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April 26, 2012

## MEMORANDUM

**TO:** Chair Dukes and members of the Council

**FROM:** Tony Grover, Fish and Wildlife Division Director

**SUBJECT:** Briefing on Lower Columbia Recovery Plan

Patty Dornbusch, and Scott Rumsey, NOAA Fisheries, will present an overview of the Proposed ESA Recovery Plan for Lower Columbia River Coho Salmon, Lower Columbia River Chinook Salmon, Columbia River Chum Salmon, and Lower Columbia River Steelhead. NMFS expects this proposed plan to become available for a 60-day public comment period by mid-May 2012. The plan relies primarily on three local plans, each of which covers a different portion of the species' range:

- The Oregon Lower Columbia Conservation and Recovery Plan for Salmon and Steelhead, by the Oregon Department of Fish and Wildlife (2010)
- The ESA Salmon Recovery Plan for the White Salmon River Subbasin, by NOAA Fisheries (2011)
- The Washington Lower Columbia Salmon Recovery and Fish & Wildlife Subbasin Plan, by the Lower Columbia Fish Recovery Board (2010)

These plans were developed in collaborative processes that included tribes, other government entities (including NOAA Fisheries), industry, environmental groups, and the public. In addition, the plan incorporates the Columbia River Estuary ESA Recovery Plan Module for Salmon and Steelhead and the Recovery Plan Module: Mainstem Columbia River Hydropower Projects, both by NOAA Fisheries.

The plan will outline delisting criteria, limiting factors and threats, recovery actions, and monitoring strategies for Lower Columbia River Chinook and coho salmon, Columbia River chum salmon, and Lower Columbia River steelhead.

*Science, Service, Stewardship*



# **Overview of Proposed ESA Recovery Plan**

Lower Columbia River Chinook Salmon

Lower Columbia River Coho Salmon

Lower Columbia River Steelhead

Columbia River Chum Salmon

May 2012

Scott Rumsey, NOAA Fisheries

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## Species covered:

