ILLINOIS – 17100311

8-Digit Hydrologic Unit Profile

REVISED

MAY 2006

Introduction

The Oregon part of the Illinois 8-Digit Hydrologic Unit Code (HUC) subbasin is comprised of 595,500 acres in Josephine and Curry Counties. Eighty-nine percent of the subbasin is forestland, and eight percent is pastureland, hayland, and grassland. Pastureland is included on commercial dairies and many small-acreage farms. There is one permitted CAFO for 163 animals 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 ineffective 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 152 farms and 242 operators in the Illinois subbasin. Nearly 75 percent of the farms are less than 50 acres in size. Conservation is not widespread throughout the agricultural community. Limited availability of technical assistance contributes to the lack of implementation of conservation. Many operators are wary of participating in government programs. Conservation marketing and technical assistance from private, non-governmental sources may be the most effective way to increase conservation.

Conservation assistance in the subbasin is largely provided by the Medford USDA Service Center, the Grants Pass NRCS office, Illinois Valley Soil and Water Conservation District, Southwest Oregon Resource Conservation and Development (RC&D) Area, and Illinois Valley Watershed Council.

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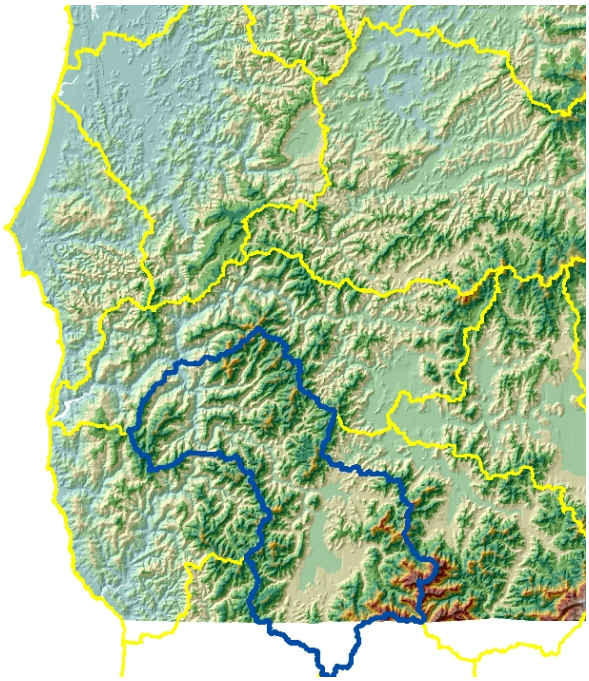

