

*Morrow County, Oregon*

**RESOURCE  
ATLAS**

- NATURAL
- HUMAN
- ECONOMIC
- PUBLIC

APRIL 1973

EXTENSION *Community Development* PROJECT

OREGON STATE UNIVERSITY

Morrow County, Oregon

RESOURCE

ATLAS

NATURAL

HUMAN

ECONOMIC

PUBLIC

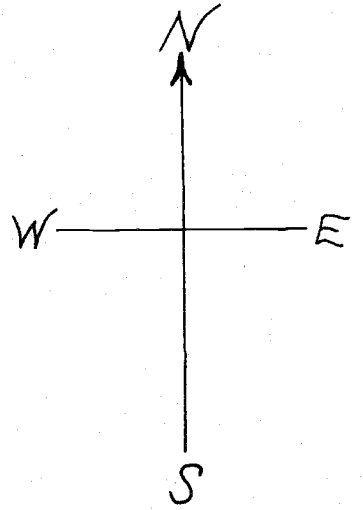
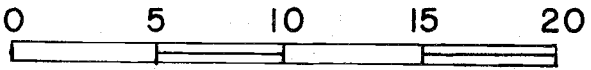
April 1973

Oregon State University Extension Service

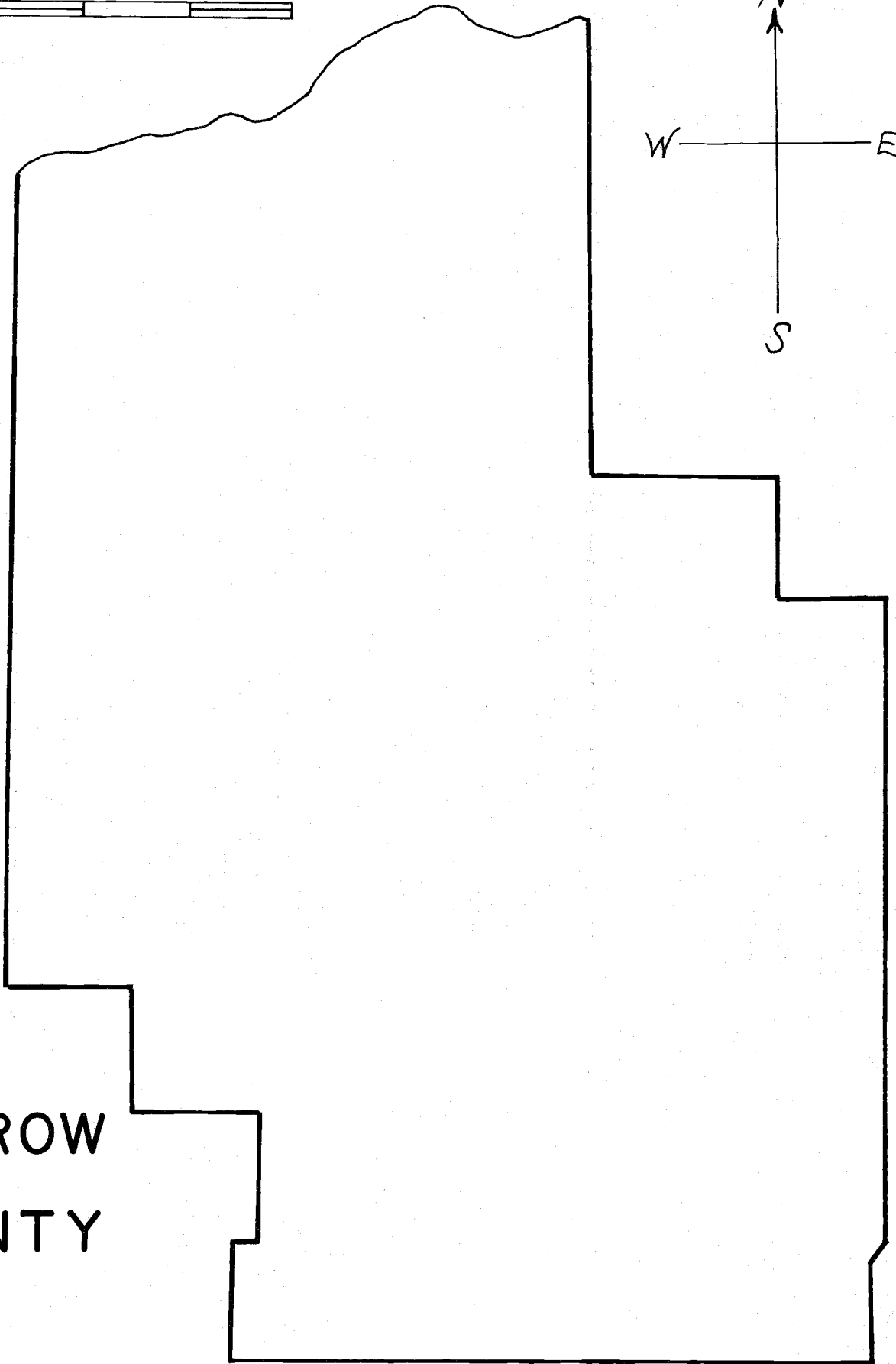
Prepared by Marilyn Ruttle, Research Assistant,  
Under the supervision of: Robert O. Coppedge,  
Extension Economist, and Russell C. Youmans,  
Extension Resource Economist,  
Department of Agricultural Economics

For sale by the Extension Business Office, Extension Hall 118,  
Oregon State University, Corvallis, Oregon 97331. \$2.50 per copy.

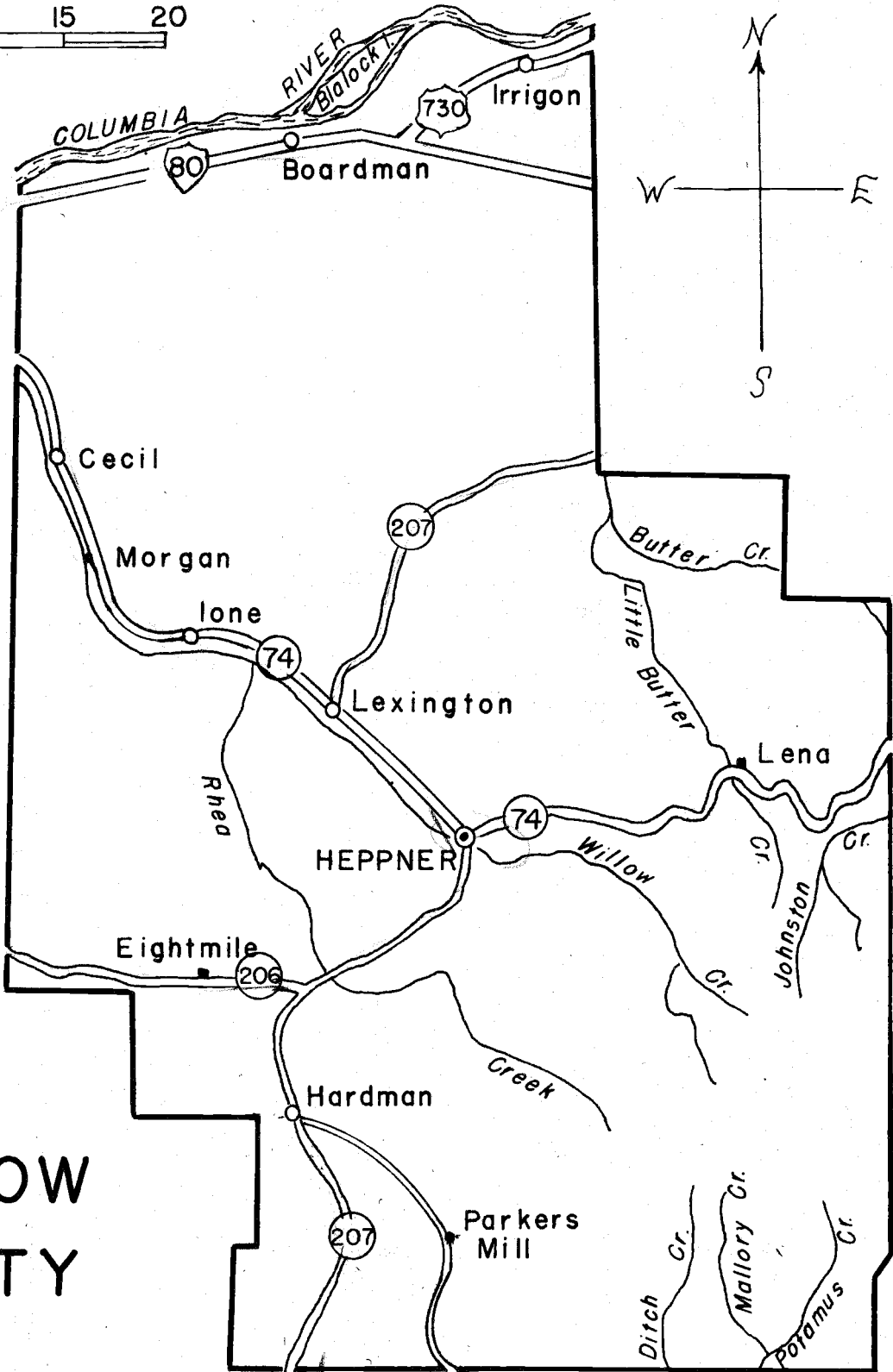
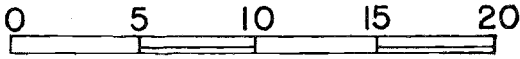
MILES



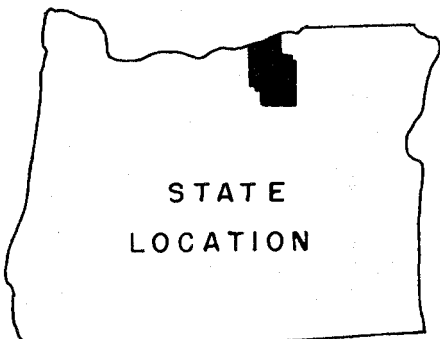
MORROW  
COUNTY



MILES



# MORROW COUNTY



STATE  
LOCATION

## LEGEND

- Primary Highways
- Secondary Highways
- County Roads
- Interstate Highways

## Contents

	<u>Page</u>
General Description . . . . .	1
Physical Aspects. . . . .	1
Climate . . . . .	1
Soils . . . . .	5
Soil Characteristics and Land Capability. . . . .	9
Land Ownership. . . . .	11
Land Use. . . . .	12
Agricultural Land . . . . .	14
Water . . . . .	15
Minerals. . . . .	17
Wildlife. . . . .	17
Human Resources . . . . .	19
Population. . . . .	19
Employment. . . . .	22
Income. . . . .	26
Education . . . . .	29
Health and Vital Statistics . . . . .	31
Public Welfare. . . . .	34
Housing . . . . .	36
The County's Economy. . . . .	39
Agriculture . . . . .	39
Logging and Wood Products . . . . .	44
Manufacturing . . . . .	46
Business. . . . .	46
Public Services . . . . .	49
Transportation. . . . .	49
Communication . . . . .	49
Library Facilities. . . . .	50
Utilities . . . . .	51
Public Finance. . . . .	52
Selected List of Agencies. . . . .	57
Selected Bibliography. . . . .	59

## GENERAL DESCRIPTION<sup>1/</sup>

Morrow County is located in the northeast portion of the state along the Columbia River. It extends from the Columbia River approximately 60 miles south to the Blue Mountains. It contains 1,321,600 acres of which about 292,000 acres are federally owned and over one million acres are farm land.

The topography varies from gently rolling plains near the Columbia River to broad plateaus and rounded ridges leading to the rugged terrain of the Blue Mountains.

Heppner, the county seat, is located in the center of the county and contains 1,425 people, nearly one-third of the total population of 4,320.

Agriculture is the leading industry in the county while forestry and tourism are also important factors in the county's economy. A long growing season, low elevation, fertile soil, and adequate irrigation water provide a golden opportunity for future agricultural growth in Morrow County. A brief summary of the major facts for the county is noted below.

Area: 2,065 square miles  
1,318,592 acres

Population: 4,320  
(July 1, 1972)

Elevation at Heppner: 1,955 feet

True Cash Value: \$97,340,843  
(Nov. 20, 1970)

Average Temperature:  
Summer - 65.1  
Winter - 37.1

Principal Industries:  
Agriculture, Livestock,  
Lumbering, Recreation

County Seat: Heppner

## PHYSICAL ASPECTS

### Climate

The climate of Morrow County is temperate and semi-arid characterized by low annual precipitation, low winter temperatures, and high summer temperatures. Much of the county is subject to violent convection (cloud-burst) summer storms that cover a small area but are of high intensity. These storms cause severe soil erosion and flood damage and add very little

---

<sup>1/</sup> OSU Cooperative Extension, Agriculture in Oregon Counties -- Farm Sales and General Characteristics, Special Report 330, Oregon State University, 1971.

to the soil moisture. Strong winds, generally from the west and southwest, may occur at any time of the year. The winds cause drifting snow in the winter and soil movement and excessive evaporation during other seasons.

Average annual precipitation varies from 26 inches in the upper reaches of the county to 7 inches in the Boardman area along the Columbia River. Annual precipitation in most of the agricultural areas of the basin varies from 8 to 20 inches. Precipitation during the irrigation season, April 1 to September 30, averages less than 6 inches in most agricultural areas.

Table 1. Weather Stations, Elevation and Years of Record, Morrow County

Station	Elevation	Years of Record	
		Prec.	Temp.
Heppner.....	1,950	74	70
Boardman.....	260	1	1
Ione.....	2,130	36	--

SOURCE: U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Climatological Data Annual Summary, Vol. 77 November 13, 1971.

