Pacific County
Shoreline Master Program Update

November 5, 2014
November 12, 2014
Outline

• SMA Background/Context
• Shoreline Jurisdiction
• Shoreline Analysis Report
• Open Q&A discussion session
Shoreline Management Act (SMA)

Purpose: Balance Shoreline Priorities

1. Preferred uses
   - Water dependent
   - Water enjoyment
   - Single Family Development

2. Promote public access

3. Protection of natural environment

SMA Chapter 90.58 RCW
The SMA does **not**:

- Apply retroactively to existing development
- Require modifications to existing land uses or development
- Alter ongoing agricultural activities
Shoreline Jurisdiction

- **Waters**
  - All marine and estuarine waters
  - Streams & rivers with mean annual flow of 20 cfs or greater
  - Lakes 20 acres or larger

- **Shorelands** - On-the-ground validation on permit-by-permit basis
  - Upland areas 200 feet from OHWM
  - Associated wetlands (within 100-year floodplain or with hydrologic connection)
  - FEMA floodway and up to 200 feet landward of the floodway when within the 100 year floodplain.
Shoreline Characterization

Purpose

- Develops current baseline condition
- Identifies broad-scale shoreline functions and impairments
- Identifies potential restoration opportunities
- Summarizes current land use and likely future changes
- Identifies some key issues to address in SMP
Shoreline Characterization

How is it used?

- Background for SMP policies and regulations
- Supports Shoreline Designations
- Precursor to Restoration Plan
- Provides management recommendations
- It is not a regulatory document
Shoreline Inventory Map Folio

**Elements:**

- Current Land Use
- Zoning
- Land Ownership
- Public Access
- Land Cover
- Floodplains and Wetlands
- Surface Water System
- Geologic Units
- Soils
- Geological Hazards
- Habitats and Species
- Shoreline Modifications
- Water Quality Impairments
- Channel Migration Zones (TBD)
Shoreline Characterization

Sources

- Shoreline Inventory
- County Data
- Watershed Assessments
- Salmon Recovery Plans
- Marine Spatial Planning
- Government Reports
- Scientific Literature
- Local knowledge
Shoreline Characterization

Assessment Units

• Used to facilitate description of existing conditions

Reaches

• Developed for informational purposes and not as regulatory boundaries

• Although reach scale analysis does help develop future environment designations
**Shoreline Characterization**

- Synthesis of inventory elements
- Systematic, quantitative analysis of shoreline reaches

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<thead>
<tr>
<th>Reach</th>
<th>Hydrologic</th>
<th>Vegetative</th>
<th>Habitat</th>
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<tbody>
<tr>
<td></td>
<td>Floodplain/Floodway</td>
<td>Forested vegetation in floodplain</td>
<td>Armoring/Levees (Marine/Estuarine)</td>
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<td>North River - 2</td>
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<td>Smith Creek - 1</td>
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<td>Smith Creek - 2</td>
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<td>Cedar River - 1</td>
<td>L/M</td>
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Shoreline Characterization

**What scores provide:**
- Transparent approach to systematically compare shoreline characteristics

**What scores do not provide:**
- Absolute metric of ecological function
- Accounting for natural variation in landscape functions or functional “opportunity”
- Specific direction for SMP policies or regulations
Shoreline Characterization – Land Use

**SMP Goal:** Reserve Shoreline for Water-Oriented Uses

- Summarize existing and planned future land use
- Identify shoreline areas likely to develop or redevelop
- Identify water-oriented uses, including public access
Assessment Unit: North River

Land Use

- Ownership
  - 83% Private
    - Largest single land owner is the Weyerhaeuser Company (29%)
  - 17% State (WDFW)

- Current Use
  - 66% Forestry
  - 17% Government/Institutional
  - 6% Agriculture
  - 26 floating homes on North River

Public Access

- Smith Creek State Wildlife Recreation Area
- Cedar River Estuary (Forterra)
- Boat launches on North River (1) and Smith Creek (1)
Assessment Unit: North River

**Conditions**
- Dikes present along much of lower North River
- Freshwater emergent wetlands predominate the lower reaches
- Upper tributaries are steep and confined with little floodplain area

