

SWCD	Acres
Jefferson	297,086
Wasco	117,913
Crook	27,967



Introduction

The Trout 8-Digit Hydrologic Unit Code (HUC) subbasin is comprised of 443,000 acres. Two-thirds of the subbasin is in Jefferson County, twenty-four percent is in Wasco County, and about five percent is in Crook County. Sixty-seven percent is rangeland and twenty-three percent is forest land. Overstocked lodgepole pine/ponderosa pine on the forest land and invasive weeds on the rangeland limit the productivity for timber, grazing, and wildlife habitat. Juniper is encroaching on rangeland and ponderosa pine sites.

There are 150 farms and ranches and 245 operators in the subbasin. About one-third of the farms are less than 50 acres in size, and seventeen percent are more than 1,000 acres in size. Most of the large operations are rangeland and private industrial forest land. The smaller farms generally are irrigated hayland and pastureland and are operated by part-time or absentee landowners.

Conservation assistance is provided by three NRCS service centers, one soil survey office, one resource conservation and development (RC&D) office, and two satellite field offices (Warm Springs Indian Reservation and Hood River).

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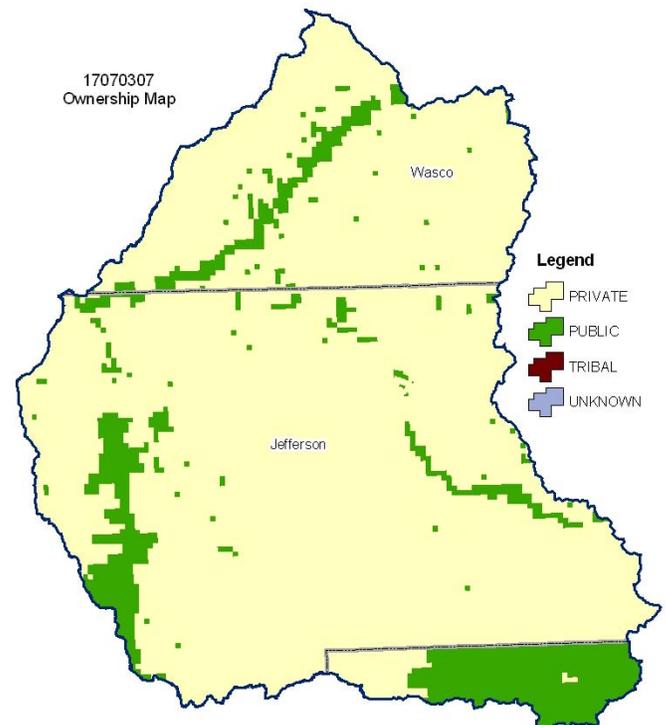
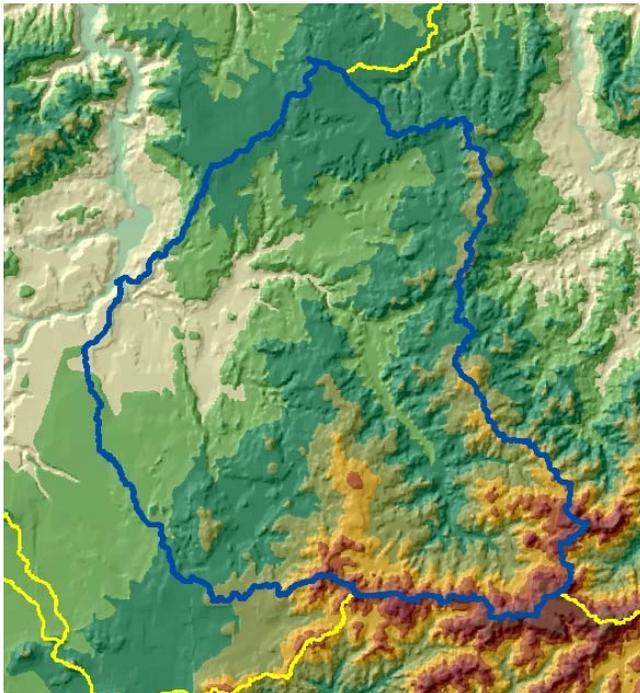
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Relief Map