Table 2. Freeze Temperature Data

Station	last date in spring - first date in fall; minimum of:				
	16° or below	20°	24°	28°	32°
Heppner	3/1-10/28	3/2-10/16	3/19-10/16	4/19-10/16	5/17-9/30
Boardman	-10/29	-10/29	-10/29	-10/17	-10/17

SOURCE: U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Climatological Data Annual Summary, Vol. 77 November 13, 1971.

Table 3. Temperature and Precipitation, Morrow County, Monthly and Annually, 1971

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
<u>Average Temperature</u>	----- degrees Farenheit -----												
Heppner.....	39.1	39.4	40.9	46.5	56.9	59.6	70.8	73.0	56.4	48.5	42.5	35.6	50.8
Boardman.....	--	--	--	--	--	--	--	--	60.1	52.0	43.3	37.7	--
<u>Total Precipitation</u>	----- inches -----												
Heppner.....	.82	.49	1.38	1.34	1.60	.97	.67	.26	1.60	1.25	2.15	1.85	14.38
Boardman.....	--	--	--	--	--	--	--	--	.88	.43	.91	1.33	--
Ione.....	.67	.33	.98	1.09	1.56	.94	.30	.38	1.09	.81	1.56	1.44	11.15

SOURCE: U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Climatological Data Annual Summary, Vol. 77, November 13, 1971.



Table 4. Temperature Data, Morrow County, Monthly and Annually, 1951 - 1960 Averages

Station	No. of Years	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
<p>Mean Daily Maximum Temperature</p> <p>----- degrees Farenheit -----</p>														
Heppner.....	Per <sup>1/</sup> 10	41.2	46.5	51.7	60.5	67.4	74.8	84.8	82.1	76.4	64.3	50.6	44.3	62.1
	Rec <sup>2/</sup> 69	40.4	44.9	53.3	60.9	68.2	75.1	84.6	83.3	74.4	63.7	51.3	42.7	61.9
<p>Mean Daily Minimum Temperature</p> <p>----- degrees Farenheit -----</p>														
Heppner.....	Per 10	25.3	28.9	30.7	36.1	42.1	47.2	51.7	50.3	45.8	38.7	30.4	27.5	37.9
	Rec 69	24.4	28.0	32.4	36.3	41.6	47.2	52.3	51.4	45.4	38.5	32.2	27.5	38.1
<p>Highest Temperature</p> <p>----- degrees Farenheit -----</p>														
Heppner.....	Per 10	64	71	78	84	90	99	103	100	99	85	75	71	103
	Rec 69	70	72	78	92	100	101	108	110	99	89	80	75	110
<p>Lowest Temperature</p> <p>----- degrees Farenheit -----</p>														
Heppner.....	Per 10	-15	-8	9	21	25	34	37	38	28	21	-8	8	-15
	Rec 68	-19	-21	-6	9	21	33	36	35	19	10	-8	-18	-21

<sup>1/</sup> Per indicates the period or number of years the data were gathered.

<sup>2/</sup> Rec is the number of records or how many times the data were recorded at the station

SOURCE: U.S. Department of Commerce, Weather Bureau, Decennial Census of U.S. Climate Supplement for 1951 Through 1960, Oregon No. 86-31, 1965.

## Soils

Most soils of the basin are derived from transported materials. At the lower elevations on the west the soil material is of glacial origin with areas of medium textured, clacareous sediments and areas of coarse textured sediments. At higher elevations over most of the basin is the Palouse formation of aeolian deposit of white volcanic ash found in small pockets on north exposures and relatively large areas in the Blue Mountains. Alluvial soil material from the uplands is found along the streams. The exceptions are the Blue Mountains and their footslopes which have soils that have partially developed from the underlying rock. The basin is dissected by drainages with south exposures of shallow, stony, residual soils from basalt.

The alluvial soils are on nearly level to gently sloping valley bottoms near the rivers and creeks. They vary in texture from silt loam to sandy loam, sometimes mixed with gravels. Volcanic ash deposits are found in pockets and in horizons in the soils. They vary from neutral to strongly alkaline in reaction and from excessively to poorly drained. The following soils are included: Caldwell, Catherine, Yakima, Onyx, Pedigo, Stanfield, Umapine, and Snow.

These soils are often irrigated and are adapted to a wide variety of crops.

Condon-Walla Walla and Lickskillet soils occur predominately on nearly level to gently sloping upland plateaus and associated steeply sloping canyon walls. Condon and Walla Walla are moderately deep to deep, well drained, grayish brown, medium textured soils. The canyon walls have deep soils on the north exposures and shallow stony soils on the south exposures.

The deep soils of the association are used primarily for wheat production in a wheat-fallow rotation. The remainder of the area is used for range. These soils on favorable slopes are well adapted for irrigation.

Morrow-Bakeoven-Lickskillet soils occur on nearly level to gently sloping upland plateaus and steeply sloping canyon walls. Morrow is a moderately shallow to moderately deep, well drained, grayish brown, medium textured soil. The canyon walls have deep soils on the north exposures and shallow, stony soils on the south exposures.

Morrow soils are used primarily for small grains in a rotation with fallow. The remainder of the area is very well adapted and used for range. The potential for irrigation of these soils is limited because of relatively shallow depth and location.

Quincy-Ephrata soils were developed from the coarse-textured glacial sediments which have been reworked by water and wind. The topography is gently undulating, and dunes are quite common, some of which are still active. These sandy soils are weakly developed, light colored, excessively drained, and neutral to slightly alkaline in reaction. Included in this association are the Quincy, Ephrata, Rupert, and Taunton series.

Winter range for sheep is the principal use of this association. The dominant vegetation is annual grasses and sagebrush. A smaller area is

irrigated, producing forage and other crops. Some of these soils respond well to irrigation while others do not. Good water management is of utmost importance for the entire group.

Ritzville-Starbuck soils were developed from loess. The principal soil is Ritzville, which is a deep, pale brown, well drained, medium textured soil. Starbuck occurs on the south exposures on gently to very steep canyon walls and is shallow and stony.

Most Ritzville soils are used for small grain in a rotation with fallow. Most of the Starbuck and some Ritzville is used for range. Ritzville soils are well adapted for irrigation.

Rockland-Quincy soils occur in the area of coarse-textured glacial sediments that have been severely eroded by water and wind so that basalt has been exposed. Rockland is a miscellaneous land type and is mapped separately as a complex with Quincy and Ephrata. The only agricultural use of this land is range and primarily winter range for sheep. The dominant vegetation is annual grasses and sagebrush.

Sagemoor-Quincy-Taunton soils are formed on the medium-textured glacial sediments. The major soil is Sagemoor which is a well drained, medium textured soil. Quincy, Ephrata, and Taunton are the other soils in this group.

Winter range for sheep is the principal use of these soils with the vegetation being bluebunch wheatgrass, annual grasses, and sagebrush. A small portion of Sagemoor is producing wheat successfully. These soils are reasonably well adapted to irrigation.

Tolo-Klicker soils occur in the high country of the Blue Mountains with nearly level to gently sloping uplands which break off to very steeply sloping canyon walls. Tolo, Couse, and Helmer are deep soils developed primarily from loess and volcanic ash and to a lesser extent the underlying rock. Klicker and Kilmerque are moderately deep soils developed from the underlying rock and to a lesser extent from aeolian sediments. Rock Creek and Snipe are shallow to very shallow, very stony soils developed from the underlying rock.

Most of these soils support a forest or mixed forest-grass type vegetation which is used for summer grazing of livestock. Minor areas of all the deep soils are cultivated and produce small grain, legumes and grass, and berries. The shallow, stony soils are used for range.

Waha-Snipe soils are found on the footslope of the Blue Mountains on nearly level to very steep slopes. On the east portion of the basin the Waha, Couse, and Palouse series occur in almost equal parts with a minor area of shallow stony soils. On the south and west portion approximately half of the area is composed of the Waha and Hurwall series with the remainder being shallow stony Snipe soils.

These soils are used mostly for relatively high producing range. The major vegetation is Idaho fescue, bluebunch wheatgrass, and shrubs.

Table 5. Soil Characteristics, Morrow County

Soil	Material	Elevation (ft.)
Quincy.....	coarse from fine and loamy sand	350-1,000
Ephrata.....	wind-blown sandy	300-800
Dunes.....	bare sand	---
Koehler.....	coarse, wind blown sand	500-1,200
Winchester..	wind blown sand, dark minerals	265-700
Sagemoor.....	wind blown silt over stratified lake deposits	800-1,200
Sagehill.....	wind blown fine sand over stratified lake deposits	600-1,100
Tauton.....	sand over gravelly sediment	500-1,000
Ritzville ...	wind blown silt on uplands	750-1,800
Starbuck ....	stony silt and basalt	750-2,000
Onyx .....	recent silty stream deposits	750-2,000
Stanfield ...	alkali formation on stream deposits	400-1,500
Esquatzel ...	recent stream deposits	300-1,200
Walla Walla .	wind-blown silt	1,400-2,400
Condon .....	wind deposited silt	1,600-3,000
Lickskillet .	basalt silt on south and west slopes	1,000-3,300
Bakeoven ....	basalt and silt	1,700-3,200
Nansene .....	wind blown silt on steep north and east slopes	800-2,200
Morrow.....	wind blown silt on steep basalt	2,500-3,500
Waha.....	wind blown silt	1,500-3,500
Snell.....	stony, fine, silt and basalt	1,800-4,500
Hurwal.....	fine silty-on north slopes	1,700-4,000
Rock Creek..	extremely stony silt and basalt	2,500-5,000
Klicker.....	fine silt and basalt	3,500-5,000
Tolo.....	volcanic ash over buried soil	2,500-5,000
Hermiston...	silt on flood plains	1,000-2,500

Table 5, cont. Soil Characteristics, Morrow County

Soil	Annual prec. (in.)	Mean air temp. (°F)	Acres (thousands)	Growing season days (32° and above)
Quincy.....	7-9	53-54	104.6	170-190
Ephrata.....	7-9	50-52	17.9	150-170
Dunes.....	---	---	1.6	---
Koehler.....	7-8	53	27.9	180-190
Winchester..	7-8	53-54	36.0	180-190
Sagemoor....	8-10	50-53	75.6	150-170
Sagehill....	8-9	53	32.7	150-180
Tauton.....	8-10	52-54	9.4	170-190
Ritzville...	9-12	52	192.0	160-170
Starbuck....	8-12	52	18.9	160-170
Onyx.....	9-14	50	8.8	150-180
Stanfield...	8-12	51-54	1.3	165
Esquatzel...	7-11	53	3.3	150-180
Walla Walla.	12-14	49-51	24.5	165-185
Condon.....	11-13	48	109.9	130
Lickskillet.	10-14	47-50	123.2	125-150
Bakeoven....	10-14	48	7.6	140
Nansene.....	11-12	48-52	3.1	140-160
Morrow .....	13-15	46-48	74.2	110-130
Waha.....	15-18	47	46.9	80-130
Snell.....	15-30	46-47	42.5	80-110
Hurwall ....	20-35	43-46	0.4	80-100
Rock Creek .	16-26	42-44	21.0	80-110
Klicker.....	17-26	43-47	10.3	less than 90
Tolo .....	20-35	42-46	23.6	less than 90
Hermiston ..	10-16	49-50	10.3	150-170

SOURCE: State Water Resources Board, Oregon's Long Range Requirements for Water--General Soil Map, Umatilla Drainage Basin, 1969.

## Soil Characteristics and Land Capability

There is a constant need for information on conservation needs that will aid in carrying out a conservation program. There is also a need for a systematic collection of facts regarding soil and water resources, the problems in their use, and an estimate of the acres needing treatment. The need for these facts resulted in an inventory by the Oregon Conservation Needs Committee assembling such facts--"Oregon Soil and Water Conservation Needs Inventory", Oregon Conservation Needs Committee, September, 1967.

The acreage covered by the inventory included about 48 percent of the total land area in Oregon by county. Most of the excluded area was federally owned land on which conservation programs were already in progress.

The inventory was developed from basic data regarding: (1) present acreage in major uses and (2) acreage of each land use classified by physical problems affecting its use. The estimates of needs for conservation treatment, for each major land use, were based on acreages expected for 1975 and the condition of the land or of the vegetation cover as of January 1, 1967.

Oregon's land varies widely in capability for agricultural use. Eight land capability classes express the range of suitability for cultivation and other uses and the need for conservation treatment. The subclasses indicate the major reason for limitation. The capability classes are designated by Roman numerals I through VIII. They indicate progressively greater limitations and narrower choices for practical use. In subclassification "E" indicates erosion, "W" indicates excessive water, "S" indicates shallowness or stoniness, and "C" indicates climate that is too cold or too dry.

The second table following shows land use by these capability classes.

Table 6. Land Area and Use of Inventory Acreage, Morrow County, 1967

Use	Acres
<u>Inventory Acreage</u>	
Cropland.....	393,950
Pasture.....	---
Range.....	551,072
Forest & Woodland.....	97,000
In Farms.....	96,900
Other.....	100
Other Land.....	41,000
Total inventory acres.....	1,083,022
<u>Non-Inventory Acreage</u>	
Federal Non-cropland.....	220,338
Urban and Build-up Areas.....	13,800
Water Areas.....	600
Total non-inventory acres.....	234,738
Total land area.....	1,317,900

SOURCE: Oregon Conservation Needs Committee, Oregon Soil and Water Conservation Needs Inventory, U.S. Soil Conservation Service, 1971.

