Siuslaw Estuary Partnership

An Integrated Multiple Objective Approach to Watershed Protection and Restoration

Planning Commission Meeting
January 10, 2012

Siuslaw Estuary Partnerships

- Interdisciplinary Team:
  19 federal, state, tribal, and local agencies
- Elected Official Stakeholders
- Community Stakeholders

Siuslaw Estuary Partnership Mission

Protect and improve water quality and fish and wildlife habitat in the lower Siuslaw Watershed.

For more information, visit the web site:
www.SiuslawWaters.org.

Siuslaw Estuary

The estuary and lower Siuslaw Watershed:

- Home to 23 species of fish, almost 200 species of birds, and numerous marine mammals
- A significant natural area and Important Bird Area
- Provide habitat to several endangered and threatened species

Siuslaw River

The Siuslaw River was once the Oregon Coast's second largest coho-producing system; now salmon production is significantly diminished. The Siuslaw is "Water Quality Limited" for temperature, dissolved oxygen, fecal coliform, and sediment and is on DEQ's list of Impaired Water Bodies.

What's Good for Fish is Good for Florence

- Lane County Travel Generated Expenditures, 2008:
  - Shell fishing: $1,840,000
  - Fishing: $17,642,000
  - Hunting: $7,907,000
  - Wildlife viewing: $27,570,000
  - Combined: $54,959,000

Project Timeline

- **Project:** October 1, 2009 thru September 30, 2012
- **Phases:**
  - Phase I: Form Partnerships and Integrated Approach
    Oct 1, 2009 thru Sept 30, 2010
  - Phase II: Collect Data and Analyze Alternatives
    Oct 1, 2010 thru Sept 30, 2011
  - Phase III: Propose Policies and Measures and Submit for Adoption
    Oct 1, 2011 thru Sept 30, 2012

Study Area

Study area for land use measures is the Florence Urban Growth Boundary (UGB).

Products

1. **Fresh Water Wetlands and Riparian Areas Plan**
2. **Key Estuary Wetlands**
3. **Aquifer Protection Plan**
4. **Surface and Groundwater Monitoring Program**
5. **Siuslaw Estuary Trail Vision**
6. **Stormwater Demonstration Project**
7. **Comprehensive Plan and Code Amendments**
8. **Guiding Principles – Completed**
9. **Stormwater Design Manual and Comprehensive Plan and Code Amendments - Completed**
10. **Climate Change Report - Completed**

Siuslaw Estuary Partnership Guiding Principles

- Endorsed by the City of Florence; Lane County; Heceta Water District; Siuslaw Soil and Water Conservation District; Siuslaw Watershed Council; and the Confederated Tribes of the Coos, Lower Umpqua, and Siuslaw Indians
- Help guide environmental policies and practices of those entities that endorse them.
- Provide guidance for the development of draft Siuslaw Estuary Partnership products, particularly Comprehensive Plan amendments.

Tonight's Presentation

- **Key Estuary Wetlands**
- **Aquifer Protection Plan**
- **Surface and Groundwater Monitoring Program**
- **Fresh Water Wetlands and Riparian Areas**
- **Siuslaw Estuary Trail Vision**

Key Estuary Wetlands Protection and Restoration

The Siuslaw Watershed Council, McKenzie River Trust, and multiple partners are working with state, federal, and private funding sources and partners to protect/restore high priority tidally influenced wetlands. Funders Include: WWRI (Ecotrust, USFS, NOAA, OWEB), ODFW R&E, OWEB, EPA (SEP), Doris Duke/TNC.

Key Estuary Wetlands Protection and Restoration

Site A: Waite Ranch
Site B: North Fork Marsh

- Nesting, feeding, and nursery areas for the native assemblage of fish and wildlife species, such as ESA listed coastal coho salmon, Chinook salmon, searun cutthroat trout, Pacific lamprey, green sturgeon, and bald eagle
- Habitat Connectivity
- Water quality protection

Key Estuary Wetlands Protection and Restoration

Phase I, Milestones/Outcomes: Preliminary site assessments for high priority wetlands, acquisition of highest priority conservation areas in estuary from willing landowners

a. Secure landowner commitments for restoration/acquisition projects

b. Begin site characterizations and limited baseline monitoring
- North Fork Marsh: The management plan is complete.
- Waite Ranch Restoration Project: Preliminary site characterization and baseline monitoring.

