Malheur County Comprehensive Plan

Adopted July 1982

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W. C. Hammack, Commissioner
Louis Wettstein, Commissioner

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Joe Hobson
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John Bishop
William D. Yost
Wendell Collins
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Emil Maag
George Swisher

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Francis Brown
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Jim Schaffeld
Terry Townley

PLANNING STAFF

Leslie Hopper, Planning Director
Jon Beal, Zoning Administrator
Ann McClellan, Word Processing
Betty Warne, Mapping and Graphics

COUNTY COUNSEL

Stephen Vorhes

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Section 1

Introduction

INTRODUCTION

The Plan's Purpose

The purpose of this comprehensive plan is to identify the present and future needs of Malheur County and to guide its future growth and development. The plan establishes directions and means of achieving what Malheur County wants to occur during the next 20 years. The plan is meant to influence and be responsive to change rather than to restrict opportunities for growth.

The plan addresses all phases of land use and resource utilization, including agriculture, forestry, housing, transportation, public services, recreation and energy. Because these elements are closely related and interdependent, no single element can be fully developed alone. To be effective, the plan must be all-inclusive, or comprehensive, with consistent and harmonious public policies regarding each of these elements.

The plan embodies the official goals and policies concerning land use in Malheur County. It is a coordinated effort, combining input from all interested individuals, private organizations, and all affected local, state and federal agencies.

Once the plan is adopted by the county and acknowledged by the Land Conservation and Development Commission, it becomes the controlling land use document for Malheur County. It provides the basis for all land use decisions and implementation measures, such as zoning and subdivision ordinances. All land use decisions and regulations in the county must be consistent with the comprehensive plan.

Background

Comprehensive plans have guided the development of major metropolitan areas of the United States for more than 50 years. Planning and zoning have been sanctioned by the U.S. Supreme Court as a legitimate exercise of the state's regulatory powers to protect the health, safety or general welfare of the community.

Comprehensive planning in Malheur County began in 1966. At that time, Oregon counties were authorized (but not required) to adopt planning and zoning regulations for all or part of their lands. In cooperation with the Bureau of Municipal Research and Service, the Malheur County Planning Commission developed a comprehensive plan for the Ontario-Nyssa-Vale area. However, the plan was never officially adopted by the county.

In 1969 the Oregon State Legislature mandated that all Oregon counties adopt comprehensive plans and zone their lands. Little funding was appropriated for this task, however, and no specific criteria guided the development of the plans. Nevertheless, in accordance with the provisions of ORS 215.050 and 215.055, the county adopted its first official comprehensive plan and zoning ordinance in 1973.

That same year, the Oregon State Legislature passed Senate Bill 100, creating the Land Conservation and Development Commission (LCDC) and charging it with the responsibility to develop statewide planning goals and guidelines. All cities and counties were directed to develop comprehensive plans in conformance with these goals. In addition, the legislature provided funding to enable jurisdictions to carry out this mandate.

In 1976 Malheur County and its cities established the Comprehensive Planning Office funded by a combination of LCDC and local moneys. The comprehensive planning staff began by preparing a series of background reports to provide detailed information on which to base the plans. The staff then worked with each of the cities and their citizens advisory committees to develop comprehensive plans for Ontario, Nyssa, Vale, Adrian and Jordan Valley. At the same time, the staff developed a draft comprehensive plan for Malheur County.

After countless work sessions with citizens advisory committees, major revisions to the plan, at least four series of public hearings, and extensive review sessions with the Planning Commission and County Court, this document has evolved as Malheur County's comprehensive plan.

Today the Comprehensive Planning Office no longer exists; its responsibilities have been assumed by the cities and the County Planning Department, which coordinates all land use planning activities in the county pursuant to ORS Chapter 197.

The background reports published by the Comprehensive Planning Office in 1976 and 1977 constitute the data base for many of the policies in this plan and should be considered a part of it. The reports are entitled Economics and Population, Public Facilities and Services, Housing, and Land Capabilities and Natural Resources. Copies are available for review at libraries, city halls, and the County Planning Department.

The Planning Process

The planning process involves five steps, which are outlined below.

1. Inventory

In this first step, all available information on a goal topic is gathered and organized. In the housing inventory, for example, all housing units in the county are catalogued by type, age, tenure and condition. Household size, vacancy rates and construction trends are documented and analyzed.

2. Assess Needs

Next, inventory information is combined with future projections to determine what services or resources will be needed in the coming years. Housing needs are determined by projecting population increases, estimating trends in household size and types of housing, and comparing projected needs with existing supply.

3. Establish Goals and Policies

At this point, the county formulates goals and policies that will enable it to meet the needs identified in Step 2. For example, analysis of housing vacancy rates, construction trends, and projected population increases may indicate that more rental housing will be needed to accommodate families that cannot afford to buy their own homes. The county may then establish a policy to work with private developers and governmental agencies to increase the number of rental units and keep vacancy rates at appropriate levels.

4. Implementation

Next, the county works to implement the policies it formulated to meet future needs. Usually policies are implemented through the county's zoning ordinance and other related ordinances. To implement its policy to increase the number of rental units, the county may include provisions in its zoning ordinance to make more areas available for multi-family housing.

5. Review and Updating

To ensure that the comprehensive plan is consistent with changing circumstances, the county and its citizens advisory committees will update the inventory information and review the goals and policies every three years. In this way, the comprehensive plan will continue to serve as the foundation of a dynamic planning process designed to meet the needs of the people of Malheur County.

Citizen Involvement

Citizen involvement has always been a key ingredient of planning in Malheur County. Even before the statewide goals were established and citizen involvement was mandated, the county's planning programs were based on the efforts of citizens advisory committees. Citizens, both individually and in organized groups, have always been encouraged to participate in the planning process to ensure that plans accurately reflect the intentions of the people of Malheur County with regard to future growth and development.

In 1975, as its first step in meeting the requirements of the new statewide goals, Malheur County formalized its citizen involvement program. Approved by LCDC in January, 1976, the program was designed to involve a cross-section of affected citizens in all phases of the planning process. The County Court appointed the Planning Commmission as the Committee for Citizen Involvement with responsibilities for overall direction of the citizen involvement program. In turn, the Planning Commission appointed a working subcommittee with broad local representation to spearhead the planning effort. A task force of agency representatives assisted the working subcommittee at monthly work sessions, and area advisory committees made in-depth studies of particular phases of land use when necessary.

This original program later evolved into a network of citizens advisory committees that focused on one or more related elements of the plan. These advisory committees include the Agriculture/Forestry Committee, the Housing Committee, the Natural Resources Committee, the Urbanization Committee, the Road Advisory Committee, the Economic Development Task Force, and the Review Committee. Members of these committees represent all geographical areas of the county. After developing their respective elements of the plan, these committees have been active when needed to address specific issues. In the future they will periodically review and update their elements of the plan.

In a further effort to encourage public participation, a planning questionnaire was distributed to all county residents in 1979. The results of this citizens attitude survey provided staff and committee members with additional public input.

The general public was invited to attend all citizens advisory committee meetings. The Urbanization Committee held special public meetings in each of the small communities to determine rural service center boundaries and development standards. Similarly, the Agriculture Committee held well-attended public hearings on the agricultural lands element and the proposed rural residential areas. Finally, the County Court and Planning Commission conducted at least 12 public hearings in Ontario, Nyssa, Vale and Jordan Valley to obtain

citizen input on the zoning ordinance and the comprehensive plan as a whole.

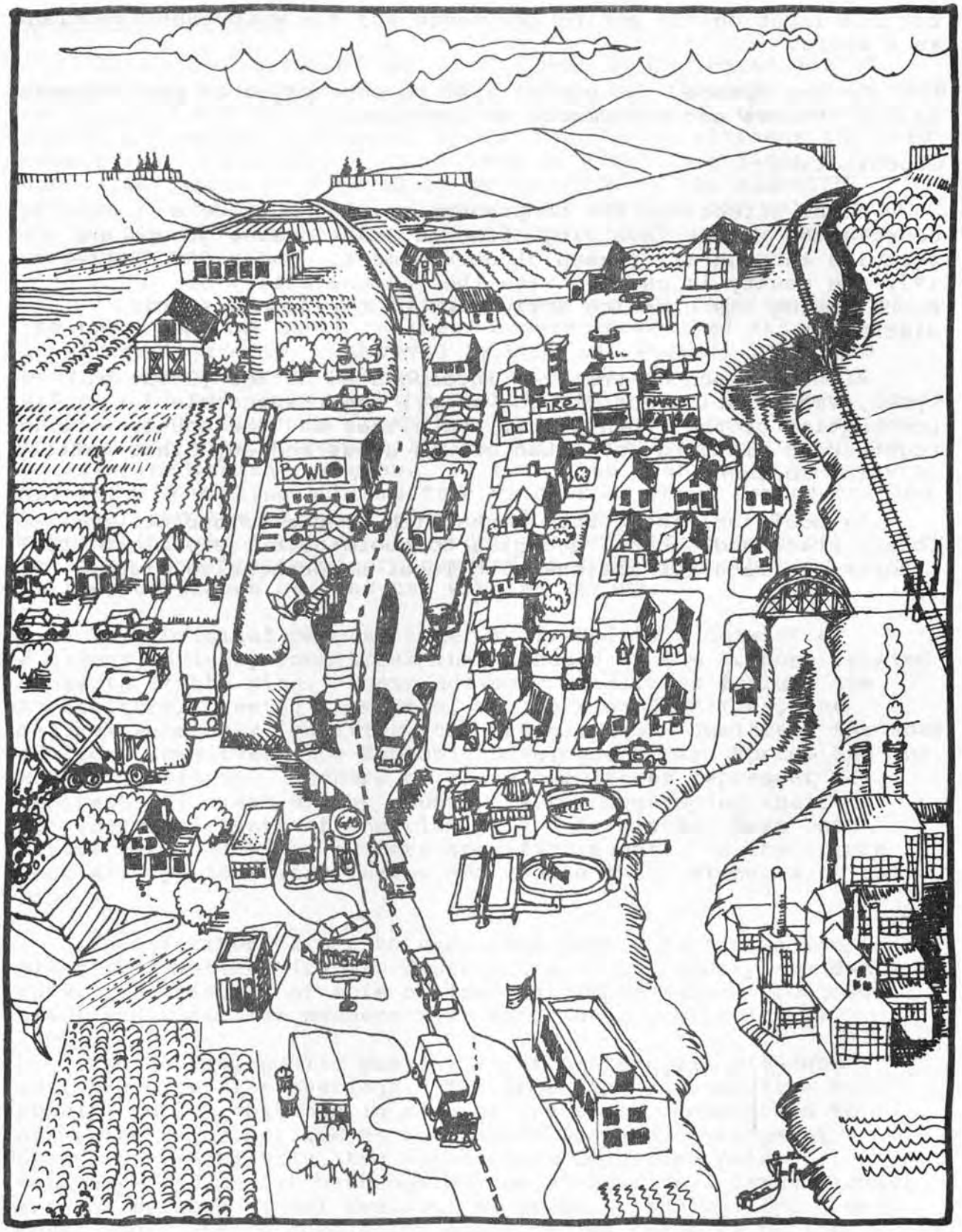
In the future, the public will be encouraged to participate in all reviews and amendments to the plan.

Coordination

To be effective, the comprehensive plan must be a coordinated effort involving affected individuals, groups and agencies through all phases of development. Under ORS Chapter 197, the county is charged with the responsibility of coordinating the planning activities of cities and special districts.

Although each of the five incorporated cities (Ontario, Nyssa, Vale, Adrian and Jordan Valley) are responsible for the preparation of their own plans, the cities and the county work together in planning for urban growth areas and any other matters of joint concern.

In addition, the county works with special districts and local, state and federal agencies to coordinate their planning efforts and land use actions with local comprehensive plans.


BOWL
MARKET

Section 2

Inventories and Background Information

GENERAL CHARACTERISTICS

Time Zone

Malheur County is the only Oregon county on Mountain Standard Time rather than Pacific. This single characteristic, more than any other, illustrates Malheur County's uniqueness and isolation from the rest of the state.

Location

Located in the southeast corner of the state, Malheur County often seems more a part of neighboring Idaho than Oregon. For example, when residents of Malheur County go to the "big city," they drive to Boise to take advantage of its restaurants, entertainment, shopping centers and medical services.

In Ontario, the county's largest city, evidence of Idaho's influence is widespread. Newspapers from Boise appear on the streets and news of Idaho politics dominates radio and television broadcasts. Increasing numbers of Idaho residents make frequent trips across the Snake River to shop in Ontario, where, in contrast to their home state, they pay no sales tax. As one visitor from Portland observed, "The prosperous farming community of Ontario has always seemed so delicately balanced on the Idaho state line that it would take the merest legislative motion to push it over the border." (Foster Church, The Oregonian, Nov. 1, 1981.)

Despite its close ties to Idaho, however, Malheur County is indisputably a part of Oregon--a part that is isolated and sometimes forgotten by the rest of the state, but that nevertheless makes a significant contribution to Oregon's economy and diversity.

Geographic Setting

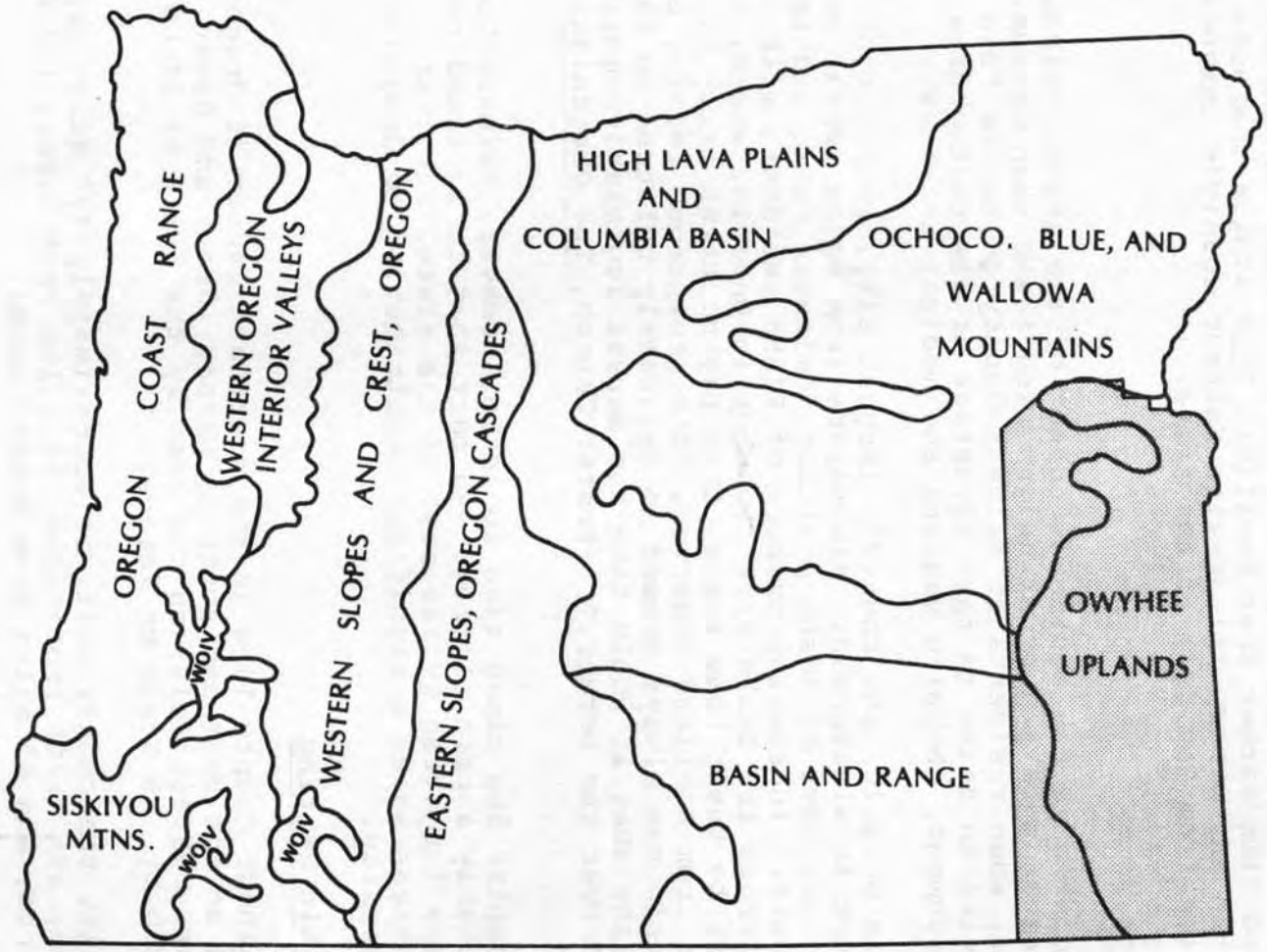
Malheur County lies in the southeast corner of Oregon, bounded on the west and north by Harney, Grant and Baker Counties, respectively; on the east by the State of Idaho; and on the south by the State of Nevada.

Vale, the county seat, is approximately 380 miles from Portland, 375 miles from Salem, 84 miles from Baker, 114 miles from Burns, and 65 miles from Boise, Idaho.

Size

The county has a total land area of 9,870 square miles or 6,316,800 acres, making it the second largest county in Oregon. Malheur County comprises 10.3% of the state's total land area.

Physiographic Provinces of Oregon



source: Oregon Natural Heritage Program

Climate

The county's climate is semi-arid with hot, dry summers and cold winters; however, the wide range of elevations and exposures result in local variations. The average annual precipitation rate for most areas of the county is less than 10 inches.

January temperatures for Vale, which is typical of the irrigated valleys, range from an average maximum of 37°F. to an average minimum of 21°F. Corresponding temperatures for July, the warmest month, are 95°F. and 55°F. Temperatures in Jordan Valley, typical of higher-elevation valleys, range from an average maximum in January of 38.5°F. to an average minimum of 16°F. Corresponding temperatures for July are 90.5°F. and 47°F. Extremes in temperature have ranged from -25°F. to 113°F.

The growing season, based on the average dates of the first and last frosts, ranges from 118 to 180 days in the lower-elevation valleys to less than 70 days in the higher valleys.

Prevailing winds are from west to east, with average wind velocities ranging from one to five miles per hour. Maximum wind velocities may exceed 40 miles per hour.

Land Form

Malheur County lies in two major river basins--the Malheur Basin and the Owyhee Basin. Most of the county occupies the Owyhee upland physiographic province, consisting of undulating high desert and deep canyons. The predominant land forms are gently sloping to rolling lava plateaus, with elevations above 4,000 feet. The plateaus have been extensively dissected into canyons with vertical cliffs by branches of the Owhyee River and Succor Creek.

Physiographic features of the county range from the rugged Owyhee Breaks along the east side of Owyhee Reservoir to the broad, flat expanse of barren valley in the west-central part of the county. Recent lava flows, some probably between 500 and 1,000 years of age, in the central region remain devoid of soil and vegetation. Basaltic and rhyolitic lava and tuffs, ranging in age from Micene to Recent, underlie extensive areas in the county.

The primary physiographic divisions in the county include the low-elevation terraces and flood plains, grass-shrub uplands, and forested uplands of the Malheur Basin, as well as the alluvial bottomlands and fans, lava plateaus, and canyonlands of the Owyhee Basin.

Located mainly at lower elevations along the Snake, Owyhee and Malheur Rivers, alluvial bottomlands, terraces and flood plains comprise most of the irrigated farmland in Malheur County. Some of the soils are deep, well-drained loams while other are clayey, poorly drained soils containing alkali.

The forested uplands in the northwest corner of the county have stony soils that are moderately deep and slightly acid, with a loam texture. Predominant vegetation consists of open ponderosa pine stands with an understory of elksedge and pinegrass.

The grass-shrub uplands of the Malheur Basin and the lava plateaus of the Owyhee Basin comprise most of the county's rangeland. In both regions, vegetation consists mainly of bluebunch wheatgrass, Sandberg bluegrass, and sagebrush.

Major areas of canyonlands lie along the Owyhee River and Succor Creek. Some areas such as the Mahogany and Battle Mountains and the eastern extension of the Trout Creek Mountains have been uplifted, faulted and dissected into extremely rough terrain.

Elevations range from about 2,000 feet above sea level near the Snake River to mountainous plateaus above 5,000 feet and some isolated peaks over 7,000 feet near McDermitt.

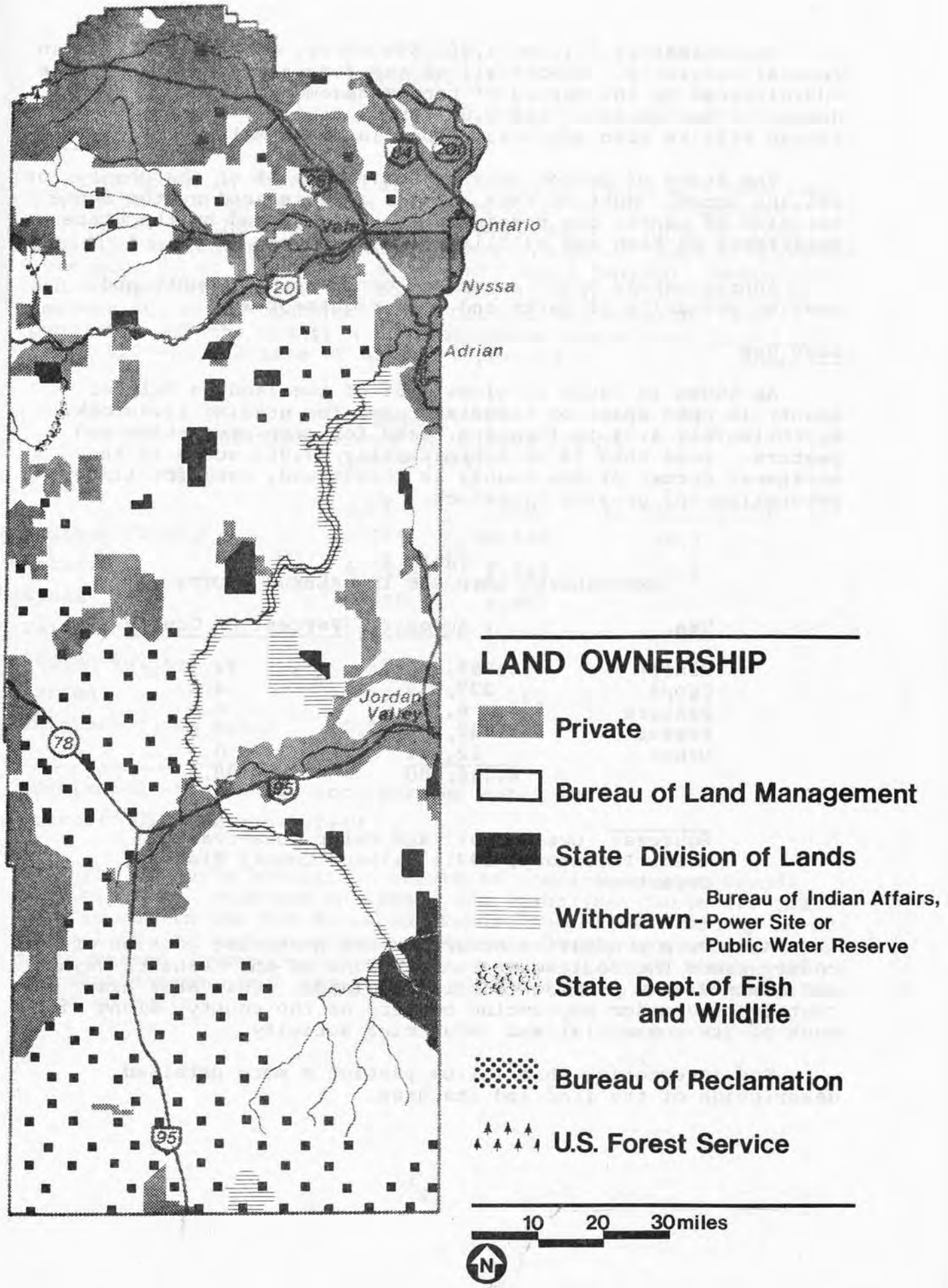
Land Ownership

As shown in Table 1, approximately 24%, or 1,541,299 acres, of the county is in private ownership. Of this total, some 228,694 acres are irrigated cropland; the remaining 1,312,605 acres are primarily pasture or rangeland.

Table 1
LAND OWNERSHIP IN MALHEUR COUNTY

Status	Acres	Percent of County
Private	1,541,299	24.4
Federal	4,503,878	71.3
State	265,306	4.2
County	6,317	.1
	6,316,800	100.0

Source: Atlas of Oregon, University of Oregon, 1976.


Ontario
Nyssa
Adrian
Jordan Valley
78
20
95
95
LAND OWNERSHIP
Private
Bureau of Land Management
State Division of Lands
Withdrawn - Bureau of Indian Affairs, Power Site or Public Water Reserve
State Dept. of Fish and Wildlife
Bureau of Reclamation
U.S. Forest Service
10 20 30 miles
N

Approximately 71%, or 4,503,878 acres, of the county is in federal ownership. Almost all of the federally owned lands are administered by the Bureau of Land Management, although the Bureau of Reclamation, the U.S. Forest Service, and the Bureau of Indian Affairs also administer some lands in Malheur County.

The State of Oregon owns approximately 4% of the county, or 265,306 acres. Most of this land is administered by the State Division of Lands; the remainder is administered by the State Department of Fish and Wildlife.

Approximately 6,317 acres are owned by the county and consist primarily of parks and road rights-of-way.

Land Use

As shown in Table 2, almost 95% of the land in Malheur County is open space or rangeland used for grazing livestock. Approximately 4.5% is farmland, used for crop production and pasture. Less than 1% or approximately 37,901 acres in the northwest corner of the county is forestland, used for timber production and grazing livestock.

Table 2
GENERALIZED LAND USE IN MALHEUR COUNTY

Use	Acres	Percent of County
Range	5,982,009	94.7
Crops	277,939	4.4
Pasture	6,317	0.1
Forest	37,901	0.6
Urban	12,634	0.2
	6,316,800	100.0

Sources: Oregon Soil and Water Conservation Needs Inventory, 1971; Malheur County Planning Department.

Most crop production occurs in the northeast portion of the county where the coalescing flood plains of the Malheur, Owyhee and Snake Rivers provide fertile farmlands. This area also contains the major population centers of the county, along with much of its commercial and industrial activity.

The inventories that follow present a more detailed description of the land and its uses.

POPULATION

Recent Growth

As shown in Table 3, Malheur County's population grew from 23,169 in 1970 to 26,896 in 1980--an increase of 16 percent. All cities in the county gained in population: Ontario grew rapidly, increasing 35 percent; Nyssa, Vale, and Adrian increased more slowly, at 9 percent, 8 percent, and 5 percent, respectively; and Jordan Valley made the most dramatic gain, increasing 141 percent due to the opening of the DeLamar silver mine. The population of the county's unincorporated areas grew from 12,227 to 13,022--an increase of almost 7 percent.

Table 3
POPULATION GROWTH IN MALHEUR COUNTY
1970 - 1980

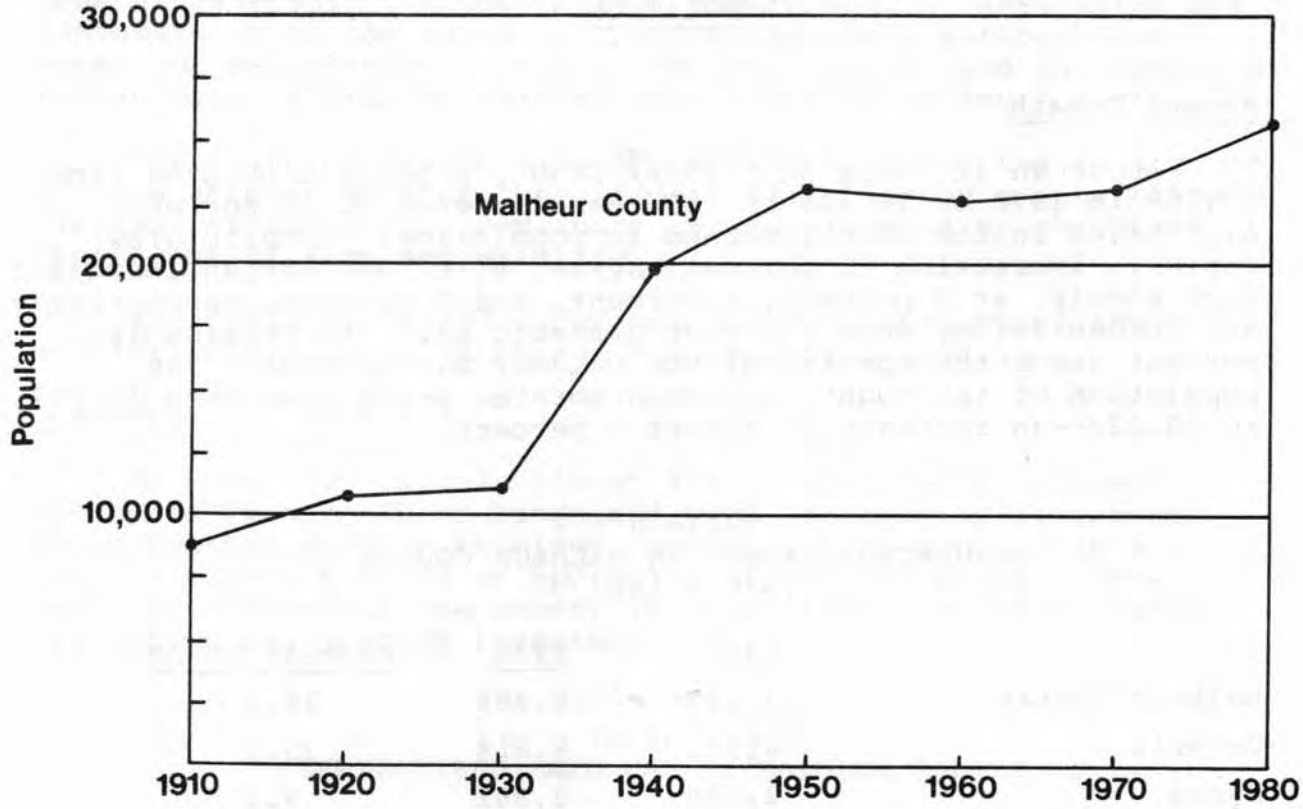
	1970	1980	Percent Change
Malheur County	23,169	26,896	16.1
Ontario	6,523	8,814	35.1
Nyssa	2,620	2,862	9.2
Vale	1,448	1,558	7.6
Jordan Valley	196	473	141.3
Adrian	155*	162	4.5*
Unincorporated areas	12,227	13,022	6.5

*Estimated--Adrian not incorporated until 1972.

Source: U.S. Census Bureau

The county's population growth is consistent with trends in other rural counties in Oregon and Idaho (see Table 4). As pointed out in the HUD Situation Report for Malheur County as of April 1980, population growth in Malheur County has been related to increased construction activity, growth of local firms, and increasing members of elderly who find the area an attractive place to retire.

Figure 1 Historical Population Growth for Malheur County and Its Cities



Source: U.S. Census Bureau

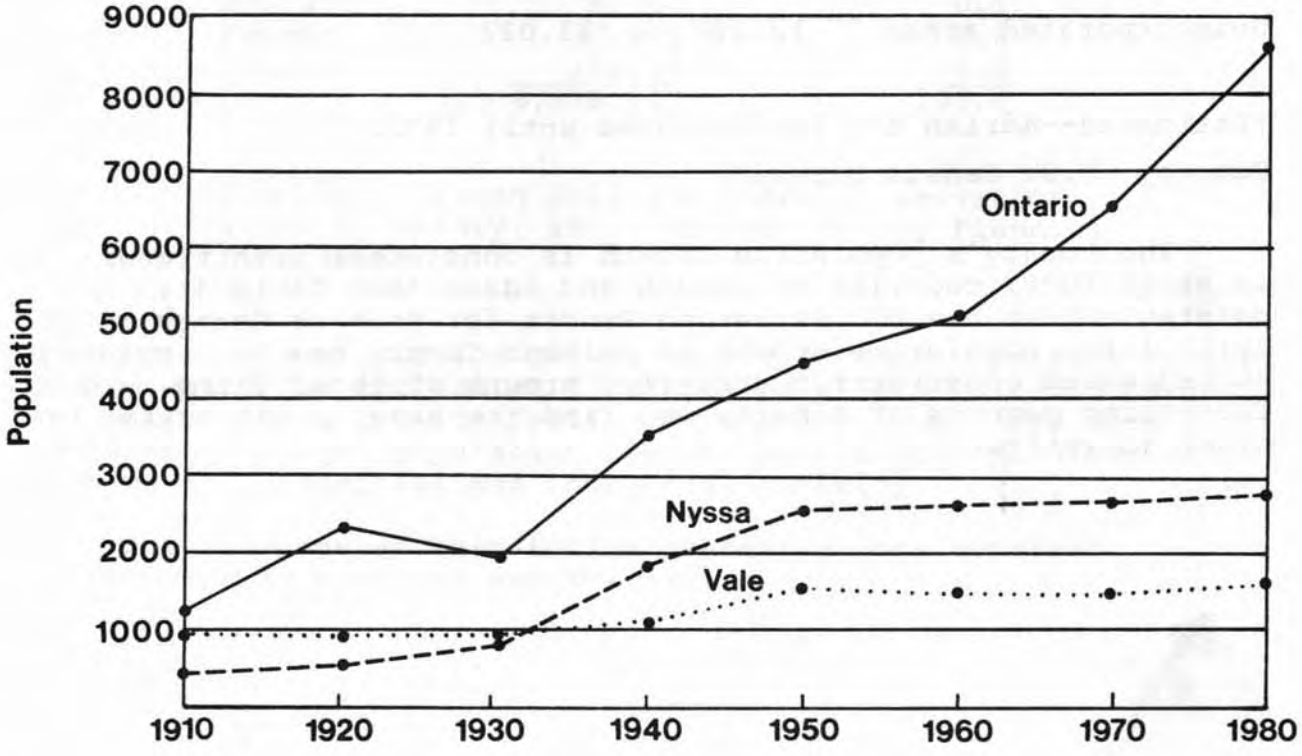


Table 4
COMPARISON OF POPULATION CHANGE
OF MALHEUR COUNTY & ADJACENT
COUNTIES IN OREGON & IDAHO

	1970	1980	Percent Change
Malheur	23,169	26,896	16.1
Adjacent Oregon counties:			
Baker	14,919	16,134	8.1
Grant	6,996	8,210	17.4
Harney	7,215	8.314	15.2
Adjacent Idaho counties:			
Canyon	61,228	83,756	36.8
Owyhee	6,422	8,272	28.8
Payette	12,401	15,722	26.8
Washington	7,633	8,803	15.4

Source: U.S. Census Bureau

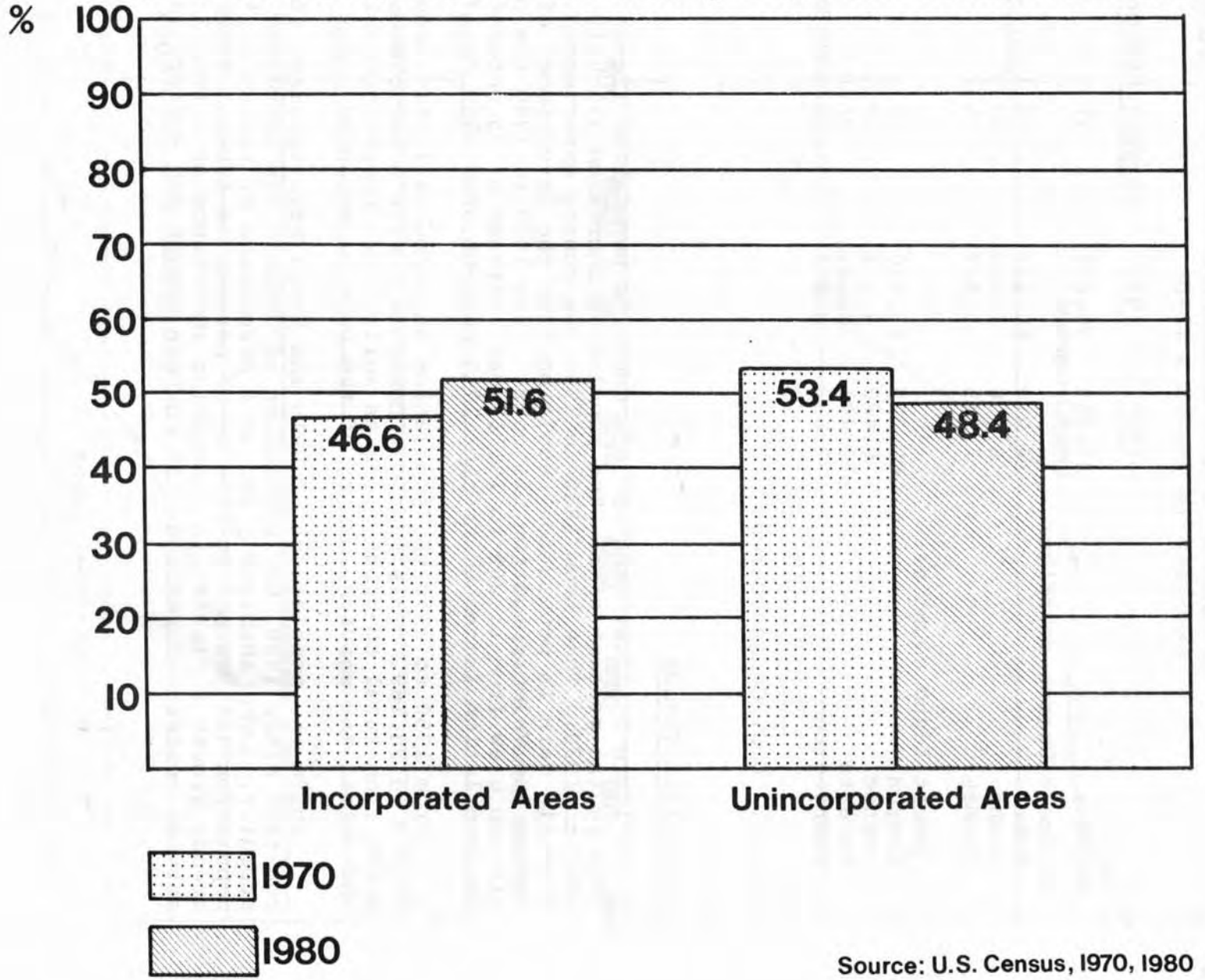
Historical Trends

Figure 1 illustrates Malheur County's population trends from 1910 to the present time. The population increased slightly from 1910 to 1930. Then from 1930 to 1950 the county experienced a dramatic gain in population resulting from the development of the Owyhee and Vale irrigation projects. From 1930 to 1940 the population grew from 11,269 to 19,767--an increase of 75 percent. The population increased another 17.5 percent from 1940 to 1950.

From 1950 to 1970 the population decreased slightly from 23,223 to 23,169. This loss was consistent with a nationwide shift from rural to urban areas as agriculture became mechanized and retail and service sectors of the economy expanded.

While the populations of Vale and Nyssa have remained fairly constant since 1950, the population of Ontario has increased steadily, both absolutely and as a percentage of the county's population (19 percent in 1950 to 33 percent in 1980). Ontario's steady growth reflects its increasing importance as a retail and service center for residents of eastern Oregon and western Idaho.

Figure 2 Comparison of Population in Incorporated and Unincorporated Areas as a Percentage of Malheur County Population in 1970 and 1980



Source: U.S. Census, 1970, 1980

Urban and Rural Percentages

The U.S. Census Bureau defines urban places as those with a population of 2,500 or more. As a result, Ontario and Nyssa are the only cities in Malheur County that are counted as urban. Table 5 shows that the percentage of county residents living in Nyssa and Ontario increased from 33.9 percent in 1960 to 43.4 percent in 1980.

Table 5
URBAN AND RURAL PERCENTAGES OF MALHEUR COUNTY POPULATION, 1960-1980

	1960	1970	1980
Total County Population	22,764	23,169	26,896
Urban Population	7,712	9,143	11,676
Percent of Total	33.9	39.5	43.4
Rural Population	15,052	14,026	15,215
Percent of Total	66.1	60.5	56.6

Source: U.S. Census Bureau

Similarly, Figure 2 shows that the percentage of county residents living in incorporated places increased from 46.6 percent in 1970 to 51.6 percent in 1980. Incorporated places for 1980 include Vale, Adrian, and Jordan Valley as well as Ontario and Nyssa. For 1970, incorporated places include Juntura, which later disincorporated, but exclude Adrian, which incorporated in 1972.

Density

Table 6 shows population densities for Malheur County and adjacent Oregon counties in 1980. With less than 3 persons per square mile, Malheur County has a lower density than Baker County, but higher than the other 2 adjacent counties.

Table 6
COMPARISON OF POPULATION DENSITY IN 1980

County	Population	Area*	Density**
Malheur	26,896	9,870	2.73
Baker	16,134	3,085	5.23
Grant	8,210	4,533	1.81
Harney	8,314	10,185	.82
Oregon	2,633,105	96,981	27.15

* In square miles
** Per square mile

Source: U.S. Census Bureau and Oregon Blue Book 1979-1980.

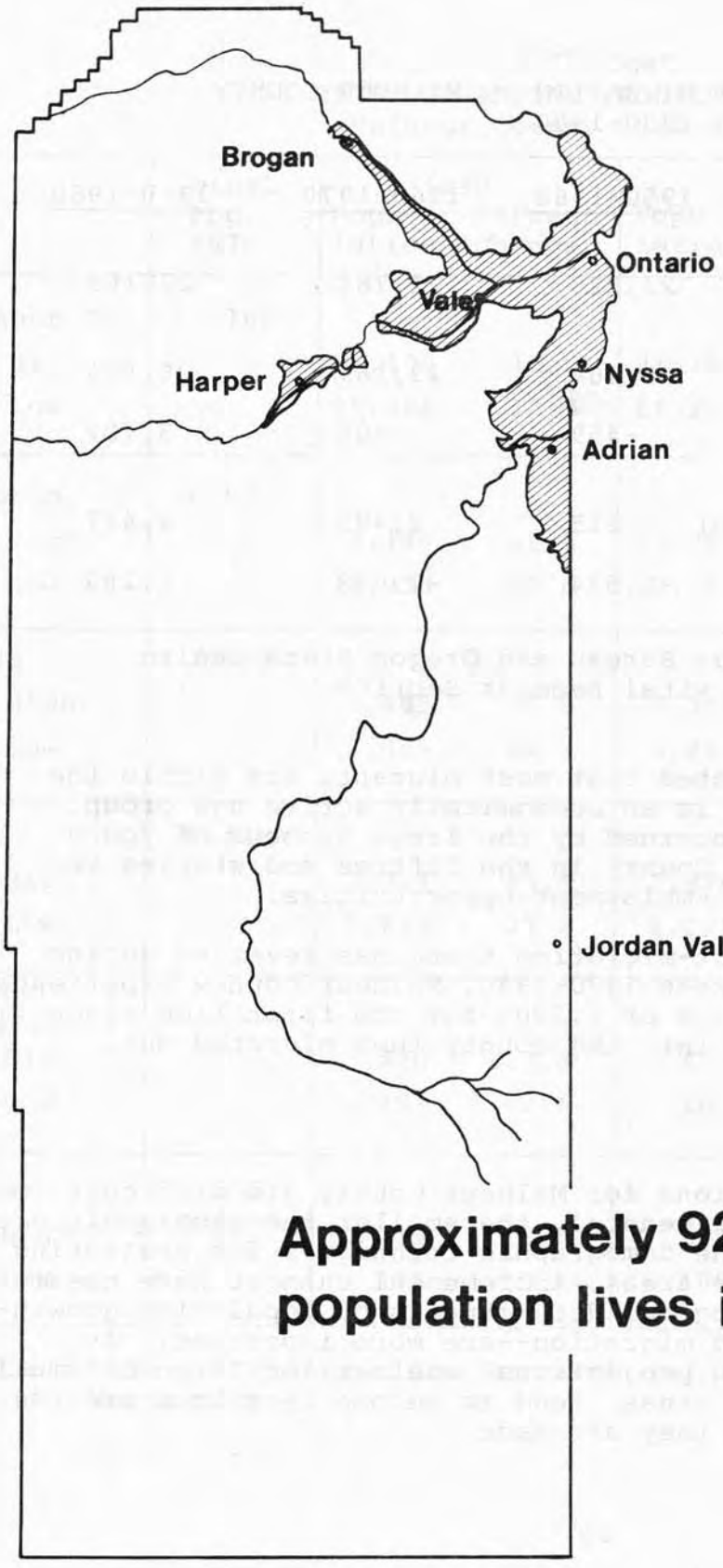
The relatively low density for Malheur County may be misleading, however, because most of the population is concentrated in a very small area. Approximately 24,666 people (92 percent of the population) live in the shaded area shown on Figure 3. That area, which includes most of the county's irrigated cropland, is roughly 226,000 acres, or less than 4 percent of the entire county. (See Soil Survey of Malheur County, Oregon, Northeastern Part, U.S. Soil Conservation Service, 1980, p. 1.). With 24,666 people living on 226,000 acres (353 square miles), the shaded area on Figure 3 has a density of 69.9 persons per square mile--considerably higher than the density of the county as a whole.

Migration

Population changes are the results of three factors: births, deaths, and migration. Whereas birthrates and deathrates are fairly predictable, migration, which is generally a response to economic opportunities and amenities that make life enjoyable, is much more variable and unpredictable. Exact information on migration is impossible to obtain; however, net migration (in-migrants less out-migrants) can be estimated by comparing natural increase (births minus deaths) with actual population changes. The difference in these figures yields the estimated net migration.

Table 7 shows that from 1950 to 1960 more people moved out of the county than migrated in, resulting in a decrease in total population. Although the rate of out-migration slowed in the next decade, the trend continued, and the population increase was

Figure 3



Approximately 92% of the population lives in 4% of the county.

the result of a high birthrate rather than an influx of new residents.

Table 7
ESTIMATED NET MIGRATION IN MALHEUR COUNTY
1950-1980

	1950-1960	1960-1970	1970-1980
Starting population	23,223	22,764	23,169
Ending population	22,764	23,169	26,896
Total change	-459	405	3,727
Natural increase (births minus deaths)	4,115	2,493	2,447
Net migration	-4,574	-2,088	1,280

Sources: U.S. Census Bureau and Oregon State Health Division, Vital Records Section.

Studies have indicated that most migrants are within the ages of 20 to 29, which is an economically active age group. Local officials were concerned by the large numbers of young adults who left Malheur County in the fifties and sixties in search of education and employment opportunities.

Fortunately, the out-migration trend has reversed during the past 10 years. Between 1970-1980, Malheur County experienced an estimated net migration of 1,280; for the first time since 1950, more people moved into the county than migrated out.

Population Projections

Population projections for Malheur County are difficult to make with certainty. In general, the smaller the geographic area, the less reliable are the demographic techniques for projecting populations. In smaller areas, incremental changes have greater impact, and the nonbiological determinants of population growth--economic development and migration--are more important. In addition, all population projections, whether for large or small political or geographic areas, tend to become less accurate the farther into the future they are made.

Table 8

1976 POPULATION PROJECTIONS
Malheur County 1980-2000

	Actual Pop. 1970	1980 Popu-lation	1980 Percent Change	1990 Popu-lation	1990 Percent Change	2000 Popu-lation	2000 Percent Change
Malheur Co.	23,169						
High		26,100	12.0	31,100	19.2	37,200	19.6
Low		25,600	10.5	28,200	10.2	29,800	5.6
Ontario	6,523						
High		9,190	40.9	12,380	34.7	15,466	24.9
Low		8,934	37.0	10,688	19.6	11,890	11.2
Nyssa	2,620						
High		3,405	30.0	4,315	26.7	5,155	19.5
Low		2,944	12.4	3,243	10.2	3,427	5.7
Vale	1,448						
High		2,099	44.9	2,876	37.0	3,636	26.4
Low		1,843	27.3	2,031	10.2	2,146	5.7
Jordan Valley	196						
High		420	114.3	431	2.6	630	46.2
Low		191	-2.6	160	-16.2	165	3.1
Adrian	155 estimate						
High		219	28.8	259	18.3	334	29.0
Low		176	13.5	190	8.0	190	0.0

Source: Center for Population Research and Census, Portland State University

Two main sources of population projections are available to planners in Oregon: the Center for Population Research and Census at Portland State University (PSU) and the Bonneville Power Administration (BPA) in Portland. The BPA's latest projections were made in 1979; PSU's were made in 1976.

According to the 1980 census, the population of Malheur County (26,896) has already exceeded the BPA's projected population for the year 2000 (26,700). More reliable are the PSU projections shown on Table 8. Although the county's actual population exceeded the projected high of 26,100 in 1980, the population of the county in 1990 would almost match the PSU high projection if growth were to continue at the same rate. On the other hand, the PSU projections for the cities' 1980 populations proved less accurate. The actual populations of Ontario, Nyssa, Vale, and Adrian were well under the projected lows, while the population of Jordan Valley exceed the projected high. Despite these problems, however, the PSU projections are the most reliable forecasts available, and they have been used by the county as the basis of its planning effort.

AGRICULTURAL LANDS

Economic Impact

Agriculture is by far the biggest industry in Malheur County. Most of the county's residents derive their livelihoods either directly or indirectly from farming or ranching. As shown in Table 9, total gross agricultural income for 1980 was $137.3 million, up 12.3% from the $122.3 million in 1979. Roughly 56% of 1980's total income came from crops, while 44% was in livestock and livestock products. At $48.4 million, cattle sales comprised the largest single component.

As pointed out in the State Employment Division's 1980 Annual Economic Report for Malheur County, the total impact of agriculture on the county's economy is almost impossible to assess. Many of the county's industries, though classified as nonagricultural, are nearly entirely supported by agriculture. These industries include food processing, trucking, farm equipment sales, and wholesale packing. Other industries such as trade, services, and construction realize indirect gains.

Malheur County's agriculture also makes a significant contribution to the economy of the state as a whole. In 1979 the county ranked second in total gross agricultural income in the state and first in gross sales of livestock and livestock products. In 1980 the county fell from second to third, surpassed by Umatilla County ($167.6 million). Nevertheless, Mallheur County's total $137.3 million was far above the $101 million from Clackamas County, which ranked fourth.

Resource Base

The primary resource of Malheur County's leading industry is agricultural land. Since the county's annual precipitation averages less than 10 inches, irrigation water is another vital resource. In fact, water is the very lifeblood of agriculture in the Ontario-Nyssa-Vale area, where most crops are produced. An inventory of the county's water resources is included in the natural resources element of this plan.

In its inventory of agricultural lands, the county has established two categories: farmland and rangeland. Farmland is land that is irrigated, or land that is generally well-suited to farming and used for the production of crops and pasture. Rangeland is land that is generally unirrigated and used primarily for grazing livestock.

