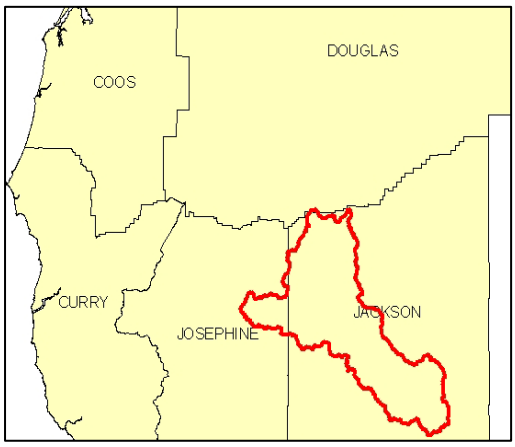
Middle Rogue – 17100308

8-Digit Hydrologic Unit Profile

REVISED

MAY 2006



Introduction

The Middle Rogue 8-Digit Hydrologic Unit Code (HUC) subbasin is comprised of 564,000 acres in Jackson and Josephine Counties. Sixty-six percent of the subbasin is forestland, and twenty-three percent is used for pasture, hay, and grass. Pasture is included on commercial dairies, beef operations, and many small-acreage farms. There are 11 permitted CAFOs in the subbasin.

The primary resource concern on the forestland is the impact on fish and wildlife of soil erosion from forest roads and landings. Other significant resource concerns include streambank erosion, diminishing water quality, invasive weeds, and minimal pasture management. Issues such as perceived land use constraints, poor short-term cost-benefit ratio of some conservation practices and development pressure impede the diffusion of conservation on agricultural lands in the subbasin.

There are 1,055 farms and 1,707 operators in the Middle Rogue subbasin. Seventy-seven percent of the farms are less than 50 acres in size. Many owners of the small-acreage operations have little experience with natural resource management. Conservation marketing and additional technical and financial assistance are needed to substantially increase the diffusion of conservation throughout the Middle Rogue subbasin.

Conservation assistance is largely provided by the Medford USDA Service Center, Jackson Soil and Water Conservation District, Southwest Oregon Resource Conservation and Development (RC&D) Area, Middle Rogue Watershed Council, Bear Creek Watershed Council and Seven Basins Watershed Council.

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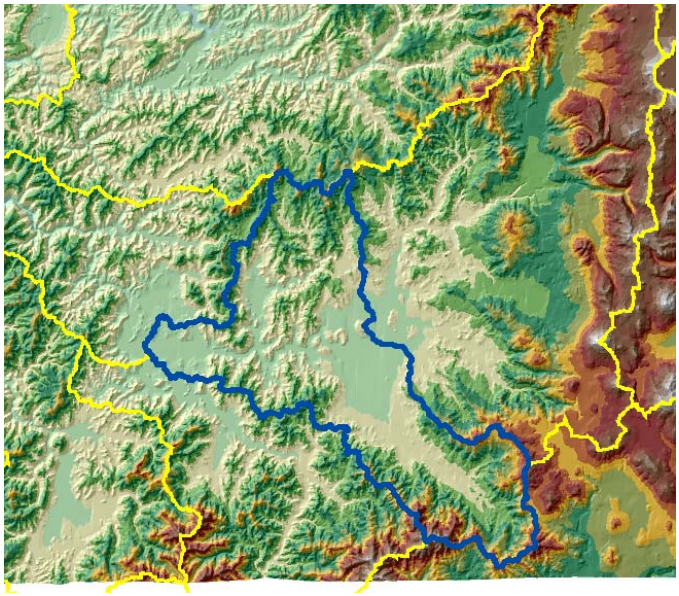