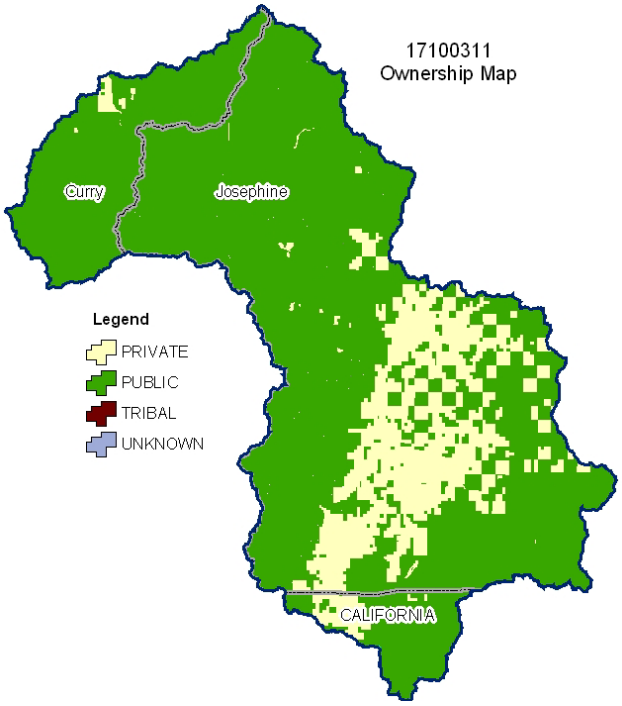

Produced by the Water Resources Planning Team Portland, OR

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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	446,000	75%	85,500	14%	0	0%	**531,500**	**89%**
Grain Crops	*	---	*	---	0	0%	*	---
Conservation Reserve Program Land [a]	0	0%	0	0%	0	0%	**0**	**0%**
Grass/Pasture/Hay	30,700	5%	18,200	3%	0	0%	**48,900**	**8%**
Orchards/Vineyards	0	0%	0	0%	0	0%	**0**	**0%**
Row Crops	0	0%	*	---	0	0%	*	---
Shrub/Rangelands	9,200	2%	*	---	0	0%	**10,500**	**2%**
Water/Wetlands/Developed/Barren	*	---	*	---	0	0%	*	---
Oregon HUC Totals [b]	**486,900**	**82%**	**108,600**	**18%**	**0**	**0%**	**595,500**	**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 29 percent of private forestland is under industrial forest ownership (OSU, Forestry Sciences Laboratory).
- Pasture is included on commercial beef operations as well as on small farms and ranchettes.
- Much of the private forestland is grazed.
- Specialty crops include vegetables grown for fresh market and crops grown in vineyards (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	1,600	19%	0%
	Uncultivated Cropland	1,200	14%	0%
	Pastureland	5,800	67%	<1%
	Total Irrigated Lands	**8,600**	**100%**	**1%**

(Continued on the following pages)

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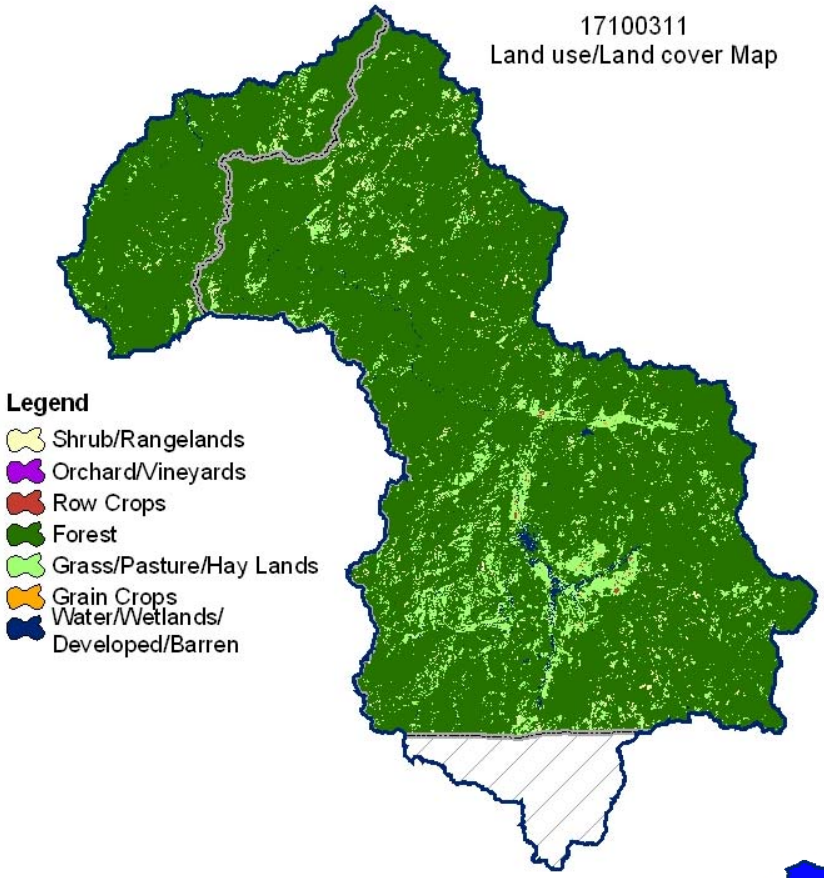