Table 7. Use of Morrow County Inventory Acreage by Capability Class, 1967

Capability Class <u>1/</u>	Use	
	Total Cropland (acres)	Total Rangeland (acres)
I.....	3,182	9,515
II..... (E)	17,000	0
III..... (E)	119,076	43,178
IV..... (E)	40,294	54,159
VI..... (E)	9,142	62,205
VII..... (E)	0	168,320
V..... (W)	0	4,391
II..... (S)	35,676	732
III..... (S)	25,201	3,569
IV..... (S)	4,750	0
VI..... (S)	0	2,927
VII..... (S)	0	191,740
II..... (C)	36,991	5,123
III..... (C)	102,638	5,123
Total.....	393,950	551,072

1/ See page 9 for general description of classes.

SOURCE: Oregon Conservation Needs Committee, Oregon Soil and Water Conservation Needs Inventory, U.S. Soil Conservation Service, 1971.

Land Ownership

Publically owned land in Morrow County constitutes 44.3% of the land area. Of this, 7.3% is state owned, 37% is federally owned, with the remaining land in city streets. The major holders of public land in the county are the Veterans Administration and the U.S. Forest Service. The following tables give information on state and federally owned lands.

Table 8. State Land Ownership, Morrow County, 1970

Agency	Acres	Land Value	Improve. Value	Total Value	Rental Income	Taxes Paid
Dept. of Forestry.....	---	\$ ---	\$ 4,690	\$ 4,690	\$ ---	\$ ---
Game Commission.....	6.73	12,080	1,190	13,270	---	206
Div. of State Lands... Highway Division	104.10	10,600	---	10,600	---	---
office & maintenance.	6.00	5,153	24,973	30,126	---	---
Dept. of Veterans Affairs.....	<u>96,266.04</u>	<u>2,130,600</u>	---	<u>2,130,600</u>	<u>64,956</u>	<u>36,569</u>
Totals.....	96,382.87	2,158,433	30,853	2,189,286	64,956	36,775

SOURCE: Legislative Fiscal Committee, Inventory of State-Owned Real Property, Section VII, January, 1970.

Table 9. Federal Land Ownership, Morrow County, 1962

Agency	Acres
U.S. Forest Service.....	136,176
Army.....	9,084
Corps of Engineers.....	2,679
Bonneville Power Administration.....	2
Public Domain.....	47,082
Bureau of Reclamation.....	771
Veterans Administration.....	<u>291,777</u>
Total.....	487,571

SOURCE: Carolan, W. B. Jr., Federal Land Oregon, Oregon State University, 1963.



Table 10. Land Area in Highways, Streets, and Roads, Morrow County

Ownership	Acres
State Highways.....	3,690
County Roads.....	7,445
City Streets.....	150
Total.....	11,285

SOURCE: Oregon State Department of Revenue and Oregon State Highway Division, unpublished data.

Land Use

Land use in Morrow County is devoted primarily to agriculture and forest. The county is almost totally rural, with only 1,292 of the county's 1,318,592 acres classified as urban. Much of the county's agricultural area is poor farm land and is used only for grazing. The following tables are land use analyses of Morrow County.

Table 11. Land Use, Morrow County, 1969

Use	Acres
Total Cropland.....	409,194
Harvested.....	182,470
Pasture.....	21,460
Other.....	205,264
Total Woodland.....	57,910
All Other Land.....	533,404
Irrigated Land.....	20,759
Total Land Area.....	1,318,592

SOURCE: U.S. Bureau of the Census, Census of Agriculture, 1969, Vol. 1, Area Reports, Part 47, Oregon, U.S. Government Printing Office, Washington D.C., 1972.

Table 12. Land Use Analysis, Morrow County, 1970

Item	Acres	True Cash Value Per Assessor's Roll (1,000's)	Ave. Value Per Acre
I. Urban			
Business, etc.....	100	\$ 500	\$ 5,000
Residential-Rents.....	500	1,250	2,500
Quasi-Private, Hosp.*...	130	390	3,000
Public Roads, etc.*.....	562	760	1,352
Total.....	1,292	2,900	2,245
II. Rurban			
Business.....	---	---	---
Residential-Rents.....	55	95	1,000
(Agricultural).....	(3,488)	(195)	(56)
Quasi-Private*.....	40	16	400
Public Roads, etc.*.....	125	10	80
Total Less Misc.....	220	81	368
III. Agricultural-Grazing			
Private Inventory.....	1,071,198	44,550	42
Urban.....	3,488	195	56
Outlying.....	1,067,710	44,355	42
Allocation			
Residential-Rents.....	1,000	500	500
Best Land (Irrigated).	11,000	3,300	300
Average Land (Wheat)..	445,210	28,475	64
Poor Land (Grazing)...	613,988	12,275	20
Public Inventory*.....	13,683	545	40
Miscellaneous.....	40	1	25
Roads, etc.....	13,643	544	40
Total.....	1,084,881	45,095	42
IV. Forest, etc			
Private Inventory.....	187,365	2,000	11
Allocation			
Residential-Rents.....	50	5	100
Outlying.....	187,315	1,995	11
Public Inventory*.....	43,992	488	11
Forest.....	42,492	470	11
Roads.....	1,500	18	12
Total.....	231,357	2,488	11
Land.....	1,317,750	50,564	38
Water.....	3,850		
Grand Total.....	1,321,600		

\* Tax exempt

SOURCE: Oregon Department of Revenue, unpublished data compiled by Waldo Carlson.

## Agricultural Land

About 75% of the land in Morrow County is in farms. Of this land, almost 20% is harvested cropland. Over half of the cropland is designated "other land" in the table below. Much of this land is used for grazing in Morrow County.

Table 13. Land in Farms, Morrow County, 1964 and 1969

Item	Year			
	1964		1969	
	acres	percent	acres	percent
Total land area.....	1,318,450	100.00	1,318,592	100.00
Proportion in farms.....		82.8		75.9
Acres in farms.....	1,092,150	100.00	1,000,508	100.00
Cropland harvested.....	163,655	14.98	182,470	18.24
Cropland pasture.....	20,580	1.88	21,460	2.14
Other cropland.....	203,755	18.66	205,264	20.52
Woodland including				
woodland pasture.....	128,859	11.80	57,910	5.79
Other land.....	575,301	52.68	533,404	53.31
Irrigated land.....	206	.02	145	.01

SOURCE: U.S. Bureau of the Census, Census of Agriculture, 1969, Vol. 1 Area Reports, Part 47, Oregon, U.S. Government Printing Office, Washington, D.C., 1972.

## Water

Most of the water control facilities in Morrow County are for irrigation and flood control. According to the state engineer, there are plans for improving the Butter Creek Watershed. This includes 231,000 acres in Umatilla and Morrow Counties. The primary problem is flooding of agricultural land and lack of late seasonal irrigation water. Presently, there are 2,170 acres irrigated with a possibility of an additional 6,200 acres.

The following tables give the discharge of the major creeks and streams in Morrow County and the dam and reservoir sites on those water flow areas.

Table 14. Surface Discharge in CFS and Acre-Feet,  
Morrow County, Water Year 1968<sup>1/</sup>

Station	Drainage Area sq. mi.	Total	Mean	Max.	Ac.-Ft.
Butter Creek near Pine City	291	2,280.	6.23	83	4,520
Willow Creek at Heppner	87	946.55	2.59	22	1,880
Rhea Creek near Heppner	120	1,330.99	3.64	23	2,640
Willow Creek near Arlington	850	132.44	.36	2.9	263

<sup>1/</sup> Cubic foot-per-second (cfs) is the rate of discharge of a stream whose channel is 1 sq. foot in cross sectional area and whose average velocity is 1 foot per second.

Acre-foot (ac.-ft.) is the quantity of water required to cover an acre to the depth of 1 foot and is equivalent to 43,560 cubic feet.

SOURCE: U.S. Department of the Interior Geological Survey in cooperation with the state engineer, Water Resources Data for Oregon, Surface Water Records.

Morrow County has two treatment plants for sewage that enter water systems in the county. The first is at Heppner and empties into Willow Creek. The other is located on a lagoon near the Columbia River. This sewage receives secondary treatment before being emptied into the Columbia.

There is only one industrial waste treatment plant in the county. It is located at Heppner at the plywood-veneer plant. The treatment facility consists of a non-overflow evaporative pond.

The other cities in the county have no sewage disposal or treatment plants.

Table 15. Dam and Reservoir Sites, Morrow County

Site Name	Drainage Area Sq. Mi.	Reported Average Annual Yield Ac. Ft.	Purpose <sup>1/</sup>	Reservoir		Source No.
				Ma. Pool Area Acres	Total Storage Ac. Ft.	
SAND HOLLOW						
Sand Hollow	74	4,000	I-FC	125	2,500	1
BUTTER CREEK						
SOUTH FORK BUTTER CREEK						
South Fork Butter Creek	75	10,000	I-FC-R	100	3,080	1
NORTH FORK BUTTER CREEK						
Butter Creek 1	291	17,000	I-FC-R	324	10,370	1
WILLOW CREEK						
Willow Creek (Heppner)	100	12,900	I-FC-R	220	11,500	2
Willow Creek 2	71	13,300	I-FC-R	54	1,450	1
Willow Creek 3	54	11,500	I-R	20	300	1
Willow Creek 4	22	5,900	I-R	20	420	1
EIGHTMILE CANYON	262	12,600	I-FC	150	3,000	1
Eightmile Canyon 1	262	12,600	I-FC	150	3,000	1
Eightmile Canyon 2	161	7,700	I-FC	75	1,200	1
Eightmile Reservoir	161		I	2,000	197,000	3
RHEA CREEK						
Rhea Creek	130		I-FC	170	4,800	2
Rhea Creek 2	38	8,200	I-FC-R	259	10,360	1
Rhea Creek 3	33	7,000	I-FC-R	130	8,320	1
Rhea Creek 4	9	2,600	I-FC-R	80	1,050	1
BALM FORK						
Balm Canyon 1	25	3,500	I-FC-R	20	460	1
Balm Canyon 2	24	3,300	I-FC-R	20	470	1
HINTON CREEK						
Hinton Creek 1	11	1,800	I-R	25	230	1
Hinton Creek 2	10	1,600	I-R		290	1
Hinton Creek 3	7	1,200	I-R	30	350	1
SIXMILE CANYON						
Sixmile Canyon (Carty West)	65	7,000	I-FC	640	12,800	1,3
Sixmile Canyon 2	33	3,500	I-FC	350	7,000	1
Carty East			I			3
Carty East and West			I	5,600	145,000	2
JUNIPER CANYON						
Juniper						2
Juniper Canyon	33	3,500		200	4,800	1
Sanford Canyon	18	1,900		300	10,000	1

Note: This table includes damsites with conflicting reservoir areas.

<sup>1/</sup> Purposes: I-Irrigation, FC-Flood Control, R-Recreation, Fish & Wildlife

SOURCE: Compiled from data available from:

1. U.S. Department of Agriculture Field Party.
2. U.S. Army Corps of Engineers.
3. U.S. Bureau of Reclamation.

Minerals

Because of limited mineral resources that are mined commercially in Morrow County, the U.S. Bureau of Mines withholds figures on value of mineral production to avoid disclosing confidential data of individual companies. However, the U.S. Bureau of Mines Minerals Yearbook gives some information on the county combined with other counties.

Wildlife

Morrow County has numerous species of wildlife, but deer and elk seem to be the most numerous and the ones that draw most people to the county for recreation. In 1970, 10,440 hunters took advantage of Morrow County's deer hunting opportunities. There were also many elk hunters and small game and fowl hunters. The following tables give information on the harvest of animals and on herd composition and population.

Table 16. Hunting Season Harvest, Heppner Area, Morrow County, 1971

Animals	No. of Hunters	General Season Total	Animals Harvested per sq. mi.
Deer.....	10,440	3,350	2.29
Elk.....	3,150	347	.24

SOURCE: Oregon State Game Commission, "Oregon State Game Commission Bulletin", May, 1972.

Table 17. Big Game Herd Composition, Heppner Area, Morrow County, 1971

Animals	Male	Female	Offspring	Males per 100 Females	Offspring per 100 Females
Mule Deer.....	85	594	413	14	70
Rocky Mtn. Elk.....	14	113	53	12	47

SOURCE: Oregon State Game Commission, 1971 Annual Report.

Table 18. Duck and Goose Harvest, Morrow County, 1970

Animals	Hunters	Hunter Days	Harvest
Duck.....	350	2,480	3,980
Goose.....	460	2,500	1,580

SOURCE: Oregon State Game Commission, 1971 Annual Report.

Table 19. Small Game Population Trends, Morrow County, 1968 and 1971

Animals	Per 100 Acres		Per Mile	
	1968	1971	1968	1971
Pheasants.....	43.3	55.6		
Valley Quail.....	35.2	49.9		
Blue Grouse.....			.00	.01
Chukar Partridge.....			.19	.20
Hungarian Partridge.....			.12	.10

SOURCE: Oregon State Game Division, 1971 Annual Report.

Table 20. Trapping Reports, Morrow County, 1970-1971

Animals	Number Trapped
Beaver.....	34
Mink.....	1
Muskrat.....	9
Raccoon.....	4
Wildcat.....	8
Coyote.....	5

SOURCE: Oregon State Game Division, 1971 Annual Report.

HUMAN RESOURCES

Population

Morrow County is very sparsely populated with only 2.01 persons per square mile. Although most of the county is made up of rural farmland, almost all of the people live in or near one of the cities in the county, with one-third of the population centered around the county seat of Heppner.