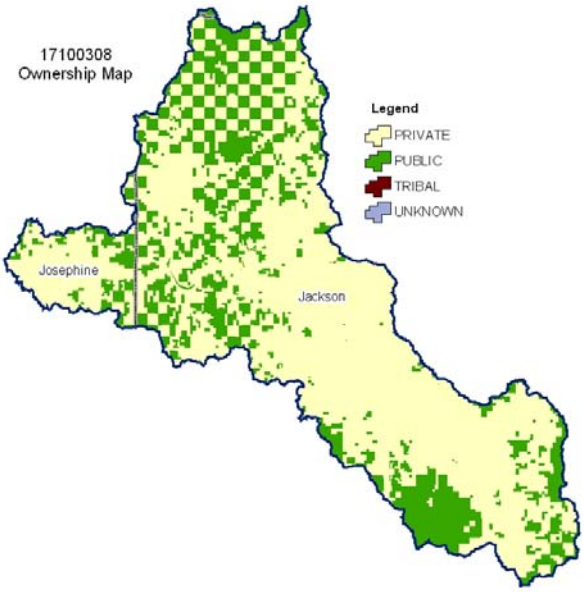

Produced by the Water Resources Planning Team Portland, OR

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Physical Description

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ALL NUMBERS IN THIS PROFILE ARE FOR OREGON ONLY

Land Cover/Land Use (NLCD[12])	Ownership - (2003 Draft BLM Surface Map Set[11])							
	Public		Private		Tribal		Totals	%
	Acres	%	Acres	%	Acres	%		
Forest	143,500	25%	226,900	40%	0	0%	**370,400**	**66%**
Grain Crops	*	---	7,400	1%	0	0%	**7,500**	**1%**
Conservation Reserve Program Land [a]	0	0%	0	0%	0	0%	**0**	**0%**
Grass/Pasture/Hay	9,100	2%	120,400	21%	0	0%	**129,500**	**23%**
Orchards/Vineyards	0	0%	*	---	0	0%	*****	**---**
Row Crops	*	---	*	---	0	0%	*****	**---**
Shrub/Rangelands	*	---	22,300	4%	0	0%	**24,900**	**4%**
Water/Wetlands/Developed/Barren	*	---	28,400	5%	0	0%	**28,800**	**5%**
Oregon HUC Totals [b]	**155,700**	**28%**	**408,100**	**72%**	**0**	**0%**	**563,800**	**100%**

**: 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:

- Approximately 35 percent of private forestland is under industrial forest ownership (OSU, Forestry Sciences Laboratory).
- Pasture is included on commercial dairy and beef operations as well as on small farms and ranchettes.
- Much of the private forestland is grazed.
- Land used for grain is being converted to pasture due to the profitability of the cattle industry.
- Specialty crops are grown for fresh market (based on local interviews of staff).
- During the last decade there has been a significant increase in vineyards, approximately 9,000 acres in Jackson County.

Irrigated Lands (1997 NRI[13] Estimates for Non-Federal Lands Only)	Type of Land	ACRES	% of Irrigated Lands	% of HUC
	Cultivated Cropland	2,300	5%	0%
	Uncultivated Cropland	17,000	39%	3%
	Pastureland	24,300	56%	4%
	Total Irrigated Lands	**43,600**	**100%**	**7%**

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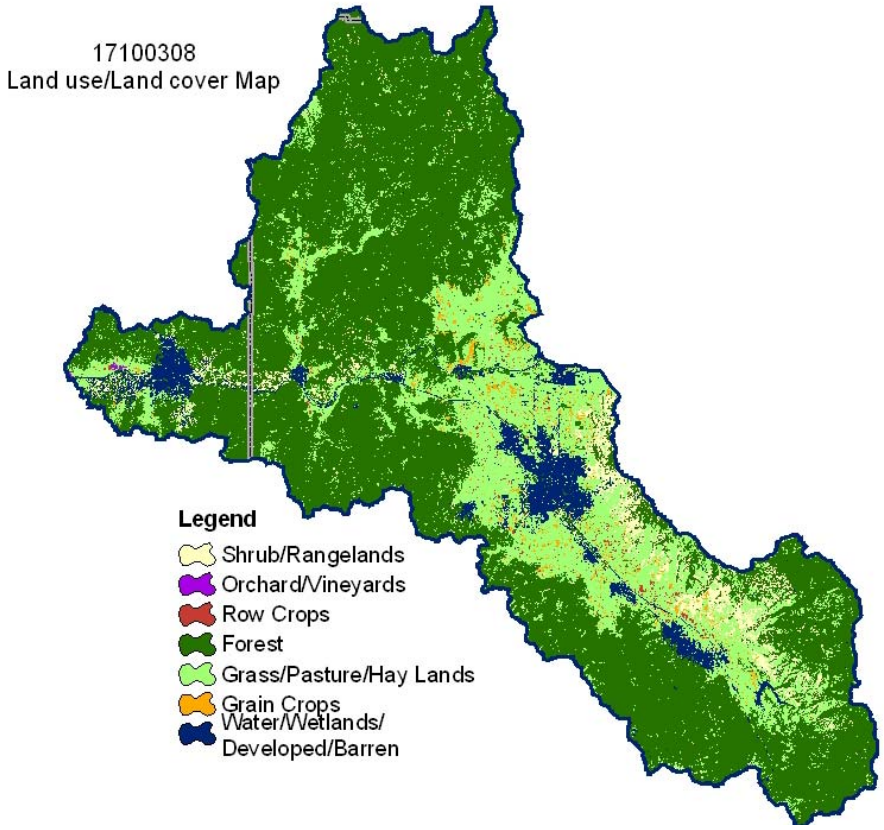

