North Umpqua – 17100301

8-Digit Hydrologic Unit Profile

SWCD	Acres
Douglas	799,746
East Lane	66,120
Klamath	13,066

Introduction

The North Umpqua 8-Digit Hydrologic Unit Code (HUC) subbasin is comprised of 878,700 acres, mostly in Douglas County. Ninety-one percent of the subbasin is forestland, and three-fourths of that is public land. About six percent of the subbasin is hayland and pastureland that typically is in small acreage operations.

The primary resource concern is the impact on fish and wildlife of concentrated flows from roads and landings on forestland. Poor management is a concern on many of the small acreage woodlots. A lack of riparian buffers on hayland and pastureland increases the risk of streambank erosion and diminishes water quality. Invasive weeds are a concern throughout much of the subbasin. High costs and a lack of adequate technical assistance limit conservation adoption among the farmers and ranchers in the North Umpqua subbasin.

There are about 232 operations and 389 farmers and ranchers in the subbasin. Operators of the larger, well-established operations tend to adopt conservation if it fits into their current management system without too much effort or risk. Increased technical assistance and a concerted effort by the local conservation partnership is needed to increase the diffusion of conservation among the more numerous, small acreage landowners in the subbasin.

The Roseburg NRCS Service Center, Douglas Soil and Water Conservation District, Southwest Resource Conservation and Development office, and Umpqua Basin Watershed Council provide much of the conservation assistance in the subbasin.

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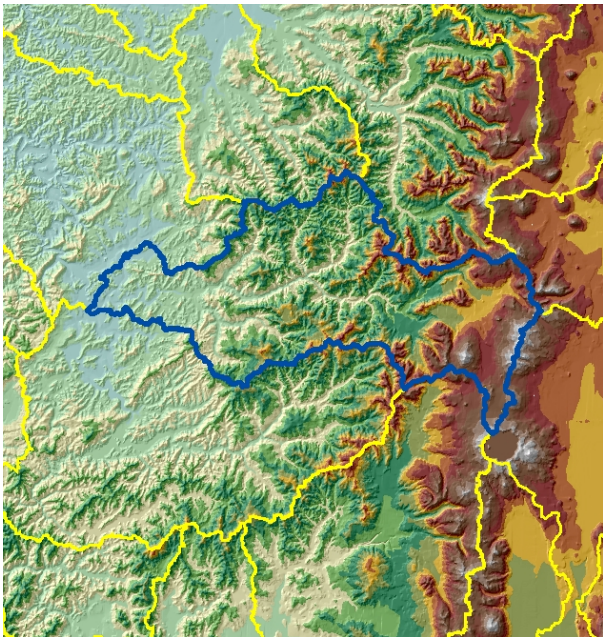

