

# Long Range Plan

## Natural Resources Conservation Service

### Clatsop County

#### INTRODUCTION

**Vision:** Shared responsibility and commitment to local action achieves effective land stewardship.  
HELPING PEOPLE HELP THE LAND.

**Mission:** To build alliances and strategically invest to effectively solve natural resource problems in Oregon.

The purpose of the long range strategy is to concentrate NRCS's time and money in a more strategic manner and to take steps to actually solve single or multiple resource concerns in Clatsop County. We can leverage dollars and efforts by partnering with other agencies and groups in our conservation effort.

#### Partners:

- ❏ Clatsop and Columbia County Soil and Water Conservation Districts  
<http://www.clatsopswcd.org/>
- ❏ Watershed Councils in Clatsop County:
  - Upper Nehalem: <http://unwc.nehalem.org/>
  - Ecola Creek, Skipanon, Young's Bay, Nicolai-Wickiup: <http://www.clatsopwatersheds.org/>
  - Necanicum: <http://www.necanicumwatershed.org/>
  - Lower Columbia: <http://www.lcrwc.com/>
- ❏ Oregon Watershed Enhancement Board (OWEB)-large and small grant program [www.oregon.gov/OWEB/](http://www.oregon.gov/OWEB/)
- ❏ Lower Columbia River Estuary Partnership (LCREP) [www.lcrep.org/](http://www.lcrep.org/)
- ❏ US Fish & Wildlife Service <http://www.fws.gov/>
- ❏ OSU Extension <http://extension.oregonstate.edu/clatsop/>
- ❏ Oregon Department of Forestry (ODF) <http://www.oregon.gov/ODF/>
- ❏ Oregon Department of Fish and Wildlife (ODFW) <http://www.dfw.state.or.us/>
- ❏ Oregon Department of Agriculture (ODA) <http://www.oregon.gov/ODA/>
- ❏ Clatsop County [www.co.clatsop.or.us/](http://www.co.clatsop.or.us/)
- ❏ Various Diking Districts
- ❏ North Coast Land Conservancy (NCLC) <http://nclctrust.org/>
- ❏ Columbia Land Trust (CLT) <http://www.columbialandtrust.org/>
- ❏ Nature Conservancy  
<http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/oregon/index.htm>
- ❏ Columbia River Estuary Study Taskforce (CREST) <http://columbiaestuary.org/>
- ❏ Farm Service Agency (FSA)  
<http://www.fsa.usda.gov/FSA/stateoffapp?mystate=or&area=home&subject=landing&topic=landing>
- ❏ Food Roots <http://www.foodrootsnw.org/>

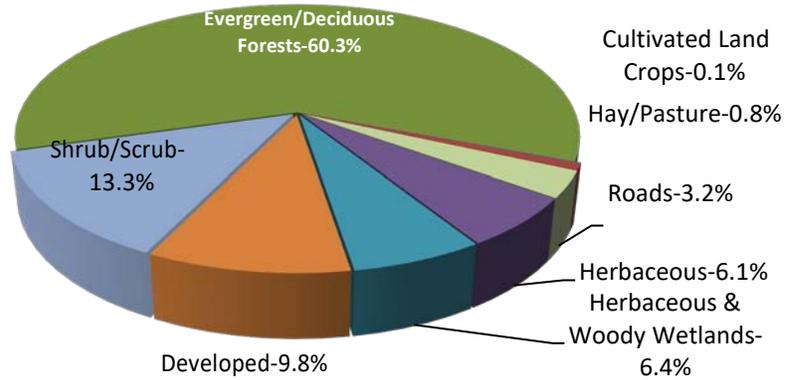
The time frame covered by this strategic Long Range Plan is 5 years, covering the years 2017 – 2022.

## Natural Resource Inventory & Analysis

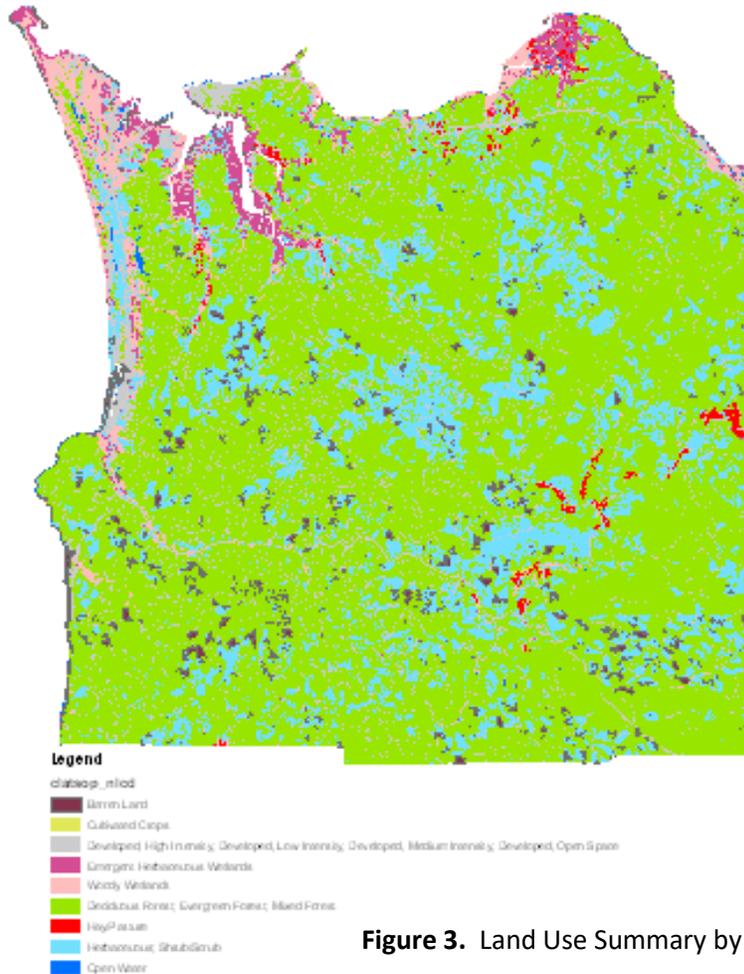
Clatsop County is located in the USDA-Natural Resources Service's North Coast Basin located in the northwest corner of the state. The County is bordered by the Columbia River on the north, the Pacific Ocean on the west, Tillamook County on the south and Columbia County on the east. The total county area (including water) is 1085 square miles or 529,280 acres. Approximately 98% of Clatsop County is forested and used primarily for timber production. 70% of the County is private forestland and 30% of the County is public forestland (State or Federal). All state forests lands are managed under adopted forest management plans to provide economic, environmental, and social benefits (Oregon Department of Forestry). Of the 70% private forestland, 78% is under industrial forest ownership and 22% of the county is private forest land, 78% is under industrial forest ownership and 22% of the county is private non-industrial forest with a variety of property sizes: 1 acre-1,300 acres. (Figure 1, 2, 3)

**Figure 1.** Land Ownership, Clatsop County, OR.

# Land Use



**Figure 2.** Land Use Summary, Clatsop County, OR.



**Figure 3.** Land Use Summary by location. Clatsop County, OR.

Elevations range from sea level to 3,283 feet at Saddle Mountain. The annual precipitation ranges from

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around 56 inches near Birkenfield to 180 inches in the Coastal Range (Figure 3). The county has 7 major

watersheds: Upper Nehalem, Lower Columbia, Ecola Creek, Skipanon, Necanicum, Young's Bay and Nicolai-Wickiup.

The County is named for the Clatsop tribe of Native Americans who lived along the coast of the Pacific Ocean prior to European settlement. The county seat is Astoria.

What follows are comments and observations regarding resource inventories collected for Clatsop County. These inventories are not all-encompassing of the issues in Clatsop County, but are merely a starting point that we can build upon. We are dependent on our partners and landowners to assist with identifying additional inventories. As additional inventories are identified they will be added to this plan for consideration.

## HUMANS

According to the 2011 U.S. Census Bureau, Clatsop County's population is 37,039. The population is 90% listed as white, 7% Hispanic or Latino origin, and the rest of the 3% are American Indian, Asian, native Hawaiian or Pacific Islander. Diversity throughout the county is limited, and there are no recorded minority farmers within Clatsop County per the 2007 United States Agriculture census. Although not recorded in the Ag census, two Native American are currently participating in farm bill programs in Clatsop County. The median income for a household is \$39,975, with about 15% making below poverty level. The principal industries of Clatsop County are manufacturing, travel (primarily tourism) and trade. Fishing and timber are still important but contribute proportionally less to the county's employment and income than they used to. The area is one of the principal marine fisheries regions of Oregon. The County's main agricultural enterprises are forestry related but there are a number of small-farms of crop, pasture and hay land associated with beef and dairy operations in the county. According to the 2008 Organic Production Survey there are no organically certified farms in the county.

### U.S Agriculture Census Bureau: Crops and Livestock Value Information, 2012

Total no. Farms	199
Total Acres	16,382 ac
Average Farm size	82 ac
Net cash income avg. per farm	16,980 ac
Farming as a principle occupation	91

# Farm Land Use

21,198 acres

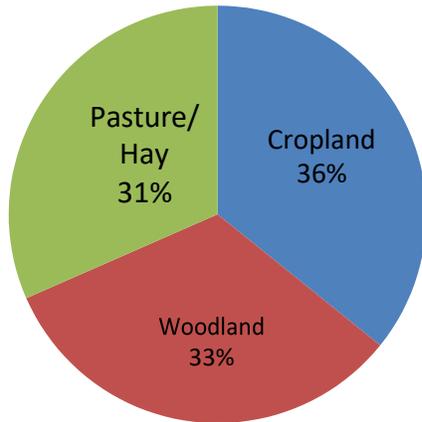


Figure 4. Farm Land Use Classification

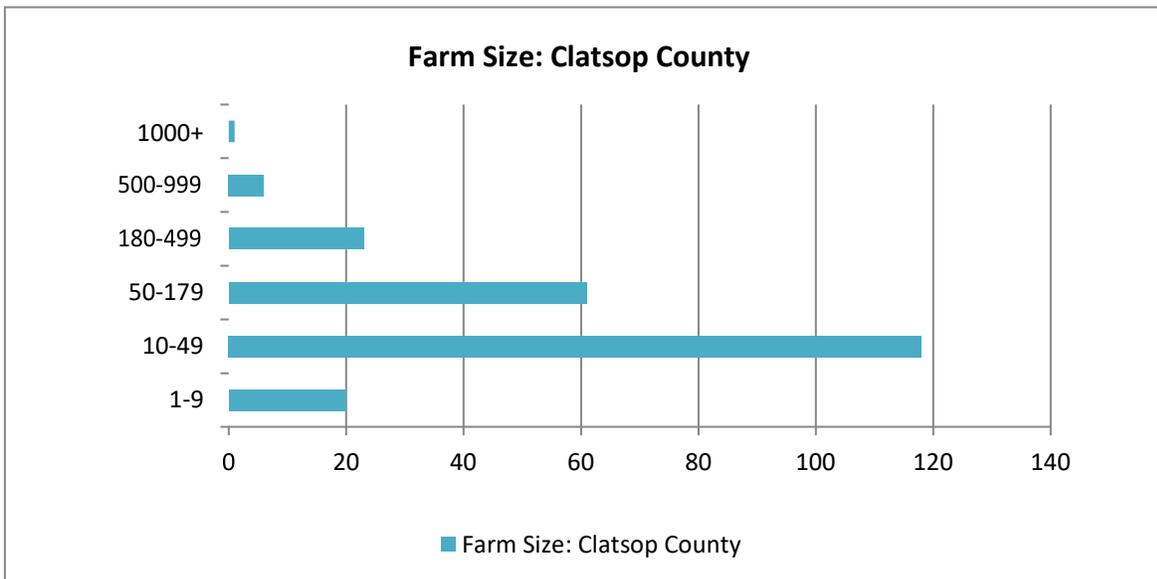


Figure 5. Farm Sizes in Clatsop County, OR.

Commodity	Value of Sales (\$1,000)
Milk and other Dairy products from cows	(D)
Other animals and their products (mink?)	(D)
Cattle & Calves	2,160
Other crops and Hay	253
Sheep, goats, and their products	77
Horses, ponies, mules, burros, and donkeys	31
Christmas Trees	22
Hogs and Pigs	15
Vegetables	146
(Fruit, nuts, berries, nurseries, poultry, eggs, aquaculture cannot be disclosed)	

Top Crop Items Sold	
Item	Acreage
Forage (all land used for hay, grass silage, Forage , and green chop	3,782
Floriculture and bedding crops	101
Land in Berries	64
Cranberries	62
(Floriculture crops cannot be disclosed)	

Top Livestock Inventory Items	
Items	Number
Cattle and Calves	4086
Sheep and Lambs	781
Layers	642
Horses and Ponies	242
Mink and their Pelts cannot be disclosed	

## NRCS Farm Bill Program Participation

Land managers have demonstrated limited interest in participating in government-sponsored programs and some who are interested have been unable to follow through for a variety of reasons. The average government payment per farm receiving payments in 2007 was \$5,037, with total payments of \$1,157,038.11 in conservation Farm Bill Programs since 1996. These are farm bill programs that have been administered throughout the County:

- ❏ **EQIP-Environmental Quality Incentives Program:** Voluntary financial and technical assistance for structural and management conservation practices on working agricultural lands.
- ❏ **WHIP-Wildlife Habitat Incentives Program:** Voluntary technical and financial assistance to non-federal landowners and tribes to create, restore, and enhance fish and wildlife habitats.
- ❏ **WRP-Wetland Reserves Program:** A voluntary land easement program to help people restore, enhance, and protect wetlands.

### NRCS has treated on the following Land Uses from 2006-2013:

- Forestry: 5788 ac
- Pasture/Hay: 1,368ac
- Wetland: 123 ac
- Crop: 30 ac

## Cultural Resources-History and General Information

Clatsop County was created from the original Utility District in 1844 and named for the Clatsop Tribe, one of the many Chinook tribes living in Oregon. The Journals of Lewis and Clark mention the tribe. Fort Clatsop, Lewis and Clark's winter headquarters in 1805 and now a national memorial near the mouth of the Columbia River, also took the tribe's name.

Astoria, Oregon's oldest city was established as a fur trading post in 1811 and named after John Jacob Astor. The first U.S. Post Office west of the Rocky Mountains was also established in Astoria in 1847. The first county courthouse was completed in 1855. The present courthouse was erected in 1904. Records show that the summer resort of Seaside was founded by Ben Holladay, pioneer Oregon railroad builder, in the early 1870s when he constructed the Seaside House, a famous luxury hotel for which the city was finally named. The Lewis and Clark Expedition reached the Pacific Ocean at this spot.

Donation Land Claims of 320 and 640 acres were taken up on Clatsop Plains near the shore of the Pacific Ocean, along the Columbia River and Young's Bay. These pioneers considered the river as little more than a "road" until the arrival of the Hume brothers who built salmon canneries in the 1860s.