Physical Description

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Land Cover/Land Use (NLCD ²)	Ownership - (2003 Draft BLM Surface Map Set ¹)							
	Public		Private		Tribal		Totals	%
	Acres	%	Acres	%	Acres	%		
Forest	22,800	5%	76,800	17%	0	0%	99,600	22%
Grain Crops	*	---	*	---	0	0%	*	---
Conservation Reserve Program Land ^a	*	---	*	---	0	0%	*	---
Grass/Pasture/Hay	*	---	36,800	8%	0	0%	38,600	9%
Orchards/Vineyards	0	0%	0	0%	0	0%	0	0%
Row Crops	0	0%	*	---	0	0%	*	---
Shrub/Rangelands	28,000	6%	270,700	61%	0	0%	298,700	67%
Water/Wetlands/Developed/Barren	*	---	*	---	0	0%	*	---
Oregon HUC Totals ^b	52,800	12%	390,200	87%	0	0%	443,000	100%

*: Less than one 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:

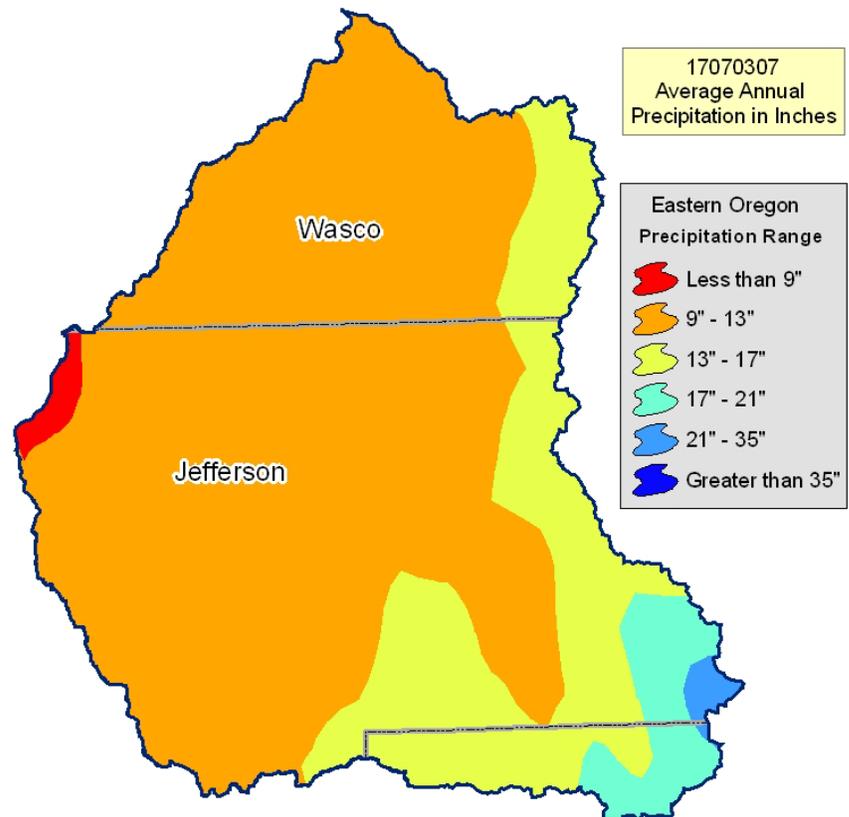
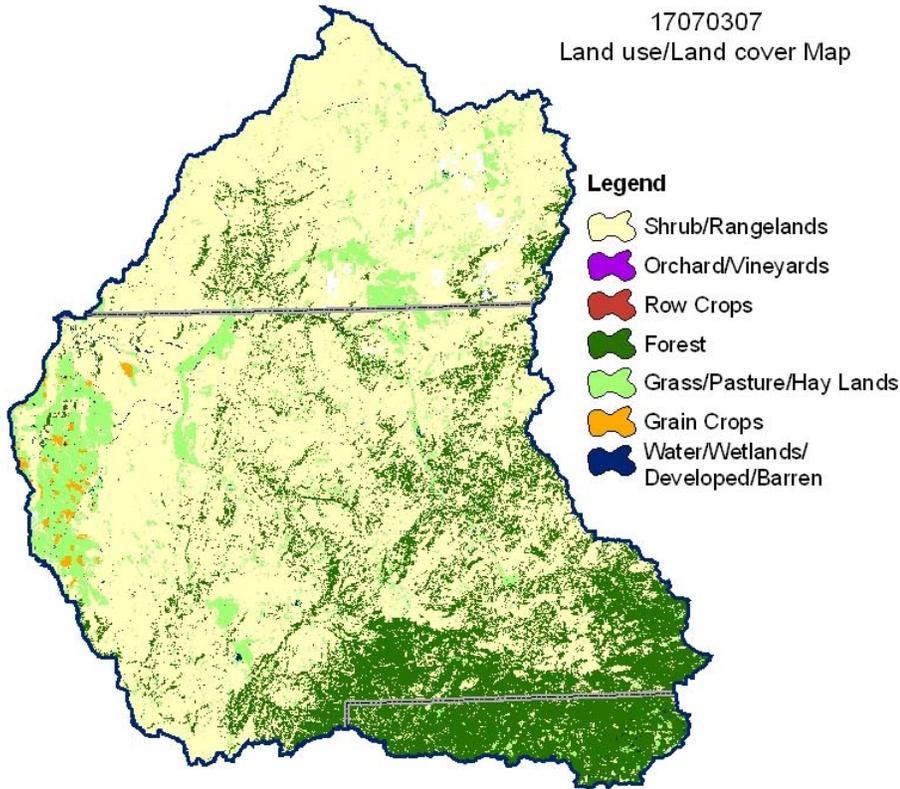
- Approximately seventy-five percent of private forest land is under industrial forest ownership.