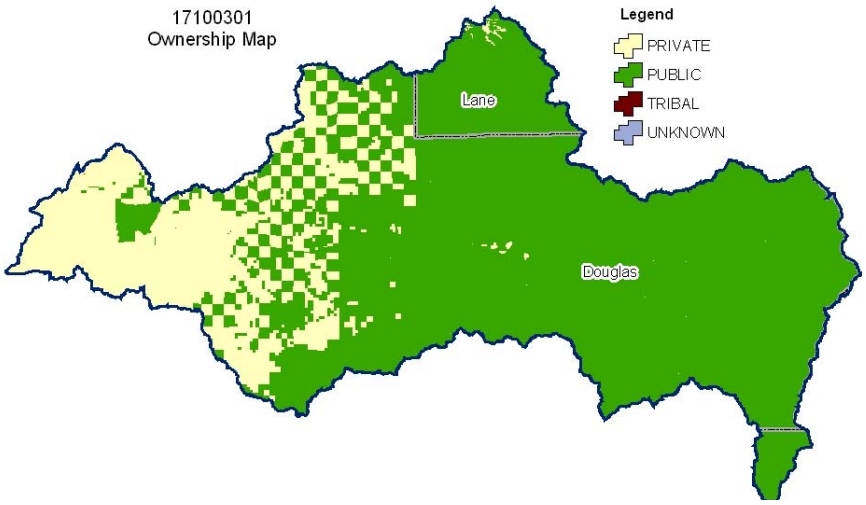

Produced by the Water Resources Planning Team Portland, OR

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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	650,800	74%	149,000	17%	0	0%	799,800	91%
Grain Crops	*	---	*	---	0	0%	*	---
Conservation Reserve Program Land [a]	0	0%	0	0%	0	0%	0	0%
Grass/Pasture/Hay	12,000	1%	39,600	5%	0	0%	51,600	6%
Orchards/Vineyards	0	0%	0	0%	0	0%	0	0%
Row Crops	*	---	*	---	0	0%	*	---
Shrub/Rangelands	*	---	*	---	0	0%	14,200	2%
Water/Wetlands/Developed/Barren	8,300	1%	*	---	0	0%	12,600	1%
Oregon HUC Totals [b]	**678,700**	**77%**	**200,000**	**23%**	**0**	**0%**	**878,700**	**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 60 percent of private forestland is under industrial forest ownership (OSU, Forestry Sciences Laboratory).
- Much of the private forestland is grazed.
- Pasture occurs on farms and ranchettes.
- Approximately 400 acres of specialty crops are grown for fresh market (based on local interviews of staff).

Irrigated Lands (1997 NRI[13] Estimates for Non-Federal Lands Only)	Type of Land	ACRES	% of Irrigated Lands	% of HUC
	Cultivated Cropland	0	0%	0%
	Uncultivated Cropland	600	55%	0%
	Pastureland	500	45%	0%
	Total Irrigated Lands	**1,100**	**100%**	**0%**

(Continued on the following pages)

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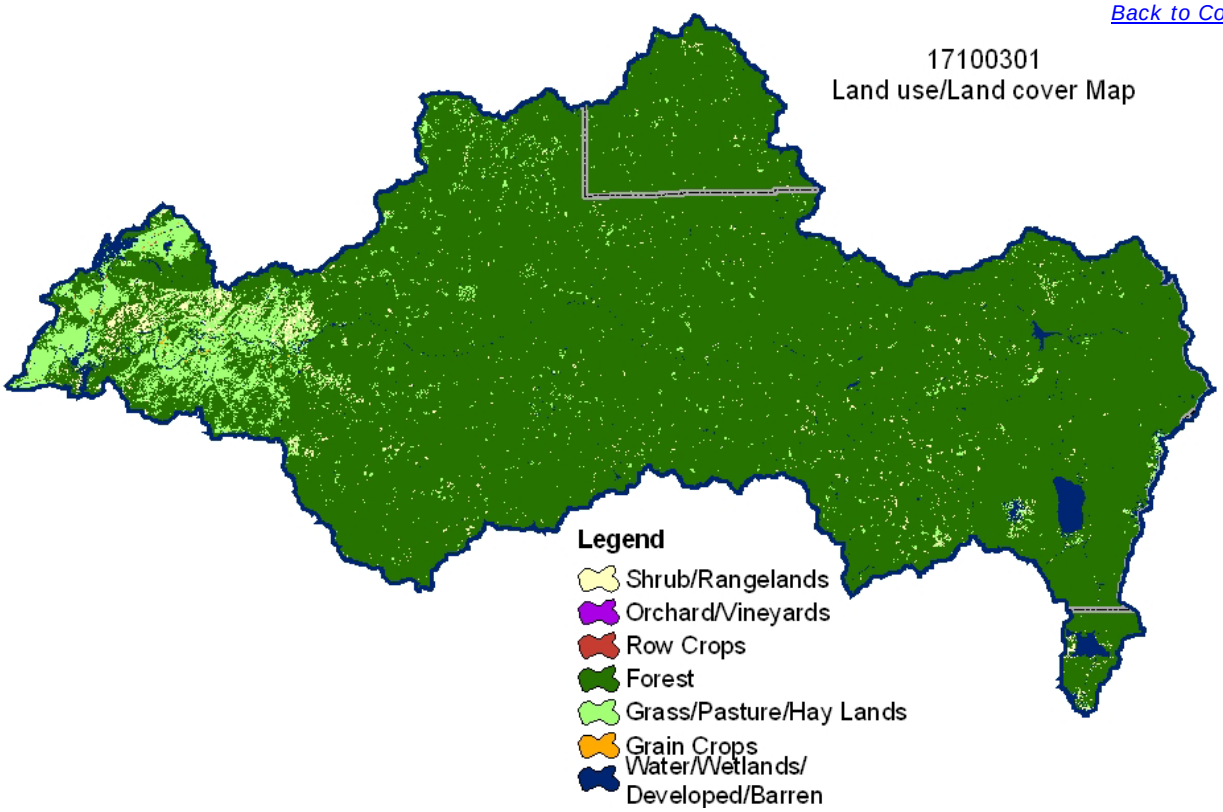

