

### Introduction

The Oregon part of the Jordan 8-Digit Hydrologic Unit Code (HUC) subbasin is comprised of 450,000 acres in Malheur County. Seventy percent of the subbasin is rangeland, and nineteen percent is hayland and pastureland. Resource concerns include concentrated flow, streambank, and irrigation-induced erosion; invasive weeds; and insufficient water to meet livestock, wildlife, and irrigation needs. Rangeland in this subbasin provides significant habitat for sage grouse nesting and strutting.

There are only 15 ranches and about 25 ranchers in the subbasin. The ranching community is strong, but the remoteness of the subbasin limits the ability of conservationists to provide technical assistance to ranchers and increases the capital costs of many conservation practices.

The Ontario NRCS Service Center, Malheur County Soil and Water Conservation District, and Owyhee Watershed Council provide much of the conservation assistance in the subbasin.

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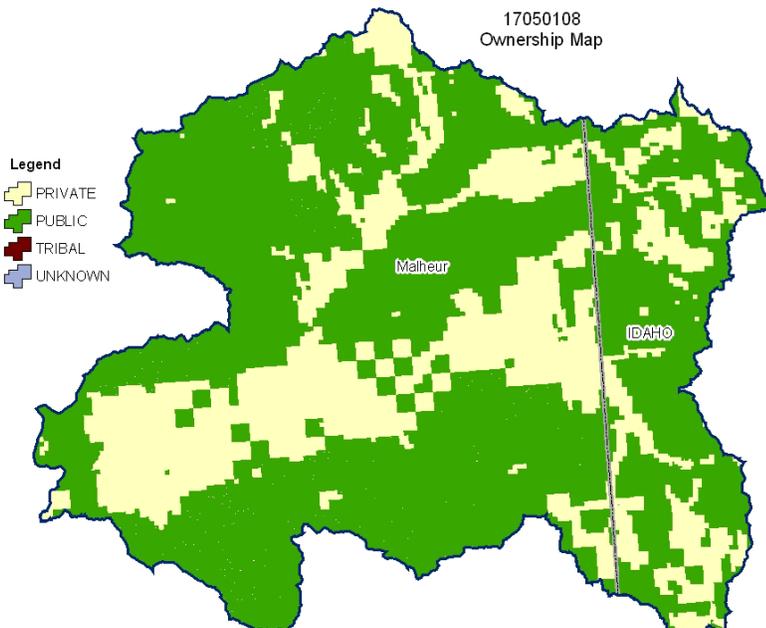
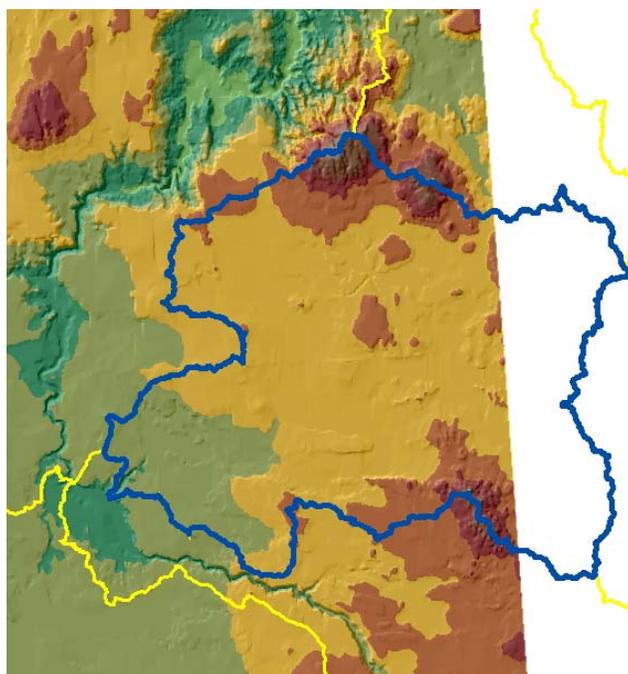
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### Relief Map



**Physical Description**

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**ALL NUMBERS IN THIS PROFILE ARE FOR OREGON ONLY**

Land Cover/Land Use (NLCD <sup>2</sup> )	Ownership - (2003 Draft BLM Surface Map Set <sup>1</sup> )							
	Public		Private		Tribal		Totals	%
	Acres	%	Acres	%	Acres	%		
Forest	*	---	*	---	0	0%	*	---
Grain Crops	*	---	*	---	0	0%	*	---
Conservation Reserve Program Land <sup>a</sup>	*	---	*	---	0	0%	*	---
Grass/Pasture/Hay	43,900	10%	40,100	9%	0	0%	84,000	19%
Orchards/Vineyards	0	0%	0	0%	0	0%	0	0%
Row Crops	*	---	*	---	0	0%	*	---
Shrub/Rangelands	233,700	52%	78,900	18%	0	0%	312,600	70%
Water/Wetlands/Developed/Barren	36,900	8%	9,800	2%	0	0%	46,700	10%
<b>Oregon HUC Totals <sup>b</sup></b>	<b>314,700</b>	<b>70%</b>	<b>134,900</b>	<b>30%</b>	<b>0</b>	<b>0%</b>	<b>449,600</b>	<b>100%</b>

\*: Less than 1 percent of total acres. See below for special considerations.

a: Estimate from Farm Service Agency records and includes CRP/CREP.

b: Totals are approximate due to rounding and small unknown acreages.