Table 9

ESTIMATED GROSS AGRICULTURAL INCOME FOR MALHEUR COUNTY, 1979 & 1980

Crop	1979	1980
Sugar Beets	$ 5,242,000	$ 9,176,000
Potatoes	15,497,000	14,060,000
Onions	8,292,000	13,826,000
Alfalfa Hay	4,066,000	6,615,000
Other Hay	143,000	186,000
Alfalfa Seed	4,550,000	3,010,000
Wheat	11,629,000	14,735,000
Barley	1,920,000	2,100,000
Oats & Rye	219,000	180,000
Dry Field Beans	1,201,000	5,001,000
Corn (grain)	1,497,000	1,354,000
Corn Silage	792,000	750,000
Sweet Corn	1,745,000	1,540,000
Peppermint & Spearmint	1,953,000	2,260,000
Other Crops (Fruit, Vegetable Seed, Misc.)	2,606,000	2,027,000
All Crops	**$61,352,000**	**$76,820,000**
Cattle	49,909,000	48,434,000
Sheep	722,000	941,000
Hogs	290,000	317,000
Milk	9,335,000	10,153,000
All Other Livestock & Livestock Products	556,000	664,000
All Livestock & Livestock Products	**$60,812,000**	**$60,509,000**
Total Estimated Sales	**$122,264,000**	**$137,329,000**
Adjusted Agricultural Income	1978	$103,429,000
	1977	$ 80,966,000
	1976	$ 85,390,000

Source: Malheur County Extension Service

Farmland

In 1980 the Malheur County Extension Service estimated the amount of irrigated cropland at 255,000 acres, or approximately 4% of the county's total area. Most of the irrigated cropland (approximately 226,000 acres) is located in the Ontario-Nyssa-Vale area, in the valleys of the Malheur, Owyhee and Snake Rivers. The remaining irrigated cropland is in upper stringer valleys along the main stream courses. The croplands in the Ontario-Nyssa-Vale area produce sugar beets, potatoes, onions, mint, and a variety of grains and seeds; irrigated lands in the upstream valleys produce mainly hay and pasture.

In general, some of the soils comprising Malheur County's irrigated cropland are deep, well-drained loams while others are clayey, poorly drained soils containing alkali.

A detailed soil survey has been completed for the main area of irrigated farmland in northeastern Malheur County. As shown in Table 10, 94% of the 226,000 acres surveyed have been identified as being SCS Class I-IV soils, which are best suited for cultivation. The remaining 6% has been identified as Class VI or VIII, which are generally recognized as not suitable for cultivation. No Class V or VII soils have been identified in this portion of the county. (For details see Soil Survey of Malheur County, Oregon Northeastern Part, U.S. Soil Conservation Service in cooperation with Oregon Agricultural Experiment Station, 1980.)

Irrigation water is delivered to farmlands in the Ontario-Nyssa-Vale area through a complex system of reservoirs, canals and ditches. Additional irrigation water is obtained from groundwater sources and sprinkler irrigation from the Snake River.

Climatic restrictions generally do not permit dryland farming; however, a few thousand acres in the far northeastern part of the county support some dryland grain operations.

Potential Farmland

The availability of irrigation water is the biggest constraint on the cultivation of "new" or potential farmland. During the irrigation season, there are practically no unappropriated water sources within the Malheur or Owyhee Basins. Total water rights do not

Table 10. Capability Classes in Malheur County[1]

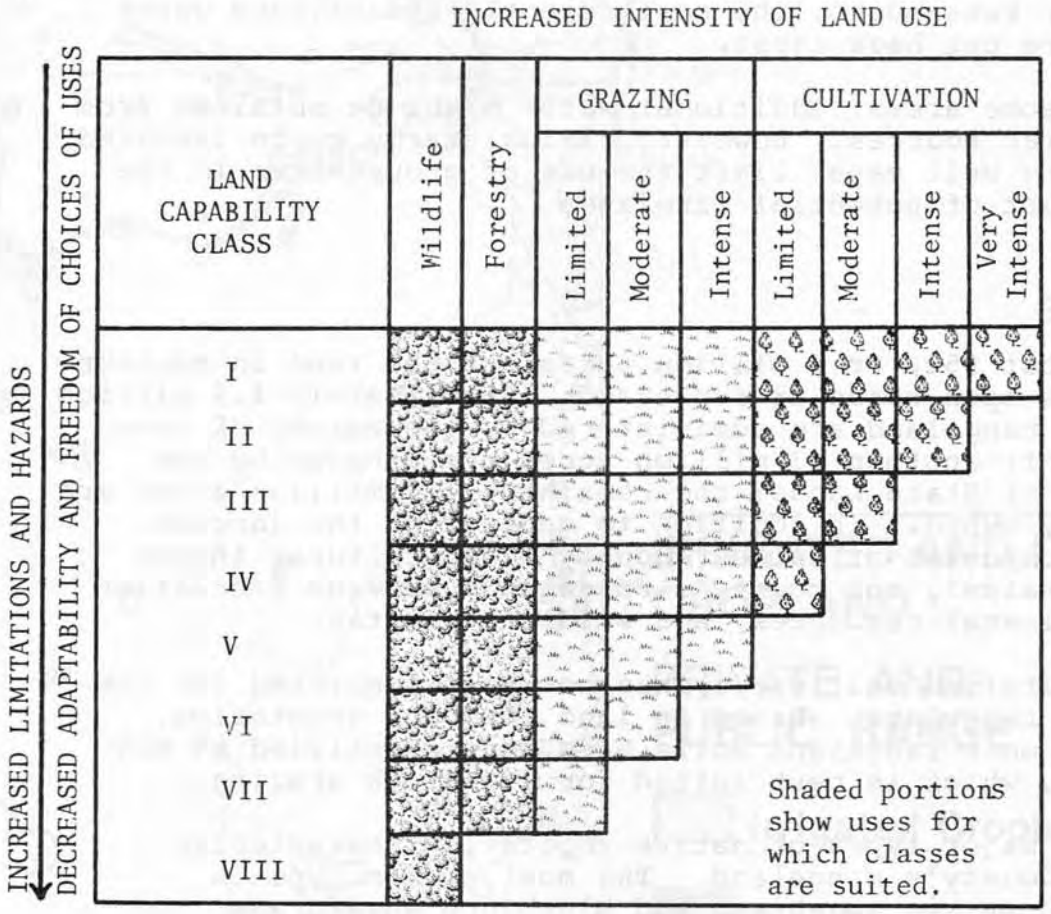
Capability Unit	Percent of Land Surveyed	Acres	Total
I	24.4	55,211	55,211
IIe[2]	5.1	11,425	13,560
IIs	.9	2,135	
IIIe	15.5	35,000	
IIIs	28.6	64,525	99,525
IVe	8.3	18,784	
IVs	11.0	24,927	43,711
VIe	2.1	4,700	4,700
VIIIe	3.4	7,709	
VIIIw	.5	1,230	8,939
Gravel Pits	.2	354	354
TOTAL	100.0	226,000	226,000

[1]Under the system set up by the U.S. Conservation Service, eight land capability classes are recognized. These classes are numbered from I to VIII. Soils having greater capabilities for response to management and least limitations in the ways they can be used are in Class I. Those with least capabilities and greatest limitations are found in Class VIII.

[2]In each of the land capability classes are subclasses which have the same kind of dominant limitations for agricultural uses. The four kinds of limitations recognized in these subclasses are risks of erosion (e); wetness, drainage, or overflow (w); root-zone limitations (s); and climatic limitations (c). Thus, a soil may be found in Class III(e), indicating that it is in Class III because of risks of erosion.

Sources: The Nature and Properties of Soils, Harry O. Buckman and Nyle C. Brady, The Macmillan Company, 1969; the U.S. Soil Conservation Service, Ontario, Oregon.

Figure 4. Intensity with which each land capability class can be used with safety.



Note the increased limitations on the uses to which the land can safely be put as one moves from Class I to Class VIII.

Source: The Nature and Properties of Soils, Harry O. Buckman and Nyle C. Brady, The Macmillan Company, 1969.

necessarily bear any relation to the amount of water actually available, and actual annual diversion of water is much less than the maximum legal diversion. To satisfy all the legal water rights on the Malheur River, twice the average annual yield of water would be necessary; on the Owyhee, legal requirements are 125% of the annual yield. If the water runs short, the most recently established water rights are cut back first.

In some areas, additional water might be obtained from groundwater sources. However, rising energy costs involved in pumping well water limit the use of groundwater in the development of potential farmlands.

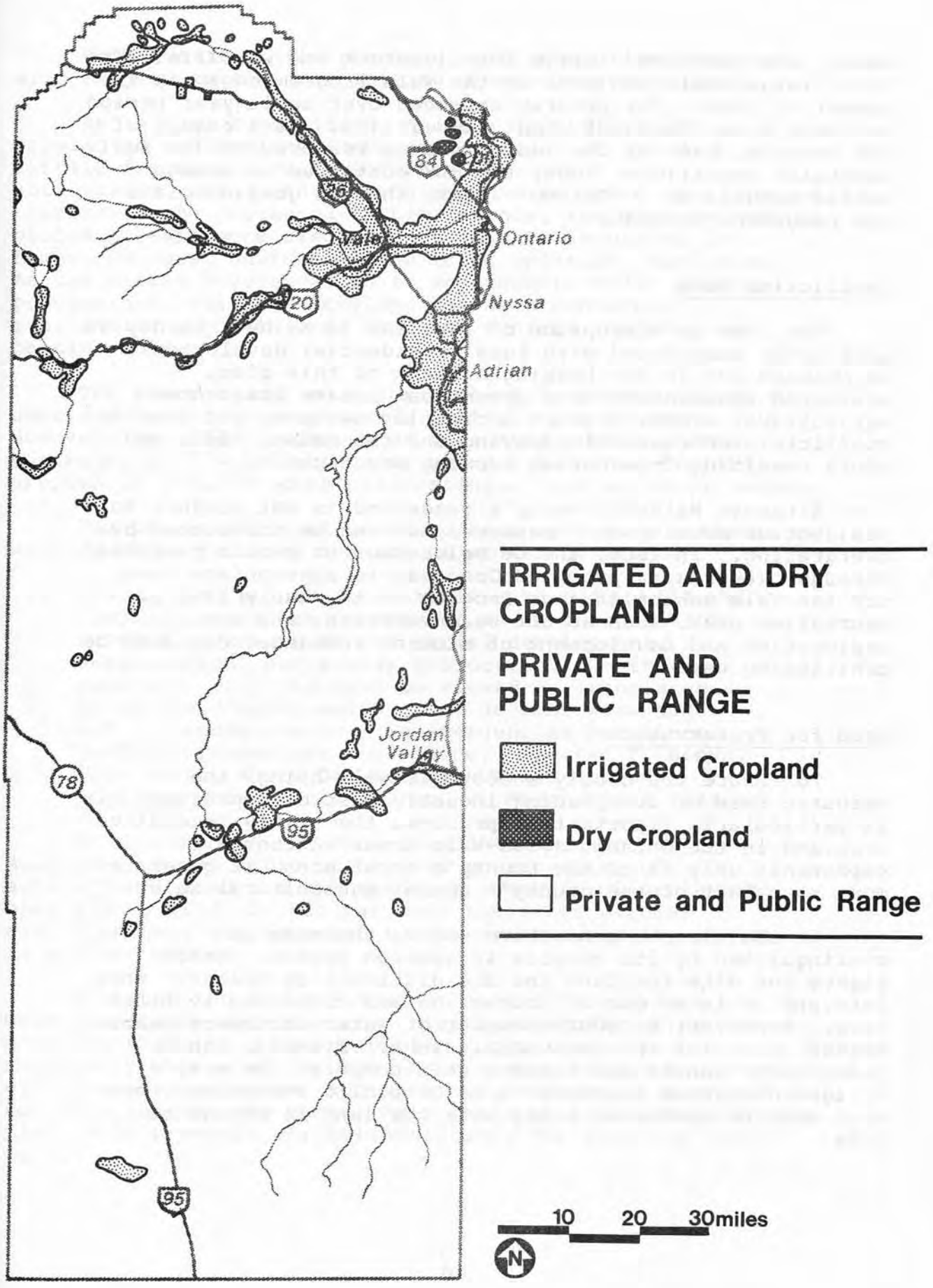
Rangeland

Almost 95%, or 6 million acres, of the land in Malheur County is open space or rangeland. Aproximately 4.4 million acres of rangeland are administered by the Bureau of Land Management; another .3 million acres are managed by the Division of State Lands; the remaining 1.3 million acres are privately owned. In addition to generating the largest single component of Malheur County's agricultural income (cattle sales), the county's rangelands provide recreation areas, mineral resources, and wildlife habitat.

A detailed soil survey has not been completed for the county's rangeland. Based on land form and vegetation, however, most rangeland soils have been identified as SCS Class VI, which is best suited for livestock grazing.

Two major types of native vegetation characterize Malheur County's rangeland. The most common type is dominated by big sagebrush and bluebunch wheatgrass; the second type, which grows on alkaline soils, includes shadscale, spiny hopsage, budsage and greasewood. The primary forage plants are bluebunch wheatgrass, Idaho fescue, Sandberg bluegrass, squirrel tail, elksedge and cheatgrass. Crested wheatgrass has also become an important forage producer with the advent of extensive range seeding programs in the county.

Largely due to overgrazing, the condition of Malheur County's public rangeland gradually deteriorated until the early 1960's, when Congress appropriated funds for the Vale Rehabilitation Program. Administered by the Vale District of the Bureau of Land Management, the program emphasized rehabilitation of soil and vegetation, conservation of


84
26
Vale
Ontario
20
Nyssa
Adrian
Jordan Valley
78
95
95
IRRIGATED AND DRY CROPLAND
PRIVATE AND PUBLIC RANGE
Irrigated Cropland
Dry Cropland
Private and Public Range
10
20
30miles
N

water, and increased forage for livestock and wildlife. The first large-scale projects in the Vale Program began in the summer of 1962. The program extended over an 11-year period and used total funds of about $10 million. As a result of the program, much of the land has been restored to its fully vegetated condition. Today the BLM continues to manage public rangelands in Malheur County through grazing plans and rangeland programs.

Conflicting Uses

The loss or disruption of farmland in Malheur County is most often associated with rural residential development. As pointed out in the housing element of this plan, scattered residential development can create fragmented agricultural areas, disrupt irrigation systems, and lead to conflicts over chemical spraying and the noise, dust, and odors resulting from normal farming practices.

Although Malheur County's rangeland is not subject to residential development pressures, it can be threatened by overgrazing. In fact, the deterioration of public rangeland through overgrazing prompted Congress to appropriate funds for the Vale Rehabilitation Program in the early 1960's. Recreation uses, such as off-road vehicles, and the exploration and development of mineral resources can also be conflicting uses.

Need for Preservation

To ensure the county's economic well-being, the resource base of its leading industry must be protected. It is particularly important to preserve the highly productive cropland in the Ontario-Nyssa-Vale area. Although it represents only 4% of the county's total area, it generates more than half of the county's annual agricultural sales.

In addition to productive soils, the area is distinguished by its complex irrigation system. Water rights run with the land and are difficult to transfer when farmland is taken out of production and converted to other uses. Moreover, a reduced number of water customers means higher costs for the individual users. Finally, the reservoirs, canals and ditches that comprise the area's irrigation system represent a major public investment, one that must be protected along with the land it brings to life.

Unfortunately, the county's most productive land is also subject to the most intense development pressure.

As in many communities, Malheur County's major population centers developed in the midst of the most fertile farmland. Years ago when the cities were established, agricultural land was not regarded as a limited resource to be protected. Then, as now, the most desirable places to farm were also the most desirable places for homes, schools, businesses and transportation facilities. As the cities have expanded to accommodate their growing populations, valuable farmland has been converted to residential subdivisions, shopping centers, streets and parking lots.

The exact amount of Malheur County's farmland lost to development in recent years is difficult to document. However, in 1970 the amount of irrigated cropland was estimated at 274,000 acres; 10 years later that figure dropped to 255,000 acres, indicating a loss of 19,000 acres.

The preservation of farmland is a matter of national as well as local concern, for as one writer observed,

> Rising food prices make it clear that agricultural land no longer can be treated as an inexhaustible reservoir for use in industrial development, urbanization, and energy production. On the contrary, cropland must be viewed as irreplacable, to be paved over, built upon, or otherwise taken out of production only in emergencies and after public deliberation and choice. (Lester R. Brown, "Top Soils, Where Civilization Takes Root," Graduate Woman, Vol. 76, No. 2, March/April 1982.)

In addition to ensuring the continued success of Malheur County's agriculture, the preservation of agricultural land has the secondary benefit of protecting open space, wildlife habitat, and the other natural resources that are an asset to the overall quality of life in eastern Oregon.

Although the preservation of agricultural lands has been one of the most controversial issue confronting the county's planning program, public support has been repeatedly expressed through the citizens attitude survey, citizens advisory committee meetings, and public hearings. For this reason, one of the main goals of this comprehensive plan is to preserve agricultural lands for farm and range uses.

Tools for Preservation

Three major tools are available to discourage the unnecessary conversion of Malheur County's agricultural lands to urban uses: urban growth boundaries, exclusive farm use zoning, and special assessment of agricultural lands for property taxation.

All three main cities--Ontario, Nyssa and Vale--have established urban growth boundaries in cooperation with the county. Pursuant to Statewide Planning Goal 14 (Urbanization), the urban growth boundaries separate urbanizable lands from rural lands. They are intended to promote the growth of compact urban centers and prevent the conversion of agricultural lands through urban sprawl.

Exclusive farm use zoning pursuant to ORS Chapter 215 enables the county to regulate non-farm and non-range activities in agricultural areas. Zoning also enables the county to establish minimum lot sizes designed to keep agricultural lands in blocks that are large enough to assure the continuation of existing agricultural enterprise.

To discourage the tax-induced conversion of agricultural lands to urban uses, lands used exclusively for farm or range purposes are qualified to receive special assessment pursuant to ORS Chapter 308. The special assessment for farm use results in lower property taxes than if the property were assessed at market value. If lands receiving farm use assessment are converted to non-farm uses, they are disqualified from the special assessment and a penalty of additional taxes is imposed.

All three of these tools are incorporated into the county's comprehensive plan and zoning ordinance. Together, they comprise a fairly effective program for the preservation of Malheur County's agricultural lands. The most effective means of preservation, however, is public support--a tool that cannot be legislated. The support of local farmers and ranchers, farm-related industries, homebuilders, and owners of agricultural land in the county is the real key to the success of Malheur County's efforts to preserve its agricultural lands.

Minimum Lot Sizes

Statewide Planning Goal 3 (Agricultural Lands) provides that minimum lot sizes established by county zoning ordinances "shall be appropriate for the continuation of the existing commercial enterprise within the area." In the process of determining the appropriate minimum lot sizes for the county's farmland and rangeland, an approach was used

similar to that developed in Jefferson County.

Farmland. In general, commercial agricultural enterprise in the county's irrigated areas is characterized by relatively small, intensive farming operations. Based on the 1978 Census of Agriculture, the average size of Malheur County's irrigated farms is approximately 205 acres, compared to 568 acres in neighboring Harney County and 314 acres in Baker County.

For an initial indication of the appropriate minimum lot size for irrigated farmland, the county first considered existing lot sizes. To determine the average existing lot size, twenty sections of land in the northeastern portion of the county were selected. The sections selected were full sections uncut by major river canyons and including mostly irrigated farming operations rather than rural residential or other non-farm uses. In an attempt to get widespread geographic representation, sections were selected near Ontario, Oregon Slope, Cairo Junction, Vale, Jamieson, Nyssa, Adrian and Big Bend.

Non-farm parcels in each section were identified and eliminated from the calculations. The number of acres in farm parcels was totaled, then divided by the number of parcels to determine the average lot size. On a section-by-section basis, the average farm lot size ranged from 37 acres in sample section #2 to 72 acres in sample section #20. Overall, the 12,076 acres of farmland in the 20 sections were divided into 226 parcels, resulting in an average farm lot size of 53.4 acres.

Based on the average existing farm lot size, the county concluded that the minimum lot size established by ordinance should be either 40 or 80 acres, both of which are traditional units of land. In the end, the county determined that the 40-acre minimum lot size would be more appropriate for irrigated farmland because it was large enough to promote the continuation of existing commercial enterprise yet not so large that young farmers would be prohibited from starting out in the business with a small farm.

Rangeland. Commercial agricultural enterprise in the county's extensive rangeland is characterized by very large ranching operations. According to the 1978 Census of Agriculture, the average size of "farms" on Malheur County's private rangeland and pastureland is approximately 2,618 acres. Several holdings exceed 5,000 acres. As a result, the county determined that a minimum lot size based on the average existing ranch lot size would be far too large to administer in any practical manner.

Instead of basing the minimum lot size for rangeland on the average existing ranch lot size, the county decided to consider the minimum size of a productive and profitable ranch unit. Since some dryland farming operations are included under the Exclusive Range Use zoning provisions, the county determined that a 160-acre minimum lot size would be appropriate.

HOUSING

Rural Residential Development

One of the major issues confronting Malheur County's comprehensive planning program is rural residential development. Many residents have long preferred to live outside the cities, in the unincorporated areas of the county. Although the percentage of people living in unincorporated areas has dropped from 53.4 percent in 1970 to 48.4 percent in 1980, nearly half of all county residents still live outside city limits. Many of these residents are not farmers engaged in commercial agricultural enterprises, but instead are those who appreciate the amenities of country living and want to live away from urban areas.

The public demand for a rural lifestyle will not likely diminish in the future. When responding to the 1979 Malheur County comprehensive planning survey, 67 percent said housing development should be allowed in some rural areas. On the other hand, 78 percent said housing development should not be allowed where productive farming operations occur. Herein lies the central issue, for when non-farm housing is developed on or near agricultural land, the economic well-being of the county is threatened. Agriculture is the backbone of Malheur County's economy, and its primary resource -- agricultural lands -- must be protected if the county's economy is to prosper. At the same time, the county's expanding population needs and deserves adequate housing.

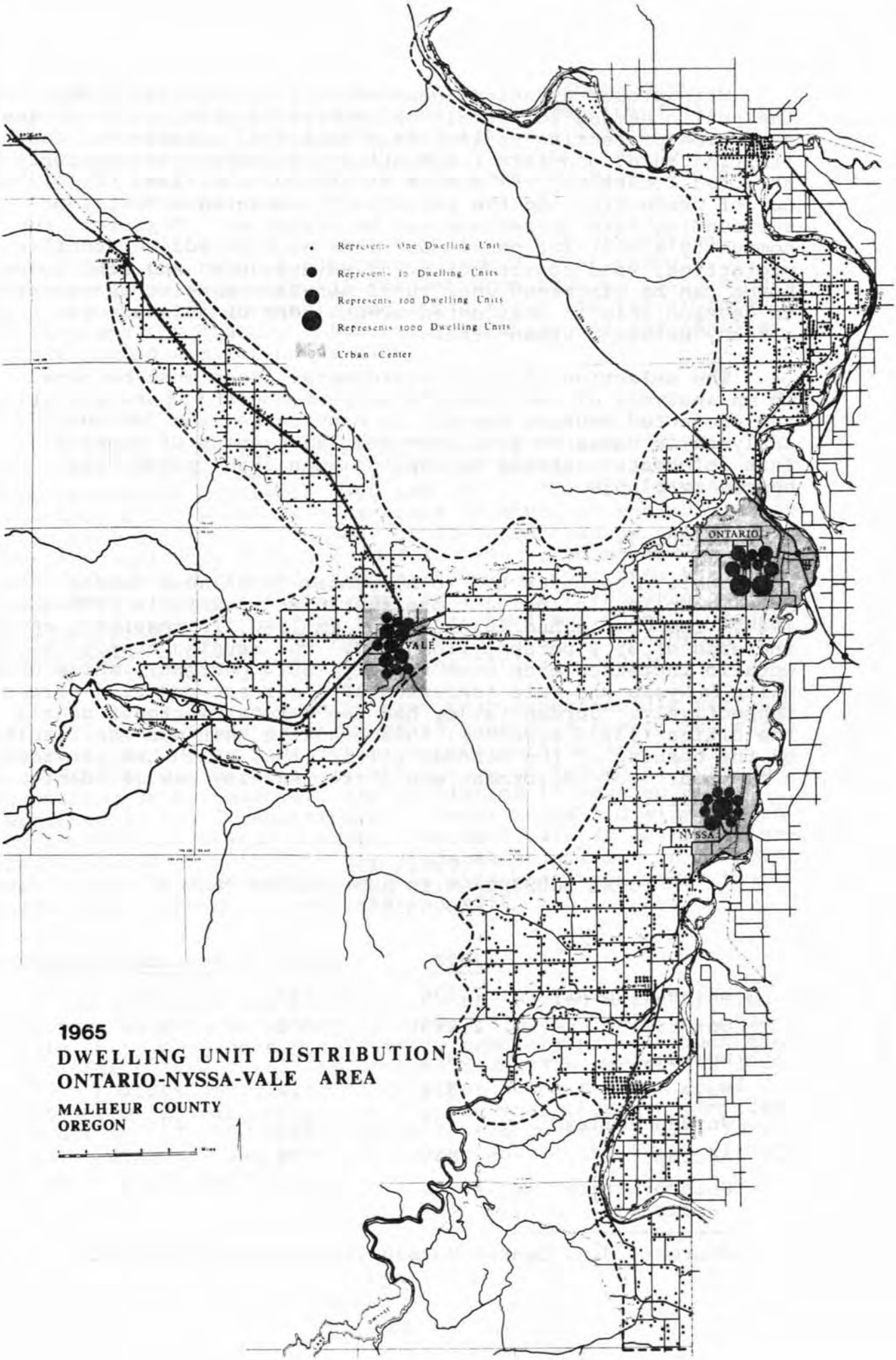
Although Malheur County is the second largest county in the state, almost 92 percent of the population lives in less than 4 percent of its total 9,870 square miles. (See population element.) In other words, approximately 24,666 people live in an area of about 226,000 acres, or 353 square miles; that area includes most of the county's irrigated cropland. Since the best farm soils are usually the most easily developed, there will be more and more competition for the limited amount of land available for agriculture and residential development. As an expanding population demands increased housing, additional agricultural land will be taken out of production and converted to residential uses unless it is protected by county zoning.

In addition to the loss of productive lands, the conflicts that arise between farm and non-farm residents when rural residential development occurs are a threat to the county's agricultural economy. Non-farm people may object to the odors, noises, dust, smoke, and chemical sprays involved in normal farming operations, and may force farmers to restrict their activities.

Rural Residential Tradition

Figure 5 was originally published as Plate IV in the 1966 Comprehensive Plan for the Ontario-Nyssa-Vale Area, which was prepared by the Malheur County Planning Commission in cooperation with the Bureau of Municipal Research and Service. As explained in the plan, Figure 5 shows the distribution of dwelling units in the area in 1965. At that time, between 7,000 and 8,200 persons lived in and around Ontario, between 3,600 and 4,100 persons in and around Nyssa, and between 1,800 and 2,000 persons in and around Vale. From 8,000 to 10,000 persons lived in the remainder of the study area. The total population of the Ontario-Nyssa-Vale area was about 22,300 or slightly over 90 percent of the total county population.

Today the 1965 study serves to document the long tradition of rural residential living in Malheur County. Although the county's population has increased to approximately 27,000, the patterns of population and dwelling unit distribution remain substantially the same seventeen years later.



1965
DWELLING UNIT DISTRIBUTION
ONTARIO-NYSSA-VALE AREA
MALHEUR COUNTY
OREGON

With proper planning, however, the county can accommodate the public demand for rural residential housing, while at the same time protecting agricultural lands and activities. By limiting rural non-farm residential development to carefully selected locations, the amount of agricultural land taken out of production and the potentially damaging effects on surrounding farm operations can be minimized. Moreover, the community's cost for public services such as police and fire protection, road construction and maintenance, and school buses can be minimized when rural non-farm housing is encouraged to develop only in designated areas, near or adjacent to already existing urban areas.

The selection of rural residential areas must be based on an analysis of the county's current housing characteristics and projected housing needs. In many cases, the following analysis is based on data from the 1970 census of housing. This information should be updated when 1980 census data become available.

Housing Supply

Table 11 compares the total number of Malheur County housing units, including those that were vacant, in 1970 and 1980. The county had 10,623 units in 1980, representing an increase of 35.2 percent from 1970. The housing supply in Ontario increased even more rapidly (60.4 percent), while units in Nyssa and Vale increased 18.4 percent and 22.4 percent, respectively. Jordan Valley had the largest increase of all the cities (138.8 percent); this dramatic gain was the result of the opening of the DeLamar silver mine, which has provided a new source of employment and attracted many new residents to the area.

Table 11
TOTAL HOUSING UNITS AND PERCENT CHANGE
1970-1980

	1970	1980	Percent Change
Malheur County	7,856	10,623	35.2
Ontario	2,245	3,600	60.4
Nyssa	852	1,009	18.4
Vale	514	629	22.4
Jordan Valley	85	203	138.8
Adrian	NAV	73	NAV
Unincorporated areas	4,160	5,109	22.8

Source: U.S. Census Bureau (preliminary 1980 data)

The total number of housing units in unincorporated areas of the county increased by 949, representing a gain of almost 23 percent. That figure is actually a little low because housing units in Adrian, which was not incorporated until 1972, were counted as being in unincorporated areas in the 1970 census.

In all cases, the number of housing units increased faster than the rate of population growth. For example, Ontario's population grew 35 percent from 1970 to 1980, compared to a 60 percent increase in housing units. The faster rate of increase for housing units reflects the local and national trends toward smaller households.

Household Size

Table 12 shows the number of occupied housing units, the population in these units, and the average household size in Malheur County in 1960 and 1970. The county's average household size, which is determined by dividing the population in housing units by the number of occupied housing units, decreased slightly from 3.4 to 3.3. The trend toward smaller households has continued, according to HUD estimates that place the county's household size for 1980 at 2.8. (Housing and Urban Development Situation Report for Malheur County, Oregon, as of April 1, 1980, U.S. Department of Housing and Urban Development, Region X, Portland Area Office, 1980.)

Nyssa was the only major city that experienced a decrease in housing units and an increase in household size. The rural areas of the county (everything except Ontario and Nyssa, according to census definitions) also experienced a decrease in housing units; however, the population in housing units decreased as well, resulting in a lower household size. Even so, the household size for rural areas (3.4) was characteristically larger than that in urban places (e.g., 2.9 in Ontario). Malheur County's overall household size was larger than the state's as a whole in both 1960 and 1970.

Housing Types

Table 13 shows the distribution of housing units by type of structure in Malheur County in 1960, 1970, and 1980. Single-family units have been consistently predominant, although their precentage of the total has dropped from 87.4 percent in 1960 to 73.5 percent in 1980. On the other hand, the number of mobile homes has increased rapidly, so that they now comprise 16.5 percent of all housing units in the county. Multi-family units have maintained a steady 10 percent of the total throughout the past 20 years.

Table 12
OCCUPIED HOUSING UNITS, POPULATION IN HOUSING UNITS, AND AVERAGE HOUSEHOLD SIZE
1960-1970

	Occupied Housing Units		Population in Housing Units		Average Household Size	
	#	% Change	#	% Change	#	% Change
Malheur County						
1960	6,656		22,812		3.4	
1970	6,964	4.6	22,782	-0.1	3.3	-2.9
Ontario						
1960	1,639		5,027		3.2	
1970	2,119	29.3	6,220	23.7	2.9	-9.4
Nyssa						
1960	779		2,587		3.1	
1970	786	-1.6	2,586	0.0	3.3	6.5
Vale						
1960	458		1,444		3.2	
1970	461	0.7	1,448	0.3	3.1	-3.1
Rural Areas*						
1960	4,218		15,198		3.6	
1970	4,059	-3.8	13,976	-0.1	3.4	-5.5
Oregon						
1960	558,214		1,740,892		3.1	
1970	691,631	23.9	2,034,102	16.8	2.9	-6.5

Source: U.S. Census Bureau.

*Rural areas include everything except Ontario and Nyssa.

Table 13
HOUSING TYPES IN MALHEUR COUNTY
1960-1980

	Single-family			Multi-family			Mobile homes		
	#	% of Total	% of Increase	#	% of Total	% of Increase	#	% of Total	% of Increase
1960	5,965	87.4	--	679	10.0	--	181	2.7	--
1970	6,488	82.6	8.8	758	9.6	11.6	610	7.8	237.0
1980	7,668	73.5	18.2	1,042	10.0	37.5	1,716	16.5	181.3

Sources: U.S. Census Bureau; Malheur County Building Department; Malheur County Assessor; Bureau of Governmental Research and Service.

Vacancy Rates

Table 14 shows the vacancy rates, or the percentage of unoccupied units, in Malheur County in 1970, 1975, and 1980. In general, vacancy rates are good indicators of the demand for existing housing supply. Vacancy rates of approximately 1 to 1.5 percent of owner-occupied housing and 4 to 6 percent of renter-occupied housing are considered desirable. (FHA Techniques of Housing Market Analysis, U.S. Department of HUD and FHA Economic and Market Analysis Division, 1970.) Based on these standards, the county's vacancy rates for owner-occupied housing have been acceptable. However, the vacancy rates for rental units dropped from 5.7 percent in 1970 to 4.9 percent in 1980, indicating a growing demand and shorter supply of rental units.

Housing Tenure

Table 15 shows tenure (whether a unit is occupied by owner or renter) in Malheur County in 1970 and 1980. Although most units were owner-occupied in both 1970 and 1980, their percentage of the total dropped from 68.3 to 65. Renter-occupied units increased by 1,290, so that they represented 35 percent of the total housing units in 1980.

Table 14
VACANCY RATES IN MALHEUR COUNTY
1970-1980

	1970	1975	1980
Total Units	*	2%	*
For Sale	1.5%	1%	1.5%
For Rent	5.7%	6%	4.9%

Sources: U.S. Census Bureau; U.S. Department of Housing and Urban Development

Table 15
OCCUPIED UNITS BY TENURE
1970 and 1980

	1970		1980	
	#	% of Total	#	% of Total
Total Occupied	6,964		10,000	
Owner-occupied	4,754	68.3	6,500	65.0
Renter-occupied	2,210	31.7	3,500	35.0

Sources: U.S. Census Bureau and U.S. Department of Housing and Urban Development

Age of Housing

The relative age of housing is one indicator of a community's immediate and long-range needs for replacement or rehabilitation. Table 16 shows the estimated age of housing in Malheur County in 1980. Although nearly half (47.2 percent) of all housing units are over 30 years old, a large number (28.3 percent) have been built since 1970. In general, older homes need repairs more frequently than newer ones; however, the condition of housing depends on the quality of the original construction and the quality and frequency of repairs made thereafter.

Table 16
AGE OF HOUSING IN MALHEUR COUNTY
1980

	#	% of Total Units
1 year or less	351	3.3
2-4	994	9.4
5-10	1,746	16.4
11-20	1,334	12.6
21-30	1,243	11.7
30 years or more	4,949	46.6

Sources: U.S. Census Bureau; Malheur County Building Department.

Housing Condition

The Malheur County Planning Department conducted a housing condition survey in December and January of 1976/77 to update and supplement 1970 census information. Based on the physical appearance of the structure's exterior and the condition of the lot on which the unit was located, housing units were rated and classified as substandard, marginal, or standard. The criteria used to classify structures as substandard included existence of a wood foundation, major damage to the foundation, sagging, storm damage, chimney damage, poor original construction, and unmaintained site. Criteria for marginal structures included broken windows or doors, damaged porches or stairs, and minor foundation damage. The findings of the survey are summarized in Table 17.

Table 17
PHYSICAL CONDITION OF HOUSING STRUCTURES
1976

	Substandard		Marginal		Standard	
	#	%	#	%	#	%
Ontario*	43	1.6	23	0.9	2,631	97.5
Nyssa*	35	3.4	11	1.1	994	95.6
Vale*	15	2.6	4	0.7	564	96.7
All Other Unincorporated Areas**	31	3.2	5	0.5	902	96.2
TOTAL	124	2.4	43	0.8	5,091	96.8

Source: Malheur County Housing Survey, 1976-77

* Included incorporated city and city fringe, except downtown commercial areas.

** Included all other unincorporated areas within the study area, which consisted of the Ontario-Nyssa-Vale area and contained approximately 85 percent of the county's population.

Because interior and locational conditions were not evaluated, and all mobile homes were considered to be standard due to rating difficulties, the housing condition survey provided the minimum number of physically substandard units in the study area. Thus, at least 35 structures in Nyssa were considered substandard, giving it the highest percentage of substandard housing. The percentage in unincorporated areas was nearly as high, however.

The results of the Malheur County housing condition survey are not directly comparable to those of the 1970 census, which was based on different criteria. The Census Bureau defines substandard housing as any unit lacking some or all plumbing facilities. As shown in Table 18, 4.6 percent of all year-round units in Malheur County lacked plumbing in 1970. As expected, a higher percentage of rural units lacked plumbing than in urban areas. Malheur County's percentage of substandard housing was considerably higher than the state's as a whole.

Table 18
PERCENTAGE OF YEAR-ROUND UNITS
LACKING PLUMBING AND HEATING
FACILITIES IN MALHEUR COUNTY
1970

		Percentages			
	Total Year-Round Units	Lacking Plumbing	Lacking Central Heating	Lacking Both	Lacking Either But Not Both
Malheur Co.	7,529	4.6	8.7	2.1	11.2
Ontario	2,230	0.9	2.8	0.5	3.2
Nyssa	852	2.7	8.8	2.0	9.5
Oregon	735,631	3.2	10.6	1.1	12.7

Source: U.S. Census Bureau

Table 20
PERCENTAGE OF HOUSEHOLDS
BY GROSS RENT PAID PER MONTH, 1960 and 1970

		Total Occupied Rental Units	Percentages					No Cash Rent	Median
			0-40	40-60	60-100	100-150	150+		
Oregon	1960	165,535	10.9	21.3	46.8	11.2	1.1	8.7	$ 70
	1970	221,740	2.4	7.4	30.9	37.7	16.2	5.4	$107
Malheur County	1960	1,558	14.6	23.0	35.9	5.6	--	20.9	$ 62
	1970	1,629	3.4	13.9	49.5	19.9	--	13.3	$ 82
Ontario	1960	620	10.4	21.9	33.2	9.0	--	9.2	$ 71
	1970	827	1.3	10.4	56.5	20.4	4.2	7.4	$ 86
Nyssa	1960	263	23.6	21.7	38.0	4.6	--	12.2	$ 59
	1970	222	6.3	25.7	51.8	10.8	--	5.4	$ 66

Source: U.S. Census Bureau

Housing Costs

Housing costs provide a measure of the economic well-being of a community's citizens. Families who fall below the median income and pay more than 25 percent of their income for housing may need assistance. Comparing housing costs with family income can also help determine if adequate housing supply is available to households in each income group. Although the most recent information available is 1970 census data, the percentages are likely to remain comparable.

As a general rule, the value of owner-occupied housing should not exceed 2.5 times the family yearly income. Using this estimate, household income distributions were converted into house value distributions, and compared with the actual distribution of owner-occupied housing units by value. Similarly, monthly rental generally should not exceed 25 percent of household income. Using this figure, income distributions were converted to monthly rent distributions and compared with the distribution of rental units by cost.

Tables 21 and 22 show that 9 percent of all households in the county had an income of less than $2,000 in 1970, and 10 percent of all owner units were available in their value range, making a good ratio between supply and demand. On

Value and Rent

Table 19 shows that housing values in Malheur County were lower than the state average. In 1960 the median house value in Malheur County was 94.3 percent of the state median. By 1970 the percentage had dropped to 80.5 percent. This indicates that housing values increased more rapidly in the state in general than in Malheur County during this period. Values in Ontario were greater than those in the county, while values in Nyssa were less than the county average.

Table 19
PERCENTAGE OF HOUSEHOLDS BY VALUE
OF OWNER-OCCUPIED HOUSING UNITS, 1960 and 1970

			Percentages							
		Total Owner-Occupied Units	Less than 5,000	5,000 to 9,999	10,000 to 14,999	15,000 to 19,999	20,000 to 24,999	25,000 to 34,999	Greater than 35,000	Median Value
Oregon	1960	312,979	10.9	36.6	31.8	13.1	4.4	2.7	1.6	10,500
	1970	369,781	3.3	17.3	27.1	24.5	12.8	9.8	4.9	15,400
Malheur County	1960	2,240	19.5	31.3	31.3	11.9	4.4	1.3	.8	9,900
	1970	2,625	9.7	28.5	26.1	17.3	10.1	5.9	2.4	12,400
Ontario	1960	853	8.0	30.6	35.1	15.9	7.7	1.0	--	11,300
	1970	1,072	3.4	23.2	24.9	21.9	14.0	9.3	3.3	14,700
Nyssa	1960	480	22.1	31.9	27.7	15.0	1.7	4.8	--	9,200
	1970	535	14.2	37.9	24.9	16.3	4.1	1.5	1.1	9,700

Source: U.S. Census Bureau

Table 20 shows that between 1960 and 1970, median gross rent increased by 52.9 percent in the state, 32.3 percent in the county, 21.1 percent in Ontario, and 11.9 percent in Nyssa. As with home value (and probably because of it), Malheur County did not experience as great an increase in rents as the state as a whole. Home values increased in Ontario by 30.1 percent between 1960 and 1970, while rents increased only 21.1 percent. Approximately 59 percent of renters in the county and cities paid rents between $60 and $100 in 1970.

the other hand, only 3 percent of all rental units were available to families in category 1, which is the group most likely to require rentals. Families in categories 2, 3, and 4 had adequate supply of both owner and rental units available to them, but families with incomes of $8,000 or more had shorter supplies available -- a factor that may have contributed to inflation in the lower cost ranges.

Table 21
EQUATING INCOME WITH HOUSING COSTS, 1970

Category	Family Income	Housing Market Value	Monthly Rental Costs
1	Less than $2,000	Less than $5,000	Less than $40
2	$2,000-3,999	$5,000-9,999	$40-59
3	$4,000-5,999	$10,000-14,999	$60-79
4	$6,000-7,999	$15,000-19,999	$80-99
5	$8,000-9,999	$20,000-24,999	$100-119
6	Greater than $10,000	Greater than $25,000	Greater than $120

Source: U.S. Census Bureau

Table 22
PERCENTAGE OF MALHEUR COUNTY FAMILIES AND UNITS IN EACH CATEGORY, 1970

	Percentages		
Category	Households	Owner Units	Rental Units
1	9%	10%	3%
2	6%	29%	14%
3	8%	26%	25%
4	16%	17%	25%
5	15%	10%	8%
6	47%	8%	12%

Source: U.S. Census Bureau

Housing Construction Trends

Table 23 summarizes the number of building permits issued for single-family and multi-family housing units, as well as the number of mobile home placement permits issued in Malheur County from 1976 to 1980. Each year the majority of new housing units were single-family homes, except in 1979, when mobile homes outnumbered conventional single-family homes by 48. The construction of single-family homes peaked in 1977 with a total of 187 permits issued. The percentage of single-family units ranged from 30.5 in 1979 to 54.4 in 1978. During the last two years, more than half of the single-family homes were constructed in unincorporated areas of the county.

As expected, all multi-family units were constructed in the cities. The highest number of units were built in 1976, when multi-family permits comprised nearly half of the total activity. The lowest number of units were constructed in 1978--permits were issued for 23 units, comprising only 7.8 percent of the total.

The number of mobile home placement permits increased considerably from a low of 28 in 1976 to a high of 155 in 1979. These figures are probably low because an estimated 20 percent of all mobile homes are "bootlegged" into the county, or set up without proper permits. Even so, mobile homes comprised a significant percentage of the total, growing from 8.3 percent in 1976 to 40.2 percent in 1980 for the county as a whole. The percentage of mobile home permits was still higher in unincorporated areas, where well over half of all new housing units were mobile homes during the past 4 years. The increase in mobile homes is due to improved quality of mobile home construction, as well as the rising costs of conventional housing.

Rehabilitation and Assistance Programs

As the cost of building new homes continues to rise, already existing structures are becoming increasingly valuable resources needed to meet the housing demands of an expanding population. To preserve and protect those resources, home improvement and rehabilitation programs are essential; they also provide a cost-effective means of upgrading substandard homes, thereby increasing the supply of safe, decent, and sanitary housing for low and moderate income families.

Four major programs in Malheur County provide help with home improvements and rehabilitation, including weatherization: the Farmers Home Administration (FmHA), the Malheur Council on Aging, Oregon Rural Opportunities, and the Malheur County Housing Authority. These programs are described in Stephen Iwata's report on Housing Improvement Programs in Malheur County, November 1977.

Table 23
NUMBER OF HOUSING PERMITS ISSUED
IN MALHEUR COUNTY
1976 - 1980

	Total	Single-family		Multi-family*		Mobile Homes	
		#	%	#	%	#	%
1980							
Entire County	241	108	44.8	36	14.9	97	40.2
Uninc. Areas	138	65	47.1	0	0	73	52.9
1979							
Entire County	351	107	30.5	89	25.4	155	44.2
Uninc. Areas	165	58	35.2	0	0	107	64.8
1978							
Entire County	294	160	54.4	23	7.8	111	37.8
Uninc. Areas	127	45	35.4	0	0	82	64.6
1977							
Entire County	364	187	51.4	56	15.4	121	33.2
Uninc. Areas	124	51	41.1	0	0	73	58.9
1976							
Entire County	336	148	44.0	160	47.6	28	8.3
Uninc. Areas	81	65	80.2	0	0	16	19.8

Sources: Malheur County Building Department and City of Ontario Building Department

*Number of units

In addition to home improvements, housing assistance is available from the Malheur County Housing Authority, which currently administers 185 units under a Section 8 program and another 40 units under a low-rent public housing program. The Oregon State Housing Division administers an additional 32 elderly and 32 family units of Section 8 new construction units.

Projected Housing Needs

Malheur County's housing needs for the year 2000 were projected based upon the high population projections prepared by the PSU Center for Population Research and Census. They were also based on the following assumptions:

1. The proportion of the population living in households (i.e., not away at school or in institutions) will remain a constant percentage of the total population (98.3 percent).

2. The average household size will continue to decline, averaging 2.6 persons per household in the eighties and 2.5 in the nineties.

3. About 0.5 percent of the housing stock should be replaced each year to compensate for deterioration and demolition of substandard housing.

Table 24 shows the projected number of new housing units needed, the number of replacement units needed, and the total housing units necessary to accommodate expected population increases in 1990 and 2000.

Table 24

PROJECTED HOUSING NEEDS, MALHEUR COUNTY
1990 - 2000

Year	Population*	New Housing Units Needed	Replacement Units Needed	TOTAL
1980	26,896	--	--	--
1990	31,100	1,617	531	2,148
2000	37,200	2,440	612	3,052

*High population projection-- PSU

It is projected that approximately 4,057 new dwelling units and 1,143 replacement units will be needed by the year 2000. That means about 203 new dwelling units and 57 replacement units, or a total of 260 units, will be needed each year to keep pace with expected population increase and renewal of housing stock. Current housing starts and mobile home placement permits have usually been well above those projected needs, indicating that these projections may be low.

Meaningful projections regarding the type and cost of housing units needed in the future are difficult to make. Nevertheless, future needs will probably be similar to existing needs:

1. A greater variety of housing types is needed in Malheur County. New residents have a limited range of housing choices.

2. More rental housing is needed. Vacancy rates are dropping and it is becoming harder to find suitable rental housing available. This need will increase as interest rates continue to rise and fewer families can afford to buy their own homes.

3. More safe, decent, and sanitary housing is needed for low-income families, who now occupy many substandard units.

4. Additional housing rehabilitation and weatherization is needed to improve and preserve existing housing and conserve energy.

Most of the following inventories and background reports were drafted in the spring of 1980 by Sylvia Clark, who was the county planner at that time. These elements were originally published in Volumes I and II of the Draft Malheur County Comprehensive Plan in August 1980. Although these elements have since been edited to ensure consistency in format and to incorporate selected citizen input and agency suggestions, they remain substantially the same as first published in the draft plan.

Much of the information contained in these inventories and background reports is already out of date and should be reviewed and updated. In addition, the Goal 5 inventories (including mineral and aggregate resources, energy sources, fish and wildlife habitats, natural resources of unique significance, and historic sites and cultural areas) were completed before LCDC adopted its new administrative rule requiring specific Goal 5 inventory procedures. In an effort to meet the requirements of the new administrative rule (OAR 660-16-000), the county has already begun a special natural resources inventory project. Funded by HUD 701 comprehensive planning grant monies, the first stage of the inventory project was completed June 30, 1982. When the entire inventory process has been completed, the new Goal 5 inventories will replace those included here in the following pages. Other background information will be reviewed and updated according to the procedures set forth in Section 5 of this plan.

FOREST LANDS

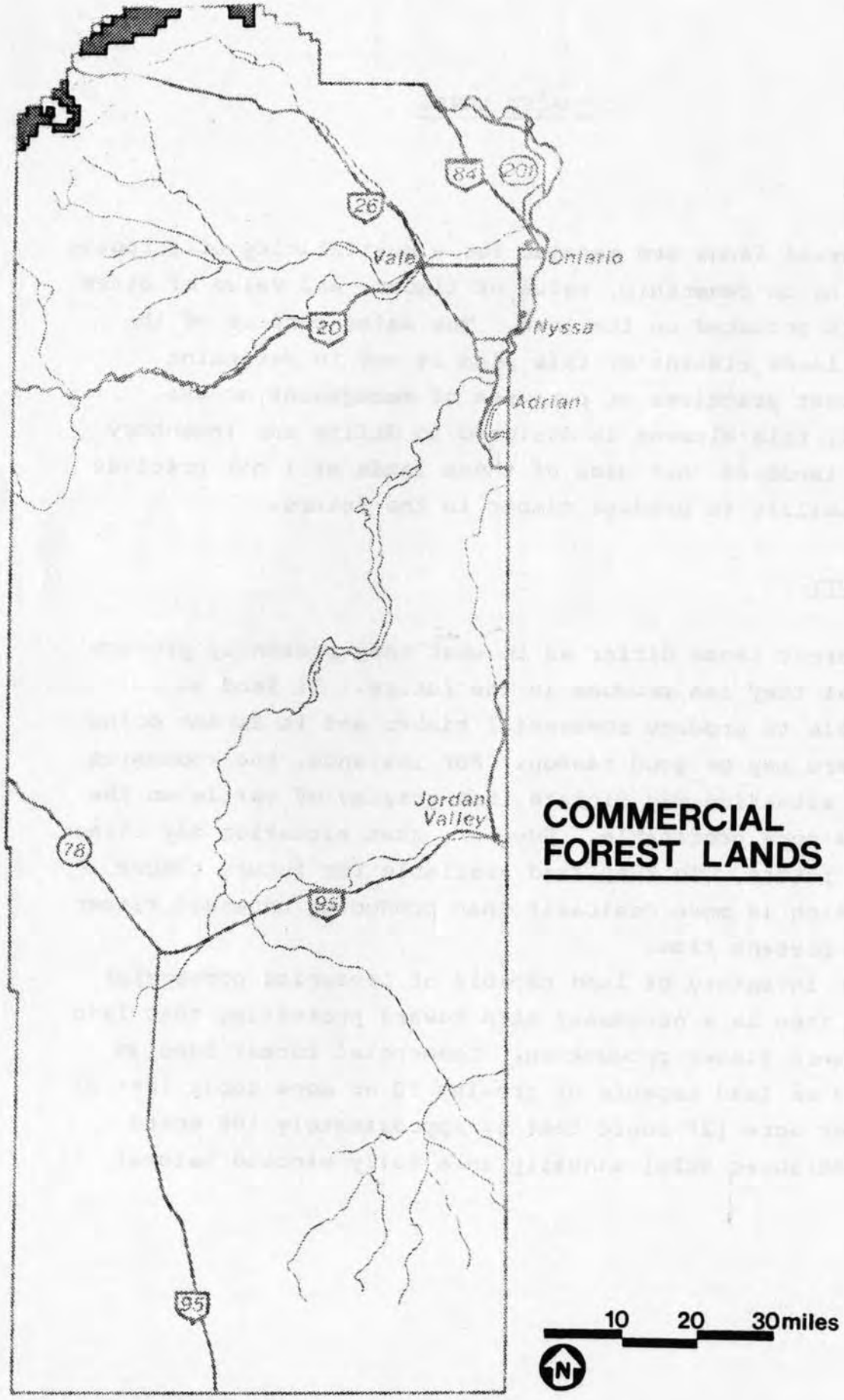
Purpose

Forest lands are managed for a multiplicity of purposes depending on ownership, value of timber, and value of other products produced on the land. The major purpose of the forest lands element of this plan is not to determine management practices or purposes of management or use. Instead, this element is designed to define and inventory forest lands so that uses of these lands will not preclude their ability to produce timber in the future.

