



Introduction

The Lower Columbia 8-Digit Hydrologic Unit Code (HUC) subbasin is comprised of 207,000 acres, of which 75 percent is public forestland. Three percent of the subbasin is pastureland that is used for beef and dairy operations. Six dairies are in the subbasin. Resource concerns associated with the pastureland and dairies include soil compaction, streambank erosion, surface water contamination, unreliable profits, and the need for timely technical assistance. Rapid residential and recreational development is a resource concern on private, non-industrial forestland.

There are 193 farms and 290 operators in the Lower Columbia subbasin. Fifty-seven percent of these operators are part time farmers that have fewer than 50 acres. Nearly all of the remaining landowners own less than 180 acres. Many small acreage landowners are new to the area and to agriculture and resource management. Many lease all or part of their land to others for grazing.

One NRCS service center, the Clatsop Soil and Water Conservation District, the Northwest Oregon Resource and Conservation Development (RC&D) office, and other conservation organizations provide conservation assistance in the Lower Columbia subbasin.

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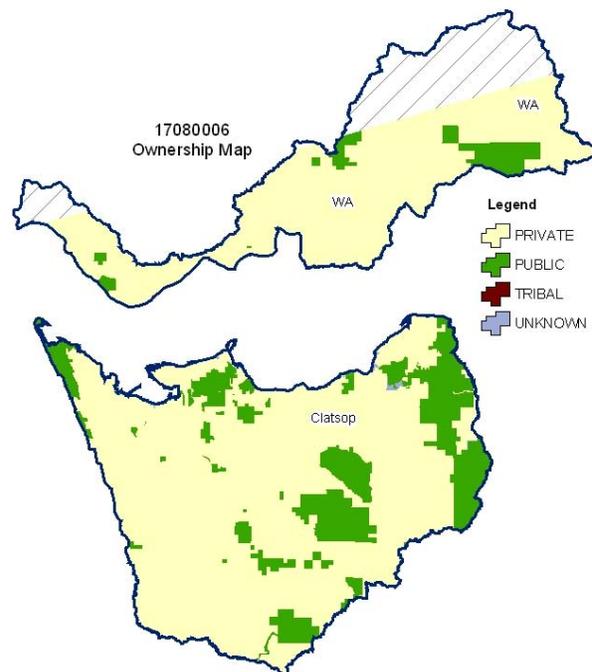
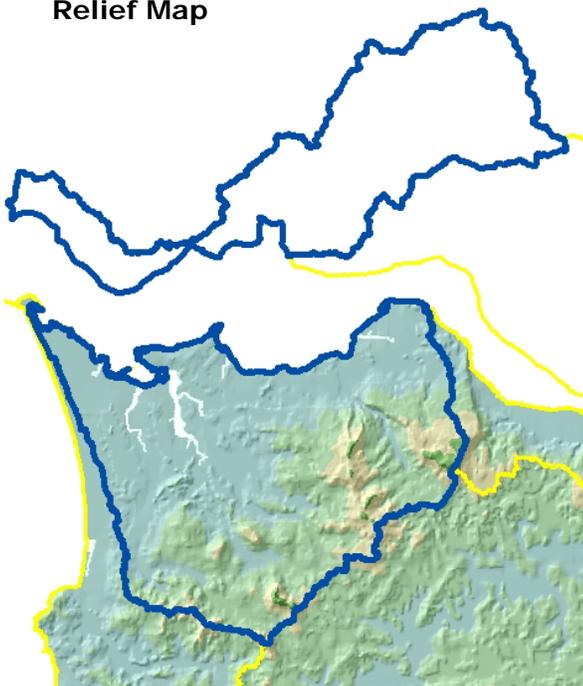
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Physical Description