Long before these men ever dreamed about a passage across the continent, the Columbia River had been home to Native American people, providing them with a wealth of natural resources. In a myriad of ways, the river and adjacent marine beaches and woodland entered into the lives of Chinook, Clatsop,

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Kathlamet and other people of this region. Salmon, shellfish, deer and elk were so abundant and well utilized that if there ever was an Eden, it was here. The rivers were their “roads”. (Oregon State Archives)

## Conservation Partners

There are a number of organizations which work with private landowners and conduct outreach education and volunteer activities in the region. There is one Soil and Water Conservation District that serves the entire county. Watershed councils have also been functioning throughout the region since the 1990’s. For a complete list of organizations refer to table 1. Listed are our partners Strategic Documents:

- Oregon Department of Fish & Wildlife-Oregon Conservation Strategy-“Key Habitats”, “Key Species”
- ☐ US Fish & Wildlife-Concept Plan 1989
- ☐ US Fish & Wildlife-Pacific Coast Joint Venture Strategic Plan 1993
- ☐ US Fish & Wildlife-Partners for Fish & Wildlife & Coastal Program Strategic Plan 2007
- ☐ Nature Conservancy-Pacific Northwest Coast Ecoregion Assessment
- The Wetlands Conservancy-Oregon’s Greatest Wetlands 2000
- ☐ Coastal Coho Conservation Plan 2007-Oregon Fish & Wildlife Commission
- ☐ Audubon Society-Oregon Important Bird Areas
- ☐ Clatsop County SWCD Annual Reports & Business Plan & Goals
- ☐ Northwest RC&D Area Plan through 2012
- ☐ ODA-NC Agricultural Water Quality Management Area Plan and Regulations
- 7 Watershed Council’s Watershed Assessments
- ☐ Lower Columbia River Conservation & Recovery Plan for Oregon Populations of Salmon & Steelhead-2010 ODF&W
- ☐ EPA Strategic Plan 2009-2014

## Human resources outlook summary

### Ongoing needs: Top priority

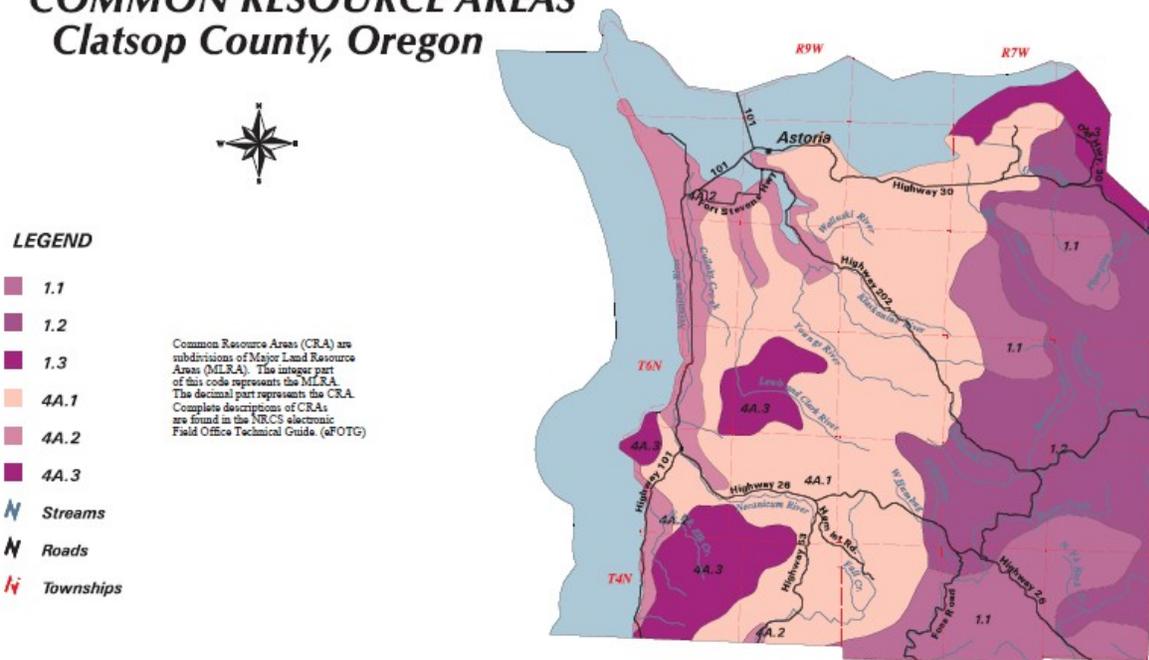
What has been accomplished	What is left to do
<ul style="list-style-type: none"> <li>• Extensive outreach by many agencies</li> <li>• Rural living Handbook (SWCD)</li> </ul>	<ul style="list-style-type: none"> <li>• More Education about pasture management, importance of wildlife, importance of managing cropland, pasture, hay, forest, and wildlife land.</li> <li>• Field day tours showcasing completed conservation practices</li> </ul>

<b>Clatsop County Partner Organizations</b>				
<b>Federal Agencies, Tribes</b>	Project partner	Technical assistance	Project funding	Outreach, technology transfer
Farm Service Agency	x		x	
USDA Rural Development			x	
US Fish & Wildlife	x	x	x	x
<b>State Agencies &amp; Organizations</b>	Project partner	Technical assistance	Project funding	Outreach, technology transfer
Oregon Department of Agriculture	X		X	
Oregon Department of Environmental Quality	X	X	X	
Oregon Department of Fish & Wildlife	X	X	X	X
Oregon Department of Forestry	X	X	x	X
OSU Extension Service	x	x		x
<b>Local Agencies &amp; Organizations</b>	Project partner	Technical assistance	Project funding	Outreach, technology transfer
Clatsop Soil & Water Conservation District	X	x	x	x
The Nature Conservancy	X	X	x	x
Watershed Councils: Necanicum, Upper Nehalem, Youngs River, Skipanon, Nicolai-Wickiup, Ecola Creek, Lower Columbia	x	x	x	x
Columbia Land Trust	x			x
North Coast Land Conservancy Trust	x			x
Lower Columbia River Estuary Program	x	x	x	x
Columbia River Estuary Study Task Force	x	x		x
Food Roots	x			x

**Table 1.** List of Conservation Partners in Clatsop County, OR.

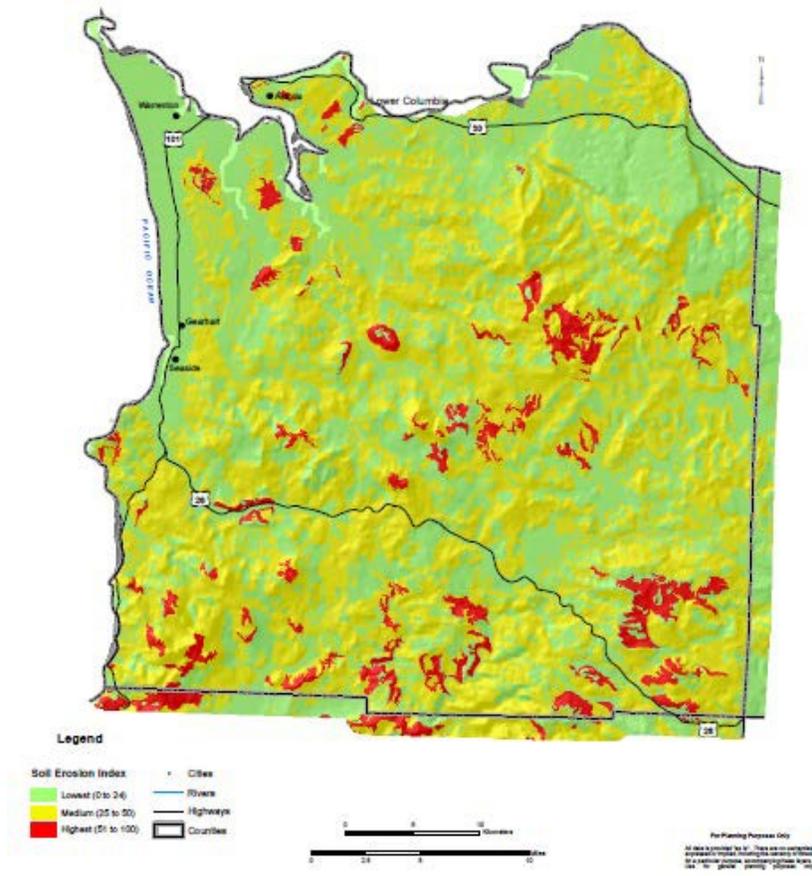
The county is located on the west and North Slope of the Coast Range. It consists of forested mountains, foothills, stream valleys, estuaries, marine terraces and dune areas that drain into the Pacific Ocean by the Nehalem and Nestucca Rivers and into the Lower Columbia River by the Skipanon, Young’s Bay, Klaskanine, Lewis & Clark Rivers and numerous creeks. The rock formations are associated with the deep deposits of alluvial sediments that are associated with the estuary, stream floodplain and terraces associated with CRA (Common Resource Areas) map units 4A.2 and in some cases 4A.1 (Figure 6). The supply of groundwater is considered to be small to medium in the rock formations and to be medium to large in the alluvial deposits.

**COMMON RESOURCE AREAS  
Clatsop County, Oregon**



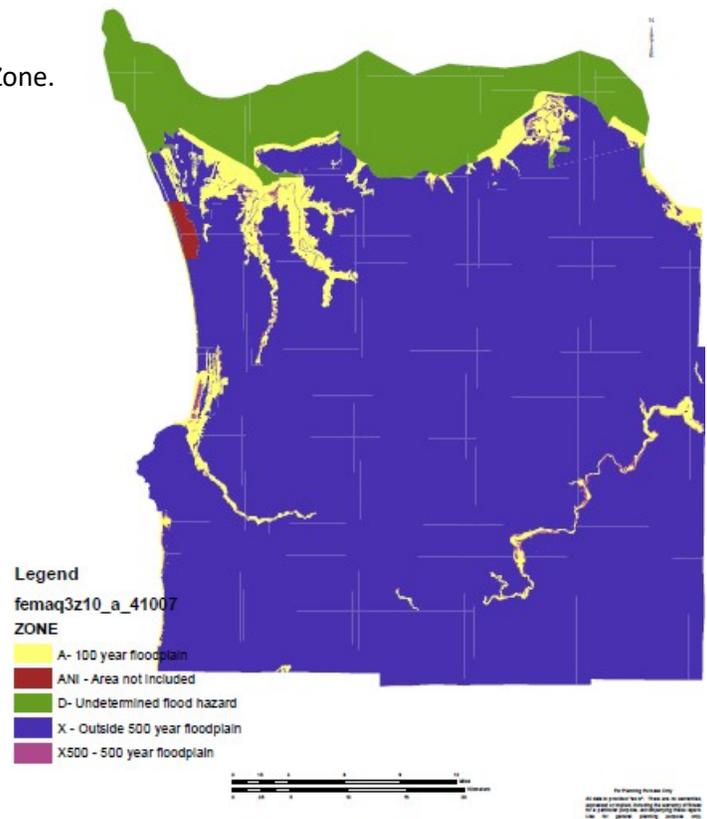
**Figure 6.** Common Resource Areas throughout Clatsop County, OR.

The soils which formed from weathered sedimentary and volcanic rock formations on the mountains and foothills are moderately developed and suited for timber land. The potential for erosion should be considered on steeper slopes which are prolific (Figure 7). Soils formed in alluvium are weakly to moderately developed and support most of the agriculture activities in the county. Flooding is a hazard in some areas (Figure 8). Soils formed in the recent eolian sandy sediments on dunes adjacent to the ocean are weakly developed and subject to wind erosion when unprotected by vegetation.



**Figure 7.** Soil Erosion Index map. Leaching Potentials.

**Figure 8.** FEMA map Zone.



## Soil resources outlook summary

Fairly good condition overall; Low priority

Area	What has been accomplished	What is left to do
<ul style="list-style-type: none"> <li>• South Fork Klaskanine river, Blind Slough</li> </ul>	<ul style="list-style-type: none"> <li>• Critical Area Planting</li> </ul>	<ul style="list-style-type: none"> <li>• Lewis &amp; Clark River, Young's River, Skipanon-Riparian areas, pasture management</li> </ul>
<ul style="list-style-type: none"> <li>• Nehalem River</li> </ul>	<ul style="list-style-type: none"> <li>• Heavy Use Area Protection</li> </ul>	<ul style="list-style-type: none"> <li>• Young's River, Lewis &amp; Clark River, Brownsmead, pasture management, riparian areas</li> </ul>
<ul style="list-style-type: none"> <li>• South Fork Klaskanine</li> </ul>	<ul style="list-style-type: none"> <li>• Access Road</li> </ul>	

## WATER

The area has a coastal marine environment climate of moderate temperatures and frequently rains. The Pacific Ocean moderates the temperatures and the Coast Range intensifies the precipitation. The annual precipitation ranges 52-200 inches depending on the location (figure 9) and generally contains only a small amount of snow overall. A high percentage of the precipitation falls from October to April and most of it in moderate rain storms. The prevailing winds are generally from the northwest in the summer and from the southwest and southeast in the winter. The average frost-free season varies from 183-273 days along the coast. The primary rivers are the Nehalem, Necanicum, Skipanon, Ecola Creek, Young's, Klaskanine, Big Creek and the Lower Columbia River.

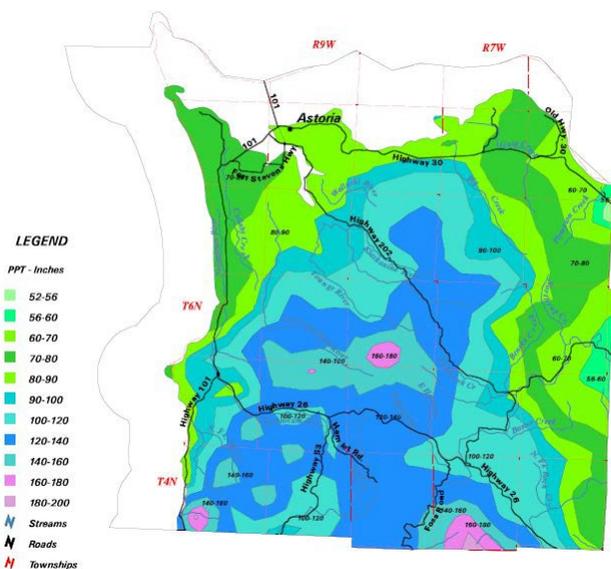


Figure 9. Clatsop County, OR Annual Precipitation Map.

There are about 4,066 acres of Pasture/Hay ground in the county. Most of the highly productive pastureland is protected by dikes and levees along the Lower Columbia River and its tributaries. Most of these dikes have been in place since at least the 1950's and were built by the Army Corps of Engineers.