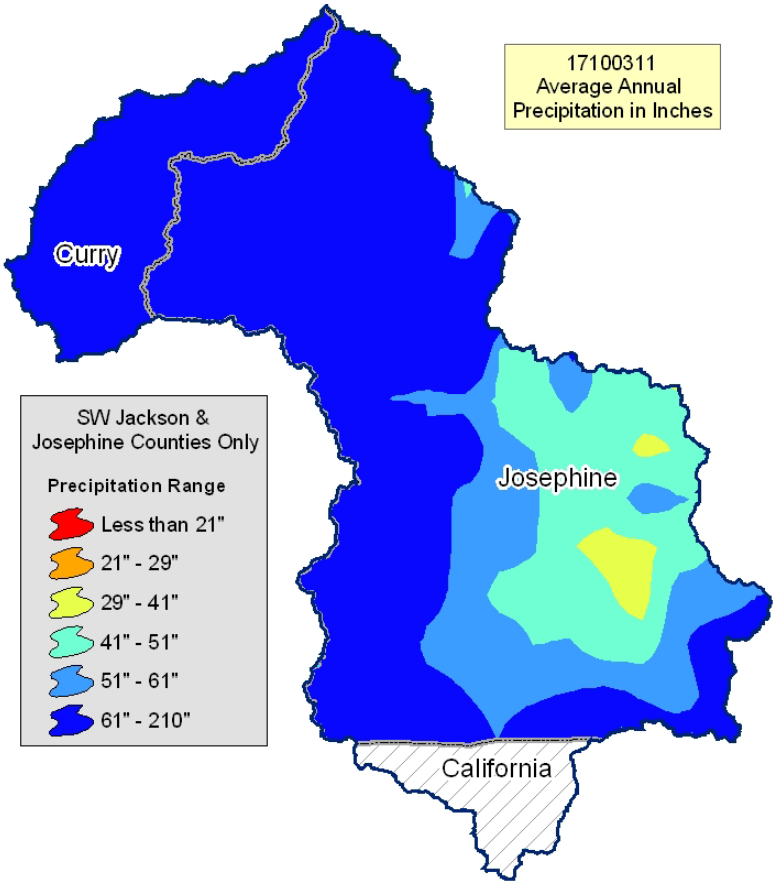

Common Resource Area Map

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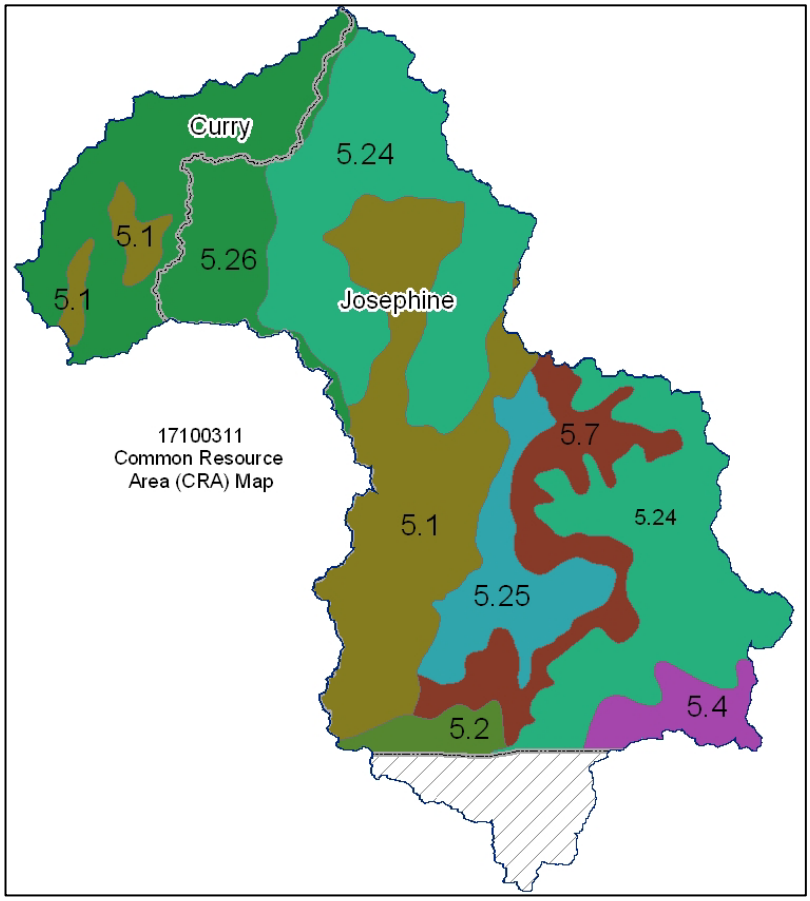
Only the major units are described below - for descriptions of all units within the HUC, go to: http://ice.or.nrcs.usda.gov/website/cra/viewer.htm



5.1 – Siskiyou-Trinity Area - Gasquet Mountain Ultramafics: This unit encompasses ultramafic rock in the Josephine ophiolite. The soil temperature regime is dominantly mesic, and the soil moisture regime is xeric. The vegetation includes Jeffrey pine, lodgepole pine, and Port Orford-cedar. This unit drains to the Smith River and tributaries of the Klamath River.