c. Begin raising sufficient matching funds for acquisition

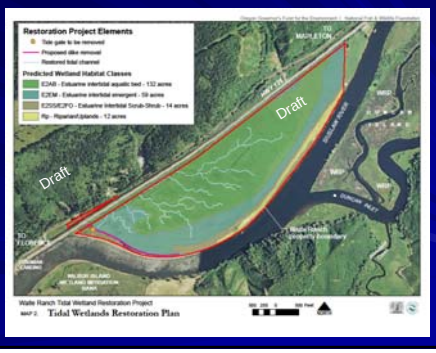
Key Estuary Wetlands Protection and Restoration

Phase II, Milestones/Outcomes: Lands in the highest priority zones of estuary permanently protected

a. Implement restoration activities.
- Preliminary restoration activities underway at Waite Ranch Restoration Site

b. Purchase fee title and/or conservation easements.
- Previously accomplished.

Key Estuary Wetlands Protection and Restoration



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North Florence Dunal Aquifer:
Drinking Water Source

- Only EPA-designated Sole Source Aquifer in Oregon
- Highly susceptible to surface contamination: shallow and highly permeable
- Connected to surface water: wetlands, lakes, streams
- The **Aquifer Protection Plan**: community-based strategies to protect the aquifer and surface waters

Aquifer Protection Plan

Community-based strategies to protect the aquifer and surface waters

Objectives:

1. Protect the North Florence Sole Source Dunal Aquifer.
2. Incorporate the Guiding Principles of the Siuslaw Estuary Partnership into the Aquifer Protection Plan.
3. Protect drinking water quality and quantity in the City's existing wells and new well sites.
4. Locate new sites for City production wells where they will not cause water levels in creeks and wetlands to go below threshold levels that would harm fish and wildlife habitat.
5. Update the delineation of the Drinking Water Source Areas (DWSAs) for existing and future wells; expand the Zone of Contribution to the 30 Year Time of Travel Zone for certification of DWSAs.
6. Protect fish and wildlife habitat and align Aquifer Protection Plan with Goals and Strategies for protecting fish and wildlife habitat.

Aquifer Protection Plan

Community-based strategies to protect the aquifer and surface waters

Objectives:

7. Incorporate and address results from the Surface and Groundwater Monitoring Program.
8. Identify and obtain agreement from stakeholders on Goals and Strategies for protecting water quality in the aquifer.
9. Engage the public in the process to improve awareness of threats to drinking water quality.
10. Update the list of potential contaminants and Potential Contaminant Source Inventory.
11. Integrate maps into GIS: Delineation Map; Potential Contaminant Map; Aquifer Sensitivity Map.
12. Adopt measures to protect the aquifer.
13. Meet state DEQ requirement to update the Plan every 5 years.

Drinking Water Source Areas: Draft Delineations

- Submitted to Oregon Health Division (OHA) for certification on 10/31/11
- Boundaries for Potential Contaminant Source Inventory and Land Use Measures

Aquifer Protection Plan

Community-based strategies to protect the aquifer and surface waters

- **Potential Aquifer Protection Strategies:**
  - Education, Cooperation, Opportunity-based
  - Source Control Measures that limit or prohibit the use of hazardous chemicals by contamination threat (i.e., distance from wellfield and type of chemical), e.g., Overlay Zone
  - Comprehensive Plan Policy and Code
  - Best Management Practices
  - Other
- **Stakeholder Group and Technical Advisory Committee**

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Surface and Groundwater Monitoring Program

- EPA-approved "Quality Assurance Project Plan" (QAPP)
- Groundwater monitoring wells
- Surface water monitoring:
  - Siuslaw Estuary (Confederated Tribes & Siuslaw Watershed Council),
  - Clear Lake (pharmaceuticals)
  - Ackerley and Munsel Creeks
  - Marine (Oregon Beach Monitoring Program)

Surface and Groundwater Monitoring Program

Surface and Groundwater Monitoring Program

Surface and Groundwater Monitoring Program

Key Findings:

- In both surface water and groundwater, contamination threats identified: E. coli, coliform bacteria, caffeine, and elevated nitrate levels; caffeine is an indicator of human impact on water quality; and we are working with our partner agencies to problem solve those findings.
- We see the need to continue the monitoring program for at least two more years in order to get a better sense of the trends, beyond the data we have collected to date.
- At the same time, we have observed the presence of coho salmon spawning in both creeks and have been impressed by the numbers of fish we are seeing.