Irrigated Lands (1997 NRI ³ Estimates for Non-Federal Lands Only)	Type of Land	ACRES	% of Irrigated Lands	% of HUC
	Cultivated Cropland	7,000	47%	1.5%
	Uncultivated Cropland	5,300	36%	1%
	Pastureland	2,600	17%	<1%
	Total Irrigated Lands	14,900	100%	3%

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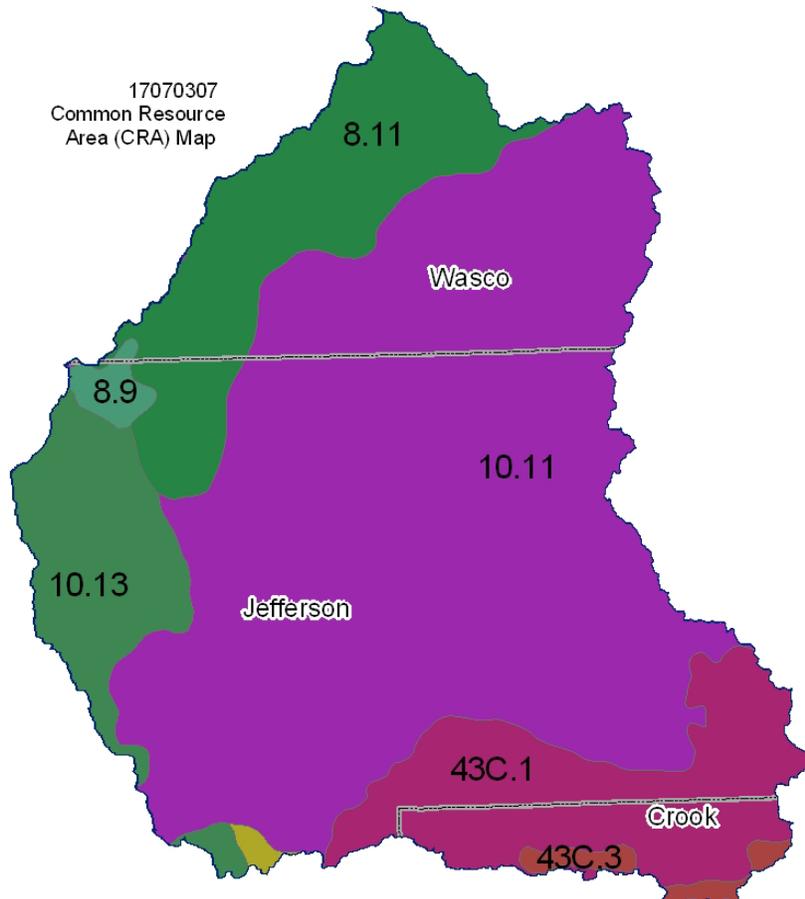
17070307
Land use/Land cover Map



