite, Umatilla County".

Findings

1. Interference With Croplands. The maps indicate rather clearly that the rural homesites are almost without exception located to minimize interference with cultivated lands--predominately in the "bottom land" area. Of the homesites in this location category, most are in noncrop land under bluffs, on the lower side of steep slopes, or in locations that would generally be relatively nonproductive and/or more difficult to farm efficiently.

2. Homesite Locations. Eighty nine percent (89%) of the homesites were either in bottom lands or in field corners (mostly so as to minimize field cultivation problems), with 10 percent located on field edges. The homesites on field edges tended to be more frequent in areas where the amount of noncropland was limited, and/or where roads were so located that on field edges put the homesite most close to the roadway and related services. Only 1 percent of the homesites were on driveways that extended out toward the center of parcels, in a manner so as to more severely disturb cultivation patterns.

3. Nearness to Services. Almost without exception, the homesites are located near to county roads, and do not have long drives servicing only one home. Most homesites are located on roads that service a rather extensive area.

4. Reasons for Homesite Locations. If one considers the fact that the winters in the County are severely cold and often with cold winds, and the summers often windy and hot, it is easy to understand that most home sites are so located as to have a natural windbreak and be close to water--for drinking, for livestock, and to nourish gardens and trees for shade and shelter for livestock. In addition, most of the homesites have been long established, and were originally located where hand dug wells could reach water (which precluded most of the high ground), and along roadways which generally were built with horses along the more gently sloped and relatively level bottom lands, especially up drainage areas and along stream banks.

The data indicate so few homes on "scenic tops" and "open slopes", or in the midst of good crop land that it seems appropriate to conclude that more recently constructed homesites have been selected for many of the same reasons as in past years, and that cropland for the most part has not been adversely impacted by the rural homesites.

5. Urban Fringes. The only areas where there seem to be any significant homesite development that might be construed to be detrimental to farm lands is on the immediate fringe of the urban areas.

6. Crop/Range Transition. In the areas of the County where the crop land is comingled with range lands, there are as expected considerably fewer homesites. The economics of grazing is such that greater acreage is required to sustain an economical farm operation. Also, the homes tend in these areas to be clustered on the bottom lands, especially up stream bottoms, where winter pasture and water is available, and where the bluffs provide protection from storms.

7. Land Quality. There tend to be more homes in the deeper soils where traditionally a family could make a living on a smaller acreage farmed more intensively. There are almost no homesites "in the middle of nowhere", where the economic activity would be minimal per acre.

8. Variation Among Townships. The homesite data suggest that there is not a "typical" density of homesites over a large area, but rather that the number of homesites is directly related to the number of sites that lend themselves to homes **in relation to** the economics of the land and the nature of enterprises that the land will sustain, from township to township.

9. Acres per Homesite. As indicated above, the number of homesites is related to the economic activity per acre, and thus varies considerable among various townships. The sample area townships had acreage per homesite ranging from 2,880 acres down to 427 acres. These figures include cropland and noncropland--the higher numbers being in the grazing areas. Care should be taken to not confuse this figure with the cultivation units and size thereof per homesite.

10. Cultivation Units Per Homesite. Using mathematical averages, the data indicates a wide range in the number of cultivation units per homesite among townships--from a high of 17 to a low of 1. The higher numbers of cultivation units per homesite tend to occur in areas where there is more irrigation and intensive cropping, and/or where there is a greater acreage of buildable bottom land near to water. The number of cultivation units is fairly uniform in the relatively good croplands, ranging from about 4 to 7 units per homesite.

11. "Typical Cultivation Unit Size". If one uses more than one mathematical indication of "average", different results are attained relative to the "normal" cultivation unit size. The "mathematical average" (cultivated acres / number of homesites) indicates for the county a "normal" unit size of 149 acres. If the "median" unit size is used (that size which has an equal number of units both larger and smaller than itself), the "normal" unit size is those units in the range of 40 to 80 acres. And, if the "modal" definition of "normal" is used (that size occurring most often), the "normal" unit size is units falling into the range of 5 to 160 acres. County-wide there is almost the same percentage of cultivation units in each of the following size categories: less than 20 acres (29.2%), 20 to 60 acres (20.9%), 60 to 100 acres (18.5%), and 100 to 200 acres (22.4%)

County-wide, if one uses the average total acres per homesite of 627 acres, and (a) the "average", (b) midpoint of the "median" size range, and (c) the midpoint of the "modal" size range, the following results are obtained:

	<u>"Typical" Number of Cultivation units Per Homesite</u>
(a) "Average" (149)	4.2
(b) "Median" (60)	10.5
(c) "Mode" (80)	7.8

Actually, the modal category is difficult to work with in this instance, for the actual modal category was the "less than 5 acres" category, but categories up to and including "100-160" occurred with slightly less than, but almost the same frequency. (See the "Cultivation Parcel Size Review").

Homesite density in relation to cultivation units must, in my opinion, consider the median and modal size measurement concepts, or erroneous conclusion will be drawn about the nature of homesite and field parcel relationships in the County. Should policy decisions be based only on "mathematical averages", there will be a strong tendency to overlook the reasonable justifications for the smaller parcels that exist, and will continue to exist in the county due to the impact of natural-physical terrain features and man-made features, such as roads and railroad right-of-ways.

HOMESITES, ACRES PER HOMESITES AND CULTIVATION UNITS PER HOMESITE, UMATILLA COUNTY

	1	2	3	4	5	6
	TOTAL NUMBER OF HOMESITES	TOTAL ACRES PER HOMESITE (1)	AVERAGE (ACRES)	MEDIAN (ACRES)	CULTIVATION UNIT SIZE (2) MODAL (ACRES)	AVERAGE NUMBER OF CULTIVATION UNITS PER HOMESITE (3)
NORTHWEST COUNTY						
T4N, R30E	13	1772	107	60-80	80-100	17
T4N, R32E	39	591	154	80-100	100-160	4
TOTAL	52	886	126	80-100	80-100	7
NORTHEAST COUNTY						
T4N, R34E	57	404	107	60-80	100-160	4
T5-6, R36E	35	658	113	80-100	100-160	6
TOTAL	92	501	110	60-80	100-160	5
SOUTH COUNTY						
T2N, R29E	8	2880	427	100-160	100-160	7
T1S, R32E	54	427	87	20-40	5-10	5
TOTAL	62	743	145	20-40	5-20	5
FOOTHILLS AREA						
T1S, R34E	53	435	452	10-20	3-40	1
T5N, R37E	35	658	292	20-40	20-40	2
TOTAL	88	524	354	20-40	20-40	1
COUNTY-WIDE	294	627	149	40-80	5-160	4

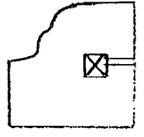
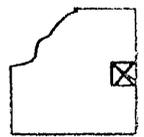
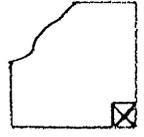
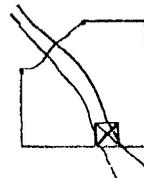
(1) Total acres in one township (Approximately 640 x 36 = 23040) divided by number of homesites; includes both cropland and noncropland.

(2) Average = mathematical average; median = size with same number larger and smaller than; modal = most frequently occurring. (3) column 2 / column 3

NUMBER AND LOCATION OF HOMESITES ON FARM PARCELS, UMATILLA COUNTY

HOMESITE LOCATIONS

	HOMESITE LOCATIONS					TOTAL
	CREEK & DRAINAGE BOTTOMS	PARCEL CORNERS	PARCEL EDGE	PARCEL CENTER	TOTAL	
NORTHWEST COUNTY						
T4N, R30E	8	3	2	0	13	
T4N, R32E	29	8	2	0	39	
TOTAL	37	11	4	0	52	
NORTHEAST COUNTY						
T4N, R34E	23	16	18	0	57	
T5-8, R36E	25	3	5	2	35	
TOTAL	48	19	23	2	92	
SOUTH COUNTY						
T2N, R29E	7	0	1	0	8	
T1S, R32E	50	3	1	0	54	
TOTAL	57	3	2	0	62	
FOOTHILLS AREA						
T1S, R34E	52	0	1	0	53	
T5N, R37E	35	0	0	0	35	
TOTAL	87	0	1	0	88	
COUNTY-WIDE	229	33	30	2	294	
PERCENT	78%	11%	10%	1%	100%	



February 17, 1983, minutes, Helen Timmerman Testimony

Helen Timmerman states "I am an owner/operator on a farm northwest of Pendleton. I also have done some work at the national level with the National Wheat Growers as their taxes chairman and I am the Oregon Taxes chairman for the Oregon Wheat League. I am here speaking on behalf of myself. However, some of this other work I have done has lead me to some of these concerns that I have. Also, some of the practical things that have happened in my life since I have been a farmer have lead me to these same concerns.

The two major things I hear you talking about that concern me are farming with undivided interests and minimum lot sizes. Someone here was talking about 160 acres, 360 acres, or even 1,000 acres as a farm unit. However, farms in this county do not come in blocks of 1,000 acres. They are comprised of a lot of different pieces to make up a farm. You don't choose your ownership and size all in one day.

I have one piece of land that I own that is 13 acres because of the way it was purchased from other heirs. It was purchased as tenants in common. I only have 13 acres, and I doubt anyone else is going to give me any more. We farm for uncles, aunts and other people. Some of them own 300 acres, but it's not in one piece. Some of them own, say 250, and it's evenly divided into two pieces. For some of these relatives and people we farm for the income from the land is their major income source. Then along comes another generation of heirs to consider which usually further reduces the farm parcel sizes.

At Midway we farm pieces of land that were, like I said, bought from a former family heir and it was only 40 acres. Many times several

people are interested in it, the farmer next to you and yourself. So you may end up buying part of it with several other people. So now the parcel could be down to only where you own 31 acres.

My main point is that farms don't come in the lot sizes you were talking about. Farms come in different pieces acquired at different times, through different reasons.

The other point is estate planning. It is a very complex issue. The estate tax laws are extremely complex. If you wanted your land valued for farm use for state or federal tax purposes, you can hardly plan it starting today. The laws make it nearly impossible to farm undivided land. If you wanted to keep it in farm use, it doesn't matter that I may only own 13 acres. It is being farmed. It doesn't matter to me that I can't put a house on it for myself or that I can't sell it to a developer who wants to put a house on it. However, to say that I can't partition it to the point where I own it or can farm it would be a restriction of normal farming management.

Some of our land was actually partitioned by a court because of technicalities with other owners and heirs. This type of situation is not uncommon and makes it difficult to farm land with somebody else as an undivided interest. When you say undivided, a farmer says, "Well, I own every acres, so I can plow every acre," even though they only have half an interest. Farming this way is really complex and if you say that we should start doing it this way instead of dividing the land into smaller portion in the future, it is going to place burdens upon many farmers for the reasons I just stated.

February 24, 1983, minutes, Helen Timmerman Testimony

John Brogoitti Helen, do you want to come forward?

Helen Timmerman Well, I'm not sure this is the appropriate time to speak. I spoke to you previously about lot sizes, and that's what I wanted to talk about again. Particularly whether they should be tied to ownership sizes. One of the gentlemen on the Planning Commission asked what the size should be. It was Mr. Day. He asked me whether it is possible to know what a true farm size was. I would like to speak to you on this matter from what I know.

John Brogoitti What don't you do that.

Helen Timmerman Would that be appropriate at this time?

John Brogoitti Sure. Do you want to give her some help there?

Helen Timmerman Well, I'll bring them (referring to aerial photographs) up there where you can all see them. I'll talk to you about what are some fine farms. We happen to be the operators on four farms and the owner of a fifth one. I wanted to speak specifically about two of the five farms. I have aerial maps of some of the farms but not all of them. On one of the farms one owner has 311 acres. This is in two parcels: one is 170 acres and the other is 141 acres. The other owner has two pieces and is evenly divided into 115 acres a year to make the income as even as possible. I'll show you this farm on one of these photos.

Another farm has an owner who owns approximately 1,000 acres. The other owners are individual owners. The 1,000-acre owner was a person that we leased from. He died, and some other heirs now share a third interest each of the 1,000 acres. The two have life interests, and a third person has the remainder. We farm a similar situation to the above that is 1,300 acres. This was Stan's dad's. (Mrs. Timmerman's father-in-law) It is now my father-in-law's estate land. That's how much he farmed. We live approximately 20 miles from all this land I just told you about. It is in two locations, Helix and Midway. It is the farm of the three owners I just told you about.

We live west of Pendleton, 25 miles from Helix. Our homestead, where the house is, is approximately 555 acres. Two miles away, we own another piece which is 450 acres. Five miles the other way there is a 100-acre parcel we own. And we own 100 acres at Midway, which is 20 miles away. This farm pattern is typical of what farms are made up of. You just don't plan out to have an ideal farm. If this was the case, you wouldn't have a separated 100 acres at Midway. You acquire your farm in different ways and over a period of years.

John Brogoitti For those of you who may not know, Midway is between Highway 11 and Helix.

Helen Timmerman There's an elevator here called Midway Elevator (pointing to the map). PGG had rented it, but it's not being rented by them now. You can see on the air photo that some of these pieces look rather small, and the ownerships evolved in various ways. I'll just talk about a land owner who owns two pieces and how she acquired them.

She owns interest in two 115-acre tracts. We're farming it in a manner to get a yearly income from approximately 115 acres. This way she has an even income. It might be easier for us to farm all the land in one cycle (it was done that way for a while) and this the opposite year. It can easily be farmed in 33-acre tracts so that her income is even. These two pieces she inherited from her father. One piece went into a life estate to her mother because her father died first. She had this piece of land for a while, and then about 1964 or so she received this piece as the sole heir. She's always managed this farm by herself in a good manner. She formerly custom-farmed this land, paid into social security, is now retired and is collecting social security. She is leasing it rather than custom-farming it.

Now, in my opinion, there is not a piece of land too small to manage as an owner. You have many options. You can farm it yourself full-time or farm part of it yourself and have part of it custom-farmed, or lease it out entirely depending on the tax structure and your age. The woman who is retired and mentioned above is probably going to go into soil conservation work on her land, putting out her money at her age. Some might call these people absentee owners, but she's not to me. She was born and raised on this piece of land. There's no longer a house. I don't consider them absentee owners. I considered her a farmer, and she's still a farmer.

The next little parcel on the photo really had a complex history. And I don't know if you really want to go into that. It's across the road from the previously discussed case. A woman inherited life interest, and her sister inherited this life interest (pointing to two places on the air photo), which happens to be my mother-in-law and this is an aunt. So she had a life interest in this parcel from 1964 when her mother died until probably 1968 when she died. The heirs to this piece of land totalled three, my husband, his brother and sister. They had three undivided interests, only the sister sold hers to the two brothers.

Helen Timmerman

Now both brothers own half of it undivided. Previously to all of this, the two sons, the mother and the father farmed together in a partnership. This piece of land, which was about 90 acres, was sold to pay for hospital bills for a brother of my mother-in-law who was in and out of the State Hospital since his sister was his guardian. She sold this piece of land to give the money to the state for his care. This is just an example of the needs people have and what they do to resolve them. If this parcel was in undivided interest, and if it couldn't be partitioned, problems like this could not be resolved.

Anyway, the partnership ceased in 1971 or 1972. The mother died in 1968. One of the sons quit farming and there was a petition suit to partition his portion. So they partitioned ten acres from the parcel and adjusted some property lines for farm management reasons.

This is Stan's piece (pointing to the map), 53 acres. This 58.9 includes my 13.6 acres adjacent to it that we purchased from his sister in the example we discussed earlier. We purchased it tenant in common as we do all of our purchases. I signed a mortgage, and we bought this together; that is the way it was petitioned through the court.

That's kind of all I have to say about that, unless you have any questions.

I didn't bring a map for the land at Helix that provides an income for another owner of 311 acres, but I think the story of how he got it is also pertinent to whether we should have restrictions on dividing or partitioning land. In this case, Kathryn Timmerman died in 1928. She left a life estate to three sons. The will is controlling to this day on the undivided land. So the three sons settled among themselves which piece they would farm. One son had to take it in two pieces of land, and the other two sons got theirs all in one piece and they all farm it this way to this day. They've managed it quite well. One uncle at times has early on in his life leased it to a brother. Other times he custom-farmed it to other people. For a while, in the 50s and 60s I think he had equipment and farmed on his own. Then he sold his equipment and his brother custom-farmed it for him. He worked for his brother for wages as a farm worker on his brother's land. He continued his custom-farming arrangement with his brother and went to work for a company in town. He has worked there long enough to get a pension. Now he's leasing his share to my husband and myself. The thing about this estate is it started with 960 acres. You have a will. It was drawn up in 1928. It took six years to probate, and it's still controlling. One of the

Helen Timmerman

sons has died, so on 300 and some acres, the two remaining brothers (Stan and his brother) and sister have decided which acres of their father's land they would continue to farm. They all have the idea that it would be better to partition this land now while there are two sons living and seven heirs all voluntarily accepting what their parents had farmed. We tried to partition the land except that it isn't what we took clear deed to because of an octogenarian heir. These two brothers are still living, and they could have another heir. And you just can't say that your piece is here and your piece is there when they didn't have a chance to say anything. So until two remaining sons die, this land couldn't be partitioned. For example, if one of the children or remaining heirs died prior to the present owner, say one living back east, and this heir back east had nine children, and if one of them with a son died and if he were to predecease his father, well, nine people would be involved in it. You could have a real mess. I guess this is a long way around to say, we just have to be able to partition land. There's no way you can farm it with undivided interests. Different people have different interests. I didn't speak here about any grandfather clause. People just aren't perfect nor agreeable about leaving everything undivided, putting it in writing, or in a sophisticated way so that it can meet all your requirements for state tax, family planning, social security or land use planning.

I guess that's really about all. I did want to say that I called SCS, and they sent a newsletter to all the farmers. They said that in the county there are approximately 2,750 farm owners. Of that, 1,200 are operators. The last Planning Commission meeting I attended, it seemed like everybody was talking about operators only, and there are all these others who have the title problems to this land we are talking about. I mean, they are more related to the land than the operators. Operators can come and go. Conversely, when we started farming, we didn't own land. We were operators.

Here's our house. It was constructed with square nails. The first part of the house, I'm sure, was just about one room deep and two stories high. You've probably seen some similar down by Ukiah. It was probably built in 1880. The back part of the house was probably added on in 1913 because there's that date in the concrete on the back steps. My living room is 12-foot wide. I'm just saying this because there might be a time when somebody would want a more modern house. We have worked on it, and it's in good shape, and this might be big enough. However, there may be a need for two families living in it at one time. This house is on 13 acres of

- Helen Timmerman scab land. I heard one proposal about having farm houses a half mile apart. This type of regulation wouldn't make too much sense in a situation like ours. The safety of your farm buildings are important. Shops are particularly attractive to burglars. To me, it would make more sense to allow another house nearby if you had use for it than to restrict farm homes to a half mile apart. Thank you.
- John Brogoitti Thank you, Helen, Your talk was very informative. I think it gives everybody a good idea of what has occurred and what is occurring and what is likely to occur. Okay, do any of the Commissioners have any questions?
- Jim Burns: Helen, I have a question. After Valerie types this up, what you said tonight, and if we decided to use that in our technical report, would it be possible to call upon you to come in and reference this stuff and maybe be more explicit in what you have mentioned or detail other items similar to what we have heard?
- Helen Timmerman Well, yes, I hope so. I don't know if using other people's names would be permissible with them.
- Jim Burns: Well, you wouldn't have to use names. We don't use names. These would be examples of typical farms in Umatilla County, land ownership and particulars on land ownership that we could place inside of our technical report and use the information as evidence for the fact that when you start putting minimum lot sizes on property, you hinder the ability of the management of the farm by the farm owners and the farm operators.
- Helen Timmerman Right, I consider all my examples as being five farms, and I'm not sure that some people might consider all of them one farm.
- Jim Burns That's right. If you look at the operation of it, it would be one.
- John Brogoitti One operator.
- Jim Burns But it's five farms, and how many owners? This is what I wanted to clarify, that you would allow us to pick your brain or to be more explicit if we used it in our technical report.
- Clint Reeder Where I am is just about a mile up the road from this Midway, and my farm is five farms also. And it's the same kind.
- John Brogoitti Okay, thank you.

1983 2 17 10 17

1983 2 17

D

February, 17, 1983

Dear Planning Commission;

I wish to submit this resolution in behalf of the Urstilla Co. Wheat League Executive Committee and as the County President.

