• Plan Overview
Four species listed under ESA as threatened (coho, Chinook, chum, steelhead)

Oregon plan addresses Oregon populations
  – Hood River to Youngs Bay

Oregon plan will be combined with Washington plans for federal ESA recovery plan (“roll-up” plan)

Oregon plan serves as a state conservation plan under the NFCP (adopted 8/6/10)
What’s In The LCR Plan?

• Biological organization (species, strata, populations)
• Delisting and Broad Sense Recovery Goals
• Current Status
• Limiting factors and threats
• Desired status
• Strategies and actions for all key and secondary threats across entire life cycle
• Research, Monitoring, and Evaluation needs
• Implementation: action time and cost, framework, and adaptive management plan
Goals of the Plan

“roadmap” to achieve:

• First: Delisting (remove fish from ESA list)
• Second: Broad Sense (ensure all populations provide fishery, ecological, and cultural benefits)
Major Actions

• Tributary Habitat
  – protect and restore

• Estuary Habitat and Predation
  – implement Estuary Module

• Hydropower
  – implement Federal Columbia River Power System Biological Opinion, additional Oregon measures, and tributary re-licensing agreements

• Harvest
  – implement weak stock management and mark-selective fisheries (coho, fall Chinook)

• Hatchery
  – reduce stray rates (includes wild fish only areas)
Major Actions (cont.)

• Youngs Bay and Big Creek
  – maintain terminal hatchery and harvest programs

• Chum
  – reintroduction

• Conduct Research, Monitoring, and Evaluation

• Implementation
  – Implementation Coordinator and Team
  – prioritized Implementation Schedule
  – adaptive management

• General:
  – required in all populations
  – address key and secondary limiting factors and threats
  – prioritization principles and funding strategies included
  – ~$1.48B over 25 years
Plan Process

- **Four-year process**
- **Development:** ODFW, NMFS, GNRO, WDFW, LCFRB, LCREP, Planning Team, Stakeholder Team
- **Reviews:**
  - ODFW, NMFS, NWFSC, Planning Team, Stakeholder Team, IMST
- **Outreach for Public Draft:**
  - web post, news release, public comment period
  - state legislators, local government notification
  - stakeholder group briefings
  - public meetings: Hood River, Portland, St. Helens, Astoria
- **Commission Review and Approval**
- **“Roll-Up” Plan**
• Development of Actions
Action Development in the Plan

- Data and/or Inference
- Historic ESU/DPS Abundance
- Habitat IP Analysis
- Local Experts and Planners
- professional judgment

- Historic Pop. Abundance
- Calculated Tributary Habitat Rates
- EDT Output (other efforts)
- Limiting Factors and Threats
- professional judgment

- “Current” Threat Category Rates
- Threat Reduction and VSP Scenario Options
- Scenario Analysis
- Delist, Broad-sense, and Most Probable Scenarios
- professional judgment

- Desired Status
- Current Status
- Scenario Analysis
- SLAM
- Strategy and Action Plan

- Recovery Goals
- Recovery Criteria
- Population Structure
- Recruitment Curves
- CATAS
- Conservation Gaps
- Research, Monitoring, and Evaluation
- Implementation
- adaptive management
- Actions
Current Status and Gaps  

(Chapter 4)

\[ \ln(R_t) = \ln(\alpha) + \ln(S_t) - \ln(1 + (\alpha/\beta S_t) + (\gamma C_t + \text{lag}) + [\rho \ast \epsilon_{t-1}] + [sd \ast (1 - \rho^2)^{0.50} \ast z_t] \]

• Population Viability Assessment Model
  - extinction risk
  - current status
  - gaps: “turn dial” for improvement need

• Overall Risk: Viable Salmonid Population Parameters
  - Abundance
  - Productivity
  - Spatial Structure
  - Diversity
## Limiting Factors and Threats

*(Chapter 5)*

<table>
<thead>
<tr>
<th>COHO</th>
<th>Threat Level</th>
<th>Life History Stages</th>
<th>Threats and Limiting Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Youngs Bay</strong></td>
<td>Key</td>
<td>Adult</td>
<td>7a, 7c</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Juvenile</td>
<td>5c, 6e, 3a, 3b, 5b, 6c</td>
</tr>
<tr>
<td></td>
<td>Secondary</td>
<td>Adult</td>
<td>4c</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Juvenile</td>
<td>5c, 6a, 6e, 9a, 1a, 6e, 9a, 9b, 9c</td>
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</tbody>
</table>

**Threats:**
- **Yongys Bay**
- **Secondary**

**Limiting Factors:**
- **Adult**
- **Juvenile**

**Habitats:**
- **Tributary**
- **Estuary**
- **Hydro**
- **Harvest**
- **Hatchery**
- **Predation**
## Scenario Analysis