**Restoration Opportunities**
- Decommission roads
- Improve fish passage
- Increase large woody debris
- Riparian enhancement
North River Floating Homes

- 26 Floating Homes in lower reaches
- Not addressed in current SMP
- Unregulated prior to 1993
- Water quality concerns
- Compliance Agreement with Pacific County
- DNR leases through 2020
- Leases will continue if floating homes are a permitted use and if an Open Water Moorage and Anchorage Area is established in SMP update
Assessment Unit: Willapa River

Land Use

- **Ownership**
  - 82% Private
  - Weyerhaeuser Company is largest single land owner (23%)
  - Publically owned land held by various state, county, federal, and port agencies

- **Current Use**
  - 38% Forestry
  - 17% Agriculture
  - Primarily along the valley floor
  - 14% Government/Institutional
  - 10% Vacant/Undeveloped
  - 9% Residential
  - Main population centers near Raymond and South Bend

- Commercial aquaculture harvest prohibited

Public Access

- Willapa Slough Wildlife Recreation Area
- Potter’s Slough Wildlife Recreation Area
- Boat launch on Willapa River near Willapa
Assessment Unit: Willapa River

Conditions
- Tidal influence extends upstream to Mill Creek
- Several dikes present along lower Willapa River (1)
- Large wetland complexes in Willapa River (1 & 4)
- Limited floodplain connectivity in upper reaches
- Forest cover is moderate to low throughout

Restoration Opportunities
- Lower Forks Creek instream structure removal
- Rue Creek culvert replacement
- Spartina control
- Restore tidal connectivity through dike breaching/removal
- Large woody debris placement
Assessment Unit: Middle Bay

Land Use

- Ownership
  - 72% Private
  - 18% State
- Current Use
  - 60% Forestry
  - 30% Government/Institutional
  - 3% Vacant/Undeveloped
- Seafood Processing Facilities
  - Elkhorn Oyster Company and the Nemah Fish Hatchery (N. Nemah River 1)
  - Goose Point Oysters (Niawiakum River 1)
  - North Nemah River Fish Hatchery

Public Access

- Bone River Natural Area Preserve (NAP)
- Niawiakum River NAP
- South Nemah Natural Resource Conservation Area
- Nemah River Estuary Unit Wildlife Recreation Area
Assessment Unit: Middle Bay

Conditions

- Predominantly undeveloped
- No mapped armoring/levees
- Numerous historic splash dams in the watershed have likely caused channel incision
- Extensive salt marsh along the lower reaches
- Clear cut areas in surrounding forest landscape
- Palix Watershed top chum salmon production area in Willapa Watershed
- Marbled murrelet habitat

Restoration Opportunities

- Saltwater wetlands restoration through dike breaching/removal
- Riparian enhancement
- Large woody debris placement
- Decommission/improve roads
Assessment Unit: Naselle River

Land Use

- Ownership
  - 82% Private
    - Includes private timberland (30%)
  - The Nature Conservancy - 557 acres around Ellsworth Creek
- Current Use
  - 59% Forestry
  - 17% Government/Institutional
  - 11% Vacant/Undeveloped
  - 6% Residential
  - 6% Agriculture
    - Residential and ag uses concentrated in floodplain
  - State fish hatchery (Naselle 6)

Public Access

- Willapa National Wildlife Refuge
- Naselle Marsh - Forterra
- Teal Slough NRCA (Naselle 3)
- Bennos Easement Trail on Naselle (6)
- Boat launch on Naselle River (5)
Assessment Unit: Naselle River

Conditions

- Dikes present along lower Bear River (1 & 2) and Naselle River (3 & 4)
- Extensive salt marsh and freshwater wetlands
- Forest cover high in Ellsworth Creek and Stanley Peninsula
- Indian Creek Reservoir is regulated by a dam and used for Ilwaco water supply

Restoration Opportunities

- Ellsworth Creek Watershed Restoration
- Greenhead Slough Barrier Removal
- Saltwater wetlands restoration
- Riparian restoration
- Decommission/improve roads
Assessment Unit: Upper Chehalis

Land Use
- Ownership
  - 83% Private
    - Largest single land owner is the Weyerhaeuser Company (75%)
  - 14% State
- Current Use
  - 79% Forestry
  - 15% Government/Institutional
  - 3% Vacant/Undeveloped