Wheat farmers in our county have a deep concern for those policies and regulations which may effect the use of their property. We would ask that you please consider this resolution when adotting a comprehensive plan for our County. May I remind you of the fact that Agriculture is the No. 1 industry in our county with gross sales in 1982 of 127.5 million dollars of which Wheat sales accounted for 52% or 67.2 million dollars.

Sincerely,

Bob Johns President

Bob Johns -President

REC. 2-17-73
JCP

Handwritten notes and signatures in the top right corner.

RESOLUTION, re
MINIMUM PARCEL (LOT) SIZE
IN GRAZING/FOREST (GF) ZONES,
UMATILLA COUNTY, OREGON

WHEREAS, there is a long term need to protect and preserve land for commercial grazing/forest uses;

WHEREAS, nongrazing/forest uses tend to materially interfere with commercial grazing/forest uses;

WHEREAS, dividing land into very small parcels tends to make the land parcels less feasible to operate and thus less attractive for commercial grazing/forest uses;

WHEREAS, within the boundaries of most grazing/forest lands there are certain "natural parcels" of various sizes due to soil types, terrain, roads, streams, etc. that are unsuited for commercial grazing/forest uses;

WHEREAS, large minimum parcel size locks more land into undivided ownership interests which often creates severe management problems among the involved parties of interest, and often leads to very unstable lease arrangements;

WHEREAS, very large minimum parcel size often creates material hardship in financing and refinancing land transfers and continued land ownership, financing grazing/forest related structures, settling estates and paying the taxes associated therewith, financing the start-up of new grazing/forest businesses including the transfers of such operations to a next generation, etc.;

WHEREAS, undivided ownership interests create management problems for government agencies administering conservation and commodity related programs; and

WHEREAS, parcel size is essentially unrelated to construction of dwellings and other structures,

BE IT THEREFORE RESOLVED, that Umatilla County shall be encouraged to adopt a Comprehensive Land Use Plan which provides:

- (1) protection of land for commercial grazing/forest use;
- (2) limitations on nongrazing/forest uses in and around land zoned for grazing/forest uses;
- (3) criteria by which a minimum parcel size shall be encouraged to protect "minimum economic management units" (i.e., the smallest land parcel that would be attractive to buyers and/or tenants for commercial grazing/forest uses);

Rec'd
NOR
2/24/83

Signed By
President, Umatilla
Wheat Growers' Ass'n

RESOLUTION, re
MINIMUM PARCEL (LOT) SIZE
IN EXCLUSIVE FARM USE (EFU) ZONES,
UMATILLA COUNTY, OREGON

WHEREAS, there is a long term need to protect and preserve land for commercial agriculture use;

WHEREAS, nonfarm dwellings and nonfarm activities tend to materially interfere with commercial agriculture use of land;

WHEREAS, dividing land into very small parcels tends to make the land parcels less feasible to farm and thus less attractive for commercial agriculture use;

WHEREAS, within the boundaries of most commercial agriculture lands there are certain "natural parcels" of various sizes due to soil types, terrain, roads, streams, etc. that are unsuited for commercial agriculture use;

WHEREAS, large minimum sized parcels lock more land into undivided ownership interests which often create severe management problems among the involved parties of interest, and often leads to very unstable lease arrangements;

WHEREAS, very large minimum parcel size often create material hardship in financing and refinancing land transfers and continued land ownership, financing farm related structures, settling estates and paying taxes associated therewith, financing start-up of new farming businesses including transfers to a next generation, etc.;

WHEREAS, undivided property ownership interests creates management problems for government agencies administering conservation and commodity related programs; and

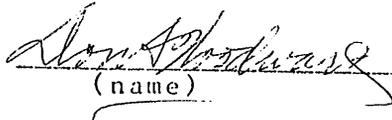
WHEREAS, parcel size is essentially unrelated to construction of dwellings and other structures,

BE IT THEREFORE RESOLVED, that Umatilla County shall be encouraged to adopt a Comprehensive Land Use Plan which provides:

- (1) protection of land for continued commercial agriculture use;
- (2) limitations on nonfarm uses in and around land zoned for agriculture use;
- (3) criteria by which a minimum parcel size shall be encouraged to protect "minimum economic management units", (i.e., the smallest land parcel that would be attractive to buyers and/or tenants for commercial agriculture use);

RESOLUTION, re Minimum Parcel Size in EFU Zones, Umatilla County,
Oregon

- (4) flexibility in parcelization of land to facilitate:
 - (a) land transfers for commercial agriculture uses.
 - (b) financing of activities and structures for commercial agriculture uses.
 - (c) placement of nonfarm dwellings on land unsuited for commercial agriculture uses, so long as the potential interference with commercial agriculture uses on nearby lands is not material.
- (5) policies and regulations which minimize the parcel size for dwellings converted from farm use to nonfarm use, so as to minimize the land area potentially converted from commercial agriculture uses.
- (6) policies and procedures which shall ensure all owners and tenants on adjoining land and land within a designated distance from the subject property that they will be notified of any and all pending actions and have opportunity to comment thereon prior to their being acted upon.


(name)

(title)

2-16-83
(date)

rec: 2/17/83
UCPC-

Signed by
[illegible]
Approved Rural Appraiser

RESOLUTION, re
MINIMUM PARCEL (LOT) SIZE
IN GRAZING/FOREST (GF) ZONES,
UMATILLA COUNTY, OREGON

WHEREAS, there is a long term need to protect and preserve land for commercial grazing/forest uses;

WHEREAS, nongrazing/forest uses tend to materially interfere with commercial grazing/forest uses;

WHEREAS, dividing land into very small parcels tends to make the land parcels less feasible to operate and thus less attractive for commercial grazing/forest uses;

WHEREAS, within the boundaries of most grazing/forest lands there are certain "natural parcels" of various sizes due to soil types, terrain, roads, streams, etc. that are unsuited for commercial grazing/forest uses;

WHEREAS, large minimum parcel size locks more land into undivided ownership interests which often creates severe management problems among the involved parties of interest, and often leads to very unstable lease arrangements;

WHEREAS, very large minimum parcel size often creates material hardship in financing and refinancing land transfers and continued land ownership, financing grazing/forest related structures, settling estates and paying the taxes associated therewith, financing the start-up of new grazing/forest businesses including the transfers of such operations to a next generation, etc.;

WHEREAS, undivided ownership interests create management problems for government agencies administering conservation and commodity related programs; and

WHEREAS, parcel size is essentially unrelated to construction of dwellings and other structures,

BE IT THEREFORE RESOLVED, that Umatilla County shall be encouraged to adopt a Comprehensive Land Use Plan which provides:

- (1) protection of land for commercial grazing/forest use;
- (2) limitations on nongrazing/forest uses in and around land zoned for grazing/forest uses;
- (3) criteria by which a minimum parcel size shall be encouraged to protect "minimum economic management units" (i.e., the smallest land parcel that would be attractive to buyers and/or tenants for commercial grazing/forest uses);

Rec. 2/17/83
UCPC

Original by
Kopacz,
Chadway
Umatilla County
Soil & Water
Conservation

RESOLUTION, re
MINIMUM PARCEL (LOT) SIZE
IN EXCLUSIVE FARM USE (EFU) ZONES,
UMATILLA COUNTY, OREGON

WHEREAS, there is a long term need to protect and preserve land for commercial agriculture use;

WHEREAS, nonfarm dwellings and nonfarm activities tend to materially interfere with commercial agriculture use of land;

WHEREAS, dividing land into very small parcels tends to make the land parcels less feasible to farm and thus less attractive for commercial agriculture use;

WHEREAS, within the boundaries of most commercial agriculture lands there are certain "natural parcels" of various sizes due to soil types, terrain, roads, streams, etc. that are unsuited for commercial agriculture use;

WHEREAS, large minimum sized parcels lock more land into undivided ownership interests which often create severe management problems among the involved parties of interest, and often leads to very unstable lease arrangements;

WHEREAS, very large minimum parcel size often create material hardship in financing and refinancing land transfers and continued land ownership, financing farm related structures, settling estates and paying taxes associated therewith, financing start-up of new farming businesses including transfers to a next generation, etc.;

WHEREAS, undivided property ownership interests creates management problems for government agencies administering conservation and commodity related programs; and

WHEREAS, parcel size is essentially unrelated to construction of dwellings and other structures,

BE IT THEREFORE RESOLVED, that Umatilla County shall be encouraged to adopt a Comprehensive Land Use Plan which provides:

- (1) protection of land for continued commercial agriculture use;
- (2) limitations on nonfarm uses in and around land zoned for agriculture use;
- (3) criteria by which a minimum parcel size shall be encouraged to protect "minimum economic management units", (i.e., the smallest land parcel that would be attractive to buyers and/or tenants for commercial agriculture use);

RESOLUTION, re Minimum Parcel Size in EFU Zones, Umatilla County
Oregon

- (4) flexibility in parcelization of land to facilitate:
 - (a) land transfers for commercial agriculture uses.
 - (b) financing of activities and structures for commercial agriculture uses.
 - (c) placement of nonfarm dwellings on land unsuited for commercial agriculture uses, so long as the potential interference with commercial agriculture uses on nearby lands is not material.
- (5) policies and regulations which minimize the parcel size for dwellings converted from farm use to nonfarm use, so as to minimize the land area potentially converted from commercial agriculture uses.
- (6) policies and procedures which shall ensure all owners and tenants on adjoining land and land within a designated distance from the subject property that they will be notified of any and all pending actions and have opportunity to comment thereon prior to their being acted upon.

HENRY KOPACZ CHAIRMAN
(name) (title) (date) 2/15/83

11:38:56 26 APR 1982

8.2 102158 R 80-01 693100-00-07200

LOUISIANA PACIFIC CORP
PO DRAWER I

Parcel D

COEUR D'ALENE ID 83814

> 118 OTHER ACCOUNTS

PROP CLASS 610 MA 5 CITY CODE 3 PLNG ZONE F-2

AT	COPR	CLASS	ACRES	VALUE
LI	FL	FA	634.00	15,847
LI	FD	G7P	321.00	963
*			955.00	16,810

-----	1982 (CURRENT)	-----	1981 (PRIOR)	-----
TOTAL T.C.V.	16,810	TOTAL ASSESSD	85 10%	TOTAL ASSESSD
LAND & IRR. VALUE:	14,310			84.40%
				12,610

APPRAISAL YEAR: 81

TREND PERCENT: LAND & IRR. IMPROVEMENT MOBILE HOME

SPECIAL ASSESSMENTS	CODE	AMOUNT	ACRES
FIRE PATROL (FL)	1	163.94	506.00
FIRE PATROL (GR)	2	72.23	449.00
		236.23	955.00

01 BALANCE DUE	ADVAL TAX	SPECIAL ASSESSMENTS
174.83	288.26	163.94 FIRE PATROL (FL)
		72.29 FIRE PATROL (GR)
TRN DATE BTCH	RECEIVED	INT/DISC JRNL RCPT# DESCRIPTION
11-15-81 202	-174.83	0.00 C 90 33536
02-15-82 263	-174.83	0.00 C 90 47491

END

101333(P) 101335

101640

101487

101450

101450

STEVEN H. COREY
P.O. BOX 218
PENDLETON, OREGON 97801

November 16, 1983

Conservation and Development
Commission
State of Oregon
Portland, OR

Re: Umatilla County
Comprehensive Plan

Dear Commission Members:

I regret I am unable personally to appear before you. I submit this letter as my testimony.

Personal Background. I am 37 years of age, married, and with two children ages 9 and 5. I was born and raised in Pendleton, served as student body president of Pendleton High School, and am a graduate of Yale College and Stanford Law School. I practice law in Pendleton, primarily working in business and real estate and doing litigation. I returned to Pendleton to live because I like the open spaces, and enjoy outdoor activities such as hunting, fishing, skiing, and picking wild mushrooms.

Family Agricultural Background. My grandparents came to eastern Oregon from Oklahoma in the 1920's. My family has farmed in Umatilla County since the early 1930's. I am a stockholder in three family ranching corporations, and worked nearly every summer between 1958 and 1970 on the family ranch. Although now practicing law on a regular basis, I still spend a considerable amount of time each year at the family ranch. The ranch itself, known as Cunningham Sheep Company, derives its principal income from wheat, barley, cattle, sheep, wool, and timber. It harvests annually about 12,500 acres of dryland grain. The sheep and cattle graze upon pastures of equal or greater size in the Umatilla County foothills and mountains, both near Ukiah and Meacham.

Opinion. I am concerned with the preservation of the county's agricultural lands. I earlier appeared before and participated in meetings with the county planning commission. I personally favor minimum lot sizes in the EFU zones of 160 acres. I favor at least a minimum lot size in the forest zones of 80 acres, and would support minimum lot sizes in the forest zones of up to 160 acres.

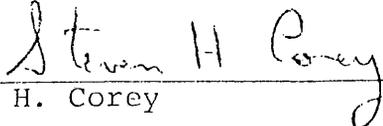
Conservation and Development
Commission
September 16, 1983
Page 2

Basis. I am deeply concerned about the conflicts that arise between farm units and nonfarm units in farm zones. I am additionally concerned about the preservation of open spaces, the preservation of our non-renewable natural resources, and the preservation of the way of life we enjoy in our county and the hunting, picnicing, and fishing that all of us take for granted. I am concerned that a parcel of under 160 acres cannot economically be farmed, and is not a manageable farm unit. I am concerned that if a minimum of at least 160 acres is not maintained, the other present state statutes will work with a lower minimum lot size in causing deterioration of the agricultural and forest values that I feel are important. These other state laws which may over a period of time create problems with development in the agricultural and forest areas include the statute allowing nonfarm dwellings on nonfarm parcels in exclusive farm zones, the lot-of-record bills, and the Farmer Jones amendment.

I appreciate the time each of you as a commission member takes from his/her schedule to review the various plans of the counties, and in many instances to make personal visits to those counties. Umatilla County, as I understand it, is the leading producer of agricultural crops in our state. Its plan deserves careful attention, particularly as regards the necessary minimum lot sizes to protect these non-renewable resources. I urge you to give it this consideration, and further urge that you impose upon the majority of the agricultural land in the county a 160 acre minimum.

Thank you.

Sincerely yours,



Steven H. Corey

SHC:m
cc: Umatilla County Board of Commissioners
cc: Umatilla County Planning Director



Timber and Wood Products Group

Northeast Oregon Region
P. O. Box 610
La Grande, Oregon 97850
(503) 963-3141

Boise Cascade

8C-1247
8A-155

September 30, 1980

Oct 2 '80

Dennis A. Olson
Umatilla County Planning Director
Umatilla County Courthouse
P. O. Box 1427
Pendleton, OR 97801

Dear Mr. Olson:

We would like to make a few comments about the County Comprehensive Plan Discussion Draft materials that Boise Cascade Corporation received. First of all we think that you are doing a good job in the planning process and it looks like a fairly thorough study is being made. However, there are a few things that we question.

In the Plan Map Section you chose 40 acree as a workable management unit for commercial timber production. Timber companies do own some 40 acre parcels and in fact do manage them for timber production ;but, in general, it is a lot harder to manage a small unit like this. An example is line running. A 40 acre parcel has one mile of boundary. A 160 acre parcel has two miles, or twice the boundary, but has four times the area. This holds true for almost anything you do in managing a piece of property. We feel that an 80 acre or larger parcel size would be better than 40 and would protect the forest resource better. By the time it becomes evident that the 40 acre minimum is not protecting forest land, you could have lost a considerable amount of forest land from its intended purpose.

Recreational Residential Zoning is the next thing we would like to address. We don't question the area that is already developed and committed. What we do question is the need for so much area in the needed for development category. Doesn't the planning process provide for periodic review and revision if necessary? Couldn't a lot less of the area be designated into this "needed for development category," and then later if it could be shown that the need is there, go ahead and change it? In this way you aren't designating any more good timber growing site land into another category unless it is actually needed. We enclose a map showing what areas in the Tollgate-Weston Mountain and Meacham areas that we think would be more realistic to put into the "needed for development category."

We think you should look into the statement made about the U.S. Forest Service tentatively planning on substantially increasing the allowable timber cut on the Umatilla National Forest in the ensuing decade. The Forest Service people at the meeting even questioned this. If it is not a fact ,then don't say it. If it is ,then back the statement up with some substantiating material.

Page 3
Umatilla County Planning Director

These are some of the concerns Boise Cascade Corporation has in regard to the forested areas of your planning unit. We hope you will take these things into consideration in your future planning effort.

Sincerely,

A handwritten signature in cursive script that reads "Stan Wilde". The signature is written in dark ink and is positioned above the typed name.

Stan Wilde
Boise Cascade Corporation

SW/tawa

enclosure

xc: Fred Ebel

TOLLGATE - EAST COUNTY MOUNTAIN

Comprehensive Land Use Plan

Recommendations

Prepared by

Tollgate Mountain Citizens Advisory Committee

Bob Klicker, Chairman

Leona Shumway

Lowell Eiffert

Dean Knudson

Bud Shubert

Richard Mathison

ACKNOWLEDGEMENTS

The following agencies, private citizens and interest groups have provided the Tollgate Citizens Advisory Committee with valuable information and much appreciated assistance. We wish to thank each one by setting aside this special acknowledgement section in recognition of our appreciation.

STATE AGENCIES

Department of Environmental Quality
Ken Birkbeck

Department of Fish and Wildlife
Michael Black

State Department of Forestry
Jeff Schwanke

State Highway Department
George Strawn

PRIVATE GROUPS AND CITIZENS

East End Rod & Gun Club

Wes Slaughter, Private Timber Management Consultant

All those property owners who filled out the Land Use Questionnaire

FEDERAL AGENCIES

Umatilla National Forest
Ed Cole

OTHER

Umatilla Electric Cooperative Association
Bill Kopacz

Harris Pine Mills
Charles Fry

Boise Cascade
Stan Wilde

1000 2-17-83
NCR

RESOLUTION, re
MINIMUM PARCEL (LOT) SIZE
IN GRAZING/FOREST (GF) ZONES,
UMATILLA COUNTY, OREGON

WHEREAS, there is a long term need to protect and preserve land for commercial grazing, forest uses;

WHEREAS, nongrazing/forest uses tend to materially interfere with commercial grazing/forest uses;

WHEREAS, dividing land into very small parcels tends to make the land parcels less feasible to operate and thus less attractive for commercial grazing/forest uses;

WHEREAS, within the boundaries of most grazing/forest lands there are certain "natural parcels" of various sizes due to soil types, terrain, roads, streams, etc. that are unsuited for commercial grazing/forest uses;

WHEREAS, large minimum parcel size locks more land into undivided ownership interests which often creates severe management problems among the involved parties of interest, and often leads to very unstable lease arrangements;

WHEREAS, very large minimum parcel size often creates material hardship in financing and refinancing land transfers and continued land ownership, financing grazing/forest related structures, settling estates and paying the taxes associated therewith, financing the start-up of new grazing/forest businesses including the transfers of such operations to a next generation, etc.;

WHEREAS, undivided ownership interests create management problems for government agencies administering conservation and commodity related programs; and

WHEREAS, parcel size is essentially unrelated to construction of dwellings and other structures,

BE IT THEREFORE RESOLVED, that Umatilla County shall be encouraged to adopt a Comprehensive Land Use Plan which provides:

- (1) protection of land for commercial grazing/forest use;
- (2) limitations on nongrazing/forest uses in and around land zoned for grazing/forest uses;
- (3) criteria by which a minimum parcel size shall be encouraged to protect "minimum economic management units" (i.e., the smallest land parcel that would be attractive to buyers and/or tenants for commercial grazing/forest uses);

RESOLUTION, re Minimum Parcel Size in GF Zones, Umatilla County, Oregon.

- (4) flexibility in parcelization of land to facilitate:
 - (a) land transfers for commercial grazing/forest uses.
 - (b) financing of activities and structures for commercial grazing/forest uses.
 - (c) placement of nongrazing/forest use dwellings on land unsuited for commercial grazing/forest uses, so long as the potential interference with commercial grazing/forest uses on nearby lands is not material.
- (5) policies and regulations which minimize the parcel size for dwellings converted from grazing/forest use to non-grazing/forest use, so as to minimize the land area potentially convert from grazing/forest uses.
- (6) policies and procedures which shall ensure all owners and tenants on adjoining lands and on lands within a designated distance from the subject property that they will be notified of any and all pending actions and have opportunity to comment thereon prior to them being acted upon.

RESPECTFULLY SUBMITTED, by

Robert Zajack Pilot Rock 2-15-83
(name) (title) (date)

MOUNTAIN LAND USE PLAN RECOMMENDATIONS

Tollgate Citizens Advisory Committee

IDENTIFICATION OF STUDY GROUP

The Tollgate Citizens Advisory Committee was organized at the request of Milton-Freewater area members of the Umatilla County Planning Commission. Their request had been initiated from citizens and property owner's concerns about a land use plan discussion draft developed by the county planning staff and reviewed at several public meetings. These citizens felt that valuable information and local citizen comment was lacking and needed to be included in developing a land use plan for the Tollgate Mountain area.