**Special Considerations for This 8-Digit HUC:**

- Most, if not all, ranchers have grazing allotments on public lands.

Irrigated Lands (1997 NRI <sup>3</sup> Estimates for Non-Federal Lands Only)	Type of Land	ACRES	% of Irrigated Lands	% of HUC
	Cultivated Cropland	100	2%	0%
	Uncultivated Cropland	5,300	88%	1%
	Pastureland	600	10%	0%
	<b>Total Irrigated Lands</b>	<b>6,000</b>	<b>100%</b>	<b>1%</b>

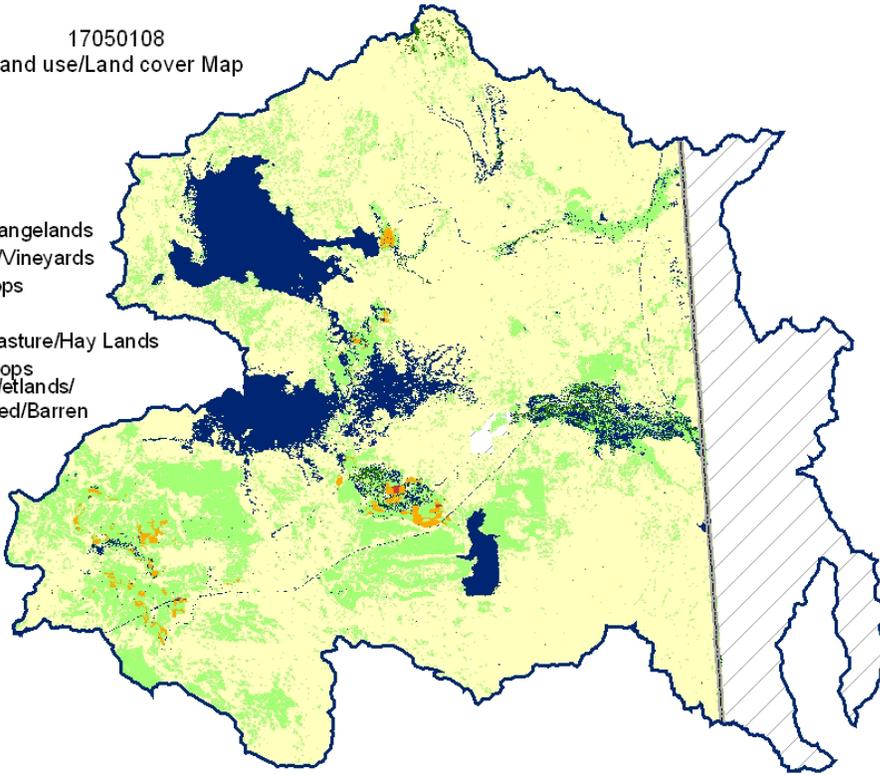
(Continued on the following pages)

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Land use/Land cover Map

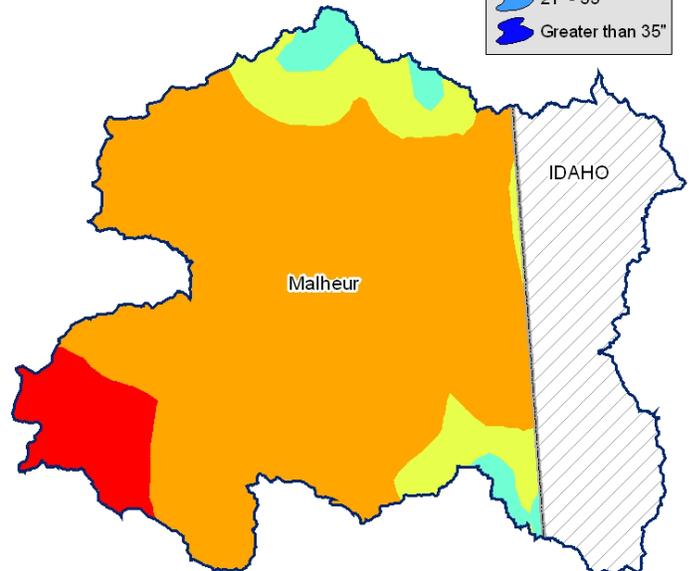
**Legend**

-  Shrub/Rangelands
-  Orchard/Vineyards
-  Row Crops
-  Forest
-  Grass/Pasture/Hay Lands
-  Grain Crops
-  Water/Wetlands/
-  Developed/Barren