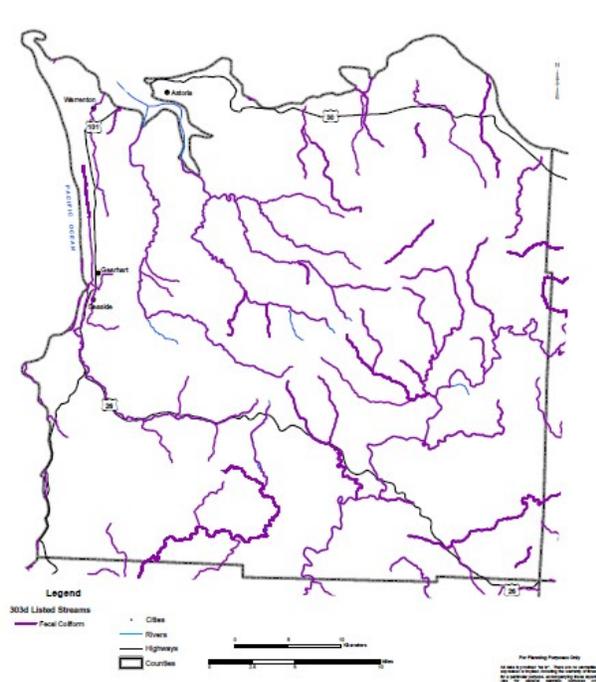
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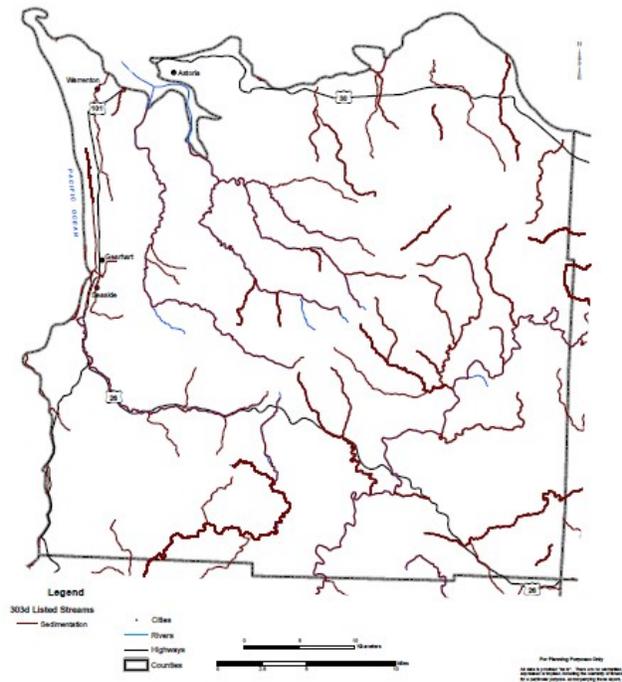


There are 2 dairies countywide and a number of small beef cattle operations. There are also a growing number of smaller acreage landowners that pasture other animals on their property: alpacas, horses, goats, etc. The significant rainfall contributes heavily to the production of pasture and hay land grasses for livestock feed.

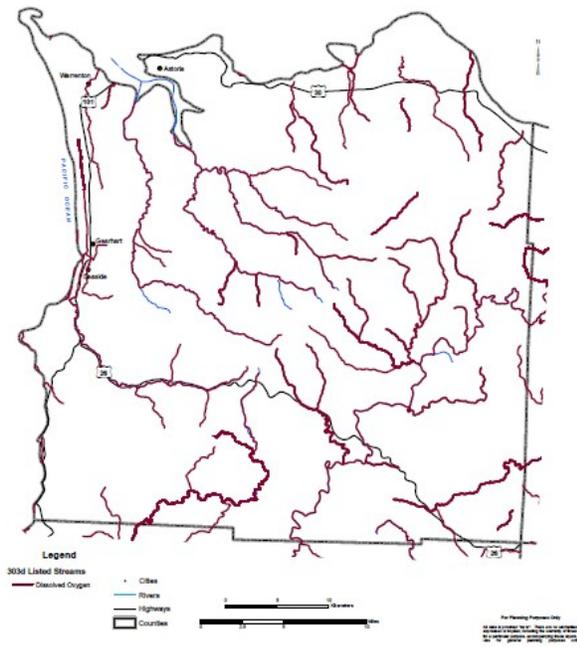
Oregon Department of Environmental Quality (DEQ) monitors several water quality parameters in the county. Several streams have been identified with surface water quality impairments (Figures 10-14) not meeting the DEQ criteria; some of these concerns include fecal Coli form, sedimentation, dissolved oxygen, phosphorus, temperature and pH. Total Maximum Daily Load (TMDL) Plans have been developed for the County's major watersheds in order to address these resource concerns (Figure 15) Those TMDL Plans can be accessed through the Oregon DEQ website.



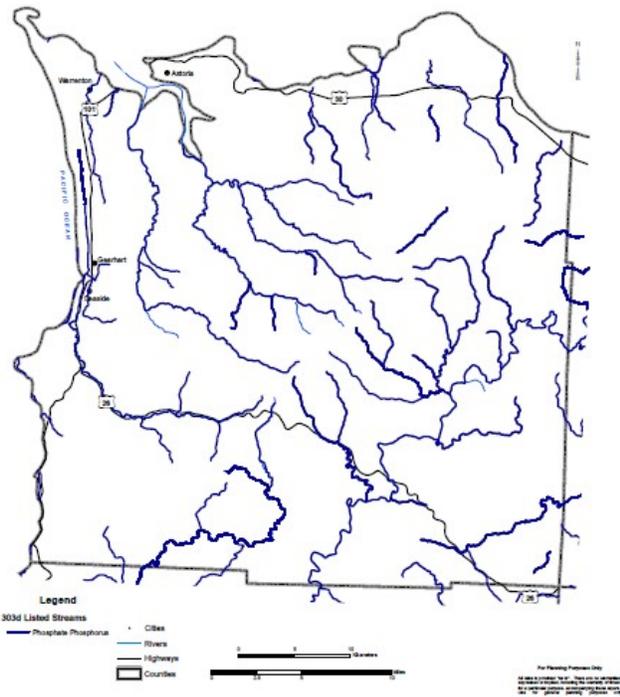
**Figure 10.** Department of Environmental Quality, Clatsop County 303d listed stream for Fecal Coli form



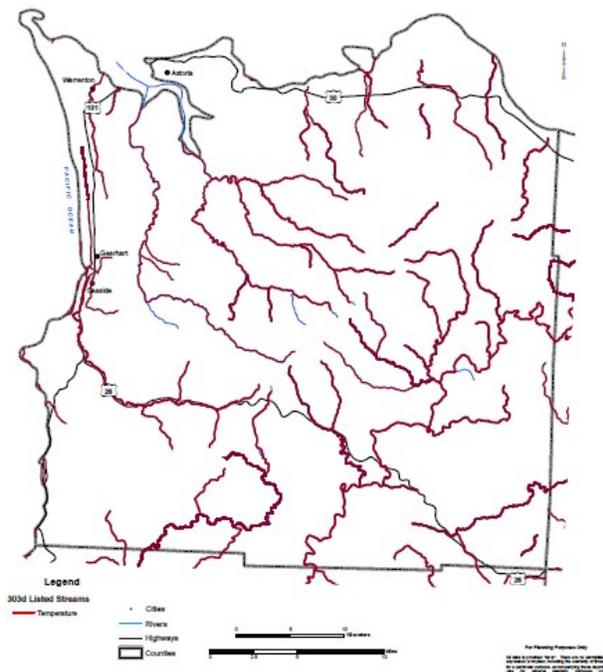
**Figure 11.** Department of Environmental Quality, Clatsop County 303d listed stream for sedimentation



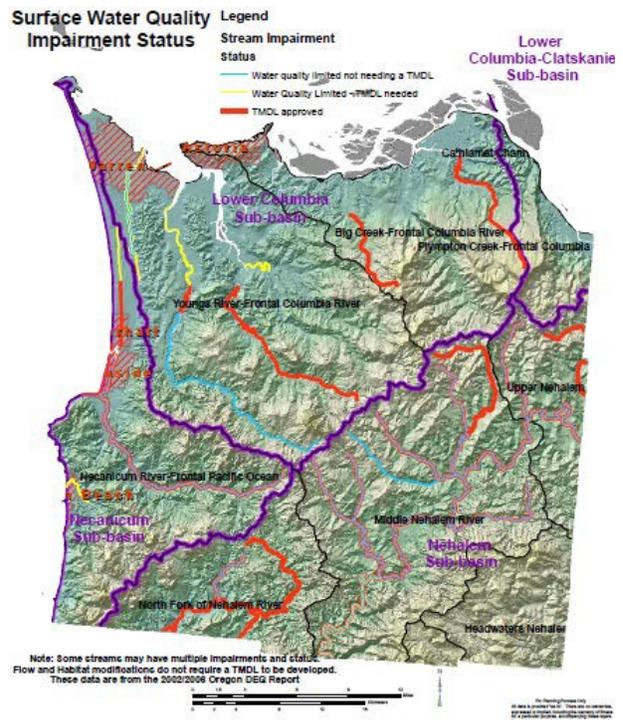
**Figure 12.** Department of Environmental Quality, Clatsop County 303d listed stream for Dissolved Oxygen.



**Figure 13.** Department of Environmental Quality, Clatsop County 303d listed stream for Phosphate Phosphorous



**Figure 14.** Department of Environmental Quality, Clatsop County 303d listed stream for Temperature



**Figure 15.** Department of Environmental Quality, Clatsop County Surface Water Quality Impairment status, TMDL

## Groundwater and Drinking Water-Clatsop

There are no Ground Water Management Areas (GWMA's) in Clatsop County. But there are cities that have surface water rights on adjacent rivers. During the summer when rainfall is at its lowest this can be a problem when that same river is providing fish habitat, irrigation water and drinking water.

**Astoria-Bear Creek Watershed.** The City owns the whole watershed above its water treatment facility.

**Warrenton-** Lewis and Clark River. City owns none of the watershed. It has three dams acting as diversion intakes. They have water rights for 100% of summer flow.

**Seaside-** Necanicum Watershed. Owns none of the watershed. One reservoir.

**Youngs River/Lewis and Clark water District-** Youngs River. No watershed ownership.

**Gearhart** - Recently switched to using groundwater from being supplied by Warrenton.

**Svenson** - Small streams.

**Knappa** - Groundwater wells.

**Cannon Beach-** Ecola Creek

See the “Leaching Potential” map for Clatsop County (Figure 16). Most of the county has “moderate” leaching potential. The entire coast-side of Hwy 101 from Seaside through Warrenton has “high” leaching potential along with low-lying areas along the Columbia River near Astoria. This is due to the sandy quality of the soils. Most of this area is highly developed with not a lot of Agricultural use that would affect groundwater quality.

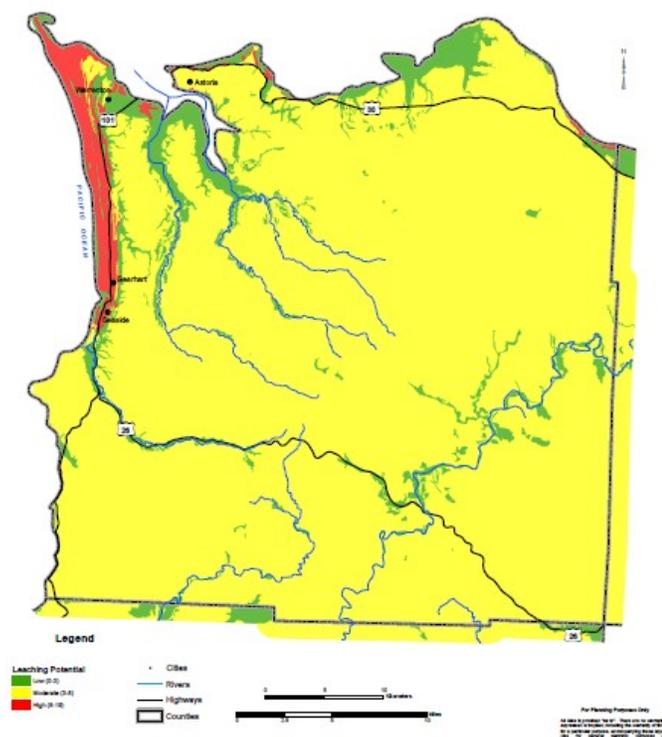


Figure 16. Clatsop County, OR, Leaching potential soils Map

## Progress to date

Extensive work by watershed councils, SWCDs and private landowners have had an impact on water quality, including creating vegetative buffers, hardened crossings, manure storage, pasture management, riparian restoration and erosion control.

### Water resources outlook summary

#### Widespread need; High priority

Area	What Has Been Accomplished	What's left to do
<ul style="list-style-type: none"> <li>• <i>South Fork Klaskanine River</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Vegetative buffers and erosion control</i></li> </ul>	<u>County-wide:</u> <ul style="list-style-type: none"> <li>• <i>More control of bank erosion</i></li> <li>• <i>More riparian buffers</i></li> <li>• <i>More pasture management, animal carcass disposal options</i></li> </ul>
<ul style="list-style-type: none"> <li>• <i>Green Slough, Tucker Creek Slough, Young's River, Hillcrest Creek, Nehalem River, North Fork Nehalem River, Saspal Slough, Blind Slough,</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Hardened crossings, improved livestock and manure management</i></li> </ul>	<u>County-wide:</u> <ul style="list-style-type: none"> <li>• <i>Livestock stream crossing</i></li> <li>• <i>Harden heavy use areas</i></li> <li>• <i>Nutrient management</i></li> </ul>
<ul style="list-style-type: none"> <li>• <i>Nehalem River</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Access Control of Livestock to open waters</i></li> </ul>	<u>County-wide:</u> <ul style="list-style-type: none"> <li>• <i>Install off channel watering facilities</i></li> <li>• <i>Fencing out cattle from surface waterways</i></li> </ul>
<ul style="list-style-type: none"> <li>• <i>Blind Slough, Young's River, Lewis &amp; Clark</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>4 Comprehensive nutrient management plans in effect for all 4 Confined Animal Feeding operations (CAFO)</i></li> </ul>	NONE

## AIR & ENERGY

Clatsop County does not have any non-attainment or maintenance areas for air quality standards. Clatsop County does not have any visibility problems due to slash burning identified. There is one biomass facility in the county called the Wauna Mill.

Clatsop County is considering comprehensive plan, plan/zone map, and zoning ordinance amendments that will address permanent structures in the territorial sea. These include wave and wind energy devices, cables and pipelines, buoys, and other fixed structures in the territorial sea (Clatsop County). In addition to possibilities for generating power, many land managers and rural entrepreneurs have potential to benefit from energy conservation measures reducing their overall need to consume power.