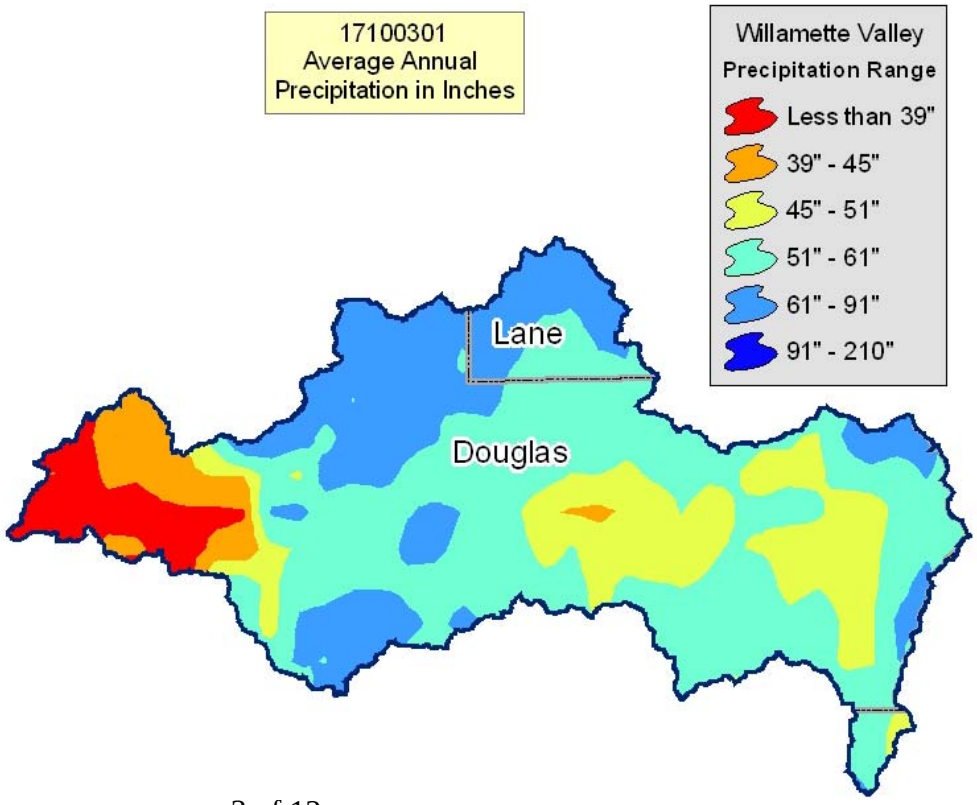

Common Resource Area Map

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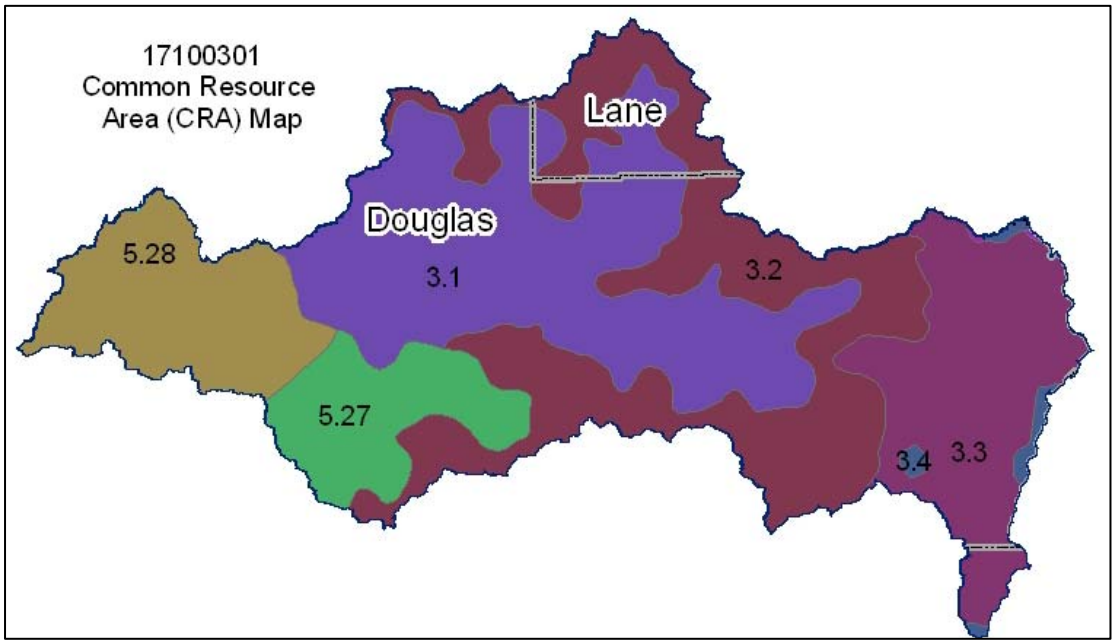
Only the major units are described below - for descriptions of all units within the HUC, go to: http://ice.or.nrcs.usda.gov/website/cra/viewer.htm



3.1 – Olympic and Cascade Mountains - Western Cascades Lowlands and Valleys: This unit comprises the lower elevations of the Cascade Mountains, adjacent to the Valley Foothills unit (2.4). The bedrock is basalt, andesite, and rhyolite. The vegetation is Douglas-fir and western hemlock. This unit is one of the most important timber-producing areas in the Northwest. The temperature regime is mesic, and the moisture regime is udic.

3.2 – Olympic and Cascade Mountains - Western Cascades Montane Highlands: This unit comprises the middle to high elevations of the Cascade Mountains. The vegetation is Douglas-fir, western hemlock, mountain hemlock, Pacific silver fir, and noble fir. Elevation typically is above about 3,000 feet. The mountains are highly dissected with steep slopes. The temperature regime is frigid and "warm" cryic, and the moisture regime is udic. This unit normally has a deep annual snowpack.

3.3 – Olympic and Cascade Mountains - Southern Cascade Crest Montane Forest: This unit comprises the southern end of the high Cascade Mountains. The vegetation is mountain hemlock, lodgepole pine, Shasta red fir, Pacific silver fir, and noble fir. The unit has plateau topography and is characterized by numerous alpine lakes. The temperature regime is cryic, and the moisture regime is udic.

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