17050108  
Average Annual  
Precipitation in Inches

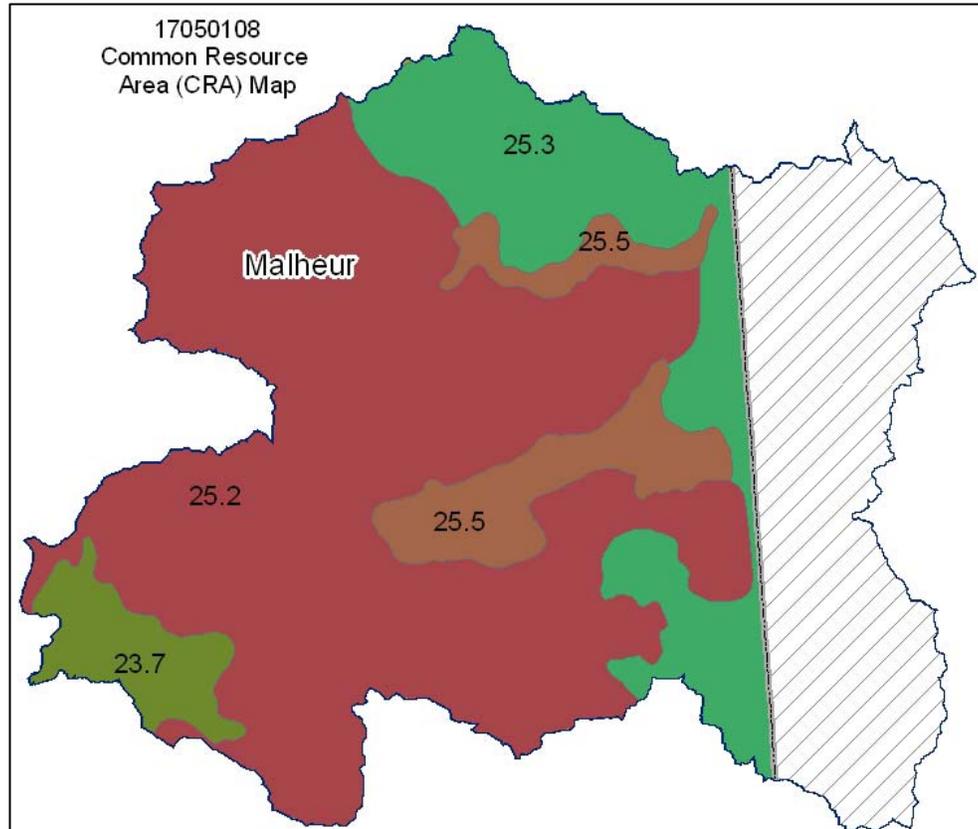
- Eastern Oregon  
Precipitation Range
-  Less than 9"
  -  9" - 13"
  -  13" - 17"
  -  17" - 21"
  -  21" - 35"
  -  Greater than 35"



**Common Resource Area Map**

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Only the major units are described below - for descriptions of all units within the HUC, go to: <http://ice.or.nrcs.usda.gov/website/cra/viewer.htm>



**23.7 – Malheur High Plateau - Alluvial Fans and Pluvial Lake Terraces:** This unit is characterized by warm soils on lake terraces. Wetlands and saline-sodic soils are typically absent. The soils typically have a cemented pan within a depth of 40 inches, but they do not have bedrock within a depth of 60 inches. The temperature regime is mesic but near frigid, and the moisture regime is aridic. The dominant soils include those of the Deppy, McConnell, Spangenburg, and Norad series.

**25.2 – Owyhee High Plateau - Dissected High Lava Plateau:** This unit consists of alluvial fans, rolling plains, and shear-walled canyons that are cut into extrusive rock. Sagebrush grassland is common, and scattered areas of woodland are on the rocky uplands. This unit supports cooler season grasses than do the valleys to the south, and it does not support saltbush and greasewood. Frigid and mesic Aridisols and Mollisols are in this unit. Grazing is the primary land use. Cropland is less common on this unit than it is on the Snake River Plain. High-quality water and native fish assemblages are in isolated canyons.

**25.3 – Owyhee High Plateau - Owyhee Uplands and Canyons:** This unit consists of deep, precipitous river canyons, barren lava fields, badlands, and tuffaceous outcroppings that are riddled by caves. It supports sagebrush grassland.

**25.5 - Owyhee High Plateau - Jordan Valley Terraces and Flood Plains:** This unit consists of flood plains and terraces that formed in alluvium from adjacent lava plateaus. Many areas of the soils are used as irrigated farmland. The temperature regime is mostly mesic, and the moisture regime is mostly aridic. The native vegetation is dominantly big sagebrush and bunchgrass.