Upon approval of a majority of the County Planning Commission, Milton-Freewater area planning commission members were to inquire if there was an interest for a study group, and if so, to organize the committee. The advisory committee was given enough time to develop possible proposals which would then be reviewed by the County Planning Commission and added as testimony if determined to be helpful in formulating a Tollgate area land use plan.

The Tollgate Citizens Advisory Committee was formed in the middle of May 1981 and started meetings that same month. Committee membership totaled six members. Their names are listed in the front of this report.

The committee met twelve (12) times and sought the comments of numerous state and federal resource agencies, a timber management consultant, the electrical utility company serving the Tollgate area, and the State Highway Department. Perhaps the most significant and extensive information gathering effort was the Tollgate questionnaire. Approxi-

mately 540 landowners on Tollgate-Weston Mountain were sent a two page questionnaire seeking citizen comments about timber management, wildlife, recreational needs, commercial development, lot size minimum recommendations and environmental questions. About 25% of the questionnaires were returned, giving what our committee feels is a good and representative sample of opinions on which to base land use recommendations.

INTRODUCTION TO COMMITTEE RECOMMENDATIONS

The Tollgate Citizens Advisory Committee would like to present to the Umatilla County Planning Commission some land use recommendations for the Tollgate Mountain - Northeast County forest/mountain areas. These recommendations include a plan map, a listing of important planning issues and facts, suggested policies to help guide future land use proposals and advice for recommendations to be included in the Zoning and Subdivision ordinances to carry out the suggested land use policies. We have included background information mentioned earlier to help those reading these proposals understand why they are being suggested.

STUDY AREA REVIEWED

The committee chose to examine a larger study area than just the Tollgate Mountain corridor to help assure a better coordinated and hopefully more compatible land use plan. The approximate southern boundary of this study area is the Umatilla River. The east boundary is the Umatilla National Forest. The Washington-Oregon state line serves as the northern border of the study area. The western border approximates the present division between forest and agriculture lands on the existing Umatilla County Comprehensive Plan Map. (See Study Area Map on following page.)

The study area was broken down into sub-areas based upon their similar

physical and existing characteristics and knowledge of these different areas by various committee members. Sub-areas are individually identified on the Study Area Map just mentioned and include:

1. Mill Creek and vicinity which is most everything north of Government Mountain Road, to the Washington State line;
2. Blalock - Linton - Basket Mountain forest/grazing lands between Government Mountain Road and about one-half mile north of Tollgate Highway 204;
3. Tollgate Highway Corridor which includes a one-half mile area on either side of State Highway 204 having its west boundary defined at the Umatilla Electrical Cooperative substation and its east boundary defined as the Union County line;
4. Weston, Reed, Hawley Mountains and (Bingham Springs area) between the southern Tollgate Highway Corridor line and the Umatilla River.

SUB-AREA FINDINGS, RECOMMENDED POLICIES AND LAND USE MAP SUGGESTIONS

In the course of discussing information received from various agencies, the County Planning Staff, and citizens, our committee has come up with a description and important findings list for each sub-area which we feel are appropriate to place into the comprehensive plan. The analysis and findings are followed by recommendations which are suggested directions towards achieving a certain land use goal. The findings and recommended policies are arranged under an appropriate state land use goal. For example, a finding and recommended policy about timber management of a certain sub-area is placed under State Land Use Goal 4, Forest Lands. Because some of the state land use goals are closely related to one another, some of our land use recommendations may seem appropriate under other goals.

Also, because most areas within each sub-area have very similar characteristics, many findings and suggested policies apply to all sub-districts. When a finding or policy is appropriate in other subareas, it is starred (referenced) and not written out in full, to avoid needless repetition.

Should placement of a finding into another goal be more clearly understood or the order in which this report is written need rearrangement, this committee will be open to suggested changes. Our purpose is to attempt to describe as accurately as is possible the areas of concern to us and to list as many important findings and recommendations as we feel will help protect the natural beauty and resources this area provides to County residents. Also, a major goal is to recognize the need for additional yet controlled growth of recreational development including seasonal dwellings. Development of these uses should be in such a manner as to allow them in appropriate areas with certain development requirements insuring the continuation of the rural and recreational character of the northeastern mountain areas in Umatilla County.

SUB-AREA DESCRIPTIONS, FINDINGS AND RECOMMENDED POLICIES

I. Mill Creek and VicinityA. Description

The Mill creek and vicinity study area is the northern most of the four sub-areas examined by the committee. Most of this area lies north of Government Mt. Road and is characterized by steep sloped canyons and few accessible roads. Seasonal livestock grazing and timber management uses predominate.

Although data on forest productivity is general for this area, the available information shows that timber productivity is a bit higher in the southern part of the sub-area than in the the northern part. In total, this area has a poor-to-fair timber growing potential when compared with the total state forest lands, but fair-to-good when compared to eastern Oregon timber lands.

There are several small areas on private land within the sub-area having critical deer and elk winter habitat according to the Oregon Department of Fish and Wildlife. The location of these critical winter ranges are isolated and not too accessible so protection is not anticipated to be too difficult. The sub-area also has streams which support sports fishery populations of steelhead, rainbow and dolly varden trout. (Henry Canyon and Mill Creek)

Except for several isolated areas (eg. Mill Creek Basin, Government Mt. Road, Henry Canyon) land ownerships are large consisting both of private land owners and timber industry lands.

Parcel sizes vary from about 40 acres to 1000 acres. Actual ownership sizes approach 4,000 acres.

There are several areas of recreational development within this sub-area. One area is quite extensive and has long been used for recreational use. It is known as the Mill Creek basin.

There are several other areas (Saddle Mt., Henry Canyon, Big Meadows) that have some small lot recreational cabin sites but are very limited in number and isolated by surrounding large-lot resource lands. Most of the development is along the narrow 3.5 mile stretch of Mill Creek along Mill Creek Road (County Road #889) which is paved for a portion of the way and graveled for the other portion. Considerable amounts of property are in a designated floodplain, thus making full development of these lots very difficult. Most parcels are included in one of the three platted subdivisions that exist there. Although several parcels are over ten acres, most are less than two acres. Of the over 150 lots included in this area, most are either presently developed or sold to owners who have not exercised their building options. This area has only a marginal value for commercial timber production, according to soils and other information. The Mill Creek basin is not being extensively used as a big game winter range area because of present land uses.

The committee also recognizes the important resource lands of the Umatilla National Forest to the east of this sub-area. Not only is there valuable timber lands here, but several important watersheds, one of which serves the city of Walla Walla.

V. Tract County Graying Forest

Parcel A

ATB.2 133846 R 31-02 6N3800-00-01000 11:25:40 26 APR 1982

BOISE CASCADE CORP
PO BOX 610

LA GRANDE OR 97850

> 76 OTHER ACCOUNTS

PROP CLASS 610 MA 3 CITY CODE 3 PLNG ZONE F-5

AT	OOPR	CLASS	ACRES	VALUE
L1	FD	G7G	830.00	8,300
L2	FL	FA	2,397.00	59,930
*			3,227.00	68,230

----- 1982 (CURRENT) ----- 1981 (PRIOR) -----
 TOTAL T.C.V. TOTAL ASSESSD 85.10% TOTAL ASSESSD 84.40%
 LAND & IRR. VALUE: 68,230 58,060 64,470

APPRAISAL YEAR: LAND & IRR. IMPROVEMENT MOBILE HOME
TRENDS PERCENT: 80

SPECIAL ASSESSMENTS	CODE	AMOUNT	ACRES
FIRE PATROL (FL)	1	750.38	2,316.00
FIRE PATROL (GR)	2	146.67	911.00
		897.05	3,227.00

S1 BALANCE DUE 0.00
 ADVAL TAX 1,257.95
 RECEIVED 2,090.36
 11-15-81 202
 SPECIAL ASSESSMENTS (FL) 750.38
 FIRE PATROL (GR) 146.67
 INT/DISC JRNL RCPT# -64.65 C 90 32741
 DESCRIPTION

END

101592(P)	101805	102739	102964	103147	103150
103213	103239	103249	103367	103410	103413
103421	103445	103452	103470	103480	103490



Parcel B

AT8.2 133752 R 31-03 5N3800-00-00600
BOISE CASCADE CORP
PO BOX 610
LA GRANDE OR 97850
76 OTHER ACCOUNTS

11:25:28 26 APR 1982

PROP CLASS 563 MA 3 CITY CODE 3 PLNG ZONE F-5

AI	COPR	CLASS	ACRES	VALUE
L1	FL	EA	455.27	11,380
L2	FD	G7G	30.00	300
			485.27	11,680

DEFERRED
DEFERRED

-----	1982 (CURRENT)	-----	1981 (PRIOR)	-----
TOTAL T.C.V.	11,680	TOTAL ASSESSD	85.10%	TOTAL T.C.V.
LAND & IRR. VALUE:	7,940			TOTL ASSESSD
				84.40%
				8,830

LAND & IRR. IMPROVEMENT MOBILE HOME

SPECIAL ASSESSMENTS:	CODE	AMOUNT	ACRES
FIRE PATROL (FL)	1	157.23	485.27

81 BALANCE DUE	ADVAL TAX	SPECIAL ASSESSMENTS
0.00	204.15	157.23 FIRE PATROL (FL)
TRN DATE BTCH	RECEIVED	INT/DISC JRNL RCPT#
11-15-81 202	-350.54	-10.84 C 90 32747

END -

101592(P)	101805	102739	102964	103147	103150
103213	103239	103249	103357	103400	103410
103	103445				103450

T8.2 133768 R 31-03 5N3800-00-02200

11:28:40 26 APR 1982

HARRIS PINE MILLS
DRAWER 1168

WENDLETON OR 97801

56 OTHER ACCOUNTS
THRU: HARRIS PINE MILLS LOAN#

PROP CLASS 610 MA 3 CITY CODE 3 PLNG ZONE F-1 VOL-PAGE 691238

AT	DDPR	CLASS	ACRES	VALUE
L1	FL	FA	820.73	20,514
L2	EFU	G7G	293.59	2,936
			1,114.32	23,450

DEFERRED	DEFERRED
20,514	2,936

1982 (CURRENT)	1981 (PRIOR)
TOTAL T.C.V. 23,450	TOTAL T.C.V. 22,210
TOTAL ASSESSD 85.10%	TOTAL ASSESSD 84.40%
19,960	18,750

NON-DDPR
LAND & IRR. VALUE:

LAND & IRR. IMPROVEMENT MOBILE HOME

APPRAISAL YEAR:
TREND PERCENT:

SPECIAL ASSESSMENTS	CODE	AMOUNT	ACRES
FIRE PATROL (FL)	1	235.03	725.41
FIRE PATROL (GR)	2	62.61	388.91
		297.64	1,114.32

ADVAL TAX 433.50

SPECIAL ASSESSMENTS	(FL)	(GR)	DESCRIPTION
FIRE PATROL	235.03		
FIRE PATROL		62.61	
INT/DISC JRNL RCPT#			
			-21.93 C 90 32926

TRN DATE BTCH 11-15-81 202

END

HARRIS PINE MILLS
DRAWER 1168
PENDING OR 97801
Panel D
4N38 TL4600

> 56 OTHER ACCOUNTS
THRU: HARRIS PINE MILLS LOAN#
PROP CLASS 611 MA 3 CITY CODE 3 PLNG ZONE F-5 VOL-PAGE 691238

AT	OPPR	CLASS	ACRES	VALUE
L1	OSD			2,000
L2	FL	FA	2,210.29	55,253 DEFERRED
L3	FD	G7G	411.71	4,117 DEFERRED
			2,622.00	61,370

F-B OOPR \$ VALUE BLT %GD M-H "X"
H1 101 8,280 00 35

----- 1982 (CURRENT) -----		----- 1981 (PRIOR) -----	
TOTAL T.C.V.	TOTL ASSESSD	TOTAL T.C.V.	TOTL ASSESSD
85.10%	52,230	56,500	84,40%
61,370	7,050	8,280	47,690
8,280	59,280	64,780	6,990
69,650	59,280	64,780	54,680
69,650			54,680

----- NON-OOPR -----
LAND & IRR. VALUE:
IMPROVEMENT VALUE:
TOTAL N-O VALUE:
TOTAL VALUE:

LAND & IRR. 80
IMPROVEMENT 80
MOBILE HOME

APPRAISAL YEAR:
TREND PERCENT:

SPECIAL ASSESSMENTS	CODE	AMOUNT	ACRES
FIRE PATROL (FL)	1	577.69	1,783.00
FIRE PATROL (GR)	2	135.08	839.00
		712.77	2,622.00

81 BALANCE DUE 658.99
ADVAL TAX 1,264.20
RECEIVED -658.99
TRN DATE BTCH 02-15-82 264

SPECIAL ASSESSMENTS (FL)
577.69 FIRE PATROL (GR)
135.08 FIRE PATROL (GR)
INT/DISC JRNL RCPT#
0.00 C 90 32929
0.00 C 90 47856

HARRIS PINE MILLS
OWNER 1168

Parcel E

4N 37

76200

PENDING OR 97801

> 56 OTHER ACCOUNTS
THRU: HARRIS PINE MILLS LOAN#

PROP CLASS 563 MA 3 CITY CODE 1 PLNG ZONE F-5 VOL-PAGE 691238

CODE SPLITS 3108

AT	OOPR	CLASS	ACRES	VALUE
L1	FL	FA	747.24	18,682
L2	FD	67G	955.79	9,558
				DEFERRED
			1,703.03	28,240
				DEFERRED

NON-OOPR	1982 (CURRENT)	1981 (PRIOR)
TOTAL T. C. V.	28,240	29,860
TOTAL ASSESSED	85.10%	84.40%
LAND & IRR. VALUE:	24,030	25,200

LAND & IRR. IMPROVEMENT MOBILE HOME

SPECIAL ASSESSMENTS	CODE	AMOUNT	ACRES
FIRE PATROL (FL)	1	241.99	746.87
FIRE PATROL (GR)	2	153.94	956.16
		395.93	1,703.03

81 BALANCE DUE	ADVAL TAX	SPECIAL ASSESSMENTS
314.05	582.62	241.99 FIRE PATROL (FL)
		117.53 FIRE PATROL (GR)
		INT/DISC JRNL RCPT# DESCRIPTION
		0.00 C 90 32939
		0.00 C 90 47855

END

101562(P)	101565	101566	101628	101638	101644	101957
102061	104342	104842	107205	107206	107237	107254
107256	107258	107271	107274	107289	107303	118038
118041	118045	120092	120324	121534	121535	123924
125150	133707	133708	133709	133711	133747	133748

Central Parcel A

Parcel A

AT8.2 102964 R 16-02 IN3400-00-04200 11:22:13 26 APR 1982

BOISE CASCADE CORP
PO BOX 610

LA GRANDE OR 97850

> 76 OTHER ACCOUNTS

PROP CLASS 563 MA 5 CITY CODE 5 PLNG ZONE F-5

AT	OOPR	CLASS	ACRES	VALUE
L1	FD	G7F	960.00	4,800
L2	FL	FA	1,040.00	26,000
*			<u>2,000.00</u>	30,800

DEFERRED
DEFERRED

-----	NON-OOPR	-----	-----	1981 (PRIOR)
LAND & IRR	VALUE	TOTAL T.C.V.	TOTAL ASSESSD	TOTAL ASSESSD
		30,800	85.10%	84.40%
			26,210	3,440

APPRAISAL YEAR	LAND & IRR	IMPROVEMENT	MOBILE HOME
TREND PERCENT	81		

SPECIAL ASSESSMENTS	CODE	AMOUNT	ACRES
FIRE PATROL (FL)	1	240.41	742.00
FIRE PATROL (GR)	2	202.54	1,258.00
*		442.95	2,000.00

81 BALANCE DUE	ADVAL TAX	SPECIAL ASSESSMENTS
0.00	155.89	240.41 FIRE PATROL (FL)
TRN DATE BTCH	RECEIVED	202.54 FIRE PATROL (GR)
11-15-81 202	-580.87	INT/DISC JRNL RCPT#
		-17.97 C 90 32774
		DESCRIPTION

END

Central Unimobile Co. Parcel B

AT8.2 103421 R 16-02 1N3500-00-06200

11:22:57 26 APR 1982

BOISE CASCADE CORP
PO BOX 610

LA GRANDE OR 97550

> 76 OTHER ACCOUNTS

PROP CLASS 563 MA 5 CITY CODE 5 PLNG ZONE F-2

AT	COPR	CLASS	ACRES	VALUE	DEFERRED
L1	EFU	G7F	1,229.60	6,148	DEFERRED
L2	FL	FA	2,284.56	57,112	DEFERRED
			<u>3,514.16</u>	53,260	

----- 1982 (CURRENT) ----- 1981 (PRIOR) -----
 TOTAL T.C.V. TOTL ASSESSD 85.10% TOTAL T.C.V. TOTL ASSESSD 84.40%
 LAND & IRR. VALUE: 63,260 53,830 56,520 47,700

NON-COPR -----
LAND & IRR. VALUE: 63,260

LAND & IRR. IMPROVEMENT MOBILE HOME

APPRAISAL YEAR:
TRENDS PERCENT:

SPECIAL ASSESSMENTS	CODE	AMOUNT	ACRES
FIRE PATROL (FL)	1	642.88	1,784.20
FIRE PATROL (GR)	2	246.32	1,529.96
		889.20	3,314.16

81 BALANCE DUE 0.00
ADVVAL TAX 881.02

SPECIAL ASSESSMENTS (FL)
 642.88 FIRE PATROL (FL)
 246.32 FIRE PATROL (GR)
 INT/DISC JRNL RCPT# DESCRIPTION
 -53.11 C 90 32786

TRN DATE BTCH 11-15-81 202
RECEIVED -1,717.11

END -

ATB.2 102734 R 16-02 IN3400-00-00101

11:22:00 20 APR 1982

Central (Lima. Co.) Parcel C

L4 ATB.2 103150 R 16-02 IN3400-00-06700

11:22:17 26 APR 1982

BOISE CASCADE CORP
PO BOX 610

LA GRANDE OR 97850

> 76 OTHER ACCOUNTS

* PROP CLASS 563 MA 5 CITY CODE 5 PLNG ZONE F-5

AT	OOPR	CLASS	ACRES
L1	EFU	67F	857.18
L2	FL	FA	370.00
*			1,227.18

VALUE	DEFERRED
4,286	DEFERRED
9,254	DEFERRED
13,540	

----- 1982 (CURRENT) -----	----- 1981 (PRIOR) -----
TOTAL T.C.V.	TOTAL T.C.V.
13,540	84,40%
85.10%	5,180
11,520	

APPRAISAL YEAR: 81
TREND PERCENT: LAND & IRR. IMPROVEMENT MOBILE HOME

SPECIAL ASSESSMENTS	CODE	AMOUNT	ACRES
FIRE PATROL (FL)	1	99.79	308.00
FIRE PATROL (GR)	2	147.99	919.18
		247.78	1,227.18

91 BALANCE DUE 0.00
ADVAL TAX 95.67
SPECIAL ASSESSMENTS 99.79
FIRE PATROL (FL) 147.99
FIRE PATROL (GR) INT/DISC JRNL RCPT#
-333.15 -10.30 C 90 32777
RECEIVED
11-15-81 202
DESCRIPTION

END -

SPR(P) 101805

Central Co.