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ALL NUMBERS IN THIS PROFILE ARE FOR OREGON ONLY

Land Cover/Land Use (NLCD ²)	Ownership - (2003 Draft BLM Surface Map Set ¹)						Totals	%
	Public		Private		Tribal			
	Acres	%	Acres	%	Acres	%		
Forest	39,200	19%	155,500	75%	0	0%	195,000	94%
Grain Crops	0	0%	0	0%	0	0%	0	0%
Conservation Reserve Program Land ^a	0	0%	0	0%	0	0%	0	0%
Grass/Pasture/Hay	*	---	6,000	3%	0	0%	6,300	3%
Orchards/Vineyards	*	---	*	---	0	0%	*	---
Row Crops	0	0%	0	0%	0	0%	0	0%
Shrub/Rangelands	*	---	*	---	0	0%	*	---
Water/Wetlands/Developed/Barren	*	---	4,100	2%	0	0%	4,700	2%
Oregon HUC Totals ^b	40,100	19%	166,300	80%	0	0%	206,800	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.

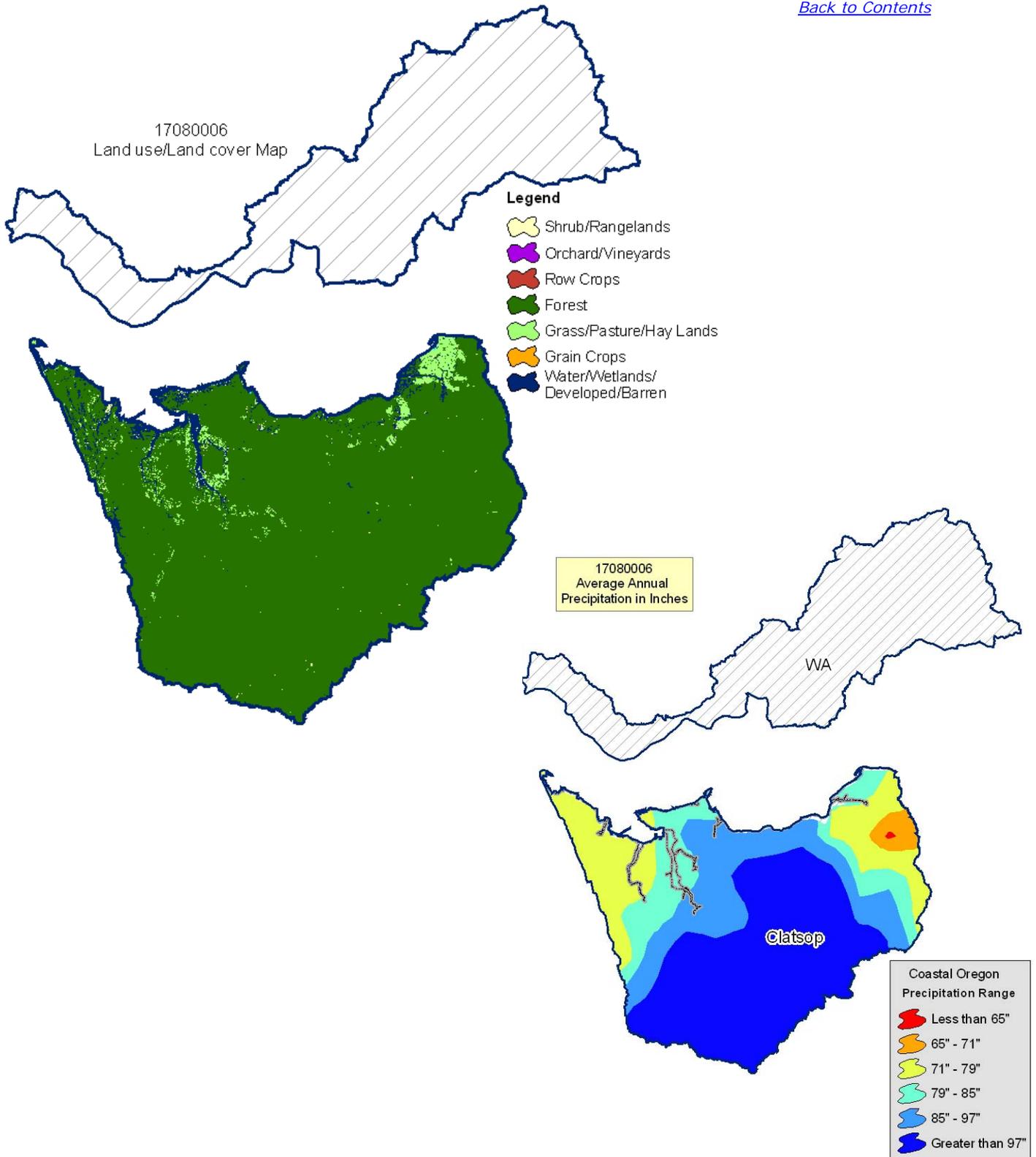
Special Considerations for this 8-Digit HUC:

- Seventy-four percent of the private forestland is under industrial forest ownership (OSU, Forestry Sciences Laboratory). Much of this forestland is used as rural residences and for recreation.
- Pasture includes commercial dairy and beef operations as well as small farms and ranches.
- Minor acreages of specialty crops, such as cranberries, artichokes, and bulbs, are grown in the subbasin.

Irrigated Lands (1997 NRI ³ Estimates for Non-Federal Lands Only)	Type of Land	ACRES	% of Irrigated Lands	% of HUC
	Cultivated Cropland	0	0%	0%
Uncultivated Cropland	0	0%	0%	
Pastureland	0	0%	0%	
Total Irrigated Lands	0	0%	0%	

(Continued on the following pages)

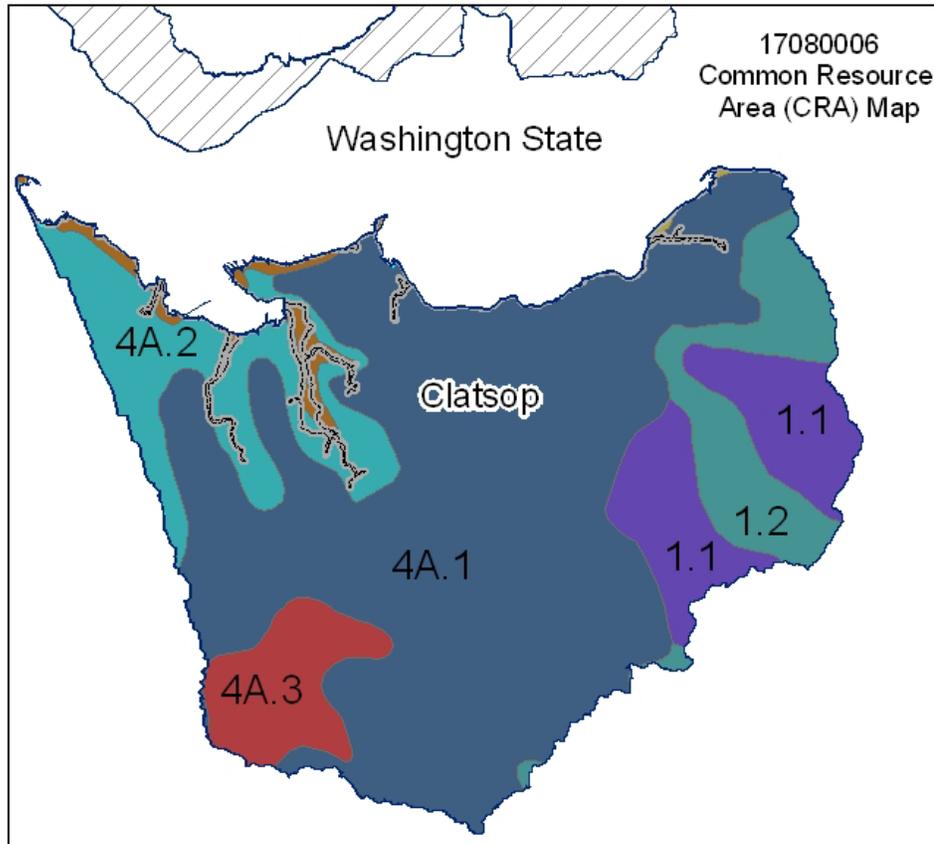
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Common Resource Area Map

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



1.1 - Northern Pacific Coast Range, Foothills, and Valleys – Volcanics: This unit is comprised of mountains that consist of basalt and are outside of the "fogbelt." The temperature regime is mesic or frigid with a small area that is cryic, and the moisture regime is udic. The vegetation is Douglas fir and western hemlock.