**Physical Description – Continued**

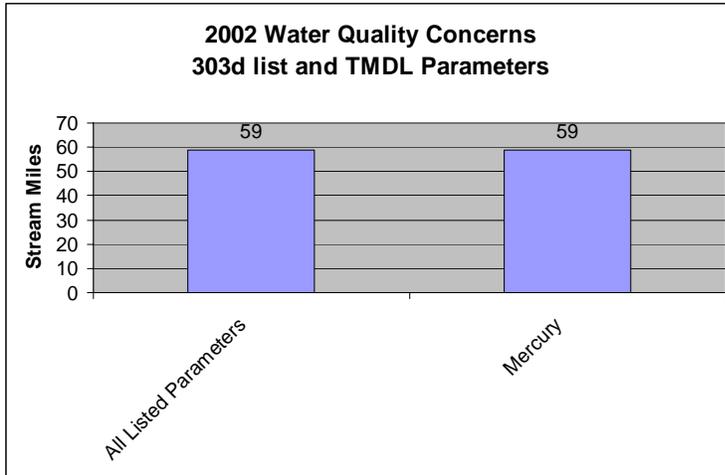
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		ACRES	ACRE-FEET			
<b>Irrigated Adjudicated Water Rights</b> (OWRD <sup>4</sup> )	Surface	35,268	94,263			
	Well	5,544	16,046			
	Total Irrigated Adjudicated Water Rights	40,813	110,309			
<b>Stream Flow Data</b>	OWRD 13178000 JORDAN CR AB LONE TREE CR, NEAR JORDAN VALLEY, OR	<b>Total Avg. Yield</b>	140,053			
		<b>May – Sept. Yield</b>	50,540			
		<b>MILES</b>	<b>PERCENT</b>			
<b>Stream Data</b> <sup>5</sup>	Total Miles – Major (100K Hydro GIS Layer)	156	---			
	303d/TMDL Listed Streams (DEQ)	59	38%			
	Anadromous Fish Presence (StreamNet)	0	0%			
	Bull Trout Presence (StreamNet)	0	0%			
		<b>ACRES</b>	<b>PERCENT</b>			
<b>Land Cover/Use</b> <sup>2</sup>	Forest	365	1%			
	Grain Crops	209	<1%			
	Grass/Pasture/Hay	5,130	20%			
	Orchards/Vineyards	0	0%			
	Row Crops	3	0%			
	Shrub/Rangelands – Includes CRP Lands	17,945	71%			
	Water/Wetlands/Developed/Barren	1,660	7%			
	<b>Total Acres of 100-Foot Stream Buffers</b>	<b>25,311</b>	<b>---</b>			
<b>Land Capability Class</b>	<b>1</b> – slight limitations	0	0%			
	<b>2</b> – moderate limitations	1,700	22%			
	<b>3</b> – severe limitations	3,100	41%			
	<b>4</b> – very severe limitations	0	0%			
	<b>5</b> – no erosion hazard, but other limitations	1,100	14%			
	<b>6</b> – severe limitations; unsuitable for cultivation; limited to pasture, range, forest	1,700	22%			
	<b>7</b> – very severe limitations; unsuitable for cultivation; limited to grazing, forest, wildlife habitat	0	0%			
	<b>8</b> – miscellaneous areas; limited to recreation, wildlife habitat, water supply	0	0%			
	<b>Total Croplands &amp; Pasturelands</b>	<b>7,600</b>	<b>--</b>			
	<b>Confined Animal Feeding Operations – Oregon CAFO Permit – 12/2004</b>					
<b>Animal Type</b>	<b>Dairy</b>	<b>Feedlot</b>	<b>Poultry</b>	<b>Swine</b>	<b>Mink</b>	<b>Other</b>
<b>No. of Permitted Farms</b>	0	0	0	0	0	0
<b>No. of Permitted Animals</b>	0	0	0	0	0	0