Public Access
- No documented public access identified
Assessment Unit: Upper Chehalis

Conditions
- No mapped floodplains
- Extensive erosion in Elk Creek and several of its tributaries
- Landslides (associated with roads) account for significant sediment in the Basin

Restoration Opportunities
- Abandon roads on steep areas
- Reduce road densities
- Correct cross drains that could trigger mass wasting
- Revegetate open areas
- Control invasive species
- Protect key properties of riparian habitat
Assessment Unit: Grays River

Land Use
- Ownership
  - 92% Private
  - 8% State
- Current Use
  - 92% Forestry
  - 8% Government/Institutional
- Grays River Fish Hatchery located on the West Fork

Public Access
- Willapa Divide NAP along the upper reaches of the Grays River
  - Primarily for research and conservation, not recreation
Assessment Unit: Grays River

Conditions

- No mapped floodplains
- Forest cover within jurisdiction is high throughout
- Upper watershed has slope instability problems related to roads and timber harvests

Restoration Opportunities

- Assess and reduce slope failures that increase sediment loads, reduce bank stability, and fill pools downstream
- Abandon roads on steep areas
- Reduce road densities
- Restore riparian cover
- Protect key properties of riparian habitat
Assessment Unit: Columbia River

Land Use
- **Ownership**
  - 73% Private
  - 22% State (WDFW)
- **Current Use**
  - 40% Forestry
  - 22% Government/Institutional
  - 15% Agriculture
  - 12% Vacant/Undeveloped
  - 6% Residential
  - 4% Recreation
- 3 seafood processing plants located in Chinook (Columbia 3)
- Highway 101/401 along shoreline

Public Access
- Port of Chinook Marina (3)
- Chinook Wildlife Recreation Unit
- Fort Columbia State Park (4)
- Chinook Park and boat launch (4)
- Dismal Nitch Rest Area and boat launch (4)
- Knappton Boat Launch (4)
Assessment Unit: Columbia River

**Conditions**

- 62% loss of shallow water habitat in Lower Columbia River
- Tidegates on Chinook and Wallacut Rivers
- Extensive floodplain areas in Chinook and Wallacut Rivers primarily used for agriculture
- Armoring present along much of Columbia River (3-4)
- Maintenance dredging of the navigation channel to Chinook Marina
- Forest cover is moderate to low throughout

**Restoration Opportunities**

- Restore altered floodplain and estuarine habitat
- Eliminate livestock access
- Restore and maintain native riparian vegetation
- Remove derelict piles
Assessment Unit: Willapa Bay

Land Use
- Ownership
  - 58% Private
  - 27% Federal
  - 5% Conservancy
  - 2% Tribal
- Current Use
  - 33% Government/Institutional
  - 32% Forestry
  - 14% Agriculture
- Densely platted forested land on Stanley Peninsula- single land owner

Public Access
- 5 boat launches, 2 marinas, and 16 access sites
- Willapa National Wildlife Refuge
- Bruceport County Park (9)
- Bush Pioneer County Park (11)
- Willapa Bay Water Trail
- Palix Wildlife Recreation Area
- Gunpowder Island Natural Area Preserve
Assessment Unit: Willapa Bay

Conditions

- Extensive eelgrass beds, oyster & clam beds, tidal marshes & mudflats provide shorebird habitat and nursery habitat for fish
- Armoring/levees/tidegates-associated with roads, residential, and ag uses
- 30-64% loss of estuarine habitats (1981)
- Southern portion of Willapa Bay is in conservation or government ownership

Restoration Opportunities

- Spartina control
- Saltwater wetlands restoration through dike breaching
- Restore impoundments and pastures within Willapa NWR
- Manage short-grass fields for wildlife
- Expand Willapa NWR boundaries
Willapa Bay Aquaculture

- **Aquaculture**
  - 897 culture areas
  - Most culture areas range from 1-100 acres in size
  - ~10,000 acres
  - Predominantly oysters and clams
  - 6 seafood processors (2 in Tokeland, 4 in Bay Center)