Threatened & Endangered Species (T&E)

See Appendix 1 for T&E species list of Clatsop County. Current priorities remain with the anadromous fish populations for migration, rearing and spawning habitat. These species occur in all the major river reaches and all the major river reaches are on the 303d list for all the same problems: Fecal Coliform, Sedimentation, Dissolved Oxygen, Phosphate Phosphorus, Temperature and pH. Each Watershed Counsel has completed Watershed assessments that contain many recommendations for enhancing fish habitat in prioritized stream reaches. These assessments are accessible online at: [www.clatsopwatersheds.org](http://www.clatsopwatersheds.org), [www.necanicumwatershed.org](http://www.necanicumwatershed.org), [www.unwcnehaalem.org](http://www.unwcnehaalem.org).

The Oregon Silver spot Butterfly has Critical Habitat designated on the Clatsop Plains/Neacoxie Wildlife Corridor. The North Coast Land Conservancy has acquired several holdings totaling more than 150 acres that will be prime habitat once restoration is complete

See the ODFW Conservation Opportunity Areas (Figure 17) for Wildlife Prioritization areas. There are 5 areas designated within Clatsop County. CR-01 in the Clatsop Plains includes wetlands and shorebird habitat. CR-02 contains Columbia white-tail deer habitat, wetlands and spruce swamps. CR-04 is the entire Necanicum Estuary. CR-05 includes offshore rocks and late successional conifer forests on Tillamook Head. CR-06 on Saddle Mountain has the only significant block of old-growth forest left in Clatsop County. ODFW also recognizes all coastal dune, estuary, freshwater aquatic, late successional conifer forest, riparian and wetland habitat types as strategic opportunity areas for wildlife throughout Oregon.

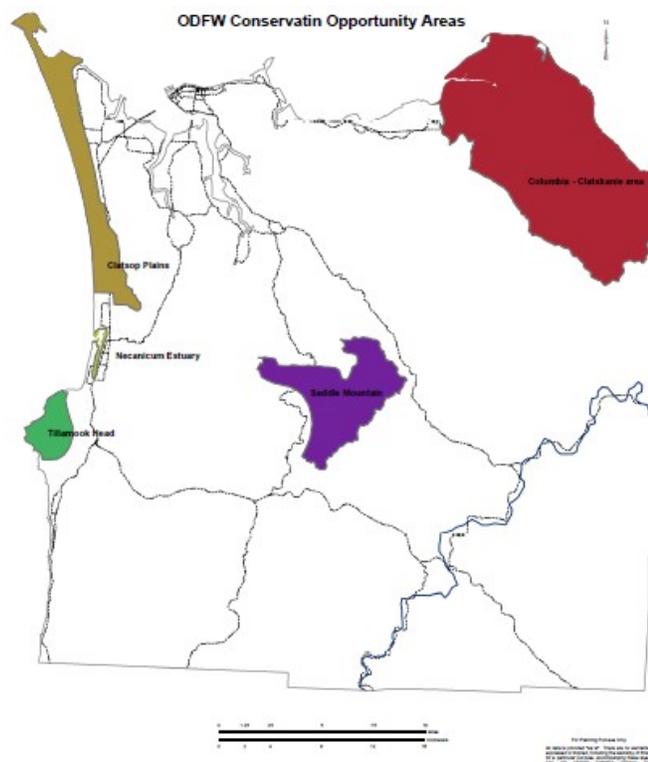
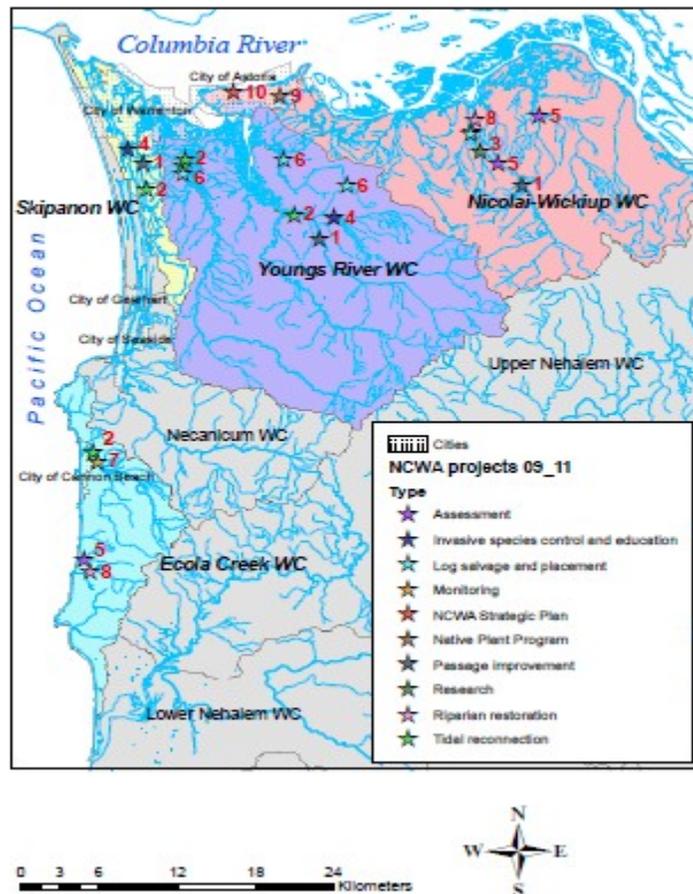


Figure 17. Oregon Department of Fish & Wildlife Conservation Opportunities areas for wildlife.

## Salmon Recovery

Decline of Salmon in the Pacific Northwest has been occurring since the mid 1800's due to human and climatic factors. There are many recovery plans at Federal, state, and agency levels to increase salmon species and its' habitat in the lower Columbia River and its adjoining rivers. In Clatsop County, all of the watershed councils and other agencies are committed to Salmon Habitat restoration to increase Salmon counts. The Columbia River Estuary Study Taskforce (CREST) stationed in Astoria is an agency that is committed to Salmon Habitat Restoration. OWEB is the main source of funding to watershed councils and other agencies when funding activities to increase Salmon habitat. The activities include riparian areas that decrease the river temperatures, wood log jams to protect rearing habitat, and fish friendly tide gates to allow fish passage. Riparian Conditions for shade and habitat can be found in each watershed assessment. Majority of the riparian planting throughout the county are implemented by the watershed councils and the Clatsop SWCD who receive grant funding by either the OWEB small grant program or the Department of Environmental Quality DEQ 319 grant. See figures 18 & 19 of riparian areas planted by North Coast watershed council from 2007-2011.

### North Coast Watershed Association 2007-2009 Projects and Activities



**Figure 18.** Map of Riparian areas planted by the North Coast Watershed Council 2007-2009.



Figure 19. Map of Riparian areas planted by the North Coast Watershed Council 2009-2011.

### Invasive/Noxious Weed

Invasive weeds throughout the county are monitored, eradicated, information exchanges, and meetings are through the North Coast Cooperative Weed Management Area Board (NC CWMA). These board members consist of Clatsop & Columbia SWCD, OSU extension, Upper Nehalem Watershed Council, North Coast Watershed Council, ODF, Lewis & Clark National Historic Park, Salem BLM, ODOT, and ODA.

ODA Noxious weed control program (Noxious Weed Policy and Classification System ) provides a statewide leadership role for coordination and management of state listed noxious weeds. Noxious weed control efforts are prioritized by implementing biological control, implementing statewide inventory and survey, assisting the public and cooperators through technology transfer and noxious weed education, maintains noxious weed data and maps for priority listed noxious weeds, and provides

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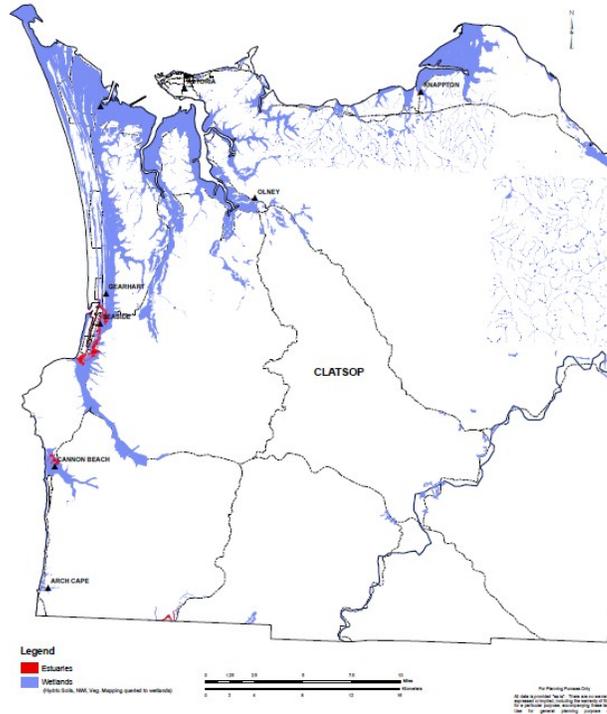
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assistance to land managers and cooperators with integrated weed management projects. The state program also supports the Oregon State Weed Board (OSWB) with the administering there grant program, developing state wide management objectives, developing weed risk assessments, and maintaining the State Noxious Weed List. Lists can be accessed online at [www.oregon.gov/ODA/PLANT/WEEDS](http://www.oregon.gov/ODA/PLANT/WEEDS).

## Wetlands

The loss and degradation of estuarine habitats in the Pacific Northwest since Euro-American settlement has been well documented. Simenstad and Thom (1992) estimated that 42% of the estuarine habitat in coastal Pacific Northwest has been lost. Estuaries are important foraging areas for juvenile fish, as well as physiological transition zones for adult and juvenile anadromous fish (Healey 1982; Simenstad et al. 1982). Estuarine habitat manipulations can be segregated into three categories: restoration, enhancement, and creation. Restoration efforts attempt to create natural hydrologic, morphologic, and biotic conditions, and may include breaching dikes, removing fill, and planting emergent and submergent plants. Dike-breaching and other techniques that reconnect isolated habitats show particular promise. Majority of the wetlands in Clatsop County have been diked, drained and converted for agriculture purposes. Many of the installed tile drains are reaching the end of its lifespan creating marginal pasture lands scattered throughout the county. See Figure 20 for wetlands map. The Oregon Conservation Strategy is a blueprint for conservation of the state's native fish and wildlife and their habitats; the Strategy provides information on at-risk species and habitats identifies key issues affecting them and recommends actions.



**Figure 20.** Estuary and Wetlands Map.

## Forested Lands

Many of the common concerns found on forested land include degraded wildlife habitat, wildfire risks, and disease risks. This is a result of overstocked forests, repetitive monoculture Douglas fir plantings, and shortened, chemically dependent rotations. To a lesser degree, but still prevalent, sediment from clear cut forest lands and improperly constructed or managed roads contribute to degraded quality of water.

Many of the private forestland owners are unfamiliar with sustainable management of a healthy forest and what is required to maintain a healthy watershed. Additionally, because of unawareness in forest and watershed health, some landowners are not currently ready and willing to address high priority resource problems.

Currently Oregon Department of Forestry has a stewardship program that helps private non-industrial forest land owners create forest stewardship plans. Currently there are 16 ODF stewardship plans. NRCS has 21 Forest Management Plans that have been completed (figure 21).



Figure 21. NRCS Forest Management Plans

## Plants & Animal resources outlook summary

**Forest Health Widespread need; High priority**

**Fish & wildlife habitat improvements needed: High priority**

**Inadequate quality and quantities of feed and forage for livestock: High Priority**

**Inadequate stock water for animals: High Priority**

## PRIORTIZATION OF NATURAL RESOURCES AND DESIRED OUTCOMES

Area	What Has Been Accomplished	What's left to do
<ul style="list-style-type: none"> <li>North Fork Nehalem, Warner Creek, Nehalem River, John Day River, Bear Creek, Blind Slough, Young's River, Necanicum River, Thompson Creek, Lewis &amp; Clark, Sunset Lake, Walluski River, North Fork Klaskanine</li> </ul>	<ul style="list-style-type: none"> <li>Forestry Management Plans Written, Forest Stand improvements</li> <li>Tree plantings for wildlife or riparian areas</li> </ul>	<ul style="list-style-type: none"> <li>Implementation of forestry management plans</li> <li>County wide riparian enhancement</li> </ul>
<ul style="list-style-type: none"> <li>Nehalem River, North Fork, Walluski River, Necanicum River, Thompson Creek, Clatsop Plains</li> </ul>	<ul style="list-style-type: none"> <li>Wildlife Habitat Management</li> <li>Silver spot Butterfly Habitat enhancement</li> </ul>	<ul style="list-style-type: none"> <li>County wide, habitat enhancement for listed T&amp;E species (see list attached)</li> </ul>
<ul style="list-style-type: none"> <li>Little Creek, Big Creek, Blind Slough, Thompson Creek, Youngs river, Lewis &amp; Clark, Brownsmead</li> </ul>	<ul style="list-style-type: none"> <li>Wetland Habitat Management</li> </ul>	<ul style="list-style-type: none"> <li>County wide, wetland enhancement on all estuary areas (see wetland map)</li> </ul>
<ul style="list-style-type: none"> <li>Nehalem River, Young's River, North Fork Nehalem, Blind Slough, Lewis &amp; Clark River, Brownsmead</li> </ul>	<ul style="list-style-type: none"> <li>Pasture Management, Livestock Health</li> </ul>	<ul style="list-style-type: none"> <li>County wide, Pasture management best practices</li> </ul>

## Local Work Group Input

The Local Work Group is held at least once a year to get local feedback from partner agencies, landowners and the public about Priority Conservation Areas in Clatsop County and what are the biggest resource concerns. The Local Work Group provides suggestions to NRCS to prioritize local funding for Farm Bill Programs to assist with establishing local priorities and identify conservation practices needed to address resource concerns. Table 2 provides the resource concerns in priority order and locations that the group identified. Partners that were present at this meeting were:

- ☐ Clatsop Soil and Water Conservation District
- ☐ Oregon Department of Forestry
- ☐ Lower Columbia River Estuary Partnership
- ☐ Columbia River Estuary Study Task Force

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- ☒ Columbia Land Trust
- ☒ North Coast Land Conservancy
- ☒ North Coast Watershed Council
- ☒ Necanicum Watershed Council
- ☒ Lower Columbia Watershed Council

(In order of priority voted by the group)	Problems	Locations
1	Loss and Degraded Riparian habitat (off channel)	Lewis and Clark, Skipanon, Necanicum Rivers
2	Disconnected Flood plains leading to Flooding	Skipanon, Necanicum, Nicolai-Wickiup
3	Erosion and Invasive species on pastureland resulting in poor plant productivity	Lewis and Clark, Young's Bay, Skipanon
4	Sediment and Nutrients in streams	Crosel Creek, Lewis and Clark, Young's Bay
5	Loss of habitat to invasive species	Lewis and Clark NWR
6	Fish passage up/down stream	
7	Access to Local grown food	
8	Soil Health on forest land	ODF land above Astoria
9	Polluted drinking water from sediment on forestlands	Arch cape
10	High temp/low volume streams	Lewis & Clark, Bear Creek
11	Degradation of wild fish stocks	

**Table 2.** Resource concerns identified by Local Working Group

**Problem Statement:** Oregon Silverspot butterfly and associated critical habitat was listed as threatened on July 2, 1980 with most of the habitat being privately owned. The last known sighting of the Oregon Silverspot butterfly in the Clatsop Plains area was in 1998.