Table 21. Number of Persons by Racial Group, Morrow County, 1970

Racial Group	Number	Percent
Total.....	6,996	100.00
Caucasian.....	6,891	98.50
Spanish Language.....	69	.99
Black.....	1	.01
American Indian.....	29	.41
Other.....	6	.09

SOURCE: OSU Cooperative Extension Service, Income & Poverty Data for Racial Groups, A Compilation for Oregon Census County Divisions, Special Report 367, September, 1972.

Table 22. Population and Rank Order in Oregon,  
Morrow and Bordering Counties, 1972

County	Population	Rank
MORROW.....	4,320	33
Gilliam.....	1,980	35
Umatilla.....	45,450	12
Wheeler.....	1,820	36
Grant.....	6,910	29

SOURCE: Center for Population Research and Census, Population Estimates of Counties and Incorporated Cities of Oregon, Portland State University, July 1972.



Table 23. Population Estimates of Incorporated Cities, Morrow County, 1972

City and County	Population
Morrow County.....	4,320
Boardman.....	365
Ione.....	370
Heppner.....	1,425
Irrigon.....	270
Lexington.....	220

SOURCE: Center for Population Research and Census, Population Estimates of Counties and Incorporated Cities of Oregon, Portland State University, 1972.

Table 24. Social Characteristics, Morrow County, 1970

Subject	Population
Total Population.....	4,465
Nativity and Parentage	
Native of native Parentage.....	4,003
Native of foreign or mixed parentage...	366
Foreign Born.....	96
Total Foreign Stock.....	462
Country of Origin of Foreign Stock	
United Kingdom.....	46
Ireland.....	71
Sweden.....	32
Germany.....	41
Poland.....	13
U.S.S.R.....	15
Italy.....	6
Canada.....	94
Mexico.....	33
All Other and Not Reported.....	111
Persons of Spanish Language.....	120
Persons of Spanish Origin or Descent.....	21

SOURCE: U.S. Bureau of the Census, Census of Population: 1970 General Social and Economic Characteristics, Final Report PC(1) - C39 Oregon, U.S. Government Printing Office, Washington, D.C., 1972.

Table 25. Components of Change in Morrow County's Population, 1960-1970

Subject	1960	-	1970	Percent Change
Population.....	4,871		4,465	-8.3
Births.....		756		
Deaths.....		427		
Net Migration.....		-735		

SOURCE: Bureau of Business and Economic Research, Oregon Economic Statistics 1972, University of Oregon, 1972.

Table 26. Population by Age and Sex, Morrow County, 1970

Age Group	Total	Male	Female
Total Population.....	4,465	2,249	2,216
under 5.....	325	179	146
5-9.....	436	216	220
10-14.....	485	236	249
15-19.....	431	222	209
20-24.....	204	111	93
25-29.....	219	98	121
30-34.....	241	121	120
35-39.....	252	120	132
40-44.....	260	134	126
45-49.....	255	120	135
50-54.....	248	130	118
55-59.....	296	153	143
60-64.....	243	133	110
65-69.....	180	91	89
70-74.....	149	80	69
75-79.....	123	58	65
80-84.....	68	21	47
85 and older.....	50	26	24

SOURCE: U.S. Bureau of the Census, Census of Population: 1970 General Social & Economic Characteristics, Final Report PC(1) - C39 Oregon, U.S. Government Printing Office, Washington, D.C., 1972.

Table 27. Rural Farm Population by Age and Sex, Morrow County, 1970

Age Group	Male	Female	Total
Total Population.....	603	624	1,227
under 5.....	54	52	106
5-9.....	99	53	152
10-14.....	54	66	120
15-19.....	42	80	122
20-24.....	15	17	32
25-29.....	22	42	64
30-34.....	28	33	61
35-39.....	43	44	87
40-44.....	39	30	69
45-49.....	29	49	78
50-54.....	37	46	83
55-59.....	73	53	126
60-64.....	24	19	43
65-69.....	24	30	54
70-74.....	9	4	13
75 and over.....	11	6	17

SOURCE: U.S. Bureau of the Census, Census of Population, 1970 General Social & Economic Characteristics, Final Report PCW - C39 Oregon, U.S. Government Printing Office, Washington, D.C., 1971.

### Employment

There were 1,775 people in the labor force in Morrow County in 1970. Of these, 1,626 were employed. The greatest percentage of workers were employed in agriculture or related fields. Most of the unemployed were either craftsmen or operatives of some type. The 123 persons unemployed constitute 7.3% of the labor force, with Morrow County ranking twentieth out of the 36 counties for unemployment.

The following tables give data on types of employment, composition of labor force and unemployment.

Table 28. Employment Status, Morrow County, 1970

Subject	Male	Female
Total Population, 16 years and over...	1,559	1,546
Total Labor Force.....	1,240	535
Percentage of Total.....	79.5	34.6
Civilian Labor Force.....	1,214	535
Employed.....	1,155	471
Unemployed.....	59	64
% of Civilian Labor Force.....	4.9	12.0
Not in Labor Force.....	319	1,011
Inmate of Institution.....	--	--
Enrolled in School.....	56	127
Other:		
Under 65 years.....	84	615
65 and older.....	179	269

SOURCE: U.S. Bureau of the Census, Census of Population, 1970 General Social & Economic Characteristics, Final Report PCW - C39 Oregon, U.S. Government Printing Office, Washington, D.C., 1971.

Table 29. Occupations of Employed, Morrow County, 1970

Occupation	Number Employed		
	Male	Female	Total
Total employed, 16 years and over...	1,155	471	1,626
Professional, technical, and kindred workers.....	78	60	138
Managers, administrators, except farm.....	87	33	120
Sales workers.....	24	61	85
Clerical and kindred workers.....	32	116	148
Craftsmen, foremen, and kindred workers.....	178	14	192
Operatives, except transport.....	77	5	82
Transport equip. operatives.....	64	--	64
Laborers, except farm.....	105	10	115
Farmers, farm managers.....	268	15	283
Farm laborers, foremen.....	175	41	216
Service workers, except private household.....	67	104	171
Private household.....	0	12	12

SOURCE: U.S. Bureau of the Census, Census of the Population, 1970 General Social & Economic Characteristics, Final Report PCW - C39 Oregon, U.S. Government Printing Office, Washington, D.C., 1971.

Table 30. Major Occupation Group of Unemployed, Morrow County, 1970

Group	16 years and older	
	Male	Female
Professional, technical, managerial.....	--	--
Sales.....	--	--
Clerical.....	--	11
Craftsmen, foremen.....	14	6
Operatives, incl. transport.....	21	--
Laborers, except farm.....	9	--
Farm workers.....	15	--
Service workers.....	--	41
Total.....	59	64

SOURCE: U.S. Bureau of the Census, Census of the Population, 1970 General Social & Economic Characteristics, Final Report PCW - C39 Oregon, U.S. Government Printing Office, Washington, D.C., 1971.

Table 31. Industry Group of Employed, Morrow County, 1970

Industry	16 years and older		
	Male	Female	Total
Agriculture, Forestry, Fisheries.....	499	72	571
Construction and Mining.....	64	0	64
Manufacturing.....	136	30	166
Transportation.....	52	5	57
Communication, Utilities, Sanitary Services.....	43	10	53
Wholesale Trade.....	41	0	41
Food, Bakery, Dairy Products.....	5	28	33
Eating, Drinking Places.....	18	66	84
Other Retail Trade.....	111	60	171
Finance, Insurance, Real Estate.....	5	23	28
Business and Repair Services.....	12	0	12
Personal Services.....	38	24	62
Entertainment and Recreation Services.....	5	0	5
Health Services.....	8	48	56
Schools & Colleges--Gov't.....	31	55	86
Schools & Colleges--Private.....	4	0	4
Other Professional and Related Services.....	18	26	44
Public Administration.....	65	24	89

SOURCE: U.S. Bureau of the Census, Census of the Population, 1970 General Social & Economic Characteristics, Final Report PCW - C39 Oregon, U.S. Government Printing Office, Washington, D.C., 1971.

Table 32. Labor Force in Morrow County, 1968 and 1971

Industry	Annual Average	
	1968	1971
Civilian Labor Force.....	1,690	1,780
Unemployment.....	70	140
Percent of Labor Force.....	4.1	7.9
Employment.....	1,620	1,640
Agricultural.....	620	600
Nonagricultural.....	1,000	1,040
Self-employed, unpaid, & domestic.....	140	140
Wage and salary workers.....	860	900
Manufacturing.....	160	150
Food products.....	10	---
Lumber and wood products.....	140	---
Other.....	10	---
Non-Manufacturing.....	700	750
Contract construction.....	20	0
Transportation, Communication, Utilities.....	80	80
Trade.....	200	230
Finance, Insurance, Real Estate.....	20	40
Service and Misc.....	70	80
Government.....	310	320

SOURCE: Oregon State Department of Human Resources, Employment Division, Labor Force & Employment in Oregon by County, 1968 and 1971, Research Statistics Division 1969, 1972.

Table 33. Labor Force in Morrow County, By Sex, 1970

Industry	Male	Female	Total
Employed in Agriculture.....	487	67	554
Wage or salary workers.....	234	21	255
Self-employed workers.....	247	15	262
Unpaid family workers.....	6	31	37
Private wage or salaried workers.....	618	273	891
Government Workers.....	191	114	662
Local government workers.....	58	59	117
Self-employed workers.....	340	43	383
Unpaid family workers.....	6	41	47
Total non-agricultural employed.....	1,155	471	1,626

SOURCE: U.S. Bureau of the Census, Census of Population, 1970 General Social & Economic Characteristics, Final Report PCW - C39 Oregon, U.S. Government Printing Office, Washington, D.C., 1971.

Table 34. Percent of Age Group in Labor Force, By Sex, Morrow County, 1970

Age Group	Male	Female
Years		
14-15.....	54.7	11.4
16-17.....	54.1	18.1
18-19.....	89.4	34.4
20-21.....	--	45.3
22-24.....	82.8	52.0
25-34.....	92.1	31.4
35-44.....	97.9	55.9
45-64.....	92.0	43.5
65 and over.....	35.1	7.5

SOURCE: U.S. Bureau of the Census, Census of Population, 1970 General Social & Economic Characteristics, Final Report PCW - C39 Oregon, U.S. Government Printing Office, Washington, D.C., 1971.

Income

Table 35. Net Effective Buying Income, Morrow and Bordering Counties, 1970

Area	Net Dollars	% of U.S. Total	Per Household
MORROW.....	\$ 12,861	.0019	\$9,186
Umatilla.....	134,492	.0198	9,026
Wheeler.....	5,418	.0008	7,740
Gilliam.....	7,597	.0011	9,496
Oregon.....	\$6,650,690	.9806	9,440

SOURCE: Bureau of Business and Economic Research, Oregon Economic Statistics 1972, University of Oregon, 1972.

Table 36. Mean Income by Racial Groups, Morrow County, 1970

Income	All Races		Caucasian		Spanish		Other	
	no.	%	no.	%	no.	%	no.	%
under \$3,999.....	339	17.64	334	17.53	5	38.46		
\$4,000-\$5,999.....	311	16.18	311	16.33				
\$6,000-\$11,999.....	928	48.28	920	48.29	8	61.54		
\$12,000+.....	344	17.90	340	17.85			4	100.00
total.....	1,922	100.00	1,905	100.00	13	100.00	4	100.00

SOURCE: O.S.U. Cooperative Extension Service, Income & Poverty Data for Racial Groups: A Compilation for Oregon Census County Divisions, Special Report 367, September 1972.

Table 37. Bank Debits and Deposits, 1966-1971, Morrow County

Year	Bank Debits	Bank Deposits
	- - - - - thousand dollars - - - - -	
1966.....		10,237
1967.....	81,829	10,481
1968.....	91,794	11,318
1969.....	110,464	11,479
1970.....	102,631	13,160
1971.....	111,073	

SOURCE: Bureau of Business and Economic Research, Oregon Economic Statistics 1972, University of Oregon, 1972.

Table 38. Data on Below Poverty Level Incomes, Morrow County, 1970

Item	Number	Percent
Families below poverty level (bpl)		
All races.....	194	100.00
Caucasian.....	189	97.42
Spanish.....	5	2.58
Persons in families bpl.....	716	
Unrelated individuals bpl		
Under 65 years.....	89	
65 years and over.....	90	
Male family head, 14-64 yrs., bpl		
Employed.....	97	
Unemployed.....	7	
Not in labor force.....	4	
Income source of families bpl		
Earnings.....	194	
Social Security or railroad retirement.....	134	
Public assistance or welfare.....	41	

SOURCE: O.S.U. Cooperative Extension Service, Income & Poverty Data for Racial Groups: A Compilation for Oregon Census County Divisions, Special Report 367, September 1972.



Table 39. Median Earnings of Selected Occupational Groups, Morrow County, 1969

Occupation Group	Earnings
Male, 16 years and older	
Total with earnings.....	\$7,167
Professional, managerial.....	8,648
Craftsmen, foremen.....	8,117
Laborers, except farm.....	6,075
Farmers, farm managers.....	5,289
Farm laborers.....	3,487
Operatives, incl. transport.....	7,175
Female, 16 years and older	
Total with earnings.....	2,867
Clerical and kindred worker .....	3,667
Operatives, incl. transport.....	---

SOURCE: U.S. Bureau of the Census, Census of the Population, 1970 General Social & Economic Characteristics, Final Report PCW - C39 Oregon, U.S. Government Printing Office, Washington, D.C., 1971.