5.2 - Siskiyou-Trinity Area - Western Jurassic: This unit is in the Western Jurassic Belt. It is along the western edge of the Klamath Mountains. The soil temperature regime is dominantly mesic, and the soil moisture regime is xeric, bordering on udic along the western edge. The vegetation includes Douglas-fir, tanoak, and canyon live oak. The Smith, Klamath, and Trinity Rivers cross the unit.

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.

5.26 – Siskiyou-Trinity Area - Coastal Siskiyous: This unit is similar to unit 5.24 except that precipitation in much greater and tanoak is significant in the plant community. The higher precipitation and management considerations for tanoak (sprouter) make this area unique from unit 5.24.

5.4 - Siskiyou-Trinity Area - Red Butte: This unit is along a drainage divide between the Klamath River on the south and the Applegate River on the north. The soil temperature regime is dominantly frigid with some areas that are cryic at higher elevations, and the soil moisture regime is xeric. The vegetation includes white fir, red fir, and Jeffrey pine. The unit drains to the Applegate River on the north and to Indian Creek and other tributaries of the Klamath River.

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	11,310	30,442
	Well	349	873
	Total Irrigated Adjudicated Water Rights	11,660	31,315
Stream Flow Data	USGS 14378200 ILLINOIS RIVER, NEAR AGNESS, OR	**Total Avg. Yield**	2,965,174
		May – Sept. Yield	273,656
		MILES	**PERCENT**
Stream Data[5] **Percent of Total Miles of Streams in HUC*	Total Miles – Major (100K Hydro GIS Layer)	971	---
	303d/TMDL Listed Streams (DEQ)	308	32%
	Anadromous Fish Presence (StreamNet)	129	13%
	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	21,715	89%
	Grain Crops	25	0%
	Grass/Pasture/Hay	1,698	7%
	Orchards/Vineyards	0	0%
	Row Crops	27	0%
	Shrub/Rangelands – Includes CRP Lands	288	1%
	Water/Wetlands/Developed/Barren	586	2%
	Total Acres of 100-foot Stream Buffers	**24,340**	**---**
Land Capability Class *(Croplands & Pasturelands Only)* *(1997 NRI[3] Estimates for Non-Federal Lands Only)*	**1** – slight limitations	0	0%
	2 – moderate limitations	7,100	51%
	3 – severe limitations	1,200	9%
	4 – very severe limitations	4,500	32%
	5 – no erosion hazard, but other limitations	0	0%
	6 – severe limitations; unsuitable for cultivation; limited to pasture, range, forest	0	0%
	7 – very severe limitations; unsuitable for cultivation; limited to grazing, forest, wildlife habitat	1,200	9%
	8 – miscellaneous areas; limited to recreation, wildlife habitat, water supply	0	0%
	Total Croplands & Pasturelands	**14,000**	**---**

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	1
No. of Permitted Animals	0	0	0	0	0	163

Resource Concerns

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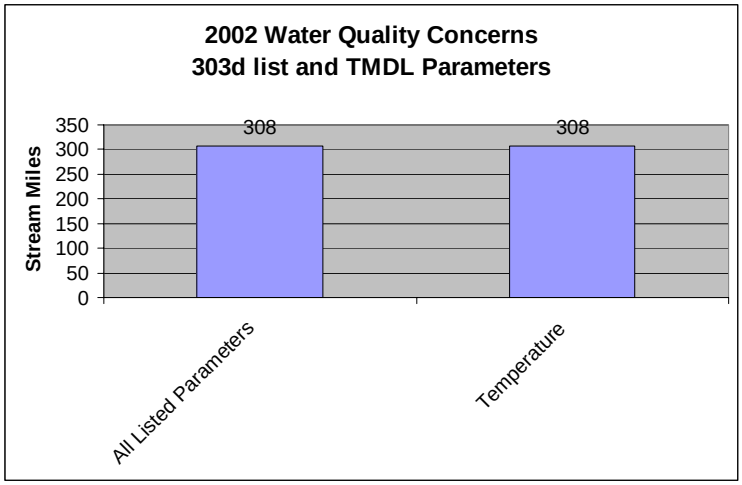
Tons of Soil Loss by Water Erosion: Due to the limited amount of non-Federal cropland and pastureland within this HUC, no reliable NRI soil loss estimates are available.