Parcel D

11:31:08 26 APR 1982

AT8.2 106133 R 02-03 153400-00-02800

LOUISIANA PACIFIC CORP
PO DRAWER 1

COEUR D'ALENE ID 83814

Have Sheet

> 118 OTHER ACCOUNTS

PROP CLASS 563 MA 5 CITY CODE 1 PLNG ZONE F-2

CODE SPLITS 1602

AT	QOPR	CLASS	ACRES	VALUE	DEFERRED
L1	FL	FA	180.41	4,510	DEFERRED
L2	EFU	G7F	1,252.16	6,260	DEFERRED
*			1,432.57	10,770	

1982 (CURRENT)	1981 (PRIOR)
TOTAL T.C.V.	TOTAL T.C.V.
85.10%	84.40%
9,170	8,640
10,770	10,240

NON-QOPR

LAND & IRR. 81

IMPROVEMENT MOBILE HOME

APPRAISAL YEAR:
TREND PERCENT:

SPECIAL ASSESSMENTS	CODE	AMOUNT	ACRES
FIRE PATROL (FL)	1	36.29	112.00
FIRE PATROL (GR)	2	212.61	1,320.57
		248.90	1,432.57

81 BALANCE DUE 141.00

SPECIAL ASSESSMENTS (FL)	FIRE PATROL (GR)	DESCRIPTION
36.29	212.61	INT/DISC JRNL RCPT#
	0.00	C 90 33470
	0.00	C 90 47513

RECEIVED
-141.00
-141.00

TRN DATE BTCH
11-15-81 202
02-15-82 263

21350
21326
21308

Central Uma Co

Parcel E

ATB.2 116919 R 16-02 1S3600-00-02200 11:24:10 26 APR 1982
BOISE CASCADE CORP
PO BOX 610

LA GRANDE OR 97850

> 76 OTHER ACCOUNTS

PROP CLASS 563 MA 5 CITY CODE 5 PLNG ZONE F-5

AT	DOOR	CLASS	ACRES	VALUE	DEFERRED
L1	FD	G7F	199.75	999	DEFERRED
L2	FL	FA	920.00	23,001	DEFERRED
L3	OSD			1,500	
L4	HS		0.25	1,400	
*				1,120.00	

F-B	DOOR	\$ VALUE	BLT	%GD	M-H	"X"
H1	111	2,550			30	
H2	111	1,730			20	
*		4,280				

NON-DOOR		1982 (CURRENT)		1981 (PRIOR)	
LAND & IRR.	IMPROVEMENT	TOTAL T.C.V.	TOTL. ASSESSED	TOTAL T.C.V.	TOTL ASSESSED
26,900	89.10%	22,870	21,290	84.40%	17,970
4,280	3,640	26,530	24,320	2,210	20,530
31,180	26,530	26,530	24,320		20,530

APPRAISAL YEAR: 81

TREND PERCENT: 81

LAND & IRR. IMPROVEMENT

MOBILE HOME

SPECIAL ASSESSMENTS

FIRE PATROL (FL)	CODE	AMOUNT	ACRES
1	1	310.07	957.00
2	2	26.24	163.00
		336.31	1,120.00

* BALANCE DUE

ADVAL 7.50

AT8.2 101640

R 80-01 553000-00-00300
LOUISIANA PACIFIC CORP
PO DRAWER I

COEUR D'ALENE ID 83814
> 118 OTHER ACCOUNTS

PROP CLASS 610 MA 5 CITY CODE 3 PLNG ZONE F-2

CLASS	ACRES
FA	270.23
G7P	251.52
	521.75

VALUE	DEFERRED
6,755	DEFERRED
755	DEFERRED
7,510	

----- 1982 (CURRENT) -----
 LAND & IRR. VALUE: 7,510
 TOTAL T.C.V. 85.10%
 IMPROVEMENT 6,390

----- 1981 (PRIOR) -----
 TOTAL T.C.V. 84.40%
 TOTAL ASSESSD 5,660
 MOBILE HOME

APPRAISAL YEAR: TREND PERCENT:

SPECIAL ASSESSMENTS	CODE	AMOUNT
FIRE PATROL (FL)	1	109.84
FIRE PATROL (GR)	2	29.42
		139.26

81 BALANCE DUE 89 55
 ANNUAL TAX 129 39

REN DATE BTCH
 11-15-81 202
 02-15-82 263

SPECIAL ASSESSMENTS
 109.84 FIRE PATROL (FL)
 29.42 FIRE PATROL (GR)
 INT/DISC JRNL RCPT# DESCRIPTION
 0.00 C 90 33484
 0.00 C 90 47452

101333(P) 101335
 101656 101721
 101969 101999
 102024 102024
 101640 101642
 101729 101734
 102000 102000
 101651 101652

- END -

Seata County
 Parcel A
 11:34:54 26 APR 1982

R 80-01 553000-00-0:090

South County

11:35:10 26 APR 1982

Parcel B

CIFIC CORP

ALENE ID 83814

OTHER ACCOUNTS

CLASS 610 MA 5 CITY CODE 3 PLNG ZONE F-2

CLASS	ACRES
FA	923.60
G7P	156.40
	1,080.00

VALUE	DEFERRED
23,091	469
	23,560

1982 (CURRENT)	1981 (PRIOR)
TOTAL T.C.V.	TOTAL ASSESSD
23,560	85.10%
	20,050

1982 (CURRENT)	1981 (PRIOR)
TOTAL T.C.V.	TOTAL ASSESSD
23,560	84.40%
	20,830

LAND & IRR. VALUE: 23,560

LAND & IRR. IMPROVEMENT MOBILE HOME 81

APPRAISAL YEAR: 81

TREND PERCENT: 81

SPECIAL ASSESSMENTS

FIRE PATROL (FL)	1	325.94	1,006.00
FIRE PATROL (GR)	2	11.91	74.00
		337.85	1,080.00

81 BALANCE DUE 246.58

ADVAL. TAX 401.88

RECEIVED

17-15-81 202

02-15-82 263

SPECIAL ASSESSMENTS

325.94 FIRE PATROL (FL)

11.91 FIRE PATROL (GR)

INT/DISC JRNAL RCPT# DESCRIPTION

0.00 C 90 33478

0.00 C 90 47455

101333(P)	101335
101656	101721
101969	101999
102024	102027
102028	102029
101640	101642
101729	101734
102000	102001
102028	102029
101651	101652
101951	101963
102001	102002
102001	102001
101654	101967

END -

MOUNTAIN LAND USE PLAN RECOMMENDATIONS

Tollgate Citizens Advisory Committee

IDENTIFICATION OF STUDY GROUP

The Tollgate Citizens Advisory Committee was organized at the request of Milton-Freewater area members of the Umatilla County Planning Commission. Their request had been initiated from citizens and property owner's concerns about a land use plan discussion draft developed by the county planning staff and reviewed at several public meetings. These citizens felt that valuable information and local citizen comment was lacking and needed to be included in developing a land use plan for the Tollgate Mountain area.

Upon approval of a majority of the County Planning Commission, Milton-Freewater area planning commission members were to inquire if there was an interest for a study group, and if so, to organize the committee. The advisory committee was given enough time to develop possible proposals which would then be reviewed by the County Planning Commission and added as testimony if determined to be helpful in formulating a Tollgate area land use plan.

The Tollgate Citizens Advisory Committee was formed in the middle of May 1981 and started meetings that same month. Committee membership totaled six members. Their names are listed in the front of this report.

The committee met twelve (12) times and sought the comments of numerous state and federal resource agencies, a timber management consultant, the electrical utility company serving the Tollgate area, and the State Highway Department. Perhaps the most significant and extensive information gathering effort was the Tollgate questionnaire. Approximate

mately 540 landowners on Tollgate-Weston Mountain were sent a two page questionnaire seeking citizen comments about timber management, wildlife, recreational needs, commercial development, lot size minimum recommendations and environmental questions. About 25% of the questionnaires were returned, giving what our committee feels is a good and representative sample of opinions on which to base land use recommendations.

INTRODUCTION TO COMMITTEE RECOMMENDATIONS

The Tollgate Citizens Advisory Committee would like to present to the Umatilla County Planning Commission some land use recommendations for the Tollgate Mountain - Northeast County forest/mountain areas. These recommendations include a plan map, a listing of important planning issues and facts, suggested policies to help guide future land use proposals and advice for recommendations to be included in the Zoning and Subdivision ordinances to carry out the suggested land use policies. We have included background information mentioned earlier to help those reading these proposals understand why they are being suggested.

STUDY AREA REVIEWED

The committee chose to examine a larger study area than just the Tollgate Mountain corridor to help assure a better coordinated and hopefully more compatible land use plan. The approximate southern boundary of this study area is the Umatilla River. The east boundary is the Umatilla National Forest. The Washington-Oregon state line serves as the northern border of the study area. The western border approximates the present division between forest and agriculture lands on the existing Umatilla County Comprehensive Plan Map. (See Study Area Map on following page.)

The study area was broken down into sub-areas based upon their similar

physical and existing characteristics and knowledge of these different areas by various committee members. Sub-areas are individually identified on the Study Area Map just mentioned and include:

1. Mill Creek and vicinity which is most everything north of Government Mountain Road, to the Washington State line;
2. Blalock - Linton - Basket Mountain forest/grazing lands between Government Mountain Road and about one-half mile north of Tollgate Highway 204;
3. Tollgate Highway Corridor which includes a one-half mile area on either side of State Highway 204 having its west boundary defined at the Umatilla Electrical Cooperative substation and its east boundary defined as the Union County line;
4. Weston, Reed, Hawley Mountains and (Bingham Springs area) between the southern Tollgate Highway Corridor line and the Umatilla River.

SUB-AREA FINDINGS, RECOMMENDED POLICIES AND LAND USE MAP SUGGESTIONS

In the course of discussing information received from various agencies, the County Planning Staff, and citizens, our committee has come up with a description and important findings list for each sub-area which we feel are appropriate to place into the comprehensive plan. The analysis and findings are followed by recommendations which are suggested directions towards achieving a certain land use goal. The findings and recommended policies are arranged under an appropriate state land use goal. For example, a finding and recommended policy about timber management of a certain sub-area is placed under State Land Use Goal 4, Forest Lands. Because some of the state land use goals are closely related to one another, some of our land use recommendations may seem appropriate under other goals.

Also, because most areas within each sub-area have very similar characteristics, many findings and suggested policies apply to all sub-districts. When a finding or policy is appropriate in other subareas, it is starred (referenced) and not written out in full, to avoid needless repetition.

Should placement of a finding into another goal be more clearly understood or the order in which this report is written need rearrangement, this committee will be open to suggested changes. Our purpose is to attempt to describe as accurately as is possible the areas of concern to us and to list as many important findings and recommendations as we feel will help protect the natural beauty and resources this area provides to County residents. Also, a major goal is to recognize the need for additional yet controlled growth of recreational development including seasonal dwellings. Development of these uses should be in such a manner as to allow them in appropriate areas with certain development requirements insuring the continuation of the rural and recreational character of the northeastern mountain areas in Umatilla County.

SUB-AREA DESCRIPTIONS, FINDINGS AND RECOMMENDED POLICIES

I. Mill Creek and Vicinity

A. Description

The Mill creek and vicinity study area is the northern most of the four sub-areas examined by the committee. Most of this area lies north of Government Mt. Road and is characterized by steep sloped canyons and few accessible roads. Seasonal livestock grazing and timber management uses predominate.

Although data on forest productivity is general for this area, the available information shows that timber productivity is a bit higher in the southern part of the sub-area than in the the northern part. In total, this area has a poor-to-fair timber growing potential when compared with the total state forest lands, but fair-to-good when compared to eastern Oregon timber lands.

There are several small areas on private land within the sub-area having critical deer and elk winter habitat according to the Oregon Department of Fish and Wildlife. The location of these critical winter ranges are isolated and not too accessible so protection is not anticipated to be too difficult. The sub-area also has streams which support sports fishery populations of steelhead, rainbow and dolly varden trout. (Henry Canyon and Mill Creek)

Except for several isolated areas (eg. Mill Creek Basin, Government Mt. Road, Henry Canyon) land ownerships are large consisting both of private land owners and timber industry lands.

Parcel sizes vary from about 40 acres to 1000 acres. Actual ownership sizes approach 4,000 acres.

There are several areas of recreational development within this sub-area. One area is quite extensive and has long been used for recreational use. It is known as the Mill Creek basin.

There are several other areas (Saddle Mt., Henry Canyon, Big Meadows) that have some small lot recreational cabin sites but are very limited in number and isolated by surrounding large-lot resource lands. Most of the development is along the narrow 3.5 mile stretch of Mill Creek along Mill Creek Road (County Road #889) which is paved for a portion of the way and graveled for the other portion. Considerable amounts of property are in a designated floodplain, thus making full development of these lots very difficult. Most parcels are included in one of the three platted subdivisions that exist there. Although several parcels are over ten acres, most are less than two acres. Of the over 150 lots included in this area, most are either presently developed or sold to owners who have not exercised their building options. This area has only a marginal value for commercial timber production, according to soil and other information. The Mill Creek basin is not being extensively used as a big game winter range area because of present land uses.

The committee also recognizes the important resource lands of the Umatilla National Forest to the east of this sub-area. Not only is there valuable timber lands here, but several important watersheds, one of which serves the city of Walla Walla.

B. Findings and Recommended Policies

1. Forest Goal (Findings)

a. The Mill Creek and vicinity sub-area has important resource uses one of which is timber management. Conservation of forest lands for forest uses (e.g. summer grazing) is an important goal.

b. The Tollgate Citizen's Advisory Committee recognizes the importance of proper timber management and the need to follow appropriate state management laws such as the Oregon Forest Practices Act.

c. Even in areas where smaller recreational lots occur, economical and practical timber management is still possible according to Wes Slaughter, a timber management consultant. One such management technique is called "uneven age timber management" and allows effective small lot forest management also considered important by the committee.

d. The U. S. Forest Service is now in the process of developing a Land Management Plan for the Umatilla National Forest. The decisions and actions of this agency have, and will continue to have, major effects on the economic, social and natural environment of this sub-area and the total county.

2. Forest Goal (Recommended Policies)

a. To help protect forest lands for forest and other resource uses, a forest/grazing or similarly named zone shall be established and shall allow compatible resource uses.

b. Because 20 acres is a more reasonable and economic management unit and better protects fish and wildlife resources than the existing 5 acre minimum, the new minimum parcel size for

identified forest/grazing resource areas shall be 20 acres.

c. Forest management in this sub-area as well as the other resource areas studied by the Tollgate Citizen's Advisory Committee shall be governed by the Oregon State Forest Practices Act; however, if a new recreation dwelling is allowed on an existing tax lot under 20 acres that has growing stands of timber, the "uneven age timber management" system will be a recommendation for development approval.
(See also Recreational Goal)

d. Better coordination and cooperation between the U. S. Forest Service and Umatilla County shall be attempted, particularly as it relates to use of Forest Service lands east of this sub-area. County participation in the development of the Forest Service Land Management Plan for this area and the eventual use of the Land Management Plan policies shall be the starting point for this mutual coordination and cooperation.

3. Gravel and Aggregate Resources Goal (Findings)

a. Existing and proposed gravel pit operations in the area do now and will provide important construction materials for on-site improvements such as road surfacing and repair, building construction, and rip-rapping stream banks to protect against erosion and flooding.

b. Local gravel extraction is recognized as having the advantage of lower costs involved with using nearby materials.

4. Gravel and Aggregate Resources Goal (Recommended Policies)

a. Extraction of aggregate resources from new source sites whether for commercial or non-commercial purposes shall be allowed in the Mill Creek and vicinity sub-area, but subject to Conditional Use procedures and standards in the zoning

ordinance. The intent of this policy is not to make it to difficult for private land owners who wish to use the aggregate material for non-commercial purposes, but to protect surrounding land uses from excessive noise, dust, erosion and other potential hazards.

b. If an existing aggregate site is to be reopened which proposes to use blasting and other gravel removal or processing methods, (eg. rock crushing, asphalt batch plants) such new operation shall be classified as a conditional use and subject to regulations in the zoning ordinance.

c. Re-opening of existing gravel pits where pit run rock is to be removed for non-commercial uses and where there will be no use of processing equipment (eg. rock crushers), may be reopened without obtaining a county zoning permit. This policy will especially apply to private landowners who wish to use the gravel for on-site improvements or non-commercial purposes.

d. It has come to the attention of the advisory committee that the County Road Department is proposing a surface mining ordinance. If the proposed ordinance is adopted, it is recommended that this ordinance be referenced to or incorporated as part of the County Zoning Ordinance.

5. Fish and Wildlife Goal (Findings)

a. A concern of the Committee in this sub-area is the protection of fish and wildlife habitat.

b. The Mill Creek and vicinity sub-area has significant big game populations which use the habitat for both summer and winter range.

c. Some streams here provide important sports fishery habitat.

6. Fish and Wildlife Goal (Recommended Policies)

a. To protect fish and wildlife habitat in this sub-area, (except the Mill Creek basin which is designated Mountain/Residential) the county shall adopt the Forest/Grazing or similar zone allowing compatible land uses with fish and wildlife and a recommended parcel size minimum of 20 acres.

b. The "uneven age timber management" system will be a recommendation for all new recreational dwellings approved by the County on lots smaller than 20 acres to assure needed land cover retention for fish and wildlife habitat on the site and help assure compatibility of adjacent habitat areas.

7. Recreational Goal (Findings)

a. The Mill Creek basin has mostly developed into a recreational dwelling area and the small remaining portion should be allowed to develop into similar uses. Power, water, electricity and good access help support further recreational development here.

b. There are several small, isolated areas around Saddle Mt., Big Meadows, Henry Canyon and in other remote locations where parcel sizes are less than 20 acres. These lots could accommodate a few recreational cabins without major conflicts to adjacent resource lands. Appropriate development requirements and public hearing review approval could further assure compatibility.

8. Recreational Goal (Recommended Policies)

a. The Mill Creek basin, shown on map _____ as approximately ½ mile on either side of Mill Creek shall be designated for recreational home development. Density of new development shall be at 5 acre minimums and any future land split proposal shall be required to follow appropriate requirements in the Mountain Subdivision Worksheet and, if applicable, to encourage management of any timber on the new parcel according to the "uneven age timber management" system.

b. Lots legally existing at the time of this plan's adoption and within the Mill Creek basin shall continue to be legal lots for recreational dwelling development. New recreational lot owners will be encouraged to complete and follow suggestions in the Mountain Subdivision Worksheet that apply to their property.

c. Parcels of 20 acres or less outside the Mill Creek Basin area shall be allowed to have a recreational dwelling with the following additional requirements:

- (i) A Conditional Use Permit be applied for and approved by the county;
- (ii) The applicant shall address and be encouraged to follow applicable requirements in the Mountain Subdivision worksheet; (See appendix)
- (iii) The owner be encouraged to manage any timber on the new parcel as recommended in the "uneven age timber management" system.

C. Plan Map Recommendations

Based upon the above report and findings, the committee recommends the following land use designations on the Plan Map for the Mill Creek and vicinity sub-area:

1. The Mill Creek basin area be designated Mountain Recreation with the allowance of recreational dwellings. Development standards as mentioned in the recommended policy section are attached to permit orderly development of the small remaining areas and to help protect adjacent resource lands.
2. Areas within the sub-area but outside the Mill Creek Basin are recommended to be called Forest/Grazing or a similarly-named land designation in recognition of the existing resource uses. Livestock grazing or similar agricultural uses, forest management, and certain utilities are to be allowed. Parcel size minimums and other standards in the recommended policies are suggested to help conserve these lands for resource uses. Some recreational cabins may be permitted only in certain areas and with development standards as outlined earlier.

II. Tollgate Corridor

A. Description

The Tollgate Highway Corridor is the most extensively developed recreation area in Umatilla County. A description of the area follows:

The west border of the corridor starts at the Umatilla Electric Cooperative substation. A more accurate description of this boundary is the center section line of Section 25, Township 4N, Range 36. Based upon local property owner knowledge, the permanent snow line begins at this point. Development east and increasing in elevation up the mountain they say is of a recreational nature, being seasonal and related to the scenic values of the area. Below the snow line, dwellings are mostly related to grazing, agricultural uses and non-farm, rural residential and tend to be year-around residences.

The east boundary of the Tollgate Corridor extends to the Union County line. Recreational home site development ends at about Langdon Lake because beyond this point for about two miles is U. S. Forest Service property where land uses are controlled by the Federal government. Close cooperation with this agency is seen to be important by the committee to help resolve some existing land use problems (eg. off highway parking) and to coordinate planning efforts especially involving potential land swaps or sales between private land owners and the Forest Service.

The north and south borders of the corridor are boundary lines approximately $\frac{1}{2}$ mile from both sides of the highway right-of-way. This distance approximately represents the existing and rather large area of recreational home and lot development on Tollgate Mountain.

Land uses within the Tollgate Corridor are largely recreation-related. Along with recreational cabins, some mobile homes and vacation trailers, there are several commercial uses related to the large number of recreational users needing supplies. Existing commercial facilities appear to be adequate, especially in view of the Spout Springs facilities only four or five miles east, which include skiing facilities and a lodge with restaurant and some overnight accommodations.

Lot sizes associated with these recreational uses vary in size from less than $\frac{1}{4}$ acre to over 100 acres. The smaller lots are due to previously approved recreational subdivisions and land divisions allowed under zoning regulations since 1972. The larger lots are properties partially developed or surrounded by or adjacent to these smaller, more intensively developed recreational properties.