1.2 - Northern Pacific Coast Range, Foothills, and Valleys - Willapa Hills: This unit is comprised of lower elevation mountains and foothills in the Coast Range. The soils are underlain by sedimentary rock and are silty and clayey throughout the profile. The soils in unit 1.6 are more loamy. Some of the soils in unit 1.2 have a fragipan. The temperature regime is mesic, and the moisture regime is udic. The vegetation is Douglas fir and western hemlock.

4A.1 – Sitka Spruce Belt - Coastal Sedimentary Uplands: This unit is comprised of mountains that consist of sedimentary rock and are in the "fogbelt." The temperature regime is isomesic, and the moisture regime is udic. Sitka spruce is present, which separates this unit from unit 1.1.

4A.2 – Sitka Spruce Belt - Coastal Lowlands: This unit is comprised of marine terraces, diked and undiked flood plains, and estuaries. The temperature regime is isomesic, and the moisture regime is udic.

4A.3 – Sitka Spruce Belt - Coastal Volcanic Uplands: This unit is comprised of mountains that consist of basalt and are in the "fogbelt." The temperature regime is isomesic and isofrigid, and the moisture regime is udic. Sitka spruce is present.

Physical Description – Continued

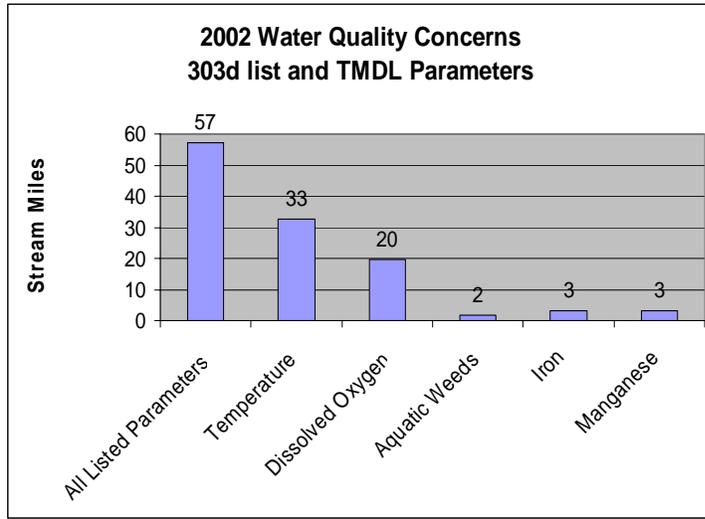
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		ACRES	ACRE-FEET			
Irrigated Adjudicated Water Rights <i>(OWRD⁴)</i>	Surface	346	865			
	Well	0	0			
	Total Irrigated Adjudicated Water Rights	346	865			
Stream Flow Data	USGS 14246900 COLUMBIA RIVER AT BEAVER ARMY TERMINAL, NEAR QUINCY, OR	Total Avg. Yield	171,330,645			
		May – Sept. Yield	69,428,033			
	USGS 14251500 YOUNGS RIVER, NEAR ASTORIA, OR	Total Avg. Yield	129,136			
		May – Sept. Yield	10,187			
		MILES	PERCENT			
Stream Data ⁵ <i>*Percent of Total Miles of Streams in HUC</i>	Total Miles – Major (100K Hydro GIS Layer)	380	---			
	303d/TMDL Listed Streams (DEQ)	57	15%			
	Anadromous Fish Presence (StreamNet)	63	17%			
	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	8,304	91%			
	Grain Crops	0	0%			
	Grass/Pasture/Hay	491	5%			
	Orchards/Vineyards	3	0%			
	Row Crops	0	0%			
	Shrub/Rangelands – Includes CRP Lands	41	0%			
	Water/Wetlands/Developed/Barren	259	3%			
	Total Acres of 100-foot Stream Buffers	9,097	---			
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	600	3%			
	3 – severe limitations	5,800	29%			
	4 – very severe limitations	8,800	44%			
	5 – no erosion hazard, but other limitations	1,600	8%			
	6 – severe limitations; unsuitable for cultivation; limited to pasture, range, forest	3,200	16%			
	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	20,000	---			
	Confined Animal Feeding Operations – Oregon CAFO Permit – 12/2004					
Animal Type	Dairy	Feedlot	Poultry	Swine	Mink	Other
No. of Permitted Farms	6	0	0	0	2	0
No. of Permitted Animals	1,781	0	0	0	52,000	0