- All 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.
- Conservation practices that can be used to address these water quality issues include livestock 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	Illinois Valley	Completed
ODEQ TMDL's[8]		ODA Agricultural Water Quality Management Plans[9]	
Name	Status	Name	Status
Lower Sucker Creek Watershed Upper Sucker Creek	Completed Completed	Inland Rogue	Completed

OWEB Watershed Council[10]	Watershed Council Assessments[11]	NWPCC Subbasin Plans and Assessments[18]
Illinois Valley Watershed Council	Illinois River Basin Watershed Assessment	None

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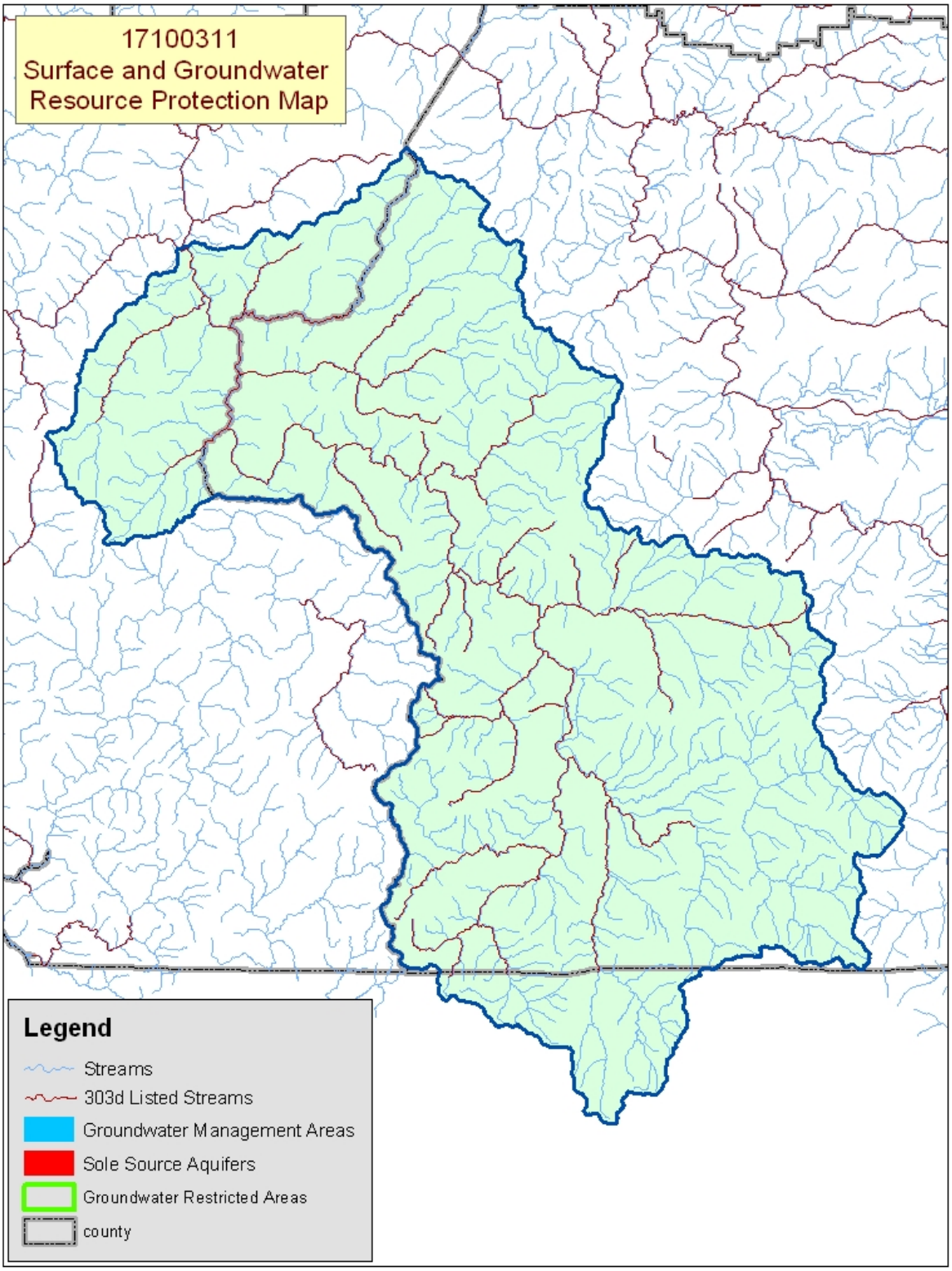

Map Footnote [17]

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)**	**Forest**
Soil Erosion	Concentrated Flow or Gully					X
	Streambank	X				X
Water Quantity	Water Management For Irrigated Land	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
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
	High Labor Costs or Availability	X				X
	High Management Level Required	X				X
	Low or Unreliable Profitability	X				
Human, Political	High Degree of Controversy	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.