There are some recognized problems with existing and future uses within the Tollgate Corridor. Off-highway parking is a problem during the winter along with trespass and associated damage to private property. Related to this are citizen concerns of maintaining and protecting the scenic and environmental values of the area while still allowing additional recreational development. Lastly, maintaining access during the winter is a problem especially along the main highway (State Highway 204). State highway crews using snow blowing equipment often have a difficult time of properly removing snow off the highway because they have to avoid blowing it in areas where cabins or other improvements are located adjacent to the highway. Encouraging the leaving of vegetation along the highway will help stop snow thrown by snow blowing equipment from damaging existing dwellings and buildings.

Policies and development requirements including a separate section on the Cluster Development concept are recommended for future recreational uses to help solve some of these land use problems and still help protect scenic values and natural resources.

This sub-area does have big game populations of deer and elk. Nearly all of this sub-area is outside of elk or deer winter range but several migration corridors cross the area. Identification of, and specific development recommendations for these migration corridors are proposed to help assist continued movement of big game between summer and winter ranges. Vegetation should be kept in these corridor crossings to protect the game.

A lot of the corridor area does have, by eastern Oregon standards, moderate to high timber productivity; but much of the corridor is developed into recreational homes on small non-economical lots for timber management. However, small wood lot management is recognized to be practical here and can be important to the overall county timber harvest inventories. Special development policies are recommended to help achieve this important task.

Property owners and committee members also recognize the importance of protecting several historic monuments. These monuments are listed in the findings section and several policies are suggested to protect and preserve them for future generations.

As part of planning for future maintenance of roads and Highway 204, existing and proposed gravel extraction uses are recognized as an important land use activity. Allowance of these uses are provided for and have suggested guidelines to make sure they and land uses surrounding them can exist in harmony.

B. Findings and Recommended Policies

1. Citizen Involvement (Findings)

a. The Tollgate Citizen's Advisory Committee feels a special citizen's involvement committee for the Tollgate Corridor area should be formed at the times of the update to review the adopted plan and to identify new issues of concern that need resolving.

b. An advantage of a Tollgate Corridor and special citizen's advisory committee is that local citizens and land owners will have the opportunity to provide valuable and timely information at the time of plan updating or, when a special need arises that requires a major revision to the comprehensive plan that effects the Corridor area before plan updating is scheduled.

2. Citizen Involvement (Recommended Policies)

a. At the time of plan update, a special citizen's committee for the Tollgate Corridor area shall be formed.

The make-up of the committee shall be broadly representative of the Corridor area and its interests and have a membership entirely of private citizens.

b. Tollgate Corridor area committee members shall be appointed by the Umatilla County Planning Commission.

c. The plan update process shall occur at least every five years or when special conditions or circumstances require an earlier review time. In either case, a new Tollgate Corridor Citizen's committee will be formed to assist in the revisions process.

3. Forest Goal (Findings)

a. The Tollgate Citizen Advisory Committee's questionnaire shows that area land owners recognize the importance of proper timber management and the need to follow appropriate state management laws such as the Oregon Forest Practices Act ORS. Chapter 527 ; yet there is strong disapproval of clearcutting which tends to ruin scenic and recreational values for which the Tollgate Highway Corridor area is known and used.

b. Based upon information received from Wes Slaughter, a timber management consultant, economic and practical timber management is still possible along the Tollgate Highway Corridor despite the many existing small lots and extensive recreational development. (eg. cabins, recreational subdivisions and support commercial uses) One such forest management technique appropriate for the Tollgate Corridor area is called "uneven age timber management". (See Appendix for further explanation of this management system.) This technique retains vegetation and tree cover necessary for recreational values and allows effective woodlot management on small acreages.

c. It is recognized that some existing development is rather dense along the Tollgate Highway, and that continuation of the same pattern will not necessarily be in the best interests of the area's recreational values nor allow effective harvesting or managing of the timber resource which is still possible as just discussed.

d. After discussion with the above mentioned local timber management consultant, it was determined that a five acre

minimum lot size with a requirement to use the "uneven age timber management" system would allow additional recreational development and still provide a satisfactory way to grow and harvest existing timber resources within the corridor and better protect adjacent timber/grazing land uses adjacent to the Corridor.

4. Forest Goal (Recommended Policy)

a. Forest management in Umatilla County shall be governed by the Oregon State Forest Practices Act, so as to assure continued timber productivity; however, in the Tollgate Highway Corridor forest practices such as "uneven age timber management" techniques that increase timber productivity and still protect scenic and recreational values and fish and wildlife habitat shall be required when any new lot split (land partition) is approved.

b. To insure that new recreational land owners who wish to have a dwelling in the Corridor are aware of the potential for small lot timber management, they are encouraged to complete and follow the suggestions in the Mountain Subdivision Worksheet at the time of zoning application approval for a recreational dwelling.

c. Compatible use zones and lot sizes that help protect water, timber, grazing, scenic and recreational values, and fish and wildlife of the Corridor area shall be established. To achieve this policy the Tollgate committee recommends a five (5) acre minimum lot size for new recreational lot splits within the Corridor and a twenty (20) acre minimum parcel

size for proposed land divisions outside the Tollgate Corridor on timber/grazing resource lands.

5. Historical Goal (Findings)

a. Four monuments of historic value have been identified by the Tollgate Citizen's Advisory Committee as worthy of preservation consideration.

Three of these monuments are called the Olinger Monuments. They are located on private property and are encouraged to be preserved and protected.

b. The other monument is located just west of Langdon Lake on State Highway Division Land.

6. Historical Goal (Recommended Policies)

a. As a part of any development review, the County shall require appropriate measures to protect the identified Olinger Monuments or any other historic sites or buildings in the Tollgate Corridor that might be later identified and included for preservation or protection.

b. Protection measures shall include setbacks and other non-disturbance methods to be included in the Zoning and Sub-division Ordinances. Property owners shall also be encouraged to preserve these sites through tax or other incentive programs. Preservation and protection may also include the possible eventual purchase of the Olinger Monuments by the county for relocation to an accessible view point.

7. Gravel and Aggregate Resources Goal (Findings)

*See GRAVEL AND AGGREGATE FINDINGS on page 8. They are applicable here also.

8. Gravel and Aggregate Resources Goal (Recommended Policies)

*See GRAVEL AND AGGREGATE RECOMMENDED POLICIES on pages 8 and 9. They apply here as well.

9. Fish and Wildlife Goal (Findings)

a. A major concern of property owners in the Tollgate Corridor area is the protection of wildlife habitat and to stop further disturbance of these migration routes of big game.

b. The Corridor area has significant big game populations which use the habitat for summer range and as a migration area between winter ranges in the Walla Walla and Umatilla River basins.

c. The Tollgate Citizen's Committee identified five important big game crossings along the Tollgate Highway and they have been located on map_____.

d. Working with a State Fish and Wildlife employee, it was agreed to identify an area or game corridor somewhat larger than the actual game crossing whereby certain restrictions and requirements should be placed upon proposed development within this area to help the continued movement of big game across the highway to area summer and winter ranges.

10. Fish and Wildlife (Recommended Policies)

a. To protect the five identified big game migration trails in the Tollgate Corridor area, the following regulations will be imposed:

- (i) A ten acre minimum lot size for recreational uses shall be imposed within an identified big game

protection corridor;

(ii) The location of the ten acre minimum requirement shall be defined as a big game migration corridor one-half mile wide and is to extend all the way to whatever corridor is settled upon.

(iii) No commercial uses shall be allowed within an identified big game corridor area;

(iv) The "uneven age timber management" system will be required for any parcel division within the migration protection area to help maintain needed vegetation cover;

(v) A one hundred foot setback requirement starting from the Highway 204 right-of-way shall be placed upon any proposed buildings or dwellings in these protection areas;

(vi) No clustering of development is recommended within a big game migration corridor.

11. Recreational Goal Findings)

a. More off-highway parking is needed along Highway 204 in the winter months and the location of these facilities is important not only to provide the most convenience for the recreational users but also to reduce additional opportunities of an already increasing trespass problem on private property.

b. Umatilla County should encourage the location of new off-highway parking along Highway 204 on Umatilla National Forest

Service Land east of Langdon Lake to the Union County line. Off-highway parking located in this area will provide a needed service and reduce the potential problem of trespass on private property.

c. There are three existing commercial areas serving the Tollgate recreational area; (1) The Tollgate Chalet, (2) Tamarack Inn, (3) Tollgate Shopping Center. Citizen comments indicate that no new commercial areas are necessarily needed or desired along the Tollgate Highway Corridor at present and that if new commercial uses are proposed, they should be expansions of existing commercial centers and allowed under special conditions or requirements.

d. Additional picnic and day use facilities and travel trailer parks are needed by recreational users along the Tollgate Highway Corridor. These uses are more appropriate on Forest Service property or under special conditions within or expansions of the three existing commercial areas listed in the above finding.

e. Specific commercially related recreational uses not recommended for the Tollgate Corridor area are Dude Ranches and Resorts. Land owner, and committee comments indicate that such uses if allowed would create unacceptable trespass problems.

f. Another major concern of area property owners is the retention of existing scenic views, recreational values and the protection of environmental quality (eg. water, soil, air). Specifically, protection of natural vegetation and the prevention

of buildings too close to the highway right-of-way is desired not only to keep scenic values but to also allow the State Highway Department to remove snow off the highway without interference from or damage to private dwellings. Commercial building setbacks should be treated differently than dwellings because siting requirements and off-highway parking result in other kinds of preparation and maintenance practices. For example parking lots near the highway are cleared of snow by the owners thus highway crews do not blow snow off the highway into these parking areas.

g. Committee members see a need for additional recreational development but at this time feel such development should be accomplished in an orderly and efficient manner. As an approach to achieve this goal, such measures as density controls, development standards, and limiting the area to be developed for such uses are suggested to hopefully allow orderly recreational development along with orderly economic expansion of utility services and roads.

12. Recreational Goal (Recommended Policies)

a. Better coordination and cooperation efforts between the U. S. Forest Service and Umatilla County shall be made, particularly as it relates to the use of Forest Service lands east of Langdon Lake.

b. Maximizing the use of economic and personnel resources to help construct needed off-highway parking and other recreational uses on Federal Forest Service land described in the findings, the County shall seek and coordinate inter-governmental, public, and private group cooperation and participation.

c. Day use and travel trailer park facilities shall be encouraged to locate on Federal Forest Service land and shall be permitted as conditional uses in existing adjacent commercial areas subject to the same criteria as required for commercial recreational uses found in the following policy.

d. New commercial uses recommended by the committee as needed in the Tollgate area to serve recreationists will only be allowed adjacent to one of the three existing commercial centers. These new uses shall be permitted as conditional uses upon showing that the land where the new use is proposed has no significant commercial timber potential, is not within a big game migration corridor as identified on the plan map, and that the use will be sufficiently buffered so that it will not adversely affect or conflict with adjacent land uses. Buffering measures for new commercial proposals shall include the requirement of a 60' setback requirement from the Highway 204 right-of-way.

Expansions or additions to present commercial buildings shall be required to meet special regulations relating to pre-existing uses.

e. New recreational dwellings and their accessory structures that are proposed to be built along Highway 204, shall be subject to a one hundred foot setback regulation. The setback shall be measured starting from the highway right-of-way line. Keeping or retaining existing vegetation cover within this one hundred foot setback area is also required.

f. To achieve orderly and compatible development, future recreational proposals shall be limited to an approximate

one-half mile corridor along each side of Highway 204 starting at the right-of-way line. The west boundary shall start at the Umatilla Electrical Cooperative Substation and shall end at the Union County line. Density of new development shall be at a minimum of five acres and above. (See also Cluster Development Section)

9. Parcels legally existing at the time of this plans' adoption and within the Tollgate Highway Corridor shall continue to be legal lots for recreational dwelling development and are encouraged to complete and follow applicable suggestions in the Mountain Subdivision Worksheet.

13. Cluster Development Concept (Additional Recreational Development Considerations)

a. Clustering development in a group and leaving the remaining in permanent open space can have advantages over conventional subdivision lots in certain circumstances. For example, areas of scenic beauty, good timber growing areas, important fish and wildlife habitat can be saved and the remaining area used for recreational development after consideration of those physical and other characteristics of the site.

b. The cluster development concept can save the developer significant savings because of the reduced length requirements for roads, utilities and the corresponding lower construction costs. Public cost to serve cluster developments are also usually lower.

c. It is recognized that some properties may not be appropriate for clustering. These properties include lots where

parcel sizes or existing land uses will not meet recommended cluster development standards or be compatible with or appropriate for this type of development. Clustering of development will be preferred over other methods.

14. Cluster Development (Recommended Policies)

a. Any proposed recreational development on existing parcels of 20 acres and larger or future divisions of property in excess of 20 acres that take place within the Tollgate Highway Corridor shall be allowed only under the regulation provisions of cluster developments. The only exception to this policy is if the applicant can show to the county's satisfaction that another development method will better preserve the scenic beauty and natural resources of the site and those upon adjacent lands or if the development is within one of the big game migration corridors where clustering is not recommended.

b. Cluster developments shall have a five acre density minimum as allowed in a Mountain Residential or similarly named zone and shall be processed and reviewed similar to a subdivision or partition under regulations found in the subdivision ordinance.

c. Criteria used to approve a cluster development shall include but not be limited to:

- (i) Adequate water supplies to serve the development are available;
- (ii) A requirement to manage any areas of marketable timber under the "uneven age forest management" system;
- (iii) Maintaining the remaining area not planned or considered appropriate for recreational home development in permanent open space or in timber management;

- (iv) A minimum of one-half acre of site area shall be allowed per dwelling;
- (v) Roads within the cluster development shall meet county standards.

d. To emphasize the value of cluster development in or adjacent to resource lands, the county will encourage clustering on property under 20 acres in size within the Tollgate Highway Corridor except in big game migration corridors as explained in earlier policies.

C. Plan Map Recommendations

The Tollgate Citizens Advisory Committee recommends the Tollgate Highway Corridor be designated Mountain Recreation with recognition that recreational dwellings, some commercial uses and necessary utilities are to be allowed. Site specific locations and development standards are listed to allow recreational development in an orderly manner within the highway corridor. Also, special consideration of the limited but important timber resource and protection of scenic beauty are also covered within the policy statements.

III. Blalock - Lincton - Basket Mountain

A. Description

This area is south of Government Mountain Road and north of the Tollgate Corridor sub-area. Both the North and South Forks of the Walla Walla River flow through this region. The terrain is rugged with timber in the river and creek bottoms and on the north and west facing slopes. South and east facing slopes are often bare or lightly timbered and steep and used for seasonal grazing by livestock interests.

Examination of the timber productivity for this area shows it to be average or just below average. Some areas, by eastern Oregon standards, have good timber productivity according to generalized forestry and soils information. These better timber growing areas are said to be toward the Tollgate Highway and in some areas south of the Government Mt. Road.

The study area contains a large amount of critical deer and elk winter range according to the Department of Fish and Wildlife. Also, important sport fishery populations are found in the Walla Walla River forks, upper reaches of Couse Creek, Elbow Creek and in small streams within the National Forest east of this sub-area. Important watershed supplies are contained in the Blalock - Lincton - Basket Mountain sub-area. This water is used by farmers and orchardists along the forks and main stream of the Walla Walla River and in the Orchard district north and west of Milton-Freewater. Recognition of this important resource will be reflected in policies for its protection on private land and in working with the U. S. Forest Service to develop a Land Management Plan that considers the

very vital relationship of watershed protection and management on Forest Service Land and how this effort results in benefits to down stream users.

Recreation in the area includes fishing, hunting, hiking, some horseback riding and overnight camping. The county maintains a park along the South Fork of the Walla Walla. The name of the park is Harris Park and provides picnic and some overnight camping spots. Possible expansion of the park and staged improvements are being considered if money becomes available.

Lot sizes in this sub-area are rather large. Some land ownerships are as large as 10,000 acres. There are a few scattered parcels throughout the sub-area around 20-40 acres. There are several very small isolated pockets of land ownerships from one to five acres in size along the South Fork of the Walla Walla River.

B. Findings and Recommended Policies

1. Forest Goal (Findings)

*Same FOREST GOAL FINDINGS appropriate as those found on page 7.

2. Forest Goal (Recommended Policies)

*See all FOREST GOAL RECOMMENDED POLICIES on pages 7 and 8.

3. Gravel and Aggregate Resources Goal (Findings)

* See also all GRAVEL AND AGGREGATE FINDINGS on page 8.

4. Gravel and Aggregate Resources Goal (Recommended Policies)

*See all GRAVEL AND AGGREGATE POLICIES on pages 8 and 9.

5. Fish and Wildlife Goal (Findings)

*See also all FISH AND WILDLIFE FINDINGS on pages 9 and 10.

6. Fish and Wildlife Goal (Recommended Policies)

*See all of RECOMMENDED POLICIES on page 10; they are applicable here as well.

4. Recreational Goal (Findings)

a. Recreational uses such as campgrounds and hiking trails are desired by recreational users who have access to this sub-area.

b. There are several isolated but small areas of lots with parcel sizes of less than 20 acres. These lots could accommodate a few recreational cabins without major conflicts to adjacent resource lands. Appropriate development requirements could further assure compatibility.

7. Recreational Goal (Recommended Policies)

a. Make provisions in the Comprehensive Plan and appropriate implementing ordinances for the expansion or development of campgrounds and hiking trails. Such provisions shall include requirements to maintain the natural character of the area as much as is possible and be designed to be compatible with adjacent resource lands.

b. *See RECOMMENDED POLICY (c), page 11.

C. Plan Map Recommendation

Based upon the above report and findings, the committee recommends the following land use designation on the Plan Map for the Blalock-Linton-Basket Mt. sub-area:

"This sub-area be designated Forest/Grazing or similarly named designation

to recognize existing resource uses. Forest management, livestock grazing, or similar agricultural uses and certain utilities are to be allowed. Parcel size minimums and other standards in the recommended policies are suggested to help conserve these lands for resource uses. Some recreational cabins may be permitted only under certain circumstances and must follow appropriate procedures and development standards as outlined earlier."

IV. Reed - Hawley Mts. Sub-area

A. Description

The Reed - Hawley Mountain study area is the southern most region examined. It mostly consists of the lands south of the Tollgate Corridor area to about the Umatilla River. The Umatilla River is temporarily chosen as the southern boundary only because a more definite boundary could not be determined by the committee to separate this sub-area from the different land use activities to the south. The committee feels that this southern boundary could be re-adjusted when land owners, who have been attending Meacham area meetings and the planning commission better determine appropriate land uses along the Umatilla River.

The major land uses within the Reed - Hawley Mt. sub-area are livestock grazing and some timber management. What general information is available on the quality or quantity of these resource land uses indicates that both timber growing potential and grass sustaining capability is better in the northern part of the sub-area than along the south facing slopes of the Umatilla River.

This sub-area contains a significant amount of deer and elk winter range according to the Oregon Department of Fish and Wildlife. Protection of this habitat is considered in the recommended policy section.

Land ownership characteristics of this sub-area tend to be rather large. Sizes exceed 1,000 acres. There are a few scattered lots that are between 10 and 20 acres in size that were parceled many years ago.

Recreation in this area is mainly limited to hunting. Other

forms of recreation usually occurring throughout the Blue Mountains such as hiking, fishing, overnight camping and horseback riding are available or provided just to the south of this sub-area, along the Umatilla River. The area along the Umatilla River has better accessibility than the Reed - Hawley Mts. sub-area.

Lastly, coordination of further land use planning between several adjacent governmental agencies is an important aspect to consider for this sub-area. Forest Service Lands are to the east and south and as mentioned in other parts of this report close coordination with this federal agency is highly recommended. Also, the Umatilla Indian Reservation is west of this sub-area and is developing its own comprehensive land use plan and set of development codes. Communication with the Reservation should also be considered.

B. Findings and Recommended Policies

1. Forest Goal (Findings)

*All FOREST GOAL findings on page 7 apply here, as well.

2. Forest Goal (Recommended Policies)

a. *All FOREST GOAL RECOMMENDED POLICIES, except (d) on page 8, are also appropriate for this sub-unit.

b. Closer coordination and cooperation between the U.S. Forest Service, the Umatilla Indian Reservation, and Umatilla County shall be attempted, particularly as it relates to future use and management of all respective lands. County participation in the development of the Forest Service Land Management Plan and Comprehensive Plan proposals for lands within the Indian Reservation and the eventual use of these plans' policies shall be the starting point for this mutual cooperation and coordination.

3. Gravel and Aggregate Resources Goal (Findings)

*All GRAVEL AND AGGREGATE FINDINGS on page 8 are appropriate here.