Inventory

Forest lands differ as to what they presently produce and what they can produce in the future. If land is available to produce commercial timber and it is not doing so, there may be good reason. For instance, the economics of the situation may dictate that grazing of cattle on the land is more profitable. However, that situation may change in the future. To keep land available for future timber production is more desirable than producing unneeded timber at the present time.

An inventory of land capable of producing commercial timber then is a necessary step toward protecting that land for future timber production. Commercial forest land is defined as land capable of growing 20 or more cubic feet of wood per acre (20 cubic feet is approximately 100 board feet, Scribner Rule) annually in a fully stocked natural stand.


84
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Vale
Ontario
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Nyssa
Adrian
Jordan
Valley
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95
95
COMMERCIAL
FOREST LANDS
10
20
30 miles
N

In Oregon, commercial forest land in most cases has been delineated by the use of soil surveys. In Malheur County, though, these soil surveys have not been completed. Therefore, commercial forest land has been identified by estimates based on State Tax Commission maps and a generalized soil survey.

Of the total six million acres in Malheur County, only 10,446 acres (less than one percent) have been estimated to be classified as commercial forest land (see Table 25). Another 73,000 acres (one percent) are capable of growing trees but have been classified as unproductive forest. Unproductive forest land is incapable of yielding crops of industrial wood because of adverse site conditions.

Most of the commercial forest land in the county is privately owned. Of the 10,446 acres of commercial forest land, approximately 7,440 acres are in private ownership. The remainder is owned by the federal government, with 1,770 acres managed by the U.S. Forest Service (USFS) and 1,236 acres managed by the Bureau of Land Management (BLM).

Table 25

EXTENT OF FOREST LANDS IN MALHEUR COUNTY

Classification	Number of Acres	Percent of County
Commercial forest	10,446	Less than 1%
Unproductive forest	73,610	1%
All forest lands	84,056	Less than 2%

Source: Oregon State Forestry Department, The Forest Resources of Malheur County, Oregon, 1971.

Table 26

OWNERSHIP OF COMMERCIAL FOREST LANDS

Ownership	Number of Acres	Percent
U.S. Forest Service	1,770	17%
Bureau of Land Management	1,236	12%
Private	7,440	71%
All Commercial Forest Lands	10,446	100%

Productivity

The present production of live sawtimber on commercial forest land in the county has been estimated at 49 million board feet (see Table 27). About 42 percent of that is Ponderosa Pine, 37 percent Douglas Fir, 10 percent Western Larch, 8 percent White Fir, and 1 percent Englemann Spruce. There are also small amounts of Lodgepole Pine, Subalpine Fir, and Black Cottonwood. Even though most of the commercial timber land is under private ownership, only 31 percent of the live sawtimber is on private land; the remainder is on land managed by the USFS and BLM (49 percent and 20 percent, respectively). Despite ownership or present production of timber, all identified commercial forest lands should be protected.

Malheur County is not producing timber anywhere near the maximum possible on commercial forest land. However, it may be producing at optimum, particularly when consideration is given to production of livestock and livestock products on commercial forest land. Managing forest land for grazing can reduce the land's capability of producing maximum timber yields, but it does not preclude production at maximum yields in the future. However, there are forest lands that should be producing at higher levels. Generally, these are small private forests that are not producing more because of the high cost of management.

Table 27

VOLUME OF LIVE SAWTIMBER*, MALHEUR COUNTY

	Board Feet, Scribner Rule (in millions)	Percent
Total	49	100
Species		
Ponderosa pine	21	42
Douglas fir	18	37
Western larch	5	10
White fir	4	8
Engleman spruce	1	1
Lodgepole pine Subalpine fir Black cottonwood	Less than .05	Less than 1
Ownership		
USFS	24	49
BLM	10	20
Private	15	31

* Sawtimber - Live trees of commercial species, 11.0 inches DBH and larger, that contain at least one 12-foot coniferous sawlog with a top diameter not less than 6 inches outside bank and with not less than 25% of the board foot volume of the tree free of defects.

Source: Oregon State Forestry Department. The Forest Resource of Malheur County, Oregon (1971).

Cost-sharing Programs

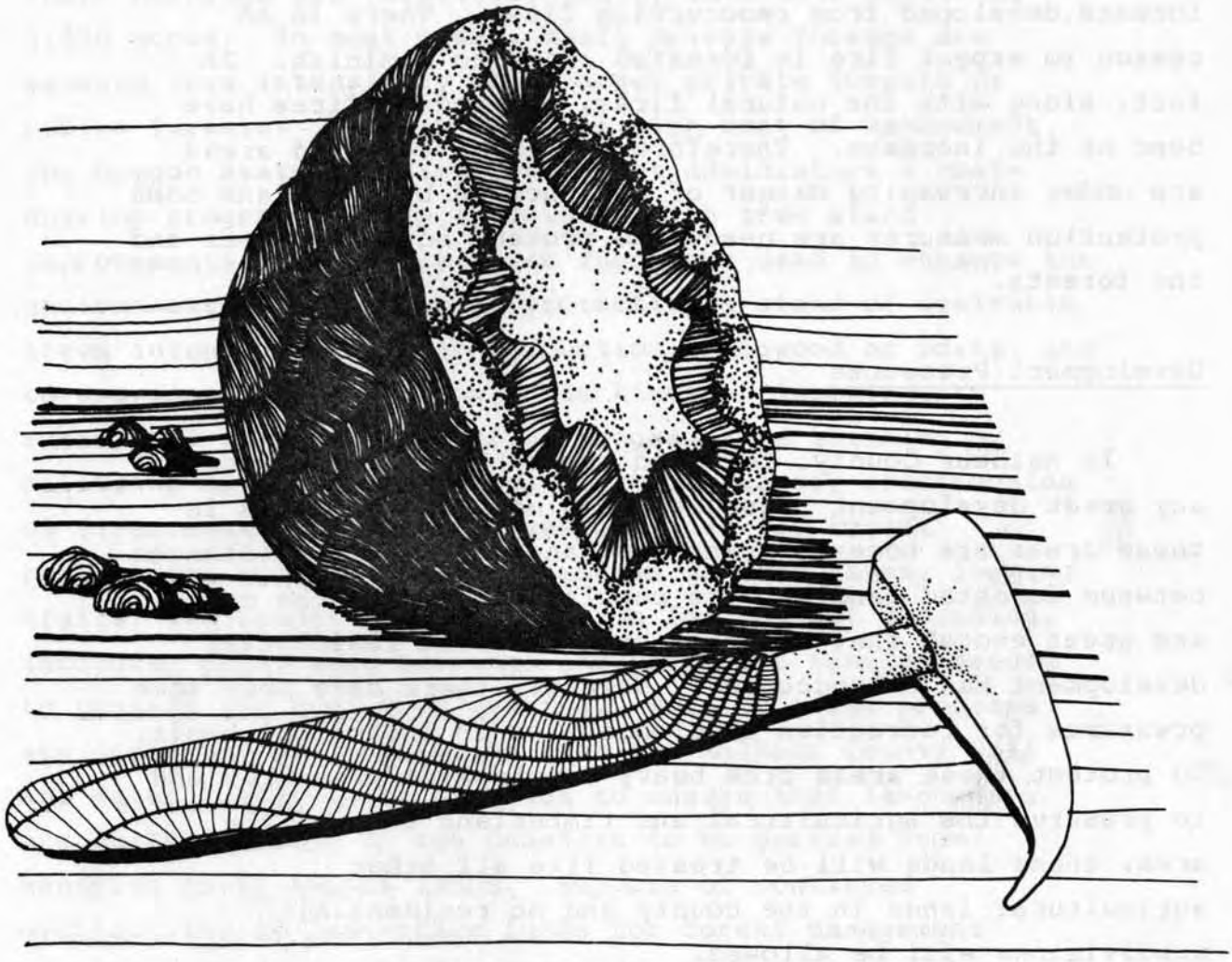
As stated earlier, 71 percent of the county's commercial forest land is in private ownership. All of these holdings are relatively small, with none exceeding 5,000 acres. In most cases, small private forests are managed less intensively than larger private forests or pubilc forests. To help with the high cost of management, the Oregon State Forestry Department administers a cost-sharing program to help landowners with tree stand improvements. Generally these funds are used to enhance the environment by improving or protecting a stand of desirable trees intended for timber production, pulpwood or posts, and to provide soil protection. The kinds of improvements authorized in the cost-sharing programs are thinning or releasing desirable seedlings and young tress; construction of firebreaks and fire suppression lanes for forest protection; erosion control measures on fire lanes, logging trails, and roads; site preparation for natural reseeding, including prescribed burning; and permanent fencing needed to protect the area from grazing. Most of these programs are organized in cooperation with the Malheur County Soil and Water Conservation District to ensure that landowners are fully informed of the benefits to be derived from managing their forest lands. Support of continued availability of cost-share funds for forest management practices is desirable for the individual landowner, the county, and the state.

Fire Safety Considerations

For some forested areas, fire is essential to a healthy stand of trees, and in the Pacific Northwest most of the forests developed from reoccurring fires. There is no reason to expect fire in forested areas to diminish. In fact, along with the natural fires, man-caused fires have been on the increase. Therefore, homes in forested areas are under increasing danger of destruction by fire, and some protection measures are needed to protect both the homes and the forests.

Development Pressures

In Malheur County, forested areas have not been under any great development pressures, and most of the homes in these areas are homes of ranching landowners. The distances between forested land and the populated areas of the county are great enough that non-farm or non-forest residential development has not occurred. However, there have been some pressures for recreation development on an individual basis. To protect these areas from heavy development pressures and to preserve the agricultural and timberland base of the area, these lands will be treated like all other agricultural lands in the county and no residential subdivisions will be allowed.



MINERAL AND AGGREGATE RESOURCES

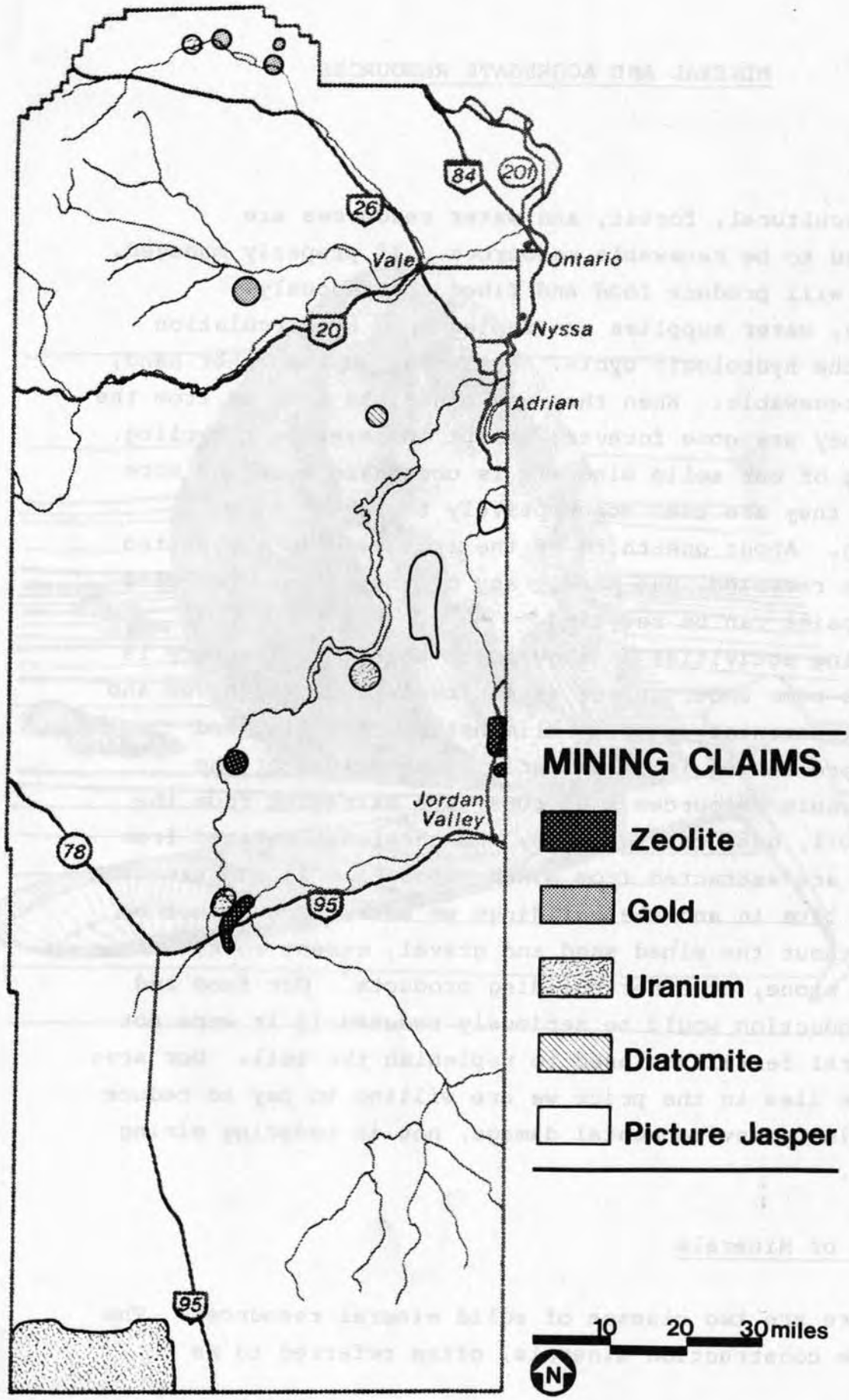
Purpose

Agricultural, forest, and water resources are considered to be renewable resources. If properly managed, the soil will produce food and fiber continuously. Similarly, water supplies are replenished by circulation through the hydrologic cycle. Minerals, on the other hand, are non-renewable. When they are mined and removed from the ground they are gone forever, except in cases of recycling. Recycling of our solid minerals is occurring more and more but when they are used consumptively there can be no recycling. About one-third of the iron used in the United States is recycled, but hardly any of the titanium or zinc used in paint can be recycled.

Mining activities in many areas where the industry is large has come under severe attack because of perceived and real environmental damage. Elimination of mining and mineral processing is unrealistic because most of the non-renewable resources used today are extracted from the earth. Oil, gas, coal, metals, and chemicals refined from minerals are extracted from mined deposits. In addition the homes we live in and the buildings we work in could not be built without the mined sand and gravel, cement rock, building stone, or other building products. Our food and fiber production would be seriously reduced if it were not for mineral fertilizer used to replenish the soil. Our area of choice lies in the price we are willing to pay to reduce and eliminate environmental damage, not in reducing mining activity.

Location of Minerals

There are two classes of solid mineral resources. The first are construction minerals, often referred to as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aggregate resources. They are characterized by high bulk and relatively low value. Because of their bulk and high cost of transportation, these minerals require close proximity to their market. An example of construction minerals is sand and gravel. The second class of solid mineral resources is high-value minerals such as copper, iron, lead, zinc, gold, and silver. These are often referred to as precious metals. Also in this class are industrial metals like zeolite and diatomite. Their relatively high value allows for long-distance shipment. Therefore, their use is not necessarily dependent on location as is the case with construction minerals.

Aggregate resources, as stated earlier, require close proximity to the market. The people in Malheur County are fortunate in that there are aggregate sites within a reasonable distance to areas of major population. The greatest concern for these sites is availability. Once building is allowed to occur over these sites the minerals are virtually lost. The general location of aggregate rsources in northeastern Malheur County is identified in the background report on land capabilities and natural resources (1977). This study is not an indepth study or a guarantee that each location has suitable aggregate resources or that every site in the county has been identified, but it is an overview of possible locations for construction minerals.

Mining for high-value minerals in Malheur County in the past has not been above the state average; 0.2 percent of the people in Oregon were employed in mining in 1970, and 0.2 percent of the people in Malheur County were also employed in mining in 1970. However, mining in Malheur County in the future is expected to increase substantially. As of May, 1979 there were over 6,000 mining claims filed with the County Clerk. Most of these claims were for uranium (over 5,000). The remainder were for picture jasper (about 230), gold (about 80), zeolite (450), and diatomite

(about 25). Most of these claims have been filed since 1970. Filing of uranium claims has become particularly popular due to the demand for uranium in power plants and other industry.

Conflicting Uses

Population and defacement of the environment can result from all aspects of mining activity, particularly from the primary stages of exploration and mine production. If the mine is to be an open pit, preparation for production involves stripping off large volumes of overburden that must be deposited somewhere. If the mine is underground, shafts or access workings are required. Excavations also call for depositing large volumes of waste rock on the surface. In addition, many operations produce large quantities of waste. Because of the possibilities of environmental damage, both the State of Oregon and U.S. Department of Interior have proposed mining regulations that require all mining operations to submit operations plans. The plans should address reclamation measures as well as the general operations of the mining activity. Probably a bond will be required to insure against damage to the environment. In addition to bonding and submittal of plans, the regulations will prevent miners from disturbing important cultural or paleontological resources and require that they report such findings. Also the BLM and the State of Oregon will formulate joint administrative enforcement programs to eliminate possible duplication of state and federal efforts. In addition, the state and federal government through EPA and DEQ are requiring special permits whenever mining may affect public waters.

Availability of aggregate resources will be threatened in the future if their locations are not identified

and protected from irreversible uses. Aggregates are needed in building of roads, streets, and structures, and their close proximity to the construction sites is a necessity. Therefore, the county should participate in an indepth study of aggregate sites throughout the county and provide protection for known sources.

Most other mining activities in the county are away from populated areas and the threat to the resource is not the major problem. Instead, negative impacts on the environment could result in restricting a primary industry. A large increase in a second primary industry could add the needed diversification necessary to keep Malheur County in a healthy economic climate. The county should, therefore, aid the state and federal government in enforcement of existing laws concerning mining and the environment and prohibit mining activities that may harm the air, water, and land quality.

1 Low

2 Low-Marginal

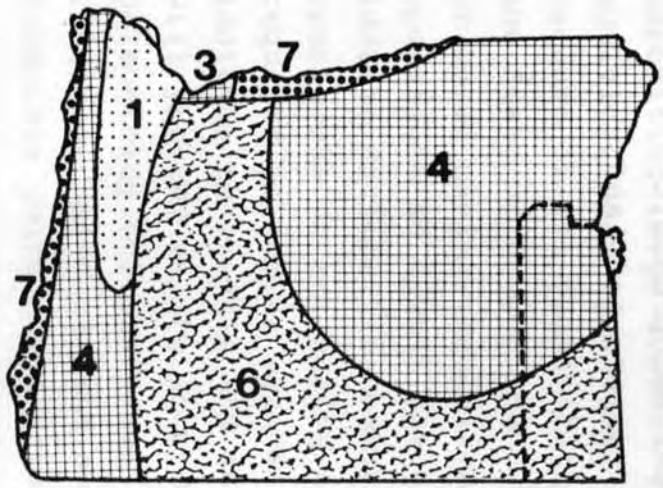
3 Marginal

4 Marginal-Moderate

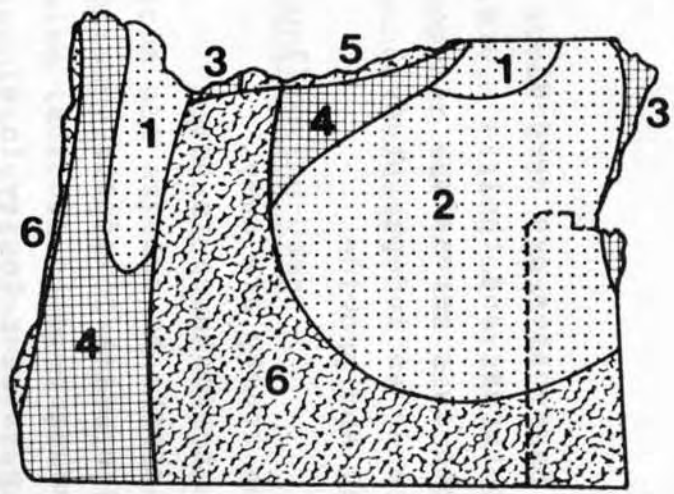
5 Moderate

6 Moderate-High

7 High

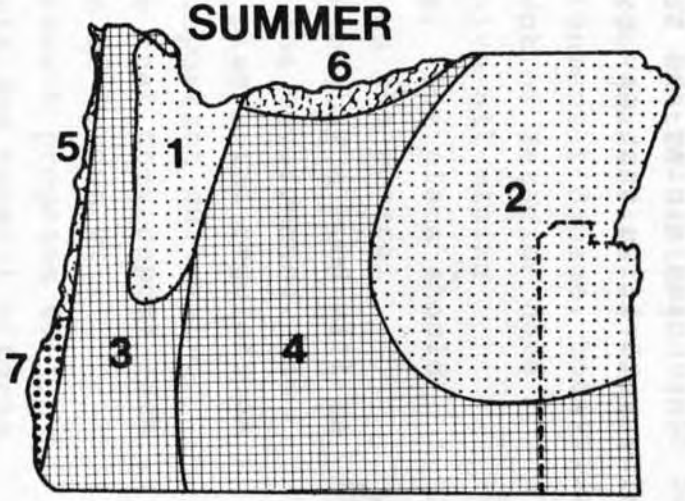


SPRING

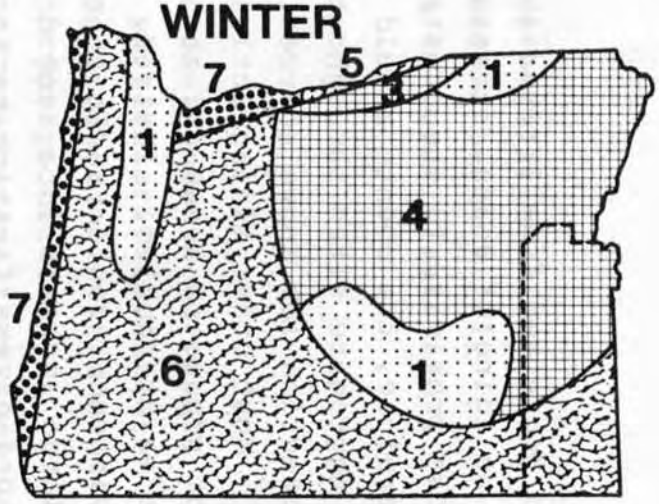


FALL

SUMMER



WINTER



SEASONAL WIND POTENTIAL IN OREGON

ENERGY

Purpose

The people of Malheur County are in the middle of a complex and conflicting set of circumstances which they are partially but not entirely responsible for but must work toward solving. The situation is an energy crisis. The crisis is not temporary like the shortages experienced in 1973-74 and 1979. Those were mild, temporary hardships compared to what lies in the future if the problem is not addressed now. The issue here is having control of our own energy future. Our demand for petroleum is greater than our domestic production. Therefore, we have become dependent upon political whims of other governments. These circumstances will continue so long as petroleum from foreign sources remains a significant part of our total energy supply.

Malheur County is potentially energy-rich. This report, therefore, will explore some of the energy sources available and how conservation by individuals and industry can buy the necessary time needed to develop these energy sources.

Energy Sources

Presently most of the energy resources in Malheur County are from traditional sources: hydroelectric, natural gas, and petroleum products. However, there are other sources available--some are presently being used, others are in the experimental stage and still others have not been tapped.

Hydroelectric. Hydroelectric power provides more than 90 percent of the electricity used in Malheur County. Most

of this power is generated at large multi-purpose dams on the Snake River and distributed to northern Malheur County by the Idaho Power Company. The southern portion of the county is served by Harney Electric Cooperative, which purchases power from Bonneville Power Administration (BPA). BPA produces about 80 percent of its electricity from multi-purpose dams on the Columbia River.

Most of the desirable dam sites in or bordering Malheur County have already been utilized. There is, however, one small project now being studied by The Bureau of Reclamation. This project would be located at the Owyhee Dam site, probably at Tunnel No. 1 where irrigation water leaves the reservoir and is fed into the irrigation canal system. The production of power could only be during the irrigation season and would produce only relatively small amounts of power. However, that amount produced would free-up power presently being supplied by the Idaho Power Company.

There are, however, several possibilities for micro-hydro projects in Malheur County. Micro-hydro projects are small projects usually on headwater or other high-head/low-flow streams used for small farms, residences, or other smaller or remote situations. Again, for Malheur County most micro-hydro projects would be available only during irrigation season. There are several high-head/low-flow diversions off the main irrigation canals that feed individual farms that may be possible sites for micro-hydro projects. Generally, the irrigation season runs from mid-April to mid-October, which is the period of highest use for electricity by Idaho Power customers.

Some estimates show that micro-hydro projects can produce about 30 percent of the total potential hydro-electric power in the State of Oregon. Therefore, even though the individual projects are small, they

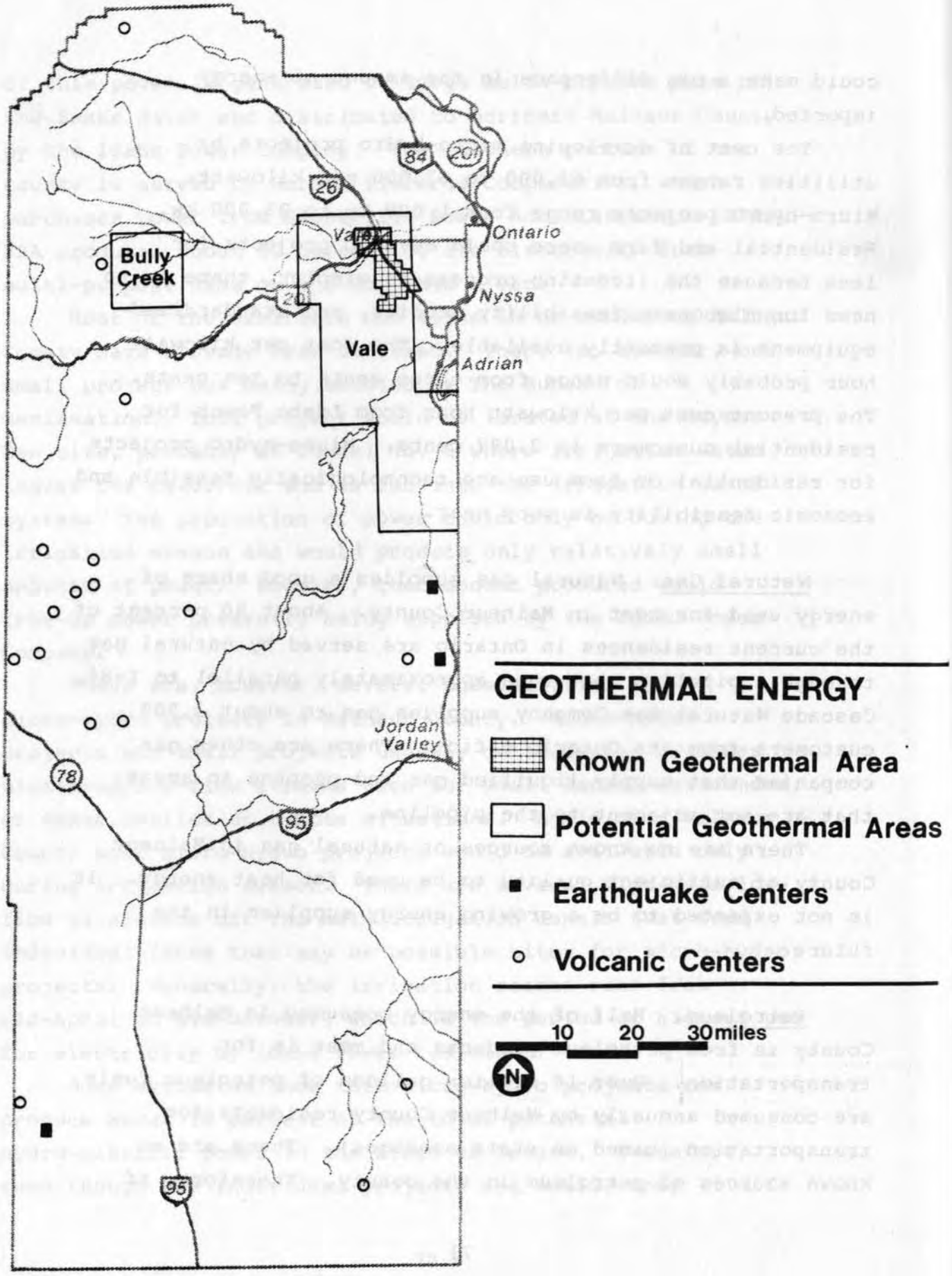
could make a big difference in the amount of energy imported.

The cost of developing micro-hydro projects by utilities ranges from $1,000 to $2,000 per kilowatt. Micro-hydro projects range from 1,000 kw to 25,000 kw. Residential and farm users could develop projects for less because the licensing process is simpler, there is no need for elaborate feasibility studies, and standardized equipment is presently available. The cost per kilowatt hour probably would range from three cents to ten cents. The present cost per kilowatt hour from Idaho Power for residential customers is 2.097 cents. Micro-hydro projects for residential or farm use are technologically feasible and economic feasibility is very near.

Natural Gas. Natural gas supplies a good share of energy used for heat in Malheur County. About 90 percent of the current residences in Ontario are served by natural gas through a pipeline that runs approximately parallel to I-84. Cascade Natural Gas Company supplies gas to about 3,500 customers from its Ontario office. There are other gas companies that supply liquified gas and propane to areas that are not adjacent to the pipeline.

There are no known sources of natural gas in Malheur County of sufficient quality to be used for heat energy. It is not expected to be a growing energy supplier in the future.

Petroleum. Half of the energy consumed in Malheur County is from petroleum products and most is for transportation. Over 16 million gallons of petroleum fuels are consumed annually by Malheur County residents for transportation (based on state averages). There are no known sources of petroleum in the county. Therefore, if


Bully Creek
Vale
Ontario
Nyssa
Adrian
Jordan Valley
84
201
26
20
78
95
95
GEOTHERMAL ENERGY
Known Geothermal Area
Potential Geothermal Areas
Earthquake Centers
Volcanic Centers
10
20
30 miles
N

the county is to have control over its energy future, it is necessary to reduce the use of petroleum products.

Geothermal. Geothermal energy comes from heat emanating from beneath the earth's mantle and is a usable energy source if tapped. The heat gradient for the earth is only about 1°F for every 100 feet. However, there are areas of recent volcanic activity, areas of severe faulting, or areas bordering tectonic plates where heat sources are relatively close to the surface. Malheur County is one of those areas and has been identified as one of the three best geothermal sites in Oregon. There is a very large Potential Geothermal Resource Area (PGRA) and a smaller Known Geothermal Resource Area (KGRA) in the county. The KGRA is near Vale and is presently being explored by several developers. One PGRA is also near Vale, plus there is a second PGRA near Bully Creek Reservoir. There has also been some interest by several companies digging test wells around PGRAs. The county, in cooperation with the City of Vale and Vale School Districts, is trying to develop a geothermal heating district for public buildings located in Vale. There are presently 41,000 acres of land leased for geothermal use and another 150,000 acres have leases on file waiting for approval.

The potential for intense development of the Vale KGRA and experimentation with the PGRAs is very good. The Governor's Geothermal Task Force has identified the area as being a top-priority development area because of the known resource and the existing food processing industry. Food processing is a good potential user of geothermal resources.

Geothermal energy can decrease supplies demanded by all sectors. It can and is being used for space heating; if

temperatures are great enough, it can be used to produce electricity; it can also be used in direct applications such as the mushroom production plant being developed presently; and indirectly it can help reduce our dependence on gasoline.

Alcohol. Ethanol and methanol, grain and wood alcohol, can both be used as fuel for internal combustion engines. A car engine can be made to run on pure alcohol with modifications, or a 10% blend of alcohol and gasoline, called gasohol, can be used without engine modification. However, in the case of gasohol the mixture must be anhydrous, or without water. If any water is left in the mixture, separation of the three components (alcohol, gasoline, and water) will occur. One of the problems with alcohol production is that it is very energy-intensive. Therefore a renewable energy source is desirable to supply the energy needed to produce alcohol. Geothermal is a renewable resource available in Malheur County and could be used for production of fuel-grade alcohol. Most of the geothermal resources in the county are expected to be under 300°F, and are not at this time expected to be hot enough to be available for electrical production. However, 200° to

300°F is suited for process heating used in alcohol production.

Malheur County presently has the needed raw materials used in the fermentation process of alcohol production. Wheat, barley, potatoes, corn, and sugar beets are all good products for production of fuel-grade alcohol and are all grown here in high volume. In addition to raw materials and a renewable energy resource needed to produce alcohol, an on-going education program on how to make fuel-grade alcohol has been established at Treasure Valley Community College. Malheur County is an area ripe for production of fuel-grade alcohol.

Solar. The amount of energy reaching the earth as solar radiation is extremely great. There is more global energy influx from the sun every 15 minutes than is currently used by the world in a year. The sun is a viable energy resource for Malheur County. Solar power is clean, cheap, relatively dependable, and technologically feasible. The sun transmits on the average in Malheur County 1,390 BTU/square foot/day. This figure is much greater in the summer and less in the winter months. However, the amount is more than adequate during both summer and winter to be useful. (1 KWH = 3,412 BTU's.) With this much energy there are two types of systems available for use: active and passive. An active system involves mechanical components with panels of metal and glass to trap the sun's heat, a water tank or rock bin to store it, and pipes or ducts to

convey it wherever it is needed. The passive system, on the other hand, takes a natural approach. The architectural design of the building is such that the sun heats the interior directly by conduction, radiation, and convection. There is also the possibility of combining both approaches.

The above-described systems are intended for small-scale operations by individual property owners. There is the possibility of large power plant operations using many collectors with large storage capacity or the use of potoelectric cells. Neither of these large-scale programs are economically feasible at this time. There are also other experimental programs using the sun and they too may become usable systems. In Malheur County the best use of solar energy at this time is for space heating, using passive or active systems; cooling, using an active system; and water heating, using a passive system. To apply these systems, some protective measures will be necessary to keep the direct rays of the sun available to all potential users. For example, a solar access ordinance will be necessary.

Wind. During the late 1800's and early 1900's, over six million windmills were in use in the United States. They were used to pump water, operate mills, and generate small amounts of electricity. There are only a few remaining, but in this time of energy awareness more and more are returning. Some experts have predicted that wind may contribute up to 20 percent of our energy supplies in the year 2000.

Oregon may be one of those areas contributing to the use of wind for energy. There is substantial wind energy resource in most of the state. Malheur County, however, has

been rated as having low-marginal to moderate wind potential in the northern portion of the county. However, the southern portion of the county ranges seasonally from marginal-moderate to moderate-high. The recognized potentials are only estimates and the true potential is dependent upon site-specific factors such as exposure. An area which is rated as being high may have poor exposure and therefore no potential. On the other hand an area with a low rating may have good exposure and therefore good potential.

Most small-scale wind systems in areas of good wind availability have been producing between 200 and 500 KWH. The typical home uses about 1,000 KWH per month for lighting and appliances. Wind may not be used in Malheur County as a major source of energy, but with the wind potential in southern Malheur County, ranching operations may make some use of the wind. Even in the lower-rated northern portion of the county there may be a place for wind as an energy source.

Solid Waste. The burning of solid wastes can contribute significantly to Malheur County's effort to control its energy future. Municipal wastes have a fuel value one-third that of coal, and residents of Malheur County alone produce approximately 120,000 pounds of garbage each day.

The county is presently reviewing its solid waste program and an incinerator and resource recycling plan is one of the alternatives. The incinerator equipped with a waste heat boiler could be used to generate steam that could be sold to the food processing industry. Malheur County by itself does not have the solid waste resource to make the project economically feasible. However, Payette County and the City of Weiser in Idaho have in the past expressed a desire to jointly use such a system. All three areas

produce daily more than 75 tons of garbage. It has been estimated that this is adequate to appropriately operate an incinerator to produce adequate energy for use by a food processing plant.

An innovative program like that described above is probably one of the most feasible large-scale programs available to the county. Other programs will be affected by individual efforts, but this program is one the county as a body can initiate.

Biomass. Biomass is also a potential producer of energy by producing methane gas. With the large numbers of dairy and feedlot operations in the county, some type of biomass system could be developed.

Energy Conservation

Large amounts of energy are wasted and, until recently, the amount wasted grew by five or six percent each year. In 1979, due to shortages, price increases, and greater awareness, consumption of energy per person took a downward turn. There were no great sacrifices made by individuals in reducing the amount of energy consumed. The past reductions have come through conservation measures. According to Governor Victor Atiyeh, "Energy conservation is not just a slogan--it's the best short-term answer to Oregon's energy problem."

Citizens of Malheur County can concentrate on two major areas of conservation and have substantial effect on energy consumption: weatherization and transportation. Both areas can yield immediate benefits to the conserver. New buildings constructed must meet strict state building codes. These codes require that extensive weatherization programs be built into the design of the building. This not only

decreases the demand on non-renewable energy resources, but it also lowers utility costs.

An effective weatherization program for existing buildings can also mean lower utility costs and less strain on non-renewable energy resources. A typical home in Malheur County wastes heat, energy, and money. Most of the homes are not properly weatherized and the air inside often escapes almost as fast as the heating system or air-conditioner can pump it. Some conservation measures are effective and yet have no cost: lowering the thermostat on both the central heating system and the water heater; opening the drapes when the sun is shining and closing them at night; closing fireplace dampers; washing clothes in cold water; and using the clothes dryer sparingly. Other programs such as sealing gaps with caulking and weatherstripping, insulating the water heater, maintaining the fireplace and furnace, and insulating windows, ducts, and pipes have low-to-moderate costs. The projects that require a major expense are insulation of walls, attics, and floors.

Because there are some major expenses involved in adequately weatherizing homes, the state and federal governments have created incentive programs. The federal government gives a 15 percent credit on federal taxes up to $300 for money spent on weatherization. The State of Oregon gives a 25 percent tax credit up to $125. The State Department of Veterans' Affairs allows weatherization improvements to be added to the principal of the home loan at the same low interest rate. There are also free home weatherization programs for low-income persons and senior citizens.

If consumers can see a direct economic incentive, they will be more apt to weatherize. There is a simple energy efficiency rating (EER) formula that indicates the amount of energy used in a year for each square foot of usable floor space. By applying the EER formula to a particular circumstance and comparing the building's EER from one year to the next, the conserver can measure the progress made on weatherization as a conservation method.

The other major conservation method easily available to most persons in Malheur County is conservation in transportation. Over 40 percent of total energy consumption in the State of Oregon is for transportation of passengers and goods, and about 67 percent of that is consumed by the private automobile. Most of the people in Malheur County have little direct control over movement of goods but most can have a direct impact on consumption of fuel by the private automobile. One major way to cut down on the consumption of fuel by the automobile is with improved operating efficiency. A good share of this responsibility, however, must come from the manufacturer and by 1985 federal regulations require the average miles per gallon of a company's fleet of cars should be at least 27.5. Some operating efficiency, though, is the responsibility of the individual owner. Operating efficiency can be improved by good driving habits and regular maintenance. Also, it has been shown that radial tires can improve the efficiency of the automobile.

A second method available to the individual is through ridesharing. At the present time, there is on the average 1.2 persons per car during morning and evening commuting time. If each vehicle only increased its ridership to 2.0 persons, the State of Oregon alone would save about 100 million gallons of gasoline per year.

If ridership were expanded to support a public transportation system, the gallons of gasoline saved would probably be five times greater. In Malheur County alone a proposed public commuter system between the three major cities can save as much as 158 gallons per day. The proposed public transportation system in Malheur County is a project created by a group of citizens called the Malheur Transit Authority (MTA). After surveying commuters between Ontario, Vale, and Nyssa, it was found that about 150 persons were interested in a commuter system and were willing to pay for most of the cost of the system. Grant money from the U.S. Department of Energy Region X has been applied for. If the money is available, the system should be underway before fall.

Decreasing the gallons of gasoline used by each person through ridesharing can be very effective. However, other less obvious programs can also work toward conservation of transportation fuels. The use of alcohol as an alternative fuel is a likely alternative. As stated earlier, Malheur County is an excellent area for potential production of fuel-grade alcohol. The U.S. Department of Energy has estimated that ethanol production will reach about 500-600 million gallons by 1985. That should replace 30,000 to 40,000 barrels of petroleum daily and would reduce petroleum imports by .4 percent.

Land use patterns can be an effective way to reduce fuel consumption. Clustering residential development can be a very effective way of reducing energy costs to both the individual and government entities.

If the people of Malheur County can take steps toward these conservation methods, they as well as the state and nation will benefit. Conservation not only saves energy, but also saves the consumer dollars. In some cases the amount saved can be substantial.

FISH AND WILDLIFE HABITATS

Purpose

Fish and wildlife management goals, according to the Department of Fish and Wildlife, are to maintain a high level of fish and wildlife production in order to provide a variety of harvest opportunities by commercial and recreational users, provide a variety of recreational experiences for the non-consumptive public, and provide protection for those species which are limited in number. Maintaining high numbers and a variety of fish and wildlife is dependent on a quality environment. The number and variety of species diminishes almost in inverse proportion to the level of indiscriminate land use activities affecting various habitats. Therefore, development of roads, housing, land clearing, and general development activities must be guided to assure minimal impacts to the environment. With careful planning, protection of fish and wildlife habitat can be accomplished while permitting most other land uses.

Inventories

Inventories of Malheur County's fish and wildlife habitats are presented in the Fish and Wildlife Protection Plan prepared by the Department of Fish and Wildlife. Those inventories are the basis for this report.

The habitat of Malheur County is generally described as a high desert steppe. In the desert environment, water plays an important part in species distribution and abundance, especially during the hot, dry summers. Consequently, some of the isolated bodies of water in the county have produced unique species of wildlife populations. This is especially true for the less-mobile species (i.e., fish, amphibians, and reptiles). For example, a rare,

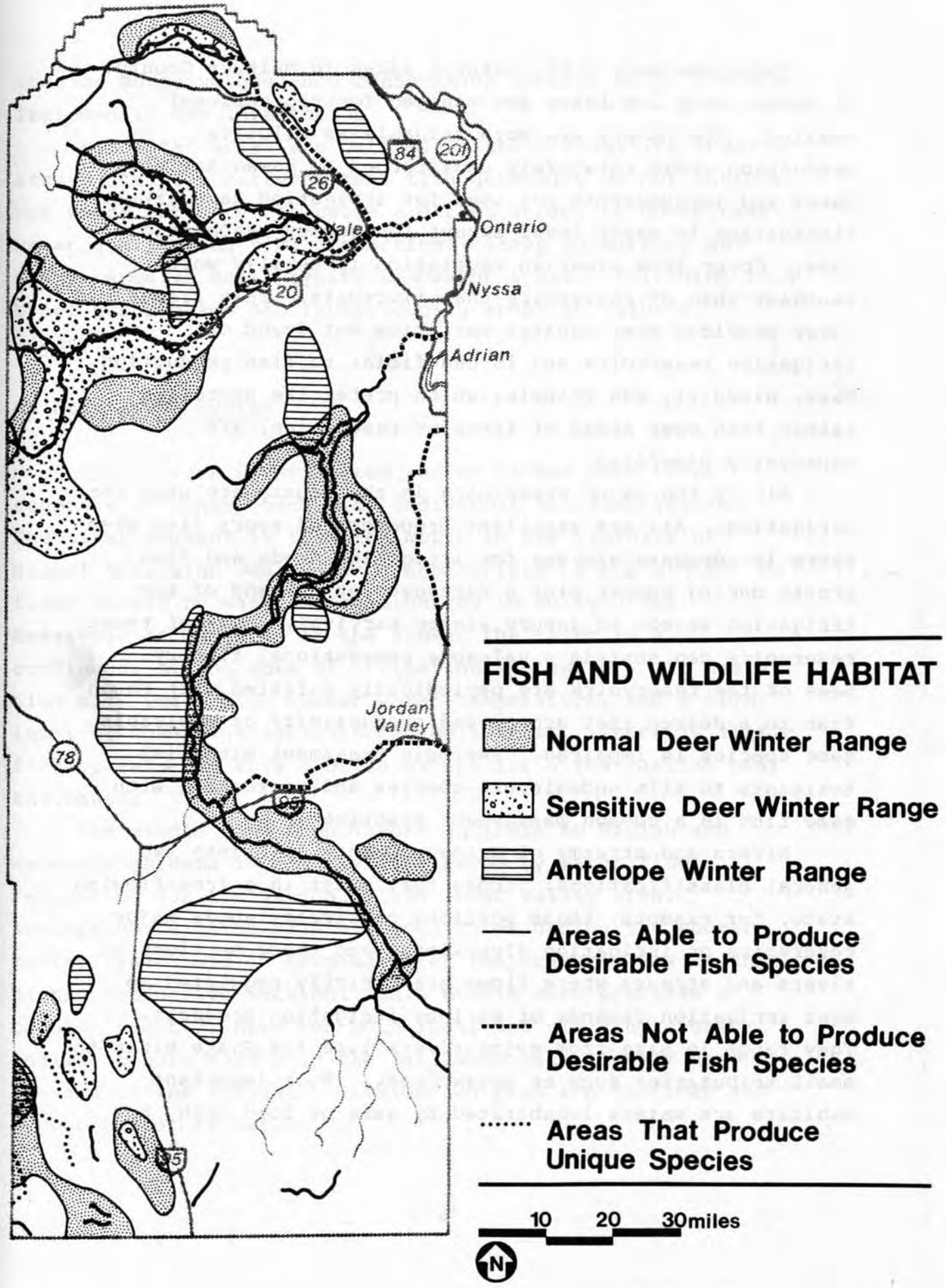
undescribed species of trout is found in Whitehorse Creek, which drains into the Whitehorse Desert. Redband trout in some tributaries of the Malheur drainage are isolated because most of the streams where they are found are dry or intermittent most of the year near the mouths, which restricts migration. The more mobile species (big game, predators, upland game, furbearers, as well as many nongame birds and mammals) are also drawn to riparian habitat zones where food, water, and cover are readily available.

Conflicting Uses

The agricultural economy of the county is highly dependent on water. Competition between wildlife and agriculture for water has mixed results. The high numbers of pheasant in Malheur County would not be possible were it not for the extensive irrigated lands in the valleys of the county. Also, a number of nongame species have found homes associated with farming areas. However, some species have suffered. Salmon and steelhead no longer return to the upper Snake, Malheur, and Owyhee Rivers to spawn because of dams for irrigation and power. Also, many miles of once high-quality streams have been degraded to the point where they will no longer support desirable aquatic organisms due to siltation, pollution, channelization, and withdrawal of water.

Fish Habitat

Sensitive areas for fish production are lakes, reservoirs, rivers, streams, and headwater areas. Each of these categories, except for headwater areas, have been identified as fish-producing areas. Headwater areas are important and are considered sensitive because of their effect on water quality and fish production in downstream waters.


84
201
26
Vale
Ontario
20
Nyssa
Adrian
Jordan Valley
78
95
5
FISH AND WILDLIFE HABITAT
Normal Deer Winter Range
Sensitive Deer Winter Range
Antelope Winter Range
Areas Able to Produce Desirable Fish Species
Areas Not Able to Produce Desirable Fish Species
Areas That Produce Unique Species
10 20 30miles
N

There are only a few natural lakes in Malheur County. Of these, only Cow Lakes are managed for recreational angling. The others are more valuable as wildlife production areas relatively undisturbed by human activity. Lakes and impoundments not used for irrigation have little fluctuation in water level except for summer evaporation loss. Cover from riparian vegetation is usually more abundant than on reservoirs that fluctuate. This fringe cover provides some habitat variation not found on irrigation reservoirs and is beneficial to fish production. Bass, bluegill, and crappie, which prefer the shoreline rather than open areas of lakes or reservoirs, are especially benefited.

All of the major reservoirs in the county are used for irrigation. All are excellent producers of sport fish when there is adequate storage for irrigation needs and fish growth during summer plus a carryover at the end of the irrigation season to insure winter survival. Most of these reservoirs can sustain a valuable recreational fishery. Some of the reservoirs are periodically infested with rough fish to a degree that growth and productivity of desirable game species is impaired. Periodic treatment with fish toxicants to kill undesirable species and restocking with game fish is a common management practice.

Rivers and streams of Malheur County fall into two general classifications: those that exist in a free-flowing state, for example, those portions of streams above major reservoirs or irrigation diversions; and those sections of rivers and streams where flows are strictly regulated to meet irrigation demands of various irrigation projects. They range in size from major rivers like the Snake River to small tributaries such as Squaw Creek. Most important habitats are waters inhabitated by game or food fish, but

streams where unique, non-consumptive species exist are also included in the inventories.

Headwater areas are defined as those sensitive areas in stream drainage patterns that fish generally do not inhabit, but where activity can cause a direct impact on downstream water quality and fish production. Steep topography and highly erosive soils typify headwater areas. Following is a brief description of fish-producing areas in Malheur County.

Malheur River System

The Malheur River system can be broken into three segments or zones, each with individual characteristics. The first segment is from the mouth to the vicinity of Namorf Diversion Dam and is characterized by low winter flows caused by water being diverted to Bully Creek Reservoir at Namorf. In the summer the river is a continuous mixing zone of irrigation wastewater. It has a high silt load, high summer water temperature, and a high level of non-point agricultural pollutants. There is little fishery value in this section except for a few catfish near the mouth.

The middle zone from Namorf upstream to Beulah and Warmsprings dams is greatly influenced by water flow regulation for irrigation in the lower valley area. Irrigation releases maintain good flows during the summer months, which aid in keeping water temperatures low in this highly productive section. This middle zone provides a popular trout fishery for both local and visiting anglers. Angling occurs mostly in the fall when water levels drop at the end of the irrigation season and fish are confined and become easier to catch.

The third zone consists of waters above the reservoirs plus the South Fork. This zone is influenced more by natural weather cycles than the lower two. It is characterized by high spring flows and low summer flows. A higher percentage of the fishery is composed of wild fish stocks. The trout fishery in the lower two sections is sustained by annual releases of fingerling.

Willow Creek (Tributary to Malheur River)

Willow Creek from its mouth to Brogan has almost been totally rechanneled and straightened for improved agricultural production. It is completely devoid of any useful fishery value in this section in its present condition. Irrigation wastewater return has reduced water quality to the point where game fish cannot survive. Similarly, no game fish inhabit the stream from Brogan to Malheur Reservoir. Much of this reach of stream has been placered for gold in the past and the riparian habitats have been overgrazed by livestock. This section of stream could be returned to fair trout habitat by increasing ground cover and stabilizing soils in the watershed. Good summer flows exist as a result of irrigation releases from Malheur Reservoir.

Owyhee River

The Owyhee River is divided into two sections. The lower section is from the mouth to Owyhee Dam, and the upper section from the backwaters of Owyhee Reservoir to the state line.

The first ten miles immediately below Owyhee Dam provide an excellent trout fishery. Good summer flows of cold, nutrient-rich water from lower levels of the Owyhee Reservoir are released for irrigation. Fingerling trout are stocked annually and growth is excellent. Angler activity

is highest in the fall and winter when the flows are greatly reduced at the end of the irrigation season. The lower part of this section from River Mile 18 to the mouth has little fishery value except for a few warm-water game fish. The river above the dam is more affected by natural weather cycles characterized by high spring run-off and low summer flows with warm water temperatures. The dominant sport fish in this area is smallmouth bass. Channel catfish and a few trout are also taken in this reach of stream.

Below the dam, low late-fall and winter flows adversely affect survival of trout to the next year's fishery. From River Mile 18 to the mouth, irrigation water is withdrawn and wastewater is returned, plus there are the associated problems of high summer water temperatures, siltation, and non-point pollution. Water quality is not high enough to support a significant sport fishery. In the river above the reservoir, naturally occurring low summer flows and associated warm water temperatures contribute to large rough fish populations.

Whitehorse Creek,
Little Whitehorse Creek,
Antelope Creek,
Twelve-mile Creek, and
Willow Creek

Because these streams contain a unique cutthroat species, they merit special consideration. The streams are all tributaries from the Whitehorse Mountains and terminate in the Whitehorse Desert. Overgrazing by domestic livestock on the upper reaches and irrigation diversion on the lower reaches are the principal limiting factors.