LCR Chinook

LCR Coho

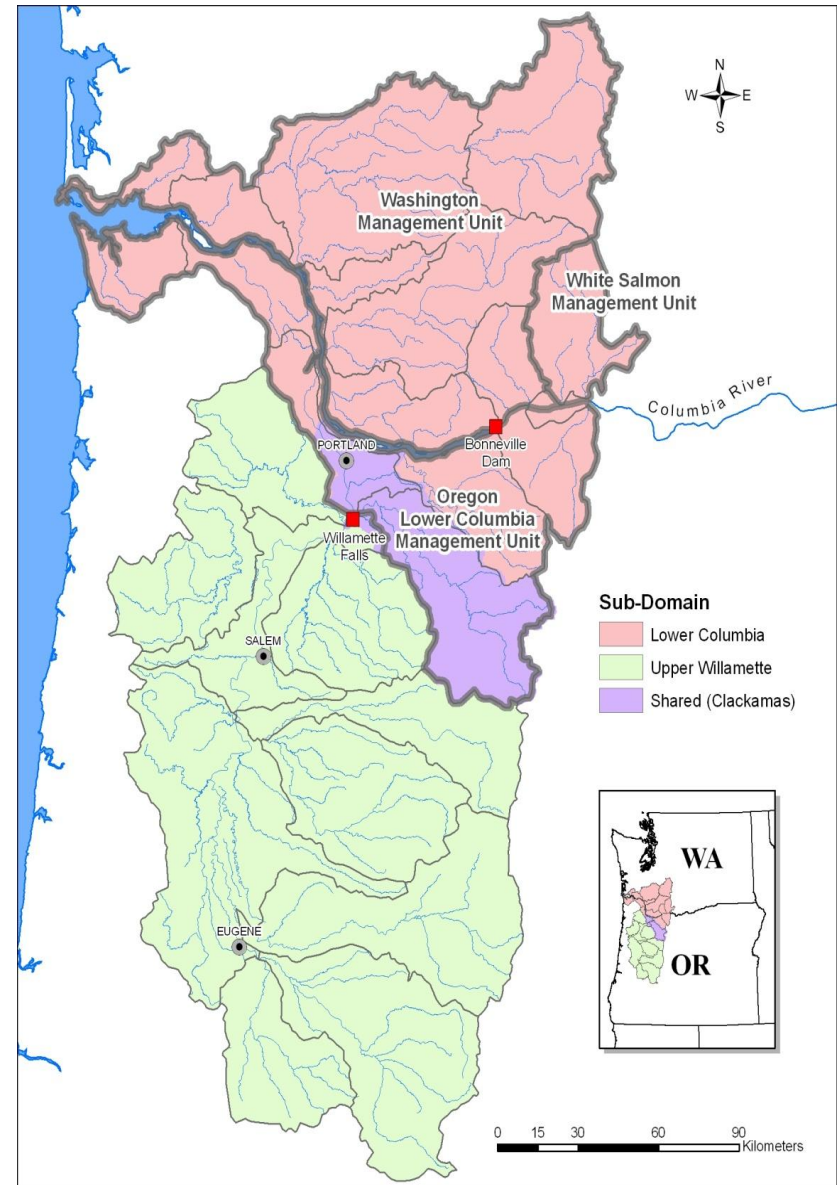
LCR Steelhead

CR Chum

## Main components:

- ESU-level plan
- 3 local plans
- Estuary module
- Hydropower module

## Geographic area covered





## Plan Goals

- Primary goal: achieve ESA de-listing
- Local plans also incorporate broad sense recovery goals
  - Related to harvest, other social and economic goals, or achieving lower risk levels than needed for de-listing
  - NMFS supports these broad-sense goals
    - Work with co-managers and stakeholders using non-ESA authorities to pursue broad sense goals while maintaining robust natural populations



# ESA De-listing Goals

## TRT developed technical foundation:

- Need some populations at high persistence probability, others can be at moderate or low persistence
- Considerations related to spatial distribution, conserving historically productive populations, genetic legacy, etc.
- Concept of strata – each needs to be at high persistence probability (approximately half populations in each stratum viable)

## Recovery scenario:

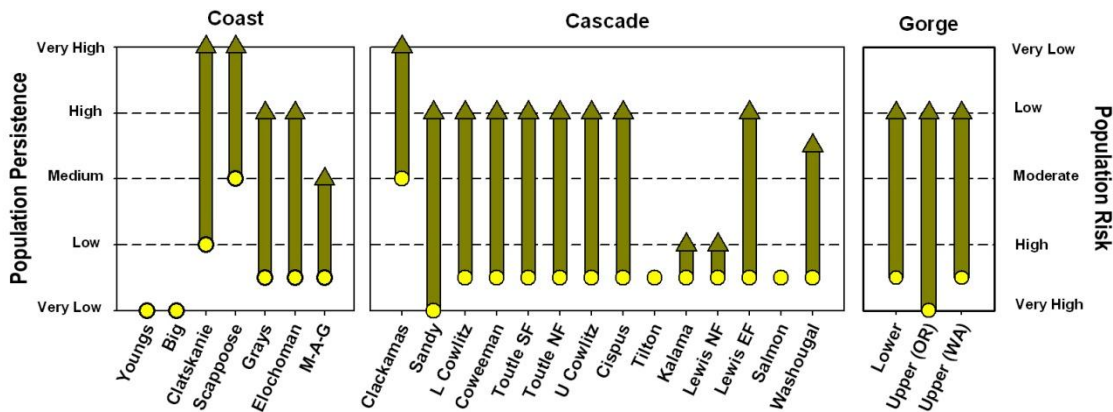
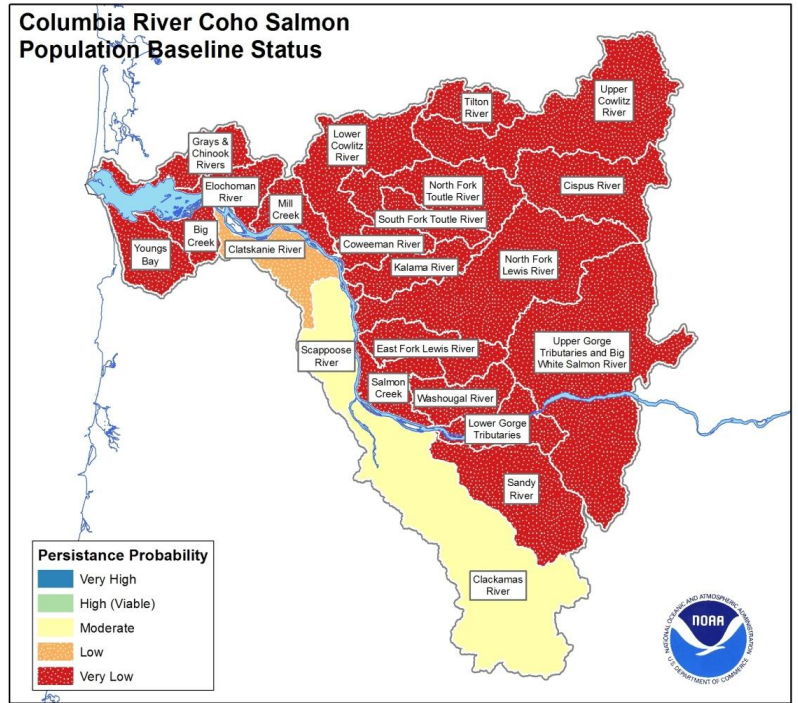
- Developed by local planners and NMFS using framework of TRT criteria
- Target status for each population