- **Issues**
  - Burrowing shrimp
  - Non-native eelgrass
  - Water quality
    - Closed harvest areas (Willapa River, Nahcotta, Bay Center)
    - Ocean acidification
Assessment Unit: Long Beach

Land Use

- Ownership
  - 45% Private
  - 28% Federal
  - 20% WA State Parks
- Current Use
  - 30% Government/Institutional
  - 21% Vacant/Undeveloped
    - Primarily around Willapa Bay (17), Loomis Lake (1), Black Lake, and Hines Marsh
  - 19% Recreation
  - 9% Residential
- Northern and southernmost reaches primarily publicly owned parks and preserved lands
- Commercial aquaculture in Willapa Bay
- 4 seafood processing plants in Nahcotta

Public Access

- Several public access areas including 5 boat launches, 1 marina, parks, and 13 access sites
- Leadbetter Point State Park
- Cape Disappointment State Park
- Seashore Conservation Area along Pacific Coast
Assessment Unit: Long Beach

**Conditions**

- Includes shorelines fronting Pacific Coast, Willapa Bay, and several lakes
- Coastal dunes and freshwater interdunal wetlands
- 2 jetties at the mouth of the Columbia River
- Stormwater discharges and wastewater outfall in Nahcotta
- Offshore areas support pelagic, crab, and bottomfish fisheries

**Restoration Opportunities**

- Restoration of coastal habitats to support upland species (e.g. streaked horned lark, western snowy plover)
- Restore impoundments and pastures in the Willapa NWR
- Preserve high quality habitat
Long Beach Peninsula Jurisdictional Issues

Coastal Beaches
- Progradation of up to 2000 feet as a result of Columbia River jetties
- Limited remaining sediment supply from Columbia → coastal beach erosion
- Shoreline jurisdiction could change depending on future erosion trends

Interdunal Wetlands
- High infiltration rates
- In the City of Westport, the Shoreline Hearings Board (1993) determined that interdunal wetlands are associated wetlands
- Several deflation plain areas are large enough to be considered lakes
**Assessment Unit: North Pacific**

**Land Use**

- **Ownership**
  - 74% Private
  - 23% Grayland Beach State Park (Reach 1)

- **Current Use**
  - 25% Vacant/Undeveloped
  - 20% Recreation
  - 17% Residential
  - 13% Agriculture

- Offshore areas support pelagic, crab, and bottomfish fisheries

**Public Access**

- Grayland Beach State Park
- Seashore Conservation Area
Assessment Unit: North Pacific

Conditions
- Cape Shoalwater (Pacific Coast 3) experiences highest rate of shoreline erosion on the Pacific Coast
  - Rock jetty and beach nourishment to protect SR 105
  - Erosion has continued
- Coastal dunes and freshwater interdunal wetlands

Restoration Opportunities
- Restoration of coastal habitats to support upland species (e.g. streaked horned lark, western snowy plover)
- Surface water management plan for the dune area
Sediment Transport Issues

- Cape Shoalwater erosion
- Northern channel migration
- Deflector jetty
- Barrier dune enhancement at Empire Spit

- Marinas
  - Tokeland, Bay Center, and Nahcotta, Ilwaco
  - Willapa Bay
    - Corps no longer maintains navigation channels
    - Port of Willapa working on maintenance dredging program
    - Flow lane disposal as option

- Ilwaco
  - Channelization → increased sedimentation of Baker Bay
  - Lower Columbia Solutions Group and Regional Sediment Management Plan

- Columbia River Littoral Cell
  - Sediment transported from Columbia River to Pacific Coast and Willapa Bay
  - Jetties at Columbia River mouth caused beach progradation (up to 2,000 feet) in early 20th Century
  - Limited remaining sediment supply from Columbia → coastal beach erosion
Ocean Energy

- Wind, Wave, and Tidal
- No currently permitted or pending projects
- Impacts would depend on project
- Possible impacts (Polagye et al. 2010)
  - Temporary disturbance during installation;
  - Alteration of currents and waves;
  - Alteration of sediment transport;
  - Alteration of benthic habitats;
  - Noise;
  - Electromagnetic fields;
  - Toxic materials;
  - Effects to animal movements and migrations, and behavior;
  - Direct injury and mortality to fish and wildlife; and
  - Other population and community impacts
Questions/Discussion