Resource Concerns

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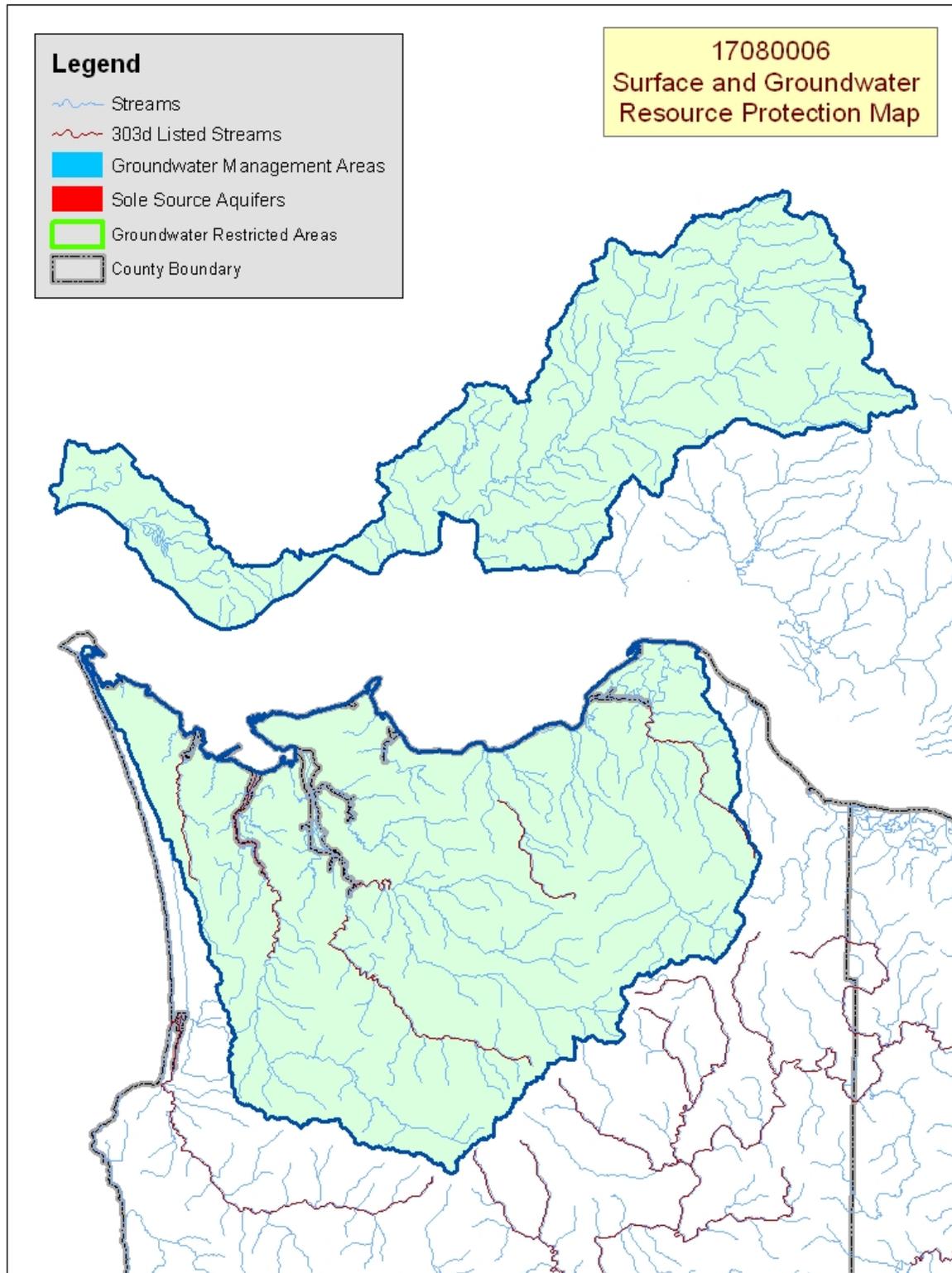
Tons of Soil Loss by Water Erosion: Due to the limited amount of non-Federal cropland and pastureland within this HUC, no reliable NRI soil loss estimates are available.