## NMFS delisting criteria:

- Biological - population targets same as local plans = a possible scenario
- Threats criteria



# Recovery Scenario: Lower Columbia River Coho Salmon







# Overall Approach to Recovery

1. Evaluate status of each population (using TRT's approach)
2. Identify limiting factors for each population
3. For each population, quantify baseline impacts for:
  - tributary habitat degradation
  - estuary habitat degradation
  - hydropower
  - harvest
  - hatcheries
  - ecological interactions
4. Establish target status for each population
5. Calculate improvements in abundance and productivity needed for each population to achieve target status
6. Identify combination of reductions in threats that would lead to the population achieving its target status – difference in OR and WA approach
7. Identify and scale recovery actions to reduce threats by targeted amount in each category
8. RME



**Table 6-6**

*Impacts of Potentially Manageable Threats and Impact Reduction Targets Consistent with Recovery of LCR Coho Salmon Populations*

Population	<u>Impacts at Baseline</u>							<u>Impacts at Target</u>							% Survival Improvement Needed
	T.Hab	Est	Dams	Harv	Hat	Pred	Cumul-ative	T.Hab	Est	Dams	Harv	Hat	Pred	Cumul-ative	
<b>Coast</b>															
Youngs Bay (OR)	0.98	0.10	0.00	0.90	0.86	0.06	0.9998	0.97	0.08	0.00	0.90	0.86	0.03	0.9996	60
Grays/Chinook (WA)	0.70	0.16	0.00	0.50	0.50	0.14	0.9458	0.40	0.09	0.00	0.29	0.29	0.08	0.7468	370
Big Creek (OR)	0.98	0.10	0.00	0.70	0.86	0.06	0.9993	0.97	0.08	0.00	0.70	0.86	0.03	0.9989	60
Eloch/Skam (WA)	0.60	0.16	0.00	0.50	0.50	0.14	0.9278	0.42	0.11	0.00	0.35	0.35	0.10	0.8037	170
Clatskanie (OR)	0.83	0.10	0.00	0.35	0.13	0.06	0.9187	0.68	0.08	0.00	0.25	0.10	0.04	0.8092	140
Mill/Ab/Germ (WA)	0.50	0.16	0.00	0.50	0.50	0.15	0.9108	0.25	0.08	0.00	0.25	0.25	0.08	0.6429	>500
Scappoose (OR)	0.83	0.10	0.00	0.35	0.05	0.06	0.9112	0.77	0.08	0.00	0.25	0.05	0.04	0.8553	60





## Summary Strategies: Habitat

**TRIBUTARY:** Achieve adequate quantities of high-quality, well-functioning salmon and steelhead habitat through a combination of

1. site-specific projects that will protect habitat or provide benefits relatively quickly,
2. watershed-based actions that will repair habitat-forming processes and provide benefits over the long term, and
3. landscape-scale programmatic actions that affect a class of activities (such as stormwater management or forest practices) over multiple watersheds.

Many habitat actions already have been implemented but do not reflect the scale of improvements needed.

**ESTUARY:** Provide adequate off-channel and intertidal habitats; restore habitat complexity in areas modified by agricultural or residential use; decrease exposure to toxic contaminants



## Summary Strategies: Hydropower

1. Improve passage survival at Bonneville Dam for Lower Columbia River populations that spawn above the dam (FCRPS BiOp actions)
2. Implement mainstem flow management operations designed to benefit migrants from the interior Columbia Basin, which we expect will improve estuarine survival (FCRPS BiOp actions)
3. Address impacts in tributaries by implementing FERC agreements regarding operation of tributary dams (Lewis, Cowlitz, White Salmon, Hood, Sandy, Clackamas)



## Summary Strategies: Hatchery

1. Reduce hatchery impacts on natural-origin populations as appropriate for each population,
2. Ensure that some populations have no in-subbasin hatchery releases and are isolated from stray out-of-subbasin hatchery fish,
3. Use hatchery stocks in the short term for reintroduction or supplementation programs to restore naturally spawning populations in some watersheds, and
4. Ensure rigorous monitoring and evaluation to better understand existing population status and the effects of hatchery strategies on natural populations.
5. Maintain harvest opportunities created by hatchery fish (a societal goal that NOAA Fisheries has carried forward from the local plans to the proposed recovery plan).



## Summary Strategies: Harvest

- Impacts on Lower Columbia River species substantially lower since ESA listing.
- LCR spring Chinook, steelhead, and chum: precautionary measures to ensure that harvest does not adversely affect future conservation and recovery efforts.
- LCR fall Chinook and coho: focus on (1) refinements in harvest management to further reduce impacts to naturally produced fish, and (2) continued review of overall harvest rates
- Use abundance-based management, weak stock management principles, mark-selective harvest, fill information needs



## **Summary Strategies: Predation, Climate Change**

Plan includes actions to reduce predation on salmon and steelhead by birds, fish, and marine mammals.