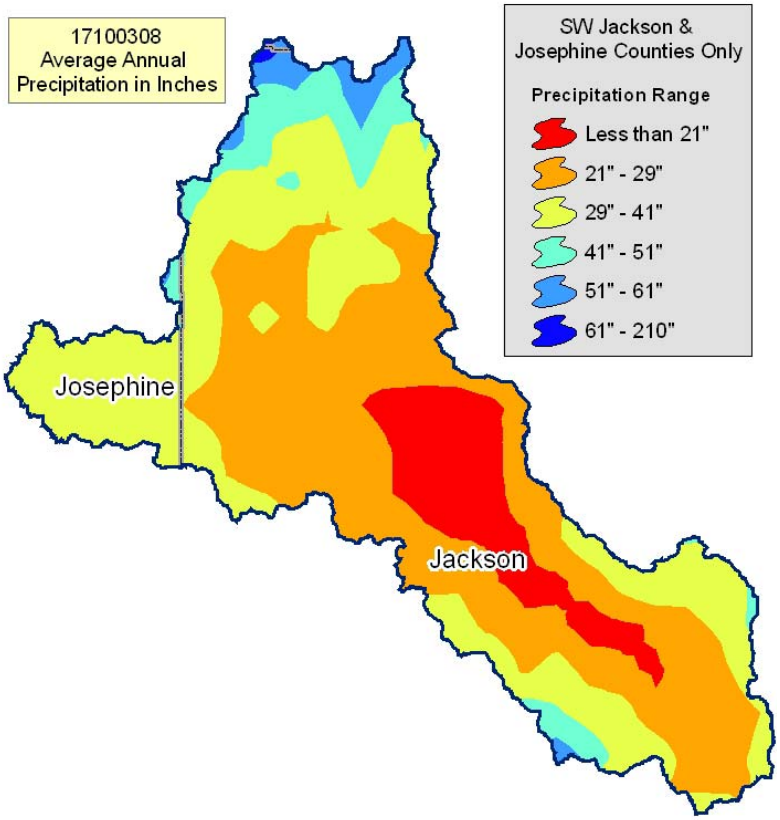

Common Resource Area Map

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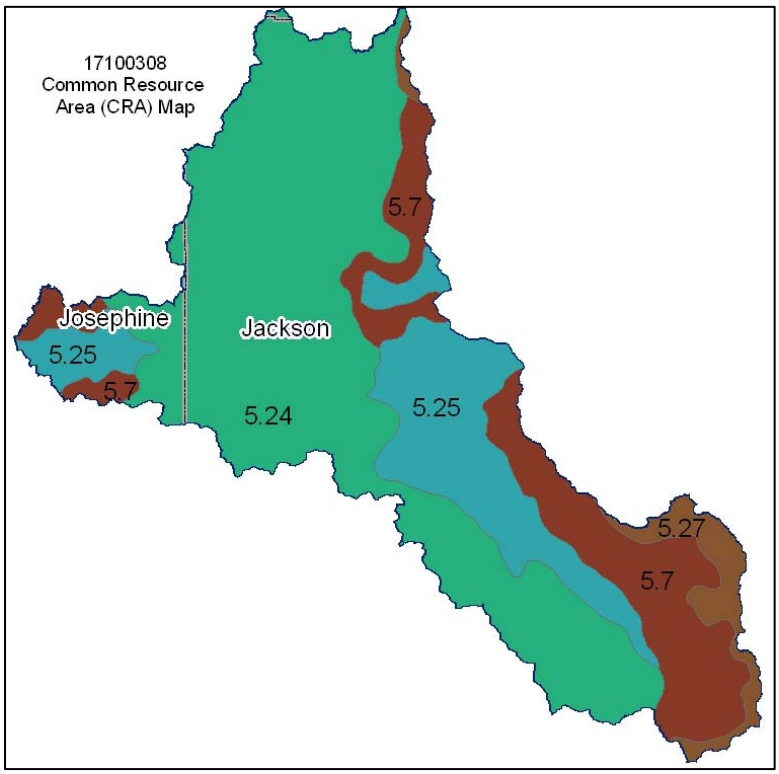
Only the major units are described below - for descriptions of all units within the HUC, go to: http://ice.or.nrcs.usda.gov/website/cra/viewer.htm



5.24 – Siskiyou-Trinity Area - Inland Siskiyous: This unit comprises most of the MLRA. It is characterized by mountains. The geology is comprised of metasediment, metavolcanic rock, and granitic rock. The vegetation is dominantly Douglas-fir, ponderosa pine, madrone, and scattered Oregon white oak. The temperature regime is dominantly mesic with small areas that are frigid, and the moisture regime is dominantly xeric with some north-facing slopes that are udic. The udic areas adjacent to MLRAs 1 and 3 are characterized by supporting western hemlock.