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>



8.11 - Columbia Plateau - Umatilla Plateau: This is the major unit within the MLRA. It consists of loess-mantled basalt plateaus. The soils are moderately deep silt loam of the Condon and Morrow series. The temperature regime is mesic, and the moisture regime is xeric. The mean annual precipitation is 12 to 15 inches.

10.11 - Central Rocky and Blue Mountain Foothills - John Day-Clarno Uplands: This unit is characterized by rangeland soils on hills and mountains associated with the John Day/Clarno Formation. The dominant soils are those of the Simas and Tub series. The temperature regime is mesic, and the moisture regime is aridic and xeric.

10.13 - Central Rocky and Blue Mountain Foothills - Madras Plains: This unit is characterized by deep soils on nearly level plateaus. Most areas are row cropped. The unit is dominantly on Agency Plain. The dominant soils are those of the Agency and Madras series. The surface texture is sandy loam or loam. The soils do not have the strong volcanic ash influence that is typical of unit 10.4. The temperature regime is mesic, and the moisture regime is aridic.

43C.1 - Blue and Seven Devils Mountains - John Day-Clarno Highlands: This unit is characterized by forest land that is underlain by the John Day/Clarno Formation. The temperature regime is frigid, and the moisture regime is xeric. The vegetation is dominantly ponderosa pine and scattered Douglas-fir. The amount of volcanic ash on the soils is minimal. The soils typically are clayey with a strongly developed argillic horizon.

Physical Description – Continued

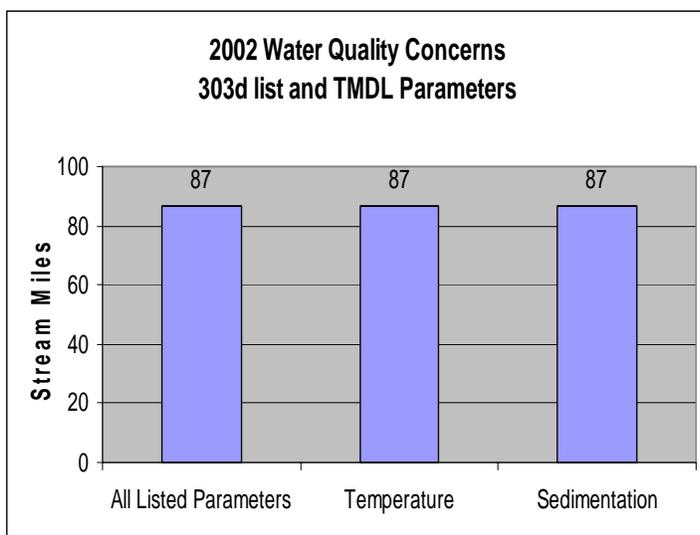
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		ACRES	ACRE-FEET			
Irrigated Adjudicated Water Rights (OWRD ⁴)	Surface	9,177	33,271			
	Well	4,552	13,656			
	Total Irrigated Adjudicated Water Rights	13,729	46,927			
Stream Flow Data	OWRD 14093600 TROUT CR BL AMITY CR, NR ASHWOOD, OR	Total Avg. Yield	19,827			
		May – Sept. Yield	3,096			
		MILES	PERCENT			
Stream Data ⁵ <i>*Percent of Total Miles of Streams in HUC</i>	Total Miles – Major (100K Hydro GIS Layer)	238	--			
	303d/TMDL Listed Streams (DEQ)	87	36%			
	Anadromous Fish Presence (StreamNet)	35.2	14%			
	Bull Trout Presence (StreamNet)	0.1	0%			
		ACRES	PERCENT			
Land Cover/Use ² Based on a 100-foot stretch on both sides of all streams in the 100K Hydro GIS Layer	Forest	5,440	26%			
	Grain Crops	169	1%			
	Grass/Pasture/Hay	2,403	11%			
	Orchards/Vineyards	0	0%			
	Row Crops	0	0%			
	Shrub/Rangelands – Includes CRP Lands	12,809	61%			
	Water/Wetlands/Developed/Barren	181	1%			
	Total Acres of 100-foot Stream Buffers	21,002	--			
Land Capability Class <i>(Croplands & Pasturelands Only)</i> <i>(1997 NRI³ Estimates for Non-Federal Lands Only)</i>	1 – slight limitations	0	0%			
	2 – moderate limitations	6,800	32%			
	3 – severe limitations	8,700	40%			
	4 – very severe limitations	2,000	9%			
	5 – no erosion hazard, but other limitations	0	0%			
	6 – severe limitations; unsuitable for cultivation; limited to pasture, range, forest	3,500	16%			
	7 – very severe limitations; unsuitable for cultivation; limited to grazing, forest, wildlife habitat	500	2%			
	8 – miscellaneous areas; limited to recreation, wildlife habitat, water supply	0	0%			
	Total Croplands & Pasturelands	21,500	--			
Confined Animal Feeding Operations – Oregon CAFO Permit – 12/2004						
Animal Type	Dairy	Feedlot	Poultry	Swine	Mink	Other
No. of Permitted Farms	0	2	0	0	0	0
No. of Permitted Animals	0	4,500	0	0	0	0