### Resource Concerns

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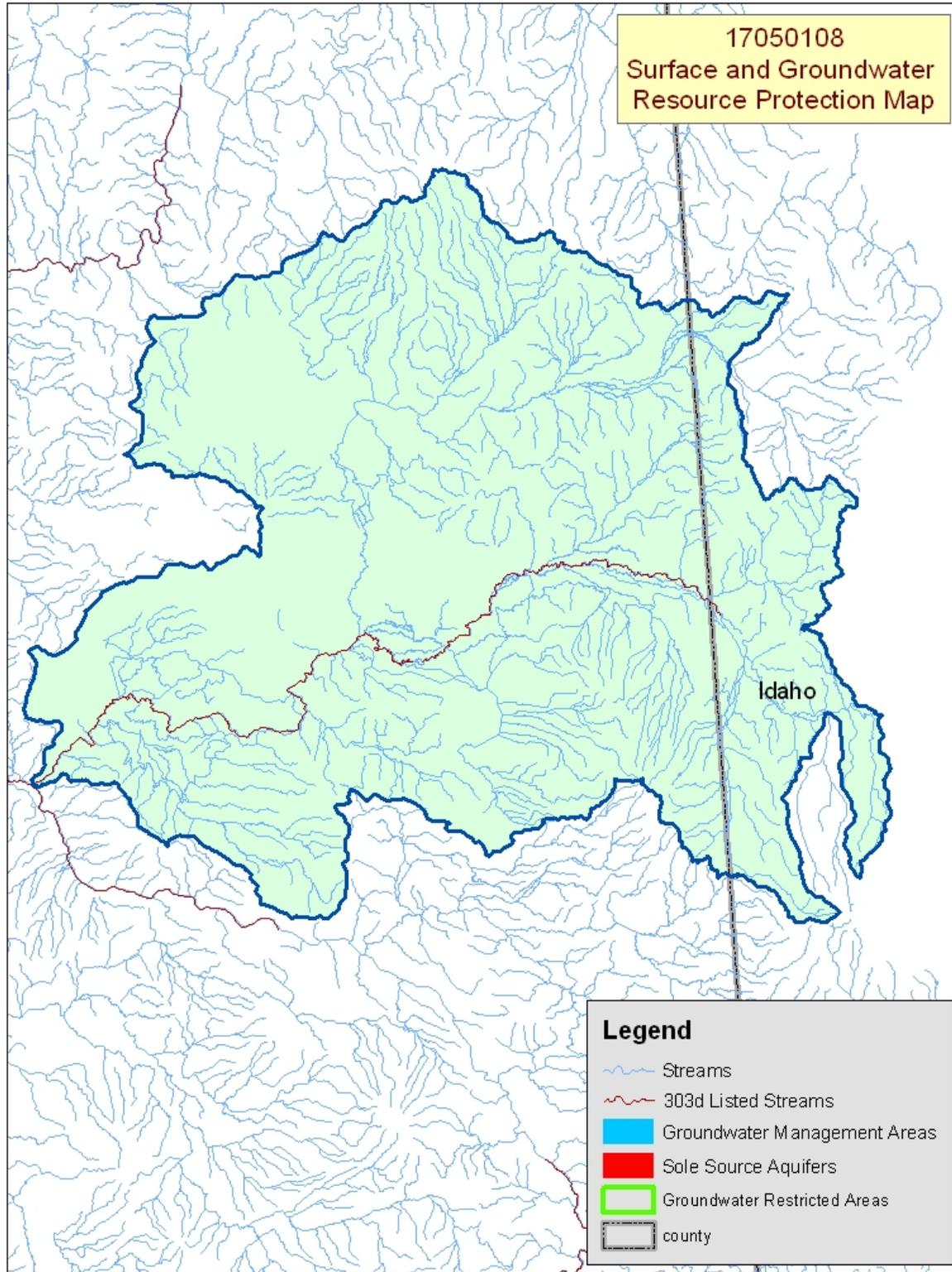
**Tons of Soil Loss by Water Erosion:** Due to the limited amount of non-Federal cropland and pastureland within this HUC, no reliable NRI soil loss estimates are available.



- ❖ A fish consumption advisory for very high levels of mercury has been issued for Jordan Creek by the Oregon Department of Health Services.
- ❖ High mercury levels are due in large part to past mining activities.

Watershed Projects, Plans, Studies, and Assessments			
NRCS Watershed Projects <sup>6</sup>		NRCS Watershed Plans, Studies, and Assessments <sup>7</sup>	
Name	Status	Name	Status
None	None	None	None
ODEQ TMDL's <sup>8</sup>		ODA Agricultural Water Quality Management Plans <sup>9</sup>	
Name	Status	Name	Status
None	None	Owyhee	Completed
OWEB Watershed Council <sup>10</sup>	Watershed Council Assessments <sup>11</sup>	NWPC Subbasin Plans and Assessments <sup>18</sup>	
Owyhee Watershed Council	None	Owyhee	

(Continued on page 8)



Map Footnote [417](#)

**Resource Concerns - Continued**

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Resource Concerns/Issues by Land Use							
SWAPA +H Concerns	Specific Resource Concern/Issue	Pasture \Hay	Grain Crops	Row Crops	Perennial Crops (Orch/Vine/ Berries)	Shrub/Range	Forest
		Soil Erosion	Concentrated Flow or Gully				
	Streambank	X				X	
	Irrigation Induced	X					
Water Quantity	Water Management For Irrigated Land	X					
Water Quality, Surface	Suspended Sediments & Turbidity	X					
Plant Suitability	Site & Intended Use Suitability	X				X	
	Invasive Weeds	X				X	
Plant Condition	Productivity, Health, & Vigor	X					
Animal Habitat, Domestic	Water - Quantity & Quality					X	
	Food, Cover, &/or Shelter					X	
Animal Habitat, Wildlife	Water - Quantity & Quality					X	
	Management					X	
Human, Economics	High Capital/Financial Costs	X				X	
	High Labor Costs or Availability					X	
Human, Other	Remote Location	X				X	

**Pasture/Hay**

- Streambank and irrigation-induced erosion might occur unless proper grazing management is used to maintain vegetation.
- Sufficient water commonly is not available to meet pasture irrigation requirements.
- Grass/hay species that would maximize production given the local soils and climate commonly are not selected.
- Invasive weeds and poor overall pasture health limits forage productivity.
- The high capital costs of improving water storage and irrigation water management hinder further pasture improvements.