In 2001, a revised recovery plan for the butterfly was developed outlining all the essential items necessary to delist the species including controlling exotic grasses, increasing or maintaining early blue violet density, and establishing or maintaining nectar plant abundance and diversity. U.S. Fish and Wildlife Service (USFWS) and The Nature Conservancy (TNC) estimate that approximately 200 acres could be restored to suitable habitat to support a sustainable population of butterfly. Much of these 200 acres is already in conservation ownership or being managed by private landowners to keep lands open and Scotch Broom at bay.

**Desired Future Outcome**

**Objective:** To restore sustainable habitats on the Clatsop plains area in order to successfully reestablish the Oregon Silverspot Butterfly on the Clatsop Plains.

The Oregon Silverspot Butterfly inhabits an area on the Clatsop Plains that is approximately 5 miles long and 1 mile wide. The habitat is bisected by Hwy 101 and by development. Potential habitat is mostly contiguous with prime areas distinguished as Camp Rilea, Sunset Lake- Cullaby Lake and Del Rey Beach. Beginning in the 1930s, European beach grass, Scotch broom, and shore pine were planted in an effort to stabilize the dunes. These species in addition to other non-natives have significantly modified the Oregon Silverspot Butterfly habitat.

The alternatives include:

1. No action - there will never be sufficient habitat to reintroduce the butterfly
2. Continue the current pace of restoration on lands under conservation easements or ownership—habitats will be successfully restored, however, recovery funds may not be accessible in future years without an increase in the rate of recovery due to competing priorities and limited budgets
3. Partnerships will be developed to increase the rate of recovery by engaging private landowners without conservation easements to provide butterfly resources on their lands as a supplement to land that is in conservation ownership

Alternative three will be used to accomplish this goal. Efforts will focus on the maintenance and restoration of the native dune prairie ecosystem on private lands in the Clatsop Plains. Members of this plant community used for egg laying and nectaring by the butterflies include early blue violet, coast goldenrod and Douglas' aster. Both blue violet and nectar plants will be established on land under conservation ownership. Practices will include brush management, early successional habitat development and management, hedgerow plantings, conservation cover, field border, restoration and management of declining habitats.

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Success has already occurred in determining effective methods for captive rearing of the Oregon Silverspot butterfly. The Oregon Zoo and the Woodland Park Zoo have an active captive rearing program. This program however is expensive and will not continue indefinitely further underlining the need to increase the rate of habitat restoration. Additionally, methods have already been successful at sites on the central Oregon coast for the release of reared Oregon Silverspot butterfly caterpillars and pupae into restored habitat. The Oregon Zoo and Woodland Park Zoo will provide the reared Oregon Silverspot butterfly caterpillars and pupae for release in the Clatsop Plains.

A Safe Harbor agreement has been entered into between The Nature Conservancy and U.S. Fish & Wildlife Service to work with private landowners on the central Oregon coast. This type of agreement gives private landowners some assurances that if they make improvements to their properties to benefit a listed species, they won't incur additional restrictions under the Endangered Species Act as a result in the future. Several landowners have entered into conservation agreements with the U.S. Fish and Wildlife Service to better manage the habitat. The North Coast Land Conservancy has also acquired several holdings totally around 150 acres that should contain prime habitat once restoration is complete. The North Coast Land Conservancy has at least 50 acres needing additional restoration and is a willing participant in the recovery of the Oregon Silverspot Butterfly.

One major limitation to the success of this strategy is the availability of regionally appropriate seed for the early blue violet and the nectar plants. The Corvallis Plant Materials Center has successfully completed significant seed increases for the central coast early blue violet populations and is in the second year of a seed increase for the Clatsop Plains early blue violet population. This seed will be used to reestablish habitat as well as create planting plots on North Coast Land Conservancy Land that will be used to increase the capacity to produce violet seed for future restoration efforts.

The U.S. Fish and Wildlife Service will provide equipment when available to assist the private lands with the site preparation needed for a successful seeding. Also, as part of the recovery plan, the U.S. Fish and Wildlife Service will be reestablish the butterfly and monitoring the success of the reestablishment upon the completion of this strategy. The North Coast Land Conservancy (NCLC) will be a key partner and they will be using significant amounts of their time to complete restoration of the butterfly habitat on land under their conservation ownership.

As part of the recovery plan, the USFWS has taken the lead to develop a monitoring plan and will be responsible along with Oregon Division of State Lands for tracking population status, survival rates, and habitat.

***Conservation Practices:***

(314) Brush Management

(327) Conservation Cover

(647) Early Succession Habitat Development/Management

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(386) Field Border

(490) Tree & Shrub Site Preparation

**Measurable Outcomes:** To successfully reestablish the Oregon Silverspot Butterfly an additional 50 acres needs to be restored.

**Area of Interest:** Clatsop Plains, 5 miles long, 1 mile wide (See Figure 22)

**Partners:** North Coast Land Conservancy, Nature Conservancy, U.S. Fish and Wildlife Service



Figure 22. Map showing Clatsop Plains and property boundaries of NCLC.

### Riparian Health and Function

**Problem Statement:** Riparian health and function is an important issue in Clatsop County with over 946,119 acres of watershed (GIS, watershed layer) and around 865.328 miles of riparian shoreline. These riparian areas effect many water quality parameters, provide a variety of wildlife habitat components for both aquatic and terrestrial species, maintain rare and beneficial vegetation, and provide flood mitigation for surrounding communities.

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Essentially all of the stream reaches in Clatsop County provide habitat for federally threatened salmon *Oncorhynchus* spp. and steelhead *Oncorhynchus mykiss*. Agricultural and logging practices along low gradient river reaches have greatly decreased the complexity and productivity of juvenile salmonid rearing areas. Wetlands, marshes and braided channels have been straightened, channelized, diked, drained and deforested to create croplands, pastures, and urban areas. These land uses can effect habitat of salmon by disrupting the processes that form and sustain habitats, such as the supply and movement of sediment from hill slopes, woody debris recruitment, shading of the stream by the riparian forest, and delivery of water to the stream channel and off-channel complexes. Interrupting these processes by stabilizing banks, constructing roads and levees as well as removing the riparian vegetation can lead to loss of fish habitat over the long term (Beechie and Bolton 1999).

Riparian areas make up a small percentage of the total land cover in the county, but maintain high levels of human activity and provide disproportionately high ecosystem services. In addition to aquatic organisms which are entirely dependent on the presence of healthy aquatic habitat, the vast majority of terrestrial wildlife species and humans also utilize riparian areas for food, water, cover, and/or shelter. Riparian vegetation filters nutrients and other particles from entering streams and provides shade and cover over stream banks that help maintain low summer water temperatures.

Healthy riparian areas also provide flood mitigation by allowing spring runoff or water from heavy precipitation events to spread out across the flood plain. This slows the flow of water and disperses energy, as water moves through dense herbaceous vegetation and is absorbed into the soil. Without healthy riparian vegetation, flood waters move rapidly down the stream course with a lot of energy, eroding banks and increasing flood depths at lower elevations. Human uses of the lowlands can affect the rate and character of lowland sedimentation through changes in flooding frequency and size, and by the alteration of floodplains and wetlands. In addition, channel modification, removal of LWD, and streamside grazing can increase stream bank erosion. These changes in turn increase the vulnerability of communities to flood events as well as affecting the quantity and quality of riparian and aquatic habitat.

Currently, there are watershed assessments for each basin in Clatsop County which provide a valuable framework to current riparian conditions. However, they are not specific in where, or what should be done to address the riparian issues. The 303(d) list also maintains a proper framework to looking at the water quality issues in Clatsop County but again is not a good indicator to point sources and how to address them. For one, some listed streams may not be warranted for listing because natural occurring conditions are the source of non-attainment. While not every mile of stream on the 303(d) list necessarily needs treatment even if the listing is warranted because upstream conditions may be the source of the problem, and there are streams that are not on the 303(d) list which may need some level of treatment in order to continue to protect water quality.

What we do know is that riparian issues such as salmon habitat fragmentation and degradation, water quality and flooding frequency and size are important issues to address in order to maintain productive and healthy agriculture communities. Many organizations in the Clatsop County, including other federal agencies are active participants in solving these issues. NRCS can play an active role in riparian health and function by providing outreach and funding to specific restoration efforts using their conservation practices in agricultural areas.

***Desired Future Outcomes:***

***Objective 1:*** Help create or restore salmon habitats within floodplain and riparian areas along salmon bearing streams.

Conduct outreach to agricultural and private nonindustrial forest land owners within areas adjacent or next to salmon bearing streams. As well as provide the given information on restoration techniques and conservation practices that can be applied using NRCS programs, in participation with other conservation organizations, state and federal agencies concerned with salmon habitat issues.

Three areas of restoration efforts have been identified to address degraded salmon habitat in Clatsop County. These include off-channel, estuarine habitat and riparian restoration.

*Off-channel habitats* such as freshwater sloughs, alcoves, wall-based channels, ponds, wetlands, and other permanently or seasonally flooded areas are important rearing areas for juvenile salmonids. However, off-channel habitats normally associated with floodplains have been routinely isolated or altered by floodplain and hill slope activities such as agriculture, urbanization, flood control, and transportation. Beechie et al. (1994) concluded that the loss of side-channel and tributary sloughs off the main-stem of the Skagit River, Washington, was the major factor limiting smolt production of Coho salmon *Oncorhynchus kisutch*. The use of off-channel habitats by juvenile Coho salmon, which prefer pool habitats during summer and off-channel habitats and pools during winter (Nickelson et al. 1992), is the essential benefit to restoring or reconnecting floodplains. Use of off-channel habitats by Chinook salmon *Oncorhynchus tshawytscha* is less certain, though juvenile spring Chinook salmon may use off-channel habitat for overwintering (Swales and Levings 1989). Coastal cutthroat trout *Oncorhynchus clarki* may use off-channel habitat (channels and ponds) extensively in winter (Bustard and Narver 1975; Peterson 1982; Cederholm and Scarlett 1991). In contrast, steelheads do not use off-channel habitats extensively during winter (Swales and Levings 1989). Thus, most off-channel restoration efforts have focused on providing habitat for juvenile Coho salmon and, to a lesser extent, cutthroat trout and Chinook salmon.

**Conservation Practices:** The following list of conservation practices is based on the highest level grade given to address the resource concern of Fish and Wildlife – Habitat Fragmentation Threatened or Endangered species. These conservation practices should be applied in conjunction with other practices to allow for maximum ecological based response and maintenance of restoration work. Implementing these practices may require permits from County, Department of State Lands, Department of Fish and Wildlife and other agencies. Engineering designs as well as participation from conservation organizations, private consultants and Department of Fish and Wildlife with expertise and experience in off-channel restoration will be essential in implementation and success of the restoration efforts. Time of implementation should be consistent with the low water and soil moisture to reduce the impact soil disturbance, compaction and erosion as well as assessment of short-term disturbance to agriculture production and salmon spawning.

**Wetland Restoration-Code 657**

**Wetland Enhancement-Code 659**

**Wetland Wildlife Habitat Management-Code 644**

*Estuarine Habitat Restoration-* The loss and degradation of estuarine habitats in the Pacific Northwest since Euro-American settlement has been well documented. Simenstad and Thom (1992) estimated that 42% of the estuarine habitat in coastal Pacific Northwest has been lost. Estuaries are important foraging areas for juvenile fish, as well as physiological transition zones for adult and juvenile anadromous fish (Healey 1982; Simenstad et al. 1982). Estuarine habitat manipulations can be segregated into three categories: restoration, enhancement, and creation. Restoration efforts attempt to create natural hydrologic, morphologic, and biotic conditions, and may include breaching dikes, removing fill, and planting emergent and submergent plants. Estuarine restoration strategies focus on reconnecting isolated habitats and restoring natural processes rather than creating new habitats. However, where

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land-use conversion has virtually eliminated wetland and estuarine habitats, creation of new habitats will probably be necessary to provide anadromous salmonids and other fishes with the continuum of essential habitats. Restoration opportunities for NRCS will range from more intensive actions (like dike removal, meander restoration, and ditch filling) to less-intensive actions (e.g. grazing reductions, riparian fencing and plantings).

**Conservation Practices:** The following list is based on the highest level grade given to address the resource concern of Fish and Wildlife – Habitat Fragmentation, Threatened or Endangered Species, along with some conservation practices that may be applied where intensive restoration is unfeasible. The list of conservation practices should be applied in conjunction with other practices to allow for maximum ecological based response and maintenance of restoration work. Implementing these practices may require permits from County, Department of State Lands, Department of Fish and Wildlife, NOAA and other agencies. Engineering designs as well as participation from conservation organizations, private consultants and Department of Fish and Wildlife with expertise and experience in estuarine restoration will be essential in implementation and success of the restoration efforts. Time of implementation would be consistent with the low water and soil moisture to reduce the impact soil disturbance, compaction, erosion and other water quality issues.

**Wetland Restoration-Code 657**

**Wetland Enhancement-Code 659**

**Wetland Wildlife Habitat Management-Code 644**

**Restoration and Management of Declining Habitats-Code 643**

**Fence-Code 382**

**Stream bank and Shoreline Protection-Code 580**

**Tree/Shrub Establishment- Code 612**

Further Discussion on Estuarine Restoration: Dike-breaching and other techniques that reconnect isolated habitats show particular promise, but dike breaching in many areas in the county pose a unique challenge. Many of the counties agriculture production area lie behind dikes. With breaching of dikes there are high possibilities of flooding and damaging to housing and farmland. This is especially difficult in tidally influenced areas where dikes maintain protection of crops from salt water intrusion. But enhancing estuarine habitats may be the best option when dealing these specific areas, where planting native vegetation along dikes and protecting livestock from access to estuarine areas would be the alternative. Choosing the right landowner and area is essential to the success of this restoration effort.