Table 40. Income of Rural Farm Population, Morrow County, 1969

Income	Number Earning
Less than \$1,000.....	12
\$1,000-\$1,999.....	4
\$2,000-\$2,999.....	27
\$3,000-\$3,999.....	4
\$4,000-\$4,999.....	43
\$5,000-\$5,999.....	24
\$6,000-\$6,999.....	28
\$7,000-\$7,999.....	22
\$8,000-\$8,999.....	9
\$9,000-\$9,999.....	18
\$10,000-\$11,999.....	16
\$12,000-\$14,999.....	19
\$15,000-\$24,999.....	42
\$25,000-\$49,999.....	27
Median income.....	\$ 7,250
Mean Income.....	\$10,477

SOURCE: U.S. Bureau of the Census, Census of Population, 1970 General Social & Economic Characteristics, Final Report PCW - C39 Oregon, U.S. Government Printing Office, Washington, D.C., 1971.

Education

Table 41. Formal Education Facilities, Morrow County, 1970-1971

School	Grades	*ADM 69-70	Location
Morrow School District #1			
Heppner High School.....	9 - 12	213	Heppner
Ione Jr.-Sr. High School.....	7 - 12	100	Ione
Riverside Jr.-Sr. High School..	7 - 12	159	Boardman
A. C. Houghton Elem. School....	1 - 6	159	Irrigon
Heppner Elem. School.....	1 - 8	390	Heppner
Ione Elem. School.....	1 - 6	92	Ione

\* average daily membership

SOURCE: Oregon Board of Higher Education, 1970-1971 Oregon School Directory, School Finance & Statistical Services.

Morrow School District #1 is a unified "A" district according to the State Board of Education. This means that it provides education for grades 1 through 12 and is an administrative school district organized under the provisions of ORS 330.505 to 330.780.

The ADM as seen on the table above designates the average daily membership. This is computed by dividing the sum of total days present and absent by the number of days actually taught.

Table 42. Years of School Completed by Population 25 Years & Over, Morrow County

Education	Number Males	Number Females
Total, 25 years and over	1,283	1,299
No school years completed.....	4	3
Elementary: 1-4 years.....	40	24
5-7 years.....	71	51
8 years.....	184	161
High School: 1-3 years.....	271	232
4 years.....	424	551
College: 1-3 years.....	185	178
4 years or more....	104	99
Median years completed.....	12.2	12.3
% high school graduates.....	55.6	63.7

SOURCE: U.S. Bureau of the Census, Census of Population, 1970 General Social & Economic Characteristics, Final Report PCW - C39 Oregon, U.S. Government Printing Office, Washington, D.C., 1971.

Table 43. School Enrollment by Grade, Morrow County, June 1971

Grade	Number Enrolled
Kindergarten.....	--
Grade 1.....	102
Grade 2.....	105
Grade 3.....	96
Grade 4.....	84
Grade 5.....	83
Grade 6.....	96
Grade 7.....	91
Grade 8.....	98
Total kindergarten-8.....	775
Grade 9.....	113
Grade 10.....	104
Grade 11.....	87
Grade 12.....	94
Total 9-12.....	398
Total all pupils.....	1,153

SOURCE: Oregon Board of Education, Management Services/Program Support, School Finance & Statistical Services, unpublished data.

Table 44. School Enrollment, Morrow County, 1970

Age	Number and Percent Enrolled
Total Enrolled,	
3-34 years old.....	1,232
Kindergarten.....	92
Public.....	59
Elementary (1-8 years).....	753
Public.....	753
High School (1-4 years).....	351
Public.....	341
College.....	36
Percent enrolled,	
3-34 years old.....	55.8
3-4 years old.....	3.8
5-6 years old.....	72.8
7-13 years old.....	96.3
14-15 years old.....	92.9
16-17 years old.....	94.3
18-19 years old.....	26.9
20-21 years old.....	10.4
22-24 years old.....	7.9
25-34 years old.....	4.3

SOURCE: U.S. Bureau of the Census, Census of Population, 1970 General Social & Economic Characteristics, Final Report PCW - C39 Oregon, U.S. Government Printing Office, Washington, D.C., 1971.

Table 45. Youth Organizations, Morrow County

Organization	Number Enrolled
Future Farmers of America	
Vocational Agricultural Enrollment...	82
Paid FFA Membership.....	77
4-H	
Leaders.....	82
Members.....	373

SOURCE: FFA and 4-H offices, unpublished data.

Health and Vital Statistics

The only licensed health care facilities in Morrow County are located in Heppner, the largest town in the county. They include one hospital and one nursing home facility that is affiliated with the hospital. The total capacity for patient care is 44.

The following tables give data on health care facilities and medical personnel. In Table 46, the ratio figure equals population per professional in each particular category.

Table 46. Number of Licensed Medical Personnel and Ratio to Population Morrow County, 1969

Profession	Number	Ratio
Medical doctors and doctors of osteopathy...	4	1,150
Dentists.....	1	4,600
Registered nurses.....	13	354
Licensed practical nurses.....	2	2,300
Pharmacists.....	2	2,300

SOURCE: State of Oregon Executive Department, Program Planning Division, District Facts, 1970.

Table 47. Licensed Health Care Facilities, Morrow County, 1972

Name of Facility	Capacity	Location
Nursing Homes		
Pioneer Memorial Nursing Home.....	20	Heppner
In-patient Care Facility		
Pioneer Memorial Hospital.....	24	Heppner

SOURCE: Oregon State Health Division, unpublished data received on December 2, 1972.

The next tables give data on major uses of health facilities. This includes births, deaths, and major illnesses. According to District Facts, published by the State of Oregon Executive Department, 10 in every 100 persons in Morrow County made visits to the one diagnostic and treatment center in the county, which is located in Heppner.

Table 48. Medical Facilities and Percent of Occupancy, Morrow County, 1967.

Facility	Number, Ratio, and Percent
General Hospital.....	1
Number of beds.....	29
Population per bed ratio.....	159
Percent of occupancy.....	39
Long Term Care Facility.....	1
Number of beds.....	20
Population per bed ratio.....	230
Percent of occupancy.....	94

SOURCE: State of Oregon Executive Department, Program Planning Division, District Facts, 1970.

Table 49. Births by Race and Sex, Morrow County, 1971

Area	Total	Sex		Race			
		Male	Female	White	Black	Indian	Other
Morrow County.....	66	36	30	66	--	--	--
Oregon.....	33,344	17,272	16,072	31,850	654	478	354

SOURCE: Oregon State Department of Human Resources, State Health Division, Vital Statistics Section, Vital Statistics Annual Report, 1970 and 1971.

Table 50. Reported Cases of Diseases, Morrow County, 1971

Disease	Number of Cases
Influenza.....	160
Malaria.....	1
Rheumatic Fever.....	1
Rubella.....	4
Shigellosis.....	1
Gonorrhea.....	5

SOURCE: Oregon State Department of Human Resources, State Health Division, Vital Statistics Section, Vital Statistics Annual Report, 1970 & 1971.

Table 51. Births and Deaths by Number and Rate<sup>1/</sup>, Morrow County, 1971

Item	County	
	Number	Rate
Live Births.....	66	14.9
Illigetimate.....	1	15.2
Premature.....	1	15.2
Deaths from all causes.....	39	8.8
Malignant Neoplasms.....	6	135.4
Diabetes Mellitus.....	1	22.6
Diseases of the heart.....	10	225.7
Cerebrovascular diseases.....	3	67.7
Arteriosclerosis.....	2	45.1
Other cardiovascular diseases.....	1	22.6
Influenza and pneumonia.....	1	22.6
Bronchitis, Emphysema, and Asthma.....	2	45.1
Peptic Ulcer.....	1	22.6
Causes of mortality in early infancy.....	1	22.6
All other diseases.....	6	135.4
Accidents.....	4	90.3
Suicides.....	1	22.6
Infant deaths.....	2	30.3
Neonatal deaths.....	1	15.2
Fetal deaths.....	4	60.6
Therapeutic abortions.....	5	75.8

<sup>1/</sup> Rates are computed as follows:

Live births, deaths, per 1,000 population

Illegitimate and premature births, infant and neonatal deaths, per  
1,000 live births

Selected causes of death and morbidity, per 100,000 population

Therapeutic abortions, per 1,000 live births

SOURCE: Oregon State Department of Human Resources, State Health Division  
Vital Statistics Section, Vital Statistics Annual Report, 1970 and  
1971.

Public Welfare

Table 52. Food Stamp Activity, Morrow County, 1972

Item	Number
P.A. -- Eligible	
Households.....	35
Persons.....	109
P.A. -- Participating	
Households.....	17
Persons.....	42
Percentage households participating....	48.
Non-P.A. -- Participating	
Households.....	19
Persons.....	66
Total Participants	
Households.....	36
Persons.....	108

SOURCE: Oregon State Department of Human Resources, Public Welfare Division, Public Welfare in Oregon, August 1972.

Statistics for Morrow County alone are not available, so the following tables are for Umatilla and Morrow Counties combined.

Table 53. Public Welfare Payments for Non-Medical Assistance, Morrow County, 1972

Category	Number	Average	Total
Old Age Assistance.....	249	\$ 62.49	\$15,559
Aid to the Blind.....	5	89.10	445
Aid to the Disabled.....	114	106.77	12,171
Aid to Dependent Children.....	1,266	43.92	55,607
General Assistance.....	38	33.54	1,275

SOURCE: Oregon State Department of Human Resources, Public Welfare Division, Public Welfare in Oregon, August 1972.

Table 54. Public Welfare Payments for Medical Assistance,  
Morrow County, 1972

Category	Physicians		Hospitals		Drugs	
	Person	Average	Person	Average	Person	Average
Old Age Assistance.....	55	15.87	2	77.50	208	20.07
Aid to the Blind.....	2	28.13	--	--	3	3.79
Aid to the Disabled.....	62	37.69	19	364.67	68	18.38
Aid to Dependent Children..	301	19.82	42	351.83	126	8.12
General Assistance.....	22	34.55	6	799.25	11	17.54
Family Cases.....	31	16.89	0	--	3	5.31
Total.....	473	22.21	69	386.32	419	15.91

SOURCE: Oregon State Department of Human Resources, Public Welfare Division,  
Public Welfare in Oregon, August 1972.

Table 55. Total Public Welfare Payments for Medical Assistance,  
By Type of Service, Morrow County, 1972

Service	Amount of Payments
Physicians.....	\$10,516
Hospitals.....	26,656
Outpatient.....	6,880
Nursing homes.....	45,900
Drugs.....	6,668
Dental.....	867
Visual.....	350
Transportation.....	512
Other.....	250
Total.....	\$98,599

SOURCE: Oregon State Department of Human Resources, Public Welfare Division,  
Public Welfare in Oregon, August 1972.



Housing

Table 56. Housing Occupancy, Utilization, and Facilities,  
Morrow County, 1970

Subject	Total	Rural	Occupied Rural Farm
Population in housing units.....	4,458	4,458	1,224
Per occupied unit.....	3.0	3.0	3.3
Owner occupied.....	2.9	2.9	3.3
Rental occupied.....	3.1	3.1	3.3
Tenure, Race, & Vacancy Status			
Owner occupied.....	1,024	1,024	294
Caucasian.....	1,020	1,020	294
Black.....	---	---	---
Renter occupied.....	463	463	76
Caucasian.....	457	457	76
Black.....	---	---	---
Vacant year round.....	259	259	---
For sale only.....	30	30	---
Vacant less than 6 mos.....	8	8	---
Median price asked.....	---	---	---
For rent.....	60	60	---
Vacant for less than 2 mos..	15	15	---
Median rent asked.....	\$46	\$46	---
Other vacant.....	169	169	---
Facilities			
All facilities.....	1,645	1,645	365
Lacking some or all facilities..	101	101	5
Lacking only hot water.....	5	5	---
Lacking other facilities.....	96	96	5
Water			
Hot and cold.....	1,668	1,668	365
Cold only.....	30	30	---
None.....	48	48	5
Toilet			
For one household.....	1,650	1,650	365
Also used by another hshld....	15	15	---
None.....	81	81	5
Tub or shower			
For one household.....	1,650	1,650	365
Also used by another hshld....	7	7	---
None.....	89	89	5
Complete kitchen			
For one household.....	1,607	1,607	365
Also used by another hshld....	---	---	---
No complete kitchen.....	139	139	5

SOURCE: U.S. Bureau of the Census, Census of Housing, 1970 Detailed Housing Characteristics, Final Report HC(1) - B39 Oregon, U.S. Government Printing Office, Washington, D.C., 1972.

Table 57. Housing Structural, Plumbing, & Equipment Characteristics,  
Morrow County, 1970

Subject	Total	Occupied Rural Farm
Source of water		
Public system or private company.....	887	11
Individual well.....	725	338
Other.....	134	18
Sewage Disposal		
Public sewer.....	620	---
Septic tank or cesspool.....	1,041	359
Other.....	85	8
Air conditioning		
Room unit - 1.....	513	122
2 or more.....	43	6
Central system.....	138	56
None.....	1,052	183
Heating equipment		
Steam or hot water.....	36	---
Warm-air furnace.....	474	108
Built-in electric units.....	297	99
Floor, wall, pipeless furnace.....	186	49
Room heaters with flue.....	566	104
Room heaters without flue.....	9	---
Fireplace, stoves, portable heaters..	168	10
None.....	10	---
Telephone		
Available.....	1,316	344
None.....	171	26
All occupied units.....	1,487	370

SOURCE: U.S. Bureau of the Census, Census of Housing, 1970 Detailed Housing Characteristics, Final Report HC(1) - B39 Oregon, U.S. Government Printing Office, Washington, D.C., 1972.