*(Chapter 6)*

### Current Status

- **Threat Level**: Adult
- **Life History Stages**: Juvenile
- **Tributary Habitat**: 5c, 6e
- **Estuary Habitat**: 3a, 3b, 5b, 6c
- **Hydro**
- **Harvest**
- **Hatchery**
- **Predation**

### Limiting Factors and Threats from Chapter 5

### Status and Gaps from Chapter 4, +20%

### Scenario Options / Alternatives

### Chosen Delist Scenario (Blue)
## Actions
(Chapter 7, 9)

### Table 7-3B: COHO

<table>
<thead>
<tr>
<th>Action ID</th>
<th>Action</th>
<th>Tributary Habitat</th>
<th>Estuary Habitat</th>
<th>Hydro</th>
<th>Harvest</th>
<th>Hatchery</th>
<th>Predation</th>
<th>Threats and Limiting Factors</th>
<th>Future Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All Populations - Within Tributaries (Coho)</strong></td>
<td></td>
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<tr>
<td>51 - Trib</td>
<td>Develop education and outreach materials on the benefit of beaver dams to ecosystem function in general and specifically to rearing habitat for juvenile coho.</td>
<td>6e, 9a</td>
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<td>cc, pg</td>
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<tr>
<td><strong>All Populations - Mixed Locations (Coho)</strong></td>
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<tr>
<td>102 - Mxd</td>
<td>Monitor harvest levels in all fishery areas for all species (direct and indirect mortality).</td>
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<td></td>
<td></td>
<td></td>
<td>7a, 7b</td>
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<tr>
<td><strong>Youngs Bay (Coho)</strong></td>
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</tbody>
</table>

#### Limiting Factors and Threats from Chapter 5
- Protect intact and functioning riparian areas through riparian easements and acquisition.
- Restore (plant and/or fence) and protect (conservation easements, acquisition) riparian areas that are degraded.
- Maintain existing wild fish sanctuary.
- Trap and sort hatchery adults: Investigate placing trap to sort hatchery fish from upstream migrants.

#### Scenario from Chapter 6
- Protect intact and functioning riparian areas through riparian easements and acquisition.
- Restore (plant and/or fence) and protect (conservation easements, acquisition) riparian areas that are degraded.
- Maintain existing wild fish sanctuary.
- Trap and sort hatchery adults: Investigate placing trap to sort hatchery fish from upstream migrants.
Action Priorities

• individual actions not prioritized

• recommendations for prioritizing implementation projects, which support:

  • actions for populations which must achieve viability
  • actions addressing a threat reduction need
  • actions which address a key limiting factor are a priority
  • actions which address a greater gap
  • actions related to high quality habitat
  • restoration actions in high IP locations
  • protection actions in high quality or highly productive habitat
  • actions which provide resiliency against climate change
Funding Strategies

• actively engage in grant funding processes (OWEB, BPA, etc…) and recommend:
  • focus funds in high priority actions / locations
  • provide funds to lower priority actions / locations
  • report funding activity
  • coordinate reporting metrics
  • encourage innovative funding approaches
• Implementation Framework and Concepts
Strata
Teams
FCRPS BiOp
US v OR
ORNWPCC
CBFWA
CR Federal Caucus

Regional Forums

OR MU
Recovery Team
ODFW staff reps

ESU
Bi-State
Forum

Technical Team
OR MU
Recovery Team

Strata
Teams

IC
Implementation
Team

OPS
Core Team

OPS SW
Monitoring Team

OPS SW
Regional
Management
Teams

Estuary
Coast
Cascade
Gorge

Watershed Councils, SWCDs, conservation groups, landowners, interested citizens
Plan Needs / Actions

- Impl. Coord.
- ODFW, Impl. Team

Implementation Schedule

Prioritization; communication

On-the-Ground PROJECTS

Adaptive management

Implementation Schedule

- actions
- effectiveness
- status and trends (biol, threats)
- research
- adaptive management issues/decisions

Annual Report

PROJECTS

On-the-Ground

$\$\$\$

tracking system

Prioritization; communication
IMPLEMENTATION TEAM

Purpose

Planning & Advisory

Tracking & Reporting

RM&E / Technical

Education & Outreach

Funding Guidance

Local C&R Actions

flexible

inclusive

efficient

need- (not process) based
• Plan Overview
• Development of Actions
• Implementation Framework and Concepts

Lower Columbia River Conservation and Recovery Plan for Oregon Populations of Salmon and Steelhead

Implementation Team Meeting
March 20, 2012