*Riparian Restoration-* Riparian vegetation is an important element of a healthy stream system. It provides bank stability, controls erosion, moderates water temperature, and provides food for aquatic organisms and large woody debris to increase aquatic habitat diversity. Timber harvest and other anthropogenic activities have transformed many riparian areas in the coastal Pacific Northwest from conifer-dominated to hardwood-dominated forests (Bisson et al. 1987; Beechie et al. 2000). Although hardwoods, such as red alder *Alnus rubra* and big leaf maple *Acer macrophyllum*, may provide adequate shade and small woody debris to streams, they do not provide a long-term source of large woody debris (LWD) important for creating and maintaining in stream fish habitat (Beechie et al. 2000). Silviculture techniques such as planting conifers or removing over story or understory vegetation are frequently implemented in riparian areas to accelerate the growth of conifers and improve fish habitat. Natural and human degradation of riparian zones diminish their ability to provide these critical ecosystem functions (Necanicum Watershed Assessment).

**Conservation Practices:** The following list is based on the highest level grade given to address the resource concern of Fish and Wildlife – Habitat Fragmentation, Threatened or Endangered Species. The Last updated



listed of conservation practices should be applied in conjunction with other practices to allow for maximum ecological based response and maintenance of restoration work. Participation from conservation organizations, private consultants and Department of Fish and Wildlife and other organizations and agencies with expertise and experience in riparian planting and restoration will be essential in implementation and success of the restoration efforts. Time of implementation would be consistent type of material and planting season (usually winter for conifers).

**Riparian Forest Buffer-Code 391**

**Riparian Herbaceous Cover-Code 390**

**Stream bank and Shoreline Protection-Code 580**

**Tree/Shrub Establishment- Code 612**

**Fence-Code 382**

**Measurable Outcomes:** It is often difficult to measure the success of restoration, (1) some measurable aspects of restoration may not be realized within the short term, (2) response to fish numbers and health is correlated with other outside factors such as ocean conditions, cyclic responses to climate conditions and other uncontrollable factors. However, there are a few ways to achieve some measurable outcomes with response to fish and restoration of their habitat.

#### *Off-Channel Habitat Restoration*

The Oregon Department of Fish and Wildlife conducts annual fish surveys throughout the watersheds in Clatsop County. By using fish survey techniques and numbers, population density and biomass estimates of juvenile Coho in off-channel complexes can be achieved. Looking at the range of fish found in off-channel areas and ponds and comparing them to density estimates in the river will show a measure of success based on the difference in numbers. One study conducted in Canadian streams looked at total number and health of Coho in off-channel areas and compared them those found in stream. This method found from 1.00 to 1.80 fish/ sq. meter with some consisting of 5.15 fish/sq. meter compared with density estimates of 0.08-0.23 fish/sq. meter in the rivers main stem. The growth rate of Coho in the ponds was faster than in the main river, with pond fish reaching mean lengths of 62-79 mm at the end the first growing season, compared with 53 mm in the main river (Swales 1989).

#### *Estuarine Habitat Restoration & Riparian Restoration*

These two restoration methods may be more difficult to measure success. Estuarine habitats in general consist of large bodies of water that may or may not be surveyed and are difficult to assess because of natural factors such as timing of salmon stock returns and food. Direct correlation of fish numbers to restoration efforts are unlikely indicators of success. Although, CREST may provide a role in this effort because they are involved in netting surveys throughout the estuaries and may provide pre and post treatment data that can be used to assess the outcome. If dikes were breached as a part of the NRCS restoration efforts, a similar method to off-channel complex surveys could be used in the newly created wetland habitat and rearing ponds. Given the concern with this method within agricultural land within the county, both estuarine habitat and riparian restoration will most likely involve establishing riparian vegetation, deterring livestock from the shoreline and establishing large woody debris (LWD). Therefore a measurable outcome from these two restoration methods could come from the amount of shading, cover and amount of LWD found along the stream bank and in the stream, as well as the reduction of soil erosion from livestock exclusion and water quality and temperature parameters.

**Area of Interest:** SWCD has 2 priority areas for riparian plantings, the agricultural lowlands along the Lower Columbia River (figure 23) and the Lewis and Clark River (figure 24). NRCS has decided to focus our priorities in the same areas to maximize financial and technical assistance in those areas. Both estuarine and riparian habitat restoration areas are shown within zoned areas of agriculture, natural  
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resources, and/or mixed rural residential/agriculture. Riparian areas were created by establishing a 100 meter buffer around the streams, considering that within this area floodplain and/or wetland indicators will be present. Ground-truthing of these areas will be needed and not all of these areas may be currently or once were active agriculture land.

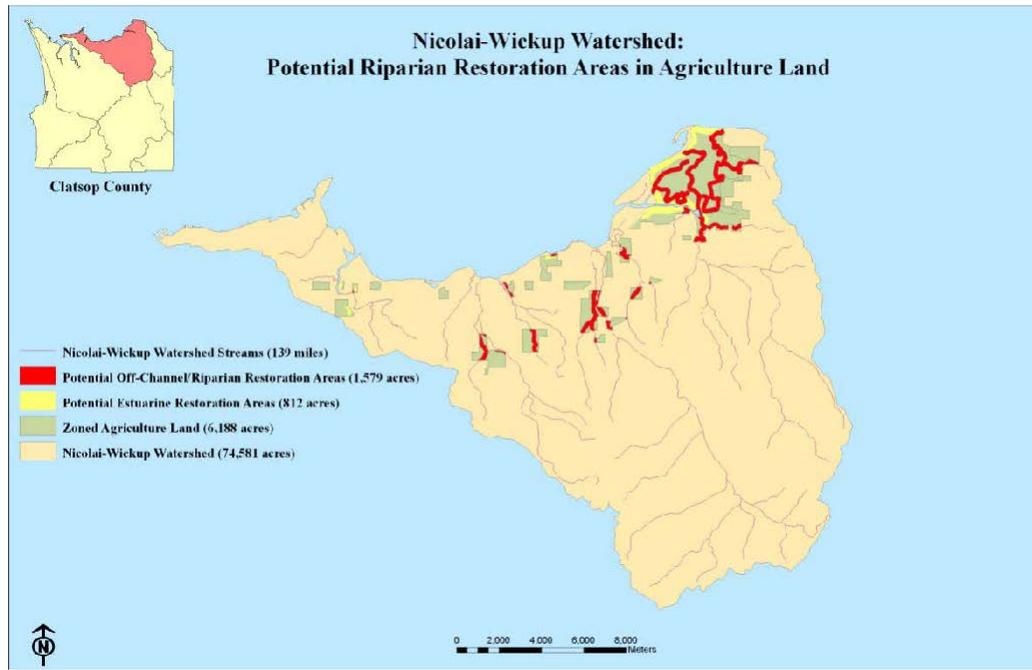
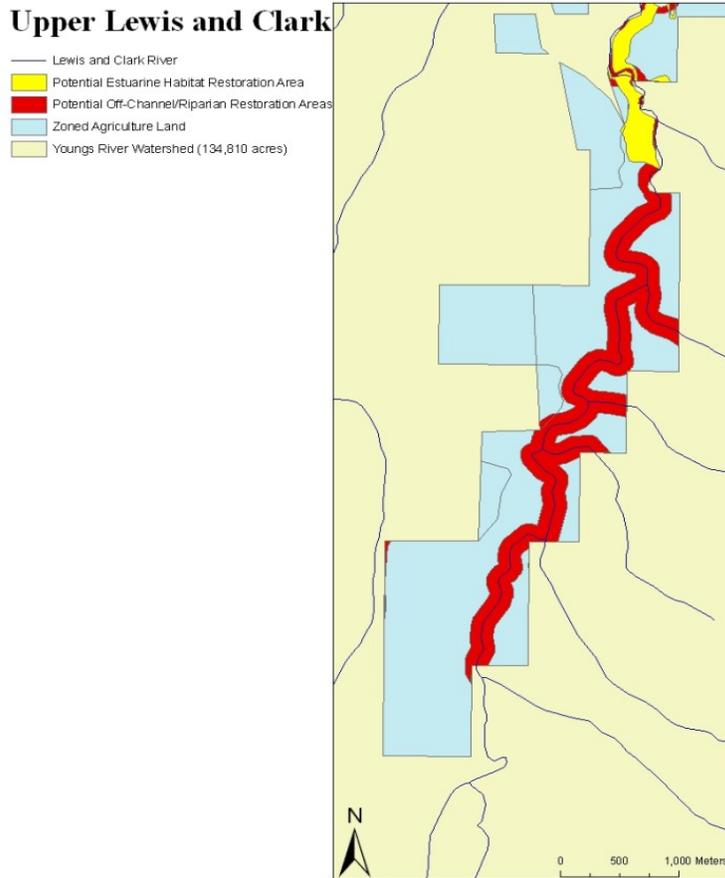
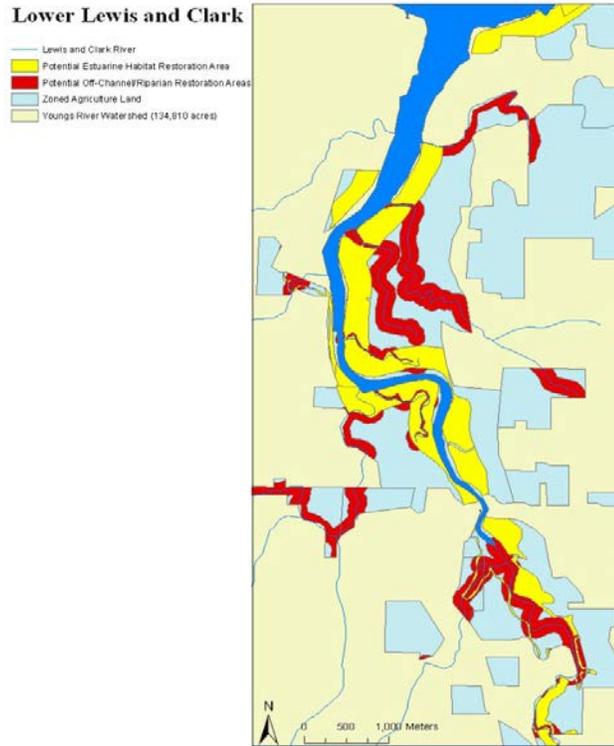


Figure 23. Map of Potential Riparian Restoration Areas on Ag lands in the Nicolai-Wickup Watershed.

Figure 24. Focus Area for Lewis and Clark River.



**Partner groups:** Given the large aspect of these restoration methods, other key partner participation is essential to achieving the goals to restore salmon habitat. Many of the partners listed below specifically focus on these issues and have or currently are working on similar restoration efforts in Clatsop County.

Along with the SWCD, we will be including the Young's Bay and Nicolai Wickiup Watershed Councils on all activities, and are hoping they can fill the continuity of the Riparian areas on non-agricultural lands, and possibly help in water quality monitoring and outreach to landowners in these areas.

Young's Bay & Nicolai-Wickiup watershed councils  
Clatsop Soil and Water Conservation District  
U.S. Fish and Wildlife (USFW)  
Oregon Department of Fish and Wildlife (ODFW)

## Nutrient/Pasture Management

**Problem Statement:** Erosion and invasive species on pastureland leading to poor plant productivity and inadequate forage for livestock. Within management of these pastures, there is also a lack of manure management that allows nutrients to enter our surface waters, therefore impairing our rivers and creeks for recreational and wildlife uses.

Grazing animals can have a negative or positive impact on soil and water quality depending on management practices. Many of times grazing animals has shown to degrade water quality. Studies have shown that access to livestock in soils and surface waters has high loading rates of sediment, Nitrogen, Phosphorous, and pathogens (Besser et al., 1993). Groundwater is unsuitable for drinking water for humans if N concentrations in the nitrate (NO<sub>3</sub>) form exceed 10 mg/L (Lenain, 1967). High N concentrations entering streams or lakes may also contribute to eutrophication. Eutrophication can also be effected by phosphates transported with sediments to lakes and stream (Clark et al., 1985). Microorganisms pathogenic to humans have shown to be from animal waste (Mawdsley et al., 1995). During excessive irrigation or rainfall, surface runoff or leaching occurs and contaminates water resources by enteric bacteria (Entry et al., 1999).

### **Desired Future Outcome**

**Objective:** To improve management of pastures and waste utilization. By improving management activities on pastureland and farming headquarters.

With proper pasture and nutrient management organic components from livestock can build soil organic matter reserves, resulting in soils having increased water-holding capacity, increased water-infiltration rates, and improved structural stability (Hubbar et. al, 2004). These changes can decrease soil loss by wind and water erosion. Applying manure to the soil decreases energy need for tillage and reduce the resistance to seedling emergence and root penetration (Wright, 1998). Manures increase microbial activity within the soil, stimulate the growth of beneficial soil microbial populations, and increase the population of beneficial mesofauna, such as earthworms (Hubbard et.al, 2004).

### **Conservation Practices:**

Prescribed grazing-Managing and documenting pasture rotations throughout fields to make sure livestock doesn't over or under graze forage which can cause weed invasion, soil erosion, and poor plant productivity.

- Cross Fencing

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- Pasture/Hay Planting
- Brush Management
- Herbaceous weed control
- Prescribed Grazing
- Nutrient Management

Fencing off waterways-Fencing off waterways to limit livestock access to waterways will decrease sediment, nutrients, and pathogens entering surface waters.

- Fencing
- Access Control

Grazing management for riparian areas-On some farms Riparian areas which surround streams are important for grazing livestock. These riparian areas also serve habitat for wildlife, and filter nutrients and pathogens from surface runoff into streams and lakes. These riparian areas can be managed in different ways (Han & Bartlett, 2010):

- Fencing off riparian areas exclusively and livestock will only be allowed through crossing points
- Allowing periodic flash grazing will limit cattle access to streams and reduce the potential for negative impacts associated with overgrazing.
- No fencing but installing off-site watering facilities that will attract livestock away from riparian areas and streams. Study shows that this method has reduced stream bank erosion by 80%, fecal coli form and streptococci by 51% and 77%. In general the off-site watering system reduced the time cattle spent in the stream by 90% (Bohnert, 2011)
- Riparian buffer
- Watering Facilities (troughs/nose pumps)
- Pipelines

Headquarters-Headquarters on many farms consist of the waste storage area, winter sacrifice area, composting, or barn area. If not maintained properly these areas become a source of manure runoff into nearby waterways and ditches. Runoffs from rooftops create muddy compacted soils which do not allow water to infiltrate creating surface runoff of both manure and water to open waterways. If manure is stored properly this will eventually cause water quality impairments.

- Roof-runoff structure
- Water Harvest Catchment
- Waste Storage Facility
- Composting Facility
- Heavy use area

**Measurable Outcomes:** Success will be measured by the landscape observations categorizing number of acres treated and number of installed conservation practices. Previous conversations with the NCWA coordinator are to have these focus areas be part of the new water quality monitoring plan.