Table 58. Housing Occupancy Characteristics, Morrow County, 1970

Subject	Total	Occupied Rural Farm
Rooms per housing unit		
1 room.....	37	--
2 rooms.....	72	4
3 rooms.....	184	16
4 rooms.....	312	50
5 rooms.....	448	88
6 rooms.....	342	96
7 rooms.....	149	30
8 or more rooms.....	202	86
Median, all units.....	5.1	5.8
Persons per housing unit		
1 person.....	278	27
2 persons.....	506	144
3 persons.....	221	66
4 persons.....	190	38
5 persons.....	142	47
6 persons.....	66	30
7 persons.....	39	6
8 or more persons.....	45	12
Persons per room		
1.00 or less.....	1,386	343
1.01 to 1.50.....	72	17
1.51 or more.....	29	10

SOURCE: U.S. Bureau of the Census, Census of Housing, 1970 Detailed Housing Characteristics, Final Report HC(1) - B39 Oregon, U.S. Government Printing Office, Washington, D.C., 1972.

Table 59. Number of Housing Units by Ten Year Periods, Morrow County

Year	Number
1940.....	1,421
1950.....	1,631
1960.....	1,778
1970.....	1,764

SOURCES: Oregon State Executive Department, Program Planning Division, District Facts, 1970.

U.S. Bureau of the Census, Census of Housing, 1970 Detailed Housing Characteristics, Final Report HC(1) - B39 Oregon, U.S. Government Printing Office, Washington, D.C., 1972.

## THE COUNTY'S ECONOMY

Morrow County is mostly rural. As a result, most of the county's economy is centered in agricultural and forest related industries and occupations.

The tables in this section are designed to give a perspective of the economy as divided into its major factors: agriculture, logging and wood products, manufacturing and trade and service sectors. There is little data on mining or outdoor recreation as these items are not too important in Morrow County, with the exception of hunting.

### Agriculture

Table 60. Farm Value and Ownership, Morrow County, 1950-1968 by Periods

Subject	1950	1954	1959	1964	1968
Total land area, acres.....	1,317,760	1,317,760	1,317,760	1,318,400	1,318,400
Percent in farms.....	76.1	74.2	84.2	82.8	75.9
Total Number of Farms.....	457	463	386	338	347
Acres in Farms.....	1,003,419	978,130	1,109,903	1,092,146	1,000,508
Average size of farm.....	2,195.7	2,112.6	2,875.4	3,231.2	2,883.3
Value of land and buildings	---	---	---	---	\$66,746,831
Average per farm.....	\$52,890	\$74,862	\$134,793	\$197,861	\$192,353
Average per acre.....	\$26.16	\$36.66	\$47.98	\$62.15	\$66.71
Farm Operators					
Full owners.....	270	266	175	153	174
Part owners.....	117	125	137	130	123
Managers.....	5	7	5	5	---
Tenants.....	65	65	69	50	50
By age:					
65 years and older....	---	---	56	41	49
Average age.....	---	---	50.1	50.0	51.7

SOURCE: U.S. Bureau of the Census, Census of Agriculture, 1959 & 1969, Vol. 1 Area Reports, Part 47, Oregon, U.S. Government Printing Office, Washington, D.C., 1960, 1972.

The next table shows distribution of farms by size. Over half of the farms in Morrow County are over 1,000 acres in area. The table also includes data on harvested and irrigated land.

Table 61. Number of Farms by Size, Harvested and Irrigated, Morrow County, 1969

Size	All Farms		Harvested Cropland			Irrigated Land		
	No.	Acres	No.	Total Acres	Acres Harvested	No.	Total Acres	Acres Irrigated
Less than 10 acres	26	65	4	20	16	12	10	10
10 to 49 acres.....	31	809	13	382	153	16	464	304
50 to 69 acres.....	8	436	3	164	47	7	374	246
70 to 99 acres.....	9	760	4	334	98	7	599	210
100 to 139 acres.....	4	485	3	365	170	2	264	140
140 to 179 acres.....	9	1,447	9	1,447	696	7	1,137	773
180 to 219 acres.....	3	581	3	581	160	3	581	288
220 to 259 acres.....	7	1,620	5	1,165	289	3	696	219
260 to 499 acres.....	22	8,091	18	6,925	2,646	14	5,130	2,106
500 to 999 acres.....	27	20,101	25	18,871	6,928	14	10,023	2,435
1,000 to 1,999 acres.	59	89,017	56	84,625	27,473	19	27,371	992
2,000 acres & over...	142	877,096	134	732,620	143,794	51	378,424	13,036
Total farms.....	347	1,000,508	277	847,499	182,470	145	425,073	20,759

SOURCE: U.S. Bureau of the Census, Census of Agriculture, 1969, Vol. 1 Area Reports, Part 47, Oregon, U.S. Government Printing Office, Washington, D.C., 1972.

Table 62. Number of Class 1-5 Farms\* by Value of Agricultural Products Sold, Morrow County, 1964 & 1969

Value	1969	1964
under \$2,499.....	2	--
\$2,500-\$4,999.....	18	23
\$5,000-\$7,499.....	23	17
\$7,500-\$9,999.....	17	13
\$10,000-\$14,999.....	27	26
\$15,000-\$19,999.....	35	41
\$20,000-\$29,999.....	57	55
\$30,000-\$39,999.....	27	38
\$40,000-\$59,999.....	34	24
\$60,000 and over.....	37	27
\$60,000-\$79,999.....	17	Not available
\$80,000 and over.....	20	Not available

\* Farms with sales of \$2,500 and over

SOURCE: U.S. Bureau of the Census, Census of Agriculture, 1969, Vol. 1 Area Reports, Part 47 Oregon, U.S. Government Printing Office, Washington, D.C., 1972.

Table 63. Number of Farms by Economic Class, Morrow County, 1964 & 1969

Economic Class	1964		1969	
	Farms	Dollars	Farms	Dollars
Class I (sales of \$40,000 or more)...	51		71	
Class II (sales of \$20,000-\$39,999)..	93		84	
Class III (sales of \$10,000-\$19,999).	67		62	
Class IV (sales of \$5,000-\$9,999)....	30		40	
Class V (sales of \$2,500-\$4,999).....	23		20	

SOURCE: U.S. Bureau of the Census, Census of Agriculture, 1969, Vol. 1 Area Reports, Part 47 Oregon, U.S. Government Printing Office, Washington, D.C., 1972.

Table 64. Farm Production Expenses, Morrow County, 1964 & 1969

Item	1964		1969	
	Farms	Dollars	Farms	Dollars
Livestock, poultry.....	157	\$582,465	138	\$ 939,740
Feed.....	217	548,165	225	705,822
Seeds, bulbs, plants, trees.....	173	92,625	110	133,088
Commercial fertilizer.....	200	205,495	166	404,123
Lime.....	---	---	4	36,607
Other agricultural chemicals....	---	---	204	154,779
Gasoline, petroleum fuel.....	328	600,985	341	597,807
Hired labor.....	257	830,845	227	829,548
Contract labor, machine hire, custom work.....	126	95,807	168	315,273
Other expenses.....	---	---	322	4,371,983
Number of farms with expenditure of: under \$500.....	---		18	
\$500-\$999.....	---		13	
\$1,000-\$1,999.....	---		18	
\$2,000-\$2,999.....	---		25	
\$3,000-\$4,999.....	---		33	
\$5,000-\$9,999.....	---		58	
\$10,000 and over.....	---		182	

SOURCE: U.S. Bureau of the Census, Census of Agriculture, 1969, Vol. 1, Area Reports, Part 47 Oregon, U.S. Government Printing Office, Washington, D.C., 1972.

Table 65. Land in Farms, Morrow County, 1964 & 1969

Land Use	1964		1969	
	Farms	Acres	Farms	Acres
Total Cropland.....	317	387,990	317	409,194
Harvested cropland.....	305	163,655	277	182,470
Cropland for pasture.....	139	20,580	147	21,460
All other cropland.....	NA	203,755	221	205,264
Woodland, including woodland pasture.....	40	128,859	31	57,910
All other land.....	NA	575,301	298	533,404
Irrigated land.....	206	16,131	145	20,759

SOURCE: U.S. Bureau of the Census, Census of Agriculture, 1969, Vol. 1, Area Reports, Part 47 Oregon, U.S. Government Printing Office, Washington, D.C., 1972.

Table 66. Farms by Type of Production, Morrow County, 1969

Product	No. of Farms	Amount Produced
Cattle and calves.....	226	27,473
Hogs and pigs.....	13	173
Sheep and lambs.....	41	10,420
Horses and ponies.....	135	659
Chickens (3 months and older)...	49	1,445
Broilers, meat chickens (under 3 months).....	2	8
Other livestock, poultry.....	18	---
	No. of Farms	Acres
Field corn.....	2	75
Wheat for grain.....	204	122,192
Small grains.....	136	44,407
Hay (except sorghum).....	157	14,045
Irish and sweet potatoes.....	3	380
Vegetables, corn, melons.....	5	79
Orchards.....	6	22
Other crops.....	7	644

SOURCE: U.S. Bureau of the Census, Census of Agriculture, 1969, Vol. 1, Area Reports, Part 47 Oregon, U.S. Government Printing Office, Washington, D.C., 1972.

Table 67. Machinery and Equipment on Farms, Morrow County, 1964 & 1969

Machinery	1964		1969	
	Farms Reporting	Number	Farms Reporting	Number
Automobiles.....	291	435	299	423
Motor trucks.....	311	968	315	996
Tractors (except garden tractors and motor tillers).....	307	766	285	724
Riding tractors (7 h.p. & over).	NA	NA	29	31
Grain and bean combines.....	125	181	135	200
Pickers, picker-shellors, & corn heads.....	---	---	2	3
Pick-up balers.....	143	149	123	130

SOURCE: U.S. Bureau of the Census, Census of Agriculture, 1969, Vol. 1, Area Reports, Part 47 Oregon, U.S. Government Printing Office, Washington, D.C., 1972.

In general, most farmers live on the farms they operate. Only 16 percent of the farm operators in Morrow County do not live on the farms they operate.

Table 68. Data on Farm Operators, Morrow County, 1964 & 1969

Subject	1964	1969
Farm operators by age:		
under 25 years.....	3	2
25 - 34 years.....	32	23
35 - 44 years.....	54	57
45 - 54 years.....	81	80
55 - 64 years.....	67	83
65 years and older.....	27	32
Farm operators by residence		
Resides on farm operated.....	232	219
Does not reside on farm operated.....	31	39
Days of work off farm.....	61	81
1 - 49 days.....	32	35
50 - 99 days.....	7	4
100 - 199 days.....	4	12
200 days and over.....	18	30

SOURCE: U.S. Bureau of the Census, Census of Agriculture, 1969, Vol. 1, Area Reports, Part 47 Oregon, U.S. Government Printing Office, Washington, D.C., 1972.



Logging and Wood Products

Morrow County has four manufacturing operations either directly or indirectly related to the lumber industry. These include a logging contractor, two sawmills and lumber companies, and a box manufacturer. The industry employs an average of 140 people.

The following tables give data on timber harvest, log consumption, and installed 8-hour capacity of mills.

Table 69. Timber Harvest by Ownership, Morrow County, 1970

Ownership	Production*
Private.....	16,286
Forest industry.....	13,372
Other.....	2,914
Bureau of Land Management.....	1,033
National forest.....	11,152
Total timber harvest.....	28,471

\* Scribner Log Rule - thousand board feet

SOURCE: U.S. Department of Agriculture, Pacific Northwest Forest and Range Experiment Station, Portland, Oregon, Forest Service, Forest Survey Project.

Table 70. Log Consumption by Sawmills, By Species, Morrow County,<sup>1/</sup> 1968

Species	Consumption*
All species.....	118,227
Douglas Fir.....	11,758
True Firs.....	2,629
Ponderosa & Jeffery Pines.....	103,840

\* Scribner Log Rule - thousand board feet

SOURCE: Oregon State Department of Forestry jointly with the U.S. Forest Service, Oregon Timber Industries, 1968 Wood Consumption and Mill Characteristics, Pacific Northwest Forest and Range Experiment Station, 1970.

<sup>1/</sup> Morrow and Harney Counties are combined to avoid disclosure.

Table 71. Origin of Logs Consumed, By Ownership Class, Morrow County, 1968

Ownership	Consumption*
All owners.....	118,227
National forest.....	81,950
Bureau of Land Management....	833
Forest industry	
Own lands.....	32,444
Other industry.....	1,200
Farmer & misc. private.....	1,800

\* Scribner Log Rule - thousand board feet

SOURCE: Oregon State Department of Forestry jointly with the U.S. Forest Service, Oregon Timber Industries, 1968 Wood Consumption and Mill Characteristics, Pacific Northwest Forest and Range Experiment Station, 1970.

Table 72. Production and Disposition of Residue, By Weight, <sup>1/</sup> Morrow County, <sup>2/</sup> 1968

Subject	All Types	Coarse	Medium	Fine
Total Produced.....	123,649	62,709	25,659	35,281
Total Used <sup>3/</sup> .....	120,481	62,709	25,659	32,113
Pulp.....	52,786	52,786	0	0
Fuel.....	55,486	0	23,355	32,113
Miscellaneous.....	12,227	9,923	2,304	0
Unused.....	3,168	0	0	3,168

<sup>1/</sup> Tons, dry weight

<sup>2/</sup> Morrow and Harney Counties are combined to avoid disclosure

<sup>3/</sup> Used residues were not necessarily consumed in the area in which they were produced.

SOURCE: Oregon State Department of Forestry jointly with the U.S. Forest Service, Oregon Timber Industries, 1968 Wood Consumption and Mill Characteristics, Pacific Northwest Forest and Range Experiment Station, 1970.