5.28 - Siskiyou-Trinity Area - Umpqua Interior Foothills: This unit is comprised of a complex of flood plains, terraces, and foothills. The significant intermingling of foothill landforms in this unit makes it nearly impossible to separate out units 5.25 and 5.26; thus, unit 5.28 is a complex unit. The vegetation and climate is very similar to those of units 5.25 and 5.26.

Physical Description – Continued

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		ACRES	ACRE-FEET
Irrigated Adjudicated Water Rights *(OWRD[4])*	Surface	6,644	16,609
	Well	24	61
	Total Irrigated Adjudicated Water Rights	6,668	16,670
Stream Flow Data	USGS 14319500 NORTH UMPQUA RIVER, AT WINCHESTER, OR	**Total Avg. Yield**	2,683,815
		May – Sept. Yield	582,349
		MILES	**PERCENT**
Stream Data[5] **Percent of Total Miles of Streams in HUC*	Total Miles – Major (100K Hydro GIS Layer)	1,247	---
	303d/TMDL Listed Streams (DEQ)	372	30%
	Anadromous Fish Presence (StreamNet)	113	9%
	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	32,231	92%
	Grain Crops	38	0%
	Grass/Pasture/Hay	1,627	5%
	Orchards/Vineyards	0	0%
	Row Crops	7	0%
	Shrub/Rangelands – Includes CRP Lands	299	1%
	Water/Wetlands/Developed/Barren	1,008	2%
	Total Acres of 100-Foot Stream Buffers	**35,210**	**---**
Land Capability Class *(Croplands & Pasturelands Only)* *(1997 NRI[3] Estimates for Non-Federal Lands Only)*	**1** – slight limitations	0	0%
	2 – moderate limitations	700	3%
	3 – severe limitations	12,000	51%
	4 – very severe limitations	3,600	15%
	5 – no erosion hazard, but other limitations	0	0%
	6 – severe limitations; unsuitable for cultivation; limited to pasture, range, forest	6,300	27%
	7 – very severe limitations; unsuitable for cultivation; limited to grazing, forest, wildlife habitat	900	4%
	8 – miscellaneous areas; limited to recreation, wildlife habitat, water supply	0	0%
	Total Croplands & Pasturelands	**23,500**	**---**