Resource Concerns

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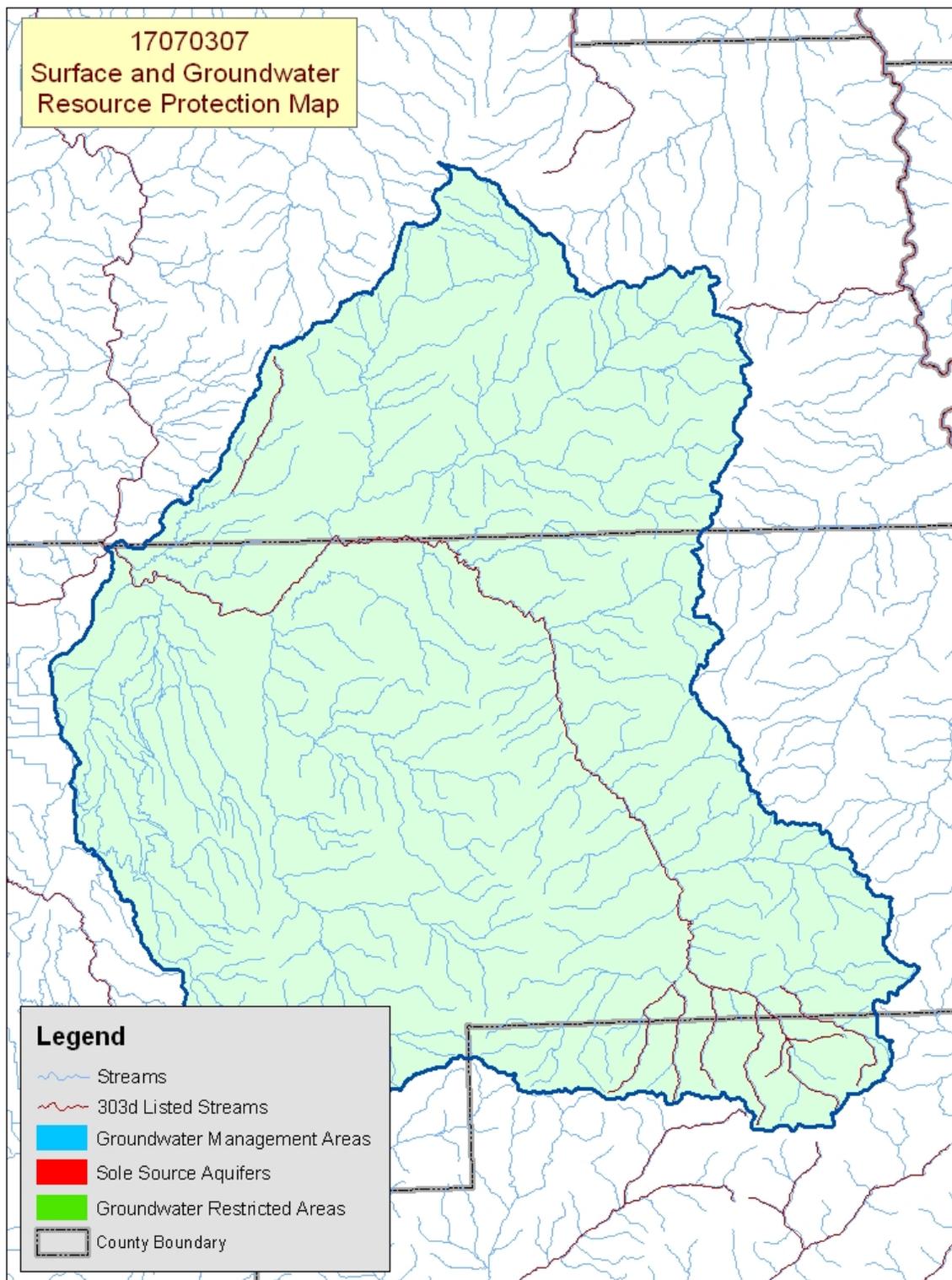
Tons of Soil Loss by Water Erosion: Due to the limited amount of non-Federal cropland and pastureland within this HUC, no reliable NRI soil loss estimates are available.