**Area of Interest:** Brownsmead/lowlands of Nicolai-Wickiup watershed (figure 23), and Lewis & Clark River (figure 24), Youngs and Walluski River (figure 25)

**Partners:** DEQ, Clatsop SWCD, Various Watershed Councils, ODA, USFWS.

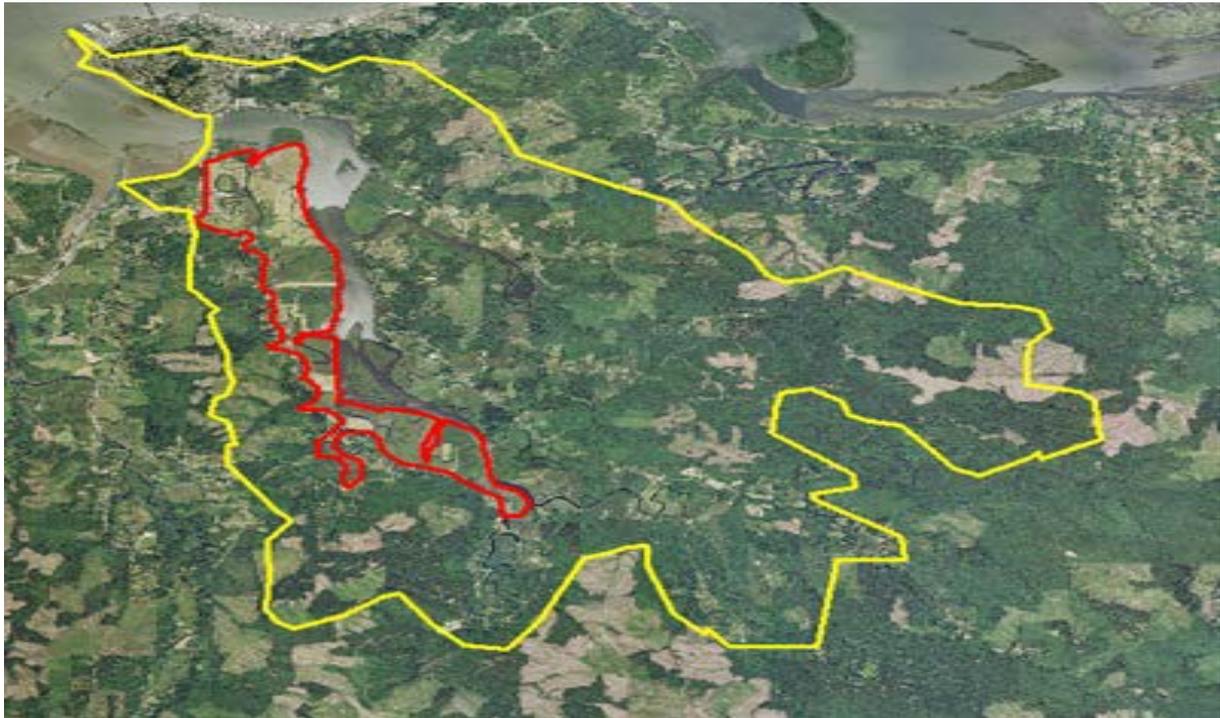


Figure 25. Yellow highlighted boundary includes entire area of Youngs River and Walluski River. Red highlighted area is 2011-2013 CIS strategic area of Diking District 9.

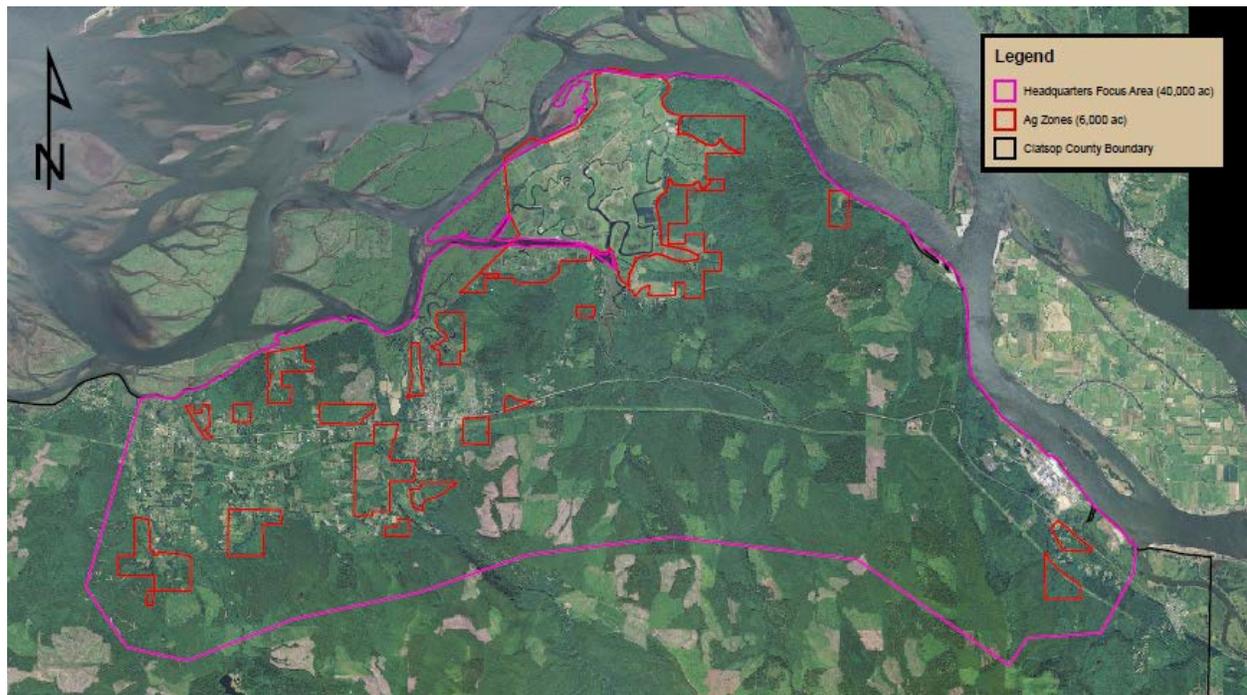


Figure 26. 2014 Clatsop County Strategic Focus Area. Lowlands of Nicolai-Wickiup Watershed.

**Problem Statement:** Many small acres agricultural producers are unfamiliar with NRCS financial and technical assistance for agricultural producers.

If no action is taken continued unawareness of farm bill programs and NRCS services will still be unknown. This could result in stewardship of the land becoming a low priority, due to economics involved with farming. Negative consequences could be far reaching, especially with the amount of surface water/ open water courses in the basin and our proximity to estuaries, wetlands, and riparian areas. Partners are able to assist with the business aspect of the operation but so far, none have been identified to provide technical assistance. Alternatives will continue to be developed as more operations are identified and visited.

### **Desired Future Outcome**

**Objective:** Our goal is to successfully work with locally distributed small acreage agricultural producers (less than or equal to 20ac) to develop and implement conservation plans as a way of identifying resource concerns on their operations while simultaneously promoting awareness of conservation and NRCS in the community. Within this objective we hope to create awareness of technical and financial assistance to small acre agricultural producers and by doing so ultimately increasing the availability of locally produced food in Clatsop County.

### **Conservation Practices:**

Conservation Crop Rotation  
Cover Crop  
Riparian Buffers  
Pollinator Habitats  
Field Borders  
Water Harvesting Catchment  
Composting Facility  
Roof Runoff Structure

Implementation and outreach will be performed through partners, ads in local publications, local radio shows, word of mouth, field visits, informational workshops, flyers in local business and other community gathering events.

**Measurable Outcomes:** Success will be measured by percentage of locally distributed small acreage Ag operations practicing conservation, or increasing conservation practices on their land in 2015, as compared to current (2011) levels. Other measures of success will be developed as more resource concerns and partners are identified. Progress evaluation and monitoring will be continual & revised often.

**Area of Interest:** Clatsop County

**Partners:** Food Roots will be our primary partner for this effort. Currently they serve the north coast region (Tillamook and Clatsop Counties), offer microenterprise services for low-moderate income level food system entrepreneurs - including underserved and socially disadvantaged farmers and ranchers, serve nine food system business owners with Individual Development Accounts (IDAs)<sup>1</sup>. Current IDA Last updated

clients have businesses ranging from small acreage vegetable production, egg production, CSA farms, a specialty diet catering business, and a nursery selling acclimatized starter plants, edible landscaping plants and fresh produce. Other Possible partnerships to be explored include:

- Clatsop SWCD
- OSU Extension
- The North Coast Food Web
- Lower Nehalem Community Trust
- Astoria Cooperative
- Friends of Family Farmers
- Farmer's market groups

1-IDAs are a state of Oregon initiative (a 3:1 matched savings program) to help support micro-entrepreneurs (funded through tax deductible donations made to the state program). Individuals accepted into the program open savings accounts at participating financial institutions; they save money in their account, and the program matches each dollar with 3 dollars in a separate account. Participants agree to terms of the program, including: saving a minimum of \$25 monthly to be matched (max \$85) for a minimum of 6 months (max of 36 months); work with Food Roots and community partners to learn financial planning and business plan development skills; and use their savings and matched funds to purchase business assets that will propel them into successful local business owners.

We will be continually looking for new partners and resources.

## Forest Health

Of the North Coast Basin's 900,000+ acres of privately owned land, 57% is forested, primarily in Clatsop and Columbia Counties. Many of the common concerns found on forested land include degraded wildlife habitat, wildfire risks, and disease risks. This is a result of overstocked forests, repetitive monoculture Douglas fir plantings, and shortened, chemically dependent rotations. To a lesser degree, but still prevalent, sediment from clear cut forest lands and improperly constructed or managed roads contribute to degraded quality of water.

Many of the private forestland owners are unfamiliar with sustainable management of a healthy forest and what is required to maintain a healthy watershed. There are approximately 2700 landowners and many of these parcels of land are also quite small – 10 to 100 acres so impacts from any one property alone are quite small. Additionally, because of unawareness in forest and watershed health, landowners are not currently ready and willing to address high priority resource problems.

The goal is to increase awareness of healthy forest management through forest management plans, build a trusting relationship with forestland owners, and be an enterprising opportunity to gather information on communities that are ready and willing to address high priority concerns.

Alternatives that could be used to address this goal:

1. No action – landowners can be left to manage by themselves in which case the resource problems are likely to escalate.
2. Sole reliance on ODF to provide Forestry Stewardship plans – this alternative poses problems due to ODF diminished resources.
3. Develop forest management plans for two years (beginning in 2011) using NRCS funding while fostering partnerships for future implementation.

Due to the small size of many of these parcels, the cost to complete FMPs can be quite high if trying to reach all the landowners.

With 2700 landowners and approximately \$2,000 per plan, it would cost NRCS over \$4,000,000 in financial assistance to complete plans on 75% of these lands. Additionally, administering over 2,000 contracts would cost at least 16,000 hrs of staff time (assuming 8 hrs per contract from start to finish). At current staff levels this would take a minimum of 16 years to accomplish. Because of this unreasonable timeframe, alternative three is the preferred alternative. Funding for development of forest management plans solely as an enterprising activity will be used for two years 2014-2015. During this time, partnerships will be identified and fostered, and strategies for implementation will be developed. At the end of two years, future forest management plans will be developed within strategic implementation areas by NRCS or other agencies partnering on the strategy.

For 2015-2018 we have chosen to focus our resources in the Wallooskee River Watershed (HUC 170800060204), Lower Youngs River-Frontal Youngs Bay Watershed (HUC 170800060205), North Fork Klaskanine River Watershed (HUC 170800060201), and South Fork Klaskanine River Watershed (HUC 170800060202). Currently 7 forest management plans have been completed covering a total of 450 acres. 3 properties in the watershed are interested in implementation of their forest management plan.

Partnerships for this strategic area include the Clatsop Soil and Water Conservation District who will be helping with technical assistance and outreach. Oregon Department of Forestry will be key in outreach and groundtruthing. The North Coast Watershed Association and Columbia River Estuary Taskforce can assist with outreach.

# GREEN MOUNTAIN FOREST HEALTH CLATSOP COUNTY CIS 2015

District: CLATSOP SOIL & WATER CONSERVATION DISTRICT

Agency: USDA - NRCS

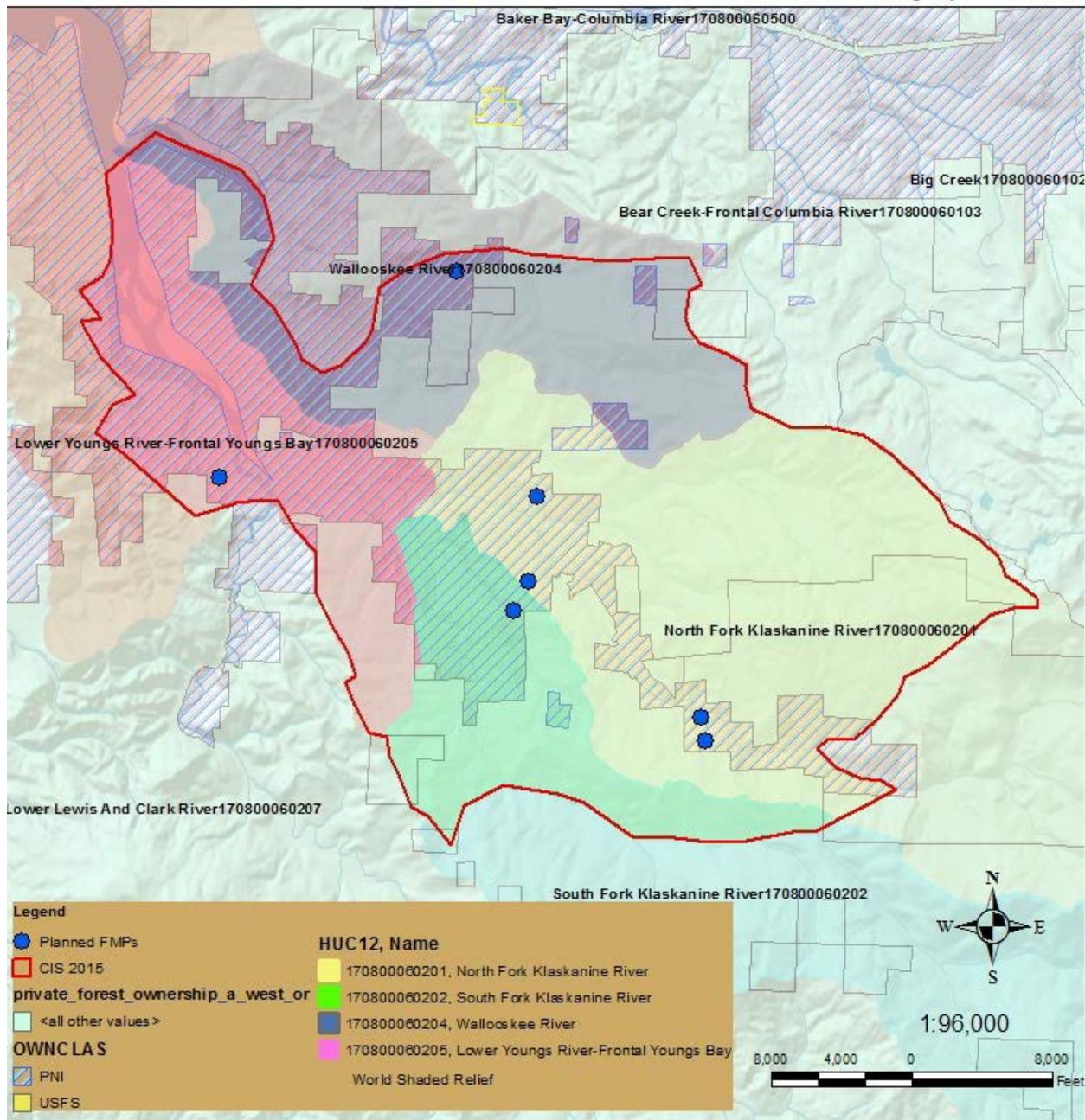


Figure 27. Clatsop County 2015 strategic forestry focus area. Wallooskee River Watershed (HUC 170800060204), Lower Youngs River-Frontal Youngs Bay Watershed (HUC 170800060205), North Fork Klaskanine River Watershed (HUC 170800060201), and South Fork Klaskanine River Watershed (HUC 170800060202).