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

Animal Type	Dairy	Feedlot	Poultry	Swine	Mink	Other
No. of Permitted Farms	0	0	0	0	0	0
No. of Permitted Animals	0	0	0	0	0	0

Resource Concerns

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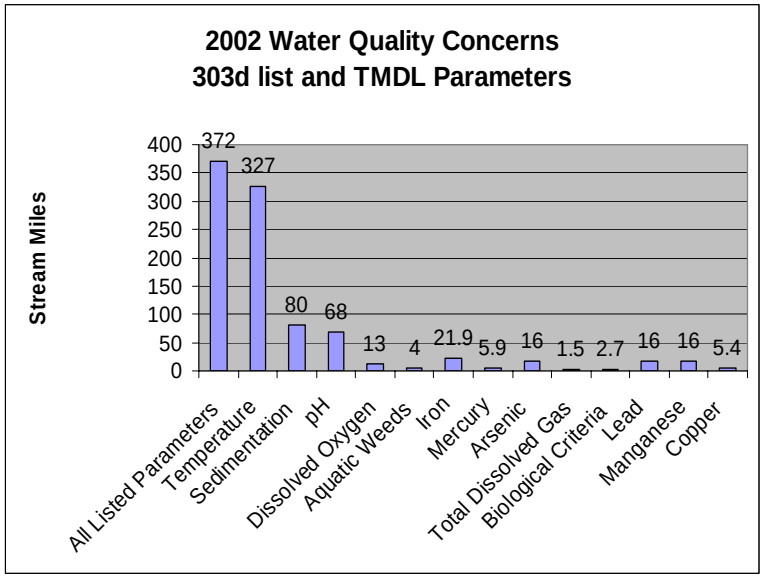
Tons of Soil Loss by Water Erosion: Due to the limited amount of non-Federal cropland and pastureland within this HUC, no reliable NRI soil loss estimates are available.