Forest (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 productivity in areas of grazed woodland.
- Private woodlots commonly suffer from hygrading (harvesting the best trees) or poor stand management (overstocked).
- Overstocked stands 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 owners of small woodlots.

General

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

FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES[12]	
THREATENED SPECIES	**CANDIDATE SPECIES**
Marine – Steller (northern) sea lion **Birds –** Marbled murrelet, Western snowy plover, Bald eagle, Brown pelican, Short-tailed albatross, Northern spotted owl **Fish –** Coho salmon **Plants –** Mcdonald's rockcress, Gentner's fritillary, Cook's lomatium, Western lily	**Fish** – Steelhead **PROPOSED SPECIES** None
ESSENTIAL FISH HABITAT[13] – Chinook, Coho	

Census and Social Data[/14]

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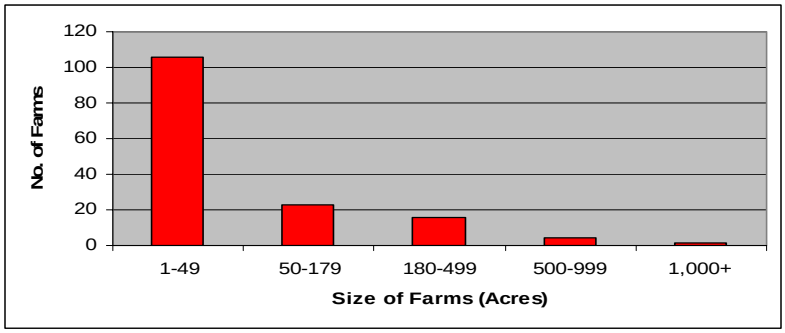


Number of Farms: 152

Number of Operators: 242

- Full-Time Operators: **96**
- Part-Time Operators: **146**

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

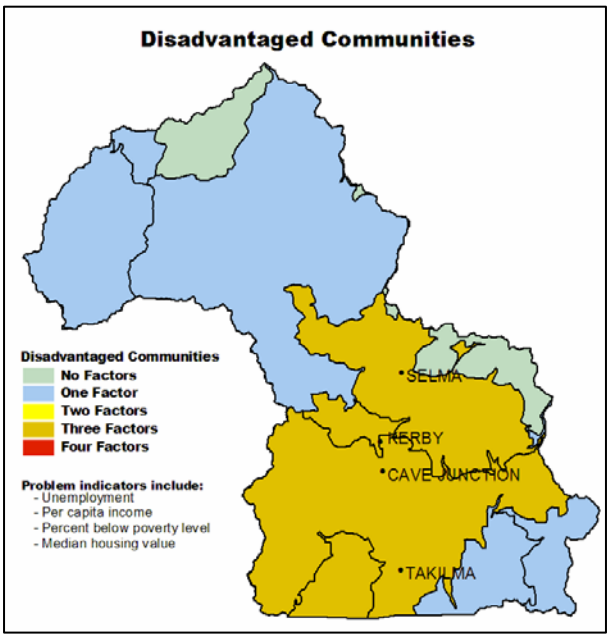
Most of the operators in the Illinois subbasin are aware of local resource concerns, have a relatively positive attitude toward conservation, and are able to fit conservation into their current management system. Many, however, do not perceive local resource concerns to be related to their operation, do not have a conservation plan, and, consequently, have not adopted conservation. Nonetheless, these operators are concerned about regulatory threats and the development of subdivisions on agricultural lands. Timely technical assistance is not available to the operators in this subbasin.