Tonight's Presentation

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- **Surface and Groundwater Monitoring Program**
- **Fresh Water Wetlands and Riparian Areas**
- **Siuslaw Estuary Trail Vision**

Freshwater Wetlands and Riparian Areas
Florence Area Draft Wetlands Inventory

PROCESS:

STEP ONE: Inventory wetlands greater than ½ acre in size for Local Wetland Inventory (LWI).

STEP TWO: Assess grouped wetlands for functions and values.

STEP THREE: Agree on Significance Criteria & apply to Wetlands in UGB (LSW)

STEP FOUR: Adopt LSW & local protection measures.

Freshwater Wetlands and Riparian Areas
Florence Area Draft Wetlands Inventory

Wetland Inventory and Assessment (Steps 1 and 2)
ORWAP: Oregon Rapid Wetlands Assessment Protocol

- 2011 Florence Wetland Inventory and Assessment is one of three pilots using ORWAP
- More effective assessment tool; no administrative rules to guide significance determination; more local flexibility

Freshwater Wetlands and Riparian Areas
Florence Area Draft Wetlands Inventory
STEP ONE: INVENTORY

- 34 grouped wetlands greater than one-half acre, in 620 total acres:
  - Forested Wetlands
  - Scrub Shrub Wetlands
  - Emergent Wetlands
  - Other

Freshwater Wetlands and Riparian Areas
Florence Area Draft Wetlands Inventory
STEP ONE: INVENTORY

Forested Wetlands (58%) - dominated by an overstory of Sitka spruce, shore pine, and red alder (trees greater than 20 feet); and an understory of skunk cabbage and slough.

Freshwater Wetlands and Riparian Areas
Florence Area Draft Wetlands Inventory
STEP ONE: INVENTORY

Scrub Shrub Wetlands (22%) – At earlier stages of dune stability, often include tree saplings (less than 20 feet) and such shrubs as Hooker's willow, bog blueberry, Labrador tea, Douglas' Spirea, and four-line honeysuckle.

Freshwater Wetlands and Riparian Areas
Florence Area Draft Wetlands Inventory
STEP ONE: INVENTORY

Emergent Wetlands (11%) - dominated by herbaceous species that stand erect above the water or ground surface, such as slough sedge, water parsley, soft-stem bulrush, rushes, and purple cinquefoil. Some of these least disturbed emergent areas include small populations of uncommon or rare species, including California pitcher plant or sundew.

Freshwater Wetlands and Riparian Areas
Florence Area Draft Wetlands Inventory
STEP ONE: INVENTORY

- Nineteen (19) grouped wetlands are in, or partly in, the UGB: wetlands 1, 2, 3, 4, 5, 6, 7, 8, 12, 24, 25, 26, 27, 28, 29, 30, 31, 33, 34.
  - Three (3) wetlands - 29, 30, 31 - and a portion of wetlands 24 and 34 are Coastal Shorelands, exempt from Goal 5
  - Sixteen (16) wetlands are, in whole or part, non-Coastal Shorelands: wetlands 1, 2, 3, 4, 5, 6, 7, 8, 12, 25, 26, 27, 28, 33, plus the portions of 24 and 34 that are outside the Coastal Shorelands Overlay.

Freshwater Wetlands and Riparian Areas
Florence Area Draft Wetlands Inventory
STEP ONE: INVENTORY

Freshwater Wetlands and Riparian Areas
Florence Area Draft Wetlands Inventory
STEP TWO: ASSESSMENT

Wetland Functions and Values

"Functions and values are independent of one another. For example, a wetland that is extremely effective for removing whatever nitrate enters it is not considered to be of high *value* for that *function* unless it is exposed to significant loads of nitrate and/or its watershed has been designated as "Water Quality Limited" as a result of ongoing problems with nitrate pollution. A high level of function does not alone make a wetland valuable." ORWAP Manual

Freshwater Wetlands and Riparian Areas
Florence Area Draft Wetlands Inventory
STEP TWO: ASSESSMENT

- **Assessment scores each grouped wetland Function and Value for providing:**
  - Hydrologic Control, Water Quality, and Habitat for Fish, Aquatic, and Terrestrial Species.
- **Wetland Function:** What the wetland *does* related to water quality, hydrology, and habitat for fish, aquatic, and terrestrial species.
- **Wetland Value (ORWAP):** How important that wetland is to the *existing* land uses surrounding it *today*.