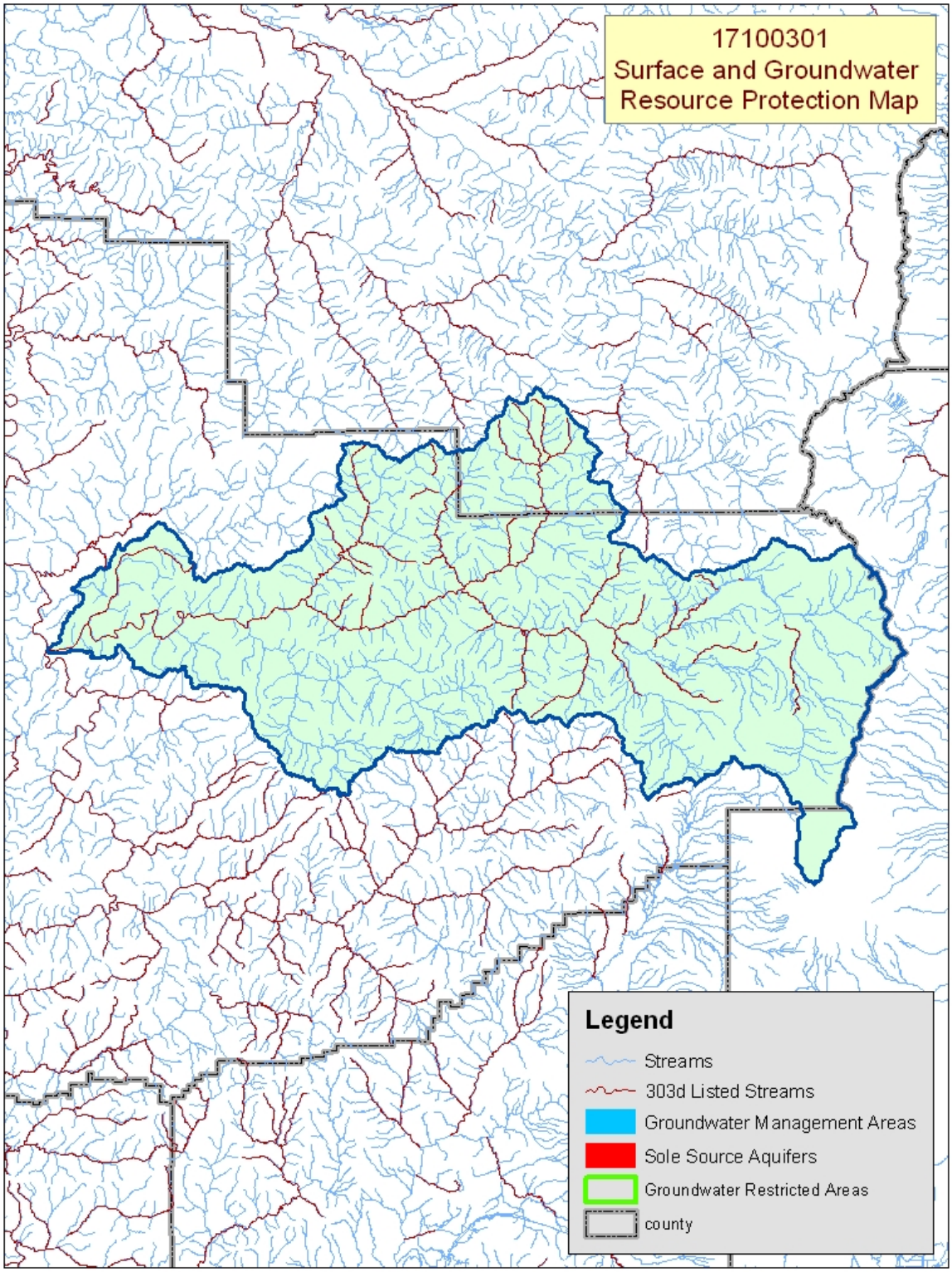
- Eighty-eight percent of all of the listed stream miles exceed State water quality standards for temperature. Elevated stream temperatures may be due to inadequate riparian shade, stream channel widening, and other anthropogenic or natural causes.
- Sedimentation in coastal streams commonly stems from 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
Sutherlin Creek	Installed - 1964	None	None

ODEQ TMDL's[8]		ODA Agricultural Water Quality Management Plans[9]	
Name	Status	Name	Status
Little River Umpqua Basin	Completed Data Collection	Umpqua	Completed

OWEB Watershed Council[10]	Watershed Council Assessments[11]	NWPCC Subbasin Plans and Assessments[18]
Umpqua Basin Watershed Council	Lower North Umpqua Watershed Assessment and Action Plan	None

(Continued on page 8)



Map Footnote [17]

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	Streambank	X					X
	Soil Mass Movement						X
Water Quality, Surface	Suspended Sediments and Turbidity						X
	Temperature	X					X
	Aquatic Habitat Suitability	X					X
Plant Suitability	Site & Intended Use Suitability/Invasive Weeds	X					X
Plant Condition	Productivity, Health, and Vigor	X					X
Plant Management	Establishment, Growth, and Harvest	X					X
Animal Habitat, Domestic	Water - Quantity & Quality	X					
	Management	X					
Animal Habitat, Wildlife	Food, Cover, and/or Shelter	X					
	Water – Quantity & Quality	X					
Human, Economics	High Capital/Financial Costs	X					X
	Low or Unreliable Profitability	X					
Human, Political	Lack of Technical Assistance	X					X

Grass / Pasture / Hay

- Erosion (streambanks) and water quality (temperature) are concerns commonly because of a lack of riparian buffers.
- Lack of desirable forage and lack of proper grazing management contribute 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 acreage operators.