5.25 - Siskiyou-Trinity Area - Rogue and Illinois Valleys: This unit is comprised of the terraces and flood plains of the Rogue and Illinois River Valleys. The temperature regime is mesic, and the moisture regime is xeric. This unit contains small areas of foothill landforms but not to the extent of those in unit 5.28.

5.27 – Siskiyou-Trinity Area - Umpqua Cascades: This unit is characterized by middle elevation mountains in the southern Cascades. The temperature regime is mesic or frigid, and the moisture regime is xeric. The vegetation consists of Douglas-fir at low elevations and white fir at higher elevations. Western hemlock is absent except in drainageways and areas that receive additional moisture. This unit is similar to units 3.1 and 3.2 in the Cascades except for the absence of western hemlock and presence of more moist climatic conditions.

5.7 - Siskiyou-Trinity Area - Siskiyou Foothills: This unit is characterized by foothills and is adjacent to unit 5.1, which is characterized by terraces and flood plains. The vegetation is dominantly Oregon white oak, Pacific madrone, ponderosa pine, and scattered Douglas-fir. Significant areas of rangeland are scattered throughout the unit in areas of shallow soils. The temperature regime is mesic, and the moisture regime is xeric.

Physical Description – Continued

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		ACRES	ACRE-FEET
Irrigated Adjudicated Water Rights *(OWRD[4])*	Surface	24,425	79,566
	Well	3,097	7,750
	Total Irrigated Adjudicated Water Rights	27,522	87,316
Stream Flow Data	USGS 14361500 ROGUE RIVER AT GRANTS PASS, OR	**Total Avg. Yield**	2,468,372
		May – Sept. Yield	688,141
		MILES	**PERCENT**
Stream Data[5] **Percent of Total Miles of Streams in HUC*	Total Miles – Major (100K Hydro GIS Layer)	847	---
	303d/TMDL Listed Streams (DEQ)	209	25%
	Anadromous Fish Presence (StreamNet)	87	10%
	Bull Trout Presence (StreamNet)	0	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	13,977	53%
	Grain Crops	476	2%
	Grass/Pasture/Hay	8,238	31%
	Orchards/Vineyards	1	0%
	Row Crops	198	<1%
	Shrub/Rangelands – Includes CRP Lands	1,345	1%
	Water/Wetlands/Developed/Barren	2,192	8%
	Total Acres of 100-foot Stream Buffers	**26,428**	**---**
Land Capability Class *(Croplands & Pasturelands Only)* *(1997 NRI[3] Estimates for Non-Federal Lands Only)*	**1** – slight limitations	5,500	11%
	2 – moderate limitations	13,400	26%
	3 – severe limitations	7,600	15%
	4 – very severe limitations	22,400	44%
	5 – no erosion hazard, but other limitations	0	0%
	6 – severe limitations; unsuitable for cultivation; limited to pasture, range, forest	1,900	4%
	7 – very severe limitations; unsuitable for cultivation; limited to grazing, forest, wildlife habitat	0	0%
	8 – miscellaneous areas; limited to recreation, wildlife habitat, water supply	0	0%
	Total Croplands & Pasturelands	**50,800**	**---**

Confined Animal Feeding Operations – Oregon CAFO Permit – 12/2004

Animal Type	Dairy	Feedlot	Poultry	Swine	Mink	Other
No. of Permitted Farms	5	2	1	1	0	2
No. of Permitted Animals	1,703	1,725	320,000	115	0	300