4. Gravel and Aggregate Resources Goal (Recommended Policies)

*All GRAVEL AND AGGREGATE RECOMMENDED POLICIES on pages 8 and 9 apply here.

5. Fish and Wildlife Goal (Findings)

*All FISH AND WILDLIFE GOAL FINDINGS on pages 9 and 10 apply here also.

6. Fish and Wildlife Goal (Recommended Policies)

*All FISH AND WILDLIFE GOAL RECOMMENDED POLICIES on page 10 to be recommended here.

7. Recreational Goal (Findings)

*See RECREATIONAL GOAL FINDING (b) on page 10, which applies here also.

8. Recreational Goal (Recommended Policies)

*RECOMMENDED POLICY (c) on page 11 is appropriate here.

C. Plan Map Recommendations

The committee recommends the following land use designation on the Plan Map for the Reed - Hawley Mt. sub-area:

"This sub-area be designated Forest/Grazing or similar designation in recognition of existing resource uses. Forest management, livestock grazing or similar agricultural uses, and certain utilities will be allowed. Parcel size minimums and other standards in the recommended policies are suggested to help conserve these lands for resource uses. Some recreational cabins may be permitted only under certain circumstances and must follow appropriate procedures and development standards as outlined earlier."

BATTLE MOUNTAIN, HIDAWAY, LEHMAN & MEACHAM

SOUTH COUNTY MOUNTAIN

Comprehensive Land Use Recommendations

Prepared by

Robert Lazinka	-	Chairman - Rancher
Richard Hemphill	-	Farmer
Ronald Hoefft	-	Farmer
Ralph Hutchinson	-	Farmer
Robert Levy	-	Farmer
* Jerry McKague	-	Forester - Private
Lincoln Porter	-	Rancher
* Stanley Wallulis	-	Professional Engineer, Civil

* Former members of Umatilla County Planning Commission

July 30, 1982

MOUNTAIN LAND USE PLAN RECOMMENDATIONS

BATTLEMOUNTAIN, HIDAWAY, LEHMAN HOT SPRINGS AND MEACHAM AREA

ADVISORY COMMITTEE

I. FORMATION OF COMMITTEE

This Committee was appointed by John Brogoitti, Chairman of the Umatilla County Planning Commission. This Committee was charged with the responsibility of evaluating the State wide goals, and through this study arrive at the necessary trade-offs required within the goals to arrive at developmental guidelines consistent with the environs and needs of Umatilla County.

This Committee was authorized on 12/17/81 and held 5 meetings at the Community Center at Pilot Rock, Oregon. Comments from the general public and the County Planning Commission Members provided additional input to the Committee.

II. STUDY AREA

The areas considered by this Committee consists of all the mountainous timbered and grazing lands in Umatilla County South of the Umatilla River. Considerable attention was directed to the following areas which were deemed needed for development and hereafter referred to as MOUNTAIN RECREATIONAL AREAS.

- A. Battlemountain
- B. Hidaway
- C. Lehman
- D. Meacham

Maps for each of the above mentioned Mountain Recreational Areas are attached to this report and adopted by this reference.

III. MOUNTAIN RECREATIONAL LANDS

The Committee considered the trade-offs required between all the Statewide goals before arriving at specific boundaries for each of main sub-areas studied. It was the unanimous consensus of the Committee that the selected areas, recommended for the Mountain Recreation designation have substantially more positive attributes with development then negative ones.

All of the Mountain Recreation land recommended by this Committee contains all or most of the following desirable attributes:

- A. General access to the area is served by State Highways or Freeways.
- B. Specific access to each of the general areas is by existing County Roads.

- C. Existing recreational residential cabins, or small acreages exist in the general area.
- D. Areas either have or are near rural commercial establishments and Post Offices.
- E. Electrical power and telephone utilities are readily available.

IV. TYPES OF RECREATIONAL NEEDS IDENTIFIED

A. SITE OCCUPANCY

This Committee recognizes that there are a variety of needs to be provided in the planning process. Some of the particular needs discussed by this Committee were as follows:

1. Self contained trailers and campers. Sites for this type of use does not require either water, or sewage. Frequency of use is likely to be in the 1 in 7 to a 70 on the average. Land requirements for this type of use can be less than one-half an acre and still because of low useage not result in crowding.
2. Single family recreational residences. This Committee recognizes in most of the land recommended for Mountain Recreational designation that natural openings and meadows exist where such units can be constructed and have no impact on the forest.
3. Clustering of recreational residential dwellings. That in dense forest lands the clustering of recreational dwellings may be desirable. This Committee recognizes that up to three units may be served by a common water source without having to comply with myriad of rules, regulations, and reporting, as is required whenever more than three units are served by a common water source.

The Committee recommends that the County initiate steps with Oregon DEQ to permit up to 3 residential units to utilize one wastewater disposal facility in Mountain Recreation zones; site permitting. This would be similar to water regulations permitting 3 units per water source.

This Committee endorses the concept of zero lot lines (ownership to middle of common walls) or closely clustered individual recreational residences. The Committee is of the opinion because of promulgated rules and regulations on water supplies that three units will be probably the practical maximum number proposed by most developers of Mountain Recreation lands. This Committee doesn't however, wish to imply that more than three units in a cluster should be prohibited, and the only constraints being those

con't.....

a developer willingly imposes upon himself when he exceeds three units.

Our Committee recommends that clustered development be permitted on land densities of one-half acre per recreational residential unit.

4. Overnight parking of Recreational Vehicles. This type of use would probably be a commercial venture and normally service both self-contained and non self-contained types of campers, motor homes and trailers. Such useage accommodating both self-contained and non self-contained units shall require an adequate water supply system and wastewater system, complying with Oregon Statutes (DEQ, WRD, & DHR) and federal laws (EPA).

Recreational Vehicle parking can be provided at densities of 6 or more spaces per acre. Each individual proposed development should be evaluated on the constraints of the site and the market to which the developer is intending to address.

5. Overnight Camping and Picnicking. This type of use is envisioned to be similar to that of recreational vehicles above.
6. Institutional - Churches, Girl Scouts, Boy Scouts, etc.. This type of useage could encompass any or all of the previous described uses plus additional facilities such as kitchens, dining halls, recreational buildings, athletic activities, church structures, parking lots, etc..

The land area requirements for this type of useage is largely dependent upon the applicants specific need. This Committee is of the opinion that the Planning Commission must evaluate each such proposed use upon its merits.

7. Rural Commercial. With development of the Mountain Recreational lands expansion and or the providing of new or additional commercial activities is envisioned by the Committee.

Requests for additional land for rural commercial should be evaluated independently and preferably sited when possible along the more highly travelled and paved roads. The Committee is of the opinion that all present land utilized as rural commercial should be continued in that classification and additional land be provided to assure that a competitive free market condition exists.

In other areas where presently there are not any type of rural commercial activities, the Committee recognizes that this need should be provided for. The Committee is again of the opinion that the Planning Commission provide such flexibility in the Comprehensive Plan, and address this specific need at the time of requested development.

V. REGULATORY GUIDELINES

1. WATER SOURCE DEVELOPMENT

It is the recommendation of this Committee that the pertinent Oregon Revised Statutes and Oregon Administrative Rules, as administered by the State Water Resources Department and the Health Division of the Department of Human Resources, be adopted by reference, and all subsequent amendments. For multi-unit developments in excess of three recreational residential units, the federal laws (Safe Drinking Water Act) as administered by the U.S. Environmental Protection Agency be adopted, in addition to the above State Agencies by reference, and all subsequent amendments.

2. WASTEWATER FACILITIES AND STREAM PROTECTION

It is the recommendation of this Committee that the pertinent Oregon Revised Statutes and Oregon Administrative Rules, as administered by the Oregon Department of Environmental Quality, be adopted by reference, and all subsequent amendments.

For multi-unit developments in excess of three recreational residential units, the developer may be required, depending on the type of wastewater facilities proposed, to obtain approval from the U.S. Environmental Protection Agency and document compliance with the Federal Pollution Control Act of 1972 and Clean Water Act of 1977.

3. ROADS

It is the recommendation of the Committee that the County encourage, whenever practical, that developments rely on private road systems, rather than additional public roads. This will remove the burden of maintenance from the County.

Private roads can be maintained through a Homeowners association or the formation of a Local Improvement District as provided in the Oregon Revised Statutes.

It is the recommendation of this Committee that gravel roadways be permitted in mountain recreational areas, and further that the roadways and right-of-ways not be any wider than necessary to accommodate the anticipated traffic loads. Excessive right-of-ways may result in the unnecessary removal of timber and overwidth roadways would be a waste of natural and financial resources.

Paving of roadways increases and concentrates run-offs, and unnecessarily increases the ambient temperature of the environs.

VI. OTHER PLANNING CONSIDERATIONS

The members of this Committee being intimately familiar with the areas studied, are aware that within each area there is a broad diversity of topography, soil types, forest species and density, grazing lands, marshy lands, dry lands, perennial creeks and intermittent streams. The Committee is of the opinion that to attempt to address these physical attributes, and recommend specific development constraints for each individual parcel within each sub area is beyond the scope of this Committee, and may be unnecessarily at odds with an acceptable or more desirable plan that may be proposed by the landowner and/or developer. The general consensus of the Committee on some of the issues before it were as follows:

- A. Parcel sizes for individual recreational residences should vary from one-half acre for clustered developments in heavy timbered areas to 5.0 acres for residential units in lightly timbered areas where privacy and solitude is provided by space in lieu of trees. The Committee is of the opinion that cluster developments will reduce the amount of land taken for recreational residential developments only at the sacrificing of privacy and solitude offered by intermediate sized tracts (1.0 to 5.0 acres). The Committee is of the opinion that there should be sufficient flexibility in the adopted Comprehensive Plan to let the "market place" determine the relative merits of cluster developments versus individual recreational residential sites.
- B. That all new developments be reviewed in regards to fire prevention practices proposed by the developer. The Committee is of the opinion that this largely an educational process, and that properly presented to landowners and/or developers, that they will favorably respond to including one or more of the following practices in their protective covenants.
 1. The identification of buildable areas, firebreak areas, and controls imposed on the above areas, ie free of accumulation of debris, flammable materials, distance from flues, chimneys, screening, burning barrels, barbecues, etc..
 2. Electrical protection to water supply source, if pumping is required for fire protection.

3. Providing of fire fighting equipment for each residence within () with a common keyed lock. Equipment to include ladders, shovels, water buckets, rakes, and axes.
 4. On site water storage reservoirs of concrete or earth (ponds) for fighting of fires.
 5. Construction materials and types, ie fire resistant.
- C. Forest Management Planning. It was the consensus of the Committee that whenever practical a sound forest management plan should be incorporated into new developments by the landowner and/or developer. A minimum of educational effort should be adequate to induce a new residential recreational development to include an uneven age forest management plan. Some of the obvious benefits of adopting such a plan are:
1. Harvesting of timber at approximately 20 year cycles minimizing nuisances. Harvesting could be accomplished during winter months avoiding problems of dust from logging activities and hauling.
 2. By maintaining a healthy stand minimize the probability of run-a-we diseases and infestations recently experienced in our forest lands.
 3. Provide a modest source of revenue every 20 years.
 4. Eliminate or minimize the chance of "danger trees" placing life and property at risk.
 5. Perpetually preserve the forest appearance, tree canopy for moderating temperature, and habitat for game.

The Committee recognizes that in most cases, the cost of a forest management plan cannot be justified on the basis of pure economics, whereas it may be on the basis of aesthetics and the aforementioned statements.

Agency edicts as to what is forest lands, should be evaluated solely on the basis of income versus investment as any other commercial endeavor. Forested lands that cannot demonstrate economic viability in timber production alone, should be properly reclassified as forest/grazing land or grazing/forested lands.

It is the consensus that any grazing land taken away from cattle will probably be converted to game animals and enhance the naturalistic environs around mountain recreational developments.

con't.....

- D. It was the consensus of our Committee that the landowner and/or developer not be required to expend monies for proof of wastewater disposal or availability of water prior to a commitment to approve a Plan or Plat. State regulations are believed to provide adequate safeguards in this regard.
- E. Acreage Computations/Definitions. It is the recommendation of the Committee that all road rights-of-way; public and private easements; common areas; etc. should be included in all acreage density computations and credited to the parcel or parcels as appropriate.
- F. Diversity in Developments. The Committee recognizes that the mountainous areas provides the populace of the County with recreational possibilities, that when properly developed, can be harmonious with the natural environment; provide a summer retreat from oppressive summer heat; offer recreational opportunities for hiking, hunting, fishing, snow mobiling, trails for all seasons of the year; and solitude for the mental well being and benefit of the County's citizens and guests.

It is the recommendation of this Committee that the County adopt regulations flexible enough, that the enjoyment of the recreational opportunities of the mountainous land will not be limited to large land owners, the wealthy and the above average wage income earner. To accomplish these goals, and permit the maximum of enjoyment to be achieved, will mean that different types of developments designed for different markets of individual ownerships must be provided for.

- G. Amenities Provided. Landowners or developers proposing extensive amenities such as ponds, lakes, trails, on-site recreational facilities, club-houses, common areas, etc. should be provided a great deal of flexibility in planning their areas. Such developments normally involve high capitalization, intensive use of land, and enhance the environs without detrimental effects on natural settings.
- H. Nineteen Acre Zoning. It was the consensus of the Committee that the present general use of 19.0 acre minimum zoning in forest lands and farm lands has been workable, provided a minimum of conflicts; and the continuance of the 19.0 acre zoning in lands presently designated farm and forest lands is recommended.

The Committee recognizes that for some individuals, so inclined, they could produce most of their produce, meat and milk on tracts sized as small as 5.0 acres. This was evident during World War II when approximately 40% of the nations produce came from "Victory Gardens" and approximately the same percentage of produce, meat, and milk is raised on one-acre farm peasant plots in Russia.

The Committee also recognized that there may be occasions when less than 19.0 acre zoning may be desired. The specific type cases that should be considered for 1.0 acre zoning were as follows:

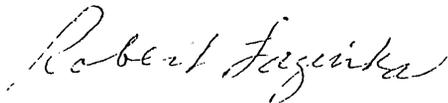
1. Sale by widow or widower of family farm or ranch with the exclusion of the family home.
 2. For financing of a new farm or ranch home, or remodeling of same. A segregation for such a purpose should not unduly encumber any of the balance of the farm or ranch.
 3. The siting of a second home within any zone for the specific purpose of caring for an aged or infirmed person on an existing parcel.
- I. Periodic Review. This Committee is appreciative of the opportunity it has had to provide input to the County Planning Commission.

This Committee recommends that a similar Citizens Committee be formed in the future whenever there is an update of the Comprehensive Plan or five years, whichever occurs first.

This Committee is prepared to respond to any inquiries of the Planning Commission, provide additional information, or consider review of any the recommendations contained in this report.

- J. Tollgate-East County Mountain Plan. This Committee is appreciative of the prior efforts and utilization of the report prepared by the Tollgate Mountain Citizens Advisory Committee. Their report was studied and most helpful to this Committee in the preparation of our report.
- K. Other Committee Support. Our Committee is appreciative of the technical assistance provided by the County Planning Staff and input received from the County Planning Commissioners who attended our meetings.

Respectfully submitted,

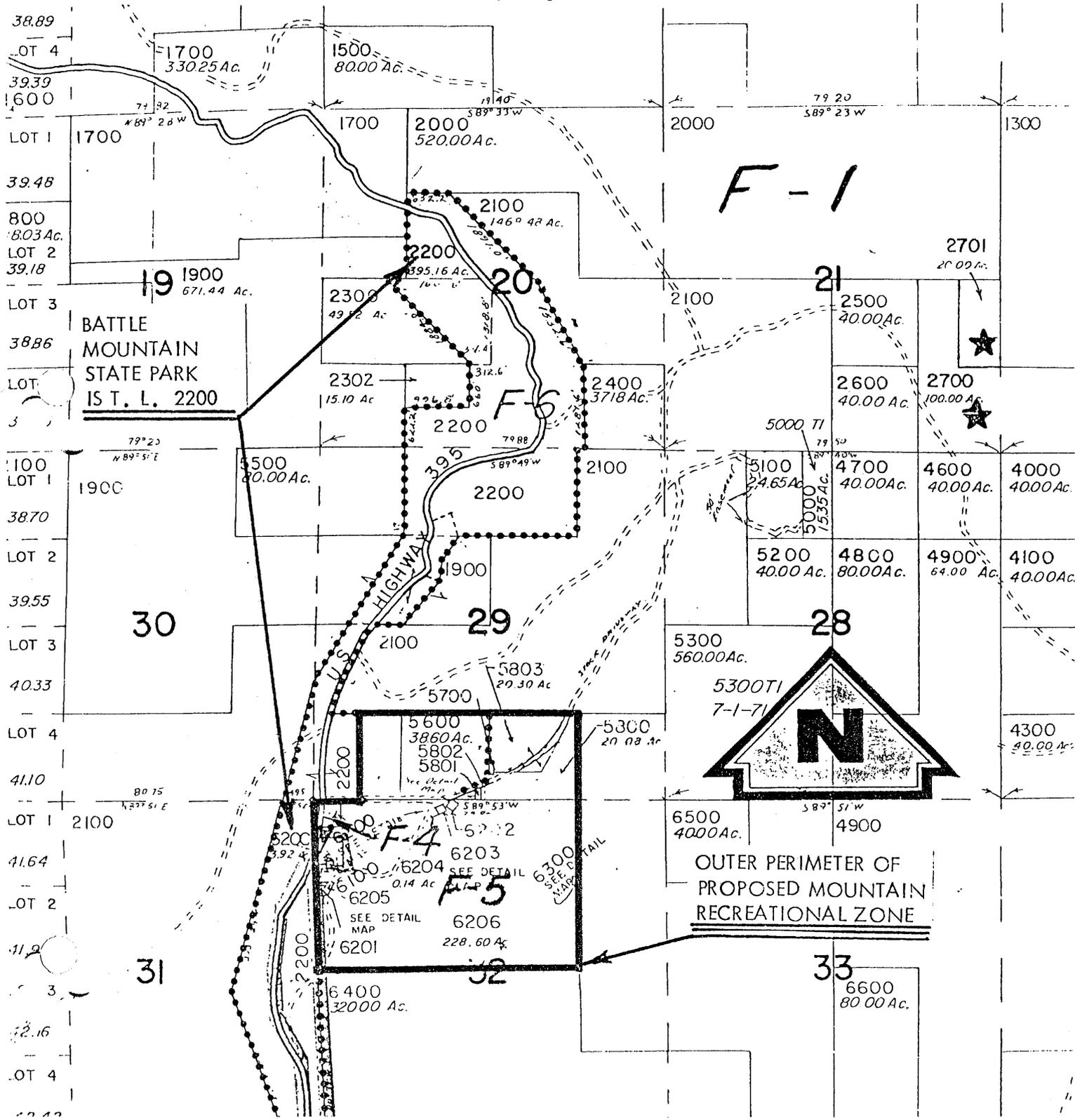


Chairman, Robert Lazinka

BATTLE MOUNTAIN

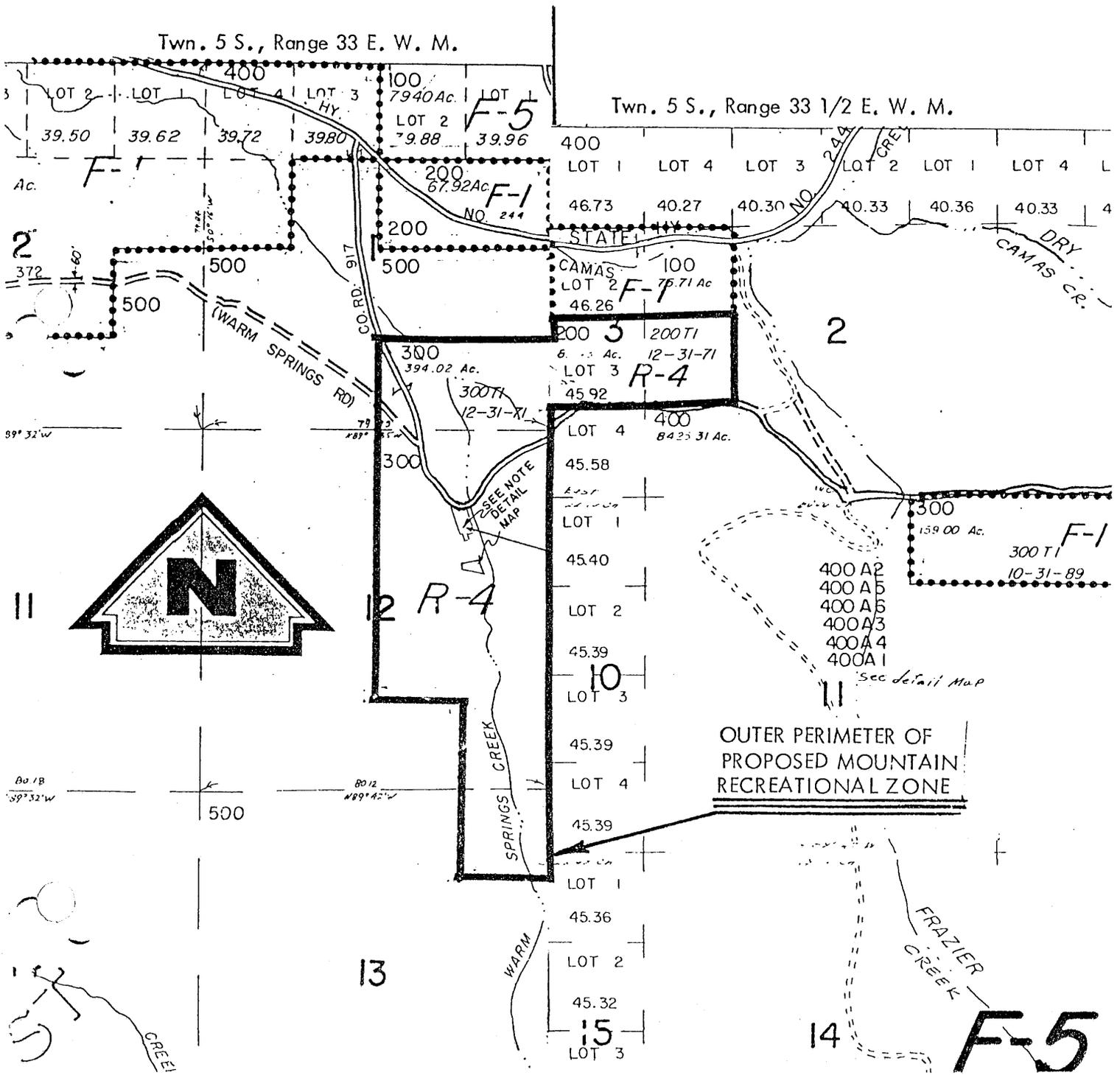
Scale 1" = 2,000'

Twn. 3 S., Range 33 E. W. M.