**Range**

- Concentrated flow and irrigation-induced erosion occur in areas of range, especially where cattle congregate.
- Invasive weeds, such as star thistle, medusahead, and leafy spurge, limit range productivity.
- Sufficient water commonly is not available for livestock and wildlife.
- Important areas need to be protected as habitat for sage grouse nesting and strutting.

**Other**

- The remote location hinders the ability to provide technical assistance to area ranchers and increases capital costs of conservation practices.

FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES <sup>12</sup>	
<b>THREATENED SPECIES</b>	<b>CANDIDATE SPECIES</b>
<b>Birds</b> – Bald eagle	<b>Birds</b> – Yellow-billed cuckoo
<b>Fish</b> – Lahontan cutthroat trout, Bull trout	<b>Amphibians and Reptiles</b> – Columbia spotted frog
<b>Plants</b> – Howell's spectacular thelypody	<b>PROPOSED SPECIES</b> None
<b>ESSENTIAL FISH HABITAT<sup>13</sup></b> - None	

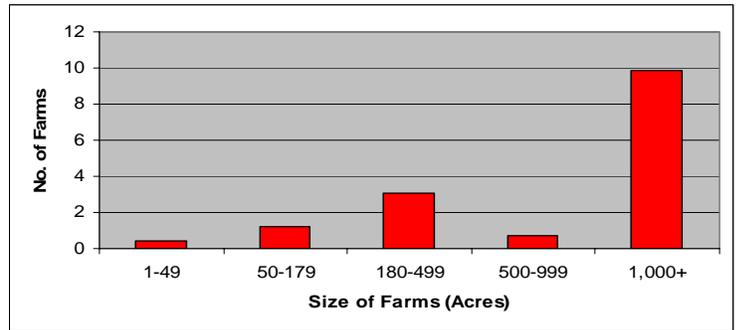
### Census and Social Data<sup>/14</sup>

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**Number of Farms: 15**

**Number of Operators: 25**

- Full-Time Operators: **9**
- Part-Time Operators: **16**

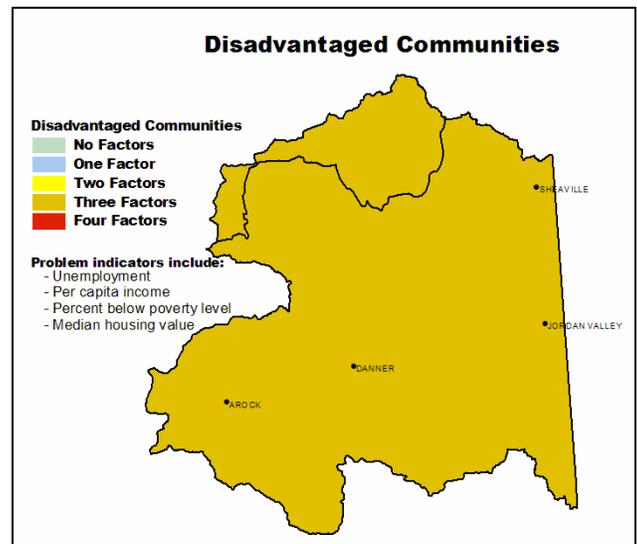
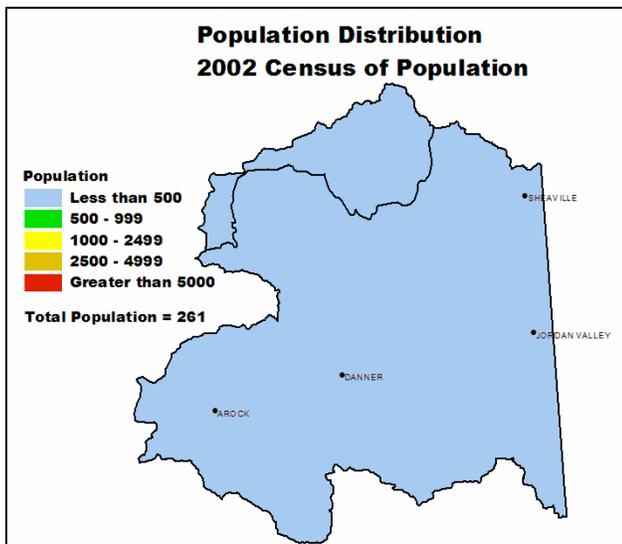


### Estimated Level of Willingness and Ability to Participate in Conservation<sup>/15</sup>: **Moderate**

Ranchers in the Jordan subbasin have a moderate ability and willingness to adopt conservation and resource management systems. Due to the remoteness of the region and the independent nature of a ranch community, people do not readily seek technical or financial outside assistance. They are aware of the local natural resource concerns in their area, however, and commonly are willing to address issues as their own resources permit. Unfortunately, ranching in the subbasin is not highly profitable and although most ranchers believe conservation is good, they also perceive it to be too costly. There is a need for additional technical and financial assistance to increase conservation adoption among ranchers in this subbasin.