Resource Concerns

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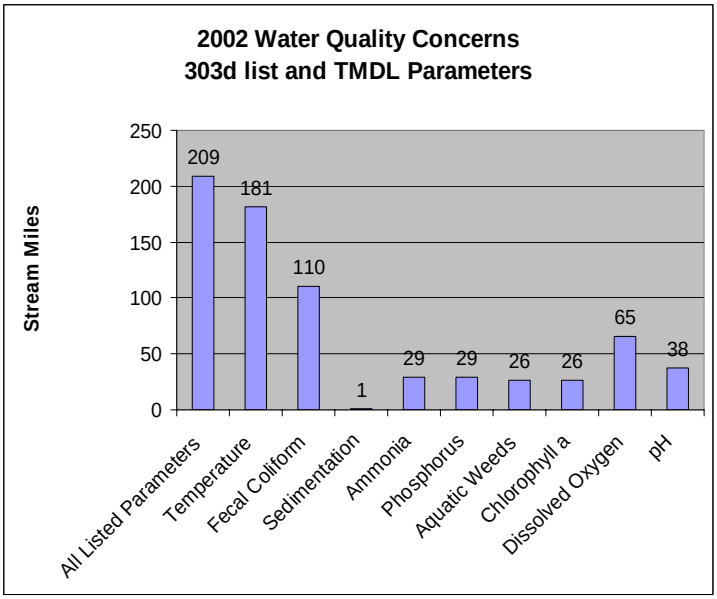
Tons of Soil Loss by Water Erosion: Due to the limited amount of non-Federal cropland and pastureland within this HUC, no reliable NRI soil loss estimates are available.