The streams also suffer from naturally occurring low summer flows, high water temperatures, and shifting bed loads, and become intermittent in some sections in years of low precipitation.

Bully Creek

The natural character of this stream has been greatly altered by landowners in attempts to increase agricultural production. Much of the stream has been channelized. In some areas where the stream has been channelized, the bed load is shifting and the stream is cutting a deeper channel. Most of the beneficial fishery production of this stream has been lost. A few wild trout still exist in the uppermost portions of the watershed. Also, a few trout are found immediately below Bully Creek Dam where they have escaped the reservoir in the irrigation season. Channelization, siltation, overgrazing, irrigation withdrawal, and nonpoint pollution have destroyed much of the fishery values of this stream.

Miscellaneous Small Streams

There are a number of small streams that contain wild trout. Most become intermittent by late summer. The fish are very hardy and are adapted to the harsh climatic conditions of these small desert streams where high summer

water temperature (80°), low streamflows, and occasional waterspouts from thunderstorms are common. Overgrazing by livestock is the most important limiting factor in most of these small streams. Irrigation diversion has a detrimental effect on some.

Bully Creek Reservoir

This is a popular angling reservoir which is located within easy driving distance of the county's population centers. In the past, the reservoir has been managed as a trout fishery. Presently, an attempt is being made to manage the reservoir as a warm-water fishery (bass, crappie, catfish). It is hoped these species can compete more effectively with the rough fish. Extreme drawdown for irrigation leaves the reservoir virtually dry on occasions. The reservoir becomes rapidly reinfested with rough fish following treatment because of annual diversion of water into the reservoir from the Malheur River. Production in the reservoir is periodically inhibited by high turbidities from run-off in the unstable Bully Creek watershed.

Owyhee Reservoir

Owyhee Reservoir is the most popular warm-water fisheries area in Malheur County. Largemouth bass and crappie are the most sought-after species. However, channel and bullhead catfish are also available to the angler. Water levels seldom get low enough to adversely affect the fishery, but lack of forage species for bass and crappie are a limiting factor.

Warmsprings Reservoir

This reservoir is periodically drained for irrigation demands. It produces bass, catfish, yellow perch, and trout

fishery with a history of overpopulation by rough fish--principally stunted yellow perch. Its fishery is lost when the reservoir is drained and then it takes about five years to get back into production.

Antelope Reservoir

When it has adequate water, Antelope Reservoir is an excellent producer of large trout. It has provided a good trout fishery to residents of southern Malheur County, where trout angling opportunities are limited. The reservoir has a history of severe leakage problems and often goes dry, resulting in a loss of the fishery. Rough fish are a continuing problem as infestation occurs annually when water is diverted from Jordan Creek to fill the reservoir.

Cow Lakes

Cow Lakes have not been a productive fishery for the past few years. An attempt is now being made to establish a warm-water (bass and crappie) fishery there. It is one of the few natural lakes in the county and in the past has supported a short-lived but highly productive trout fishery, but the lake is very shallow and turbid. There are high populations of rough fish.

Snake River

The flow of the Snake River as it passes through Malheur County is greatly influenced by the regulation of upstream dams both on the mainstream and the major tributaries. The once-great runs of anadromous fish are now extinct. The mainstay fishery is now for channel catfish, a species that was introduced, and a limited smallmouth bass fishery. Low summer flows due to increasing demands for irrigation combined with irrigation wastewater discharges

high in silt and pollutants have an adverse effect on both water quality and quantity. Domestic and industrial pollutants have largely been eliminated. Therefore, non-point pollution is the main factor in poor water quality.

Pole Creek Reservoir

Pole Creek Reservoir supports a stable trout fishery. It has no rough fish problems and seldom gets so low that the fishery is seriously impaired. The reservoir is open all year and supports a small winter ice fishery. Pole Creek Reservoir has no serious problems.

Malheur Reservoir

The most popular trout fishery in the county is at Malheur Reservoir. Excellent trout reservoirs such as this can only remain productive if water quality and quantity of a high order are maintained. This reservoir has a history of becoming periodically infested with rough fish in numbers high enough to adversely affect the trout fishery. The problem fish is primarily in the bridge-lip sucker. When rough fish numbers become too high, all fish in the lake are killed and the reservoir is re-stocked with trout. The water level seldom gets low enough to affect the fishery.

Wildlife Habitat

Recreation in the form of hunting, camping, rock hounding, bird watching, trapping, photographing, or general out-of-doors use of the area is of considerable importance to the economy of this county. Hunting of game species provides an estimated value of $3 million per year not including the value of the meat (see Table 28).

TABLE 28

ECONOMIC VALUE OF RECREATION DAYS SPENT
HUNTING IN MALHEUR COUNTY, 1975

Number of hunters	Species hunted	Recreation days spent	Numbers harvested	Assigned hunter value per day	Total expenditures
9,400	mule deer	33,000	2,600	$47.50	$1,567,500.
19,700	upland game	95,400	120,100	11.30	1,078,020.
3,500	waterfowl	17,500	41,700	14.50	253,750.
700	elk	2,500	50	34.70	86,750.
550	antelope	1,650	170	47.50	78,375.
33,850		150,050	164,620		$3,064,395.

Source: "The Oregon Big Game Resource: An Economic Evaluation", William G. Brown, 1973; and the "1970 National Survey of Fish and Hunting", USDI, Fish and Wildlife Service, in conjunction with data obtained by questionnaires to hunters by Department of Fish and Wildlife.

Protection of the habitat for all uses involved, including hunting of game, is important to the county. Special attention should be given to sensitive areas for various species of wildlife, including big game, upland game, waterfowl, furbearers, and nongame species.

Big Game

The basic habitat requirements of big game includes food, water, cover, and freedom from harassment. These requirements are found throughout most of the county. However, one or more may be missing in localized areas, which will tend to reduce or eliminate use in certain

sections. Also antelope, deer, elk, bighorn sheep, and bear have different requirements for survival and reproduction. Therefore the areas in which they will be found are limited.

Winter and some year-round ranges of mule deer, antelope, bighorn sheep, and elk qualify as sensitive areas, which should not have any great amount of alteration. Otherwise, negative results will occur.

Mule deer are the most numerous of all big game animals in the county and apparently are more versatile and adaptive than most. However, urban sprawl, development of new roads, land treatment including brush control and/or removal, spring and water development, seeding, or changing native cover can and will have definite effects on the number of animals that will be using the area. Effects could range from negative to positive.

Elk are found in the timbered areas in the northwestern portions of the county and are also found utilizing range lands at scattered locations. The main problem that could arise with this species is the removal of cover by logging. The estimated population is 200 head.

At the present time, bighorn sheep are only in the Owyhee drainage from Rome to the Honeycomb area, mainly within four miles of the river or reservoir and on the east side of the drainage. The present population is estimated to be between 100-125 head. Suitable habitat for this species is presently almost the entire length of the Owyhee River, portions of the Oregon Canyon Mountains, Whitehorse Mountains, and the Malheur River drainage from Riverside to Juntura.

Conflicts with this species could occur by recreational development of the river area, or summer home developments in adjacent areas on or close to suitable habitat. Also,

overgrazing livestock including cattle, sheep, and especially wild horses could have a detrimental effect on this species. Very limited hunting has been allowed on a drawing basis for mature rams. Permits have ranged from 2 to 4 a year.

Antelope are located primarily in the desert-type habitat but are also present on and adjacent to agricultural land. Present county population is estimated between 2500 and 3000 head. Conflicts are present in localized areas in the Jordan Valley vicinity where some herds graze on alfalfa fields adjacent to rangeland seedings and natural desert-type habitat. Hunting of this species is for bucks only on a drawing basis, and permits have varied from 400-550 per year for the past 25 years. The population remains static.

Only a few bear are present in the extreme northern portion of the county in the Ironside/Little Malheur area and habitat is marginal or unsuitable in most of the county. Estimated population is 50 animals. Extensive logging would probably affect this species more than anything else.

Upland Game

Upland game species include pheasants, mourning dove, chukar partridge, hungarian partridge, sage grouse, blue grouse, ruffed grouse, valley quail, bobwhite quail, and mountain quail. Habitat for these species varies from good agricultural land to arid desert and rough rimrock areas. Man's activities have had the greatest impact on the ring-necked pheasant, valley quail and sage grouse.

Pheasants are almost totally dependent upon agriculture for their existence. Ideal habitat is a varied patchwork of seed-producing crops interspersed with brushy fence rows, ditches, streams, and wasteland. The Malheur and Snake

River valleys are still the best pheasant-producing areas in the state. However, they have declined steadily over the past 30 years due primarily to farming practices such as more row cropping, elimination of many fences, construction of concrete ditches, land leveling, extensive weed control both by burning and spraying, heavy grazing of marginal land and also urban sprawl.

Pheasant hunting in this county is responsible for a good share of the expenditures of upland game hunters (see Table 28). The annual take of pheasants in this county is approximately 50,000 on an average year and approximatley 10,000 hunters participate, hunting an average of five days per hunter. The estimated total pheasant population is between 200,000 and 250,000.

Chukar partridge are probably the second most important game bird in Malheur County. 5000 hunters harvested approximately 32,000 birds in 1975 and the estimated population is greater than 300,000. Hunter numbers and harvests have both been considerably higher in past years when chukar population have been higher. Chukar hunters spent an average of four days each, which would amount to an expenditure of some $226,000.

Although valley quail are not as important as pheasants or chukars, the required habitat is the same. Approximately 3500 hunters harvested about 24,000 quail in 1975 and spent 18,000 days doing so. Present population is estimated at 200,000.

Sage grouse are limited in numbers and the habitat in which sage grouse are found is limited, but the largest concentrations remaining in the state are in southern Malheur County. It is not as important as other species as far as hunting is concerned. However, it is a species which will require close observation, protection, and help so that it will not become classified as rare.

Pheasants and quail are affected whenever agricultural land is taken out of production through urban sprawl, road construction, industrial development, and any other land-clearing activities. Farming practices on existing agricultural lands also have a definite impact. The trend today is toward much cleaner farming, which has a negative impact on upland game production. Large rangeland treatment projects can also be harmful, particularly for sage grouse and chukar partridge.

Waterfowl

Waterfowl species found in Malheur County are ducks, geese, swan, coots, and snipe. Ducks and geese are the more important species and furnish many recreation hunting days. It is estimated that 3,500 waterfowl hunters spent 17,500 days in bagging approximately 42,000 birds in 1975. Estimated hunting expenditure is $253,750. Waterfowl habitat in Malheur County is confined mainly to streams, drainage ditches, pot holes, and reservoirs. Constant cleaning of drain ditches is detrimental and draining wet areas, channelization of streams, and extensive use of pot-hole areas by livestock all conflict with waterfowl use and production. Constant water fluctuation in reservoirs also has some effect.

Furbearers

Mammals present in the county that are classified as furbearers include bobcat, red fox, beaver, muskrat, otter, raccoon, and mink. There were only 70 licensed trappers in 1975 who took a total of 88 beaver, one otter, 18 mink, 5,620 muskrat, and 70 raccoon. The pelts from these animals would be valued at about $30,000. Following the 1979-80 trapping season, 151 Malheur County trappers reported

selling $145,575 worth of fur. The increase during the past five years is mostly the result of increased fur prices. The estimated populations of muskrat is 25,000; beaver 250; otter 60; mink 150; and raccoon 2,000.

Most of the furbearers in Malheur County are of the aquatic type and require brushy streams, wetlands, or lakes. Most of the land use conflicts are between beavers and the farmers. They cause damage to crops, plug irrigation systems, and cut trees needed for shade or bank stabilization. Muskrats are also a problem in some irrigation projects.

Nongame Species

Nongame wildlife is becoming more important each year as people become aware of the many varieties of birds, amphibians, reptiles, and mammals that are present. Many clubs and individuals spend hours observing, identifying, and studying the many different species. 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 719,000 people watched birds or other wildlife, 688,000 fed birds, and 245,000 put up bird houses or nest boxes. Also many take advantage of off-season hunting of such species as ground squirrels, rabbits, coyote, fox, badger or other unprotected species. Most nongame species of birds and animals occur in habitats like those of many game species and many have the same problems.

Conclusion

The protection of fish and wildlife is just as important today as it was when we depended upon these resources for our livelihood and subsistence. For this reason, all habitats identified as critical or sensitive in the production of fish and wildlife should be protected. This protection should initially come from developers and agencies involved with land use changes.

All fish and wildlife in Malheur County are managed by the Oregon Department of Fish and Wildlife. This agency is responsible for formulating and implementing the state's policies and programs for management of wildlife, fish and other marine life. Oregon's fish and wildlife policies specify that fish and wildlife resources are to be managed to provide optimal recreational, aesthetic, and commercial benefits for present and future generations. The condition of these habitats are directly dependent upon the managers of natural resources in the county. Therefore, the county should work with and support the Department of Fish and Wildlife and all other local, state and federal agencies involved with fish and wildlife management.

All rivers and streams with either perennial or intermittent flows are considered sensitive areas and management should consider water flows adequate to maintain fish production, riparian vegetation, channel integrity, meanders, and stable, non-eroding banks that will protect water quality while at the same time preserving fish habitat and providing for a variety of recreational aesthetic values. The rivers and streams are managed by several different agencies in the county, but the county does have some influence on most. Therefore, the county should cooperate with other management agencies.

NATURAL RESOURCES OF UNIQUE SIGNIFICANCE

Purpose

Natural resources of unique significance for the purpose of Malheur County's Comprehensive Plan include open space, ecologically and scientifically significant natural areas, scenic views and sites, wilderness areas, and wild and scenic waterways. Each of these resources are treated separately and inventoried individually.

Open Space

Open space, according to the State of Oregon's definition, consists of lands used for agriculture or timber production and any land area that would, if preserved and continued in its present use, conserve and enhance natural or scenic resources; protect air or streams or water supplies; promote conservation of soils, wetlands, beaches, or tidal marshes; conserve landscaped areas such as public or private golf courses that reduce air pollution and enhance the value of abutting or neighboring property; enhance the value to the public of abutting or neighboring parks, forests, wildlife preserves, nature reservations or sanctuaries or other open spaces; and promote orderly urban development.

More than 99% of the land in Malheur County qualifies as open space and the abundance of open space in the county is not likely to change in the future. Only .2% of the land is classified as built-up and about 74% (4,674,000 acres) of the land is publicly owned. Most of the remaining land is in agricultural production. The amount of open space in Malheur County is partially responsible for the high quality of life most people in the county enjoy.

Ecologicallly and Scientifically Significant Natural Areas

Natural areas include land and water that have substantially retained their natural character and land and water that, although altered in character, are important as habitats for plant, animal or marine life, for the study of its natural historic, scientific, or paleontologic features, or for the appreciation of natural features. The Oregon Natural Areas Data Summary prepared by the Oregon Natural Heritage Program of the Nature Conservancy has identified areas with natural-area value in Malheur County. Some of these areas have not been fully verified or evaluated as areas of significant natural value but in the future they will be evaluated and either given protected status or removed from the inventory.

There have been 42 of these areas identified in Malheur County. Of these 42 none have been designated as preserved and only six have been legally protected (see Table 29). However, most are components of other natural resource lands and some form of protection is available.

Part of the process of establishing natural areas is identifying threatened and endangered vascular plants. The Oregon Rare and Endangered Plant Species Task Force has not completed its work for the State Natural Areas Preserves Advisory Committee but it has identified 395 species in Oregon. Of these 395 identified, three are in Malheur County:

Ivesia rhypara (Grimy Ivesia) This recently discovered species is known from only two very small populations on barren outcrops of volcanic ash in the Leslie Gulch area of eastern Malheur County. Very local endemic; very rare and endangered.

Mentzelia Packardiae (Parchard's mentzelia) This new species, described in 1976, occurs only on a specific layer of volcanic ash presently known only from Leslie Gulch, Malheur County. Very restricted regional endemic; rare and endangered.

Senecio Ertterae (Ertter's senecio) This new species, described in 1978, is found only on tuffaceous outcrops in Leslie Gulch and its side canyons, Malheur County. Local endemic; rare and endangered.

These species have all been identified as either rare and endangered or very rare and endangered and are all located in identified natural areas.

TABLE 29

MALHEUR COUNTY INVENTORY
OF IDENTIFIED NATURAL AREAS, 1978

REF. NO.	SR	REFERENCE NAME	LOCATION T-R-S	PS	VO	ELEMENT NAME
MA-1		Owyhee-Rome to Three Forks	31S, 41E 34S, 45E	3	V	Lowland stream segment, high gradient reach Amphibian/reptile habitat
MA-2	+	Juntura Native Grassland	21S, 40E 10	3	V V V V V	Shrubland Big sage/bluebunch wheatgrass Big sage/Idaho fescue Lowland stream, entire drainage Cold spring
MA-5	+	Three Forks of the Owyhee Hot Springs	35S, 45E S½ 2, S½ 3, S½ 4, N½ 10	3	V V V V V V V	Big sage/bluebunch wheatgrass Wetland grassland Lowland stream segment, high gradient reach Hot spring Geologic feature Historic feature Scenic feature
MA-6		Cow Lakes	28S, 44E 21-23, 26-29 33-34 29S, 44E 3, 4	3	V V V V	Greater sandhill crane Lowland lake, permanent Waterfowl wetland Geologic feature
MA-7	+	Mahogany Mountain	27S, 45E 5-8	3	V V	Big sage Mountain mahogany
MA-8		Harry Elliot Ranch	14S, 41E 17	3	V	Big sage/bluebunch wheatgrass

KEY: SR = Site report has been completed, see Oregon Natural Areas Data Summary, Section II.D.

PS = Protection Status
1-preserved
2-legally protected
3-unprotected

VO = Vertification of Occurrence
V-verified
NV-not verified

TABLE 29 (Cont.)

REF. NO.	SR	REFERENCE NAME	LOCATION T-R-S	PS	VO	ELEMENT NAME
MA-9		Antelope Corral	36S, 46E 16	3	V V	Wetland grassland Geologic feature
MA-13		Succor Creek State Park and Ash Bed	24S, 46E 6, 7, 8, 17 24S, 46E 17, 20, 29, 33	2 2	V V V V V V V V	Forb communities on ash Trifolium owyheense Special species occurrence Special species occurrence Special species occurrence Rhysopterus plurijugus White-throated swift colony Geologic feature
MA-20	+	The Honeycombs (proposed Primitive Area)	24S, 44-45E	3	V V V V V V V V V V V V V	Mountain mahogany Desert-saline-alkaline shrubland Sandberg's bluegrass Giant wild rye Forb communities on ash Bighorn sheep Special species occurrence Trifolium owyheense Astragalus solitarius Cryptantha propria Special species occurrence Geologic feature
MA -21		Rattlesnake Cave	30S, 44E SW¼SW¼ 33	3	V V	Reptile habitat Geologic feature
MA-23		Spring Creek Ranch	26S, 44E 27, 28	3	V	Bighorn sheep
MA-25	+	Dago Gulch	26S, 45E 30	3	V	Ponderosa pine forest
MA-28		Leslie Gulch	26S, 44E 2, 3, 10-14 26S, 45E 7-9, 16-21	3	V V V V V V V V	Forb communities on ash Western ground snake Bighorn sheep Astragalus purshii var. opiogenes Special species occurrence Special species occurrence Special species occurrence Trifolium owyheense

TABLE 29 (Cont.)

REF. NO.	SR	REFERENCE NAME	LOCATION T-R-S	PS	VO	ELEMENT NAME
MA-28		Leslie Gulch (cont.)		3	V	Allium parvum
					V	Cryptantha propria
					V	Special species occurrence
					V	Polystichum kruckebergii
					V	Special species occurrence
					V	Geologic feature
					V	Paleontologic feature
					V	Scenic feature
MA-32		Snake River Islands Wildlife Management Area	15S, 47E 33 / 16S, 47E 4 / 15S, 46E 8, 9	2	V	Horned grebe
					V	Ring-necked duck
					V	Bufflehead
					V	Caspian tern
					V	Catbird
					V	River otter
					NV	Merriam shrew
MA-34		Coyote Lake Sand Dunes	34S, 37E 36	3	V	Big sage/bluebunch wheatgrass
					V	Desert-saline-alkali shrubland
					V	Lowland pond, intermittent
MA-34		Middle Fork of the Owyhee at Three Forks	35S, 45E 1, 2, 12, 13 / 34S, 45E 35, 36	3	V	Juniper/big sage/bluebunch wheatgrass
					V	Big sage/bluebunch wheatgrass
					V	Stiff sage/Sandberg's bluegrass
					V	Giant wild rye
					V	Wetland grassland
					V	Lowland stream segment, low gradient reach
MA-35		Bendire Ridge Site	18S, 38E N½ 36	3	V	Aspen community
					V	Mountain mahogany
MA-36	+	Grassy Mountain	22S, 44E 16	3	V	Big sage/bluebunch wheatgrass

TABLE 29 (Cont.)

REF. NO.	SR	REFERENCE NAME	LOCATION T-R-S	PS	VO	ELEMENT NAME
MA-38		Owyhee Canyons proposed Primitive Area	35S, 45E	3	V	Burrowing owl
31			S½		V	Lowland stream, entire drainage
			36S, 47E		V	Lowland stream segment, high gradient reach
			N¼		V	Geologic feature
					V	Historic feature
MA-40		Jordan Craters Research Natural Area	27-29S, 43, 44E	2	V	Big sage/bluebunch wheatgrass
20					V	Silver sage
					V	Marshland
					V	Swamp
					NV	White pelican
					NV	Common egret
					NV	Brewster's snowy egret
					NV	Western least bittern
					NV	Special species occurrence
MA-41		Red Butte Canyon	25S, 43E	3	V	Collared lizard
12			22-28, 33-34		V	Leopard lizard
			26S, 43E		V	Desert horned lizard
			2-3		V	Great basin whiptail
					V	Western groundsnake
					V	Reptile/amphibian habitat
MA-42		Deer Flat National Wildlife Refuge	18S, 47E (midpoint)	2	V	Northern bald eagle
4					V	White pelican
					V	Lesser scaup
					V	Bufflehead
					V	Waterfowl wetland
					V	Shorebird/marshbird habitat
					V	Great blue heron rookery
					V	Seabird colony
MA-44		McDermitt Creek	41S, 39E	3	V	Lahontan redside
42					V	Tahoe sucker

TABLE 29 (Cont.)

REF. NO.	SR	REFERENCE NAME	LOCATION T-R-S	PS	VO	ELEMENT NAME
MA-45		Rockville Ash Bed	26S, 46E	3	V	Forb community on ash
			S½ 5		V	Allium parvum
16					V	Special species occurrence
					V	Special species occurrence
					V	Special species occurrence
MA-46		Rome Ash Cliffs	31S, 41E	3	V	Forb community on ash
25			15, 20, 21, 22		V	Special species occurrence
MA-47		Toppin Creek Butte	40S, 47E	3	V	Low sage/bluebunch wheatgrass
40			6-9, 16-20		V	Low sage/Idaho fescue
MA-48	+	Lookout Lake	40S, 47E	3	V	Silver sagebrush
41			12, 13			
			40S, 48E			
			7			
MA-49		Bull Flat Lake	37S, 48E	3	V	Silver sagebruch
35			S½ 21, NE¼ 29			
MA-50		Antelope Flat	40S, 45E	3	V	Wetland forest
39			NW¼NW¼ 21		V	Big sage
					V	Spring stream
					V	Cold spring
MA-55		Saddle Butte	22S, 39-39E	3	*	Sage grouse strutting ground (3)
8						
MA-56		Grassy Mountain	21-22S, 44E	3	*	Sage grouse strutting ground (3)
7						
MA-57		Mahogany Gap	27S, 44E	3	*	Sage grouse strutting ground (4)
17						
MA-58		Parsnip Peak	31-32S,	3	*	Sage grouse strutting ground (5)
27			45-46E			

*Numerous strutting grounds have been located within the large areas listed.

TABLE 29 (Cont.)

REF. NO.	SR	REFERENCE NAME	LOCATION T-R-S	PS	VO	ELEMENT NAME
MA-59 37		Battle Mountain	37-38S, 42-43E	3	*	Sage grouse strutting ground (8)
MA-61 30		Small Playa Lake	35S, 38E SE¼SE¼ 28, SW¼SW¼ 27	3	V V	Astragalus solitarius Special species occurrence
MA-62 38		McDermitt Creek Basin Ash Exposure	40S, 40E 26, 27	3	V V	Big sage/grass-forb on ash astragalus calycosus
MA-63 24		1939 Grassland Exclosure	30S, 45E E½NW¼ 22	2	V V NV	Big sage/bluebunch wheatgrass Big sage/Idaho fescue Astragalus purshii var. ophiogenes
MA-64 22		Follyfarm Pass	29S, 37E 5, 8 28S, 36E 23, 25, 26, 36	3	V V	Big sage/bluebunch wheatgrass Low sage/Idaho fescue
MA-65 3		Ontario Island in the Snake River	17S, 47E 33, 34	3	V V V V V	Wetland forest Wetland grassland Forbland River island Great blue heron rookery
MA-67 28		Crooked Creek Ash Cliff	32S, 41E 6	3	V V V V	Forb community on ash Astragalus solitarius Special species occurrence Rhysopteris plurijugus
MA-68 19		Spring Mountain	27S, 45-46E	3	*	Sage grouse strutting ground (5)
MA-69 36		Oregon Canyon	38-39S, 40E	3	*	Sage grouse strutting ground (3)

* Numerous strutting grounds have been located within the large areas listed.

Scenic Areas

Scenic areas are views and sites that are valued for their aesthetic appearance. Malheur County has no views and sites specifically identified as scenic areas. However, there are an abundance of areas which fall within the category of "lands valued for their aesthetic appearance." Most of these are components of natural resource lands and are protected from destruction by the Bureau of Land Management and other managers of resource lands.

Wilderness Areas

Presently the Bureau of Land Management is completing a wilderness review in Malheur County. The purpose of the inventory is to determine if an area should become part of a wilderness study area. The lands under consideration will be studied by BLM planning personnel to determine which areas should be recommended to Congress for wilderness designation.

Lands that are actively being considered as possible wilderness areas are being managed by BLM in such a manner that suitability for preservation as wilderness is not impaired. There are about 965,000 acres actively being considered for wilderness in Malheur County (see Map 9). Before land can be considered for wilderness, it must be a roadless area containing at least 5,000 acres of contiguous public land or large enough to be effectively preserved as wilderness, or a public land island of any size. In addition, it must be generally free of the imprints of man and offer outstanding opportunities for solitude or primitive and unconfined types of recreation.

Wild and Scenic Waterways

There are seven rivers or segments of rivers in Oregon designated as scenic waterways. One of the seven is in Malheur County, consisting of a segment of the south fork of the Owyhee River from the Oregon-Nevada border downstream approximately 25 miles to Three Forks where the mainstem of the Owyhee River is formed, and a second segment on the mainstem of the Owyhee River from Crooked Creek downstream a distance of approximately 45 miles to the mouth of Birch Creek.

In order to establish varying intensities of protection based on special attributes of each segment of a scenic waterway, six different classifications were established: natural river areas, scenic river areas, recreational river areas, natural scenic view areas, accessible natural river areas, and river community areas. Both segments of the Owyhee River scenic waterway are classified as natural river areas. Natural river areas are defined as generally inaccessible except by trail or the river itself, with related adjacent lands and shorelines essentially primitive. They may include an occasional lightly traveled road, airstrip, habitation, or other kind of improvement already established provided the effects are limited to the immediate vicinity. Natural river areas will be administered to preserve their natural, wild, and primitive condition essentially unaltered by the effects of man. Compatible recreational uses, other compatible existing uses, and uses necessary for protection of fish and wildlife habitat will be allowed.

Since its designation as a scenic waterway, the Owyhee River has seen tremendous increases in use. In 1974, 482 persons traveled the river, either from Three Forks to Rome, Rome to the reservoir, or the total river. In 1979 the use increased by more than 200% (see Table 30).

TABLE 30

Annual Visitor Use of Owyhee River

1974 - 1979

Number of Visitors

Three Forks to Rome	1974*	1975*	1976*	1977*+	1978#	1979#
Commercial	25	14	34	0	107	118
Private	60	60	50	30	82	204
Total	85	74	84	30	189	322
Rome to Reservoir						
Commercial	237	233	264	0	412	438
Private	160	250	390	50	388	723
Total	397	483	654	50	800	1161
Total River						
Commercial	262	247	298	0	519	556
Private	220	310	440	80	470	927
Total	482	557	738	80	989	1483

*Figures from Vale District Owyhee River Visitor Statistics, 1974 through 1977, by Gerald Meyer.

+Low numbers probably due to the extremely low flow during 1977; no commercial trips were recorded.

#Non-commercial figures from Owyhee River Register; commercial figures from Recreation Use Permit Post-Use Questionnaires.

Conclusion

In many cases, the county's protective zoning for resource lands will serve to protect its abundant open space. However, most of the open space in the county is under the control of public agencies and, as a result, protection will require cooperation between the county and all other agencies. Rivers, lakes and streams in the county are special types of open space that require special treatment. Access to these bodies of water is important to the people of the county and increased setbacks should be required to preclude high-density development along shores and banks.

To protect its ecologically and scientifically significant natural areas, the county should consider the recommendations of the Nature Conservancy and its trained personnel as outlined in their publication entitled Oregon Natural Areas in Malheur County Data Summary, 1978. The county should identify the natural areas it wants to protect and then cooperate with the public agencies responsible for the management of those lands. Similarly, the county should cooperate with agencies responsible for the protection of rare, threatened or endangered species.

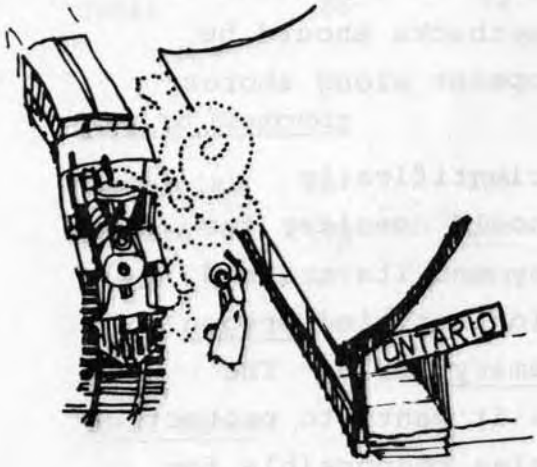
To protect scenic views and sites, the county should consider the aesthetic value of areas when it is making land use decisions.

Although the concept of wilderness areas in publicly owned grazing lands has not been popular, Malheur County should participate in the wilderness planning process and hearings procedures established by the federal government.

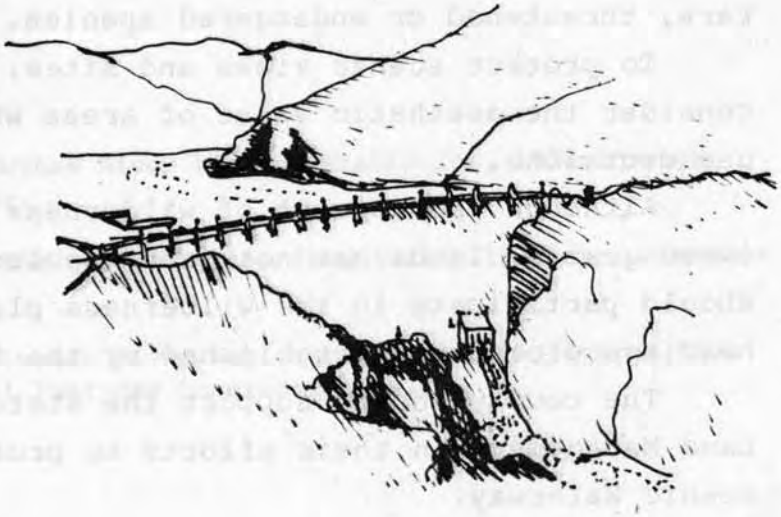
The county should support the state and the Bureau of Land Management in their efforts to protect the Owyhee River Scenic Waterway.

1841
First Wagon Trains Traveled Through Oregon

1863
Gold Was Discovered on Jordan Creek



1884
Railroad Came to Ontario



1887
Malheur County Established

1932
Owyhee Dam Proper Was Completed

HISTORIC SITES AND CULTURAL AREAS

Purpose

Historic sites and cultural areas constitute an important part of the community and should be recognized as important features in the total land use planning process for any area. The identification and preservation of historic sites and cultural areas enhances the identity of a people through evidence of their heritage. In addition, they provide valuable educational tools and recreational experiences.

Historic Background

According to a story printed in the Idaho Statesman of May 6, 1928, the first white men set foot in Malheur County in 1775. Three Frenchmen, Charbonneau, Nadeau, and Lavalle, left France for San Diego and after arriving began an overland trek to Montreal, Canada. They traveled north through California and Oregon, until they came to the headwaters of the Malheur Canyon. They traveled down the canyon to the Snake River and spent the winter at some hot springs near Boise. None of the party was successful in reaching Montreal. Charbonneau was killed by Indians and buried near Boise.

The first large group of people traveled through Malheur County in 1843 on their way to Astoria. A flood of people followed, traveling largely by covered wagon following the Oregon Trail, passing through Vale and the northern portion of Malheur County. Several historic structures and sites still exist in Malheur County to illustrate the great migration which occurred through the area. These include the Old Stone House in Vale and remnants of the Oregon Trail.

When Michael Jordan discovered gold in 1863 on Jordan Creek, people moved into the area by the thousands. Others had opened mines at Silver City, which brought miners, Chinese laborers, stagecoach operators, ranchers, road builders, saloon keepers,

and house madames into the area. Many used the route from McDermitt to Rome Crossing on the Owyhee River and through to Jordan Valley. Jordan Valley became the county's largest settlement during this period and continued to prosper in later years due to the influence of Basque sheep herders.

The Basques were the first of three major cultural groups that continue to influence the county today. The Basques first arrived in Malheur County in the 1890's. Their ancestors occupied three provinces in Spain and two in France. Most of the Basques initially came to the Jordan Valley area and were engaged in sheepherding. Evidences of the Basque influence still exist today with the Pelota Frontone game courts in Jordan Valley and many county citizens of Basque heritage.

Livestock and crop production began in the county around 1865 initially to feed the miners and related businesses. When the railroad reached Ontario in 1884, stock raising was at its peak. One year later Ontario became the largest stock shipping center in the northwest. Stock was driven from Malheur, Harney, and Grant Counties. Some were even driven from as far as Lake County. Ontario was also the largest wool shipping center in the northwest. During this era Malheur County prospered, as did its cities. The county was established in 1887 (formerly a part of Baker County) with the cities of Vale and Ontario incorporated in 1889 and 1899, respectively.

With the increase in settlement, mostly by farmers from the midwestern states, agriculture gradually played a more dominant role in the county's economy. With the coming of irrigation systems in the county, farming diversified. The irrigation projects were a dream of many in the early 1900's, but it was not until 1930 (Vale Project) and 1935 (Owyhee Project) that water was first delivered to the farms from the government-funded construction projects.

Development of irrigation systems resulted in a rapid increase in county population between 1930 and 1950. It occurred in the county, greatly affecting area culture and land use. There were Japanese-Americans in Malheur County prior to 1934, but the

large in-migration did not occur until the mid 1940's when many were released from internment camps. The Japanese brought with them knowledge of intensive row-cropping which has greatly aided in establishment of a strong agricultural economy in Malheur County.

Another major cultural influence which began during the 1940's is that associated with the in-migration of Mexican-Americans. The Mexican-Americans came to Malheur County from three areas near the lower Rio Grande, largely as migrant farm laborers. Many have dropped out of the migrant cycle and have made their homes in the area, continuing in agriculture and other occupations.

Between 1960 and 1970 Malheur County's population and economic growth stabilized. Since 1970, however, the county has again experinced an up-swing in population. Current growth, unlike that of the past, is largely a result of area cities, particularly Ontario, becoming inportant regional marketing and commercial centers.

Historic Sites

Historic sites are fragile and "non-renewable" resources and are subjects of special legislation and requirements for their preservation. As such, they must be considered on a level with other natural resources in any land use planning effort.

Malheur County contains a variety of historic sites which are not only important locally, but which are also of state and national significance. The historic sites in Malheur County identified in this report are those which have been nominated for placement on the National Register of Historic Places or listed in the Statewide Inventory of Historic Sites and Buildings.

NAME OF SITE	LOCATION	SIGNIFICANCE
Oregon Trail landmark	Malheur County Courthouse square, SW corner of Court & B Streets; Vale, Oregon	A stone shaft with a bronze medallion showing a wagon, oxen, and the trail.
Nevada Ditch wayside marker	Hwy. 20-26 between Vale and Cairo Junction	First irrigation project in Malheur County; developed through hand labor.
Sheep ranch fortified house*	Arock vicinity	Early ranch structure utilized during Indian uprising.
Jean Baptiste Charbonneau memorial and Inskip station ruins*	Danner vicinity	Traveler rest.
Pelota Court*	Jordan Valley Bassett St.	Native stone Basque hand ball court built in 1915. Illustrative of Basque culture.
Old Stone House* (Stone House Hotel)	Vale, Main St.	First house built in Vale, 1872; served as travelers rest.
Oregon Trail* Historic district	Vale vicinity, 5 miles SE of Vale on Lytle Blvd.	Remnants of Oregon Trail.
Charles W. Mallett house	5 miles east of Vale	A large, two-storied wood-frame building which stands in a grove of trees near the Nevada Ditch. Built about 1900 by Charles Mallet, an early Malheur County pioneer.

*Listed on National Register

Meek (Stephen) cut-off landmark	Vale rest area, Hwy. 20; Vale, Oregon	In 1845 Meek led 20 families away from the Oregon Trail seeking a shorter route west. Gold found enroute began Blue Bucket legend. Hardships drove the trail back to the Oregon Trail at the Dalles.
Creek (Wilson) house	717 SW 2nd St.; Ontario, Oregon	The former J. R. Blackaby house. J. R. Blackaby was an early Malheur County resident.
Carter House	NE corner S Oregon, SE 3rd; Ontario	Originally housed the Bank of Ontario, which later became the Ontario National Bank. Founded in 1899 as the first bank in southeastern Oregon.
Union Pacific Depot	East end of SE 4th Ave.; Ontario, Oregon	The building was erected in 1901 to replace an earlier wood-frame depot erected on the same site in 1884-5.
First Christian Church	450 A St. West; Vale, Oregon	Dedicated in early 1911, a year of a building boom in Vale.
Blackaby Carriage House	717 SW 2nd St.; Ontario, Oregon	Constructed around 1900 by J. R. Blackaby, a prominent citizen of the county.
First Methodist Church	SW corner of West B and S Cottage Sts.; Vale, Oregon	Built around 1910. A good example of the architecture of the period.

Flying Realty Building	201 A St.; Vale, Oregon	The First Bank of Vale building constructed in 1902.
I.O.O.F. Hall Flower Trunk	122 S Oregon St.; Ontario, Oregon	Constructed from 1900 to 1903. Housed the first fraternal order of the city.
I.O.O.F. Hall Thunderegg Lounge	SE corner S Main and A Streets; Vale, Oregon	Housed the I.O.O.F. Lodge upstairs and downstairs housed the Alexander Clothing Co. of Boise for many years.
Kinney-Keele True Value Hardware	SE corner of SE 3rd and S Oregon Sts.; Ontario, Oregon	Erected by James A. Lackey in 1903 for investment purposes.
James A. Lackey Building	NW corner S Oregon and 3rd Ave.; Ontario, Oregon	Housed the First National Bank.
Malheur City landmarks	Malheur Co. Courthouse square; Vale, Oregon	The plaque reads "Malheur City School Bell erected in 1894. Presented by former residents of that area."
Herb Ricker House	338 C Street; Vale, Oregon	In the Queen Ann Style. This house is the only one of this style in Vale.
Town House Motel Office	NW corner 3rd and NW 1st.; Ontario, Oregon	The Gilbert King house is a two-story, wood-frame building in the Queen Ann Style.
Vale Fire Dept. Building,	NW corner B St. & West Main; Vale, Oregon	Sign: "This building once housed the Farmers and Stock Growers Bank, and a tavern in the 20's. In later years the structure was used as a community hall in Vale. It is presently used by the Vale Fire Dept."

Jordan Valley Drug Store	Jordan Valley	Native sandstone built about 1910 by Dr. Jones.
Old Valley Grocery Store	Jordan Valley	East end of this building was built about 1867 as a stage stop by John Baxter, "the founder of Jordan Valley."
Railroad from Vale to Brogan	Vale	Tracks have been removed. But at one time approximately 300 cars of fruit were shipped from Brogan and Jamieson in one season.
China Gulch	South of Rome	During the Snake River Indian uprising (Paiute Indians), approximately 90 Chinese laborers were massacred at China Gulch. They were traveling to Silver City, Idaho.
Camp Lyon	East of Sheaville	Army outpost during the Snake River Indian uprising.
North Board of Control Building	Nyssa	Originally Bank of Nyssa during early 1900's. The original wall safe is still in use.
Cattle Trail from Harper to Winnemucca		Cattle trail used by the Pacific Livestock Ranch, owned by Miller & Lux.
Westfall Jail and Store	Westfall	Remains of the town of Westfall.
Silas Skinner Toll Road	Jordan Valley	Old toll road that ran from Owyhee River near Rome to Silver City.

Water Wheel at Island Ranch	South of Owyhee River on the river, access only by boat	One of the last remaining water wheels in the country, built during the early 1900's.
Olds Ferry Washoe Ferry	Farewell Bend north of confluence of Malheur and Snake Rivers	Old ferry service across the Snake River.
Vale Hotel	SW corner S Main and A Streets; Vale, Oregon	An early structure built around 1900 and one of the largest buildings in Malheur County.
Bank of Ontario (Historic)	399 S Oregon St.; Ontario, Oregon	The Bank of Ontario, erected about 1901-02, was founded in 1899 by Stephen Carver and J. R. Blackaby.
Westerner Cafe and Grand Central Bar	W side of Main near B Street; Vale, Oregon	This building in the 1920's housed the Grand Central Bar and other commercial establishments. It is one of the largest stone buildings in Malheur County.

There are other sites and buildings that should be considered for preservation. For instance, the Old City Hall in Juntura built in 1912 and the School House in Juntura built in 1914. There may also be some buildings in Jordan Valley which should be considered for preservation. A special effort should be made to protect as many significant buildings as possible in Malheur County.

Cultural Areas

A cultural area is an area characterized by evidence of an ethnic, religious, or social group with distinctive traits, beliefs,

and social forms. In Malheur County, other than the dominant Caucasian group, there are presently three distinct cultural groups plus the historic culture of the American Indian. A brief discussion of each follows.

Basques

The Basque people first arrived in Malheur County in the 1890's. Their progenitors occupied three provinces in Spain and two in France. Basques are a people of obscure origin and a language of unknown relationships.

At first they had very little experience with sheep, but once they devoted themselves to sheepherding and sheep raising, they were extremely successful. They came with little money but frugality and perserverance helped them become some of the most respected people of the area.

Early Basque influence in Malheur County still exists today with the Pelota Frontone court in Jordan Valley. This court was built in 1915 by Basque stonemasons who learned their trade in Spain. Presently it is in need of extensive repairs.

About half of the people of Jordan Valley are Basque or of Basque ancestry. They are hard-working, independent, self-reliant, and honest. The loss of language and culture is near, due to interracial marriages. However, the community revives the culture each year with a Basque dance in Ontario where one can enjoy Basque music, dancing, and chorizos. Also, there are Basque study centers at several western universities.

Japanese-American

There were Japanese immigrants in the U.S. prior to 1890, but significant Japanese immigration didn't occur until after this date. Most Japanese-Americans came to Malheur County as late as the 1940's after being released from internment camps. Many were second-and third-generation Americans.

"Issi," first-generation Japanese, generally found employment as agricultural laborers or in small businesses, either working for other Japanese or working for themselves. In both the agricultural and business populations there was a general tendency toward self-employment and interdependency within the ethnic group. The Japanese who came to Malheur County in the forties had essentially the same values of thrift, education of youth, hard work, and a drive to be successful as did many other groups coming to America. Because of these values, the Japanese have been assimilated into the mainstream of American culture.

The Japanese brought change to Malheur County. One apparent change is the type of farming prevalent in the area. Before the large influx of Japanese to Malheur County, there was more diversification in farming. Orchards, cattle raising, and small dairy farms were the norm. They brought with them knowledge of intensive rowcropping and as a result potatoes, sugar beets, onions, and grain now play a large part in the agriculture of the county.

The Japanese culture is strong in religious circles in the county. There is a Buddhist temple in Ontario along with the Japanese-American Citizens' League and a Methodist Church with primarily Japanese members. Obon Odori, a Buddhist festival held each year in mid-July at the Buddhist temple, is a time for Buddhists to honor their ancestors. It is also a time to reflect on the Buddhists' interdependence with other people. In addition to a strong religious culture, the Japanese have maintained their cultural diet and introduced to the general population other oriental cuisine.

Mexican-Americans

The Mexican-Americans came to Malheur County from three areas near the lower Rio Grande. One group migrated from the Piedras Negras area and tended to come to the Vale and Ontario labor camps. A second group, called the McClellan group,

came to the Nyssa labor camp. A third group migrated from scattered areas in south Texas. The large in-migration began in 1945 as migrant workers were needed for agricultural labor and is continuing today. However, many have dropped out of the migrant cycle and have made permanent homes in the area. Most continue to work in agriculture at least during the planting and harvesting season and find winter employment in secondary industries. There has generally been a lowering of the family's income as a result of permanent settlement because the entire family no longer works in the fields as wage earners. However, to most it is desirable because of continuity in the children's education.

Cinquo de Mayo is a fiesta celebrating the defeat of the French army on May 5, 1852 in Puebla, Mexico. The celebration is held locally with booths of traditional Mexican food, singing, and dancing. It is normally celebrated at Lions Park in Ontario. Another ceremony that is common in the Mexican-American community is the "Quincenera," or coming-out party. When a girl reaches the age of fifteen there is a ceremony held for her that marks her entry into the adult world. The tradition requires she wear a long white dress and dance first with her father. After that she may dance with the escorts of her court, usually fourteen other girls near her own age.

American Indian

In addition to the cultural influences of the Japanese, Mexicans, and Basques, there are a number of cultural sites in the county of American Indian origin. These sites, or more appropriately "areas," include Indian artifact areas, petrogliths, and Indian battle grounds. The vast majority of such areas in Malheur County are found on BLM land and are uder federal management. Only two archaeological sites of significance in the county have been scientifically excavated.

They are the Dirty Shame Rockshelter (in the SE corner of the county) and the Moore Ranch Site near Malheur Butte.

Intentionally, a site-specific inventory of remaining archeological sites has not been included in this plan because of potential vandalism. These resources are a valuable part of Malheur County's heritage and should be protected by the BLM.

One Indian tribe still remains in Malheur County--the McDermitt Indians on the McDermitt Indian Reservation. Most of the reservation is in Nevada, but a small portion extends into the county. No buildings or residences of the tribe are in the county, however.

Conclusion

The Malheur Country Historical Society is the major source of preservation efforts in Malheur County. The Society has identified several valuable and significant historic sites in the county and has recognized a need for repair and restoration of many of these sites. However, funding for these projects has not been available. The county should support the Malheur Country Historical Society and investigate grants and other fund-raising methods.

It is possible that not all sites with historic value have been identified. The county should carefully evaluate any sites suspected of having historic or cultural value and, if they are found to have historic significance, they should be added to the list of historic sites and preserved.

The county should encourage the schools and other public agencies to revive and preserve the heritage of the Basque, Japanese, and Mexican cultures in the county. The county should also cooperate with the BLM in its efforts to preserve and protect all historic sites, artifacts, and archeologic sites under its management.

AIR, WATER AND LAND QUALITY

Purpose

Air, water and land are basic resources that are used and sometimes abused by man. The responsibility of ensuring the high quality of these resources for present and future generations is the responsibility of individuals and governments. The federal and state governments have taken on the task of improving environmental resources through preventive and enabling legislation. This element reviews state and federal laws, local programs, and potential local problems in air, water and land resource quality.

Air Quality

The Federal Clean Air Act of 1970 requires the Environmental Protection Agency (EPA) to set primary and secondary standards for six air pollutants (see Table 31). The standards set maximum concentrations of pollutants allowed in ambient air, or the air we breathe. For primary standards, the pollutants are not permitted to exceed levels necessary to protect human health with an adequate margin of safety. Primary standards should have been reached by 1975. Secondary standards are higher and are designed to safeguard values pertaining to public welfare, including plant and animal life, visibility, buildings, and materials. The secondary standards are required to be attained within a "reasonable time."

The Clean Air Act also requires each state to develop implementation plans to meet and maintain such standards. In addition, all areas of the country are to be identified as Class I, II or III. With the exception of wilderness

TABLE 31

National Primary and Secondary
Ambient Air Quality Standards

Pollutant	Primary Standard	Secondary Standard
Sulfur Oxides	a) 80 micrograms per cubic meter (0.03 p.p.m.) - annual arithmetic mean. b) 365 micrograms per cubic meter (0.14 ppm)-maximum 24 hr. concentration not to exceed more than once a year	1,300 micrograms per cubic meter (0.5 ppm) maximum 3-hr. concentration not to exceed more than once a year.
Particulate matter	a) 75 micrograms per cubic meter--annual geometric mean. b) 260 micrograms per cubic meter--maximum 24 hr. concentration not to exceed more than once a year.	a) 60 micrograms per cubic meter--annual geometric mean, as a guide to be used in assessing implementation plans to achieve 24 hr. standard b) 180 micrograms per cubic meter--maximum 24 hr. concentration not to exceed more than once a year.
Carbon Monoxide	a) 10 milligrams per cubic meter (9ppm)--maximum 8 hr. concentration not to exceed more than once a year. b) 40 milligrams per cubic meter (35ppm)--maximum 1 hr. concentration not to exceed more than once a year.	Same as Primary Standard
Photochemical Oxidants	160 micrograms per cubic meter (0.08ppm)--maximum 1 hr. concentration not to exceed more than once a year.	Same as Primary Standard
Hydrocarbons	160 micrograms per cubic meter (0.24ppm)--maximum 3 hr. concentration (6 to 9 am) not to exceed more than once a year.	Same as Primary
Nitrogen Dioxide	100 micrograms per cubic meter (0.05ppm)--annual arithmetic mean.	Same as Primary

Note: All measurements of air quality are corrected to a reference temperature of 25°C. and to a reference pressure of 760 millimeters of mercury (1,013.2 millibars).

Source: Natural Resources Defence Council, Inc.; LAND USE CONTROLS IN THE UNITED STATES (1971).

areas, which are Class I, all areas have been identified as Class II. Class I areas have the highest standards and each potential pollutor is allowed the least amount of pollutants. Class II areas are less stringent and each new individual pollutor is allowed to emit more pollutants as long as the total allowed is not exceeded. Class III areas are designated only upon request by governing bodies. The rules for petitioning for a Class III designation are outlined in federal statutes.

The State of Oregon's response to federal regulations was to develop a Department of Environmental Quality (DEQ) charged with the responsibility of restoring and maintaining the quality of air resources in a condition as free from air pollution as is practicable. The statutes define air pollution as "the presence in the outdoor atmosphere of one or more air contaminants, or any combination thereof, in sufficient quantities and of such characteristics and of a duration as are or are likely to be injurious to public welfare; to the health of human, plant, or animal life or to property; or to interfere unreasonably with enjoyment of life and property." State law exempts agricultural operations, or the growing or harvesting of crops and fowl and animals, from application of air pollution laws.

The Oregon Department of Environmental Quality has adopted the secondary standards established by the federal government as the maximum pollutants allowed for ambient air. Therefore, Malheur County is not allowed to exceed the secondary standards for all six pollutants. No monitoring stations have been established in the county and, as a result, present pollution levels are not known.