LEHMAN SPRINGS

Scale 1" = 2,000'



9-23-82

TOLLGATE - EAST COUNTY MOUNTAIN
Comprehensive Land Use Plan
Recommendations

Prepared by
Tollgate Mountain Citizens Advisory Committee

Bob Klicker, Chairman
Leona Shumway
Lowell Eiffert
Dean Knudson
Bud Shubert
Richard Mathison

ACKNOWLEDGEMENTS

The following agencies, private citizens and interest groups have provided the Tollgate Citizens Advisory Committee with valuable information and much appreciated assistance. We wish to thank each one by setting aside this special acknowledgement section in recognition of our appreciation.

STATE AGENCIES

Department of Environmental Quality
Ken Birkbeck

Department of Fish and Wildlife
Michael Black

State Department of Forestry
Jeff Schwanke

State Highway Department
George Strawn

PRIVATE GROUPS AND CITIZENS

East End Rod & Gun Club

Wes Slaughter, Private Timber Management Consultant

All those property owners who filled out the Land Use Questionnaire

FEDERAL AGENCIES

Umatilla National Forest
Ed Cole

OTHER

Uamtilla Electric Cooperative Association
Bill Kopacz

Harris Pine Mills
Charles Fry

Boise Cascade
Stan Wilde

B. Findings and Recommended Policies

1. Forest Goal (Findings)

a. The Mill Creek and vicinity sub-area has important resource uses one of which is timber management. Conservation of forest lands for forest uses (e.g. summer grazing) is an important goal.

b. The Tollgate Citizen's Advisory Committee recognizes the importance of proper timber management and the need to follow appropriate state management laws such as the Oregon Forest Practices Act.

c. Even in areas where smaller recreational lots occur, economical and practical timber management is still possible according to Wes Slaughter, a timber management consultant. One such management technique is called "uneven age timber management" and allows effective small lot forest management also considered important by the committee.

d. The U. S. Forest Service is now in the process of developing a Land Management Plan for the Umatilla National Forest. The decisions and actions of this agency have, and will continue to have, major effects on the economic, social and natural environment of this sub-area and the total county.

2. Forest Goal (Recommended Policies)

a. To help protect forest lands for forest and other resource uses, a forest/grazing or similarly named zone shall be established and shall allow compatible resource uses.

b. Because 20 acres is a more reasonable and economic management unit and better protects fish and wildlife resources than the existing 5 acre minimum, the new minimum parcel size for

identified forest/grazing resource areas shall be 20 acres.

c. Forest management in this sub-area as well as the other resource areas studied by the Tollgate Citizen's Advisory Committee shall be governed by the Oregon State Forest Practices Act; however, if a new recreation dwelling is allowed on an existing tax lot under 20 acres that has growing stands of timber, the "uneven age timber management" system will be a recommendation for development approval.
(See also Recreational Goal)

d. Better coordination and cooperation between the U. S. Forest Service and Umatilla County shall be attempted, particularly as it relates to use of Forest Service lands east of this sub-area. County participation in the development of the Forest Service Land Management Plan for this area and the eventual use of the Land Management Plan policies shall be the starting point for this mutual coordination and cooperation.

3. Gravel and Aggregate Resources Goal (Findings)

a. Existing and proposed gravel pit operations in the area do now and will provide important construction materials for on-site improvements such as road surfacing and repair, building construction, and rip-rapping stream banks to protect against erosion and flooding.

b. Local gravel extraction is recognized as having the advantage of lower costs involved with using nearby materials.

4. Gravel and Aggregate Resources Goal (Recommended Policies)

a. Extraction of aggregate resources from new source sites whether for commercial or non-commercial purposes shall be allowed in the Mill Creek and vicinity sub-area, but subject to Conditional Use procedures and standards in the zoning

ordinance. The intent of this policy is not to make it too difficult for private land owners who wish to use the aggregate material for non-commercial purposes, but to protect surrounding land uses from excessive noise, dust, erosion and other potential hazards.

b. If an existing aggregate site is to be reopened which proposes to use blasting and other gravel removal or processing methods, (eg. rock crushing, asphalt batch plants) such new operation shall be classified as a conditional use and subject to regulations in the zoning ordinance.

c. Re-opening of existing gravel pits where pit run rock is to be removed for non-commercial uses and where there will be no use of processing equipment (eg. rock crushers), may be reopened without obtaining a county zoning permit. This policy will especially apply to private landowners who wish to use the gravel for on-site improvements or non-commercial purposes.

d. It has come to the attention of the advisory committee that the County Road Department is proposing a surface mining ordinance. If the proposed ordinance is adopted, it is recommended that this ordinance be referenced to or incorporated as part of the County Zoning Ordinance.

5. Fish and Wildlife Goal (Findings)

a. A concern of the Committee in this sub-area is the protection of fish and wildlife habitat.

b. The Mill Creek and vicinity sub-area has significant big game populations which use the habitat for both summer and winter range.

c. Some streams here provide important sports fishery habitat.

6. Fish and Wildlife Goal (Recommended Policies)

a. To protect fish and wildlife habitat in this sub-area, (except the Mill Creek basin which is designated Mountain/Residential) the county shall adopt the Forest/Grazing or similar zone allowing compatible land uses with fish and wildlife and a recommended parcel size minimum of 20 acres.

b. The "uneven age timber management" system will be a recommendation for all new recreational dwellings approved by the County on lots smaller than 20 acres to assure needed land cover retention for fish and wildlife habitat on the site and help assure compatibility of adjacent habitat areas.

7. Recreational Goal (Findings)

a. The Mill Creek basin has mostly developed into a recreational dwelling area and the small remaining portion should be allowed to develop into similar uses. Power, water, electricity and good access help support further recreational development here.

b. There are several small, isolated areas around Saddle Mt., Big Meadows, Henry Canyon and in other remote locations where parcel sizes are less than 20 acres. These lots could accommodate a few recreational cabins without major conflicts to adjacent resource lands. Appropriate development requirements and public hearing review approval could further assure compatibility.

8. Recreational Goal (Recommended Policies)

a. The Mill Creek basin, shown on map _____ as approximately $\frac{1}{2}$ mile on either side of Mill Creek shall be designated for recreational home development. Density of new development shall be at 5 acre minimums and any future land split proposal shall be required to follow appropriate requirements in the Mountain Subdivision Worksheet and, if applicable, to encourage management of any timber on the new parcel according to the "uneven age timber management" system.

b. Lots legally existing at the time of this plans' adoption and within the Mill Creek basin shall continue to be legal lots for recreational dwelling development. New recreational lot owners will be encouraged to complete and follow suggestions in the Mountain Subdivision Worksheet that apply to their property.

c. Parcels of 20 acres or less outside the Mill Creek Basin area shall be allowed to have a recreational dwelling with the following additional requirements:

- (i) A Conditional Use Permit be applied for and approved by the county;
- (ii) The applicant shall address and be encouraged to follow applicable requirements in the Mountain Subdivision worksheet; (See appendix)
- (iii) The owner be encouraged to manage any timber on the new parcel as recommended in the "uneven age timber management" system.

C. Plan Map Recommendations

Based upon the above report and findings, the committee recommends the following land use designations on the Plan Map for the Mill Creek and vicinity sub-area:

1. The Mill Creek basin area be designated Mountain Recreation with the allowance of recreational dwellings. Development standards as mentioned in the recommended policy section are attached to permit orderly development of the small remaining areas and to help protect adjacent resource lands.
2. Areas within the sub-area but outside the Mill Creek Basin are recommended to be called Forest/Grazing or a similarly-named land designation in recognition of the existing resource uses. Livestock grazing or similar agricultural uses, forest management, and certain utilities are to be allowed. Parcel size minimums and other standards in the recommended policies are suggested to help conserve these lands for resource uses. Some recreational cabins may be permitted only in certain areas and with development standards as outlined earlier.

II. Tollgate Corridor

A. Description

The Tollgate Highway Corridor is the most extensively developed recreation area in Umatilla County. A description of the area follows:

The west border of the corridor starts at the Umatilla Electric Cooperative substation. A more accurate description of this boundary is the center section line of Section 25, Township 4N, Range 36. Based upon local property owner knowledge, the permanent snow line begins at this point. Development east and increasing in elevation up the mountain they say is of a recreational nature, being seasonal and related to the scenic values of the area. Below the snow line, dwellings are mostly related to grazing, agricultural uses and non-farm, rural residential and tend to be year-around residences.

The east boundary of the Tollgate Corridor extends to the Union County line. Recreational home site development ends at about Langdon Lake because beyond this point for about two miles is U. S. Forest Service property where land uses are controlled by the Federal government. Close cooperation with this agency is seen to be important by the committee to help resolve some existing land use problems (eg. off highway parking) and to coordinate planning efforts especially involving potential land swaps or sales between private land owners and the Forest Service.

The north and south borders of the corridor are boundary lines approximately $\frac{1}{2}$ mile from both sides of the highway right-of-way. This distance approximately represents the existing and rather large area of recreational home and lot development on Tollgate Mountain.

Land uses within the Tollgate Corridor are largely recreation-related. Along with recreational cabins, some mobile homes and vacation trailers, there are several commercial uses related to the large number of recreational users needing supplies. Existing commercial facilities appear to be adequate, especially in view of the Spout Springs facilities only four or five miles east, which include skiing facilities and a lodge with restaurant and some overnight accommodations.

Lot sized associated with these recreational uses vary in size from less than $\frac{1}{4}$ acre to over 100 acres. The smaller lots are due to previously approved recreational subdivisions and land divisions allowed under zoning regulations since 1972. The larger lots are properties partially developed or surrounded by or adjacent to these smaller, more intensively developed recreational properties.

There are some recognized problems with existing and future uses within the Tollgate Corridor. Off-highway parking is a problem during the winter along with trespass and associated damage to private property. Related to this are citizen concerns of maintaining and protecting the scenic and environmental values of the area while still allowing additional recreational development. Lastly, maintaining access during the winter is a problem especially along the main highway (State Highway 204). State highway crews using snow blowing equipment often have a difficult time of properly removing snow off the highway because they have to avoid blowing it in areas where cabins or other improvements are located adjacent to the highway. Encouraging the leaving of vegetation along the highway will help stop snow thrown by snow blowing equipment from damaging existing dwellings and buildings.

Policies and development requirements including a separate section on the Cluster Development concept are recommended for future recreational uses to help solve some of these land use problems and still help protect scenic values and natural resources.

This sub-area does have big game populations of deer and elk. Nearly all of this sub-area is outside of elk or deer winter range but several migration corridors cross the area. Identification of, and specific development recommendations for these migration corridors are proposed to help assist continued movement of big game between summer and winter ranges. Vegetation should be kept in these corridor crossings to protect the game.

A lot of the corridor area does have, by eastern Oregon standards, moderate to high timber productivity; but much of the corridor is developed into recreational homes on small non-economical lots for timber management. However, small wood lot management is recognized to be practical here and can be important to the overall county timber harvest inventories. Special development policies are recommended to help achieve this important task.

Property owners and committee members also recognize the importance of protecting several historic monuments. These monuments are listed in the findings section and several policies are suggested to protect and preserve them for future generations.

As part of planning for future maintenance of roads and Highway 204, existing and proposed gravel extraction uses are recognized as an important land use activity. Allowance of these uses are provided for and have suggested guidelines to make sure they and land uses surrounding them can exist in harmony.

B. Findings and Recommended Policies

1. Citizen Involvement (Findings)

a. The Tollgate Citizen's Advisory Committee feels a special citizen's involvement committee for the Tollgate Corridor area should be formed at the times of the update to review the adopted plan and to identify new issues of concern that need resolving.

b. An advantage of a Tollgate Corridor and special citizen's advisory committee is that local citizens and land owners will have the opportunity to provide valuable and timely information at the time of plan updating or, when a special need arises that requires a major revision to the comprehensive plan that effects the Corridor area before plan updating is scheduled.

2. Citizen Involvement (Recommended Policies)

a. At the time of plan update, a special citizen's committee for the Tollgate Corridor area shall be formed.

The make-up of the committee shall be broadly representative of the Corridor area and its interests and have a membership entirely of private citizens.

b. Tollgate Corridor area committee members shall be appointed by the Umatilla County Planning Commission.

c. The plan update process shall occur at least every five years or when special conditions or circumstances require an earlier review time. In either case, a new Tollgate Corridor Citizen's committee will be formed to assist in the revisions process.

3. Forest Goal (Findings)

a. The Tollgate Citizen Advisory Committee's questionnaire shows that area land owners recognize the importance of proper timber management and the need to follow appropriate state management laws such as the Oregon Forest Practices Act ORS. Chapter 527 ; yet there is strong disapproval of clearcutting which tends to ruin scenic and recreational values for which the Tollgate Highway Corridor area is known and used.

b. Based upon information received from Wes Slaughter, a timber management consultant, economic and practical timber management is still possible along the Tollgate Highway Corridor despite the many existing small lots and extensive recreational development. (eg. cabins, recreational subdivisions and support commercial uses) One such forest management technique appropriate for the Tollgate Corridor area is called "uneven age timber management". (See Appendix for further explanation of this management system.) This technique retains vegetation and tree cover necessary for recreational values and allows effective woodlot management on small acreages.

c. It is recognized that some existing development is rather dense along the Tollgate Highway, and that continuation of the same pattern will not necessarily be in the best interests of the area's recreational values nor allow effective harvesting or managing of the timber resource which is still possible as just discussed.

d. After discussion with the above mentioned local timber management consultant, it was determined that a five acre

minimum lot size with a requirement to use the "uneven age timber management" system would allow additional recreational development and still provide a satisfactory way to grow and harvest existing timber resources within the corridor and better protect adjacent timber/grazing land uses adjacent to the Corridor.

4. Forest Goal (Recommended Policy)

- a. Forest management in Umatilla County shall be governed by the Oregon State Forest Practices Act, so as to assure continued timber productivity; however, in the Tollgate Highway Corridor forest practices such as "uneven age timber management" techniques that increase timber productivity and still protect scenic and recreational values and fish and wildlife habitat shall be required when any new lot split (land partition) is approved.
- b. To insure that new recreational land owners who wish to have a dwelling in the Corridor are aware of the potential for small lot timber management, they are encouraged to complete and follow the suggestions in the Mountain Subdivision Worksheet at the time of zoning application approval for a recreational dwelling.
- c. Compatible use zones and lot sizes that help protect water, timber, grazing, scenic and recreational values, and fish and wildlife of the Corridor area shall be established. To achieve this policy the Tollgate committee recommends a five (5) acre minimum lot size for new recreational lot splits within the Corridor and a twenty (20) acre minimum parcel

size for proposed land divisions outside the Tollgate Corridor on timber/grazing resource lands.

5. Historical Goal (Findings)

a. Four monuments of historic value have been identified by the Tollgate Citizen's Advisory Committee as worthy of preservation consideration.

Three of these monuments are called the Olinger Monuments. They are located on private property and are encouraged to be preserved and protected.

b. The other monument is located just west of Langdon Lake on State Highway Division Land.

6. Historical Goal (Recommended Policies)

a. As a part of any development review, the County shall require appropriate measures to protect the identified Olinger Monuments or any other historic sites or buildings in the Tollgate Corridor that might be later identified and included for preservation or protection.

b. Protection measures shall include setbacks and other non-disturbance methods to be included in the Zoning and Sub-division Ordinances. Property owners shall also be encouraged to preserve these sites through tax or other incentive programs. Preservation and protection may also include the possible eventual purchase of the Olinger Monuments by the county for relocation to an accessible view point.

7. Gravel and Aggregate Resources Goal (Findings)

*See GRAVEL AND AGGREGATE FINDINGS on page 8. They are applicable here also.

8. Gravel and Aggregate Resources Goal (Recommended Policies)
*See GRAVEL AND AGGREGATE RECOMMENDED POLICIES on pages 8 and 9. They apply here as well.

9. Fish and Wildlife Goal (Findings)

a. A major concern of property owners in the Tollgate Corridor area is the protection of wildlife habitat and to stop further disturbance of these migration routes of big game.

b. The Corridor area has significant big game populations which use the habitat for summer range and as a migration area between winter ranges in the Walla Walla and Umatilla River basins.

c. The Tollgate Citizen's Committee identified five important big game crossings along the Tollgate Highway and they have been located on map_____.

d. Working with a State Fish and Wildlife employee, it was agreed to identify an area or game corridor somewhat larger than the actual game crossing whereby certain restrictions and requirements should be placed upon proposed development within this area to help the continued movement of big game across the highway to area summer and winter ranges.

10. Fish and Wildlife (Recommended Policies)

a. To protect the five identified big game migration trails in the Tollgate Corridor area, the following regulations will be imposed:

- (i) A ten acre minimum lot size for recreational uses shall be imposed within an identified big game

protection corridor;

(ii) The location of the ten acre minimum requirement shall be defined as a big game migration corridor one-half mile wide and is to extend all the way to whatever corridor is settled upon.

(iii) No commercial uses shall be allowed within an identified big game corridor area;

(iv) The "uneven age timber management" system will be required for any parcel division within the migration protection area to help maintain needed vegetation cover;

(v) A one hundred foot setback requirement starting from the Highway 204 right-of-way shall be placed upon any proposed buildings or dwellings in these protection areas;

(vi) No clustering of development is recommended within a big game migration corridor.

11. Recreational Goal Findings)

a. More off-highway parking is needed along Highway 204 in the winter months and the location of these facilities is important not only to provide the most convenience for the recreational users but also to reduce additional opportunities of an already increasing trespass problem on private property.

b. Umatilla County should encourage the location of new off-highway parking along Highway 204 on Umatilla National Forest

Service Land east of Langdon Lake to the Union County line. Off-highway parking located in this area will provide a needed service and reduce the potential problem of trespass on private property.

c. There are three existing commercial areas serving the Tollgate recreational area; (1) The Tollgate Chalet, (2) Tamarack Inn, (3) Tollgate Shopping Center. Citizen comments indicate that no new commercial areas are necessarily needed or desired along the Tollgate Highway Corridor at present and that if new commercial uses are proposed, they should be expansions of existing commercial centers and allowed under special conditions or requirements.

d. Additional picnic and day use facilities and travel trailer parks are needed by recreational users along the Tollgate Highway Corridor. These uses are more appropriate on Forest Service property or under special conditions within or expansions of the three existing commercial areas listed in the above finding.

e. Specific commercially related recreational uses not recommended for the Tollgate Corridor area are Dude Ranches and Resorts. Land owner, and committee comments indicate that such uses if allowed would create unacceptable trespass problems.

f. Another major concern of area property owners is the retention of existing scenic views, recreational values and the protection of environmental quality (eg. water, soil, air). Specifically, protection of natural vegetation and the prevention

of buildings too close to the highway right-of-way is desired not only to keep scenic values but to also allow the State Highway Department to remove snow off the highway without interference from or damage to private dwellings. Commercial building setbacks should be treated differently than dwellings because siting requirements and off-highway parking result in other kinds of preparation and maintenance practices. For example parking lots near the highway are cleared of snow by the owners thus highway crews do not blow snow off the highway into these parking areas.

g. Committee members see a need for additional recreational development but at this time feel such development should be accomplished in an orderly and efficient manner. As an approach to achieve this goal, such measures as density controls, development standards, and limiting the area to be developed for such uses are suggested to hopefully allow orderly recreational development along with orderly economic expansion of utility services and roads.