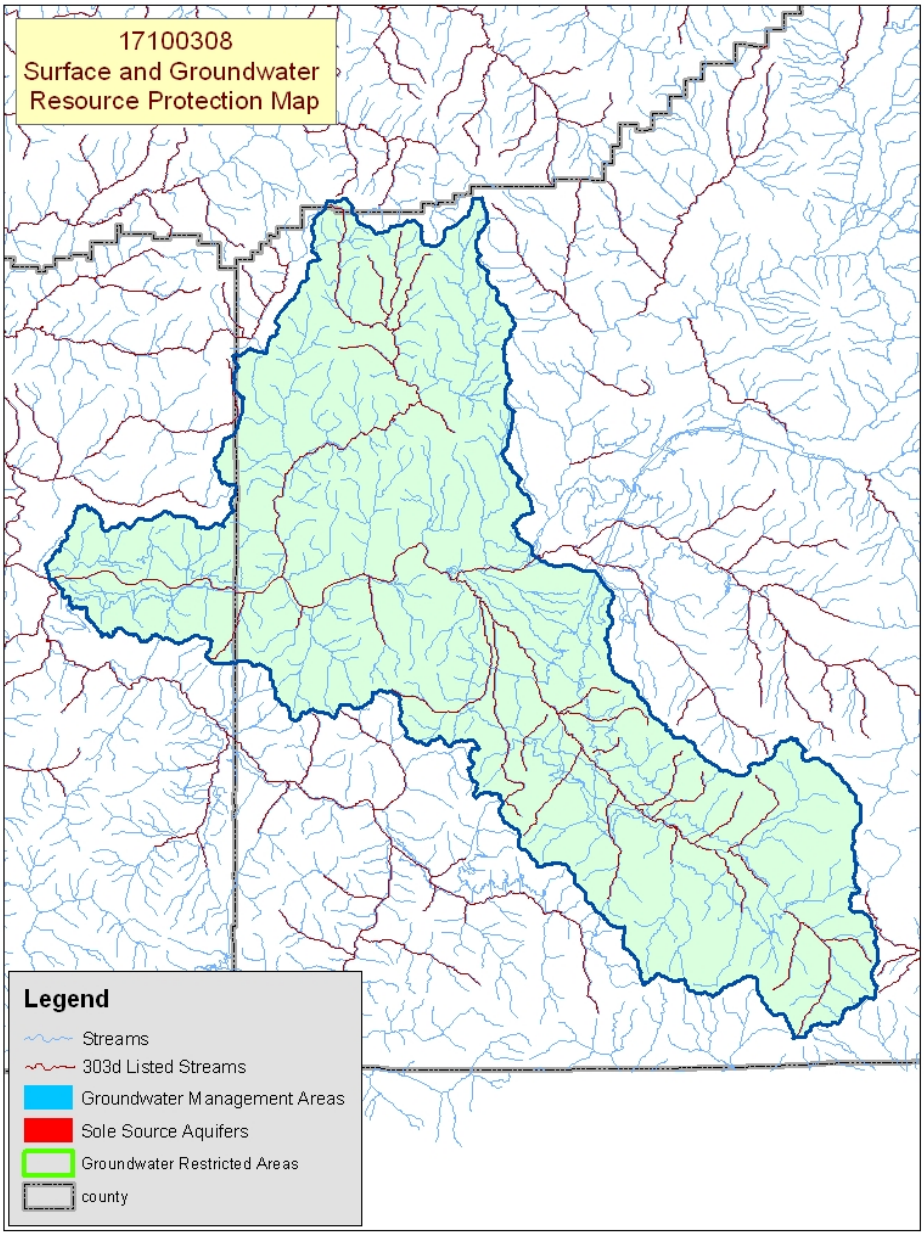


- Eighty-seven percent of all of the listed stream miles exceed State water quality standards for temperature. Elevated stream temperatures may be due to inadequate riparian shade, stream channel widening, and other anthropogenic or natural causes.
- Fecal coliform can be indicative of livestock waste, but it also is associated with improperly operating onsite sewage disposal systems.
- Sedimentation in coastal streams commonly stems from erosion associated with forest roads and streambanks.
- Conservation practices that can be used to address these water quality issues include livestock waste management, grazing 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	None	None
ODEQ TMDL's[8]		ODA Agricultural Water Quality Management Plans[9]	
Name	Status	Name	Status
Bear Creek Rogue Basin	Completed Data Collection	Inland Rogue Bear Creek	Completed Completed

OWEB Watershed Council[10]	Watershed Council Assessments[11]	NWPCC Subbasin Plans and Assessments[18]
Middle Rogue, Bear Creek, and Seven Basins Watershed Councils	Bear Creek Subbasin Watershed Assessment and Action Plan, Buck Hollow, Jackson Creek, and Middle Rogue Watershed Assessments	None

(Continued on page 8)



Map Footnote [17]

FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES[12]	
THREATENED SPECIES	**CANDIDATE SPECIES**
Mammal-Canada lynx **Marine –** Steller (northern) sea lion **Birds –** Marbled murrelet, Bald eagle, Brown pelican, Northern spotted owl **Fish –** Coho salmon **Invertebrates –** Vernal pool fairy shrimp **Plants –** Gentner's fritillary, Large-flowered meadowfoam, Cook's lomatium, Mcdonald's rockcress	**Birds –** Streaked horned lark **Amphibians and Reptiles –** Oregon spotted frog **Invertebrates** Mardon skipper butterfly **PROPOSED SPECIES** - None
ESSENTIAL FISH HABITAT[13] **–** Chinook, Coho	

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**	**Orchards & Vineyards**	**Shrub/Range**	**Forest**
Soil Erosion	Sheet and Rill	X			X		
	Concentrated Flow or Gully					X	X
	Streambank	X					X
Water Quantity	Water Management for Irrigated Land	X			X		
Water Quality, Groundwater	Pesticides				X		
Water Quality, Surface	Low Dissolved Oxygen	X				X	
	Temperature	X				X	
	Aquatic Habitat Suitability	X				X	
Plant Condition	Productivity, Health, and Vigor	X				X	X
Plant Management	Establishment, Growth, and Harvest	X				X	
Animal Habitat, Domestic	Water - Quantity and Quality	X				X	
	Management	X				X	
Animal Habitat, Wildlife	Water - Quantity and Quality	X					
Human, Economics	Land Use Constraints/Restrictions	X			X	X	X
	High Labor Costs or Availability	X			X	X	X
	High Management Level Required	X			X	X	X
	Low or Unreliable Profitability	X				X	
Human, Political	High Degree of Controversy	X			X	X	X
	Lack of Technical Assistance						X

Grass / Pasture / Hay Lands

- Erosion (streambanks) and water quality (temperature) are concerns commonly because of a lack of riparian buffers.
- Insufficient forage and grazing management contributes to low-producing pastures.
- Invasive, noxious weeds can be a significant problem, especially on overgrazed pastures.
- The level of management needed for high-quality pastures commonly is not an objective of small operators.

Orchard & Vineyards

- A high level of management generally is used on orchards and vineyards.
- Some farms would benefit from irrigation water management or pest management to address concerns about water use and groundwater quality.

Range and Forestland (Private, Non-Industrial)

- The primary resource concern is the impact of erosion from concentrated flows, especially from forest roads and landings, on fish and wildlife.
- Overgrazing and noxious weeds limit range productivity.
- Private woodlots commonly suffer from hygrading (harvesting the best trees) or poor stand management (overstocked stands).
- Overstocked forests and invasive weeds limit productivity and increase the risk of catastrophic fire.
- Conservation on private, non-industrial forestland is limited as a result of the following:
    - Short growth cycle (40 to 60 years) for harvestable timber.
    - Low economic profitability associated with livestock grazing.
    - High capital cost to establish and manage timber.
    - Lack of technical assistance to small woodlot owners.