Pendleton and Baker are the closest sites where monitoring has been established and the results are variable. Pendleton's low for particulate matter was in

1975 and measured 67.9 micrograms per cubic meter (annual geometric mean). Baker's particulate levels were considerably lower with 51.5 micrograms per cubic meter.

It is not practical to extrapolate the data from Pendleton and Baker and make assumptions about Malheur County. Therefore, the county should establish monitoring stations in potential development sites and determine potential allowable levels of pollutants.

Water Quality

With the Federal Water Pollution Control Act Amendments of 1972, water pollution controls by the federal government followed clean air legislation. The purpose of this act was to approach water pollution with new attitudes. Two new attitudes were that no one has the right to pollute, and waterways should not be considered part of the waste treatment process. The major goals of the act were that:

1. The discharge of pollutants into navigable waters be eliminated by 1985;

2. Wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July 1, 1983;

3. The discharge of toxic pollutants in toxic amounts be prohibited;

4. Federal financial assistance be provided to construct publicly owned waste treatment works;

5. Areawide waste treatment management planning processes be developed and implemented to assure adequate control of sources of pollutants in each state; and

6. That a major research and demonstration effort be made to develop technology necessary to eliminate the discharge of pollutants into the navigable waters, the waters of contiguous zones, and the oceans.

In the State of Oregon, the Environmental Quality Commission and the Department of Environmental Quality (DEQ) are responsible for implementing the Federal Water Pollution Control Act. To help meet the standards established in the act, special federal funds were distributed for planning purposes under Section 208. The primary objective of 208 planning funds was to establish management and regulatory programs necessary to achieve the 1983 water quality goals.

In 1978 Malheur County received 208 funds to identify non-point sources of pollution and to develop Best Management Practices (BMPs) for control of such pollution. (Unlike point sources, which are discharges of pollutants from identifiable points such as pipes or drains, non-point sources of pollution are usually diffused wastes from agricultural areas, mine drainages and washout from the atmosphere.) As explained in the Malheur County Water Quality Management Plan published in 1981, the county's Section 208 water quality project entailed a two-year water sampling program, problem identification, the development of BMPs, and the development of implementation measures.

The sampling portion of the program was designed to provide information on surface water quality. The size of the county and complexity of its irrigation systems precluded sampling all waterways. Therefore, emphasis was placed on a cross-section of various types of water throughout the county. Stations were selected in the headwaters of both major basins as well as at various locations along river courses. Major tributaries and small streams were sampled, along with numerous irrigation drains. Data obtained from the sampling stations provided background information, magnitude of change occurring throughout the basins, and comparative data for problem identification. Problems were identified by examining the sampling data and comparing results in different sections of the river.

The Malheur County Water Resources Committee, the citizens advisory committee responsible for directing the water quality project, encountered a major difficulty with the beneficial uses established by the state for each river basin. As shown on Table 32, both the Malheur and Owyhee Basins have thirteen recognized beneficial uses established by the state. In most cases, spawning and rearing of salmonid fish would require higher standards than any other recognized beneficial use. In some portions of these basins it is not practical to improve quality to the extent required to spawn or rear salmonid fish. Agriculture is the most important industry in the county and it requires large quantities of water to be stored for irrigation. Due to this storage, the water volume and temperature is often inadequate for the spawning and rearing of salmonid fish.

The Water Resources Committee determined that a more practical approach was to divide the basins into sections and designate the beneficial uses for each specific section. As shown on Table 33, the suggested divisions were as follows:

TABLE 32

BENEFICIAL WATER USES, MALHEUR COUNTY

Beneficial Uses	Snake R. Mainstem (RM 335 to 409)	Malheur R and Tributaries to Malheur & Snake R	Owyhee Basin Streams
Public domestic water supply [1]	X	X	X
Private domestic water supply [1]	X	X	X
Industrial water supply	X	X	X
Irrigation	X	X	X
Livestock watering	X	X	X
Salmonid fish rearing	X	X	X
Salmonid fish spawning	X	X	X
Resident fish & aquatic life	X	X	X
Wildlife and hunting	X	X	X
Fishing	X	X	X
Boating	X	X	X
Water contact recreation	X	X	X
Aesthetic quality	X	X	X

[1] With adequate pretreatment

Source: Oregon Department of Environmental Quality (1976)

1) above reservoirs; 2) reservoirs; 3) below reservoirs but above intense irrigation; 4) in intense irrigated areas, and 5) Snake River. The Water Resources Committee decided that beneficial uses should be re-evaluated for each section. In addition, places identified as severe problem areas should be prioritized for adoption of Best Management Practices.

Best Management Practices (BMPs) are possible solutions to preventing or reducing the amount of pollution generated by non-point sources. The Water Resources Committee established four major areas of concern: 1) management of irrigation water; 2) management of animal wastes; 3) soil stabilization; and 4) range improvement and management methods. Specific management practices in each area were identified as a means of eliminating non-point source pollution in the county.

To achieve water quality goals, the Water Resources Committee established two implementation programs. The first is a voluntary program with an emphasis on education. It will attempt to make people aware of the water quality program, inform them of the benefits of the BMPs, and help participants apply for technical and financial assistance. The second program, which is a mandatory regulatory program, will affect only those individuals who are unwilling to resolve water quality problems on a voluntary basis.

As explained in the water quality management plan, implementation will be a joint effort involving the Malheur County Court, the Malheur County Soil and Water Conservation District, the Malheur County Agriculture Stabilization and Conservation Service, the U.S. Soil Conservation Service, the Malheur County Extension Office, Oregon State University Experiment Station, Oregon Department of Fish and Wildlife, the Bureau of Land Management, and irrigation and drainage districts in the county. In addition, state and federal environmental quality agencies should also be involved.

TABLE 33

SUGGESTED BENEFICIAL WATER USES,
OWYHEE & MALHEUR BASINS

River Sections	Beneficial Uses
Above Reservoirs	
Willow Creek and tributaries above Malheur Reservoir	Light irrigation Livestock watering Salmonid fish rearing Salmonid fish spawning Resident fish and aquatic life Wildlife and hunting Fishing Aesthetic quality
Bully Creek and tributaries above Bully Creek Reservoir	
Malheur River and tributaries above Beulah Reservoir	
Owyhee River and tributaries above Owyhee Reservoir	
Reservoirs	
Malheur Reservoir	Livestock watering Resident fish and aquatic life Wildlife and hunting Fishing Boating Water contact recreation Aesthetic quality
Bully Creek Reservoir	
Beulah Reservoir	
Owyhee Reservoir	
Warmsprings Reservoir	
Below Reservoirs & Above Intense Irrigation	
Willow Creek below Malheur Reservoir, above Brogan	Moderate irrigation Livestock watering Salmonid fish rearing Salmonid fish spawning Resident fish and aquatic life Wildife and hunting Fishing Aesthetic quality
Malheur River below Beulah Reservoir and Warmsprings Res. above Namorf	
Owyhee River below Owyhee Res., above River mile 18 (from tunnel to River mile 18 - excludes salmonid fish rearing and spawning)	
Intense Irrigation Areas	
Willow Creek, Brogan to mouth	Intense irrigation Livestock watering Resident fish and aquatic life Wildlife and hunting Fishing Aesthetic quality
Bully Creek from reservoir to mouth	
Malheur R from Namorf to mouth	
Owyhee R from RM 18 to mouth	
Snake River	
River Mile 335 to 409	Public domestic water supply Private domestic water supply Industrial water supply Intense irrigation Livestock watering Resident fish and aquatic life Wildlife and hunting Boating Water Contact recreation Fishing Aesthetic quality

Water pollution control laws in the State of Oregon include groundwater in the definition of waters of the state. However, very little groundwater study has been completed and no specific standards have been set for groundwater. In addition, the county has not established a program for identification of problem areas concerning groundwater. However, the public has voiced some concern over groundwater depletion and contamination in some areas of the county. Therefore, the county should establish a sampling program to examine groundwater level changes, well depths, and groundwater quality, particularly in those areas of greatest development pressures.

The State Department of Environmental Quality has estimated that a good share of the recharge for aquifers in the county is from irrigation. As a result, quality standards for rechargeable irrigation water should be included in the groundwater studies.

Land Quality

The federal government's approach to land quality has generally been to provide technical and financial assistance to states for planning and development of solid waste management programs. This assistance is administered by the Environmental Protection Agency, which requires that plans have forecasts for a five-year term and a twenty-year term. The EPA did not set federal solid waste standards that must be followed, but it does require that all plans incorporate federal air and water quality standards.

The State of Oregon has taken advantage of EPA's assistance and has established a comprehensive statewide program for solid waste management. The state requires that local governments retain the primary responsibility for management of solid waste programs, cooperation among local government units, and coordination of solid waste management programs throughout the state.

Through the statewide program, Malheur County completed a comprehensive solid waste management plan in 1974. This plan identified present and future needs and established three alternative programs that would effectively manage solid waste in Malheur County. Alternative One utilizes a regional central sanitary landfill with supporting modified landfills; in addition, a series of transfer stations would reduce the number of modified landfills and increase the economics of scale at the central landfill. Alternative Two also uses a regional central landfill with supporting modified landfills but does not have any transfer stations. It requires machinery to be moved between the modified landfills and the central landfill; the central landfill would be smaller than in Alternative One. Alternative Three employs an incinerator to burn the solid waste rather than a landfill but utilizes the transfer system used in Alternative One.

The energy produced by the incinerator would be sold to a food processing plant in the county.

The recommendation of the Malheur County Solid Waste Council in 1974 was Alternative Three. The county was not in a position at that time to implement such a program, but it may be in the near future. Therefore, the cost/benefit analysis should be updated to help in the county's reevaluation of the 1974 comprehensive solid waste management plan.

NATURAL DISASTERS AND HAZARDS

Purpose

The natural environment is continuously changing. There are two general causes of these changes: natural causes and man's activities. The natural causes can be affected very little by the people of Malheur County. However, to recognize the natural activities and prevent development near such areas is one way to minimize natural disasters and hazards. In addition, man's activities can be monitored to assure that a catastrophe will not be the result of his actions.

Areas of natural disasters and hazards are areas subject to natural events known to result in death or endanger the works of man. The types of hazards included are stream flooding, erosion and deposition, weak foundations, earthquakes, landslides, and other hazards unique to local or regional areas. These kinds of disasters and hazards have cost people a tremendous amount of money in the past because they were not considered when building sites were selected.

Unstable Slope Areas

One type of natural hazard in Malheur County is unstable slope areas (erosion and deposition). Unstable slope areas can cause landslides, rock falls, debris avalanches, mud flows, and soil creep. Events that can cause such actions are earthquakes, heavy rains, rapid snow melt, and some human processes. The terrain where instability exists is steep sloping land forms, benchlands, terraces, butte edges and steep sloping upland hills. These characteristics, plus the significant components of

montmorillonite clay, a weathered or alteration product of volcanic ash, can add to the problem significantly, particularly when there are exposed slopes and cuts and repeated cycles of wetting and drying occur. These conditions, though they exist in Malheur County, have not caused a great deal of property damage or loss of life.

Fault Zones

Another hazard in Malheur County can be faulting. A fault is a deformation of the earth's crust where the surface has fractured and displacement or movement of the facing blocks has occurred. Slippage along a fault can be dangerous. There are a large number of fault zones in Malheur County. Building over these fault areas can be a dangerous situation, but no damage has been recorded.

Earthquakes

Earthquakes, also hazardous, are tremors or shaking of the earth's surficial layers resulting from any shock strong enough to cause movement of the crustal strata. Malheur County is prone to seismism. Most of the disturbances in the county have been minor and without appreciable detrimental effects. However, considerable surface change may result when the activity causes crustal deformation and displacement of the underlying rock layers along a fault plane or a line of weakness.

Seismic monitoring in Malheur County is a relatively new function, but according to scientists based at Boise State University, the county should experience earthquake activity of moderate severity about every 25 years. The last reported seismic activity in the county was reported west of Vale in 1975.

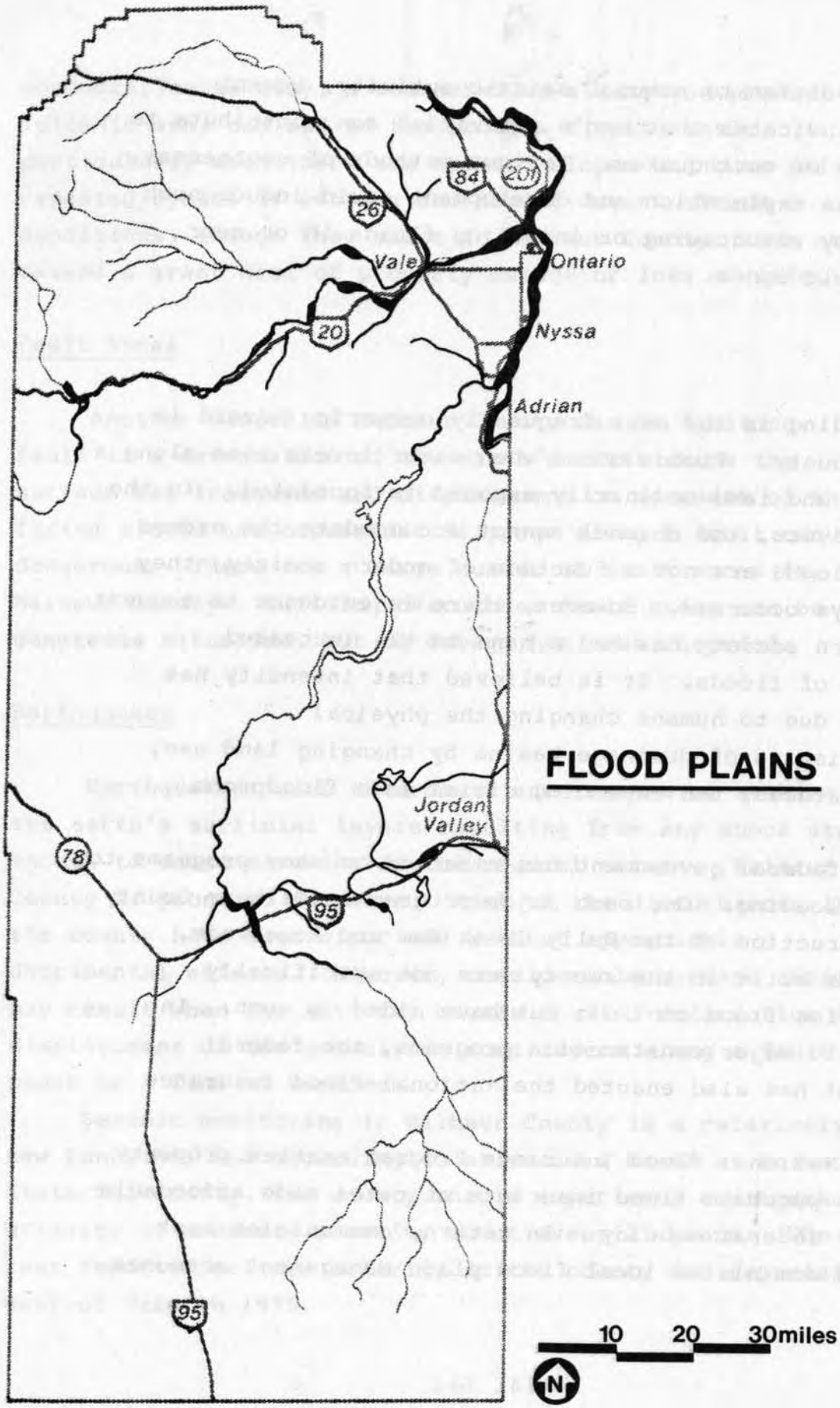
In addition to natural seismic activity, recent evidence indicates that man's activities can contribute to activation of earthquakes. Various methods of geothermal, oil, or gas exploration and development could induce such activity by withdrawing or injecting fluids in or near active fault zones.

Flooding

Flooding is the most frequently occurring hazard in Malheur County. Floods occur when water levels rise along a shoreline and land ordinarily exposed is inundated. In the case of rivers, the channel cannot accommodate the excess water. Floods are not a function of modern society; they have always occurred. However, there is evidence to suggest that modern society has had a hand in the increased intensity of floods. It is believed that intensity has increased due to humans changing the physical characteristics of drainage basins by changing land use, paving surfaces, and expanding cities into floodprone areas.

The federal government has embarked on many programs to prevent flooding. One such major program in Malheur County was construction of the Bully Creek Dam and Reservoir. Other dams built in the county were not specifically designed for flood control, but have aided in such. In addition to major construction programs, the federal government has also enacted the National Flood Insurance Program.

The National Flood Insurance Program enables property owners to purchase flood insurance at rates made affordable through a federal subsidy. In return, communities must adopt and administer local flood plain management measures



FLOOD PLAINS

aimed at protecting lives and new construction from future flooding. Malheur County has complied with federal regulations that allow for participation of individuals in the low-rate insurance program. The county has adopted a flood damage prevention ordinance and has accepted the flood hazard boundary maps published by the U.S. Department of Housing and Urban Development for the Federal Insurance Administration.

In addition to adopting regulations concerning flood plains, there are other measures that can prevent loss of life and property. Flood warnings and anticipated weather conditions are issued by the National Weather Service Office to county and city officials, radio and television stations, and local press media for dissemination to residents of the county. In addition, the Malheur County Emergency Service office is available for alerting area residents and coordinating operations of public service agencies.

It has been estimated that 10,000 citizens of the United States lost their lives to floods in the last 75 years and there was during that same time $1.25 billion in property damage. It is believed that flood damage in Malheur County can be significantly reduced by establishing a flood plain zone and flood damage prevention ordinance. In addition, all inhabitable structures should be required to conform to standards established by the Flood Insurance Administration and all other allowed development within the flood plain area should be required to take necessary precautions to prevent loss of life or serious damage to such development.

Conclusion

Several types of natural hazards can cause considerable damage to property or loss of life. Fault zones have been identified as areas of hazard due to displacement and are

frequently associated with earthquakes. Fault zones should be mapped and identified to serve as a warning of possible hazard to developers and financiers. The same is true of slopes greater than 40%. If future development should increase in these areas and hazards appear to be more serious than they are at this time, more restrictive steps should be taken to prevent further possible hazards.

Naturally caused disasters cannot be prevented but those caused by man's activities can and should be. With the county's potential for geothermal development, as well the occasional drilling for oil and gas exploration, the county should require that precautions are taken to prevent man-activated earthquakes.

Most businesses, residences, and industrial activities should be allowed to be situated in the flood plains provided that all the necessary precautions have been taken to prevent loss of life and property. However, emergency services such as hospitals, clinics, and fire and police stations should not be allowed under any circumstances to be located within the boundaries of possible floods. These services need to be free from inundation and all access routes should be clear to aid in any emergency situations that may arise.

A hazard prevention program must start with an adequate information base. Many federal and state agencies are responsible for supplying some of the information needed and the county should seek out these groups and cooperate with them in protecting life and property. Once information is obtained, the county should make it available to the public. The county should also support the Emergency Services Program.

RECREATION

Purpose

The increased amount of leisure time available to most people today is having a marked impact on their daily lives. The way leisure time is used can affect the individual's health, the family's happiness, and the community's productivity. Leisure time in this context is defined as time available for recreational activities, or that time not used for eating, sleeping, working, or doing personal chores. With increased leisure time, people demand more recreational opportunities.

In Malheur County, as the nature of the community gradually becomes more urban, recreational demands are becoming more and more similar to the rest of the state and the nation. The amount of change in recreational activites in the nation on weekends has gone from 50 billion hours annually in 1900 to 179 billion hours in 1950 and is expected to increase to 483 billion hours in the year 2000. (Marion Clawson, Land and Leisure: Concepts and Methods in Outdoor Recreation, Maarouta Press, Inc., 1974.)

The recreational activities people choose to participate in cannot be planned by the county or any other governmental agency. However, these agencies can plan for recreational facilities based on recognized demands expressed by the people.

Recreational Demands

In Malheur County, the recreational experiences being demanded by the people of the county and visitors are

TABLE 34

DISTRICT XIV
(Harney & Malheur Counties)
OUTDOOR RECREATION DEMAND*

Activity	1975	%	1980	%	1990	%	2000	%
Camping	232,400	7.7	261,300	8.5	320,600	7.8	379,200	7.9
Picnicking	133,200	4.4	146,300	4.8	177,500	4.3	201,800	4.2
Swimming	280,700	9.3	312,000	10.2	394,500	9.6	470,400	9.8
Sightseeing	355,000	11.7	378,600	12.4	495,000	12.1	575,600	12.0
Fishing	252,600	8.3	270,400	8.8	306,700	7.5	332,000	6.9
Boating	142,200	4.7	156,900	5.1	193,400	4.7	225,100	4.7
Water Skiing	67,400	2.2	76,000	2.5	97,100	2.4	115,900	2.4
Walking & Hiking	565,400	18.6	632,700	20.6	759,700	18.6	865,500	18.0
Hunting	166,500	5.5	187,900	6.1	223,100	5.5	245,400	5.1
Outdoor Games	72,200	2.4	79,100	2.6	95,900	2.3	106,500	2.2
Bicycling	250,000	8.2	267,700	8.8	300,000	7.3	322,000	6.7
Golfing	23,000	0.8	27,900	0.9	33,800	0.8	40,200	0.8
Horseback	26,200	0.9	28,600	0.9	35,000	0.9	40,400	0.8
Cultural Events	106,300	3.5	116,000	3.8	132,000	3.2	146,300	3.0
Snow	131,300	4.3	155,500	5.1	206,100	5.0	253,900	5.3
Other	229,300	7.6	268,900	8.8	349,600	8.5	415,900	8.7
TOTAL	3,033,700		3,059,000		4,090,000		4,799,700	

*Activity occasions generated

Source: Oregon SCORP, 1978

generally outdoor-type activities. This trend is occurring across the nation.

As shown on Table 34, Oregon's Statewide Comprehensive Outdoor Recreation Plan (SCORP) indicates that the activities generated most by residents and visitors in District 14 (Malheur and Harney Counties) are walking and hiking, sightseeing, and swimming. According to the county survey, hiking and swimming opportunities should be improved but sightseeing should not. The response to sightseeing may indicate that residents are satisfied with the county's unique scenery as it is and do not desire improved access. Bicycling also has a high demand status with the SCORP survey and a requested-improvement status with the county survey. On the other hand, the SCORP survey shows outdoor games to have low use while the county survey shows a demand for improved outdoor game fields. The low percentage of participation in outdoor games may reflect the lack of facilities for such activities, rather than the lack of desire. The low participation in picnicking indicated by the SCORP survey may also reflect the lack of good facilities. The county survey shows a demand for additional picnic facilities.

According to the Oregon State Marine Board's statewide boating survey, another popular outdoor recreation activity in Malheur County is boating. Five percent of the population in the county have registered boats and 1.1 percent of the state's population with registered boats are from Malheur County. The SCORP survey also shows five percent of the county participating in boating activities. The types of facilities needed for boating are launch facilities, docks, restrooms, sanitary pump-outs, and parking lots. Some problems identified were water pollution in the Snake River, user conflicts at Bully Creek Reservoir and Owyhee Lake, and lack of courtesy and enforcement of rules at most sites.

One other activity that is becoming increasingly popular is the Owyhee Canyon float trip. As shown on Table 30, the number of persons making the trip increased by more than 200% from 1974 to 1979. Although the scenic waterway is managed by the Bureau of Land Management, the county should monitor use of the river and encourage the BLM's efforts to provide for its recreational enjoyment.

Recreational demands in Malheur County are likely to change as gasoline supplies become less available, either because of an increase in cost or a decrease in supply. For example, fewer boaters will be leaving the county to boat elsewhere. In 1978 34% of the registered boats in Malheur County launched their boats in another county or state. Those boaters are likely to remain in-county as the energy situation worsens. On the other hand, out-of-county boaters are also likely to remain closer to home. The percentage of out-of-county boat launches in Malheur County was 33% in 1978. Therefore, if everyone stays close to home, the changes may be relatively small.

Recreation Funding

Direct funding from the federal government comes from the Bureau of Land Management. The BLM has a full-time recreation specialist in charge of the eight recreation areas developed on BLM land in the Vale District. Direct funding from the state comes through the Parks and Recreation Division and the Department of Fish and Wildlife. Direct funding from the county is relatively small and is generally in the form of in-kind services needed to meet matching fund requirements from state and federal agencies.

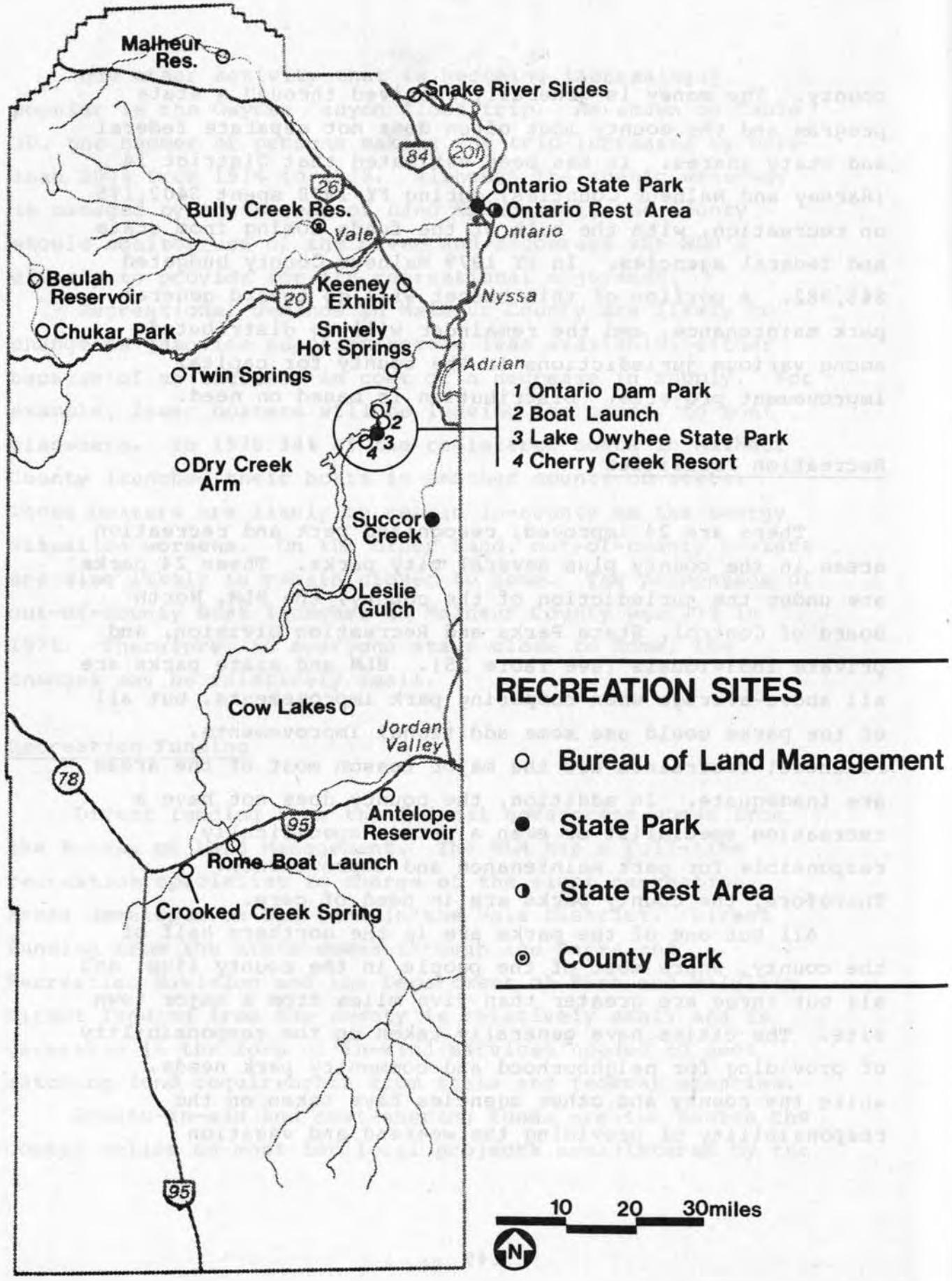
Grants-in-aid and cost-sharing funds are the monies the county relies on most for local projects administered by the

county. The money is generally received through a state program and the county most often does not separate federal and state shares. It has been estimated that District 14 (Harney and Malheur Counties) during FY 1978 spent $402,175 on recreation, with the bulk of the funds coming from state and federal agencies. In FY 1979 Malheur County budgeted $45,982. A portion of this budget will go toward general park maintenance, and the remainder will be distributed among various jurisdictions in the county for capital improvement projects. Distribution is based on need.

Recreation Facilities

There are 24 improved, recognized park and recreation areas in the county plus several city parks. These 24 parks are under the jurisdiction of the county, the BLM, North Board of Control, State Parks and Recreation Division, and private individuals (see Table 35). BLM and state parks are all above-average when comparing park improvements, but all of the parks could use some additional improvements. Financial restraints are the major reason most of the areas are inadequate. In addition, the county does not have a recreation specialist or even a person specifically responsible for park maintenance and improvements. Therefore, the county parks are in need of care.

All but one of the parks are in the northern half of the county, where most of the people in the county live, and all but three are greater than five miles from a major town site. The cities have generally taken on the responsibility of providing for neighborhood and community park needs, while the county and other agencies have taken on the responsibility of providing the weekend and vacation


Malheur Res.
Snake River Slides
84
201
26
Ontario State Park
Ontario Rest Area
Bully Creek Res.
Vale
Ontario
Beulah Reservoir
20
Keeney Exhibit
Nyssa
Chukar Park
Snively Hot Springs
Adrian
Twin Springs
1 Ontario Dam Park
2 Boat Launch
3 Lake Owyhee State Park
4 Cherry Creek Resort
Dry Creek Arm
Succor Creek
Leslie Gulch
Cow Lakes
Jordan Valley
78
95
Antelope Reservoir
Rome Boat Launch
Crooked Creek Spring
95
RECREATION SITES
Bureau of Land Management
State Park
State Rest Area
County Park
10 20 30miles
N

Parks and Recreation Areas in Malheur County

Name	Location	Improvements	Opportunities on Site	Ownership	Management
Chuckar Park	Juntura Sec. 27, T20S, R37E	Trailer sites Toilets, Tables	Fishing, hunting boating-power swimming	BLM	BLM
Twin Springs	Vale Sec. 35, T22S, R43E	Campsites Toilets Tables	Fishing, hunting	BLM	BLM
Cow Lakes	Jordan Valley Sec. 27, T28S, R44E	Campsites Boat launch Tables, well Toilets Fireplace	Hunting, boating- power, sail; swimming	BLM	BLM
Antelope Reservoir	Jordan Valley Sec. 32, T30S, R45E	Tables, toilets; Fish cleaning tank; waste water sump; boat launch	Fishing, hunting boating- power, sail; swimming	BLM	BLM
Snively Hot Springs	Nyssa Sec. 22, T21S, R45E	Campsites, Tables, Fireplaces	Fishing, hunting swimming	BLM	BLM
Leslie Gulch	Homedale, ID Sec. 10, 4, 13, T26S, R443; Sec. 9, 18, T26S, R45E	Spring, toilets; Waste water sump; Fish cleaning tank; boat launch; Trail head	Fishing, hunting Boating- power- sail; swimming	BLM	BLM
Keeney Exhibit	Vale Sec. 23, T19S, R45E	Historical Interpretive Site	Historical signi- ficance	BLM	BLM
Rome Launch Site	Rome Station Sec. 30, T31S, R42E	Boat launch Way station Well; toilets	Boating, floating Wild & Scenic River	BLM	BLM

Parks and Recreation Areas in Malheur County (Cont.)

Name	Location	Improvements	Opportunities on Site	Ownership	Management
Bully Creek. Res.	Vale T18S, R43E	Dumping station Boat launch Toilet, water, Tables, campsites	Hunting, fishing, Swimming, boating- power, sail	USBR	County
Beulah Res.	Juntura T18S, R37E	Boat launch	Hunting, fishing, swimming, boating- power, sail	USBR	County
Malheur Res.	Brogan T14S, R41E	Toilets, boat launch	Hunting, fishing, swimming, boating- power, sail	County	County
Owyhee Res. Boat Launch	Nyssa Sec. 20 & 21, T22S, R45E	Toilet, boat launch; dock	Fishing, swimming, boating- power, sail	NB of C	County
Dry Creek Arm	Vale Sec. 13, T23S, R40E	Cabins (private)	Fishing, swimming, hunting	USBR	Private
Cherry Creek Resort	Nyssa Sec. 32, T22S, R45E	Rest motel, campsites, boat launch, moaring, well	Fishing, swimming, boating - power, sail; hunting	USBR	Private
Lake Owyhee State Park	Nyssa Sec. 28, T22S, R45E	Toilets, boat dock; boat launch; stoves; tables; water; campsites	Fishing, swimming, boating - power, sail; hunting	State	State
Owyhee Dam Park	Nyssa Sec. 17, T22S, R45E	Campsites, well, tables, toilets	fishing, hunting	USBR	NB of C
Pole Creek Res.	Brogan Sec. 22, T15S, R42E	Toilets	Fishing, swimming, hunting	Private	Private
Cow Hollow Park	Nyssa Sec. 20, T20, R46	Tables, trailer sites; well; ball parks; toilets, electricity	Hunting	NB of C	Private

Parks and Recreation Areas in Malheur County (Cont.)

Name	Location	Improvements	Opportunities on Site	Ownership	Management
Ontario State Park	Ontario Sec. 32, T17, R44	Fireplaces, boat launch, tiolets, tables, water	Boating - power; fishing	Oregon	State Parks
Succor Creek	Nyssa Sec. 5, 6, 7, 8, 17, 18, 20, 29 & 30; T24, R46	Fireplaces, campsites, Tables, toilets	Fishing, hunting	Oregon	State Parks
Ontario Rest Area	Ontario Sec. 11, T18, R47	Toilets, water, tables, dumping station, information center	Rest area	Oregon	State Parks
Crooked Creek Spring	Jordan Valley Sec. 12, T32, R40	Tables, water, toilets	Rest area	Oregon	State Parks
Snake River Sites	Ontario Sec. 17, T15, R46	Tables, water	Fishing	Oregon	State Parks

recreation needs. Most of the parks and recreation areas in the county offer fishing, boating and camping opportunities.

No indepth studies have been completed in Malheur County to determine the characteristics of users of parks and recreation areas. Nor have there been any studies to determine where county residents prefer to go for recreational activities. As a result, it is difficult to determine if needs are being met.

Some areas in the state benefit from tourism, and promoting tourism may be a desirable economic measure for Malheur County as well as providing additional recreational opportunities. Consequently, a study should be made to determine the economic importance of tourism. If tourism proves to be of substantial importance or could be important to the county's economic base, the county should encourage development of the tourist trade. Recreational opportunities should be provided for all county residents, with special consideration for the young, aged and handicapped.

Conclusion

The biggest restraint on parks and recreation development in Malheur County is lack of available funds. One group of citizens in the county realized that if they were to have a park in their community, they would have to form a recreation association and collect donations from hunters who use the nearby fields during pheasant and duck hunting season. The efforts of the Cow Hollow Park Association have been rewarding and a once-idle field is now a frequently-used park that serves the community and its visitors. The county should encourage other communities to develop their own parks and recreation facilities.

To help provide recreation facilities without increasing the tax burden on residents, schools, churches and other public and semi-public facilities should be made available to the public for recreational use.

ECONOMY

Purpose

A community's social system, natural resource system, and economic system are all strongly interdependent. Because of this interrelationship, it is difficult to make decisions concerning any one system without also considering the other two. The economic element of this plan, then, can only be considered complete when other elements of the comprehensive plan are also considered.

This report will define and identify the basic and non-basic sectors of the local economy, discuss the diversification and stability of basic industries, characterize the employed and unemployed, examine economic trends, and discuss needed changes.

Economic Sectors

There are three major economic sectors at work in Malheur County: primary, secondary, and tertiary (see Table 36). The majority of the primary sector, which is generally considered an exporting (basic) industry, is agriculture, responsible for growing food and fiber. In Malheur County 77 percent of primary agriculture is basic and 23 percent is non-basic, or consumed locally. The secondary sector includes all manufacturing, ranging from food processing to machinery manufacturing. The majority (about 70 percent) of manufacturing is in food processing, with a ratio of basic to non-basic of 80/20. All other manufacturing in the county is considered non-basic. The tertiary sector involves services such as retail, social, and financial.

TABLE 36

ECONOMIC SECTORS, MALHEUR COUNTY 1970

	# Employed		% of Total Employed		%	%
	Oregon	Malheur Co.	Oregon	Malheur Co.	Basic	Non-Basic
Primary						
Agriculture, Forestry & Fisheries	42,465	1,994	5.4	23.9	77	23
Mining	1,379	14	.2	.2		100
Secondary						
Manufacturing	167,035	1,072	21.4	12.8		100
Durable	122,803	232	15.8	2.8		100
Furniture, lumber wood products	67,677	58	8.3	.7		100
Metals industry	16,034	16	2.1	.2		100
Machinery except electrical	10,093	36	1.3	.4		100
Electrical machinery, equipment, supplies	10.986	--	1.4	--		--
Other durable	21,013	122	2.3	1.5		100
Non-Durable	44,232	840	5.7	10.1	44	56
Food & Kindred products	14,072	746	1.8	8.9	80	20
Other non-durable	30,160	94	3.9	1.1		100
Construction	45,324	498	5.9	6.0	2	98

TABLE 36 (Cont.)

	# Employed		% of Total Employed		%	%
	Oregon	Malheur Co.	Oregon	Malheur Co.	Basic	Non-basic
Tertiary						
Transportation & utilities	55,661	428	7.1	5.1		100
Trade	171,875	1,696	22.1	20.3		100
Wholesale	40,550	329	5.2	3.9		100
Retail	131,325	1,367	16.9	16.4		100
General merch-andise	19,444	110	2.5	1.3		100
Other retail	111,881	1,257	14.4	15.1	5	95
Finance, insurance real estate	39,894	223	5.1	2.7		100
Services & misc.	160,142	1,294	20.6	15.5		100
Government	94,970	1,124	12.2	13.5	10	90
State & local, education	57,075	696	7.3	8.3	12	87
Public Admin.	37,895	428	4.9	5.1	4	96
TOTALS	778,745	8,343				

Source: U.S. Census, 1970. (1970 was used because the last full set of data available.)

Generally, services are a by-product of primary and secondary sectors and therefore are usually non-basic industries. However, in Malheur County that is not entirely true: five percent of the specialty retail is exported (mostly farm equipment); twelve percent of state and local education is exported; four percent of public administration is exported; and three percent of the construction industry is exported.

The primary agricultural industry is divided into two sections: crops, and livestock and livestock products. All other industries in the county are directly or indirectly dependent upon the agricultural sector. This industry has been discussed in detail in the agricultural lands element of this comprehensive plan.

The most effective way to change the economy of an area is to increase or decrease the basic sector. It is generally true that basic products provide the means for payment of all other goods and services. When basic industries decrease output, all other industries necessarily decrease their output. Therefore, it is most important to diversify basic industries. The State Department of Economic Develoment has summarized how diversification can lead to a more stable economy:

1. Diversification results in a broader representation of industry groups and helps an area withstand plant closures and other economic slumps affecting particular sectors of the economy.

2. A diversified economy is less likely to suffer when national economic policies cause slumps in a dominant industry, such as housing and forest products, agriculture, or fishing.

3. New industries can employ underutilized groups--such as women, the unskilled, minorities, and under-employed individuals--in the work force.

Specifically, Malheur County's basic industries have a multiplier effect of 3.5, which means that for every job lost in a basic industry, 2.5 jobs are lost in non-basic industries. Malheur County has a very narrow economic base. There were 2,418 jobs for all basic industries in 1970 and 88 percent were in primary and secondary agriculture (see Table 36). If some unforeseen disaster should strike the agricultural industry and 50 percent of those employed in primary and secondary agriculture were suddenly without jobs, the effect would ripple and approximately 2,400 people in non-basic industries would be without jobs.

In the primary sector (agriculture, fishing, mining, and forestry) only mining can realistically be increased to help diversify the county's economy. Natural resources are not available to increase fishing and forestry. The county's agricultural industry is already well-diversified.

In 1970 only fourteen persons were employed in mining activities. This, however, is expected to increase considerably. In the last few years the total number of mining claims issued by the Bureau of Land Management has increased substantially. (See the mineral and aggregate resources element of this plan.)

Diversification is only one way to measure economic stability. Four other measures are job opportunity, wage comparisons, migration of the labor force, and equal sharing of fiscal respnsibility.

Labor Force

In Malheur County, the average annual unemployment rate ranged from 4.7 in 1970 to 7.1 in 1979 (see Table 37). Employment highs and lows, however, are seasonal, with January, February, and March having the highest unemployment rate. The remaining months of the year are generally stable. Part of this stability comes from secondary industries sharing the same labor force. An example is the sharing of laborers between potato-packing sheds and the Amalgamated Sugar Company. In late fall, packing sheds are ending their peak period, while the sugar company is just beginning its processing season. The introduction of other seasonal industries with peak periods in January, February, and March might help round-out the employment fluctuations in the county.

As shown in Table 38, Malheur County's 1979 median family income ranked 31st in the state at $14,240. This is $1,214 above the lowest in the state and $7,450 below the highest in the state. In comparison with other eastern Oregon counties, Malheur County ranked thirteenth in median family income and was $1,214 above the lowest, $3,043 below the highest median family income. In 1976 Malheur County was $2,815 below the state median income and in 1979 the county dropped to $3,753 below the state median. Malheur County has been decreasing income in comparison to the state as a whole.

Impacts of new development on unemployment and income levels depend primarily on the labor requirements of new firms and the available labor force. If the majority of unemployed in the area are unskilled and a new firm

TABLE 37

EMPLOYMENT, 1970-1979, MALHEUR COUNTY

YEAR	TOTAL POP.	TOTAL LABOR FORCE #	TOTAL LABOR FORCE %	EMPLOYED	UNEMPLOYED #	UNEMPLOYED %
1970	23,169	8,758	38	8,343	414	4.7
1971	23,220	9,101	39	8,566	534	5.9
1972	23,380	9.486	41	8,871	614	6.5
1973	24,000	9,336	39	8,816	519	5.6
1974	24,100	10,250	43	9,580	670	6.5
1975	24,200	10.690	44	9,950	740	6.9
1976	24,600	10,680	43	9.950	730	6.8
1977	25,000	11,060	44	10,410	650	5.9
1978	25,900	11,420	44	10,740	680	6.0
1979	26,100	11,690	45	10,860	830	7.1

Source: Oregon Research and Statistics Section, Employment Division

TABLE 38

MEDIAN FAMILY INCOME EASTERN OREGON
January 1, 1979

County	Median Family Income	Rank in 17 Eastern Oregon Counties	Rank in State
Baker	$13,885	16	35
Crook	16,327	6	18
Deschutes	16,915	4	14
Gilliam	14,094	14	14
Grant	15,258	11	33
Harney	17,072	2	12
Jefferson	15,278	10	24
Klamath	17,283	1	10
Lake	15,820	8	21
Malheur	14,240	13	31
Morrow	16,000	7	20
Sherman	15,066	12	28
Umatilla	15,737	9	22
Union	16,957	3	13
Wallowa	14,065	15	34
Wasco	16,442	5	17
Wheeler	13,026	17	36
Eastern Oregon	15,498		
State as a whole	17,993		

Source: State of Oregon Housing Division

requires highly trained personnel, the median income will tend to rise, but most likely so will unemployment rates. More typically, the relationship between growth in employment opportunities, and unemployment and income is positive.

There also seems to be a relationship between unemployment rates and income, and the movement of young people just coming into the labor force. In one study of migration in Oregon, household finances and employment were the most important reasons given for moving, and most movers were between the ages of 20-34. Also, most migrants in this study were high school graduates. (John A. Young, Migrants in Three Willamette Valley Towns, Oregon State University, 1975.)

In Malheur County in 1960, 30.7 percent of the population was in the five-to-nineteen-year-old age group. Eighteen years later, only 21.5 percent of the population of that group remained. That is a 20 percent decrease in numbers. However, for the state as a whole that same group increased by 24 percent (see Table 39). When comparing other age groups in Malheur County and the state, there are some differences in percentages but the trends are similar. When the state has an increase, so does the county, and when a decrease is seen it is the same for both state and county.

TABLE 39

POPULATION CHANGE BY AGE GROUP
1960-1978

Age Group	Malheur County 1960 #	1960 % of total	1978 #	1978 % of total	% of Change	State of Oregon 1960 #	1960 % of total	1978 #	1978 % of total	% Change
5-19	6,993	30.7				489,966	27.7			
20-34	3,543	15.6				300,030	16.9			
35-49*	3,743	16.4				304,792	17.2			
50-64*	3,743	16.4				304,792	17.2			
20-34			5,567	21.5	-20			641,265	25.9	+24
35-49			4,030	15.6	+12			390,612	15.8	+23
50-64			3,916	15.1	+4			362,164	14.7	+16
65+ over			2,836	19.9	-24			269,703	10.9	-12

Source: Oregon Center for Population Research and Census

*Estimates: Actual figures given were for the 35 to 64 age group; 50% was estimated to be in 35 to 49 group and 50% in the 50 to 64 group.

Economic Trends

Trends can give hints as to whether a community is moving in the right direction or if change is needed. As stated earlier in this report, diversification, job opportunity, income, migration patterns, and fiscal responsibility are indicators of economic stability. These factors by themselves may indicate an undesirable situation, but a trend may show that a necesary change may have already begun to take place.

There is already some diversification in the county. All three sectors (primary, secondary, and tertiary) are represented. When natural resources allow, the primary sector appears to be diversifying. Mining has the most potential and the trend seems to be moving in that direction. There have already been positive steps taken toward mining of uranium and geothermal resources, plus there has been an increase in claims filed for picture jasper, gold, zeolite, and diatomite. Encouragement of new development in primary industries should continue.

The trend toward development of secondary industries also shows positive movement. Since the development of irrigation and increased agricultural production, secondary industries have increased. However, most of this increase has been in the food processing industry. From 1960 to 1970 all secondary employment increased by 3.5 percent and most of that came from food and kindred products, and other non-durable goods (see Table 40). Continued increase in food and kindred products can be very healthy for the community. However, an increase in other industries in the secondary sector would be helpful in improving the stability of

TABLE 40

MALHEUR COUNTY EMPLOYMENT BY INDUSTRY, 1960-1970

	1960 # EMPLOYED MALHEUR CO.	% OF EMPLOYED 1960	% OF EMPLOYED 1970	1970 # EMPLOYED MALHEUR CO.
Primary				
Agric., Forestry, Fisheries	3180	36.9	23.9	1994
Mining	24	.3	.2	14
Secondary				
Manufacturing	849	9.8	12.8	1072
Durable	87	1.0	2.8	232
Furniture, Lumber, wood products	34	.4	.7	58
Metal industries	7	.1	.2	16
Machinery except electrical	8	.1	.4	36
Electrical machinery, equipment, supplies	---	---	---	---
Other durable goods	38	.4	1.5	122
Nondurable	762	8.8	10.1	840
Food and Kindred	716	8.3	8.9	746
Construction	476	5.5	6.0	498
Other nondurable goods	46	.5	1.1	94
Tertiary				
Transportation & Utilities	356	4.1	5.1	428
Trade	1634	18.9	20.3	1696
Wholesale	337	3.9	3.9	329
Retail	1297	15.0	16.4	1367
General Merchandise	---	---	1.3	110
Other retail	---	---	15.1	1257
Finance, Ins., Real Estate	206	2.4	2.7	223
Service & Misc.	1186	13.7	15.7	1294
Government	655	7.6	13.5	1124
State & Local Education	396	4.6	8.3	696
Public Admin.	259	3.0	5.1	428
Not Reported	67	.8	---	---
TOTAL	8633			8343

Source: U.S. Census, 1960, 1970. Industry groups are based on the Standard Industrial classification system of the U.S. Census.

the economy.

The tertiary sector is generally a by-product of basic primary and secondary industries. In Malheur County, though, some tertiary industries are in the basic sector and their growth can help in stabilizing the county's economy. State and local education is one tertiary industry that has some exports associated with its output. Most likely the institution contributing most to this is Treasure Valley Community College. There has been an increase in this sector between 1960 and 1970. A continuation of this trend may be advantageous. In addition, education and training opportunities at TVCC can be part of a program directed at attracting new industries and decreasing out-migration of youth.

The last ten years have also shown an increase in the number and percentage of persons in the labor force. In 1970 there were 8,758 persons in the labor force (38 percent) and in 1979 there were 11,690 persons (45 percent). Also there was an increase in the number of unemployed. The number of persons employed increased by 2,517 and the number unemployed increased by 416. The unemployment rate fluctuated during that period but overall there was a firm increase from an average annual low of 4.7 percent in 1970 to an average annual high of 7.1 percent in 1979.

Unemployment of 3 to 4 percent is generally an acceptable average annual rate. New labor-intensive industries are needed to help decrease the rising unemployment rates.

Even though the county ranked 31st in the State of Oregon for median family income, this was an improvement over previous years. In 1960 Malheur County ranked lowest at 36th, and in 1970 the county ranked 32nd. A continued increase in income requires increased employment opportunities. Competition for labor increases the wage scale for a community.

Unemployment rates, relatively low incomes, and the continued out-migration of young workers suggest that Malheur County's economic situation is not adequate when compared to other counties and the state as a whole. These situations suggest that change may be advantageous.

Factors Affecting Economic Growth

There are some very good reasons for negative economic growth trends in Malheur County. Some are national in scope and some are results of state and local policy.

Historically, agricultural communities across the nation have not been the most desirable sites for industrial development. Mostly this was due to shortages of skilled laborers. Workers in farming communities were generally needed for agricultural work. After 1950, however, agriculture became more and more mechanized and a surplus of workers began to appear. The result has been out-migration of young laborers seeking work in larger cities with secondary industries. After 20 years of increasing out-migration trends in rural areas across the nation, a reversal of the trend is occurring, just as it has in Malheur County. Partially the reversal has occurred because industry is seeing rural communities as desirable areas for location. A mix of available labor force and quality of life seem to be part of the driving force for industries locating in rural communities.

Another factor affecting industry is the availability of resources. Malheur County's major resource is agricultural land, and agriculture is a growing industry in the area. There are other available resources as well: uranium, geothermal energy, and alcohol-producing crops, for example. The availability of materials for production is

not always enough to bring industry to an area; industries have to know that the resources are available. If Malheur County is to have industrial growth, a campaign to inform industry of the county's vast resources may be necessary.

Transportation also enters into a firm's decision to locate in an area. There must be a good transportation network to transport products, particularly if the area does not have the needed market. Malheur County and the surrounding area cannot be considered a good market area for most products and there is very little that can be done to change the market situation. However, there is a strong truck and rail transportation system immediately available. The air transportation system in the county is weak, however, which can be detrimental for manufacturers who often use air transportation. For example, the electronics industry often transports its products by air. The City of Ontario is presently working toward improving the air transportation system at Ontario Municipal Airport. The county should work with the city to encourage a good, strong air transportation system.

The availability of an adequate labor force, natural resources, market, transportation, and quality of life are major factors influencing industrial development. Some other less obvious factors are taxes, workers' compensation rates, and unionization. Malheur County's comparative advantage with other Oregon counties concerning taxes and workers' compensation is nearly equal. But when compared to its Idaho neighbors, these factors become real disadvantages. Workers' compensation rates for most industries locating in Idaho is about half that in Oregon.

The situation for property tax is similar. The tax rate per thousand dollars of market value in Vale is $31.34 whereas in Fruitland, Idaho, which is a town of similar size, the property tax rate is only $24.75. The comparative advantage for unionization is about equal between Malheur County and its Idaho neighbors, but Malheur County has a definite advantage in this area compared to western Oregon or most other Pacific Northwest communities. Where there appear to be disadvantages, the county should encourage the legislature to improve the competitive advantage of the area.

There are at least two choices available to the county regarding economic development. One is to approach the economic future of the county with a laissez-faire attitude; the other is to deliberately affect economic development.