### Evaluation of Social Capital<sup>/16</sup>: **Moderate**

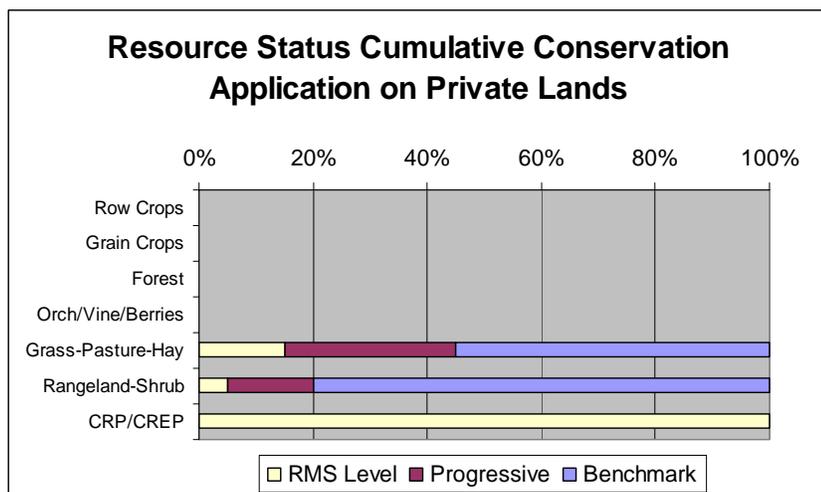
The community has the ability to solve problems, but because it has a small population and is in a remote area far from government and business decision-making centers, effecting change is difficult. On the other hand, the community is quite active in local school, church, and agricultural activities. Most of the ranchers know and support one another. Most of the community participates in activities and issues that they believe will affect their families and livelihood. Conservation systems will become more widely diffused in the subbasin as local resource concerns are acknowledged as critical to the survival of the ranching community.



### Progress/Status

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PRMS Data	FY99	FY00	FY01	FY02	FY03	Avg/Year	Total
Total Conservation Systems Planned (Acres)	0	0	0	921	0	184	921
Total Conservation Systems Applied (Acres)	0	0	0	6,800	0	1,360	6,800
Conservation Treatment (Acres)							
Waste Management	0	0	0	0	0	0	0
Buffers	0	0	0	0	0	0	0
Erosion Control	0	0	0	0	0	0	0
Irrigation Water Management	0	0	0	0	60	12	60
Nutrient Management	0	0	0	0	0	0	0
Pest Management	0	0	0	0	0	0	0
Prescribed Grazing	0	0	0	0	196,946	39,389	196,946
Trees & Shrubs	0	0	0	0	0	0	0
Conservation Tillage	0	0	0	0	0	0	0
Wildlife Habitat	0	0	0	650	0	130	650
Wetlands	0	0	0	50	0	10	50



*Estimates are based on information received from local conservationists in the watershed.*

- ❖ Progress over the last 5 years has been focused on:
  - ~ Prescribed grazing on pasture and range.
  - ~ Wildlife habitat management on uplands.
- ❖ Management of invasive weeds and proper management of forage and grazing are needed.
- ❖ Lack of proper grazing management and insufficient watering facilities for livestock and wildlife are common in areas of rangeland.
- ❖ Areas of rangeland are important as habitat for sage grouse nesting and strutting.

### Lands Removed from Production through Farm Bill Programs

- ❖ Conservation Reserve Program (CRP): **1,013 acres**
- ❖ Wetland Restoration Program (WRP): **None**
- ❖ Conservation Reserve Enhancement Program (CREP): **None**

## Footnotes/Bibliography

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All data is provided "as is." There are no warranties, express or implied, including the warranty of fitness for a particular purpose, accompanying this document. Use for general planning purposes only.