- ❖ Fifty-seven percent 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.
- ❖ Many of the water quality concerns are associated with the main stem of the Columbia River, and the pollutant source originates upstream from this watershed.
- ❖ Conservation practices that can be used to address these water quality issues include 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
Skipanon River	Installed - 1960	Skipanon River Hydrologic Study	Completed 2003
ODEQ TMDL's ⁸		ODA Agricultural Water Quality Management Plans ⁹	
Name	Status	Name	Status
North Coast Subbasins	Completed	North Coast	Completed
Columbia & Willamette Rivers	Completed		
Columbia & Snake Rivers	Draft for Review		
OWEB Watershed Council ¹⁰		Watershed Council Assessments ¹¹	NWPC Subbasin Plans and Assessments ¹⁸
Clatsop Coordinating Council, Nicolai-Wickiup Watershed Council, Skipanon Watershed Council, Young's Bay Watershed Council		Skipanon Watershed Assessment, Nicolai-Wickiup Watershed Assessment, Young's Bay Watershed Assessment	Columbia Estuary Subbasin Plan

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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	Streambank	X					
Soil Condition	Soil Compaction	X					
Water Quantity	Ponding & Flooding	X					
Water Quality, Surface	Low Dissolved Oxygen	X					
	Temperature	X					
	Aquatic Habitat Suitability	X					
Plant Condition	Productivity, Health, & Vigor	X					
Animal Habitat, Wildlife	Food, Cover, &/or Shelter	X					
Human, Economics	High Risk & Uncertainty	X					
	High Capital/Financial Costs						X
	Low or Unreliable Profitability	X					
Human, Political	Lack of Technical Assistance	X					

Grass/Pasture/Hay

- A growing number of people from Portland and other areas are buying older farm homes and bringing in horses. As new land managers, they commonly lack the knowledge needed for good pasture and grazing management.

Forestland

- Some landowners have converted pastures to Christmas trees, and they commonly do not have the ability and experience to appropriately manage the natural resources.
- Most private, non-industrial forestland owners purchased their property for use as rural residences or recreation, not for long-term timber production.

FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES ¹²	
THREATENED SPECIES	CANDIDATE SPECIES
Marine – Steller (northern) sea lion Mammals - Columbian white-tailed deer Birds – Marbled murrelet, Western snowy plover, Bald eagle, Brown pelican, Short-tailed Albatross, Northern spotted owl Fish – Chum salmon, Coho salmon, Steelhead, Sockeye salmon, Chinook salmon Invertebrates – Oregon silverspot butterfly Plants – Howellia	Fish – Coho salmon, Steelhead Birds – Streaked horned lark
	PROPOSED SPECIES None
ESSENTIAL FISH HABITAT¹³ – Chinook, Coho	