The laissez-faire approach can be wise, particularly if economic development trends and characteristics are positive. In the case of Malheur County, some economic factors are moving in a positive direction. Others such as diversification, unemployment rates, and fair distribution of taxation are not.

A laissez-faire approach to economic development requires nothing on the part of local government except what is already being done. If local government chooses to affect economic development and bring about changes, it must develop an organization responsible for improving the situation.

There are three basic types of economic development delivery systems: public, private, and quasi-public. The public economic development delivery system usually involves a line agency or staff within the structure of local government. There are usually very few direct project implementation measures at work, and the responsibilities of the public system are primarily service and providing

information. These systems are generally effective if desired development is already occurring and proper direction, rather than enticement, is the purpose. The major advantage to a public system is control by the public body. The major disadvantages include little direct involvement in affecting economic development, and profits are often not allowed, thereby creating a burden on local revenues.

The private economic development delivery system is outside local government and only has contact with government officials when requesting public services. Examples of private systems are chambers of commerce port districts, and private corporations. The major advantages to private systems are that they can and do directly affect economic development and are generally not a drain on local governments' fiscal system. The major disadvantages are no control or contact with local government, which often creates problems for developers resulting from unsuspected govermental decisions.

The quasi-public economic development delivery system is a mix between public and private systems. It is located physically outside of local government, but maintains strong legal and financial relationships and is reinforced by strong private-sector involvement. The Board of Directors is generally made up of public and private officials and its members are generally public and private organizations. The quasi-public system is financed by donations from the public and private members. Major advantages of a quasi-public system are coordination between the public and private sector, the public has control through its elected officials, and there can be direct involvement in affecting economic development. The major disadvantage

is an initial drain on local tax revenues until profits can be returned by investments in new development.

Regardless of which system is used, a sound organization is essential to economic development; coordination between the system, new development, and existing industries is also necessary. Any and all development must be evaluated on its own merits and impacts on the community must be thoroughly analyzed. A study of twelve new industries in rural communities revealed that although nine of those industries returned fiscal surpluses to the communities, three became burdens rather than benefits to the taxpayers.

PUBLIC FACILITIES AND SERVICES

Purpose

The relationship between land development and the availability of public facilities and services is well recognized as an important factor influencing growth in and around urban centers. In rural areas, however, the relationship is not so obvious. Fewer public services are provided in rural areas and, because of lower densities and greater distances to cover, the quality of rural services is often lower. For instance, when fire protection is provided, response time is greater, insurance rates are higher, and equipment is often poorer in rural areas.

The basic issue concerning public facilities and services in Malheur County is delivery of such services. As different areas of the county develop, additional demands are placed on schools, road maintenance, fire protection, and police protection.

With the growing demand for rural residential housing in Malheur County, the availability of public services becomes increasingly important. Although many people want to enjoy country living away from crowded cities, most want small acreages close to the city so that access to work, shopping centers and recreation activities is relatively easy and desired services are readily available. When planning for rural residential areas, it is important to recognize the limited availability of public services in rural areas.

Community Health and Social Services

The relationship between health care and land use has traditionally been in the area of facilities, such as hospitals and nursing homes. A new hospital or expansion of an existing facility has significant impact on streets,

traffic patterns, water and sewer lines, accessibility by users, and surrounding neighbors. In order to improve health care in the country, Congress passed the National Health Planning and Resources Development Act of 1974. The purposes of the act are:

1. Improving residents' health in a health service area.
2. Increasing accessibility (including overcoming geographic, architectural, and transportation barriers), acceptability, continuity, and quality of health services provided.
3. Restraining increases in the cost of providing health services.
4. Preventing unnecessary duplication of health resources.

In Malheur County, a local health planning council has been organized to develop a health systems plan to meet these objectives. As part of its planning effort, the Malheur County Health Planning Council (MCHCP) identified the following priority health problems:

1. Death and serious injuries in rural areas due to farm and auto accidents, and poisoning.
2. Cardiac failure.
3. Cancer treatment.
4. Elderly citizens especially those who are ill, infirm or senile, and wish to live at home.
5. High incidence of cancer.
6. Drug abuse, including alcohol (children and adults).
7. Venereal disease.
8. Respiratory diseases from dust or sprays.

Coordination between the Health Planning Council and other county agencies is important in developing an effective long-range health care plan for Malheur County.

With the increasing demand for rural housing, another factor to be considered is the distance between areas designated for rural housing and health care facilities, especially those providing emergency services. This factor is particularly important when planning housing for senior citizens in the rural areas.

There are two hospitals in Malheur County: Holy Rosary Hospital in Ontario with 76 beds, and Malheur Memorial Hospital in Nyssa with 30 acute-care beds and an attached, extended-care facility with 38 beds. There are two other extended-care facilities in the county: Pioneer Nursing Home in Vale and Presbyterian Nursing Home in Ontario. Holy Rosary Hospital recently completed construction of a new emergency room and lab, as well as additions to the x-ray facilities. Presently the hospital is planning a long-range modernization program for expansion, upgrading facilities, and improving office efficiency. Malheur Memorial would like to increase the number of doctors working out of the hospital in hopes of increasing the number of patients. They frequently have several beds open. The county should encourage Malheur Memorial and Holy Rosary Hospitals to coordinate future planning efforts to avoid duplication of services.

The proximity of a hospital is a factor many doctors find important when choosing a location for their practice. Consequently, Nyssa and Ontario seem to have enough doctors to meet needs. However, Vale and other rural communities in the county have an inadequate number of medical practitioners available to the residents. Promotional campaigns to attract nurse practitioners and/or a rural health center could help meet the needs of the rural communities.

Ambulance service in Ontario is provided by United Ambulance Service of Fruitland, Idaho. In Nyssa, the police

force mans the ambulance during off-duty hours. In Vale, the fire department provides ambulance service. Jordan Valley Ambulance Service is a volunteer program with volunteers trained in emergency medical treatment. These emergency services are adequate in numbers, but as the population of the county increases, finding the correct locations in rural areas becomes more difficult. A revised rural addressing system would make it easier. (See the transportation element of this plan.)

Malheur County provides several health programs through the County Health Department. The responsibilities of the department include:

1. Analysis and solution of county health problems.
2. Provision of essential medical services to individuals who cannot otherwise obtain services.
3. Prevention of communicable diseases.
4. Provision of information and educational materials on health problems and health services.
5. Counseling and referral services.

The Health Department provides immunization for diptheria, tetanus, whooping cough, measles, rubella, and polio. These immunization shots are given to infants, pre-school, and school-age children. Immunization clinics are held periodically at the Nyssa Elementary School in Nyssa, Lindbergh School in Ontario, County Courthouse in Vale, and at most day-care centers and Head Start programs.

In addition to immunization clinics, the Health Department provides services such as physical examinations, health education, family-life education and parenting classes, laboratory work, and contraception and fertility counseling. Fees for these services are on a sliding scale based on income. The Health Department also provides diagnosis and treatment of veneral disease, free of charge.

The Women, Infants and Children (W.I.C.) Nutritional Program assists pregnant women and young children by providing specially chosen nutritious foods, nutrition information, and local health care services.

A migrant health program is operated by the Health Department for low-income farm workers. A registered nurse and a clerk work out of the Nyssa labor camp during the open season. The remainder of the year the program operates out of the Ontario office and the County Courthouse. The program provides general medical care and a one-time free prescription and doctor office visit.

Visiting nurses provide care to patients upon the request of a physician, other agencies, or family members. Consultation and monitoring of a person's specific problem are provided by a visiting R.N. Administration of medication or treatment is by a physican's order. There are 61 patients (mostly elderly) presently under this program.

A screening program operated in conjunction with the Nyssa Elementary School during the summer aids pre-school children of farm workers. The school provides instructors and classrooms and the Health Department provides food for breaks, lunches, and snacks, as well as a complete physical examination.

Mental health services are provided by the Malheur County Mental Health Department. State law directs each county to maximize the mental health of the people they serve by providing a program designed to aid in preventing or alleviating mental or emotional disturbances, alcoholism, drug abuse, and developmental disabilities. The Mental Health and Counseling Center is located in Ontario. Fees charged are on a sliding scale. Funding for existing services has largely been through federal grant programs.

These programs are being phased-out and new sources of funding are needed. At present, the county jail is the only facility available to house mentally ill patients who must be confined prior to commitment proceedings. It is possible that arrangements for such persons on a short-term basis could be made at extended-care facilities such as Malheur Memorial, Pioneer Nursing Home, or Presbyterian Nursing Home.

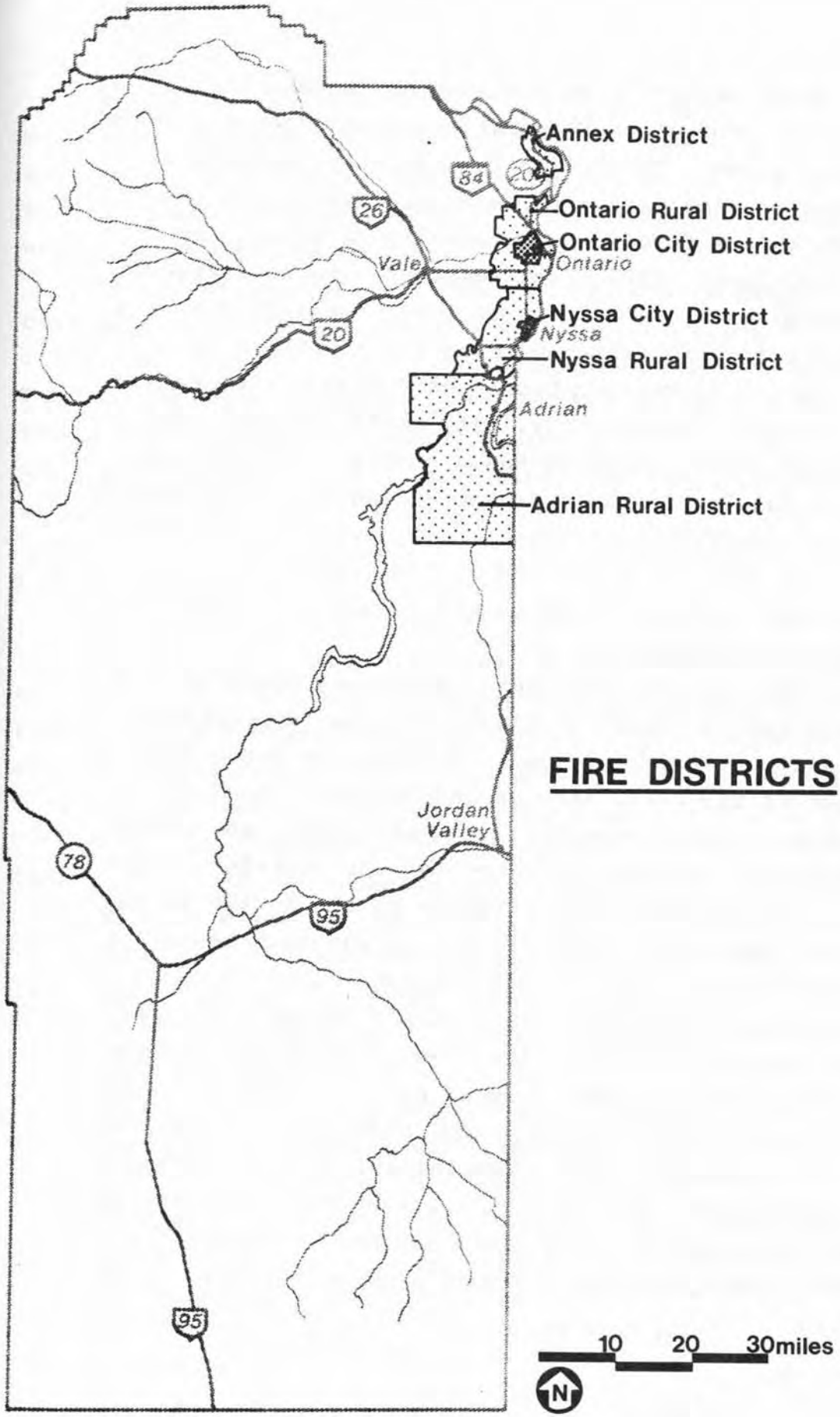
Similarly, no facilities are available for victims of domestic violence or treatment of alcoholism. A volunteer program for the prevention of domestic violence may be one solution. Also, the possibility of having an alcohol rehabilitation program should be investigated.

The Malheur Council on Aging is not a health care program, but it does contribute to the mental and physical well-being of the elderly in Malheur County by providing the following services:

1. Homemaker services to help the elderly with basic in-home chores.
2. Outreach services to locate elderly in need and to help them find appropriate services.
3. Handyman services to make minor repairs and help weatherize homes of senior citizens.
4. Nutrition services to provide healthful meals for the elderly or homebound persons.
5. Transportation services for the elderly within the city limits of Ontario.

Fire and Police Protection

Fire protection is considered to be an essential service for protection of life and property. Because of



FIRE DISTRICTS

lower population densities and greater distances, the quality of fire protection in rural areas is generally lower than in urban areas. The Oregon Insurance Rating Bureau issues a fire service rating to each jurisdiction in the state. Ratings are based on availability of water, types of buildings, equipment, fire truck response time to different areas in the district, and other factors. Ratings are on a scale from one to ten, with one being the highest rating possible. Cities in Malheur County have higher fire ratings than rural areas. Consequently, city residents pay lower fire insurance rates. Ontario has a rating of 5; Nyssa a rating of 6; Vale a rating of 7; and Jordan Valley 8. Most buildings in a rural fire district have a rating of 9 and those not in a district are rated 10. Ratings for individuals may vary according to the proximity of their buildings to fire hydrants.

Each rural fire district has a governing board of five members, and each district contracts with the appropriate city for equipment and personnel. The Ontario Rural Fire District serves the rural area around Ontario. Lack of adequate water supply, especially in the winter, and slick winter roads are two major problems for the district. Fire trucks can use the water in irrigation canals in the summer, but generally the trucks cannot carry an adequate amount of water in the winter. The Nyssa Rural Fire District has a pumper and 700-gallon tanker truck with a 25-man volunteer fire crew. Availability of water is also of major concern to the Nyssa district. Adrian Rural Fire District services all private land in the Adrian School District. It has two fire trucks, a pumper, 3500-gallon tanker, and a 15-man volunteer fire crew. In isolated areas of the district, of washed-out roads and/or rough roads can make it difficult to reach fires. Water supply is also a problem, especially in the winter.

The Weiser Annex area has recently created a fire district. Prior to forming the district, the area was serviced on a membership basis by the Weiser (Idaho) Rural Fire District. The new district will probably contract with Weiser for continued service.

Vale does not have a district. Instead, a company contracts with the city to provide fire protection to individual residents who pay an annual fee for the service. The City of Vale houses the fire trucks and equipment for the company, while the company contributes to the up-keep of the fire department. The rural fire department has an 1100-gallon tank truck.

Police Protection

The cities of Ontario, Nyssa, Vale and Jordan Valley each have their own police departments. The remainder of the county is serviced by the County Sheriff's Department and the Oregon State Police. The Sheriff's Department has officers stationed in Adrian, Jordan Valley, Nyssa, Vale and Ontario to serve the rural areas around these communities. In addition, the county has agreed to patrol certain areas under the BLM's management. The agreement is to facilitate better protection of natural resources and camping facilities in remote areas of the county. The State Police are officed in Ontario and have jurisdiction in both the county and cities.

The county's large land area and dispersed population make law enforcement a difficult task for a small police force. Some areas such as the Nyssa labor camp and McDermitt do not receive adequate protection. These areas would probably be more effectively patrolled by other agencies; a joint contract arrangement would be a solution.

Another police-related problem in the county is the

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BUS STOP
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HOSPITAL
FILL TO LINE
POLICE
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county jail. Some of the problems include overcrowding, inadequate separation of adult and juvenile female prisoners, inadequate indoor and outdoor recreation for inmates, and insufficient medical supervision. Some of these problems are being worked out, but some will take major capital improvements. A special task force may be needed to help identify workable solutions.

Those persons involved directly with fire and police protection are probably best qualified to make determinations about future development. These people should be consulted prior to finalizing any new programs.

Irrigation

The effects of land development adjacent to irrigation canals has become a critical issue because of safety hazard posed by open canals. Neighboring cities in Idaho have allowed development to occur next to major irrigation canals and real conflicts have developed. Accidential drownings have forced irrigation districts to assume increased responsibilities for maintaining canals and added safety structures, such as fences. Increased maintenance costs have also been incurred due to trash and debris being tossed into canals by residents and visitors adjacent to canals.

There are 12 active irrigation districts in Malheur County. The county should work with the districts and develop policies concerning development along canals to protect themselves and potential residents.

Road Maintenance

Road maintenance is discussed in the transportation element of this plan.

Libraries

There are four public libraries in Malheur County. The Ontario Library is the largest with 80,852 volumes and a circulation of 113,818. The Nyssa Library has 17,967 volumes and a circulation of 5,000 to 6,000. The Vale Library has 8,000 volumes and a circulation of 20,100. The Treasure Valley Community College Library has 27,000 volumes and a circulation of 6,214.

The Ontario Library is administered by a library board and financed by Malheur County and the City of Ontario with local taxes. County residents are not charged for library services but non-residents pay $1 a year for a five-book limit and $5 a year for an unlimited number of book loans. The library serves a large number of people from Idaho and also some Baker and Harney County residents. Resources available at the library include an inter-library loan service; the state library loan service; and the Oregon Regional Serial List (magazines). Other services include a children's summer reading program; microfilm reader (library has no microfilm); pre-school story hour (winter); resource book service; weekly listings in the local paper; and an up-to-date collection of encyclopedias, atlases, and almanacs. The county also operates a bookmobile. Once a month from May to August the bookmobile makes two one-day tours. The first tour includes Harper, Juntura and Little Valley; the second includes Brogan, Willow Creek, and Jamieson. From May to November the bookmobile also visits Jordan Valley and Arock each month. The bookmobile can accommodate 200 books.

Current needs of the library are audio-visual equipment, a qualified children's book librarian, a microfilm reader/printer, a coin-operated copier for public use, and a larger book budget to meet public demand.

The Nyssa Library provides adequate service for the public and works closely with the county bookmobile and

courier network service of the county, state and local libraries. Other services provided by the library include school visitations, summer reading programs, a story program for pre-schoolers, and a "paperback corner." A better collection of basic reference books and textbooks is needed as well as a copier and microfilmer for public use.

The Vale Library has experienced some fiscal cutbacks which reduced the staff to a volunteer basis and eliminated funds for new books. Services provided include children's story hour, book service to the nursing home, and a book list every two or three months in the local paper. Currently the library needs more non-fiction books, new shelving, a typewriter, and a copy machine.

TVCC's library is designed to meet the needs of students attending college. The college improvement plan calls for a new library/learning center building to combine the library and learning center activities. Present needs include more space and more books in the technical areas, social sciences, and references.

A library staffed by volunteers has been serving inmates of the Malheur County Jail for five years. The library contains a variety of books, mostly non-fiction. In addition, inmates may request materials from the Ontario Library.

Funding seems to be the major problem for libraries in the county. A committee of personnel from each library and citizens at large could explore this problem and possible solutions.

Education

Educational services in Malheur County are provided through 14 school districts, an Educational Service District (ESD) and Treasure Valley Community College (TVCC). There

There are 20 elementary, primary and middle schools, two junior high schools, and six senior high schools (see Table 41).

In making land use decisions, the county should consider school capacities and their ability to accommodate changes in growth. The ability of schools to provide bus service is another important factor, especially in rural areas. Factors affecting bus service include slope and

TABLE 41

SCHOOL ENROLLMENT AND TEACHERS, MALHEUR COUNTY

School District	Enrollment	Teachers
Ontario	2,529	161
Vale	603	43*
Nyssa	1,100	72
Adrian	380	27
Annex	98	9
Harper	82	9
Brogan	12	1
Willow Creek	89	4
Juntura	26	2
Jordan Valley	102	5
Arock	26	2
Mary Kay	38	11
St. Peters	55	3
TVCC	3,500	11

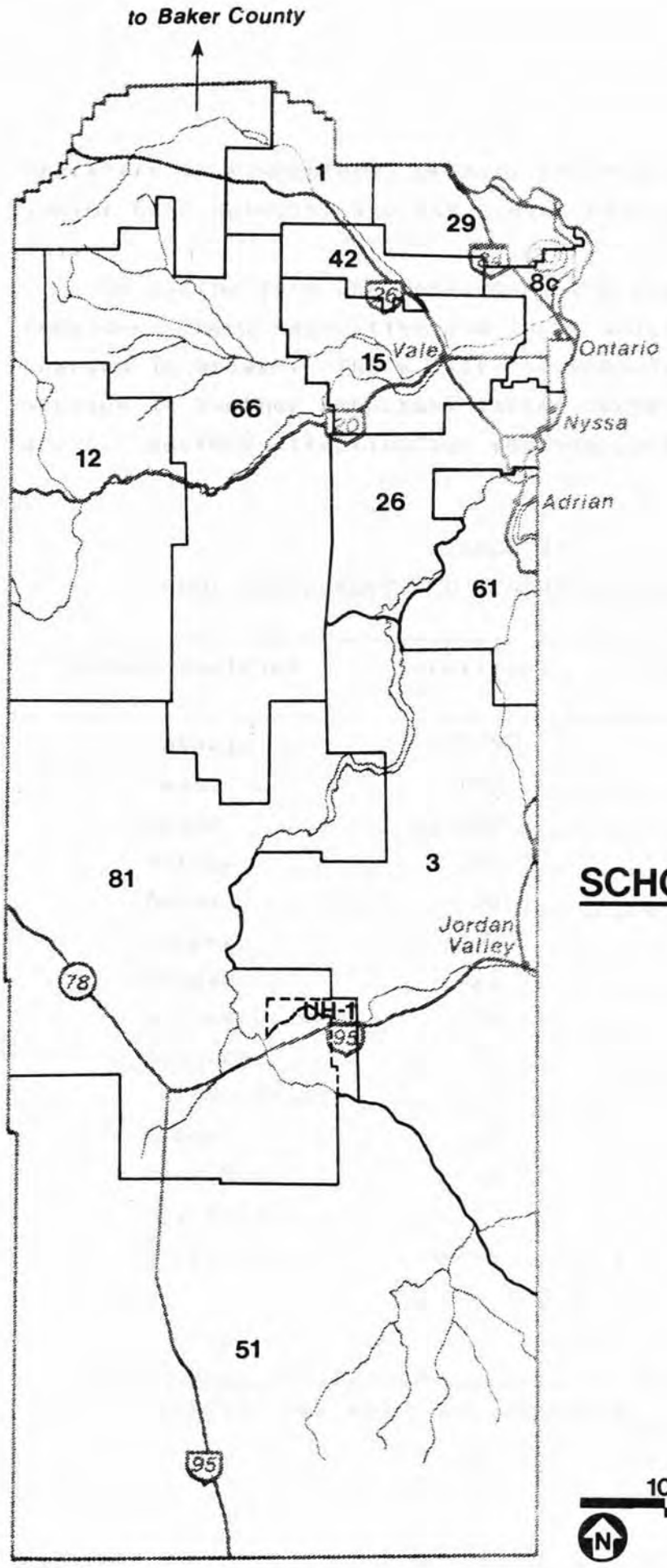
*Includes Principal and Superintendent

condition of the road; ownership of road (private or public); distance of students from present pick-up points; availability of turn-around areas; and safety.

Ontario School District 8-C is responsible for educating Ontario-area students. In general, existing facilities are adequate. However, some elementary schools are filled to capacity, while others have extra desk space. With the city's population growing, each "school attendance area" changes from year to year and busing is used to control the enrollment at each school. When school attendance areas change it can be inconvenient for the parents and students. Approximately 50 percent of the students in the Ontario district are bused in buses and vans. These vehicles travel 716 miles a day at a cost of $1.08 per mile (based on FY 1978).

The Nyssa School District, having just built a new high school building, has adequate space and would like to have more students. The Nyssa schools are experiencing a slight decrease in their enrollment, but with newly zoned land available for housing development there is a potential for some growth to occur. With the addition of a 12-stall bus garage built by high school students, there are no other plans in the future for construction. About 50 percent of students in the Nyssa district are bused. The district has eight buses scheduled and two back-up buses. It presently costs Nyssa about 83 cents a mile (based on FY 1978) but with the rising cost of fuel, the cost is expected to increase abruptly.

Vale School District #15 and Union High School District 33 are responsible for the education of Vale-area students. Current enrollment in Vale schools is below capacity and additional students could be accommodated. The high school presently has one classroom vacant and population trends suggest a continued decrease of students. Presently there



SCHOOL DISTRICTS

are no plans for new construction but a weatherization program and geothermal heating system are being contemplated. Vale buses aproximately 60 percent of its students and the district has 16 vehicles (13 scheduled buses, two back-up buses, and one van). One problem the district has been concerned about is inadequate turn-around areas for buses. Because these areas are inadequate, several buses have been backed into ditches. Although state guidelines permit a child to walk up to 1-1/2 miles to a bus stop, the Vale district attempts to serve every student to within a 1/4-mile walking distance. It costs Vale approximately 67.9 cents a mile (based on FY 1978) when the weather and roads are in fair condition and considerably more in winter weather.

Adrian School District #61 has had a relatively stable school enrollment over the last 20 years. However, a slow increase in students is anticipated in the near future. Adrian is the only district in the county that presently offers a kindergarten. The kindergarten originated when parents suggested the program and the School Board supported their effort. Other school districts in the county should evaluate the Adrian situation and determine the feasibility for kindergartens in other areas.

The Adrian district buses approximately 90 to 95 percent of its students. There are seven buses (six scheduled buses and one back-up bus) each with a capacity of 45 students. It costs the school approximately $1.28 per mile (based on FY 1978).

The Annex School District #29 presently has adequate space for grade school students and would be able to increase enrollment by about 50 percent. The school district has two buses with a 66-student capacity per bus. Busing policy is to travel only on county and state roadways with safety being the primary factor.

Willow Creek School District #42 provides educational opportunity to grade and junnior high school students and has adequate classroom capacity. It has two buses that can carry 54 students per bus. Currently, the district is transporting 30 to 35 students on two bus routes.

Brogan School District #1 provides grade school educational opportunities and has adequate capacity for its students. There is no bus system in the Brogan district.

Harper School District #66 has adequate elementary and high school facilities. The school district has two buses that transport about 50 students. Busing cost is estimated to be $1.29 per mile (based on FY 1978).

Juntura School District #12 provides grade school educational opportunities to area students. Existing facilities and classrooms could accommodate an additional 50 students at present staff levels. Juntura has one bus with ten passengers and one route.

Jordan Valley School District #3 and Jordan Valley Union High School District #1 provide educational opportunities to all students in the Jordan Valley area. Like the city, the school districts have experienced a doubling in population in the last four years due to the opening of the DeLamar Silver Mine. The elementary school classrooms are too small and the facility is inadequate. The building was built in 1911 and has only one electrical outlet per room. To accommodate the large number of students, mobile classrooms are being used.

Similarly, high school enrollment has doubled in the past four years and additional classroom space and better facilities are needed. The school district would like to offer more technical and vocation training, such as industrial arts. The two districts together have three

buses. School District #3 has two buses and two routes, and District #1 has one bus and one route.

Some of the students in outlying rural areas live great distances from the schools they attend. In several cases, students must stay at boarding schools during the school year or their parents provide a second home closer to school. No major problems are created by this situation, but school districts and the county should keep these students in mind when making planning decisions.

Mary Kay School is a school for the trainable mentally retarded. The school recently moved into the Alameda School facility. Presently classroom and facilities are inadequate. With only one classroom, the school is at capacity and will need an additional teacher if enrollment exceeds 40 students. At the present time, 90 percent of the students are bused under a cooperative arrangement with each school district and Mary Kay. The program is funded by the Educational Service District, the Snake River Cooperative (Payette, Weiser, New Plymouth, and Fruitland), and the Oregon Department of Mental Health.

St. Peter's Catholic School, located in Ontario, is the county's only private school. Existing classroom and facilities are adequate. The school expects a 30 percent increase in students by the end of this year. Presently, there are three grades, one to three, and plans include adding one grade each year. In three years, the school plans to begin construction of more classrooms and a cafeteria. Students are transported by private car pools and are residents of Malheur County and nearby Idaho communities.

Treasure Valley Community College has adequate capacity to accommodate current levels of enrollment. The college has a long-range building plan that includes a combined library/learning center (presently in two different

buildings) and a Fine Arts Auditorium. The college must raise matching funds for construction of the library/learning center and is waiting for approval from the Oregon Legislature for the remainder of the funds.

Water and Sewage

In the unincorporated areas of the county, water and sewage disposal are usually provided by wells and septic tanks that are installed and serviced by individual landowners. The installation of septic tanks is regulated by the Department of Environmental Quality to protect soil and water quality. In considering any proposals for new development, the county should determine the availability of domestic water and the suitability of soil for sewage disposal. The Malheur Soil and Water Conservation District in conjunction with the U.S. Soil Conservation Service has recently completed a soil survey for the irrigated area of the county. Most of that information shows that soils are generally adequate to support septic tanks for sewage disposal. However, site-specific evaluations are required by the County Sanitarian prior to installation of septic tanks.

TRANSPORTATION

Purpose

Increasing maintenance and construction costs for transportation systems support the concept of intense planning and management of such systems. In Malheur County the total transportation budget for FY 1979 was $1,125,890*, which was 25 percent of the entire county budget. The importance of transportation systems in the county is reflected by the large amount budgeted. To help manage transportation, this report will examine the functional classification system; road systems within the county; improvement projects; future county roads; public transportation; and bike, foot and bridle paths.

Classification System

A general background of the federal highway classification system is helpful in understanding the allocation methods of federal funds to the county. Every road, street, and highway in the county provides a certain territorial function. The following is a list of terms and definitions used in identifying functions:

Principal Arterial: Roadways of national, interstate, and statewide significance.

Minor Arterial: Roadways of statewide and inter-regional signficance.

*Includes Road Dept. budget, traffic safety program, and bridge maintenance fund.

Major Collector: Roadways of intraregional and intracounty significance.

Minor Collector: Roadways of local and intracounty significance serving areas not already served by a higher-order roadway.

Local Roads: Roadways of local significance that provide access to adjacent properties. Local roads may be divided into Primary local roads, Secondary local roads, and Special-use local roads.

Primary local roads: Roadways providing access to adjacent property within an urban growth boundary or serving an urban/non-rural situation. (Includes but not limited to cul-de-sacs, commercial/industrial streets, and minor streets.)

Secondary local roads: Roadways providing access to adjacent property in a rural situation. (Includes rural minor roads, rural cul-de-sacs, and rural public roads.)

Special-use local roads: Roadways established by the county as having a special purpose and not intended for unrestricted public use.

This functional classification provides a basis for determining which roadways will be designated as federal aid highways and thus eligible for federal expenditures.

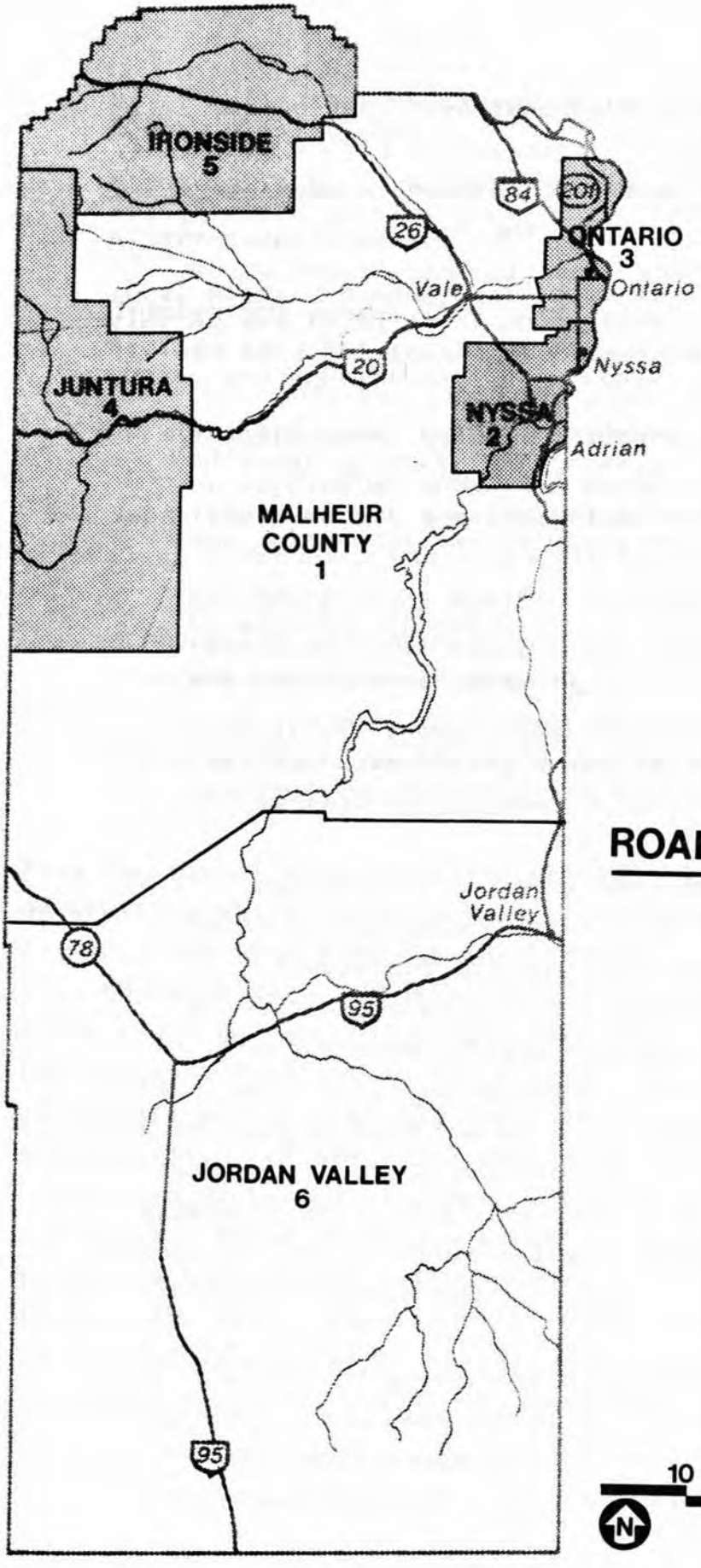
Roadways with a federal aid highway designation are further defined according to the level of government having the dominant interest in the system. The national system of interstate and defense highways used for interstate transportation of goods and people receives the largest proportion of federal dollars; these are generally principal arterials. There is some interest in statewide and regional routes (arterials and collectors) and consequently some federal dollars. There is very little federal concern with local systems and, as a result, most of the expenditures allocated for these roads come from local governments.

In addition to financial allocation, function and ownership also affect responsibilities and rights of government entities. In Malheur County there are several owners and managers of roads. On the federal level, U.S. highways and interstates are under the management of the State Department of Transportation. Also, there are federal agency roads under the maintenance and management of the Bureau of Land Management, Vale District, and the U.S. Forest Service, Baker District. There are state highways under the jurisdiction of the State Department of Transportation, District V, and there are county roads under the jurisdiction of four road districts and the County Court.

The county's concern is generally only with dedicated county roads, except where access management is concerned. Much of the authority to manage access on federal, state, and local roadways lies with local government, but the most effective management would be a coordinated program between state and local agencies.

Traffic movement and land access are often conflicting functions. There should be a direct relationship between the number and size of accesses and the functional classification of the roadway. For instance, arterials should have the greatest through-traffic movement and the least movement to and from abutting properties; local roads should have the greatest movement to and from properties and the least through traffic. In addition to the relationship of accesses and traffic flow, there is also a relationship between decreased traffic flow and accidents. As accesses increase, traffic flow decreases and the number of accidents increase.

State law requires that anyone wishing to construct an approach to a state controlled highway must obtain written permission from the Department of Transportation. The county can help the property owner and developer with this



ROAD DISTRICTS

by informing applicants at the time of zoning approval that such approval is required.

The county's control and authority over accesses is through permit systems on local roads and through land use and zoning decisions. There are significant variations in the amount of traffic generated by different land uses. For instance, industry averages 5.43 trip ends per 1,000 square feet (see Table 42). Therefore, if a roadway's primary function is for through traffic, it would not be wise to plan and zone abutting uses that have high traffic generation.

Malheur County has the unique situation of having four separate road districts in the county plus the county road department. The County Court has jurisdiction over all major bridges (over major streams subject to flooding) and dedications and vacations of all public roads, but only has maintenance and construction jurisdiction over county roads and minor bridges outside organized road districts. The road districts have jurisdiction over minor bridges and construction and maintenance of county roads and highways in their respective districts. The four organized road districts in the county are: Ironside, Juntura, Ontario, and Nyssa.

Safety of County Roads

Malheur County recently engaged in a roadway and traffic safety management program which revealed much valuable information. Most important was the safety improvement program, which identified accident locations and types of accidents occurring in Malheur County, and also identified potentially dangerous situations on roadways and intersections. After identifying the dangers, the report

TABLE 42

PROJECTED SIX-YEAR HIGHWAY IMPROVEMENT PROGRAM,
Malheur County, 1980-1985

Project Number	Route	Highway	Section	Begin M. P.	Length (Miles)	Work	Year[1]
508	I-84[2]	Old Oregon Trail	Port of Entry (Farewell Bend)	353.4	0.4	Grade & Pave	1980
513	US-20	Central Oregon	Black Canyon Cr. to Harper Jct.	203.3	20	Overlay	1980
514	US-20	Central Oregon	Harper Jct. to Malheur River	223.2	15.6	Overlay	1982
520	US-26	John Day	Ironside to Brogan Hill	231.1	14.3	Overlay; widen	1980
521	US-26	Central Oregon	Nyssa (Succor Cr. Hwy. Jct.)	266.0	0.0	2 phase signal	1980
522	US-30	Olds Ferry-Ontario	Snake River Bridge	128.3	0.3	Grade & pave	1981
523	US-95	I.O.N.	Crooked Creek to flight strip	75.5	10.0	Overlay & widen	1982
524	US-95	I.O.N.	Jackson Cr. to Hot Springs Rd.	105.4	5.5	Overlay	1981
547	RR	Vale to west	UPRR Crossing at "A" St.	10.3	0.0	Gates & signs	1980

[1]The year listed is only an estimated time for project initiation and should not be considered contractual.

[2] I-80N has been renumbered to I-84.

Source: Preliminary Six-Year Highway Improvement Program, Fiscal Years 1980-1985 (1979).

gave suggested improvement projects. For details see Roadway and Traffic Safety Management Plan, Malheur County, Oregon, 1979.

Another safety program that may be helpful to the county would be to establish a rural addressing system that replaces route and box number addressing. The major advantage is improvement of response time by emergency vehicles. It can be very confusing for ambulance drivers, police, fire fighters, and emergency medical technicians to determine the location of residences when the address given is a route and box number. If a grid system were adopted similar to that in most urban areas, receivers of such emergency calls would be able to determine the exact location of the emergency. Establishment of such a system would not be overly burdensome and could possibly be lifesaving.

Planned Improvements

As stated earlier, the Oregon Department of Transportation has maintenance jurisdiction over interstate and intrastate highways. Along with this responsibility they also have new construction responsibilities for these highways. However, in January 1977 the Oregon Transportation Commission adopted a set of policies.

These statements read as follows:

1. The Department will make maximum effort to protect and maintain the existing state highway system so

as to retain operating conditions that will not be detrimental to the economy of the community and to the public well-being.

2. The Department will continue to finance highway facilities primarily from user fees. When insufficient, the Department will increase fees or reduce expenditures.
3. The Department will work with local agencies to coordinate planning and minimize negative immpacts of transportation facilities. Completed plans by local units, acknowledged by LCDC, will be utilized by the Department. (Community impacts on transportation will be carefully assessed against the responsibility of the Department to meet statewide needs.)

During 1977, the Oregon Transportation Commission recorded priorities in highway development. The new emphasis on preservation and maintenance of existing roads over construction of new roads came about because of inflation, reduced revenues, and changing federal funding guidelines. For the foreseeable future, there will be a de-emphasis on new construction and an emphasis on repaving, accompanied by appropriate widening, repair, or replacement of unsafe bridges and correction of hazardous road conditions. In 1979 the Highway Commission again stated its intent to emphasize the highway preservation effort and the department has recommended that the next six-year highway improvement program will involve preservation and improvement projects. In Malheur County, the Department of Transportation has identified 10 repair projects to be initiated in the next 6 years (see Table 43.)

TABLE 43

TRIP GENERATION FOR SELECTED LAND USES

Land Use/Building Type	Average Weekday Vehicle Trip End
Single family	10.0 per dwelling unit
Apartment	6.1 per dwelling unit
General office building	11.69 per 1,000 sq. ft.
Medical office building	75.0 per 1,000 sq. ft.
Industrial	5.43 per 1,000 gr. sq. ft.
Regional Shopping center	
(Over 1,250,000 gr. sq. ft.)	26.5 per 1,000 gr. sq. ft.
(1,000,000-1,249,999 gr. sq. ft.)	31.1 per 1,000 gr. sq. ft.
(500,000-999,999 gr. sq. ft.)	34.5 per 1,000 gr. sq. ft.
Community shopping center	
(400,000-499,999 gr. sq. ft.)	47.6 per 1,000 gr. sq. ft.
(300,000-399,999 gr. sq. ft.)	40.4 per 1,000 gr. sq. ft.
(200,000-299,999 gr. sq. ft.)	49.9 per 1,000 gr. sq. ft.
(100,000-199,999 gr. sq. ft.)	60.4 per 1,000 gr. sq. ft.
Neighborhood shopping center	
(50,000-99,999 gr. sq. ft.)	79.1 per 1,000 gr. sq. ft.
(0-49,999 gr. sq. ft.)	115.8 per 1,000 gr. sq. ft.
Discount store	64.6 per 1,000 gr. sq. ft.
Quality sit-down restaurant	56.3 per 1,000 sq. ft.
Drive-in restaurant	553 per 1,000 sq. ft.

Source: Institute of Transportation Engineers. TRIP GENERATION RREPORT(1976).

None of the local agencies or road districts in Malheur County have established and made public a prioritized repair program. An inventory and the maintenance responsibility and ownership status of all roads in the county has recently been completed and from this inventory a priority system could be established by each appropriate agency and district. A priority system can improve the efficiency of road maintenance as well as improve public relations.

The road inventory also revealed that many of the roads that are being maintained by the county and districts are not dedicated county roads, whereas some that are not being maintained by the county are dedicated county roads. Therefore, a major dedication/vacation program is being initiated and public hearings concerning these roads will be held to determine their proper status. The inventory also revealed that many of the roads in the county had duplicate numbers and names and others had no numbers or names. The necessary corrections on this matter are presently being undertaken.

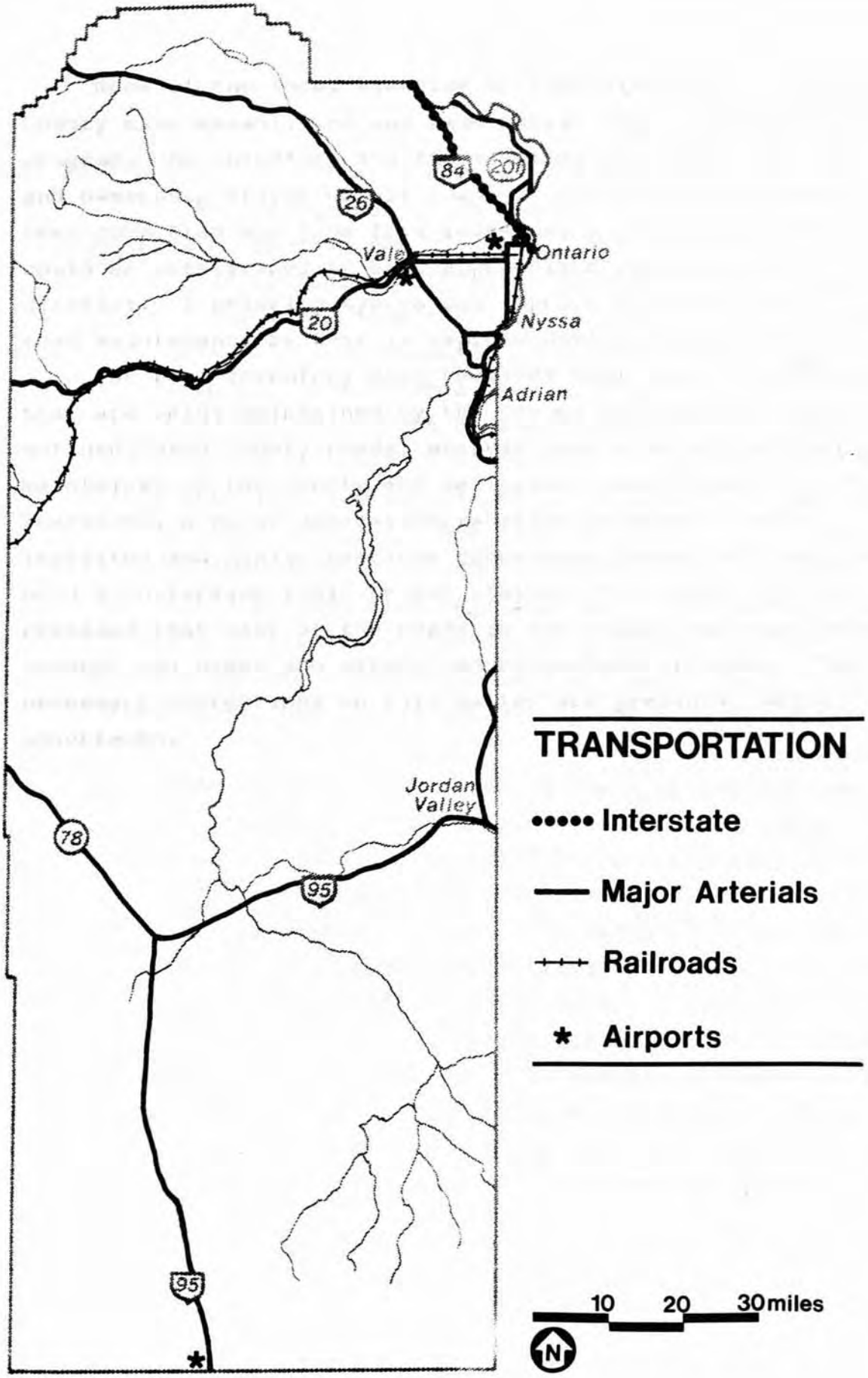
Future County Roads

Transportation needs of the county are continually changing and a major responsibility of transportation planning is to provide for changes in the present as well as the future. The present situation should include the improvement of existing roadways in the county. In addition, the present situation requires that all roads being maintained by the county or appropriate road district be dedicated by the County Court as county roads.

In the past there have been no design, construction, and improvement standards for county roads. Generally this was because all roads were built and maintained by the appropriate agency or district. The cost of building new roads has become so prohibitive that this responsibility is being passed onto developers. Therefore, it is necessary that Malheur County and the road districts adopt and enforce an ordinance for road design, construction, and improvement standards.

Where future roads are planned, consideration should be given to protection of resources found to be important to the county. Other elements of the comprehensive plan should be used as guides for protection, but some major protection efforts should be directed at farmland, industrial sites, historic sites, and conservation of energy. The protection of these resources should be an overriding factor prior in the consideration of transportation projects.

It has been determined that no new roads are needed at this time in the county. However, there may be a need to improve the Huntington Road to eliminate back tracking required of persons traveling from North of Vale to


84
20N
26
Vale
Ontario
20
Nyssa
Adrian
Jordan Valley
78
95
95
TRANSPORTATION
Interstate
Major Arterials
Railroads
Airports
10
20
30 miles
N

I-84. Also there may be a need to improve a road around Ontario to act as a by-pass from Highway 201 to I-84.

Public Transportation

There have been some very strong arguments in favor of mass transportation for commuters between Ontario, Nyssa, and Vale. Three major arguments for such a system or any mass transportation system are: 1) it increases the mobility of those who for reasons of health, age, or income cannot use an automobile; 2) it decreases energy consumption; 3) it reduces the cost and space required for parking of automobiles. Decreased commuting costs for the individual may be a fourth argument favoring a mass transportation network. However, it is debatable because cost determinations must be made for the individual's foregone freedom and convenience.

Presently in Malheur County, the only mass transportation systems operating are generally for special interest groups. None is operating for the public at large. In the City of Ontario there is a senior citizen bus responsible for intra-city service.

Treasure Valley Opportunities and Vocational Rehabilitation both have commuter systems for their clientele.

To determine if the Nyssa/Ontario/Vale area has sufficient ridership to support a mass transportation system, a survey was taken and commuters were asked if they would participate in a commuter system and, if so, what kind of system they would be willing to suppport. There were 190 commuters contacted and 150 responded to the survey. Of the 150 responses, 124 said they would participate in a commuter system and 26 said they would not participate. Of the 124 preferring a commuter system, 114 preferred busing over a

carpooling.

A second suyrvey was taken of persons interested in a commuter system living in Ontario and working in Vale. This survey was intended to determine the amount each person would be willing to pay for a daily round-trip between Ontario and Vale. (At the time the survey was taken, gasoline was ranging from $1.00 to $1.10.) There were 26 responses to the survey: five were willing to pay $1.00 per round-trip; three were willing to pay $1.20 per round-trip; three were willing to pay $1.25 per round-trip; seven were willing to pay $1.50 per round-trip; six were willing to pay $2.00 per round-trip; and two were willing to pay $2.50 per round trip. The cost of one round-trip for the bus and gasoline between Ontario and Vale has been estimated to be $30.00. This does not include the cost of a driver. At this rate it would take a ridership of at least 30 passengers willing to pay $1.00 per day. The survey indicates there are only 26 potential riders to initiate the system. A commuter system is therefore not practical without some federal or state subsidy to get the system started. A trial period of about one year would be sufficient to determine if appropriate ridership is available.

It has been estimated that over 160 gallons of fuel would be saved each day if the commuter system only transported those responding favorably to the survey. It is believed that once a system is operating ridership will increase and a mass transportation system could be successful in Malheur County. The county should encourage the development of a mass transportation system.

Air traffic is presently being provided by the private sector, and generally the demand is sufficiently being met. The public sector's only involvement is prevention of

incompatible development around existing airports and provision of proper planning and zoning for new and existing airports. The major airport in the county is the Ontario Municipal Airport, and proper planning is presently being completed by the City of Ontario. However, all of the airports and strips in the county are under the jurisdiction of county zoning.

All identified airports and strips and all areas surrounding these strips should be zoned according to their use. Most of the airstrips in the county have very few operations and are far from developed areas. As a result, they require only identification and protection of the strip and the clear zone. General aviation airports with low numbers of opeerations, mostly single-engine aircraft, and VFR only should have strips, clear zones, and an obstruction zone protected. General aviation airports with moderate-to-high numbers of operations, including business jets, heavy twins, transport aircraft, precision and non-precision approaches should have strips, clear zones, approach safety zones, obstruction zones, moderate impact noise corridors, and airport development zones. Ontario Municipal is the only airport in the county under general aviation with moderate-to-high numbers of operations. Miller Field (Vale) and McDermitt are the only airports in the county under the general aviation designation with low numbers of operations. All other airports and strips fall under the few-operations designation.

In addition to designated strips and airports, there are several stretches of roads that have been widened and specifically identified by the Bureau of Land Management as potential landing sites. The purpose is one of protection.

The distance from recognized airstrips can be great and these widened areas can be used in emergency situations.

In addition to the zoning of airports in the county, coordination with other counties to protect neighboring airports is also necessary. For example, Washington County, Idaho, has an airport whose obstruction zone penetrates Malheur County. It is essential for the protection of Weiser Municipal Airport that this area be appropriately zoned in Malheur County.