1. Ownership Layer – Source: The 1:24,000 scale public ownership layer is the land ownership/management for public entities, including Federal, Tribal, State, and local entities. This is a seamless, statewide Oregon Public Ownership vector layer composed of fee ownership of lands by Federal, State, Tribal, county, and city agencies. The layer is comprised of the best available data compiled at 1:24,000 scale or larger, and the line work matches GCDB boundary locations and ORMAP standards where possible. The layer is available from the State of Oregon GIS Service Center: <http://www.gis.state.or.us/data/alphalist.html>. For current ownership status, consult official records at appropriate Federal, State, and county offices. Ownership classes grouped to calculate Federal ownership vs. non-Federal ownership by the Water Resources Planning Team.
2. National Land Cover Dataset (NLCD) - Originator: U.S. Geological Survey (USGS); Publication date: 19990631; Title: Oregon Land Cover Data Set, Edition: 1; Geospatial data presentation form: Raster digital data; Publisher: U.S. Geological Survey, Sioux Falls, SD, USA; Online linkage: <http://edcwww.cr.usgs.gov/programs/lccp/nationallandcover.html>; Abstract: These data can be used in a geographic information system (GIS) for any number of purposes, such as assessing wildlife habitat, water quality, pesticide runoff, land use change, etc. The State data sets are provided with a 300-meter buffer beyond the State border to facilitate combining the State files into larger regions.
3. ESTIMATES FROM THE 1997 NRI DATABASE (REVISED DECEMBER 2000) REPLACE ALL PREVIOUS REPORTS AND ESTIMATES. Comparisons made using data published for the 1982, 1987, or 1992 NRI may produce erroneous results. This is because of changes in statistical estimation protocols and because all data collected prior to 1997 were simultaneously reviewed (edited) as 1997 NRI data were collected. All definitions are available in the glossary. In addition, this December 2000 revision of the 1997 NRI data updates information released in December 1999 and corrects a computer error discovered in March 2000. For more information: <http://www.nrcs.usda.gov/technical/NRI/>
4. Irrigated Adjudicated Water Rights – Water Rights Information System (WRIS), Oregon Water Resources Department, <http://www.wrd.state.or.us/maps/wrlexport.shtml>
5. StreamNet is a cooperative venture of the Pacific Northwest's fish and wildlife agencies and tribes and is administered by the [Pacific States Marine Fisheries Commission](#). StreamNet provided data and data services in support of the region's fish and wildlife program and other efforts to manage and restore the region's aquatic resources. Official StreamNet website: <http://www.streamnet.org/>
6. Natural Resources Conservation Service, Watershed Projects Planned and Authorized, <http://www.nrcs.usda.gov/programs/watershed/Purpose>.
7. Natural Resources Conservation Service, Watershed Plans, Studies, and Assessments completed, [http://www.nrcs.usda.gov/programs/watershed/Surveys\\_Plng.html#Watershed%20Surveys%20and%20Plan](http://www.nrcs.usda.gov/programs/watershed/Surveys_Plng.html#Watershed%20Surveys%20and%20Plan)
8. Oregon Department of Environmental Quality Total Maximum Daily Loads, <http://www.deq.state.or.us/wq/TMDLs/TMDLs.htm>
9. Oregon Department of Agriculture, Agricultural Water Quality Management Plans, [http://www.oregon.gov/ODA/NRD/water\\_agplans.shtml](http://www.oregon.gov/ODA/NRD/water_agplans.shtml)

## Footnotes/Bibliography Continued

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10. Oregon Watershed Enhancement Board, <http://oregon.gov/OWEB/WSHEDS/index.shtml>
11. Watershed Assessments completed by local watershed councils following the Oregon Watershed Assessment Manual, [http://oregon.gov/OWEB/docs/pubs/ws\\_assess\\_manual.shtml](http://oregon.gov/OWEB/docs/pubs/ws_assess_manual.shtml).
12. NRCS Field Office Technical Guide, Section II, Threatened and Endangered List.
13. Magnuson-Stevens Fishery Conservation and Management Act, Public Law 94-265. As amended through October 11, 1996.
14. Data were taken from the 2002 Agricultural Census and adjusted by percent of HUC in the county or by percent of zip code area in the HUC, depending on the level of data available. Data were also taken from the U.S. Population Census, 2000.
15. Conservation participation was estimated using NRCS Social Sciences Technical Note 1801, [Guide for Estimating Participation in Conservation](#), 2004. Four categories of indicators were evaluated: Personal characteristics, farm structural characteristics, perceptions of conservation, and community context. Estimates are based on information received from local conservationists in the watershed.
16. Social capital is an indicator of the community's ability and willingness to work together to solve problems. A high amount of social capital helps a community to be physically healthy, socially progressive, and economically vigorous. A low amount of social capital typically results in community conflict, lack of trust and respect, and unsuccessful attempts to solve problems. The evaluation is based on NRCS Technical Report Release 4.1, March, 2002: [Adding Up Social Capital: An Investment in Communities](#). Local conservationists provided information to measure social capital. Scores range from 0 to 76.
17. [Surface and Groundwater Resource Protection Map](#)
  - a. 2002 303d Listed Streams designated by Oregon Department of Environmental Quality and approved by the Environmental Protection Agency, Section 303d Clean Water Act, <http://www.deq.state.or.us/wq/303dlist/303dpage.htm>
  - b. Groundwater Management Areas designated by the Oregon Department of Environmental Quality, Oregon Revised Statutes – Ground Water ORS 468B.150 to ORS 468B.190, <http://www.deq.state.or.us/wq/groundwa/wqgw.htm>
  - c. Groundwater Restricted Areas designated by Oregon Water Resources Commission, Oregon Department of Water Resources, [http://egov.oregon.gov/OWRD/PUBS/aquabook\\_protections.shtml](http://egov.oregon.gov/OWRD/PUBS/aquabook_protections.shtml)
  - d. The Sole Source Aquifer (SSA) Protection Program is authorized by Section 1424(e) of the Safe Drinking Water Act of 1974 (Public Law 93-523, 42 U.S.C. 300 et. seq), <http://www.epa.gov/safewater/ssanp.html>
18. Subbasin assessments and plans are developed by local groups (SWCDs, watershed councils, tribes, and others) as part of the Northwest Power and Conservation Council's fish and wildlife program in the Columbia River Basin. This program is funded and implemented by the Bonneville Power Administration. <http://www.nwcouncil.org/fw/subbasinplanning/Default.htm>.