Also incorporates a regional climate change strategy focused on (1) implementation of greenhouse gas reduction strategies, such as through the West Coast Governors' Global Warming Initiative and the Oregon Global Warming Commission's recommendations, and (2) adaptation to reduce the impacts of climate change.



# RME

- Local planners have developed or will develop detailed RME plans for their areas, based on regional guidance for adaptive management and RME
- PNAMP ISTM Demonstration Project:
  - Effort to apply master sample concept to selection of sampling locations in Lower Columbia
  - Goal to develop a coordinated VSP monitoring program
- Continued Needs:
  - Research on critical uncertainties
  - Linking RME and 5-Year ESA Reviews
  - Coordination and strategic use of limited resources



# Costs

Management Unit	5-Year Cost Estimate (millions)	25-Year Cost Estimate (millions)
Washington (LCFRB 2010a)	\$245	\$738
Oregon (ODFW 2010)	\$189	\$758
White Salmon (NMFS 2011b)	\$16	\$16
Estuary Module (NMFS 2011a)	\$164	\$592
<b>TOTAL</b>	<b>\$614</b>	<b>\$2,104</b>

## **Total estimated cost: \$2.1 billion over 25 years**

- \$614 million in the first 5 years.
- Total includes \$592 million (\$164 million in the first 5 years) for actions in the Columbia River estuary that are expected to benefit all Columbia Basin salmon and steelhead.
- Cost estimates expected to change as implementation schedules are developed and actions more clearly scoped and planned.



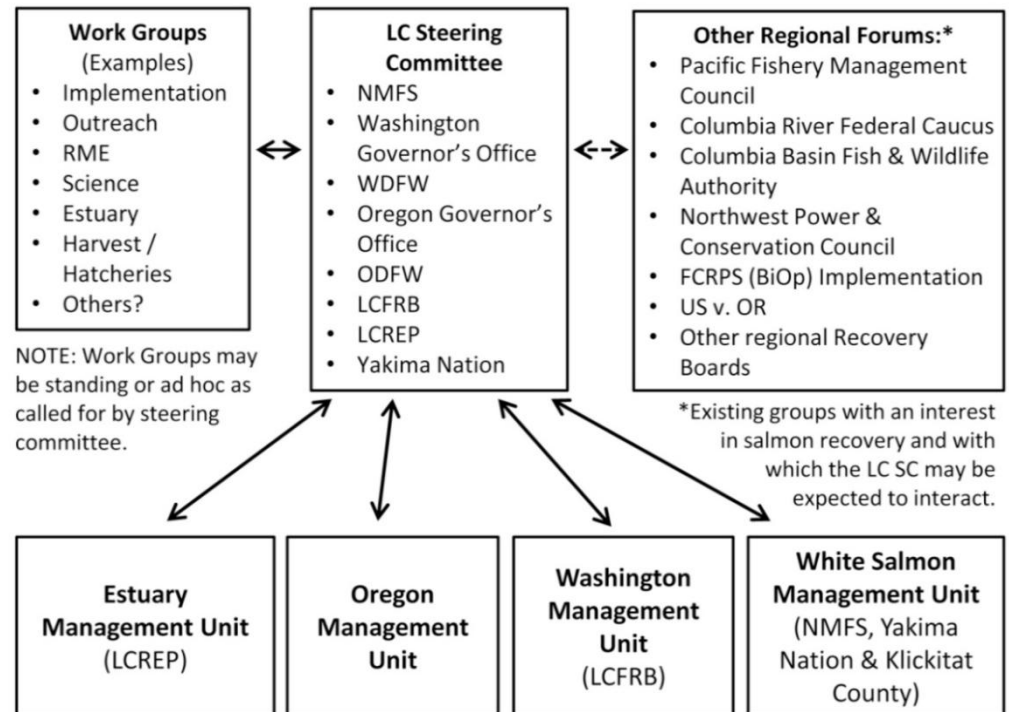


# Implementation

- In general, local plans are the primary documents guiding implementation.
- Coordination at the LCR scale will occur as needed and will be achieved primarily through the Lower Columbia Recovery Plan Implementation Steering Committee

## LC RP Implementation Framework

*Draft Proposal*





# Comment Period

FRN expected to be published mid-May 2012

60-day public comment period

Documents available at:

<http://www.nwr.noaa.gov/Salmon-Recovery-Planning/Recovery-Domains/Willamette-Lower-Columbia/LC/Plan.cfm>