Bike, Foot and Bridle Paths

Oregon state law requires that each year one percent of state highway funds be expended on the establishment of footpaths and bicycle trails and that these expenditures should occur wherever a highway, road, or street is being constructed, reconstructed, or relocated (Oregon Revised Statute 366.514). However, the law also states that footpaths and trails are not required to be estabished where the establishment of such paths and trails would be contrary to public safety, if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use, or where sparsity of population, other available ways, or other factors indicate an absence of any need for such paths and trails. Also, a county may credit the one percent to a financial reserve or special fund to be held for not more than 10 years, and to be expended for the purposes required or permitted.

Malheur County has not expended any of their required amount. However, it does have a special fund with $31,327 and under law must by 1982 expend about $3,000 on footpaths and bicycle trails. The county should expend those funds in the urban areas where use would be great enough to justify the expenditures.

URBANIZATION

Purpose

There are three main types of urban areas in Malheur County: cities, urban growth areas, and rural service centers. In addition, there are individual commercial enterprises located in the unincorporated areas of the county performing functions normally found in urban areas. This element of the plan examines each of these types of urban areas.

Cities

There are five incorporated cities in Malheur County and none has more than 10,000 persons. Ontario is the largest with a population of just over 8,000 people and a projected population for the year 2000 of between 11,800 and 15,500. The city of Nyssa is the next largest with a population of nearly 3,000 and a projected population of 3,400 to 5,200. Vale has a current population of just over 1,400 persons and a projected population of 2,100 to 3,700. Jordan Valley has a current population of about 480, which represents a 145 percent increase in population over the last ten years. Population projections for Jordan Valley are the most difficult to calculate because of the drastic changes that have occurred over the last ten years. Adrian, the smallest city in Malheur County, has a population of 160 and a projected population of 190 to 334. The county has no jurisdiction or control over the planning or direction of growth of any of the cities, save for advisory and coordination. Anyone wishing information on the planning of any city in the county should refer to the particular city's comprehensive plan. Each of the cities in the county has adopted a comprehensive plan and copies are available to the public.

Urban Growth Areas

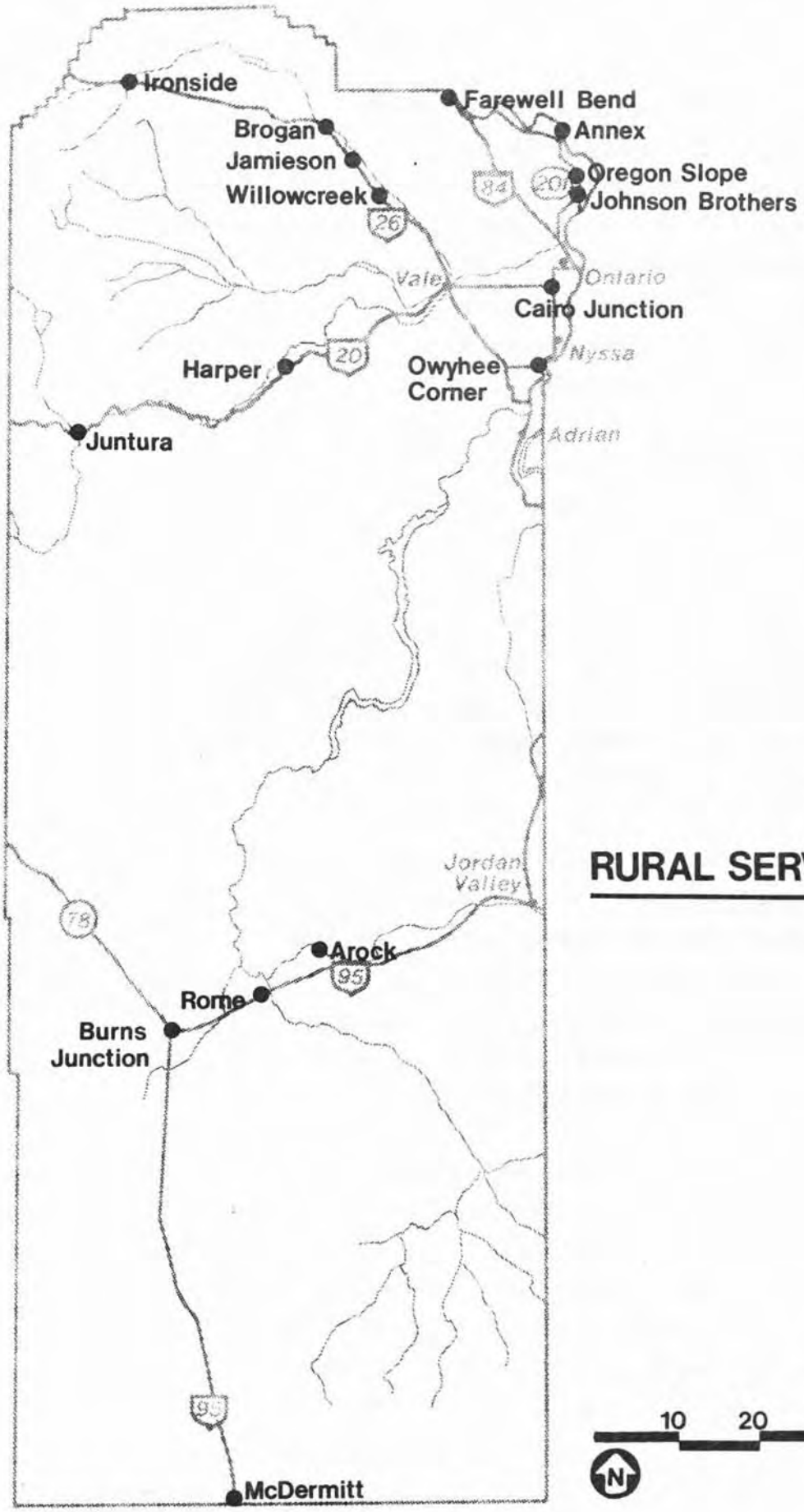
Each of the cities in the county has a projected population increase and will require more space to accommodate that growth. The three largest cities--Ontario, Nyssa and Vale--will have growth great enough that the existing city limit boundaries will eventually have to be enlarged. Based on projected populations and corresponding housing, industrial and commercial needs, the extent of the anticipated growth for Ontario, Nyssa and Vale has been determined and adopted as the urban growth boundary for each city. The unincorporated area between the city limits and the urban growth boundary is called the urban growth area.

Each city has signed a joint management agreement with the county that describes the responsibilities of each jurisdiction and the process by which development in the urban growth area will be guided. The county should work with the cities to protect the integrity of the urban growth boundaries and help ensure the orderly and efficient development of urbanizable land.

The built-up areas in Jordan Valley and Adrian are relatively small compared to the total area within the city limits. As a result, these cities expect to contain all future development within the existing city limits and have not adopted urban growth boundaries.

Rural Service Centers

Sixteen small communities throughout the county have been designated as rural service centers (RSCs). These communities are usually located in the more remote areas of the county and provide a variety of services to local residents. In preparation for future growth, each community determined its own RSC boundaries and development standards. A description of each rural service center is presented below.



RURAL SERVICE CENTERS

Ironside. Ironside is a ranching community in northwestern Malheur County. It presently has about 50 acres of committed land and the community would like to make available another 50 acres for future development. The community's growth rate has been stable over the last few years but if growth should increase, some of the existing lots are too small to accommodate a septic tank and well. If more land is made available, these lots can be enlarged and a possible health problem eliminated. Also, if recreation home buyers become interested in locating in or near Ironside, the least productive land will be available to them.

Brogan. Brogan is another ranching community in northwestern Malheur County. The original townsite established in 1910 consists of about 320 acres and the community has chosen to keep future development within the original townsite boundaries.

Farewell Bend. Farewell Bend is located in the northeastern part of the county bordering a recreation area in Baker County. To encourage industrial and recreational development, the community included a large tract of land--approximately 1,800 acres--within its RSC boundaries. Approximately 270 acres are built and committed at this time, and another 60 acres are in the flood plain.

Annex. The community of Annex is also in northeastern Malheur County, directly across the river from Weiser, Idaho. Local residents want to maintain the residential nature of the community and have limited their RSC boundary to those of the original townsite plus the committed area to the west where the school and some homes are located. The RSC boundary takes in a total of 180 acres.

Willowcreek. Willowcreek is a small farming community north of Vale. To encourage the agricultural support industry developing in Willowcreek, the community included about 140 acres in it RSC boundary.

Jamieson. Jamieson is another small farming community north of Vale and Willowcreek. Although the town now consists mainly of a post office and single-family dwellings, it used to have its own school and offer a greater variety of services. Local residents would like the community to grow again and have included adequate room for future development within the RSC boundary.

Oregon Slope. Located north of Ontario, Oregon Slope mainly consists of single-family dwellings and farm-related businesses. Residents of the community want to maintain the area's residential nature and have limited future development accordingly. The community included 12-1/2 acres in its RSC boundary.

Cairo Junction. Located five miles south of Ontario, Cairo Junction is a mix of residential and commercial activity. Since the community is close to all three major cities in the county, local residents can readily acquire most of the services they need without expanding their own commercial activities. To avoid future urbanization of surrounding farmlands, local residents limited their RSC boundary to 10 acres, including only those lands that are already built upon and committed.

Harper. Harper is a small ranching community about 25 miles west of Vale. Since it is relatively isolated, the community wants to be as self-sufficient as possible. The local residents included about 100 acres in their RSC boundary, taking in the original townsite and the committed area that has developed along the highway. The community specified that no auto wrecking yards would be allowed.

Owyhee Corner. Owyhee Corner, or Owyhee Junction, is a small community of farm-related industry and residential uses that serves the surrounding farming operations and tourists. Local residents included about 85 acres in their RSC boundary to allow for future development.

Juntura. Located west of Vale near the Malheur-Harney County line, Juntura was once an incorporated city. Due to financial difficulties, however, the city disincorporated in 1977. Local residents designated the original city limits as their RSC boundary. At present, the community has a mix of uses including mostly farm-related commercial activities and tourist facilities as well as a church, school and community hall.

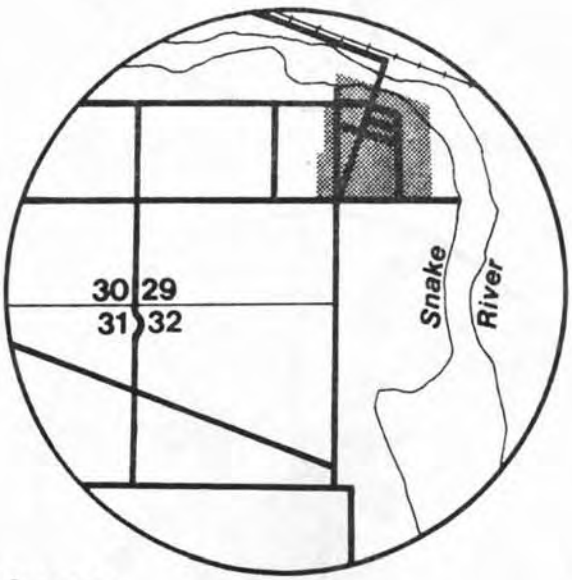
Arock. Arock is a small ranching community southwest of Jordan Valley. Local residents designated about 35 acres including the original townsite and adjacent committed areas in their RSC boundary.

Rome. Located south of Arock, Rome is a service center for surrounding ranchers, a recreation site, and a substation for the Bureau of Land Management. Local residents included about 75 acres in their RSC boundary.

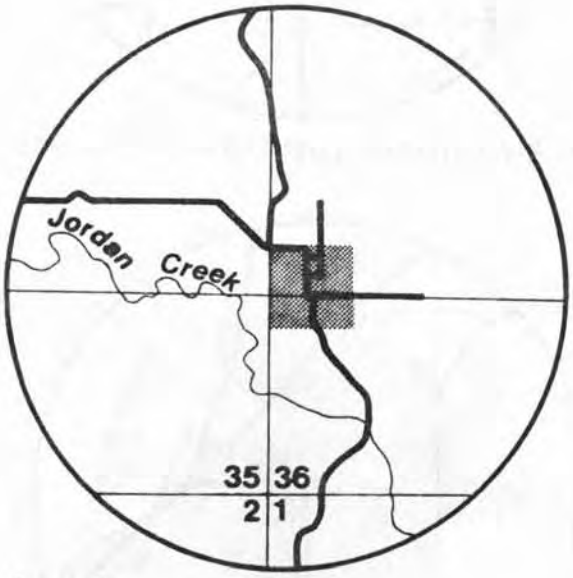
Burns Junction. Burns Junction is a service center for travelers and surrounding ranchers. Located about 50 miles southwest of Jordan Valley and about 60 miles north of McDermitt, the community designated about 5 acres within its RSC boundary.

McDermitt. Located in the extreme southern end of the county, McDermitt straddles the Oregon-Nevada border. To meet Nevada's planning requirements, the community developed its own comprehensive plan for both Oregon and Nevada sides. The Oregon side of McDermitt is sometimes called Quinn.

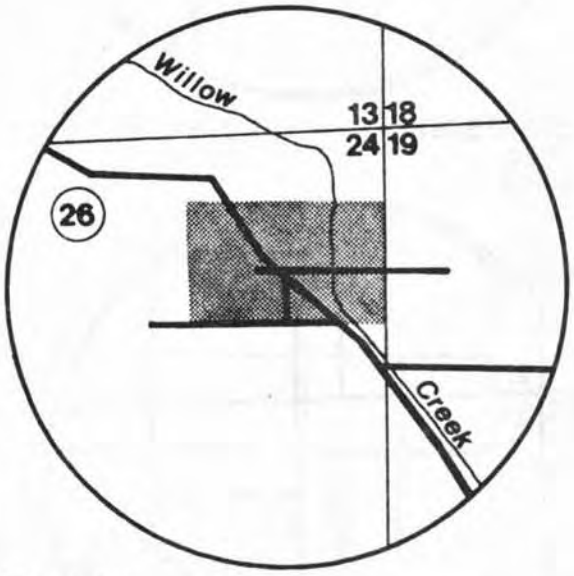
RURAL SERVICE CENTERS



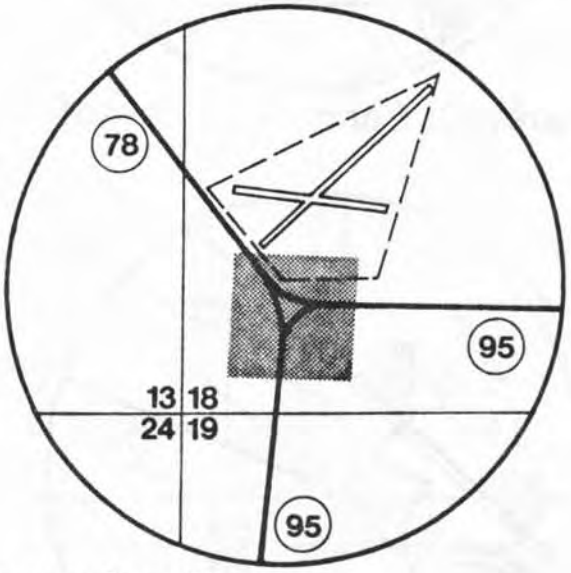
Annex



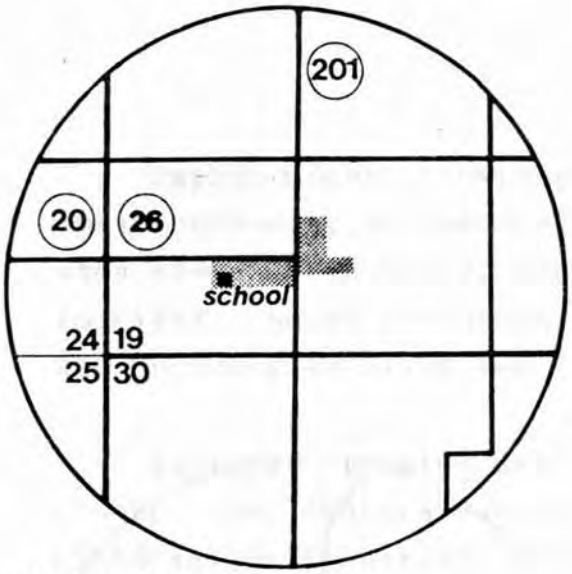
Arock



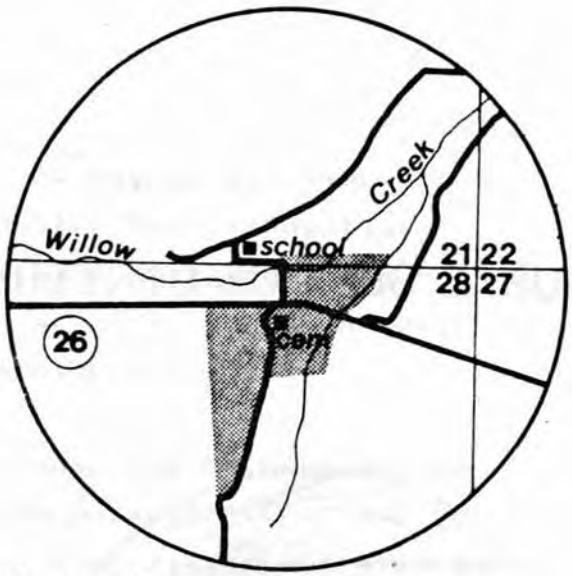
Brogan



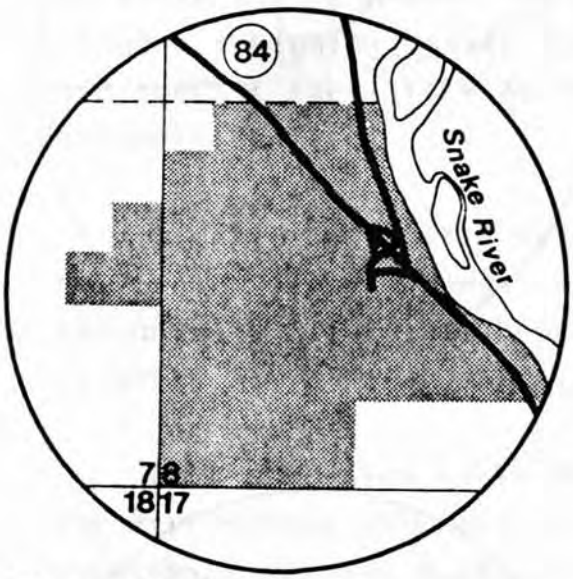
Burns Junction



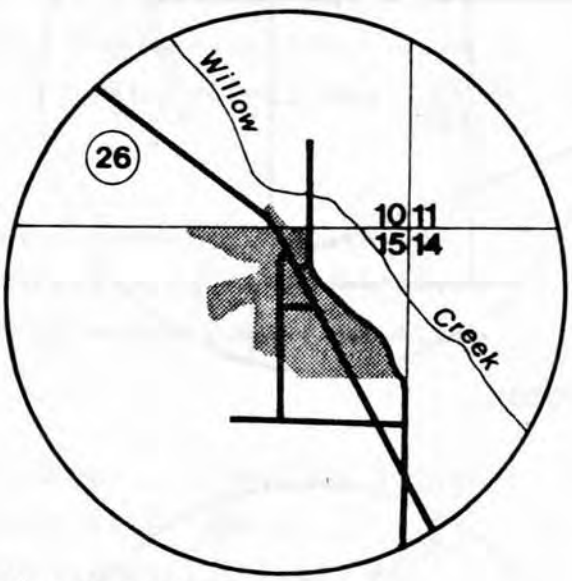
Cairo Junction



Ironside



Farewell Bend



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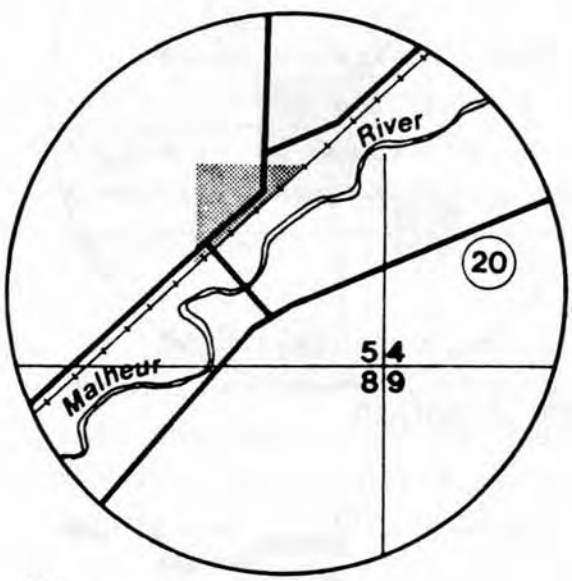

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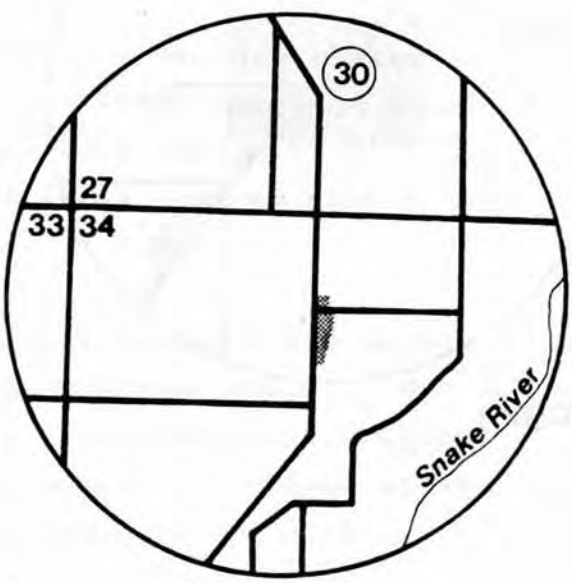

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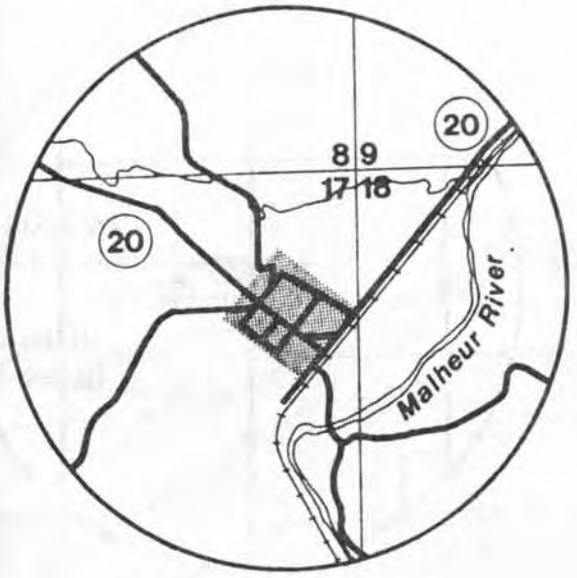

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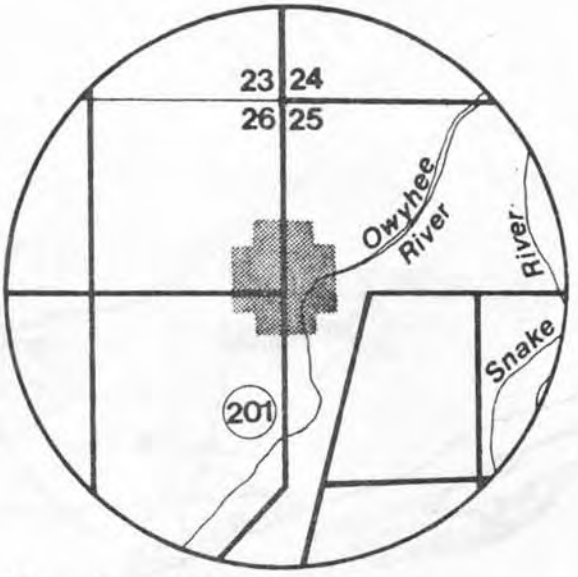

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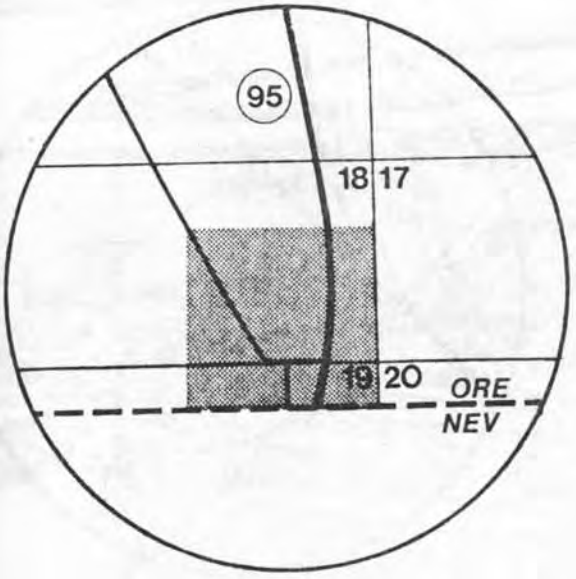

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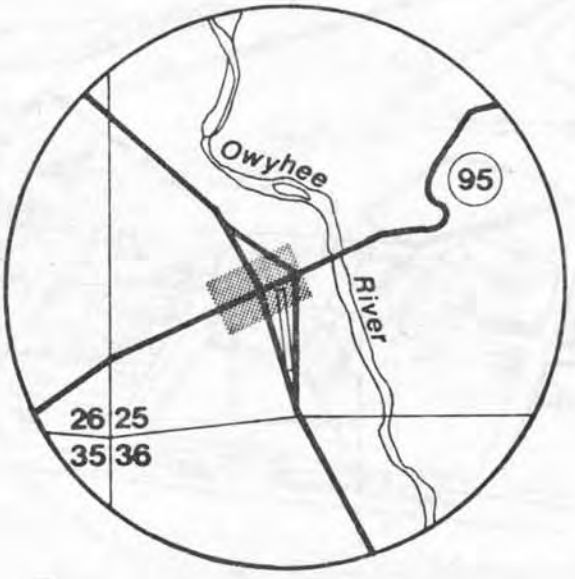

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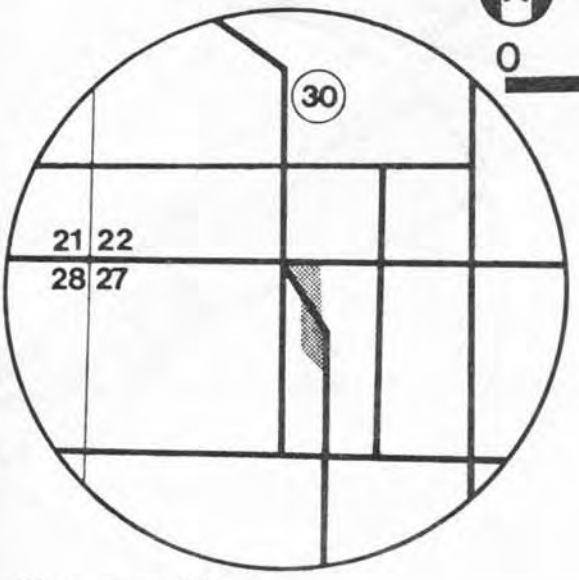

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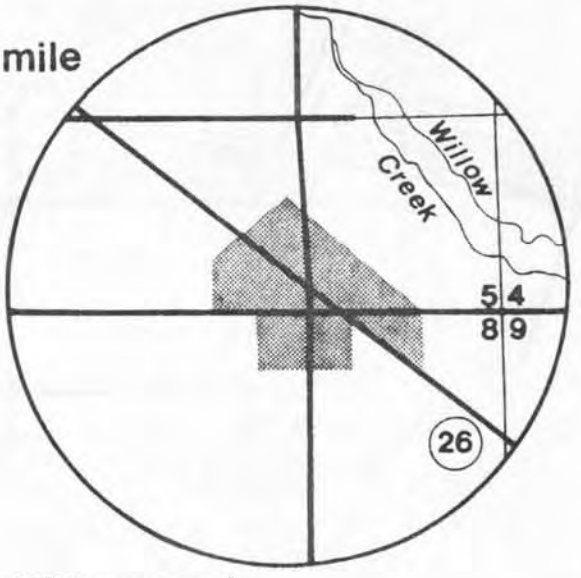


Willowcreek

Section 3

Goals and Policies

GOAL 1: CITIZEN INVOLVEMENT

Goal: To develop a citizen involvement program that ensures the opportunity for citizens to be involved in all phases of the planning process.

Policies:

1. The County Planning Commission will continue as the Citizens Involvement Committee.

2. Citizens advisory committees will be appointed to study particular areas of land use planning.

3. Broad participation in citizens advisory committees and other planning activities will be solicited to provide a cross-section of geographical and professional interests.

4. After LCDC has acknowledged the comprehensive plan, the citizens advisory committees will review their respective elements of the plan at least every three years to ensure that the plan is in tune with the changing needs of the community.

5. If revision of the plan is necessary, the citizens advisory committees will develop their recommendations at publicized meetings in which the public will be encouraged to participate.

6. The citizens advisory committees, and any other special committees formed to aid the input process, may be asked to assist the Planning Commission and County Court between previous reviews. Reoccurring problems will be diverted to the appropriate committees for their recommendations.

7. The Planning Department and the citizens advisory committees shall continually work to assemble information from the public that will assist in an effective review process.

8. The public will be encouraged to participate in all reviews and amendments of the plan.

9. All planning activities will be publicized to make residents aware of upcoming decisions that may affect them.

10. Informational materials will be prepared for distribution and/or presentation to schools, civic groups and individual citizens to explain the plan and planning procedures.

11. Copies of the comprehensive plan and all other planning documents will be available to all residents.

GOAL 2: LAND USE PLANNING

Goal: To establish a comprehensive planning process and policy framework as a basis for all decisions and actions related to land use and to assure an adequate factual base for those decisions and actions.

Policies:

1. The county will maintain the County Planning Department and the County Planning Commission. The County Court will continue in its role as governing body in determining land use.

2. The Malheur County Comprehensive Plan and background reports will be recognized as the primary documents of factual information and policy statement used as the basis for planning decisions.

3. The county will develop a set of zoning and subdivision ordinances to implement the comprehensive plan. All ordinances relating to land use will be consistent with the comprehensive plan.

4. After LCDC has acknowledged the comprehensive plan, it will be reviewed by the Planning Commission and citizens advisory committees at least every three years to ensure that inventory information, policies, and land allocations are updated.

5. The Planning Department will maintain a file of suggested revisions to the comprehensive plan, and those revisions will be considered as part of the plan review procedure.

6. A public hearing will be held by the County Court before making any changes in the comprehensive plan.

7. All planning decisions will take into account the comments of the affected property owners and the plans of local, state or federal agencies that might have an effect on, or be affected by, the decision.

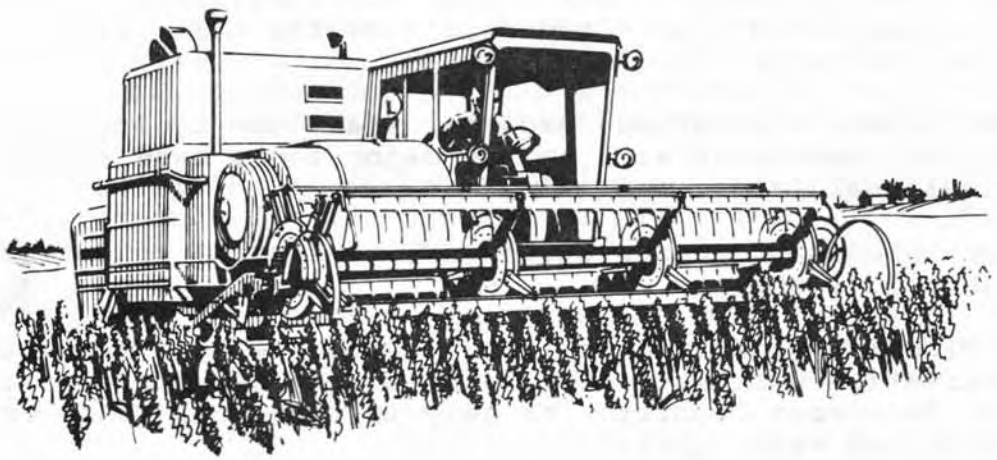
8. As additional inventory information becomes available, it will be considered in planning decisions.

9. Findings made in the process of land use planning decisions will be related to specific planning policies, ordinance requirements, or background information, and such findings will be documented.

10. Units of land or parcels under the same ownership will be

considered as one parcel in meeting provisions of the zoning ordinance and comprehensive plan; except that lots created by subdivisions or partitions approved by the Planning Commission in accordance with the subdivision ordinance will be considered separate lots, regardless of whether they are under one ownership.

11. Prior to any potential private land acquisitions by a public agency, a recommendation will be requested from the county regarding the transaction.



GRAIN HARVESTING

GOAL 3: AGRICULTURAL LANDS

Goal: To preserve and maintain the agricultural lands in the county for agricultural purposes.

Policies:

1. Public and private land classified by the U.S. Soil Conservation Service as being in Capability Classes I through VI will be considered as potential agricultural land.

2. Whenever possible, land having the highest agricultural capabilities will be given the greatest protection (Class I has the highest capability; Class VI has the least).

3. When the productivity system being developed by the OSU Extension Service is available in Malheur County, it will be considered as a supplement to the SCS capability classification system for determining the most valuable land for agriculture.

4. Urban growth boundaries, exclusive farm use zoning, and farm use assessment will be the major tools used to protect agricultural lands.

5. Other methods of preservation will be studied to determine their practicability.

6. The Planning Department will work with the Soil and Water Conservation District, the OSU Extension Service, and the Water Resources Committee to help improve soil conservation methods and water quality.

7. The county will work toward increasing the storage capacity for irrigation water in the county.

8. The county will work closely with the irrigation and drainage districts when land use decisions affect the distribution of water for irrigation purposes.

9. The county will support other organizations working to minimize or eliminate tax and cost factors that prohibit younger persons from entering the farming and ranching professions.

10. A non-farm use in an agricultural area will be allowed only where:

    a. It is compatible with established or possible future farm uses;

    b. It will not now, or in the future, interfere with

estalbished farm practices;

c. It will not alter the stability of the overall land use pattern of the area; and

d. It is situated on land generally unsuitable for the production of farm crops and livestock.

13. Existing non-farm uses will be allowed to exist and continue as non-conforming uses in farming and ranching areas.

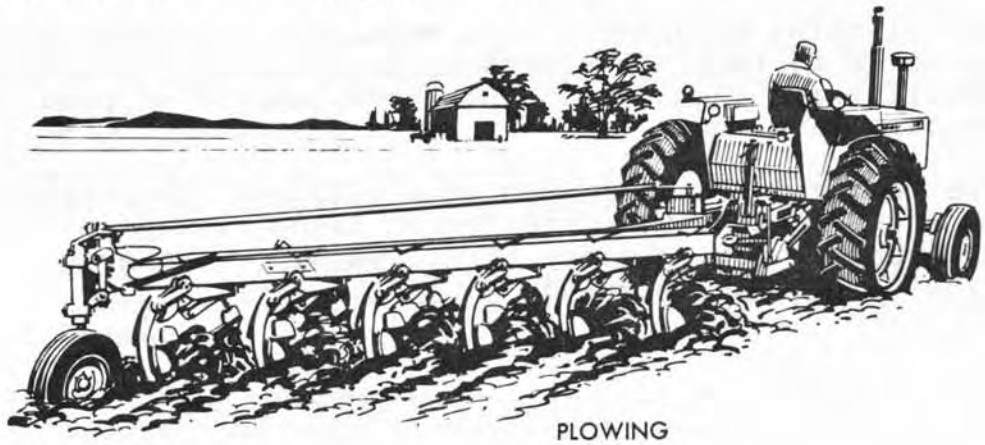
14. Normal farming and ranching activities will be allowed to exist and continue without interference from non-farm users of the land.

15. The zoning ordinance will establish Exclusive Farm Use (EFU), Exclusive Farm/Forest Use (EFFU), and Exclusive Range Use (ERU) zones to protect agricultural lands, and it will include provisions limiting development of those lands.

16. The zoning ordinance will establish a minimum lot size in areas designated as EFU, EFFU and ERU, and those minimum lot sizes will be appropriate for the continuation of the existing commercial agricultural enterprise in the area.

17. The zoning ordinance and subdivision ordinance will include requirements for appropriate setbacks from agricultural lands.

18. The County Court will appoint a citizens advisory committee on agriculture to review the agricultural lands element of the comprehensive plan every three years, or whenever the Court finds a more urgent need.



PLOWING

GOAL 4: FOREST LANDS

Goal: To preserve and maintain forest lands for allowable agricultural and forest uses.

Policies:

1. The county will determine, after appropriate soil surveys have been completed, the true boundaries of commercial forest lands in Malheur County. In the interim, land within the boundaries established from Oregon State Tax Commission maps and the generalized soil survey will be considered commercial forest lands. If the boundaries change, the zoning maps will be reviewed and changed appropriately.

2. The zoning ordinance will create an Exclusive Farm/Forest Use (EFFU) zone that will apply to commercial forest lands, and establish a minimum lot size and limit development within that zone to protect forest lands.

3. The county will treat forest lands and agricultural lands equally, in that both resources will be protected in the same manner.

4. No residential subdivisions will be allowed on designated forest lands.

5. The county will work with the Oregon State Forestry Department and the Soil and Water Conservation District to support cost-share programs for forest management practicies.

6. The Planning Department will work with appropriate public agencies to initiate necessary soil surveys to accurately describe and identify forest lands capable of producing commercial timber.

7. The County Court will appoint a citizens advisory committee on forestry to review the forest lands element of the comprehensive plan every three years, or whenever the Court finds a more urgent need.

GOAL 5: OPEN SPACE, SCENIC AND HISTORIC AREAS, AND NATURAL RESOURCES

Goal: To conserve open space and protect natural and scenic resources.

Policies:

Open Space

1. The county will establish land use regulations that will substantially preserve the open character of the undeveloped areas of the county.

2. The county will cooperate with other public agencies that manage open land in Malheur County.

Mineral and Aggregate Resources

1. The county will continue to study mineral and aggregate sites throughout the county to determine the precise location, quality and quantity of these resources.

2. The county will establish land use regulations that protect mineral and aggregate resources from incompatible uses.

3. The county will cooperate with other government agencies in the enforcement of mining regulations.

Energy Sources

1. The county will encourage the identification, exploration and development of geothermal and other energy sources in the county.

2. The county will continue to study the location, quality and quantity of energy sources in the county.

3. The county will establish land use regulations that will protect the land base upon which subsurface energy sources are located.

4. Exploration and development of subsurface energy resources will be in conformance with the requirements of the Oregon Department of Geology and Mineral Industries.

5. The county will adopt an ordinance protecting access to the sun for solar energy.

Fish and Wildlife Habitat

1. The county will continue to cooperate with local, state and federal agencies to identify the location, quality and quantity of fish and wildlife habitat.

2. The county will establish land use regulations that will protect fish and wildlife habitat.

3. The county will consider the impacts of proposed development on fish and wildlife habitats when making land use decisions.

4. The county will encourage the use of site-planning techniques in subdivisions and industrial and commercial developments to ensure the integrity of significant fish and wildlife habitat.

5. The county will encourage the continuation or development of stocking reintroduction programs for fish and wildlife in suitable habitats.

6. The Oregon Department of Fish and Wildlife's "Fish and Wildlife Habitat Protection Plan" will be recognized as a guideline for planning decisions.

7. The county will continue to recognize the contribution that fishing and hunting make to the economy and the total recreational needs of the county.

Natural and Scenic Areas

1. Within the next three years, the Planning Department will review the Nature Conservancy Inventory of potential natural and scenic areas and identify those sites that Malheur County believes are significant and should be protected as natural and scenic areas.

2. The Planning Department will continue to inventory the location, quality and quantity of each natural and scenic area to be protected.

3. The county will cooperate with agencies responsible for the management of designated natural and scenic areas and encourage the expanded protection of these resources on publicly owned land.

Water Resources

1. The county will continue to inventory the location, quality and quantity of its water rsources.

2. The county will implement its water quality management plan.

3. The county will continue to consult the County Sanitarians in land use decisions.

4. The county will notify and consult with appropriate state agencies during review of development proposals that might affect surface or groundwater quality.

5. The county will encourage the public to take advantage of erosion control and resource management assistance offered by the Soil Conservation Service and other agencies.

6. The county will cooperate with the Oregon Department of Environmental Quality in protection of surface and groundwater resources.

Wilderness Areas

1. The county will participate in the planning process and hearings procedure for the designation of wilderness areas.

2. The county will cooperate with public agencies that manage wilderness areas to assist in their protection.

Historic Sites

1. The county will continue to inventory the location, quality and quantity of all archeologic and historic buildings, sites and artifacts in Malheur County.

2. The county will explore the availability of grants or other sources of funding to help preserve and protect the historic sites and structures in Malheur County.

3. The county will cooperate with the Bureau of Land Management in its efforts to preserve and protect the archeologic and historic sites located on public land.

4. The county will adopt a historic preservation ordinance to identify, preserve and protect historic sites and structures and include criteria for resolving land use conflicts.

5. The county will cooperate with the Malheur Country Historical Society to protect historic resources.

Recreation Trails

1. The county will cooperate with other agencies in the development of recreation trails in the county.

Scenic Waterways

1. The county will cooperate with the state and the Bureau of Land Management in their efforts to protect the segments of the Owyhee River designated as a scenic waterway.

GOAL 6: AIR, WATER AND LAND QUALITY

Goal: To maintain and improve the quality of Malheur County's air, water and land resources.

Policies:

1. The county will encourage monitoring throughout the county to determine present air pollution levels.

2. The Planning Department will gather information from private industry on any environmental quality monitoring that may be taking place.

3. Implementation of the Malheur County Water Quality Management Plan will be accomplished at the local level.

4. The County Court will designate the Malheur Soil and Water Conservation District as the management agency responsible for implementing the water quality management plan.

5. The County Court will give the Water Resources Committee the responsibility of advising the Court and the Soil and Water Conservation District on the implementation and revisions of the water quality management plan.

6. A five-year voluntary program period will be allowed prior to enforcement of regulatory water quality requirements of the plan.

7. Under the voluntary period of the water quality plan, Best Management Practices (BMPs) will be considered as general guidelines for improvement of water quality by individual land owners.

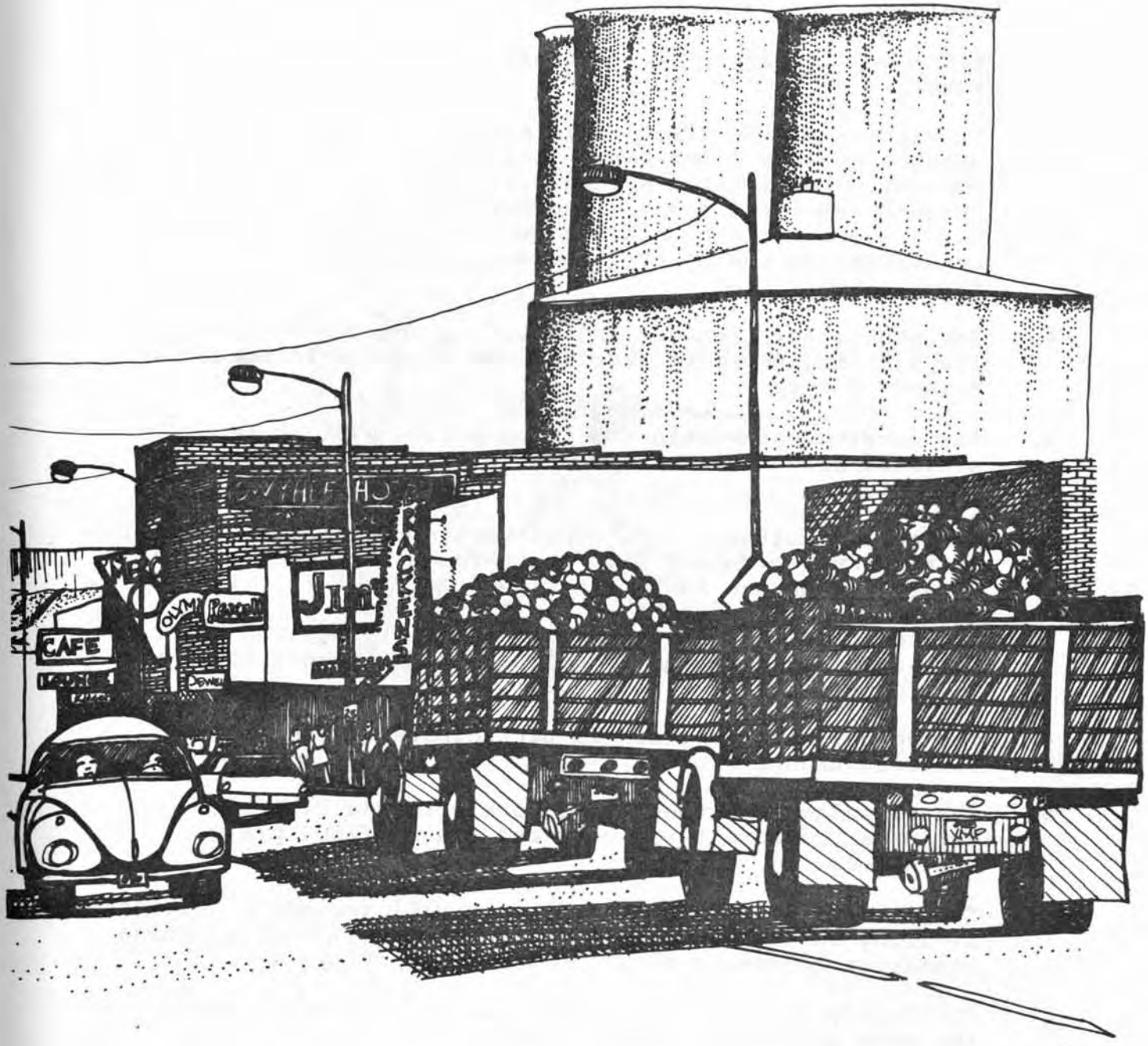
8. In areas where water quality problems persist after the five-year voluntary period, appropriate BMPs will be determined following a site-specific analysis completed on a case-by-case basis.

9. Financial and technical assistance will be given to individual land owners through existing federal and state programs before implementation of BMPs will be expected.

10. The county will cooperate with the Soil and Water Conservation District, the OSU Extension Service, and the Water Resources Committee to help improve soil and water quality and conservation methods.

11. The county will update the comprehensive solid waste management plan of 1974.

12. The effects of transportation, industry, and other sources of excessive noise will be considered in evaluating proposed uses and development.



GOAL 7: NATURAL DISASTERS AND HAZARDS

Goal: To protect life and property from natural disasters and hazards.

Policies:

1. The county will adopt and enforce a flood damage prevention ordinance.

2. The zoning ordinance will create a flood plain management zone.

3. Provisions of the flood plain management zone and the flood damage prevention ordinance will apply to the flood plain boundaries designated by the U.S. Department of Housing and Urban Development and the Federal Insurance Administration until flood plain boundaries can be redefined, taking into consideration the major flood control efforts that have taken place.

4. The county will request an indepth study by the U.S. Army Corps of Engineers to redefine the flood plain areas in Malheur County.

5. All development within the flood plains will be required to minimize potential hazards and losses of life and property.

6. All new inhabitable structures within the flood plains will be required to comply with standards established by the Federal Insurance Administration.

7. The location of emergency services facilities and other activities that may be identified by the County Court will be prohibited in the flood plains.

8. The county will continue to participate in the National Flood Insurance Program.

9. The Planning Department will work with the cities to establish conformity of city and county flood plain ordinances.

10. The county's subdivision ordinance will include provisions limiting subdivisions in the flood plain and establishing standards to ensure public health and safety.

11. The county will encourage the study of geologic hazards in the more populated areas of the county.

12. The county will cooperate with other governmental agencies to help protect life and property from natural disasters and hazards.

13. The county will distribute to the public all available information concerning natural disasters and hazards.

14. The county will support and cooperate with the Malheur County Emergency Services Office.

GOAL 8: RECREATION

Goal: To meet the park and recreation needs of the citizens of Malheur County and visitors.

Policies:

1. An on-going inventory will identify the needs and opportunities of county residents for parks and recreational facilities.

2. Continued recreation planning will be the responsibility of the Planning Department under the direction of the County Court.

3. The zoning ordinance will establish a park management zone to protect parks and recreation areas from incompatible uses.

4. The county will encourage the provision of recreation opportunities for all residents, with special consideration for the young, elderly, and handicapped.

5. Communities will be encouraged to develop their own parks and recreation areas.

6. The county recognizes the importance of tourism to Malheur County's economy and will encourage tourism through the development of recreation opportunities.

7. The County Court will appoint a citizens advisory committee on recreation to review funding sources for park improvements and to develop and implement tourism incentives.

8. The county will cooperate with the Oregon State Parks and Recreation Division, the Bureau of Land Management, and the other state and federal agencies that provide recreation opportunities in the county.

9. The county will cooperate with and encourage private enterprise to provide recreation opportunities such as camp facilities and resort areas.

10. When considering proposals for recreational development, the county will protect the resource base by considering factors such as wildlife habitats, range protection, and proximity to existing development.

GOAL 9: ECONOMY

Goal: To diversify and improve the economy of Malheur County.

Policies:

1. The county will implement an economic development program designed to achieve the following:

   a. Develop available natural resources in Malheur County.

   b. Identify and develop human resources through education and training programs oriented to skills needed in the local labor market.

   c. Create employment opportunities.

   d. Expand and maintain existing industry.

   e. Diversify agricultural products and the economic base.

   f. Stimulate economic growth in small population centers.

   g. Broaden the tax base.

   h. Improve opportunities for increasing the median family income.

2. The county will work with Treasure Valley Community College to increase the education and training opportunities that may be needed for new industries.

3. The County Court will request Treasure Valley Community College to participate in any recruitment programs so that adequate training facilities can be established.

4. The county will continue to participate in the Ida-Ore Planning and Development Association, and to work with Ida-Ore, local chambers of commerce, and private enterprise to promote economic development.

5. The county will coordinate all economic programs with the Oregon State Department of Economic Development.

6. The county will work with local, state, and federal agencies to determine if special programs are needed to create employment opportunities for out-migrating young people.

7. The county will work with public and private sectors to maintain the high quality of life presently in the county.

8. The county will work with local, state, and federal agencies to improve the transportation network.

9. The county will work with farm organizations and financial agencies to encourage development of new agricultural products.

10. The county will study the comparative advantages or disadvantages of workers' compensation and property tax structures in neighboring Idaho counties. If any disadvantages are discovered, the county will support legislative efforts to make Malheur County equally attractive to business and industry.

11. The County Court will establish an economic development task force to review the economic development program and the economy element of the plan every three years to determine if changes are needed.

12. The County Court, with the help of the economic development task force, will determine which approaches and systems referred to in the text of the plan are required to meet the policies.

13. The county will zone adequate land for needed industrial and commercial development.

FERTILIZING

GOAL 10: HOUSING

Goal: To provide for the housing needs of the citizens of Malheur County.

Policies:

1. The county will encourage the development of a variety of housing types and locations in a range of housing prices.

2. The county will not discourage the use of manufactured housing or mobile homes and will encourage the cities to provide adequate land available for mobile homes within their urban growth boundaries.

3. The county will review the 1980 census information and other future census data and update the housing element of the comprehensive plan when necessary.

4. The county will work with private developers and governmental agencies to increase the number of rental units and keep vacancy rates at appropriate levels.

5. The county will work with the Farmers Home Administration, the Malheur Council on Aging, Oregon Human Development Corporation, and the Housing Authority of Malheur County to coordinate efforts so that needed housing programs are not duplicated or omitted.

6. The county will work with private developers, the Homebuilders Association, and the Board of Realtors to meet the housing needs of Malheur County residents.

7. The county will provide enough residential building sites to keep the cost of such sites at a reasonable rate.

8. Housing will be encouraged on land with the least agricultural productivity, in locations that complement existing development, make the most efficient use of required facilities, and present the least conflict with agriculture in the area.