Last updated

4/15/2019



## References

- Bohnert, D.W. "Off-Site Water-How does it influence cattle performance, pasture distribution, and water quality?" High Desert Ranch & Family (2011).
- "Clatsop County." 2 September 2011. Clatsop County Oregon. 4 December 2011  
<<http://www.co.clatsop.or.us/default.asp?deptid=12&pageid=826>>.
- Forestry, Oregon Department of. Oregon Department of Forestry. November 2011. November 2011  
<[http://www.oregon.gov/ODF/STATE\\_FORE01STS/state\\_forests.shtml](http://www.oregon.gov/ODF/STATE_FORE01STS/state_forests.shtml)>.
- Haan, Mat, Bartlett, Ben. "Grazing Management for Riparian Areas." (2010).
- Hubbard, R.K., Newton, G.L., Hill, G.M. "Water quality and the grazing animal." Journal of Animal Science (2004): E3255-E263.
- Noxious Weed Policy and Classification System . Oregon Department of Agriculture Noxious Weed Control Program, 2011.
- "Oregon State Archives." 2011. Oregon Secretary of State. 17 November 2011  
<<http://bluebook.state.or.us/local/cities/citieshome.htm> >.
- "United States Agriculture Census Bureau." 2012.
- "United States Census Bureau." 2010.
- Beechie, T., E. Beamer, and L. Wasserman. 1994. Estimating Coho salmon rearing habitat and smolt production losses in a large river basin, and implications for restoration. North American Journal of Fisheries Management 14:797–811.
- Beechie, T. J., and S. Bolton. 1999. An approach to restoring salmonid habitat-forming processes in Pacific Northwest watersheds. Fisheries 24(4):6–15.
- Beechie, T. J., G. Pess, P. Kennard, R. E. Bilby, and S. Bolton. 2000. Modeling rates and pathways of recovery of woody debris recruitment in northwestern Washington streams. North American Journal of Fisheries Management 20:436–452.
- Bisson, P. A., R. E. Bilby, M. D. Bryant, C. A. Dolloff, G. B. Grette, R. A. House, M. L. Murphy, K. V. Koski, and J. R. Sedell. 1987. Large woody debris in forested streams in the Pacific Northwest: past, present, future. Pages 143–190 *in* E. O. Salo and T. D. Cundy, editors. Streamside management: forestry and fisheries interactions. University of Washington, College of Forest Resources, Contribution 57, Seattle.
- Nickelson, T. E., J. D. Rodgers, S. L. Johnson, M. F., and Solazzi. 1992. Seasonal changes in habitat use by juvenile Coho salmon (*Oncorhynchus kisutch*) in Oregon coastal streams. Canadian Journal of Fisheries and Aquatic Sciences 49:783–789.
- Swales, S., and C. D. Levings. 1989. Role of off-channel ponds in the life cycle of Coho salmon (*Oncorhynchus kisutch*) and other juvenile salmonids in the Coldwater River, British Columbia. 1989. Canadian Journal of Fisheries and Aquatic Sciences 46:232–242.

Last updated

4/15/2019



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Bustard D. R., and D. W. Narver. 1975. Preferences of juvenile Coho salmon (*Oncorhynchus kisutch*) and cutthroat trout (*Salmo clarki*) relative to simulated alteration of winter habitat. *Journal of Fisheries Research Board of Canada* 32:681–687.

Peterson, N. P. 1982. Population characteristics of juvenile Coho salmon (*Oncorhynchus kisutch*) overwintering in riverine ponds. *Canadian Journal of Fisheries and Aquatic Sciences* 39:1303–1307.

Cederholm, C. J., and W. J. Scarlett. 1991. The beaded channel: a low-cost technique for enhancing winter habitat of Coho salmon. Pages 104–108 in J. Colt and R. J. White, editors. *Fisheries bioengineering symposium*. American Fisheries Society, Symposium 10, Bethesda, Maryland.

Simenstad, C. A., and R. M. Thom. 1992. Restoring wetland habitats in urbanized Pacific Northwest estuaries. Pages 423–472 in G. W. Thayer, editor. *Restoring the nation's marine environment*, University of Maryland, Maryland Sea Grant Program, College Park.

Healey, M. C. 1982. Juvenile Pacific salmon in estuaries: the life support system. Pages 315–341 in V. S. Kennedy, editor. *Estuarine comparisons*. Academic Press, New York.

Swales, S. and C. D. Levings. 1988. Role of Off-Channel Ponds in the Life Cycle of Coho Salmon *Oncorhynchus kisutch* and Other Juvenile salmonids in the Coldwater River, British Columbia. *Canadian Journal of Fish Aquatics* 46:233-244.

*Besser, R. E., S. M. Lett, J. T. Weber, M. P. Doyle, T. J. Barrett, J. G. Wells, and P. M. Griffin. 1993. An outbreak of diarrhea and hemolytic uremia syndrome from Escherichia coli 0157-H7 in fresh-pressed apple cider. J. Am. Med. Assoc. 269:2217-2220.*

*Guan, T. Y., and R. A. Holley. 2003. Pathogen survival in swine manure environments and transmission of human enteric illness—A review. J. Environ. Qual. 32:383-392*

*Lenain, A. F. 1967. The impact of nitrates on water. J. Am. Water Works Assoc. 59:1049-1054*

*Mawdsley, J. L., R. D. Bardgett, R. J. Merry, B. F. Pain, and M. K. Theodorou. 1995. Pathogens in livestock waste, their potential for movement through soil, and environmental pollution. Appl. Soil Ecol. 2:1-15*

*Entry, J. A., R. K. Hubbard, J. E. Thies, and J. Fuhrman. 1999. The influence of vegetation in riparian filter strips on coli form bacteria: I. Movement and survival in water. J. Environ. Qual. 29:1206-1214*

Hubbard, R.K., Newton, G.L., Hill, G.M., 2004. Water Quality and the grazing animal. *Journal of Animal Science*. 82:E255–E263

*Wright, R. J. 1998. Executive Summary. Pages 1–8 in Agricultural uses of municipal, animal, and industrial byproducts. R. J. Wright, W. D. Kemper, P. D. Millner, J. F. Power, and R. F. Korcak. USDA, ARS, Conservation Res. Rep. No. 44. Washington, DC.*

Haan, Mat, Bartlett, Ben. "Grazing Management for Riparian Areas." (2010)



United States  
Department of  
Agriculture

Natural Resources Conservation Service

# Clatsop County Local Work Group Meeting

Sign In Sheet

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Misty Oser			SWCD



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## USDA/NRCS 2019 Clatsop County Local Work Group Meeting

**When: February 14, 2019**

**Time: 10:00 p.m. – 12:00 p.m.**

**Location:**

**Clatsop County Extension Office  
2001 Marine Drive, Rm 231  
Astoria, OR 97103**

### AGENDA

Meeting Purpose: The Local Work Group provides a forum for agencies, partners, farm, ranch, forestry representatives and conservation groups to discuss natural resource problems that should be prioritized. The group assists in guiding NRCS where to target farm bill funds for technical and financial assistance in the future. The Local Work Group is the process USDA-NRCS uses for Locally Led Conservation.

- I. Welcome and Introductions
- II. NRCS practices and projects
  - Small Acreage Livestock Producers
  - Forest Health and Forest Management (Non-industrial, private land)
  - Wetland Restoration/Off Channel Fish & Wildlife Habitat
  - Seasonal High Tunnel
  - Organic Initiative
- III. Future Direction of Conservation Efforts in Clatsop County - Input-Discussion
- IV. Identify Partnership Efforts/Project Efforts to Address Resource Problems in the County (as time allows) - Input - Discussion
- V. Other current issues of interest to the group - Input - Participants  
A changing county - how can we make a difference?  
(as time allows)

Adjourn

**Clatsop County Local Work Group Meeting  
February 14<sup>th</sup>, 2019 OSU Ext Conference Room**

Minutes

The meeting was called to order by Dean Moberg at 10:00 a.m. Self-introductions followed. Those in attendance were:

*NRCS*

*NCLC*

*NWC*

*ODF*

*Private Landowner/Small farmer*

*CSWCD*

*NRCS*

*Private landowner/Small farmer*

*CSWCD*

*CSWCD*

Dean welcomed everyone to the meeting and stated that the purpose of this meeting is to work together collaboratively with local partners and landowners to develop a plan that strategically utilizes limited resources effectively and efficiently. These meetings are mandated by policy to be held annually. Even though we only meet annually, we will certainly take comments and ideas at any time.

Thomas Gehrkens DC Clatsop Co. presented the topics for discussion:

- **Small Acreage Livestock Producers**

Lewis and Clark CIS, 24 conservation practices associated with this CIS

*Private landowner/Small farmer* asked, what is a CIS? Dean described the CIS concept to the group, the CIS's focus on concentrated areas where EQIP funding can be utilized strategically to address resource concerns. Clatsop co. currently has one active CIS. Dean also mentioned that staff issues and funding did not allow for real conservation to take effect on the ground when projects did not concentrate in an area.

CSWCD member stated that the future for the county as he saw it was in the farms and that was where he saw the agriculture concerns for the county.

It was mentioned and echoed by the group that a major issue is with the NRCS not being able to keep a person in the DC position in Clatsop for any longer than a few years. They said that when the DC would leave the county the county would then be left without NRCS representation and it seemed like things would have to start over and practices and programs would fall behind as well as the relationship within the community.

The issue with community gardens was then approached, Thomas Gehrkens explained the USDA does and has assisted with the sponsorship of "People's Gardens" around the country. The NRCS does not supply financial assistance with these but they are sometimes allowed to provide Technical Assistance as well as to help with labor and to help the communities connect with individuals and companies to help supply labor and materials to materialize community gardens. The group expressed interest in this idea and would like to further revisit these topics.

The discussion was then steered back to the topic of resource concerns for the county in the current CIS and possible new CIS

The major resource concerns identified by the group are: Water quality (garbage in water bodies, sediment and lack of fish habitat).

Water quantity: The small farmers and agricultural producers in the group expressed

concern over lack of water quantity. Both individuals present stated that during the 3 summer months before the rain starts again the only water available for them is in the form of the municipal water. To be able to water the pasture and provide continuous growth on grazed lands during months that rain does not occur was mentioned. This is very costly and will quickly erode any profits from the season. They have expressed desire for a reservoir to capture water from the rainy season to hold over for those dryer months. These concerns were noted.

- **Forest Health and Forest Management (Non-industrial, private land)**

The Green Mountain CIS has closed

We are attempting to have Clatsop Co. put onto the NC/LW basin Forest Mgt. Plan initiative

There are some forest practices associated with lands in the Lewis and Clark CIS

Resource concerns for the forest grounds included: Swiss Needle Cast, Spruce insects, Stump Stands, forest roads and engineering & culverts, crossing streams, road up grades, erosion and surfacing, fire access being impeded by overgrown vegetation.

Where could the next forestry CIS be positioned: Svenson/Knappa area, south county, Jewell, and Bergenfield (people who are generally thought of as hard to work with in Bergenfield).

Practices would include; pre-commercial thinning, roads, culverts, decommission roads, tree planting, brush mgt., herbaceous weed mgt.,

The representative from NCLC asked if the NRCS helped to fund decommissioning of roads and the answer was Yes

The NWC representative asked if the NRCS could offer engineering, Dean answered that they could but that it could also be difficult due to funding constraints.

Possible partners to assist in forestry identified by the group would be ODF, ODFW, OWEB, Watershed Councils, SWCD, OSU, Small land owners and TSP

Then the question was asked who the TSP's were in Clatsop Co.

- **Wetland Restoration/Off Channel Fish & Wildlife Habitat**

2 WRP and past CREP projects

More opportunities available

- **Seasonal High Tunnel**

NRCS will help provide financial assistance for a High Tunnel/Greenhouse up to 2178 sqft

2 high tunnel greenhouses are allowed for financial assistance

This is to extend the growing season and to assist in plant health/ and plant productivity

- **Organic Initiative**

*Provides conservation funding to organic producers and those transitioning to organic. Financial and technical assistance is available through the Organic Initiative under the EQIP program*

Up to \$20,000 a year and \$80,000 over a 6-year timeline

Must be organic or transitioning to organic

Practices that deal with soil health, pollinator habitats, and livestock operations

### **Water Quality as a resource concern for the county**

The group voiced interest in addressing water quality needs in the Skippion and Necanicum area.

Practices that were thought to be suitable for these areas would be: Riparian plantings, filter strips, manure storage facilities, fencing, livestock pipelines and watering facilities.

Possible partners identified by the group would be the Watershed Councils, Local Governments, Community College, and School Districts, Solve, Recology, CREST, and OWEB and the OSU Extension

### **The group decided that the main resource concerns in the county were:**

Water quality, water quantity, and forestry.

### **Other topics from Meeting**

Possibility for a new CIS dealing with small farms and small farm resource concerns.

There is a need for a local meat inspection service. The agriculture producers of meat products are required to take their products to the next counties over to comply with regulation. A desire to have a local inspector is desired.

Pollinator concerns and partners for the pollinator projects would be Bee keeping groups for pollinator outreach and NORP for plant materials

Tide gates- One has collapsed in the Lewis and Clark CIS; who regulates the tide gates? County, Dept. state lands, Army Corp. of Engineers for permitting OWEB

Then the discussion went on to explain tide gates and the ways that they function and the needs and concerns for these as far as up keep, fish habitat and other management issues. This is still an unresolved area of discussion and much more work and conversations need to be had to just determine the course of action if any can be taken.

Meeting adjourned at noon.