Freshwater Wetlands and Riparian Areas
Florence Area Draft Wetlands Inventory
STEP TWO: ASSESSMENT

- **Hydrologic Function:** Water Storage and Delay
- **Water Quality:** Sediment Retention and Stabilization, Phosphorus Retention, Nitrate Removal & Retention, Thermoregulation
- **Fish Support:** Anadromous & Non-anadromous Fish Habitat
- **Aquatic Habitat:** Organic Matter Export, Aquatic Invertebrate Habitat, Amphibian & Reptile Habitat, Waterbird Feeding Habitat, Waterbird Nesting Habitat
- **Terrestrial Habitat:** Songbird, Raptor, Mammal, & Pollinator Habitat, Native Plant Diversity

Freshwater Wetlands and Riparian Areas
Florence Area Draft Wetlands Inventory
STEP TWO: ASSESSMENT

Of the 16 non-Coastal Shoreland wetlands in the UGB:

- All provide Hydrologic ("Flood") Control and/or Water Quality Protection.
- Fifteen wetlands (all but wetland 25) scored above the mean, median and 75th percentile in Function or Value for Hydrologic Control (water storage and delay) and/or Water Quality (sediment retention and stabilization, phosphorus retention, nitrate removal and retention, and thermoregulation); and wetland 25 provides both Hydrologic Control and Water Quality Protection and important Habitat for Fish, Aquatic, and Terrestrial Species.

Freshwater Wetlands and Riparian Areas
Florence Area Draft Wetlands Inventory
STEP TWO: ASSESSMENT

Of the 16 non-Coastal Shoreland wetlands in the UGB:

- Nine provide higher than median function or value for Hydrologic Control (water storage and delay): wetlands #1, #2, #7, #8, #12, #24 (outside Goal 17 Overlay), #26, #27, and #33
  - All nine, plus wetland #28, scored a "10" for Water Quality Function (sediment retention and stabilization, phosphorus retention, nitrate removal and retention, and thermoregulation)
  - All ten also provide functions or values for habitat.

Freshwater Wetlands and Riparian Areas
Florence Area Draft Wetlands Inventory
STEP TWO: ASSESSMENT

Of the 16 non-Coastal Shoreland wetlands in the UGB:

- Fourteen wetlands scored above the 75th percentile in Function or Value for Water Quality: wetlands 1, 2, 4, 5, 6, 7, 8, 12, 24 (portion that isoutside Goal 17 overlay), 26, 27, 28, 33, and 34 (portion outside Goal 17 Overlay). This is all wetlands except wetlands 11 and 25.
- Ten of these wetlands scored a "10" (the highest score possible) for Water Quality: wetlands 1, 2, 7, 8, 12, 24 (outside Goal 17 Overlay), 26, 27, 28, and 33. These ten wetlands scored above the 75th percentile in Function and/or Value for other grouped functions as well.

Freshwater Wetlands and Riparian Areas
Florence Area Draft Wetlands Inventory
STEP TWO: ASSESSMENT

Of the 16 non-Coastal Shoreland wetlands in the UGB:

- Eight wetlands scored above the 75th percentile in Function or Value for Hydrologic Control: wetlands 1, 2, 4, 5, 7, 8, 11, and 24; and an additional two wetlands (27 and 33) scored above average (mean).
- All wetlands but 8, 26, and 34 scored above average (mean) for Function or Value for Fish, Aquatic, or Terrestrial Habitat.

Freshwater Wetlands and Riparian Areas
Existing Wetland Protections

- Comprehensive Plan Policies in Chapter 5
- Title 9 Chapter 5, Stormwater Management
  - 50' vegetated buffer of wetlands

Freshwater Wetlands and Riparian Areas
Florence Area Draft Wetlands Inventory
NEXT STEPS

- **STEPS ONE AND TWO:** Submit Draft Inventory and Assessment to DSL for approval.
- **STEP THREE:** Agree with the Department of State Lands (DSL) on Significance Criteria & apply to Wetlands in UGB (LSW)
- **STEP FOUR:** Adopt LSW & local protection measures.

Freshwater Wetlands and Riparian Areas
Florence Area Draft Riparian Inventory

Why are riparian areas important?

- Water Quality: riparian vegetation traps sediment, filters runoff, and binds soil to prevent erosion
- Flood Management: vegetation slows rate of storm runoff and increases groundwater recharge
- Thermal Regulation: trees and herbaceous layers provide shade and add humidity, cooling the water and providing important habitat for juvenile fish
- Wildlife Habitat: riparian trees, vegetation, ground cover, and woody debris provide habitat for wildlife that thrive near a water resource

Freshwater Wetlands and Riparian Areas
Florence Area Draft Riparian Inventory

Process

1. Determine riparian widths – typical tree height or topographic break - **completed.**
2. Assess riparian functions - water quality, flood management, thermal regulation, and wildlife habitat – **completed.**
3. Determine significance.
4. Adopt local protection measures.