Table 73. Installed 8-Hour Capacity of Sawmills, Morrow County, 1968

Sawmill	Capacity*
Mill Size Class C <sup>1/</sup> .....	50
Mill Size Class B <sup>2/</sup> .....	100
Total Capacity.....	150

\* Scribner Log Rule - thousand board feet

1/ Class C - 40,000 to 79,000 board feet capacity per 8 hour shift

2/ Class B - 80,000 to 119,000 board feet capacity per 8 hour shift

SOURCE: Oregon State Department of Forestry jointly with the U.S. Forest Service, Oregon Timber Industries, 1968 Wood Consumption and Mill Characteristics, Pacific Northwest Forest and Range Experiment Station, 1970.

Manufacturing

Table 74. Type of Manufacturing, Morrow County, 1970

Name	Type of Manufacturing	No. Employed
Docken Corp., I.M.....	Prepared feed for animals	30
Heppner Box Mill.....	Wooden boxes and shooks	2
Heppner Gazette Times.....	Newspaper	6
Heppner Lumber Company....	Sawmill - lumber	50
Morrow Company Creamery...	Creamery butter	3
Chris Logging and Construction Corp.....	Logging camps, contractors	1

SOURCE: Oregon State Executive Department, Economic Development Division, Directory of Oregon Manufacturers, 1970.

Business

Most of the trade and service businesses of Morrow County are located at Heppner with a few located at Ione, Boardman, or Irrigon. The greatest percentage of retail trade establishments in the county are either food stores or farm related businesses.

Table 75. Retail Trade Statistics, Morrow County, 1967

Subject	Amount
All establishments	
Number.....	75
Sales (\$1,000's).....	\$6,803
Proprietors.....	71
Establishments with payroll	
Number.....	56
Sales (\$1,000's).....	\$6,210
Payroll, entire year.....	715
Payroll, first quarter.....	182
Paid employees for week including March 12.....	189

SOURCE: U.S. Bureau of the Census, Census of Business, 1967 Retail Trade: Oregon, BC 67 - RA 39, U.S. Government Printing Office, Washington, D.C., 1969.

Table 76. Retail Trade Statistics by Kind of Business, Morrow County, 1967

Kind of Business	Establishments	Sales (in \$1,000's)
Building materials, hardware, farm equipment.....	10	\$ 949
General merchandise.....	3	D*
Food stores.....	10	1,198
Automotive dealers.....	6	1,107
Gasoline service stations.....	10	892
Apparel stores.....	2	D
Furniture, equipment.....	4	282
Eating, drinking places.....	13	674
Drug, proprietary stores.....	2	D
Misc. retail stores.....	13	1,118
Nonstore retailers.....	2	D

\*D - withheld to avoid disclosure

SOURCE: U.S. Bureau of the Census, Census of Business, 1967 Retail Trade: Oregon, BC 67 - RA 39, U.S. Government Printing Office, Washington, D.C., 1969.

Table 77. Selected Services Statistics, Morrow County, 1963 & 1967

Subject	1963	1967
All establishments		
Number.....	27	32
Receipts (\$1,000).....	\$367	\$471
Establishments with payroll		
Number.....	15	11
Receipts (\$1,000).....	\$237	\$264
Payroll, entire year (\$1,000)....	64	61

SOURCE: U.S. Bureau of the Census, Census of Business, 1967 Selected Services: Oregon, U.S. Government Printing Office, Washington, D.C., 1968.

Table 78. Number of Selected Services by Kind of Business, Morrow County, 1967

Kind of Business	No. of Establishments
Hotels, motels, tourist courts, camps.....	5
Personal services.....	13
Misc. business services.....	3
Auto repair, service garages.....	4
Misc. repair services.....	4
Amusements, recreation.....	3
Motion pictures.....	--

SOURCE: U.S. Bureau of the Census, Census of Business, 1967 Selected Services: Oregon, U.S. Government Printing Office, Washington, D.C., 1968.

Table 79. Wholesale Trade Statistics, Morrow County, 1967

Subject	Establishments	Sales (\$1,000's)
Merchant wholesalers.....	2	D*
Other operating types.....	9	D
Total wholesale trade.....	11	\$5,050

\* Withheld to avoid disclosure.

SOURCE: U.S. Bureau of the Census, Census of Business, 1967 Wholesale Trade: Oregon, U.S. Government Printing Office, Washington, D.C., 1968.

PUBLIC SERVICES

Transportation

Table 80. Motor Vehicle Registration, Morrow County, 1970

Vehicle	Number
Passenger vehicles.....	3,142
Buses.....	8
Trucks.....	601
Trailers.....	329
Motorcycles.....	151
Recreational.....	280
Total.....	4,511

SOURCE: Bureau of Business and Economic Research, Oregon Economic Statistics 1972, University of Oregon, 1972.

Although there is no bus service to Heppner, Greyhound Bus Lines operates bus service at Boardman. There are five arrivals from Portland daily with two continuing east through Pendleton and Salt Lake City. The other buses continue northward through Yakima and Spokane, Washington. Buses also leave Heppner four times daily for Portland.

Communications

The county is served by the Eastern Oregon Telephone Company with an exchange at Boardman. Morrow County also has a newspaper, which is located at Heppner.

Table 81. Communications Facilities, Morrow County, 1970

Facilities	Total	Rural	Occupied Rural Farm
<u>Telephone</u>			
Available.....	1,316	1,316	344
None.....	171	171	26
Total year-round housing units...	1,746	1,746	370
<u>Television</u>			
Number of sets			
1.....	1,180	1,180	303
2 or more.....	200	200	63
None.....	128	128	---
UHF equipped sets			
Yes.....	845	845	312
No.....	535	535	54
Total year-round housing units...	1,708	1,708	366
<u>Battery Operated Radios</u>			
Yes.....	1,167	1,167	273
No.....	341	341	93
Total year-round housing units...	1,708	1,708	366

SOURCE: U.S. Bureau of the Census, Census of Housing: 1970 Detailed Housing Characteristics, Final Report HC (1) - B39 Oregon, U.S. Government Printing Office, Washington, D.C., 1972.

Library Facilities

Morrow County has two libraries located within the county; one is located at Heppner and the other at Ione. The following table gives means of financing, expenditures, and circulation of the two libraries combined.

Table 82. Library Statistics, Morrow County, 1970

Subject	Amount
Value of Taxable Property.....	\$88,872,889
Population.....	4,600
City funding for library.....	\$1,690
Total expenditures.....	\$1,687
Expenditures per capita.....	\$ .37
Volumes.....	6,266
Circulation.....	5,840
Circulation per capita.....	1.3

SOURCE: Oregon State Library, Directory of Oregon Libraries, annual statistics for the year ending June 30, 1970.

## Utilities

Utility gas is not available in the county; however, bottled, tank, or LP gas is used for cooking. The following tables give source of water, sewage disposal, and types of fuel and their uses.

Table 83. Utilities Statistics, Morrow County, 1970

Utility	Total	Rural	Occupied Rural Farm
<u>Source of Water</u>			
Public system or private company.....	887	887	11
Individual well.....	725	725	338
Other.....	134	134	18
All year-round housing units..	1,746	1,746	370
<u>Sewage Disposal</u>			
Public sewer.....	620	620	---
Septic tank - cesspool.....	1,041	1,041	359
Other.....	85	85	8
All year-round housing units..	1,746	1,746	370

SOURCE: U.S. Bureau of the Census, Census of Housing: 1970 Detailed Housing Characteristics, Final Report HC(1) - B39 Oregon, U.S. Government Printing Office, Washington, D.C., 1972.

Table 84. Types of Fuels and Fuel Usage, Morrow County, 1970

Type of Fuel	House Heating	Water Heating	Cooking
Fuel oil, kerosene.....	809	---	---
Coal or coke.....	18	---	---
Wood.....	45	---	23
Electricity.....	452	1,428	1,280
Bottled, tank, or LP gas....	184	80	205

SOURCE: U.S. Bureau of the Census, Census of Housing: 1970 Detailed Housing Characteristics, Final Report HC(1) - B39 Oregon, U.S. Government Printing Office, Washington, D.C., 1972.



PUBLIC FINANCE

Table 85. Revenue Sources, Morrow County, 1968-1969

Source	Amount of Revenue
Receipts from State Government	
Liquor revenue.....	\$ 6,937
Highway revenue.....	60,885
Gas tax refund.....	3,815
Electric co-op tax.....	9,887
County fair apportionment.....	20,793
Cigarette tax.....	6,956
Surplus foods program.....	1,967
Misc. and other.....	2,795
Total.....	<u>\$114,035</u>
Receipts from Federal Government	
National forest receipts.....	\$ 40,508
Taylor grazing receipts.....	87
5% land sales.....	2,141
Flood control leases.....	1,086
Health Dept. contributions.....	1,546
Civil Defense Disaster Grants.....	3,291
Total.....	<u>\$ 48,659</u>
Receipts from Local Sources	
Fees and permits.....	\$ 6,851
Fines, court costs.....	15,770
Law and public libraries.....	446
Interest income.....	8,922
Sale, rental public property.....	12,758
Public service enterprises.....	15,246
Misc. and other.....	20,114
Total.....	<u>\$ 80,107</u>

SOURCE: Bureau of Government Research and Science, Revenue Sources of Oregon Counties, Fiscal Year 1968-1969, Bulletin #162, University of Oregon.

Table 86. Summary of Assessment Rolls for 1971-72 Fiscal Year Real Property, Personal Property and Utilities, Morrow County

Item	Assessed Value	Percent of Total
<u>Class</u>		
Real Property		
Lands inside corporate limits.....	\$ 1,745,820	1.98
Lands outside corporate limits.....	40,425,530	45.77
Improvements inside corporate limits.....	8,842,830	10.01
Improvements outside corporate limits.....	11,022,180	12.48
Timber (excludes land).....	---	---
Less veterans exemptions.....	(-304,190)	(-.34)
Less senior citizens residence exemptions...	(-258,270)	(-.29)
Taxable real property.....	\$61,473,900	69.60
Personal Property		
Merchandise and stock in trade.....	\$ 1,790,510	2.03
Furniture, fixtures, and equipment.....	170,750	.19
Farm machinery and equipment.....	5,250,720	5.94
Other machinery and equipment.....	877,320	.98
Livestock.....	3,752,833	4.25
Miscellaneous.....	---	---
Less veterans exemptions.....	(-7,500)	(-.01)
Less senior citizens residence exemptions	---	---
Taxable personal property.....	\$11,834,633	13.40
Total taxable real and personal property.....	\$73,308,533	83.00
Utilities		
Airline companies.....	---	---
Electric companies.....	\$ 324,662	.37
Express companies.....	---	---
Gas companies.....	8,238,078	9.33
Heating companies.....	---	---
Pipeline companies.....	---	---
Railroad companies.....	4,413,155	5.00
Tank and private car companies.....	451,564	.51
Telegraph companies.....	---	---
Telephone companies.....	1,525,043	1.73
Water companies.....	---	---
Water transportation companies.....	63,800	.07
Taxable utility property.....	\$15,016,302	17.00
Total taxable real, personal, and utility property.....	\$88,324,835	100.00

SOURCE: Oregon State Department of Revenue, Summary of Assessment and Tax Rolls for the 1971-72 Fiscal Year and 1969-70 and 1970-71 Property Tax Collections, 1972.

Table 87. Summary of 1971-72 Property Tax Levies & Assessments, Morrow County

Item	Amount in Dollars
<u>Levies</u>	
County.....	\$ 370,277
Cities.....	73,258
Community Colleges.....	149,705
Elementary & Secondary School Districts	
Intermediate County.....	---
Education Joint.....	---
Elementary and Unified.....	1,265,091
Union High.....	---
County Unit.....	---
Total School Districts.....	1,265,091
Special Districts	
Cemetery.....	25,446
Fire Protection.....	21,921
Hospital.....	---
Park and Recreation.....	10,063
Port.....	29,232
Road.....	---
Sanitary.....	---
Water Supply.....	---
Other.....	1,698
Total Special Districts.....	88,360
Total Gross Ad Valorem Levies.....	1,946,691
Special Assessments	
Fire Patrol.....	15,933
Forest Fee.....	---
Diking and Drainage.....	---
Irrigation.....	43,740
Lighting.....	---
Other.....	---
Total Special Assessments.....	59,673
Total Gross Levies and Assessments.....	2,006,364
Less Property Relief Money	
Senior Citizens.....	(-6,699)
Game Commission.....	(-230)
Total Net Ad Valorem Levies.....	1,939,762
Net Ad Valorem Taxes by Class	
Real Property.....	1,356,959
Personal Property.....	258,675
Utility Property.....	324,129

SOURCE: Oregon State Department of Revenue, Summary of Assessment and Tax Rolls for the 1971-72 Fiscal Year and 1969-70 and 1970-71 Property Tax Collections, 1972.

Table 88. Per Capita City Taxes and Valuation Percentage Distribution of Consolidated Rates and Dollars Per Thousand Rates on True Cash Value, Morrow County, 1971-72 Fiscal Year

Item	Heppner	Boardman	Ione	Irrigon
True Cash Value (T.C.V.).....	\$7,274,332	\$2,389,086	\$1,430,563	\$711,814
Per Capita True Cash Value...	5,069	9,556	4,030	2,676
Per Capita Tax				
City.....	33	57	23	6
Consolidated.....	140	252	108	67
Percentage of Total Levy				
County.....	15.2	15.8	15.6	16.6
City.....	23.9	22.6	21.7	8.8
School.....	58.0	56.7	60.6	56.4
Other.....	2.9	4.8	2.1	18.1
Average Rate/\$TCV Basis				
County.....	4.18	4.18	4.18	4.18
City.....	6.60	5.97	5.81	2.22
School.....	15.99	14.97	16.24	14.19
Other.....	.79	1.26	.57	4.55
Total.....	27.56	26.38	26.80	25.14

SOURCE: Oregon State Department of Revenue, Summary of Assessment and Tax Rolls for the 1971-72 Fiscal Year and 1969-70 and 1970-71 Property Tax Collections, 1972.