- ❖ All water quality limited streams have temperature and sediment levels exceeding State water quality standards.
- ❖ Elevated stream temperatures may be due to inadequate riparian shade, stream channel widening, warm irrigation return flows, and other anthropogenic or natural causes.
- ❖ Erosion on streambanks and cropland is the primary source of sediment.
- ❖ Conservation practices that can be used to address these water quality issues include grazing management, residue management, conservation tillage, irrigation water management, and use of riparian buffers.

Watershed Projects, Plans, Studies, and Assessments			
NRCS Watershed Projects ⁶		NRCS Watershed Plans, Studies, and Assessments ⁷	
Name	Status	Name	Status
None		None	
ODEQ TMDL's ⁸		ODA Agricultural Water Quality Management Plans ⁹	
Name	Status	Name	Status
None		Middle Deschutes	Completed
OWEB Watershed Councils ¹⁰		Watershed Council Assessments ¹¹	NWPC Subbasin Plans & Assessments ¹⁸
Trout Creek Watershed Council		Trout Creek Watershed Assessment (Part 1: Findings)	Deschutes Subbasin Plan

(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	Grass\Pasture\ Hay	Grain Crops	Row Crops	Perennial Crops (Orch/Vine/ Berries)	Shrub/Range	Forest
Soil Erosion	Sheet and Rill					X	X
	Wind		X				
	Streambank	X				X	
	Irrigation Induced						
Soil Condition	Tilth, Crusting, Infiltration, Organic Matter		X				
Water Quantity	Water Mgt. For Irrigated Land	X	X				
Water Quality, Surface	Nutrients and Organics						
Plant Condition	Productivity, Health, and Vigor	X				X	X
Plant Management	Establishment, Growth, and Harvest	X					
Animal Habitat, Domestic	Management	X					
Animal Habitat, Wildlife	Food, Cover, and/or Shelter					X	X
Human, Economics	Land Use Constraints/Restrictions					X	X
	High Capital/Financial Cost						
	High Labor Cost or Availability						
	Low or Unreliable Profitability	X	X			X	X
Human, Social	Low Community Well-Being						X
Human, Political	Inadequate Availability of Cost Share Programs						
	Lack of Technical Assistance	X	X			X	
	High Degree of Controversy						

Grass/Pasture/Hay

- Water and grazing management are the primary concerns in areas of irrigated pasture on farms and ranches.
- Past management, in some instances, has accelerated streambank erosion and has resulted in poor forage condition.
- Low profitability and insufficient technical assistance for ranches and small farms can hinder conservation efforts.

Grain Crops

- Wind erosion and water management are resource concerns on irrigated cropland.
- Low profitability is an obstacle to use of additional conservation practices.