Freshwater Wetlands and Riparian Areas
Florence Area Draft Riparian Inventory

- **Determine riparian widths** – topographic break used for this perennial, salmon-bearing stream.

Freshwater Wetlands and Riparian Areas
Florence Area Draft Riparian Inventory

- **Determine riparian widths** – typical tree height (red alder) used for this intermittent non-fish-bearing stream.


Freshwater Wetlands and Riparian Areas
Florence Area Draft Riparian Inventory

- **Determine riparian widths** – topographic break used for this degraded (cleared, straightened) intermittent, non-fish-bearing stream.


Freshwater Wetlands and Riparian Areas
Florence Area Draft Riparian Inventory

Next Steps

1. Identify significant resources.
2. Prepare draft local protection measures, obtain public input, and propose for adoption.

Freshwater Wetlands and Riparian Areas
Riparian Assessments

Table 9: Summary of Riparian Functional Assessments

Riparian Reach	Water Quality	Flood Management	Thermal Regulation	Wildlife Habitat
RMC-A	H	H	M	H
RMC-B	H	M	H	H
RMC-C	H	H	H	H
RMC-D	H	M	H	H
RMC-D1	H	M	M	M
RMC-E Left	H	M	M	H
RMC-E Right	M	M	L	M
RMC-F Left	H	M	M	M
RMC-F Right	H	M	M	H
RAIR-A	M	M	L	L
RAIR-B	H	M	H	H
RAIR-C	M	M	M	M
RHB-A	H	M	H	M
RHB-B	H	H	H	H
RNS-A	M	M	H	M
RRH-A	M	M	H	M

H = High M = Medium L = Low

Freshwater Wetlands and Riparian Areas
Existing Riparian Protections

- Comprehensive Plan Policies in Chapter 5
- Title 10 Chapter 7, Development Hazards
  - Munsel Creek and other drainageways
  - 50' setback from creek channel
- Title 9 Chapter 5, Stormwater Management
  - 50' vegetated buffer of riparian areas

Riparian Areas and Coastal Shorelands

Freshwater Wetlands and Riparian Areas
Existing Riparian Protections

- Title 10 Chapter 19, Coastal Shorelands Overlay
  - Resources protected per Goal 17 (exempted from additional Goal 5 protections)
  - Natural Resources Conservation
    - 50 foot buffer from high water/high tide
  - Mixed Development
    - 50 foot buffer from high tide
  - Shoreland Residential
    - 50 foot buffer from high water

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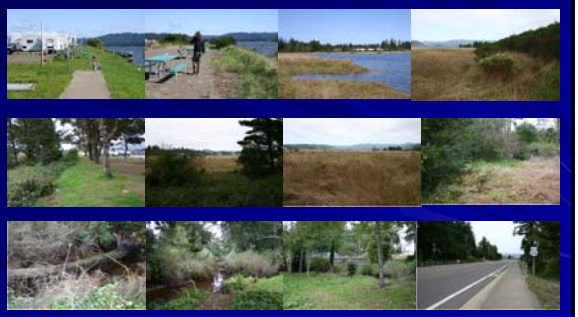
Siuslaw Estuary Trail Vision



Draft Siuslaw Estuary Trail Vision Location and Design Options

Draft Siuslaw Estuary Trail Vision Location and Design Options

- Highway 126 Crossing: Redwood Option is being funded by ODOT and will serve as interim trail connection. ODOT is investigating the costs of resizing the culvert in Munsel Creek.
- Port property: staff are meeting with the Port to help better define their preference for these sections of the Trail.
- Costs and environmental impacts to all sections are being researched.
- Funding is being sought for the Trail on an on-going basis.

Funded by the U.S Environmental Protection Agency and Project Partners

Project Partners: City of Florence; Lane County; Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians; Heceta Water District; Oregon Department of Environmental Quality; Oregon Department of Fish and Wildlife; Oregon Department of Human Services, Drinking Water Program; Oregon Department of Land Conservation and Development; Oregon Department of State Lands; Oregon Department of Transportation; Oregon Department of Water Resources; Port of Siuslaw; Siuslaw Soil and Water Conservation District; Siuslaw Watershed Council; US Army Corps of Engineers; US Bureau of Land Management; U.S. Geological Survey; USFS Siuslaw National Forest; US Environmental Protection Agency.

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