General

- Development pressure, diverse community attitudes, and issues regarding local zoning and land use can discourage landowner investment in conservation activities.

Census and Social Data[14]

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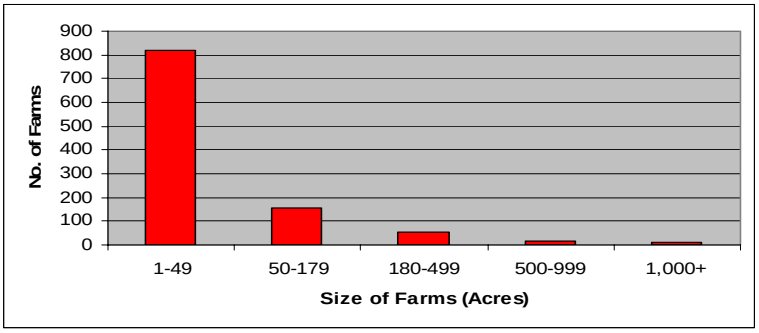


Number of Farms: 1,055

Number of Operators: 1,707

- Full-Time Operators: **589**
- Part-Time Operators: **1,118**

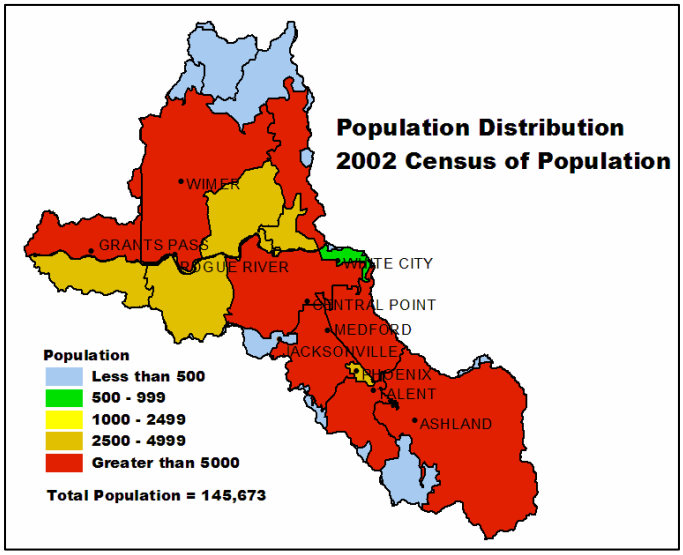
Estimated Level of Willingness and Ability to Participate in Conservation[15]: Moderate to Low

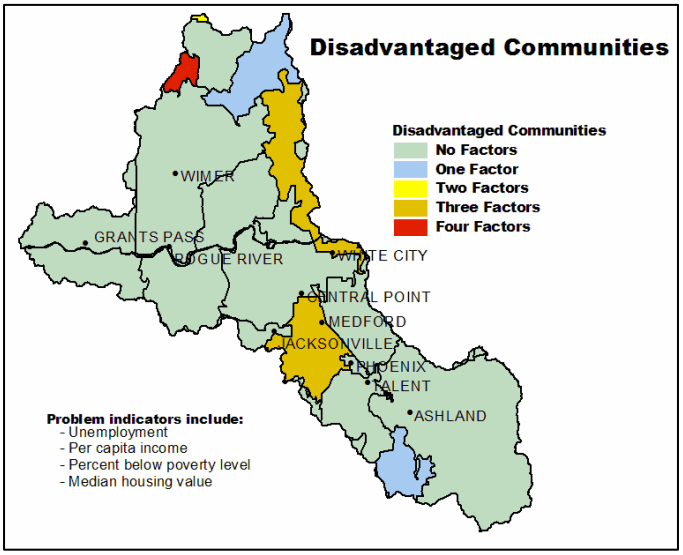
The *operators of large operations* are aware of local resource concerns and the conservation that is needed on their operation. Increased technical assistance and financial assistance could increase conservation adoption among these operators.

The *operators of small operations that are trying to make a living* from their operation are reported to have positive stewardship attitudes, are aware of local resource concerns, and are likely to adopt conservation if more technical and financial assistance were available. Labor-saving conservation systems would be highly desirable to these operators.

The *small-acreage landowners that are in the subbasin for the rural lifestyle* tends to be new to agriculture and resource management, are not well aware of local resource concerns, and have little knowledge of conservation systems. They do, however, have outside common that commonly is considerable. To increase the diffusion of conservation among this large group of landowners in the subbasin, there is a need for targeted conservation marketing and technical assistance devoted specifically to the needs of this group of landowners.