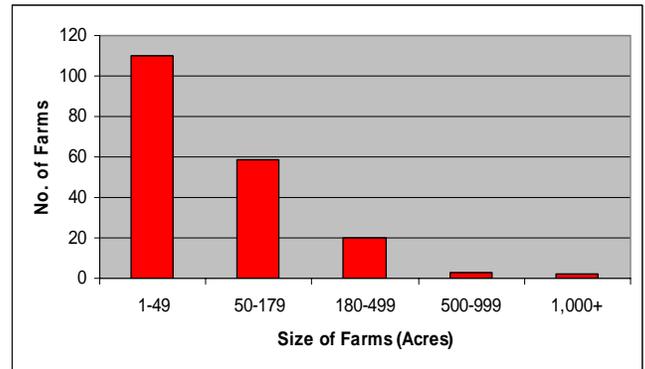
Census and Social Data^{/14}

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Number of Farms: 193

Number of Operators: 290

- Full-Time Operators: **89**
- Part-Time Operators: **201**



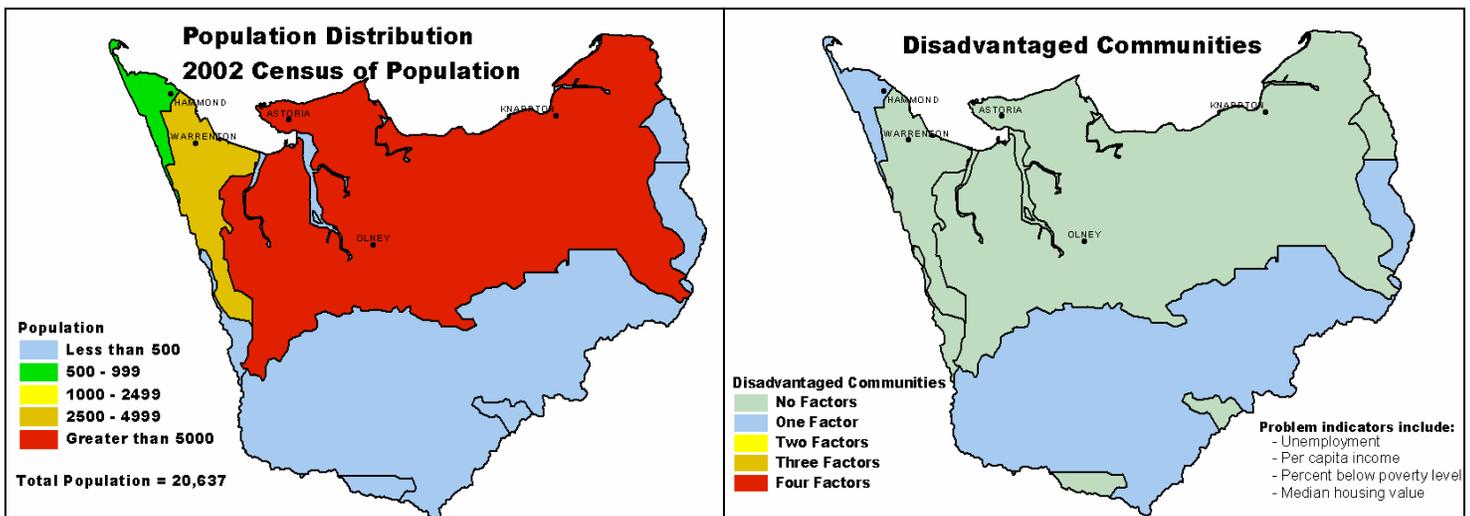
Estimated Level of Willingness and Ability to Participate in Conservation^{/15}: Moderate

The largest group of landowners in this subbasin are those that have less than 200 acres, and they tend to be amenable to conservation practices and natural resource management. As a group, they exhibit a positive stewardship attitude, understand conservation, and have a fair understanding of the link between their operation and local resource concerns. They also are relatively active in community organizations.