Rangeland and Forest Land

- Overstocked lodgepole pine/ponderosa pine on forest land and invasive weeds (medusa head and cheatgrass) on rangeland limit the productivity for timber, grazing, and wildlife habitat.
- Juniper is encroaching onto rangeland and ponderosa pine sites.
- Low economic profitability and land use constraints (development, environmental pressure, etc.) discourage conservation activities.

FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES ¹²	
THREATENED SPECIES	CANDIDATE SPECIES
Mammals - Canada lynx	Birds – Yellow-billed cuckoo
Birds - Bald eagle, Northern spotted owl	Amphibians and Reptiles – Oregon spotted frog
Fish - Bull trout, Steelhead	PROPOSED SPECIES: None
ESSENTIAL FISH HABITAT ¹³ - None	

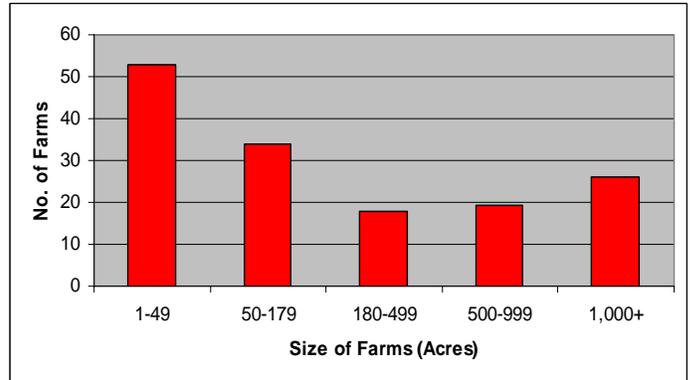
Census and Social Data^{/14}

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Number of Farms: 150

Number of Operators: 245

- Full-Time Operators: **82**
- Part-Time Operators: **163**



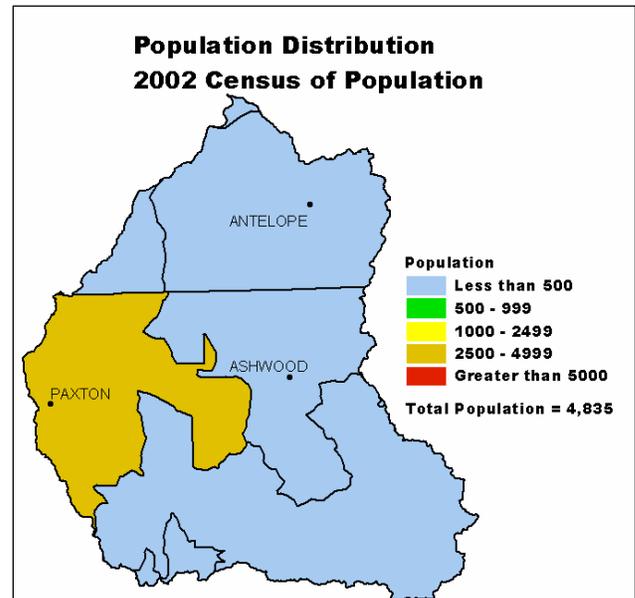
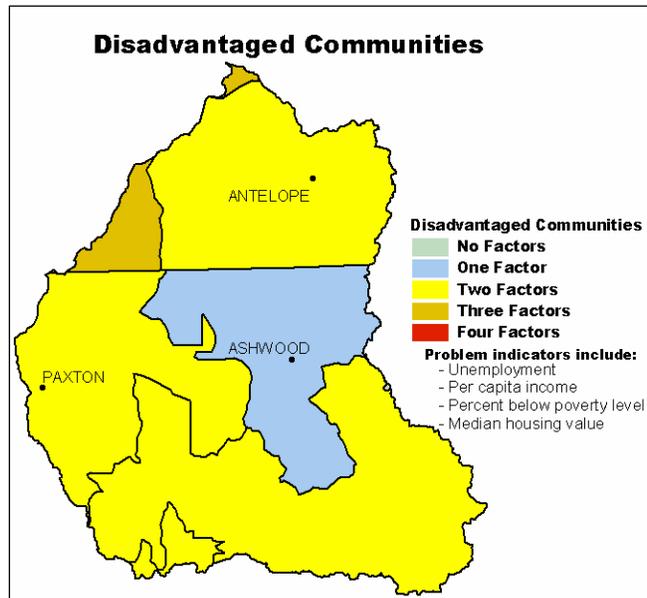
Estimated Level of Willingness and Ability to Participate in Conservation^{/15}: **MODERATE TO HIGH**

Data gathered to estimate participation of the operators of the larger and smaller operations were collected separately, but the estimate of participation was not significantly different. The operators of the larger operations generally are full-time, have a slightly better awareness of resource concerns, and rent less land than do the operators of the smaller operations.