Evaluation of Social Capital[16]: Rural, agricultural communities in the Middle Rogue subbasin are reported to be fairly ineffective at solving problems. The communities in the larger urban areas tend to be more effective. Consistent leadership and citizen participation appear to be lacking in several communities; however, newcomers to the area may bring a renewed sense of community, along with talents, ideas, and economic resources. If these resources could be combined with the concern of long-time residents for the landscape, social capital might improve and become a force behind increasing resource management and enriching the well-being of the Middle Rogue subbasin.





Progress / Status

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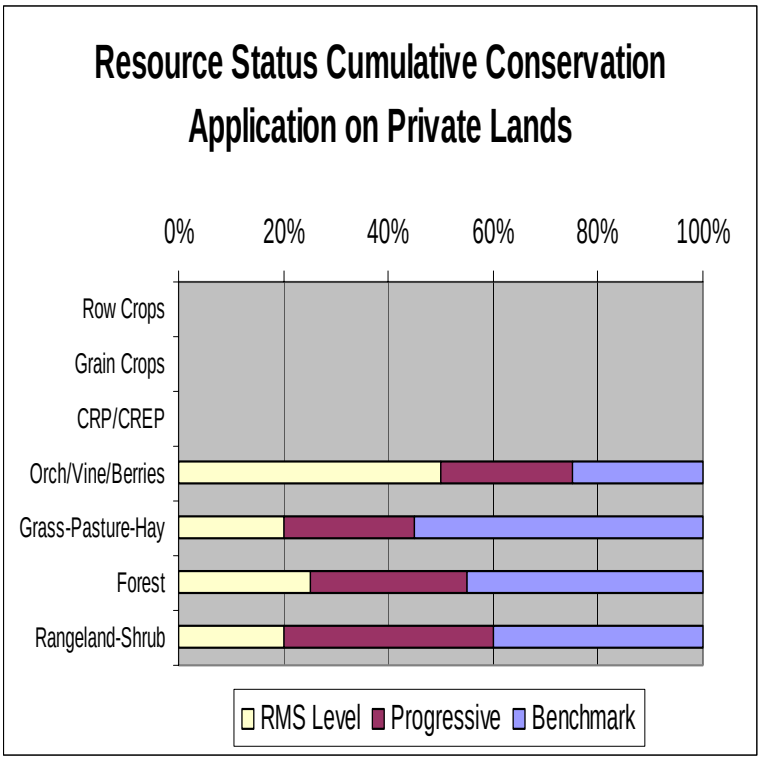
PRMS Data	FY99	FY00	FY01	FY02	FY03	Avg / Year	Total
Total Conservation Systems Planned (Acres)	2,991	81	529	324	180	821	4,105
Total Conservation Systems Applied (Acres)	246	323	481	291	878	444	2,219
Conservation Treatment (Acres)							
Waste Management (no.)	0	0	0	0	0	0	0
Buffers	0	0	4	0	0	1	4
Erosion Control	246	271	0	0	0	103	517
Irrigation Water Management	8	457	508	200	0	235	1,173
Nutrient Management	173	85	18	200	0	95	476
Pest Management	0	20	0	0	0	4	20
Prescribed Grazing	0	19	17	0	0	7	36
Trees & Shrubs	6	12	3	13	5	8	39
Conservation Tillage	0	80	0	0	0	16	80
Wildlife Habitat	295	252	256	0	0	161	803
Wetlands	0	0	0	0	0	0	0



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

- Progress over the last 5 years has been focused on:
  - Irrigation water management.
  - Nutrient and pest management on cropland.
  - Wildlife habitat management in riparian areas and on uplands.
- Conservation alternatives for controlling erosion are used on orchards and vineyards and areas of berry crops.
- Farmers of row crops (e.g. corn, beans, and cole crops) commonly apply good erosion control measures.
- Invasive weeds and a lack of proper forage and grazing management is an ongoing concern.
- Private, industrial forestland owners typically do not work with NRCS or SWCDs; however, their land usually complies with State forest practice act requirements.
- Much of the forestland is associated with small merchantable timber and oak savannahs and is managed for forage and timber production.

Lands Removed from Production through Farm Bill Programs

- Conservation Reserve Program (CRP): **None**
- Wetland Restoration Program (WRP): **None**
- Conservation Reserve Enhancement Program (CREP): **None**

Footnotes/Bibliography

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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.