12. Recreational Goal (Recommended Policies)

a. Better coordination and cooperation efforts between the U. S. Forest Service and Umatilla County shall be made, particularly as it relates to the use of Forest Service lands east of Langdon Lake.

b. Maximizing the use of economic and personnel resources to help construct needed off-highway parking and other recreational uses on Federal Forest Service land described in the findings, the County shall seek and coordinate inter-governmental, public, and private group cooperation and participation.

c. Day use and travel trailer park facilities shall be encouraged to locate on Federal Forest Service land and shall be permitted as conditional uses in existing adjacent commercial areas subject to the same criteria as required for commercial recreational uses found in the following policy.

d. New commercial uses recommended by the committee as needed in the Tollgate area to serve recreationists will only be allowed adjacent to one of the three existing commercial centers. These new uses shall be permitted as conditional uses upon showing that the land where the new use is proposed has no significant commercial timber potential, is not within a big game migration corridor as identified on the plan map, and that the use will be sufficiently buffered so that it will not adversely affect or conflict with adjacent land uses. Buffering measures for new commercial proposals shall include the requirement of a 60' setback requirement from the Highway 204 right-of-way.

Expansions or additions to present commercial buildings shall be required to meet special regulations relating to pre-existing uses.

e. New recreational dwellings and their accessory structures that are proposed to be built along Highway 204, shall be subject to a one hundred foot setback regulation. The setback shall be measured starting from the highway right-of-way line. Keeping or retaining existing vegetation cover within this one hundred foot setback area is also required.

f. To achieve orderly and compatible development, future recreational proposals shall be limited to an approximate

one-half mile corridor along each side of Highway 204 starting at the right-of-way line. The west boundary shall start at the Umatilla Electrical Cooperative Substation and shall end at the Union County line. Density of new development shall be at a minimum of five acres and above. (See also Cluster Development Section)

9. Parcels legally existing at the time of this plans' adoption and within the Tollgate Highway Corridor shall continue to be legal lots for recreational dwelling development and are encouraged to complete and follow applicable suggestions in the Mountain Subdivision Worksheet.

13. Cluster Development Concept (Additional Recreational Development Considerations)

a. Clustering development in a group and leaving the remaining in permanent open space can have advantages over conventional subdivision lots in certain circumstances. For example, areas of scenic beauty, good timber growing areas, important fish and wildlife habitat can be saved and the remaining area used for recreational development after consideration of those physical and other characteristics of the site.

b. The cluster development concept can save the developer significant savings because of the reduced length requirements for roads, utilities and the corresponding lower construction costs. Public cost to serve cluster developments are also usually lower.

c. It is recognized that some properties may not be appropriate for clustering. These properties include lots where

parcel sizes or existing land uses will not meet recommended cluster development standards or be compatible with or appropriate for this type of development. Clustering of development will be preferred over other methods.

14. Cluster Development (Recommended Policies)

a. Any proposed recreational development on existing parcels of 20 acres and larger or future divisions of property in excess of 20 acres that take place within the Tollgate Highway Corridor shall be allowed only under the regulation provisions of cluster developments. The only exception to this policy is if the applicant can show to the county's satisfaction that another development method will better preserve the scenic beauty and natural resources of the site and those upon adjacent lands or if the development is within one of the big game migration corridors where clustering is not recommended.

zone and shall

b. Cluster developments shall have a five acre density minimum as allowed in a Mountain Residential or similarly named be processed and reviewed similar to a subdivision or partition under regulations found in the subdivision ordinance.

c. Criteria used to approve a cluster development shall include but not be limited to:

- (i) Adequate water supplies to serve the development are available;
- (ii) A requirement to manage any areas of marketable timber under the "uneven age forest management" system;
- (iii) Maintaining the remaining area not planned or considered appropriate for recreational home development in permanent open space or in timber management;

(iv) A minimum of one-half acre of site area shall be allowed per dwelling;

(v) Roads within the cluster development shall meet county standards.

d. To emphasize the value of cluster development in or adjacent to resource lands, the county will encourage clustering on property under 20 acres in size within the Tollgate Highway Corridor except in big game migration corridors as explained in earlier policies.

C. Plan Map Recommendations

The Tollgate Citizens Advisory Committee recommends the Tollgate Highway Corridor be designated Mountain Recreation with recognition that recreational dwellings, some commercial uses and necessary utilities are to be allowed. Site specific locations and development standards are listed to allow recreational development in an orderly manner within the highway corridor. Also, special consideration of the limited but important timber resource and protection of scenic beauty are also covered within the policy statements.

III. Blalock - Lincton - Basket Mountain

A. Description

This area is south of Government Mountain Road and north of the Tollgate Corridor sub-area. Both the North and South Forks of the Walla Walla River flow through this region. The terrain is rugged with timber in the river and creek bottoms and on the north and west facing slopes. South and east facing slopes are often bare or lightly timbered and steep and used for seasonal grazing by livestock interests.

Examination of the timber productivity for this area shows it to be average or just below average. Some areas, by eastern Oregon standards, have good timber productivity according to generalized forestry and soils information. These better timber growing areas are said to be toward the Tollgate Highway and in some areas south of the Government Mt. Road.

The study area contains a large amount of critical deer and elk winter range according to the Department of Fish and Wildlife. Also, important sport fishery populations are found in the Walla Walla River forks, upper reaches of Couse Creek, Elbow Creek and in small streams within the National Forest east of this sub-area. Important watershed supplies are contained in the Blalock - Lincton - Basket Mountain sub-area. This water is used by farmers and orchardists along the forks and main stream of the Walla Walla River and in the Orchard district north and west of Milton-Freewater. Recognition of this important resource will be reflected in policies for its protection on private land and in working with the U. S. Forest Service to develop a Land Management Plan that considers the

9-23-82

very vital relationship of watershed protection and management on Forest Service Land and how this effort results in benefits to down stream users.

Recreation in the area includes fishing, hunting, hiking, some horseback riding and overnight camping. The county maintains a park along the South Fork of the Walla Walla. The name of the park is Harris Park and provides picnic and some overnight camping spots. Possible expansion of the park and staged improvements are being considered if money becomes available.

Lot sizes in this sub-area are rather large. Some land ownerships are as large as 10,000 acres. There are a few scattered parcels throughout the sub-area around 20-40 acres. There are several very small isolated pockets of land ownerships from one to five acres in size along the South Fork of the Walla Walla River.

B. Findings and Recommended Policies

1. Forest Goal (Findings)

*Same FOREST GOAL FINDINGS appropriate as those found on page 7.

2. Forest Goal (Recommended Policies)

*See all FOREST GOAL RECOMMENDED POLICIES on pages 7 and 8.

3. Gravel and Aggregate Resources Goal (Findings)

* See also all GRAVEL AND AGGREGATE FINDINGS on page 8.

4. Gravel and Aggregate Resources Goal (Recommended Policies)

*See all GRAVEL AND AGGREGATE POLICIES on pages 8 and 9.

5. Fish and Wildlife Goal (Findings)

*See also all FISH AND WILDLIFE FINDINGS on pages 9 and 10.

6. Fish and Wildlife Goal (Recommended Policies)

*See all of RECOMMENDED POLICIES on page 10; they are applicable here as well.

4. Recreational Goal (Findings)

a. Recreational uses such as campgrounds and hiking trails are desired by recreational users who have access to this sub-area.

b. There are several isolated but small areas of lots with parcel sizes of less than 20 acres. These lots could accommodate a few recreational cabins without major conflicts to adjacent resource lands. Appropriate development requirements could further assure compatibility.

7. Recreational Goal (Recommended Policies)

a. Make provisions in the Comprehensive Plan and appropriate implementing ordinances for the expansion or development of campgrounds and hiking trails. Such provisions shall include requirements to maintain the natural character of the area as much as is possible and be designed to be compatible with adjacent resource lands.

b. *See RECOMMENDED POLICY (c), page 11.

C. Plan Map Recommendation

Based upon the above report and findings, the committee recommends the following land use designation on the Plan Map for the Blalock-Linton-Basket Mt. sub-area:

"This sub-area be designated Forest/Grazing or similarly named designation

9-23-82

to recognize existing resource uses. Forest management, livestock grazing, or similar agricultural uses and certain utilities are to be allowed. Parcel size minimums and other standards in the recommended policies are suggested to help conserve these lands for resource uses. Some recreational cabins may be permitted only under certain circumstances and must follow appropriate procedures and development standards as outlined earlier."

IV. Reed - Hawley Mts. Sub-area

A. Description

The Reed - Hawley Mountain study area is the southern most region examined. It mostly consists of the lands south of the Tollgate Corridor area to about the Umatilla River. The Umatilla River is temporarily chosen as the southern boundary only because a more definite boundary could not be determined by the committee to separate this sub-area from the different land use activities to the south. The committee feels that this southern boundary could be re-adjusted when land owners, who have been attending Meacham area meetings and the planning commission better determine appropriate land uses along the Umatilla River.

The major land uses within the Reed - Hawley Mt. sub-area are livestock grazing and some timber management. What general information is available on the quality or quantity of these resource land uses indicates that both timber growing potential and grass sustaining capability is better in the northern part of the sub-area than along the south facing slopes of the Umatilla River.

This sub-area contains a significant amount of deer and elk winter range according to the Oregon Department of Fish and Wildlife. Protection of this habitat is considered in the recommended policy section.

Land ownership characteristics of this sub-area tend to be rather large. Sizes exceed 1,000 acres. There are a few scattered lots that are between 10 and 20 acres in size that were parceled many years ago.

Recreation in this area is mainly limited to hunting. Other

forms of recreation usually occurring throughout the Blue Mountains such as hiking, fishing, overnight camping and horseback riding are available or provided just to the south of this sub-area, along the Umatilla River. The area along the Umatilla River has better accessibility than the Reed - Hawley Mts. sub-area.

Lastly, coordination of further land use planning between several adjacent governmental agencies is an important aspect to consider for this sub-area. Forest Service Lands are to the east and south and as mentioned in other parts of this report close coordination with this federal agency is highly recommended. Also, the Umatilla Indian Reservation is west of this sub-area and is developing its own comprehensive land use plan and set of development codes. Communication with the Reservation should also be considered.

B. Findings and Recommended Policies

1. Forest Goal (Findings)

*All FOREST GOAL findings on page 7 apply here, as well.

2. Forest Goal (Recommended Policies)

a. *All FOREST GOAL RECOMMENDED POLICIES, except (d) on page 8, are also appropriate for this sub-unit.

b. Closer coordination and cooperation between the U.S. Forest Service, the Umatilla Indian Reservation, and Umatilla County shall be attempted, particularly as it relates to future use and management of all respective lands. County participation in the development of the Forest Service Land Management Plan and Comprehensive Plan proposals for lands within the Indian Reservation and the eventual use of these plans' policies shall be the starting point for this mutual cooperation and coordination.

3. Gravel and Aggregate Resources Goal (Findings)

*All GRAVEL AND AGGREGATE FINDINGS on page 8 are appropriate here.

4. Gravel and Aggregate Resources Goal (Recommended Policies)

*All GRAVEL AND AGGREGATE RECOMMENDED POLICIES on pages 8 and 9 apply here.

5. Fish and Wildlife Goal (Findings)

*All FISH AND WILDLIFE GOAL FINDINGS on pages 9 and 10 apply here also.

6. Fish and Wildlife Goal (Recommended Policies)

*All FISH AND WILDLIFE GOAL RECOMMENDED POLICIES on page 10 to be recommended here.

7. Recreational Goal (Findings)

*See RECREATIONAL GOAL FINDING (b) on page 10, which applies here also.

8. Recreational Goal (Recommended Policies)

*RECOMMENDED POLICY (c) on page 11 is appropriate here.

C. Plan Map Recommendations

The committee recommends the following land use designation on the Plan Map for the Reed - Hawley Mt. sub-area:

"This sub-area be designated Forest/Grazing or similar designation in recognition of existing resource uses. Forest management, livestock grazing or similar agricultural uses, and certain utilities will be allowed. Parcel size minimums and other standards in the recommended policies are suggested to help conserve these lands for resource uses. Some recreational cabins may be permitted only under certain circumstances and must follow appropriate procedures and development standards as outlined earlier."

MOUNTAIN SUBDIVISION WORKSHEET

This worksheet lists items which will likely be addressed by the Planning Commission when reviewing suitability of a site for recreational development. Discussion and resolution of such important concerns as the environment, fish and wildlife, impacts upon adjacent resource lands, and the effects upon existing or proposed county facilities will be facilitated by following this review outline.

It is extremely important to examine and consider all applicable items when developing and before submitting your subdivision proposal. If you do, the review process should be considerably shortened, with unnecessary delays and revisions avoided, and overall development costs lessened.

Site AnalysisI. Natural Environment Concerns

1. Does the site analysis map indicate the following natural environment info and concerns?

Topography showing contours

Showing steep slopes over 25%

Natural drainage showing direction of flow

Drainage from existing roads

Drainage from offsite locations

Areas of wetlands or marshes

Location of creeks or streams, lakes, ponds, springs

Location of periodic flooding areas

Location of forest or wooded lands

Recently logged; when? _____ years ago

Not logged for last (30) (40) years

Location of open areas or meadows

Location of agricultural areas (grazing)

Information about climatic variables such as sun angles and wind directions for summer and winter

Location of poor soils, rock out croppings or poorly drained soils

2. How does the proposal consider the following natural environment considerations?

A. Natural Drainage

Are natural drainage ways preserved, where possible?

Are abrupt grade changes designed to control erosion?

Is surface runoff handled so that on-site areas will not be eroded and adjacent properties are not flooded or caused to have additional erosion?

Is there a proposal to develop a man-made drainage system? If so, how will this system better contain or dispose runoff than natural drainage?

How will storm drainage from parking areas be handled?

B. Topography

Do development improvements and proposed land clearing avoid steep sloped areas? (over 25%)

Are road locations and their required and/or proposed improvement standards designed to follow grades and handle runoff to allow safe and convenient access to properties? Are slope easements necessary?

Are lots designed to consider topographic liabilities? (eg. access, building and sanitation requirements, emergency vehicles)

C. Soil

Do development improvements (eg. road, structural) and proposed land clearing avoid soils with slumping, erosion, sliding, building restrictions, or poor draining characteristics?

Are lots located to avoid soil liabilities listed above?

Are mitigation measures proposed that would alleviate adverse soil impacts if lots are located on these soils?

D. Water

Is surface drainage arranged so as not to deplete existing water supplies?

Do development improvements (including land clearing) and layout consider protection of water sources?

Are improvements setback far enough from water sources to avoid pollution from septic tanks or excess soil runoff?

Are improvements located out of dangerous flooding areas near streams and rivers?

E. Protection of Harvestable Forests

Have buildings and other site considerations been designed and located to preserve and enhance existing harvestable timber?

Is there a plan to manage harvestable timber?

F. Protection of Existing Trees

Have buildings and other site elements (roads, utilities) been designed and located to preserve and enhance existing trees?

Have provisions been made to protect existing trees during construction?

Have provisions been made to maintain stands of trees proposed or required as buffers, especially fire prevention and disease control plans?

G. Open Meadows

Do building and other site improvements consider use of meadows as open areas for scenic viewing or designed for shared open space and the protection of fish and wildlife habitat and movement?

H. Agricultural Land Protection (Grazing)

Have buildings and other site improvements been designed and located to preserve on-site agricultural and grazing land if desired and preserved for that use, or to preserve agricultural and grazing land on adjacent property?

Have provisions been made to protect adjacent agricultural & grazing land (eg. buffering, setbacks restrictions)

I. Utilization of Climatic Variables

Are buildings orientated to take advantage of natural elements? (eg. sun, vegetation, land forms, winds)

- Does the development design protect buildings and other site improvements from adverse effects of climate (eg. prevailing summer and winter winds, sun exposure)

II. Fish and Wildlife Concerns

1. Does the site analysis map indicate the following Fish and Wildlife info?

Location of wildlife migration routes and big game summer and winter range areas

Indication of game fish streams and spawning grounds

2. How does the proposal and existing or proposed improvements consider the following Fish and Wildlife concerns?

A. Protection of Migration Routes

Are homes, roads, utilities and recreational activities located away from migration routes of big game and streams or lakes of game fish?

Have provisions been made to allow free movement of fish and wildlife on-site as well as off-site (eg. no barriers, fencing, damming across routes or excessive vegetation and tree removal of protective covering)

B. Maintenance of Wildlife Habitat

Do development plans retain natural vegetation and tree cover for fish and wildlife habitat?

Will any of the proposed alterations to the landscape enhance fish and wildlife habitat? explain.

Is the road system laid out to avoid fish and wildlife habitat area?

Do existing and proposed utility corridors avoid fish and wildlife habitat areas?

III. Other Existing and Proposed Conditions and Concerns

1. Does the site analysis map and/or supplementary information indicate the following existing and proposed conditions?

- Location of existing roads
- Location of existing or historical buildings or dwellings
- Location of existing access points from roads
- Areas of cultural significance, archeological sites or natural areas, if applicable
- Location of existing utilities and their rights-of-way
- Location of existing wells or cisterns and any water distribution system, if any
- Location of existing sanitary services, if any
- Location, width, and purpose of all proposed roads within the property to be developed
- Location, type and method of installation of all utilities
- Method of sewage disposal and if method is a community system the location, type and size of distribution lines, and treatment facility
- Method of water supply and if method is a community system the location, type and size of distribution lines, storage facilities and well(s)
- Method of fire protection and other emergency response considerations, and location of related facilities within development and/or newest existing facilities
- Location and nature of proposed changes to navigable streams, lakes, springs, and other bodies of water
- Location of areas proposed for land clearing, landscaping, buffering or screening
- Method of surface water (drainage) and location(s) or area(s) of (drainage)

Location of new buildings, open space-recreational areas, and facilities and on-site parking

Method of proposed solid waste disposal

Proposed building material colors, signs to identify development

Location of any proposed water impoundments

2. Are existing or proposed improvements designed to consider the following:

A. Roads

Does the development layout utilize and connect with the existing road system well?

Are access points to existing roads in safe and convenient locations?

Can existing roads handle increases in traffic expected from the development?

Are there provisions for at least two or more exits and entrances to the development from the existing road system?

Are the proposed roads wide enough and to a standard to handle expected traffic?

Does the proposed road system provide access to all lots or dwellings proposed?

Is the proposed road system laid out to avoid steep grades?

Are the roads proposed to be maintained by the developers, owners, or homeowners association?

B. Dwellings, Buildings, Recreational Facilities, Parking Area Locations, Historic Sites and Buildings

Do development plans recognize and preserve historic buildings by screening, landscaping or limiting development near the building(s)?

If applicable, do existing buildings, dwellings, recreational facilities or parking areas to remain on the property fit into the overall development scheme?

Are proposed recreational facilities provided to meet the anticipated need or demands of the development and if proposed the need or use of the general public?

Is there adequate on-site parking to handle expected vehicle use and are these areas located conveniently to serve users?

Is there a proposal to maintain the proposed parking and recreational facilities by the owners or a homeowners association?

Will the parking area be screened from other developments on the site and from adjacent land uses?

Are recreation-open space areas or facilities located and designed to encourage its use?

Are buildings and dwellings located to maintain and enjoy the natural settings, views, etc. of the site?

Are recreation-open space areas or facilities located away from adjacent sensitive uses?

C. Cultural-Natural-Archeological Areas or Sites

Have buildings and other site elements been designed and located to preserve identified cultural and natural areas or archeological sites?

Do land clearing plans minimize adverse impacts or avoid cultural-natural or archeological areas or sites?

D. Utilities

Can existing utilities handle increases in services required from the development?