To expedite the diffusion of conservation among these landowners, it may be necessary to increase technical assistance. It would also be helpful for more community organizations to become involved in promoting conservation and sponsoring conservation activities.

Evaluation of Social Capital^{/16} Low to Moderate

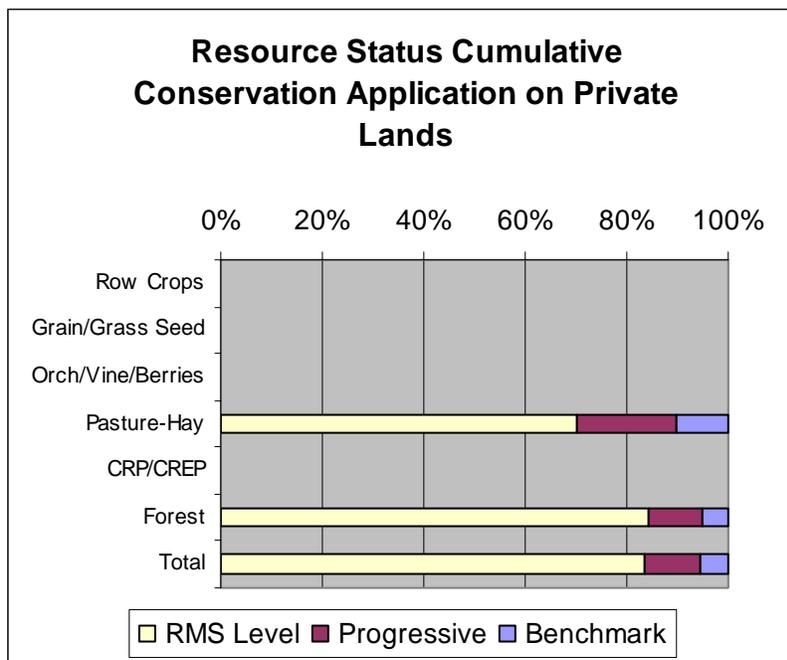
Social capital in the Lower Columbia watershed and the community's ability to successfully address local resource concerns appears to be low to moderate. The community's greatest strength is its ability to recruit a good number of volunteers when there is a project to be done. The community might benefit from garnering more widespread participation in community decisions from minority groups and newcomers to the area.



Progress/Status

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PRMS Data	FY99	FY00	FY01	FY02	FY03	Avg/Year	Total
Total Conservation Systems Planned (Acres)	494	291	200	0	606	318	1,591
Total Conservation Systems Applied (Acres)	203	232	241	0	165	168	841
Conservation Treatment Acres							
Waste Management (Number)	0	0	0	1	0	0	1
Buffers (Acres)	0	0	0	0	1,500	300	1,500
Erosion Control (Acres)	0	0	0	0	0	0	0
Irrigation Water Management (Acres)	0	0	0	0	0	0	0
Nutrient Management (Acres)	0	0	0	0	0	0	0
Pest Management (Acres)	0	0	0	0	0	0	0
Prescribed Grazing (Acres)	74	232	0	0	165	94	471
Trees & Shrubs (Acres)	2	85	2	0	0	18	89
Conservation Tillage (Acres)	0	0	0	0	0	0	0
Wildlife Habitat (Acres)	213	0	123	0	0	67	336
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 5 years has been focused on:
 - ~ Prescribed grazing on CAFOs.
 - ~ Wildlife habitat management, including use of buffers in riparian and wetland areas.
- ❖ Most commercial dairies are at the progressive or RMS level.
- ❖ Poor pasture management is common for non-commercial livestock operations, where people from Portland and other areas have purchased older farms and have a few horses or beef cattle.
- ❖ Private industrial forestland owners typically do not work with NRCS and SWCDs; however, their land commonly complies with State forest practices act requirements.
- ❖ Some of the non-industrial, private forestland in the watershed is used for long-term timber production, but most is used as rural homesites or 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/wlexport.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

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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>.