9. In order to keep costs to citizens as low as possible, the county will approach the planning process with a view toward simplifying procedures and assisting citizens in accomplishing their objectives.

10. The county will work with the Farm Labor Sponsoring Association, the Housing Authority of Malheur County, and other interested individuals and groups to encourage the repair and upgrading of temporary migrant housing.

11. The county will encourage the rehabilitation and weatherization of existing housing.

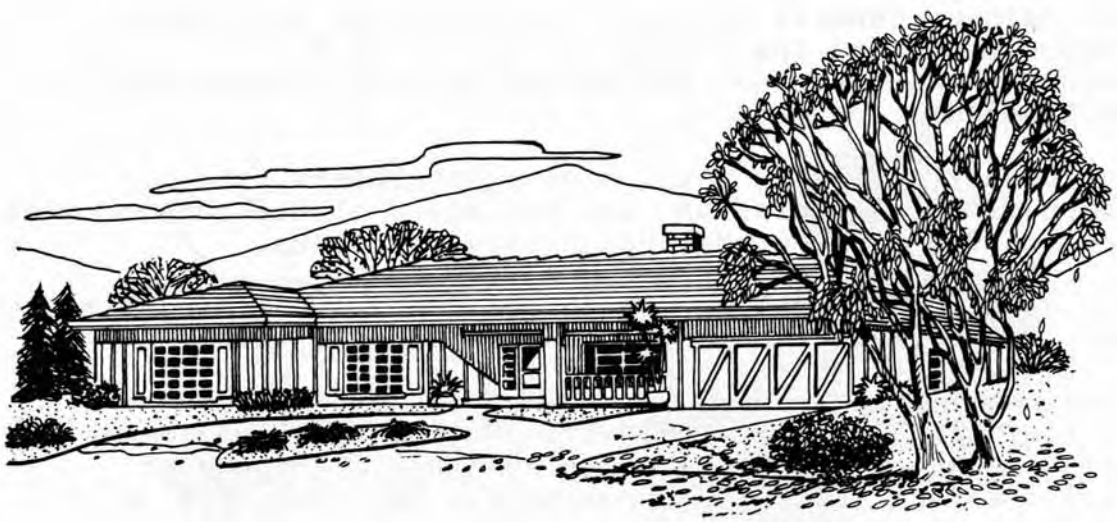
12. The zoning ordinance will establish rural residential zones and provide standards for their development.

13. Adequate setbacks between rural residential zones and agricultural zones will be required in order to minimize potential conflicts.

14. Manufactured housing and mobile homes will be considered to be like all other single-family dwellings for the purpose of the zoning ordinance.

15. Lot sizes will be required to be large enough to adequately support a septic tank and well on each parcel.

16. The Planning Department will maintain, publish, and distribute housing statistics to help make private and public agencies aware of the county's needs.



GOAL 11: PUBLIC FACILITIES AND SERVICES

Goal: To plan and develop a timely, orderly, and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.

Policies:

Community Health and Social Services

1. The County Court will work with and support the Malheur County Health Planning Council (MCHPC) in coordinating the appropriate jurisdictions and agencies to increase the public's accessibility (by overcoming geographic, architectural, and transportation barriers) to health and social services, especially for the elderly, handicapped, and young.

2. The county will encourage the MCHPC's efforts to coordinate health care programs between Malheur Memorial and Holy Rosary Hospitals.

3. The county will encourage the MCHPC's effforts to establish rural health centers in Vale and other rural communities in order to provide better health care to residents and county jail inmates. The location of rural health centers will depend on health care needs and the population growth of the communities involved.

4. The mental health program is recognized as a valuable service to the residents of Malheur County, and the county will investigate other revenue sources to continue the program once federal funding is exhausted.

5. The county will work with local organizations and agencies to establish a mental health crisis ward.

6. The county will work with local organizations and agencies to establish a shelter for victims of domestic violence.

Fire and Police Protection

1. The county will seek and consider information from local fire and police departments concerning provision of services to future rural land developments.

2. The county will enourage upgrading police and fire protection in rural areas.

3. The county will require all major development projects to have an adequate fire protection plan.

4. The subdivision ordinance will include fire protection standards for subdivisions.

5. The county will support and encourage the formation of fire protection districts whenever warranted by sufficient concentration of structures.

6. The county will work with the City of Nyssa and its police department to provide police protection in the Nyssa labor camp vicinity.

7. The county will work with Humboldt County (Nevada) to establish necessary protection for residents in the McDermitt area.

8. The county will work toward establishing a detoxification center for chronic alcohol abusers.

Library

1. The county will seek new funding sources to improve library services to county residents.

Education

1. The county will encourage the selection of new school sites through cooperative planning by the school districts, cities, and the county.

2. The county will seek and consider information about school services, including bus service, in making land use proposals and decisions.

3. The subdivision ordinance will require school district recommendations on the approval of subdivisions.

Irrigation

1. When evaluating proposals for residential and other non-farm development, the county will consider water rights and the potential impact of the proposed development on nearby irrigated lands.

2. The county will require developers to be financially responsible for any undergrounding or other modification of irrigation and drainage canals made necessary by their development activities.

3. The Planning Department will work with the irrigation districts to establish policies concerning development proposals and water movement.

Water and Sewage

1. The county, in considering land use proposals, will ensure that the physical characteristics of the land that affect sewage disposal, water supply, and water quality are carefully considered.

2. The county will work closely with the cities to promote the orderly expansion and development of municipal water and sewage systems within the urban growth boundaries of Ontario, Nyssa and Vale.

3. The county will update the comprehensive solid waste management plan of 1974.

Utilities

1. The county will require utility companies to have proof of valid mobile home placement or building permits before extending or connecting utility services.

2. The county will prevent extension of utilities to structures that do not qualify as dwelling units.

Streets and Roads

County road policies are stated under Goal 12 of this section.

General

1. To the greatest extent possible, new residential, commercial, and industrial areas shall be adjacent to areas that already are developed to permit the most efficient extension of public facilities and services.

CORN HARVESTING

GOAL 12: TRANSPORTATION

Goal: To provide and encourage a safe, convenient, and economic transportation system.

Policies:

1. The County Court will adopt a road design, construction, and improvement ordinance.

2. All county road activities (except those concerning state highways) will comply with the Malheur County road design, construction, and improvement standards.

3. Plans for new transportation facilities will identify impacts on: (a) the transportation needs of all citizens, including the handicapped and the elderly; (b) local land use patterns; (c) the local economy; (d) environmental quality; (e) energy use and resources; (f) existing transportation systems; (g) fiscal resources; and (h) natural resources.

4. Transportation improvements and services that meet the needs of elderly and handicapped residents will be encouraged.

5. During design or improvement of transportation facilities, consideration will be given to pedestrian, bicycle, and equestrian traffic.

6. Conservation of energy will be a primary factor in the design and construction of transportation improvements.

7. Access to existing and potential aggregate resource sites will be maintained and protected through zoning regulations.

8. The extent and location of transportation facilities will be consistent with the comprehensive plan's policies for urban expansion.

9. Transportation facilities will minimize the division of existing economic farm units.

10. Access management on arterial highways will be coordinated with the Oregon State Department of Transportation.

11. Access control along collectors and arterials will be limited to the minimum required for reasonable use of the highway by the abutting property owner and, where possible, adjoining properties will share access.

12. The subdivision ordinance will provide access control.

13. Structures or storage within industrial areas having rail or air access will not preclude future rail or air access and/or spur extensions to other industrial and commercial sites in the vicinity.

14. The county will cooperate with cities and other governmental agencies to improve the transportation system.

15. The county will encourage the provision of adequate access to industrial zones in and around cities so that industrial zones can be accessed without going through downtown and residential areas.

16. County road improvements and maintenance needs will be identified and prioritized by the County Court, the Road Department, the Planning Department, and road districts on a regular basis.

17. County road improvements or maintenance projects that alleviate unsafe traffic conditions or improve safety will be given priority.

18. Any county road improvements or construction within an urban growth boundary will comply with the city's street improvement and construction standards.

19. The county will establish agreements with the cities that, whenever lands are annexed to a city, all county roads or segments thereof that are within or along the boundaries of the proposed annexation will be incorporated into the city's street system, thereby removing such roads from the county's road system.

20. Developers creating a demand for improvement of unimproved county or public use road rights-of-way will be responsible for those improvements. After the improvements have been made, the developer may petition the County Court to accept such roads, upon meeting county standards, into the county road maintenance program.

21. All realignments and new rights-of-way associated with county roads will be surveyed by the Road Department and recorded on the appropriate deeds, commissioners' journal, and/or other permanent county records.

22. County roads will be classified as principal arterials, minor arterials, major collectors, and local roads. Local roads will be further divided into primary local roads, secondary local roads, or special-use local roads.

23. Utility installations, cattle guards, and culverts within county road rights-of-way will comply with county standards, and the Road Department or appropriate road districts will be informed of installation dates and have control over the location. Permits must be acquired and approved by the County Roadmaster or appropriate road districts.

24. Any fence lines along county roads will be located on the right-of-way line between the county road and the adjoining property. The Road Department or appropriate district will be informed prior to installation and such installation will be at the landowner's expense.

25. Where state law permits, whenever a county road has been established and is not opened within two years from the date of the order establishing it or has not been used for vehicular traffic by the public for a period of 16 years, the road shall be reviewed by the County Court for vacation.

26. Any county road considered for vacation will be designated as a public use road unless it can be clearly shown that such right-of-way will never be desired for future public access.

27. All road maintenance agreements between the Road Department or road districts and other agencies, including but not limited to the cities, utility companies, the BLM, and the U.S. Forest Service, will be in writing and filed with the County Court. These agreements will be reviewed at the annual meeting of the Road Advisory Board.

28. The County Court will coordinate road improvement and maintenance activities between the Road Department, road districts, and local, state, and federal agencies.

29. The county will request the state to initiate a comprehensive road-signing program.

30. The County Court will appoint a Road Advisory Committee to review the county's transportation needs and to review the transportation element of the comprehensive plan every three years, or whenever a more urgent need exists.

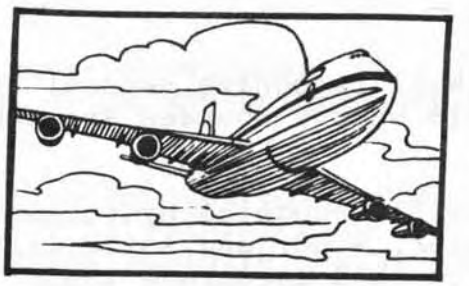
31. The Road Department will be responsible for bridge inspections in the county. (The Road Department may delegate this responsibility to agreeing road districts.)

32. The County Court will encourage the establishment of a commuter bus system between Vale, Nyssa and Ontario by allowing county employees to have flexible work hours so they will be able to ride the bus and by directing the Planning Department to apply for federal and state grants for the commuter bus system.

33. The county will encourage the protection and improvement of present airport facilities.

34. The county will adopt and implement an airport approach zone to ensure the safe operation of airports and the development of a compatible environment around airports.

35. The county will participate in and encourage the adoption of airport master plans.



GOAL 13: ENERGY

Goals:

1. To conserve energy in Malheur County.

2. To protect present and future energy sources.

3. To decrease the use of non-renewable energy resources.

4. To encourage development of renewable energy resources.

Policies:

1. The county will recognize natural gas and petroleum as non-renewable energy sources and work toward decreasing their use.

2. The county will recognize hydroelectric, geothermal, alcohol, solar, wind, and solid waste as potential renewable energy sources and encourage their use.

3. Whenever possible, the county will use renewable energy resources in new county-owned buildings; all architects retained by the county will be directed by the County Court to consider renewable energy sources in the design of new county buildings.

4. The county will work with and suppport the U.S. Bureau of Reclamation in developing the proposed hydroelectric project at the Owyhee dam site.

5. The county will work with educators in their efforts to teach residents about conservation and potential renewable energy sources.

6. The county will make available to county residents and industry all information about the Known Geothermal Resource Areas (KGRAs) and Potential Geothermal Resource Areas (PGRAs) in the county.

7. The county will adopt an ordinance protecting access to the sun for solar energy.

8. The county will research the possibility of wind as a source of renewable energy for residents of the county.

9. The County Court will direct the Planning Department to apply for research funds and/or interns from state colleges and universities to research wind energy.

10. The county will consider an incinerator/recycling program as a method available for solid waste management and a renewable energy source.

11. The county will encourage weatherization programs for new as well as existing buildings.

12. The county will direct the Planning Department to work with OSU Extension Service specialists and educators to inform the public about weatherization and other energy conservation methods, as well as development of potential energy sources.

13. The County Court will evaluate the weatherization needs of all county buildings.

14. The county will ecourage development of a commuter bus system between Vale, Nyssa and Ontario and seek funding for its development.

15. The zoning ordinance will encourage residential development in rural service centers, within urban growth boundaries, or in clusters or groups to minimize energy consumption.

16. The zoning ordinance will encourage industry to develop along existing highway, rail, and air transportation routes.

17. The county will encourage owners of existing structures to insulate and to meet standards designated in the Uniform Building Code.

18. The county will appoint a citizens advisory committee on energy to review the energy element of the comprehensive plan every three years, or whenever a more urgent need exists.

19. The County Court will direct the maintenance department to gradually convert county vehicles to alcohol fuels when they are available and cost-effective.

20. The County Court will appoint a task force to review the possibility of an incinerator/recycling program for solid waste disposal.

21. The County Court will consider designating an energy officer to coordinate energy conservation and development projects.

GOAL 14: URBANIZATION

Goal: To provide for an orderly and efficient transition from rural to urban land use.

Policies:

1. The county will work with the cities of Ontario, Nyssa and Vale in establishing and amending urban growth boundaries and joint management agreements.

2. The county will coordinate all land use decisions within the urban growth boundaries.

3. The County Court will continue to hold joint city/county meetings to ensure coordination of planning efforts.

4. The county will establish and administer zones for each of the rural service centers, taking into account the desires of the citizens living in and around these centers.

5. The zoning ordinance will create rural residential zones and provide standards for their development.

6. The zoning ordinance will include provisions for the existing commercial, industrial, and residential uses in the rural areas of the county.

Section 4

Land Use Element

LAND USE ELEMENT

Purpose

The land use element is the most important part of this comprehensive plan. The land use element includes the plan maps, which are contained in a separate packet. It also describes the relationship of the plan maps to the zoning maps, which are included as part of the Malheur County Zoning Ordinance of 1982. In addition, this land use element describes the land use categories designated on the plan maps and the corresponding zones designated on the zoning maps. Finally, this element describes the decision-making process that occurred as the county developed the designated uses for specific lands.

County Jurisdiction

The county is responsible for the planning, zoning and administration of all lands that are outside corporate city limits. By cooperative agreements with the cities of Ontario, Nyssa and Vale, unincorporated lands within established urban growth boundaries are under the joint management of the county and the city involved. Similarly, most public lands in the unincorporated areas of Malheur County are managed by the Bureau of Land Management in cooperation with the county. Regardless of ownership, however, all unincorporated lands outside urban growth boundaries are under the planning and zoning jurisdiction of the county.

Zoning and Implementation

In general, zoning is the chief tool or mechanism available to implement a comprehensive plan. To be rational and effective, zoning must be based on a well-thought-out plan for the community's growth. In a handbook on community planning, Marv Gloege described the relationship of planning and zoning as that of the general to the specific:

> It is essential to recognize the distinction between planning and zoning, and between the comprehensive plan map and the zoning map. While the plan consists of general maps, goals, and policy statements, the zoning ordinance is a precise legal document with detailed requirements and definitive boundaries between the zones. While the plan is geared to the future, the zoning ordinance must take the reality of the present into consideration. It might be considered as a transition between the realities of the present and the goals of the future. (Marvin E. Gloege, "Plan Implementation: Zoning," Community Planning Handbook, Bureau of Municipal Research and Service, University of Oregon, 1969.)

In other words, the plan map indicates the general goals and directions a community desires for future growth. The zoning map indicates present realities and serves as a specific means of moving towards the plan goals.

Based on this approach, Malheur County has adopted a set of plan maps as a statement of the county's goals and desires for future growth. These general goals are implemented by the Zoning Ordinance of 1982 and the zoning maps included therein.

Land Use Categories

Table 42 shows the land use categories designated on the plan maps and their corresponding zoning designations. Each land use category is described below.

Farm Use: Areas designated on the plan maps for Farm Use (F) are reserved for uses set forth in ORS 215.203. They are areas that are irrigated, or areas that are generally well-suited to farming and in close proximity to irrigated land. These areas are zoned for Exclusive Farm Use (EFU).

Farm/Forest Use: Areas designated on the plan maps for Farm/Forest Use (FF) are reserved for both agricultural and forestry uses. This category applies to all commercial timber lands, or lands capable of growing 20 or more cubic feet of wood per acre. These lands are zoned for Exclusive Farm/Forest Use (EFFU).

Range Use: Areas designated on the plan maps for Range Use (R) are reserved for open space and range uses such as grazing livestock. These areas are generally unirrigated and are zoned for Exclusive Range Use (ERU).

Rural Residential Use: Areas designated on the plan maps for Rural Residential Use (RR) are areas reserved for existing or future low-density residential development. Some of these lands are already built upon and committed to rural residential use; these committed lands are zoned R-1. However, most of the areas designated RR on the plan maps are pasturelands not yet committed to rural residential use; these lands are zoned for Exclusive Farm Use (EFU). It is intended that as the need arises for additional land zoned R-1, developers will go through the zone change procedure set out in the zoning ordinance. If all criteria are met, a parcel zoned EFU but designated RR on the plan maps may be rezoned R-1.

Rural Recreation Use: Areas designated on the plan maps for Rural Recreation (REC) are areas intended for resort-type development that is compatible with adjoining agricultural uses. These areas are zoned for Rural Recreation (R-2).

Table 44

LAND USE CATEGORIES

Plan Maps	Codes		Zoning Maps
Farm Use	F	EFU	Exclusive Farm Use
Farm/Forest Use	FF	EFFU	Exclusive Farm/Forest Use
Range Use	R	ERU	Exclusive Range Use
Rural Residential	RR	R-1	Rural Residential
Rural Recreation	REC	R-2	Rural Recreation
Rural Service Center	RSC	RSC	Rural Service Center
Urban	U	UGA	Urban Growth Area
Commercial	C	C-1	Commercial
Industrial	I	M-1	Light Industrial
		M-2	Heavy Industrial
Park Use	P	PM	Park Management
Geothermal Development	GEO	--	(No corresponding zone)
(No corresponding plan designation)	--	FP	Flood Plain Management
	--	AA	Airport Approach

Rural Service Center: Sixteen small communities in Malheur County are designated on the plan maps and zoned as Rural Service Centers (RSC). Each community established its own boundaries and development standards, which are set out in the zoning ordinance. The RSC designation permits expanded commercial uses in the more remote areas of the county, allowing residents to have access to basic services without traveling to larger communities.

Urban Use: All lands within established urban growth boundaries are designated Urban (U) on the plan maps. Unincorporated lands inside the urban growth boundaries are zoned Urban Growth Area (UGA) and are under the joint management of the county and the city.

Commercial Use: Areas that are outside an established urban growth boundary but substantially committed to commercial activity are designated Commercial (C) on the plan maps and zoned C-1. This category does not apply to commercial centers in the rural areas of the county, which are designated as Rural Service Centers (RSC).

Industrial Use: Areas designated on the plan maps for industrial use (I) are reserved for industrial uses outside established urban growth boundaries. These areas are zoned for either Light Industrial Use (M-1) or Heavy Industrial Use (M-2).

Park Use: Existing or future publicly owned recreation areas and park facilities are designated Park (P) on the plan maps. Existing recreation areas are zoned Park Management (PM) to allow maintenance of park facilities without conditional use permits.

Geothermal Development: This is a special plan designation used to indicate areas that are reserved for geothermal development. The GEO designation is like an overlay zone, indicating special land use goals in addition to those of the underlying or primary plan designation. There is no corresponding zoning designation.

Flood Plain Management: This is an overlay zone applied to lands within the 100-year flood plain. The FP zone is intended to prevent the destruction of life and property by flood damage. There is no corresponding plan designation.

Airport Approach: This is an overlay zone applied to the approach zones of airports in the county. The AA zone is intended to promote the safe operation of aircraft and the development of a compatible environment around airports. There is no corresponding plan designation.

The Decision-making Process

1. Urban Growth Boundaries

The first step in the process of developing the plan maps was to establish urban growth boundaries (UGBs) for the three major cities in Malheur County--Ontario, Nyssa and Vale. The UGBs were originally established in 1978 when the county signed joint management agreements with each of the three cities. The county later adopted the UGBs, findings of fact, and implementing measures by ordinance. The land use designations for unincorporated lands within the UGBs and the processes by which they were selected are described in the comprehensive plans for the cities of Ontario, Nyssa and Vale.

2. Rural Service Centers

The second step involved the establishment of rural service center boundaries and development standards. The citizens advisory committee on urbanization held public meetings in each of the 16 small communities designated as rural service centers. Community residents determined their RSC boundaries and the permitted and conditional uses to be allowed within the zone.

3. Resource Lands

The third step in the decision-making process was to inventory all resource lands (farmland, rangeland and forestland) and to determine appropriate land use provisions for these lands.

The county's original zoning ordinance, adopted in 1973, established two farm zones: F-1 with a 40-acre minimum lot size and F-2 with a 5-acre minimum lot size. The county determined that the F-2 zone did not adequately protect farmland and should not be included in the new zoning ordinance. Most lands originally zoned F-2 have been rezoned EFU.

Similarly, the 40-acre minimum lot size was considered inappropriate for the county's rangelands and forestlands, and new zones with 160-acre minimum lot sizes were developed for these areas.

The county considered the creation of a buffer zone between exclusive farm use and rural residential zones, but the concept was ultimately discarded as unworkable. To minimize conflicts between farming activities and adjoining rural residential zones, a 100-foot setback from the boundary of an EFU zone was established. As a safety precaution, setbacks from irrigation canals in rural residential zones were also established.

Although public lands were not zoned under the 1973 ordinance, the county decided to include public lands under this comprehensive plan and zoning ordinance.

4. Rural Residential Areas

The selection of rural residential areas was the most difficult and controversial aspect of this process. First, the citizens advisory committee on agriculture established the following criteria for the suitability of rural residential areas:

A. Soil capability. Rural residential areas should not include areas of high soil capability (SCS Classes I-III) that can be used for rowcrop production.

B. Proximity to intensive farming operations. To minimize potential conflicts with farming activities, rural residential areas should not be adjacent or in close proximity to intensive farming operations.

C. Proximity to established urban centers. To promote the conservation of energy (Goal 13) and the most efficient use of public facilities and services (Goal 11), rural residential areas should be close to established urban centers.

D. Existing land use patterns. The location of rural residential areas should complement existing development patterns. Areas that are already built upon and committed to rural residential development should be encouraged to fill in, or develop at maximum densities.

E. Availability of rural services. Fire and police protection, school bus service, and road maintenance should be readily available to rural residential areas.

Based on these criteria, the Agriculture Committee selected four major areas for rural residential development. The first three areas are adjacent to or near the urban centers of Ontario, Nyssa and Vale, respectively; the fourth area is near Cairo Junction, which is centrally located among the three main cities. A good portion of these areas are already built and committed to rural residential development. Moreover, these areas include less-productive pasturelands that are hilly and rocky. The Agriculture Committee believed that additional rural residential development in these areas would have minimal impact on adjacent or nearby farming activities. For a more specific description of the rural residential areas designated on the plan maps and zoning maps, see the Exceptions Statement, which is Section 6 of this plan.

In July, 1980, the Agriculture Committee held a series of public hearings on the draft agricultural lands element of this plan, the draft zoning provisions for resource lands, and the proposed rural residential areas. Many residents testified at

the hearings or submitted written requests regarding the selection of the rural residential areas. Most of these residents requested that the boundaries of the rural residential areas be expanded to take in their properties.

Each request was individually considered by the County Court, which ultimately decided that the proposed rural residential areas were too large and that, rather than expanding the boundaries, they should make the areas smaller. As a result, requests that specific properties be excluded from the proposed rural residential areas were granted; most of the requests to be included in the rural residential areas were denied. In addition, the boundaries of all the proposed rural residential areas were tightened up.

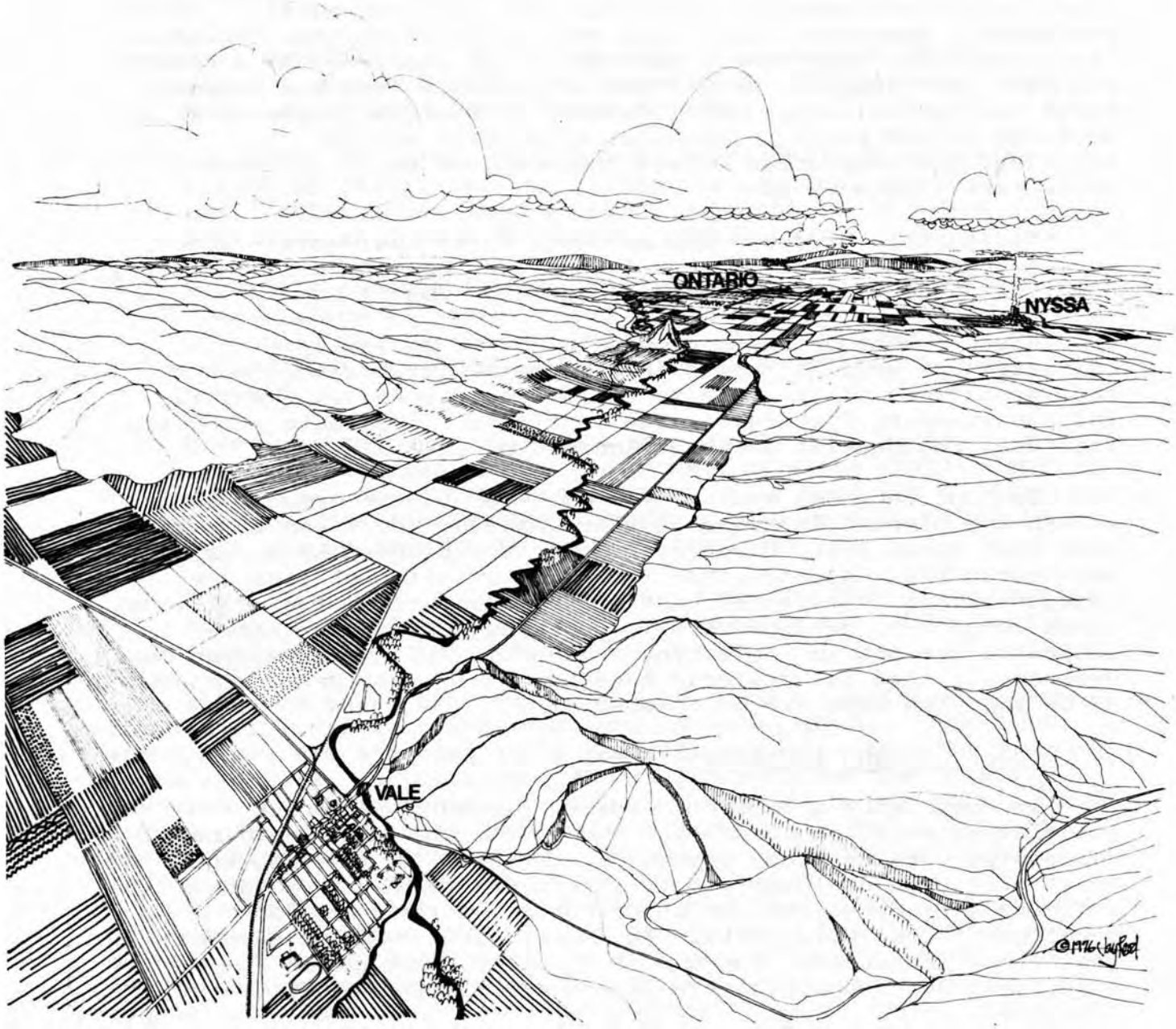
During this process, the proposed rural residential areas were toured extensively by the Agriculture Committee, the Housing Committee, the Planning Commission and the County Court.

Based on the original proposals of the Agriculture Committee, as well as public input received at hearings and the recommendations of the Housing Committee, the Review Committee, and the Planning Commission, the County Court ultimately adopted the rural residential areas designated on the plan maps.

To implement the community's goal for future growth, lands within the planned RR areas that are already built and committed have been zoned R-1. However, most of the planned RR areas have been zoned EFU. As explained in the description of land use categories, it is expected that as the need arises for additional lands zoned R-1, developers will go through the zone change procedure set out in the zoning ordinance. If the developer can demonstrate that all criteria have been met, a parcel designated RR on the plan maps may be rezoned R-1.

5. Commercial and Industrial Areas

In compliance with the statewide planning goals and guidelines, very few commercial and industrial areas have been designated outside urban growth boundaries. In general, these areas have been designated only where commercial or industrial activity already exists, or where lands are reserved for development that will utilize site-specific resources such as geothermal resources. For a more detailed description of commercial and industrial areas, see the Exceptions Statement of this plan.


ONTARIO
NYSSA
VALE

Section 5

Administrative Procedures

ADMINISTRATIVE PROCEDURES

Plan Update and Review

After LCDC has acknowledged this comprehensive plan, it will be reviewed by the Planning Commission and citizens advisory committees at least once every three years to ensure that inventory information, policies, and land use designations are updated. The Planning Department shall aid this process by continually striving to assemble current information on inventory topics. Sources for such information shall include private individuals and organizations; local, state and federal agencies; legal developments resulting from land use litigation; and any other available sources. To guide the process of amending this plan to incorporate new inventory information and to fit the changing needs of the community, the following administrative procedures have been established.

Amendment Procedure

An amendment to the text of this plan or to the plan maps shall be accomplished through the following procedure:

1. The County Court, Planning Commission, citizens advisory committees, individual property owners, or public agencies may initiate the proposed amendment.

2. The appropriate citizens advisory committees, public agencies, and the general public shall be encouraged to participate in the amendment process.

3. At its earliest practicable meeting after the amendment is proposed, the Planning Commission shall hold a public hearing to receive pertinent evidence and testimony. After the hearing, the Planning Commission shall recommend to the County Court approval, disapproval, or modified approval of the proposed amendment.

4. After receiving the recommendation of the Planning Commission, the County Court shall conduct a public hearing to review the Planning Commission's recommendation and receive any new, pertinent evidence and testimony.

5. Separate notices of the Planning Commission and County Court hearings shall be published in a newspaper of general circulation in the county at least 10 days prior to the hearing.

6. If the proposed amendment consists of an application of plan policies to a particular piece of property, individual notices shall be mailed to the recorded owners of property within 250 feet of the property subject to the proposed change. Failure of the property owner to receive the notice shall not invalidate the amendment.

7. Pursuant to ORS 197.605 through 197.635 and OAR 660-18-000, a proposal to amend the text of this plan or the plan maps shall be submitted to the Director of the Oregon Department of Land Conservation and Development at least 45 days before the final County Court hearing on adoption. The proposal submitted shall include four copies of the text and any supplemental information the county believes is necessary to inform the Director of the effect of this proposal, and shall indicate the date of the final hearing on adoption by the County Court.

8. In considering the proposed amendment, the Planning Commission and the County Court shall seek to determine the following:

   A. That the proposed change will be in conformance with the statewide planning goals.

   B. That there is a demonstrated public need for the proposed change.

9. In all proposed amendment actions, the County Court shall make the final decision to adopt or deny the proposed change.

10. The County Court's final decision shall be supported by findings of fact that document the compelling reasons for making the decision.

11. Notice and record of the County Court's final decision shall be made in the following manner:

   A. A copy of the final court order on the action shall be sent within 5 working days to any individuals or public agencies who participated in the proceedings leading to the adoption and whomever requested notice in writing. The final order shall be filed in the office of the Malheur County Clerk.

   B. Amendments to the plan maps shall be made upon certified copies of the Malheur County Comprehensive Plan Maps, dated with the date of adoption by the County Court and signed by the members of the County Court, and such maps shall be filed in the office of the Malheur County Clerk.

   C. Additional copies of final orders, amended plan maps, and a record of all minutes of hearings pertaining to the adoption of such amendments shall be maintained by the Planning Department and made available to the public.

   D. Pursuant to OAR 660-18-000, four copies of the amendment and findings to support its adoption shall be submitted to the Director of the Oregon Department of Land Conservation and Development within 5 working days after the final decision of the County Court.

12. Pursuant to the provisions of OAR 660-18-000, objections to the county's adoption of the amendment may be submitted to the Director of the Oregon Department of Land Conservation and Development and the County Court not later than 30 days after the date of the county's final decision.

Section 6

Exceptions Statement

EXCEPTIONS STATEMENT

What is an Exception?

Statewide Planning Goal 2 (Land Use Planning) requires that whenever "it is not possible to apply" the provisions of a goal to specific lands, the county must go through a special process for each proposed exception to a goal. As explained in LCDC's administrative rule on the Goal 2 exceptions process, the specific requirements of a statewide planning goal may conflict with the community's site-specific land use needs. The exceptions process provides the flexibility to deal with these conflicts.

In Malheur County, the provisions of Goal 3 (Agricultural Lands) sometimes conflict with the county's land use needs. This section of the comprehensive plan presents a statement on all areas for which the county has undergone the exceptions process outlined in Goal 2 and clarified in OAR 660-04-000. This statement documents how the requirements of Goal 3 have been balanced against local land use needs and justifies why certain land areas should be considered exceptions to the requirements of the goal.

Types of Exceptions

Two types of exceptions may be taken to Goal 3. The first type is based on the findings that the agricultural land is already built upon or irrevocably committed to other uses not allowed by Goal 3. As stated in OAR 660-04-000, a conclusion that land is built upon or committed to nonresource use must be based on findings, supported by compelling reasons and facts, that address one or more of the following:

1. Adjacent uses;
2. Public facilities and services (water and sewer lines, etc.);
3. Parcel size and ownership patterns;
4. Neighborhood and regional characteristics;
5. Natural boundaries; and
6. Other relevant factors.

The second type of exception is based on findings that there is a need to use the agricultural land for uses not allowed by Goal 3. Findings for this type of exception must address the four factors outlined in Goal 2:

1. Why these other uses should be provided for;
2. What alternative locations within the area could be used for the proposed uses;
3. What are the long-term environmental, economic, social and energy consequences to the locality, the region or the state from not applying the goal or permitting the alternative use; and
4. Are the proposed uses compatible with other adjacent uses?

Table 45

APPROXIMATE NUMBER OF ACRES PLANNED AS EXCEPTIONS

	Built and Committed	Needed	Total
ONTARIO AREA			
Rural Residential	990	3,210	4,200
Commercial	140	--	140
Industrial	40	--	40
NYSSA AREA			
Rural Residential	226	1,932	2,158
Commercial	--	--	--
Industrial	378	--	378
VALE AREA			
Rural Residential	1,043	2,029	3,072
Commercial	28	--	28
Industrial	--	559	559
CAIRO JUNCTION AREA			
Rural Residential	--	518	518
BULLY CREEK AREA			
Rural Recreation	--	217	217
GRAND TOTALS	2,845	8,465	11,310

Both types of exceptions ("committed" and "needs") must meet the Goal 2 standard that "it is not possible to apply the appropriate goal to specific properties or situations."

Designated Exceptions

Four land use categories in Malheur County require exceptions to Goal 3: rural residential, commercial, industrial, and rural recreation. Table 45 shows the number of acres designated on the plan maps in each category.

The plan maps designate a total of 11,310 acres of exception land, or less than .2% of the entire county. Of that total, 2,845 acres are already built upon and irrevocably committed to nonresource land uses; another 8,465 acres are needed for uses not allowed by Goal 3.

A detailed discussion of each area designated as an exception to Goal 3 and the findings to support these designations are presented below.

Rural Residential Areas

General Description. Four main rural residential areas are designated on the plan maps. Three of these areas are adjacent to or near the urban growth boundaries of Ontario, Nyssa and Vale, respectively. The fourth area is near Cairo Junction, which is a rural service center centrally located among the three cities.

The county has designated a total of 9,948 acres of rural residential lands on its plan maps. Of that total, only 2,259 acres have been zoned Rural Residential (R-1). The remaining 7,689 acres have been zoned Exclusive Farm Use (EFU). As explained in the land use element of this plan, the 2,259 acres zoned R-1 are already built and committed to rural residential uses. The 7,689 acres zoned EFU but designated rural residential (RR) on the plan maps may be considered as future rural residential areas, or areas that will be rezoned R-1 only as the need arises.

Since these areas are composed mainly of Class IV and VI soils, the county must take an exception to Goal 3, which requires the preservation of all Class I through Class VI soils for agricultural use.

Findings of Fact for Built and Committed Lands. The county has planned and zoned 2,259 acres near Ontario, Nyssa and Vale for rural residential uses. The decision to zone these lands R-1 was based on the conclusion that they are already built upon and irrevocably committed to nonresource use. The county's conclusion is supported by the following findings of fact:

1. Parcel size and ownership patterns.

Site-by-site analysis of these areas shows that they are divided into small parcels and ownerships of 10 acres or less in almost every case.

2. Neighborhood and regional characteristics.

These areas or neighborhoods are characterized by rural residential development and scattered farming activities, such as pasturing horses, rather than intensive farming operations.

3. Natural boundaries.

Areas zoned for rural residential use are often set apart by natural boundaries. For example, some of the R-1 zones north of Ontario follow Snowmoody Ridge, which overlooks the Snake River Valley. Other areas, such as the R-1 zone west of Vale, follow a man-made boundary (Graham Blvd.).

4. Other relevant factors.

Most of these areas were zoned R-1 under the county's original zoning ordinance of 1973. As a result, these areas already have been developed for low-density residential uses and are no longer available for agricultural uses.

Findings of Fact for Needed Lands. In addition to the built and committed lands zoned R-1, the county has designated 7,689 acres for future residential use. Although the county finds no present need for these rural residential lands, it foresees a future need for additional non-farm development and has planned accordingly.

As explained in the land use element, the future rural residential areas were originally selected by the Agriculture Committee, then reviewed by the Housing Committee and the Review Committee, later modified by the Planning Commission, and officially adopted by the County Court.

In general, the selection of future rural residential areas was based on the policy of including lands with the least agricultural productivity in locations that complement existing development, make the most efficient use of required facilities, and present the least conflict with adjacent agricultural activities (see Policy 8 under Goal 10 in the Goals and Policies section of this plan).

More specifically, the county's decision to take an exception to Goal 3 for these lands is supported by the following findings of fact:

1. Why should these other uses be provided for?

The county has determined that there will be a public need for rural residential housing in the future. As the county's population grows, the built and committed areas will

fill in and eventually reach maximum density (approximately one dwelling per acre). Future rural residential development will be most appropriately located near urban areas on least productive soils. Providing enough land to meet the future need for rural non-farm housing is necessary in order to relieve development pressures on the county's most productive agricultural lands.

2. What alternative locations within the area could be used for the proposed uses?

Rural residential housing is already scattered throughout the northeastern part of Malheur County. Although almost any location in that part of the county could be used for rural residential development, the areas designated on the plan maps were considered to be the best locations based on soil productivity, existing rural residential development, availability of services, proximity to urban centers, and adjacent agricultural activities.

3. What are the long-term environmental, economic, social and energy consequences to the locality, the region or the state from not applying the goal or permitting the alternative use?

Although most of the lands designated for future rural residential development fall into the SCS Soil Classes IV and VI, and thus are considered agricultural lands for planning purposes, most of these lands are of limited agricultural value. The RR areas near Vale and Nyssa take in hilly, rocky lands primarily used for pasture rather than row crop production. Similarly, the RR area north of Ontario take in rocky ridges and alkali lands, relieving development pressures on the fertile farmlands to the south of the city. The RR area near Cairo Junction lies above the Owyhee Main Canal and takes in only unirrigated, unimproved, sagebrush lands. Taking these lands out of agricultural use will have minimal negative impact on the county's economy. Instead, permitting the future rural residential development of these less-productive lands will benefit the county by protecting areas with much greater agricultural productivity.

Furthermore, permitting the rural residential use of these areas will have long-term benefits to the county by promoting energy conservation, the efficient use of public facilities and services, and the accommodation of housing needs as they arise.

Finally, permitting the rural residential use of these areas will have the long-term consequence of helping the housing industry, which is a small but important element of Malheur County's economy. If home builders are allowed to develop rural non-farm housing on these lands of limited agricultural production, they will be able to provide a variety of housing types and locations in a range of housing prices.

By designating a small percentage of its less-productive agricultural lands for future rural residential development, the county has balanced the requirements of Goal 3 with its housing needs.

4. Are proposed uses compatible with other adjacent uses?

When the Agriculture Committee originally selected the locations of future rural residential areas, one of their primary considerations was the possibility that development of non-farm housing will interfere with adjacent agricultural activities. As a result, each of the farm areas is located so that potential negative impacts on adjacent uses will be minimized. For example, the Vale RR area is located on the north side of Graham Blvd., which is a major transportation route that will serve as a barrier to separate rural residential uses from the intensive farming operations on the south side of the road. In the same way, future development in the Cairo Junction RR area will be separated from adjacent uses by the Owyhee Main Canal. Rural non-farm housing will certainly be compatible with other adjacent uses such as grazing and existing rural residential development.

Commercial Areas

General Description. The county has designated a total of 168 acres for commercial use outside established urban growth boundaries. Of this total, 28 acres lie immediately east of Vale, adjacent to the UGB. The remaining 140 acres are adjacent to the Ontario UGB. In each case, these lands are already built upon and committed to commercial activity.

Findings of Fact. The county's conclusion that these lands are already built upon and committed to commercial activity is supported by the following findings of fact:

1. Neighborhood and regional characteristics.

The 28 acres designated for commercial use near Vale are in an area characterized by existing commercial activity, such as a greenhouse, florist shop and meat packing business, as well as a few older residences. Similarly, the commercial areas adjacent to the Ontario UGB are characterized primarily by existing commercial activities including the Hollingsworths' farm equipment sales office, an irrigation pipe business, and a power station.

2. Adjacent uses.

The areas designated for commercial use near Ontario are adjacent to areas within the UGB that are designated for commercial, residential, airport, or light industrial uses. The commercial area east of Vale is adjacent to areas designated for industrial uses associated with geothermal development. In each case, additional commercial development will be compatible with the existing and planned adjacent uses.

3. Natural boundaries.

The 28-acre area east of Vale is bounded by the Malheur River to the west, north and east, and the highway to the south. The area is naturally isolated so that commercial activities will not interfere with adjacent uses. All of the commercial areas near Ontario are bounded on at least one side by a major highway or arterial.

4. Public facilities and services.

None of these areas are currently served by city water and sewer lines. Services could be extended to the areas near Ontario if the Ontario UGB were amended to include these areas and they were then annexed to the city. The commercial area east of Vale is across the Malheur River, making the extension of city water and sewer services more difficult. This difficulty in providing city services is the main reason the area was not originally included within the Vale UGB, which is confined to the west side of the river.

5. Other relevant factors.

Each of the areas designated for commercial use has excellent access to a major transportation route. These areas were zoned for commercial use under the county's 1973 zoning ordinance. No resource lands will be adversely affected by the further development of commercial uses in these areas.

Industrial Areas

General Description. The county has designated a total of 977 acres for industrial use outside established urban growth boundaries. Of this total, 40 acres are north of Ontario; 378 acres are north of Nyssa; 101 acres are northeast of Vale; and another 458 acres are southeast of Vale. All of the areas designated for industrial use are adjacent to established urban growth boundaries. The industrial areas near Ontario and Nyssa are already built upon and irrevocably committed to industrial use. The industrial areas near Vale are needed for industrial uses associated with the development of geothermal resources.

Findings of Fact for Built and Committed Lands. The county has planned and zoned 418 acres near Ontario and Nyssa for industrial use. The decision to zone these lands M-1 or M-2 was based on the conclusion that they are already built upon and irrevocably committed to nonresource use. The county's conclusion is supported by the following findings of fact:

1. Neighborhood and regional characteristics.

The 40-acre area designated for industrial use north of Ontario is characterized by existing industrial activity, such as warehousing and light manufacturing. The area includes a 16-acre platted commercial subdivision called Commercial Acres, as well as the old city dumpsite used during the '40s and '50s.

Similarly, the 378 acres designated for industrial use north of Nyssa are in areas characterized by existing industrial use such as a large gravel pit, a cement processing plant, an automobile wrecking yard, and warehousing.

2. Adjacent uses.

The industrial area near Ontario is adjacent to lands within the UGB designated for light industrial use. In addition, the area is near the city's sewage lagoons. The industrial areas north of Nyssa are adjacent to farm uses and some existing rural residential housing. For the most part, additional industrial development will be compatible with existing and planned adjacent uses. Potential conflicts between industrial and rural residential uses near Nyssa will be minimized by barriers created by streets separating the two zones.

3. Natural boundaries.

The 40-acre area north of Ontario is bounded by the Malheur River to the northwest and county roads to the north and east. The larger of the two industrial areas north of Nyssa is bounded on the east by the Union Pacific Railroad and county roads on the north, south and west sides. Similarly, the smaller industrial area (58 acres) is bounded on the south and west sides by county roads.

4. Public facilities and services.

None of these areas is currently serviced by city water and sewer lines. However, these services could be extended if the areas were included within the urban growth boundaries and annexed to the cities.

5. Other relevant factors.

These areas were zoned for light or heavy industrial use under the county's 1973 zoning ordinance. No resource lands will be adversely affected by the further development of industrial uses in these areas.

Findings of Fact for Needed Industrial Lands. The county has planned and zoned 559 acres near Vale for industrial use. Approximately 101 acres lie northeast of Vale; another 458 acres are southeast of Vale. Both areas are adjacent to the Vale UGB. The county's decision to designate these lands for industrial use was based on the conclusion that they were needed for development associated with geothermal resources. The county's decision to take an exception to Goal 3 is supported by the following findings of fact:

1. Why should these other uses be provided for?

Vale has long been identified as one of the state's known geothermal resource areas (KGRA). Geothermal energy has been used in the Vale area for centuries. Artifacts found throughout the area indicate that Indians used the hot springs for bathing and cooking. Similarly, early pioneers on the Old Oregon Trail stopped at Vale Hot Springs to bathe and rest. In more recent times, geothermal energy in the Vale area has been used for a natatorium, greenhouses, agricultural processing, and the production of alcohol fuels.

In the past few years, a considerable amount of resource assessment work has taken place in and around Vale. Some of the results of this research have been published in a report for the U.S. Department of Energy called Geothermal Energy in the Northwest: Site-Specific Analysis, GeoHeat Center, Oregon Institute of Technology, April, 1982. In that report, GeoHeat Center staff concluded that Vale has excellent potential for geothermal development. As stated in the introduction to the Vale site, "All of the basic ingredients necessary to resource development and use are present: an adequate geothermal resource; a population concentration; and strong local support."

The community is particularly interested in developing a district heating system that would serve downtown Vale and heat the city's public buildings, including the county courthouse, city hall, the schools and community swimming pool. The community also views geothermal development as a means of attracting industry to the Vale area , thereby improving the local economy. If the community succeeds in attracting at least one major industrial user that provides a constant demand for geothermal energy, development of the district heating system will be facilitated.

In order to promote energy conservation, geothermal development and economic development, the county has determined that there is a need to plan and zone these lands for industrial uses associated with geothermal development.

2. What alternative locations within the area could be used for the proposed uses?

Direct-use applications of geothermal resources are characteristically site-specific. In other words, the nature of the resource ususally requires that industrial development occur where the resource is found. Consequently, potential locations for industrial uses associated with Vale's geothermal resources are limited by the location of the resource.

Virtually all geothermal exploration in the Vale area has taken place on the east side of the Malheur River within the areas designated by the GEO overlay. These are unincorporated lands adjacent to the Vale UGB. (When the UGB was established, it was confined to the west side of the river because of difficulties in extending city water and sewer services.)

Potential industrial sites in the Vale KGRA are further limited by the terrain, which is steep and rocky. Most lands within the designated industrial areas are sandwiched between the Malheur River and the Rhinehart Butte.

In view of the site-specific nature of geothermal development and the terrain of the resource area, the county has determined that these are the only buildable lands suitable for industrial uses associated with Vale's geothermal resources. There are no alternative locations.

3. What are the long-term environmental, economic, social and energy consequences to the locality, the region or the state of not applying the Goal or permitting the alternative use?

Although the lands designated for industrial use are composed mainly of Class VI Soils and are thus considered agricultural lands for planning purposes, they are of marginal agricultural value. The 101-acre parcel north of the Union Pacific Railroad is alkali ground and sagebrush, and the 458 acres southeast of Vale are dry and rocky. None of these lands are currently used for any type of agricultural activity, nor are they near any intensive farming operations. No long-term negative consequences will result from permitting the non-agricultural use of these lands.

Instead, the perservation of these lands for industrial uses associated with geothermal development will have long-term benefits for the local community and the state, including the conservation of energy, the development of alternate energy sources, and economic development.

4. Are the proposed uses compatible with adjacent uses?

The 101-acre parcel north of the Union Pacific Railroad is separated from the adjacent rural residential area (Shunn's trailer court) by a county road, which will minimize any conflicts that might occur. Other adjacent uses include farming activities to the north and east, and the city sewage lagoons to the south.

The 458 acres southeast of Vale along Lytle Blvd. are adjacent to Rhinehart Butte, which is currently used for limited grazing and geothermal exploration. The area is separated from farm uses to the west by Lytle Blvd. and Sand Hollow Road. Although there are a few rural non-farm dwellings on the west side of Lytle Blvd., the area is primarily used for open space and wildlife habitat (ground squirrels and jack rabbits).

As a result, the county has determined that the development of industrial uses in these areas will be compatible with adjacent uses.

Rural Recreation Area

The county has zoned approximately 217 acres near Bully Creek Reservoir for rural recreation use (R-2). As explained in the land use element of this plan, the zone is intended to provide opportunities for privately owned resort-type development and recreation facilities that will not interfere with nearby agricultural activities. Although the area designated for rural recreation is composed of virtue-like soils, and thus is considered agricultural land for planning purposes, the county determined that the need for rural recreation development justified an exception to the requirements of Goal 3. The county's conclusion is supported by the following findings of fact:

1. Why should these other uses be provided for?

   Bully Creek Reservoir is used primarily for the storage of irrigation water and recreation activities such as fishing, boating and picnicking. The area includes a park and camping facilities that comprise the only recreation area owned and operated by the county. Located near Vale, the reservoir and county park have become a popular recreation area for local residents.

   Other than campsites, no overnight accommodations are available at the reservoir. As a result, users are forced to drive to and from the area each day. To meet the recreation needs of local residents and to promote energy conservation, the county zoned this area for rural recreation use.

2. What alternative locations within the area could be used for the proposed uses?

   Bully Creek Reservoir and the county park constitute a unique recreation area. The only other area in the county with similar outdoor recreation opportunities is Owyhee Reservoir, which includes a state park and a privately owned resort. No alternative locations are available for rural recreation use.

3. What are the long-term environmental, economic, social and energy consequences to the locality, the region or the state of not applying the Goal or permitting the alternative use?

   Although the property is considered agricultural land for planning purposes, the soil is virtue-like with gravelly hardpan at 16 inches. With no water rights, the land is definitely not capable of producing crops. Because the land was overgrazed at one time, the range condition is poor with limited carrying capacity. Permitting the rural recreation use of this area will have no adverse effect on Malheur County's agricultural industry.

The area does not serve as habitat for any known endangered species, so that rural recreation development will have no long-term adverse consequences for the county's wildlife.

By providing improved access to unique outdoor recreation opportunities in an area close to the county's major population centers, the proposed uses will result in long-term benefits to residents of eastern Oregon.

4. Are the proposed uses compatible with other adjacent uses?

Existing and proposed adjacent uses consist of irrigation water storage and recreation to the southwest of the 217 parcel; other adjacent uses are range and open space. The county has determined that the proposed rural recreation use will be compatible with these other adjacent uses.