Table 89. City Valuation, Tax Rates and Taxes Extended, Morrow County

Item	Heppner	Boardman	Ione	Irrigon
Population.....	1,435	250	355	266
Code Area 1/.....	1-1	25-1	35-1	10-3
Assessed Value.....	\$7,274,332	\$2,389,086	\$1,430,563	\$711,814
Assigned Ratio.....	100.00%	100.00%	100.00%	100.00%
Rate/\$1,000 by levying unit				
County.....	4.18	4.18	4.18	4.18
City.....	6.60	5.97	5.81	2.22
School.....	15.99	14.97	16.24	14.19
Other.....	.79	1.26	.57	4.55
Total.....	27.56	26.38	26.80	25.14
City Tax.....	\$48,011	\$14,263	\$8,312	\$1,580
Consolidated Tax.....	\$200,481	\$63,024	\$38,339	\$17,895

1/ Code areas are assessors' divisions which cover all or part of a city.

SOURCE: Oregon State Department of Revenue, Summary of Assessment and Tax Rolls for the 1971-72 Fiscal Year and 1969-70 and 1970-71 Property Tax Collections, 1972.

Table 90. Amount and Percent of Unpaid Property Tax, Morrow County, 1971

Item	Total Amount	Amount Unpaid	Percent of Unpaid
Property Taxable			
Real.....	1,305,274	162,943	12.5
Personal.....	222,272	21,136	9.5
Public Utilities.....	284,350	---	0
Western Oregon additional timber tax.....	---	---	---
Yield tax.....	---	---	---
Total.....	1,811,896	184,079	

SOURCE: Oregon State Department of Revenue, Summary of Assessment and Tax Rolls for the 1971-72 Fiscal Year and 1969-70 and 1970-71 Property Tax Collections, 1972.

## Selected List of Agencies

The following list gives names and addresses of agencies that have served as data sources for this publication and may provide further or more current data on subjects of interest.

In addition, a number of local and county offices are available to offer local information and assistance, including:

Agriculture Stabilization and Conservation  
Assessor  
City Library  
Corrections and Parole  
County Engineer  
County Extension  
County Surveyor  
Employment Division  
Game Commission  
Health Department  
Public Welfare  
Soil Conservation Service

1. Bureau of Business and Economic Research, University of Oregon, Eugene, Oregon, 97403
2. Center for Population Research and Census, Portland State University, 724 S.W. Harrison, Portland, Oregon, 97201
3. Children Services Division, Oregon State Department of Human Resources, Public Services Building, Salem, Oregon, 97310
4. Department of Environmental Quality, 1234 S.W. Morrison, Portland, Oregon, 97204
5. Economic Research Service, U.S.D.A. Extension Hall, Oregon State University, Corvallis, Oregon, 97331
6. Extension Service, Oregon State University, Corvallis, Oregon, 97331
7. Fish Commission of Oregon, 1400 S.W. 5th St., Portland, Oregon, 97201
8. 40H Youth Office, Extension Hall, Oregon State University, Corvallis, Oregon, 97331
9. Forest Service, U.S.D.A., 319 S.W. Pine St., Portland, Oregon, 97204
10. Governor's Office, Economic Development Special Projects, State Capitol Building, Salem, Oregon, 97310

11. Local Government Relations Division, Oregon Executive Department, 240 Cottage S.E., Salem, Oregon 97310
12. Oregon Association of Broadcasters, Allen Hall, University of Oregon, Eugene, Oregon 97403
13. Oregon Board of Higher Education, School Finance and Statistical Services, 942 Lancaster Dr. N.E., Salem, Oregon 97310
14. Oregon Department of Geology and Mineral Industries, 1400 S.W. 5th St., Portland, Oregon 97201
15. Oregon Educational Coordinating Council, 4263 Commercial S.E., Salem, Oregon 97310
16. Oregon State Department of Revenue, State Office Building, Salem, Oregon 97310
17. Oregon State Employment Division, Community Manpower, Research and Statistics, or Rural Manpower sections, Lab. and Ind. Building, Salem, Oregon 97310
18. Oregon State Game Commission, 1634 Alder, Portland, Oregon 97214
19. Oregon State Health Division, Department of Human Resources, 1400 S.W. 5th, Portland, Oregon 97201
20. Oregon State Highway Division, State Parks and Recreation Section, 8009 E. Burnside, Portland, Oregon 97215
21. Oregon State Lands Division, 502 Winter N.E., Salem, Oregon 97310
22. Oregon State Library, State Library Building, Salem, Oregon 97310
23. Oregon State Public Welfare Division, Department of Human Resources, Public Services Building, Salem, Oregon 97310
24. Pacific Northwest Forest and Range Experiment Station, U.S. Forest Service, 809 N.E. 6th St., Portland, Oregon 97232
25. Secretary of State's Office, State Capitol Building, Salem, Oregon 97310
26. Soil Conservation Service, U.S.D.A., 1218 S.W. Washington, Portland, Oregon 97205
27. State Water Resources Board, 1158 Chemeketa N.E., Salem, Oregon 97310
28. U.S. Department of Commerce, 921 S.W. Washington, Portland, Oregon 97204 (for copies of U.S. Census publications)

## Selected Bibliography

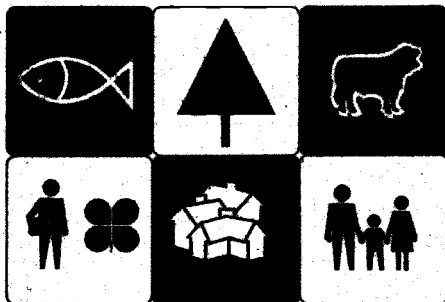
1. Bureau of Business and Economic Research, Oregon Economic Statistics 1972, University of Oregon, 1972.
2. Carolan, W.B., Jr., Federal Land Oregon, Oregon State University, 1963.
3. Center for Population Research and Census, Population Estimates of Counties and Incorporated Cities of Oregon, Portland State University, July 1972.
4. Office of the Governor, Planning Division, Health Facts, 1969.
5. Oregon Association of Broadcasters, Directory of Radio and Television Stations for the State of Oregon, 1972.
6. Oregon Board of Higher Education, 1969 School Directory and 1971-72 Oregon School-Community College Directory, School Finance and Statistical Services.
7. Oregon Conservation Needs Committee, Oregon Soil and Water Conservation Needs Inventory, U.S. Soil Conservation Service, 1971.
8. Oregon Department of Planning and Development, Resources for Development, 1964.
9. Oregon Educational Coordinating Council, Past Secondary Enrollment in Oregon, 1972.
10. Oregon State Board of Census, Components of Population Growth, Population Bulletin P-3, 1961.
11. Oregon State Board of Health, Oregon Plan for Construction and Modernization of Hospitals, Public Health Centers and Medical Facilities, 1971 Annual Revision, Health Facility Planning and Construction Section, 1971.
12. Oregon State Department of Commerce, Economic Development Division, Directory of Oregon Manufacturers - 1970.
13. Oregon State Department of Employment, 1965 Oregon Farm Labor Report, 1966.
14. Oregon State Department of Environmental Quality, Water Quality Control in Oregon, Oregon Sanitary Authority, 1970.
15. Oregon State Department of Forestry jointly with U.S. Forest Service, Oregon Timber Industries, 1968, Wood Consumption and Mill Characteristics, 1968.
16. Oregon State Department of Human Resources, Children Services Division, Adolescent Population and Commitment Data by County, by Calendar Year 1967-1970.



17. Oregon State Department of Human Resources, Employment Division, Labor Force and Employment in Oregon by County 1968 through 1971 publications, Research and Statistics Section.
18. Oregon State Department of Human Resources, Employment Division, 1971 Annual Rural Manpower Report, 1972.
19. Oregon State Department of Human Resources, Employment Division, Oregon Covered Employment and Payrolls, 1970 and 1971, Summary Data, Research and Statistics Section, 1971, 1972.
20. Oregon State Department of Human Resources, Oregon Public Welfare Division, Public Welfare in Oregon, October 1970, December 1970, and August 1972 editions.
21. Oregon State Department of Human Resources, Oregon State Health Division, Implementation and Enforcement Plan for the Public Waters of the State of Oregon, Oregon Sanitary Authority, 1967.
22. Oregon State Department of Human Resources, Oregon State Health Division, Vital Statistics Annual Report, Vital Statistics Section, 1971.
23. Oregon State Department of Revenue, First Biennial Report 1968-70.
24. Oregon State Department of Revenue, Summary of Assessment and Tax Rolls for the 1971-72 Fiscal Year and 1969-70 and 1970-71 Property Tax Collections, 1972.
25. Oregon State Department of Transportation, State Highway Division, "Day Visitor Attendance", State Parks and Recreation Section, 1972.
26. Oregon State Department of Transportation, State Highway Division, "Overnight Camping by the Public", State Parks and Recreation Section, 1972.
27. Oregon State Department of Transportation, State Highway Division, "The State Park Visitor in Oregon", State Parks and Recreation Division.
28. Oregon State Executive Department, Clay Meyers, Secretary of State, Oregon Blue Book, 1971-72, January 1971.
29. Oregon State Executive Department, Local Government Relations Division, District Facts, 1970.
30. Oregon State Fisheries Commission, 1968 and 1971 Annual Report.
31. Oregon State Game Commission, 1968 and 1971 Annual Report, Oregon State Game Commission.
32. Oregon State Game Commission, "Oregon State Game Commission Bulletin", May 1972.

33. Oregon State Lands Division, Inventory of State-Owned Real Property, By County, 1970.
34. Oregon State Library, Directory of Oregon Libraries, annual statistics for the year ending June 30, 1970.
35. Oregon State University Cooperative Extension Service, Agriculture in Oregon Counties - Farm Sales and General Characteristics, Special Report 330, Oregon State University, 1971.
36. Oregon State University Cooperative Extension Service, Income and Poverty Data for Racial Groups: A Compilation for Oregon Census County Divisions, Special Report 367, Oregon State University, 1972.
37. Pacific Northwest Forest and Range Experiment Station, 1968.
38. State Water Resources Board, River Basin Reports.
39. State Water Resources Board, U.S.D.A. River Basin Reports on Water and Related Land Resources, 1962.
40. U.S. Bureau of the Census, Census of Agriculture, 1969, Vol. 1 Area Reports, Part 47, Oregon, U.S. Government Printing Office, Washington, D.C., 1972.
41. U.S. Bureau of the Census, Census of Business, 1967 Retail Trade: Oregon, BC 67 - RA 39, U.S. Government Printing Office, Washington, D.C., 1969.
42. U.S. Bureau of the Census, Census of Business, 1967 Wholesale Trade: Oregon, BC 67 - WA 39, U.S. Government Printing Office, Washington, D.C., 1969.
43. U.S. Bureau of the Census, Census of Governments, 1967, Vol. 4, No. 5: Compendium of Government Finances, U.S. Government Printing Office, Washington, D.C., 1969.
44. U.S. Bureau of the Census, Census of Governments, 1967, Vol. 3, No. 2, Compendium of Public Employment, U.S. Government Printing Office, Washington, D.C., 1969.
45. U.S. Bureau of the Census, Census of Housing: 1970 Detailed Housing Characteristics, Final Report HC (1) - B39 Oregon, U.S. Government Printing Office, Washington, D.C., 1972.
46. U.S. Bureau of the Census, Census of Manufacturers, 1967, Area Services: Oregon, MC 67(3) - 38, U.S. Government Printing Office, Washington, D.C., 1970.
47. U.S. Bureau of the Census, U.S. Census of Population, General Demographic Trends for Metropolitan Areas, 1960 to 1970, Final Report PHC (2)-39,

48. U.S. Bureau of the Census, Census of Population, 1970 General Population Characteristics, Final Report PC(1) - B39 Oregon, U.S. Government Printing Office, Washington, D.C., 1971.
49. U.S. Bureau of the Census, Census of Population: 1970 General Social and Economic Characteristics, Final Report PC(1) - C39 Oregon, U.S. Government Printing Office, Washington, D.C. 1972.
50. U.S.D.A. and Cooperative Extension Service cooperating, "Oregon Commodity Data Sheets", Oregon State University, 1971-72.
51. U.S. Department of Commerce, Weather Bureau, Decennial Census of U.S. Climate, Supplement for 1951 through 1960, Oregon No. 86-31, 1965.
52. U.S. Forest Service, Forest statistics publications for various Oregon regions, Resource Bulletin PNW-10, Pacific Northwest Experiment Station.
53. U.S. Forest Service, "1970 Timber Harvest", U.S.D.A. Forest Service Resource Bulletin PNW-38, Pacific Northwest Forest and Range Experiment Station, 1971.
54. U.S. Soil Conservation Service, Soil Survey Reports.
55. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Environmental Data Service, Climatological Data, Annual Summary, Vol. 77, No. 13, 1971.



OREGON STATE UNIVERSITY  
**EXTENSION**  
 **SERVICE**

---

Extension Service, Oregon State University, Corvallis, Joseph R. Cox, director. This publication was produced and distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914. Extension work is a cooperative program of Oregon State University, the U. S. Department of Agriculture, and Oregon counties.

---