Overall, farmers and ranchers in the Trout subbasin are well educated, perceive conservation to be cost effective, and are active in their community. *Timely* technical assistance is the most important factor in improving adoption of conservation practices among operators.

Evaluation of Social Capital^{/16} **MODERATE**

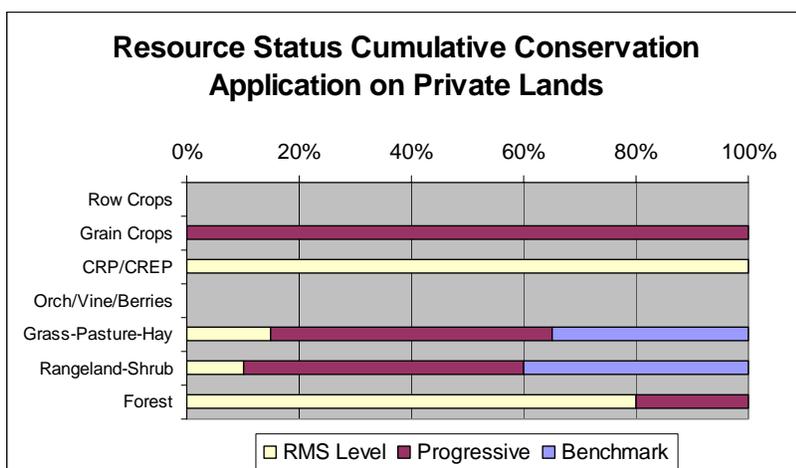
Participation in farm/ranch organizations in the Trout subbasin is fair. The people in the community are well educated, exercise their right to vote, and tend to complete community projects. Social capital may benefit from more participation in meetings, greater media coverage of resource concerns and agricultural issues, and expanded local leadership.



Progress/Status

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PRMS Data	FY99	FY00	FY01	FY02	FY03	Avg/Year	Total
Total Conservation Systems Planned (Acres)	38,606	37,643	15,331	206	20,317	22,421	112,103
Total Conservation Systems Applied (Acres)	2,013	1,457	12,350	19,872	5,168	8,172	40,860
Conservation Treatment Acres							
Waste Management (Number)	0	0	0	0	0	0	0
Buffers (Acres)	0	0	0	368	262	126	630
Erosion Control (Acres)	2,164	1,465	1,940	4,404	120	2,019	10,093
Irrigation Water Management (Acres)	0	0	0	376	380	151	756
Nutrient Management (Acres)	0	0	0	330	228	112	558
Pest Management (Acres)	408	634	0	330	115	297	1,487
Prescribed Grazing (Acres)	1,200	20,703	8,032	24,830	0	10,953	54,765
Trees & Shrubs (Acres)	0	0	6	183	215	81	404
Conservation Tillage (Acres)	0	59	0	0	0	12	59
Wildlife Habitat (Acres)	414	2,902	2,301	1,386	1,479	1,696	8,482
Wetlands (Acres)	0	0	0	0	0	0	0



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

- ❖ Progress over the last five years has been focused on:
 - ~ Prescribed grazing on rangeland and pastureland.
 - ~ Erosion control on cropland.
 - ~ Wildlife management.
- ❖ Juniper encroachment on rangeland is a resource issue; however, the high cost to control and restrictions on prescribed burning limit control.
- ❖ The high level of controversy about environmental issues and community resistance to change commonly hinder conservation efforts.

Lands Removed from Production through Farm Bill Programs

- ❖ Conservation Reserve Program (CRP): **2,746 acres**
- ❖ Wetland Restoration Program (WRP): **none**
- ❖ Conservation Reserve Enhancement Program (CREP): **120 acres**

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/wrexport.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
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

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.
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
 - 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>.