Forestland (private, non-industrial)

- The primary resource concern is the impact on fish and wildlife of erosion from concentrated flows on roads and landings.
- Private woodlots commonly suffer from hygrading (harvesting the best trees) and poor stand management (overstocked stands).
- Overstocked forests and invasive weeds limit the productivity and increase the risk of catastrophic fire.
- Conservation on private, non-industrial forestland is limited as a result of:
  - High capital cost to establish and manage timber.
  - Lack of technical assistance to small acreage woodlot owners.

FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES[12]	
THREATENED SPECIES	**CANDIDATE SPECIES**
Mammal-Canada lynx **Marine –** Stellar (northern) sea lion **Birds –** Marbled murrelet, Western snowy plover, Bald eagle, Brown pelican, Short-tailed albatross, Northern spotted owl **Fish –** Coho salmon, Steelhead, Chinook salmon **Plants –** Kincaid's lupine, Rough popcorn flower	**Fish** – Steelhead **Birds –** Streaked horned lark **Amphibians and Reptiles –** Oregon spotted frog **PROPOSED SPECIES** None
ESSENTIAL FISH HABITAT[13] – Chinook, Coho	

Census and Social Data[/14]

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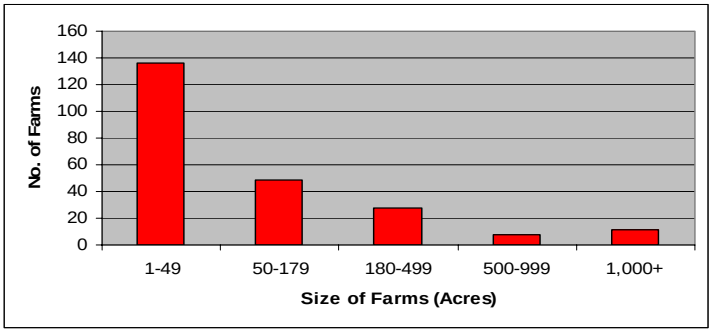
Number of Farms: 232

Number of Operators: 389

- Full-Time Operators: **131**
- Part-Time Operators: **258**



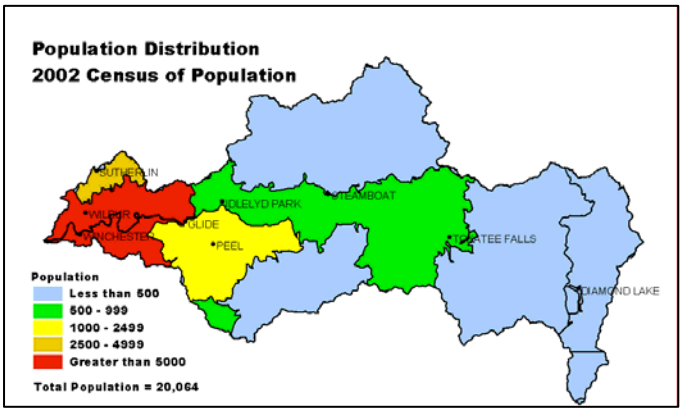
Estimated Level of Willingness and Ability to Participate in Conservation[/15]: Low to Moderate

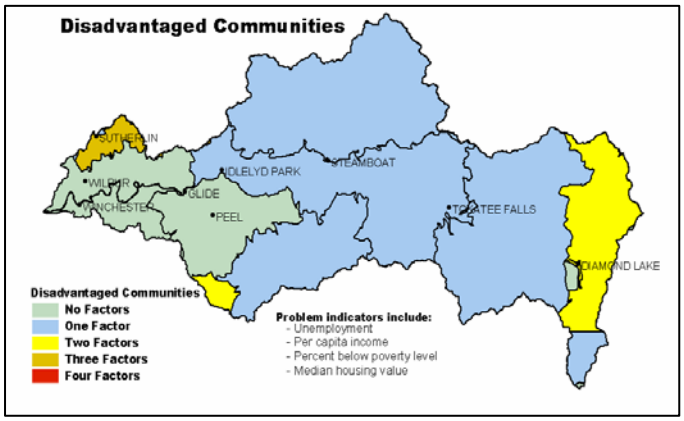
Operators of large, established, and viable operations in the North Umpqua subbasin are inclined to adopt conservation systems if they perceive them to be in their best interest and that of agriculture throughout the subbasin. These operators are reasonably aware of local resource concerns and the connection between the management of their operation and local resource issues. These farmers and ranchers are able to fit most recommended conservation practices into their current farming systems; however, technical and financial assistance as well as one-on-one discussions about the benefits of conservation to their operation usually are needed before they can be persuaded to adopt conservation systems.