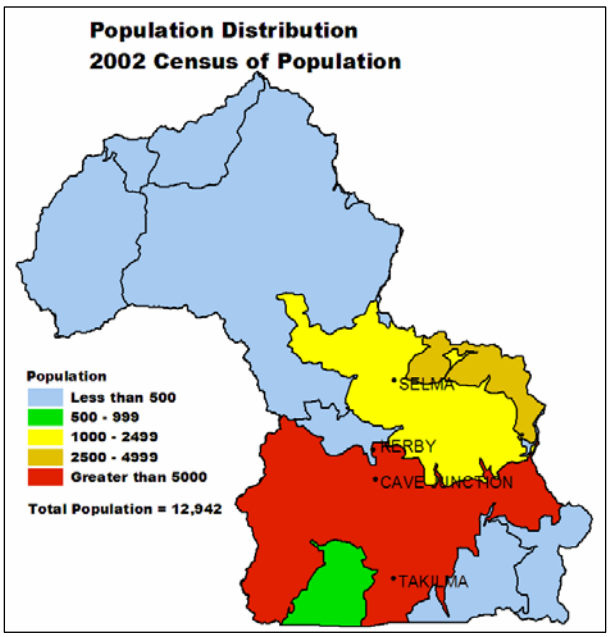
Conservation marketing, planning, and technical assistance by local, possibly private, non-governmental sources (e.g. certified Technical Service Providers) may be the best way to increase the diffusion of conservation in the Illinois subbasin.

Evaluation of Social Capital[/16]:

Social capital and the ability of the communities to solve problems are reported to be low. The strengths of the communities are their participation in public meetings and in selected community activities. There is little participation in agricultural organizations, and leadership could be more effective and consistent. At present, it appears that communities in the Illinois subbasin do not perceive natural resource management to be an issue that is important to their well-being, and until this changes, it is unlikely that the community will be a force in the diffusion of conservation in the subbasin.

Communities in the Illinois subbasin might benefit from professional community development assistance to improve participation, leadership, and social capital in general.





Progress / Status

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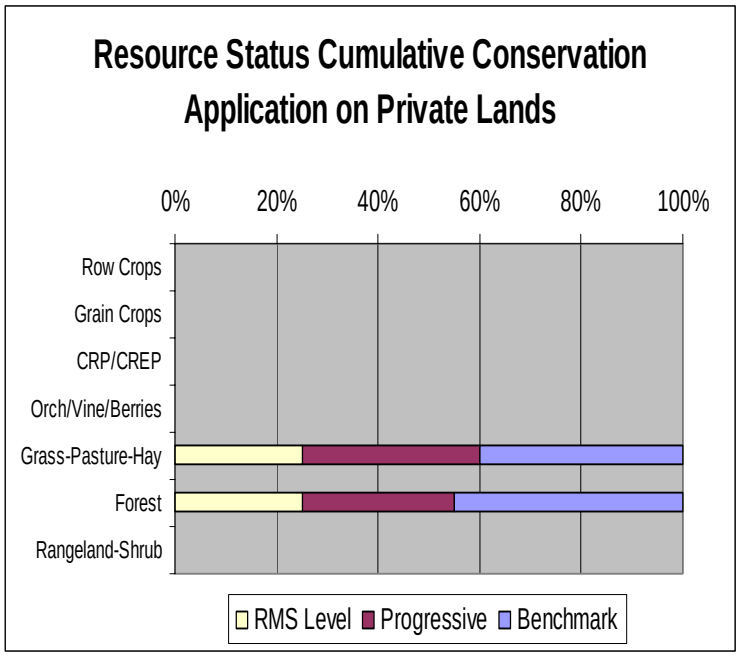
PRMS Data	FY99	FY00	FY01	FY02	FY03	Avg / Year	Total
Total Conservation Systems Planned (Acres)	631	832	124	144	0	346	1,731
Total Conservation Systems Applied (Acres)	206	0	492	0	29	145	727
Conservation Treatment (Acres)							
Waste Management	0	0	0	0	0	0	0
Buffers	0	42	0	0	40	16	82
Erosion Control	0	0	0	0	0	0	0
Irrigation Water Management	127	0	0	0	0	25	127
Nutrient Management	0	0	0	0	0	0	0
Pest Management	0	0	0	0	0	0	0
Prescribed Grazing	127	0	0	0	0	25	127
Trees & Shrubs	0	0	2	0	40	8	42
Conservation Tillage	0	0	0	0	0	0	0
Wildlife Habitat	127	0	2	0	80	42	209
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.
  - Prescribe grazing on pastureland.
  - Buffers, trees, and shrubs for wildlife and erosion control.
- Invasive weeds and a lack of proper forage and grazing management are ongoing concerns.
- Private, industrial forest owners typically do not work with NRCS and SWCDs; however, their lands usually comply with State forest practices act requirements.
- Much of the non-industrial, private forestland in the watershed is used for long-term timber production. The other portions are 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/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.