The likelihood of adoption is significantly lower among the newer, less experienced landowners in the subbasin. Many of these operators are new to agriculture and resource management and are unaware of the connection between their operation and local natural resource concerns. A concerted effort by the local conservation partnership is needed to increase the diffusion of conservation among these landowners.

Evaluation of Social Capital[/16]:

The strengths of the communities in the subbasin are that they tend to complete projects and have the ability to solve problems. Participation in many community organizations tends to be low, and effective leadership is inconsistent. New landowners in the area are likely to be well educated and moderately affluent. Conservation systems will become more widely diffused throughout the subbasin if information, technical assistance, and conservation systems become more germane to the needs of the small acreage landowner.





Progress / Status

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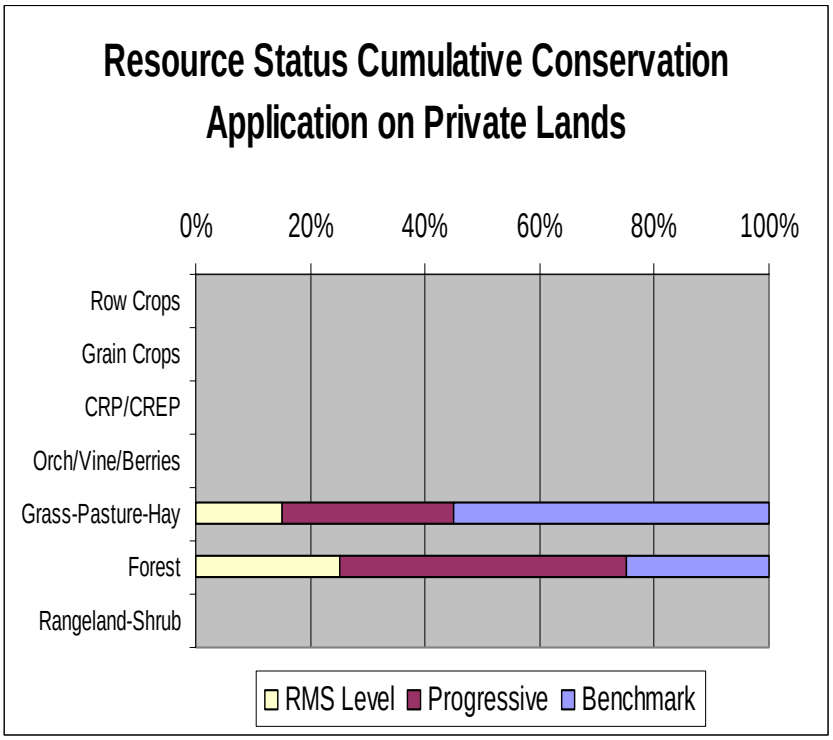
PRMS Data	FY99	FY00	FY01	FY02	FY03	Avg / Year	Total
Total Conservation Systems Planned (Acres)	87	80	0	0	415	116	582
Total Conservation Systems Applied (Acres)	41	30	0	0	0	14	71
Conservation Treatment (Acres)							
Waste Management	0	0	0	0	0	0	0
Buffers	0	0	0	0	0	0	0
Erosion Control	0	0	0	0	0	0	0
Irrigation Water Management	0	0	0	0	0	0	0
Nutrient Management	0	0	0	0	5	1	5
Pest Management	0	0	0	0	0	0	0
Prescribed Grazing	0	0	0	0	65	13	65
Trees & Shrubs	49	30	0	0	1	16	80
Conservation Tillage	0	0	0	0	0	0	0
Wildlife Habitat	225	31	21	0	2	56	279
Wetlands	0	0	0	0	1	0	1



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 woodland.
  - Wildlife habitat management.
- Invasive weeds and a lack of proper forage and grazing management are ongoing concerns.
- Private industrial forestland owners typically do not work with NRCS and SWCDs; however, their lands usually comply with State forest practices act requirements.
- Much of the private, non-industrial forestland in the watershed is used for long-term timber production. The rest is used as rural homesites and recreational property.

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.