Chehalis Basin Strategy

Presentation to the Columbia River Policy Advisory Group
By Andrea McNamara Doyle, OCB Director
June 20, 2019

Today's Presentation

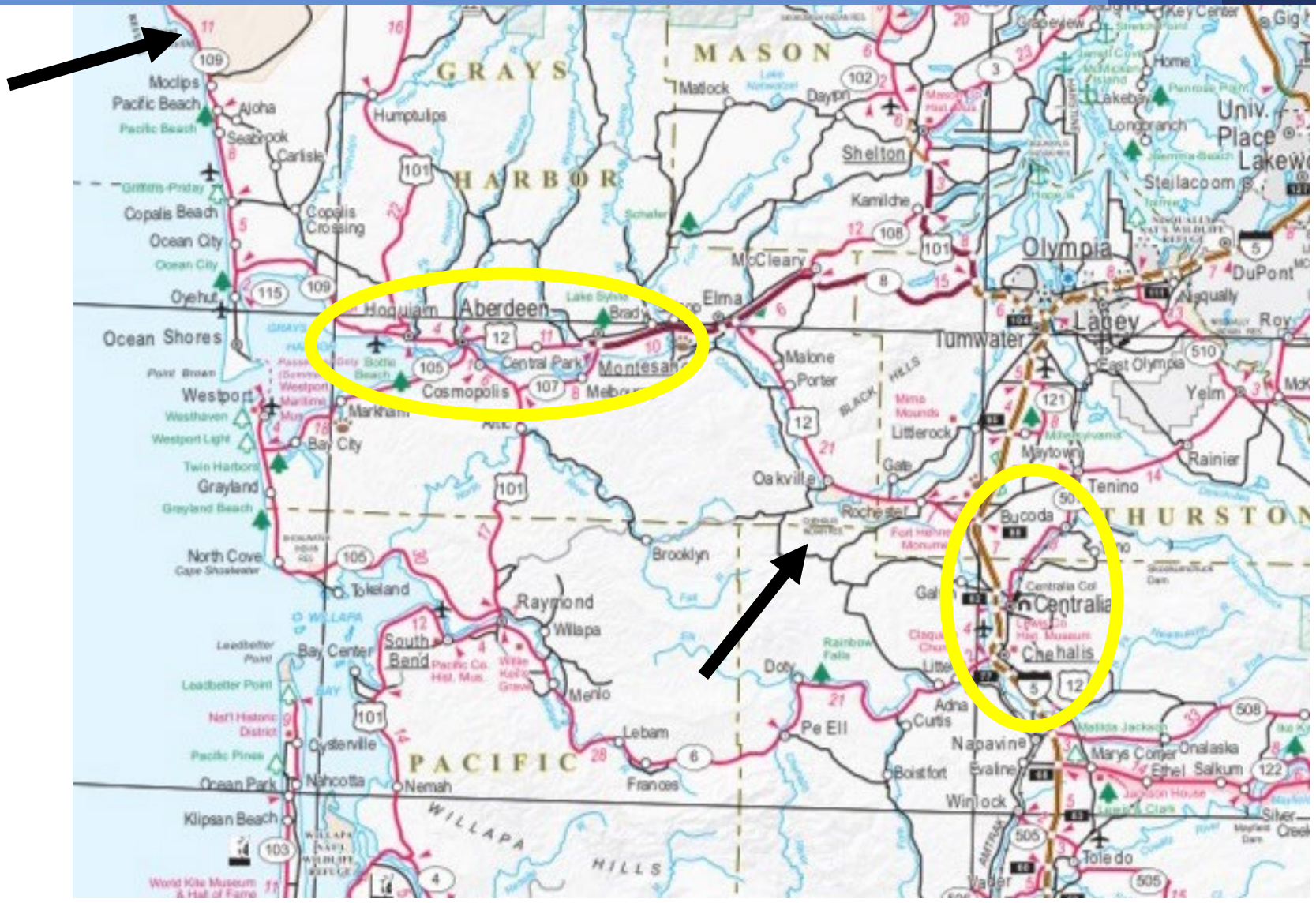
Overview of Chehalis Basin, OCB, and CBB

Elements of Chehalis Basin Strategy
- Aquatic Species Restoration Plan
- Local Scale Flood Damage Reduction Actions
- Large Scale Flood Damage Reduction Actions

Compare/Contrast OCB & OCR

The Chehalis Basin

Another view…



And another view…

A Fertile & Bucolic Region …

… With Extreme Flooding

2018

EXIT 77
6 WEST
Pe Ell
Raymond
1 MILE

2007

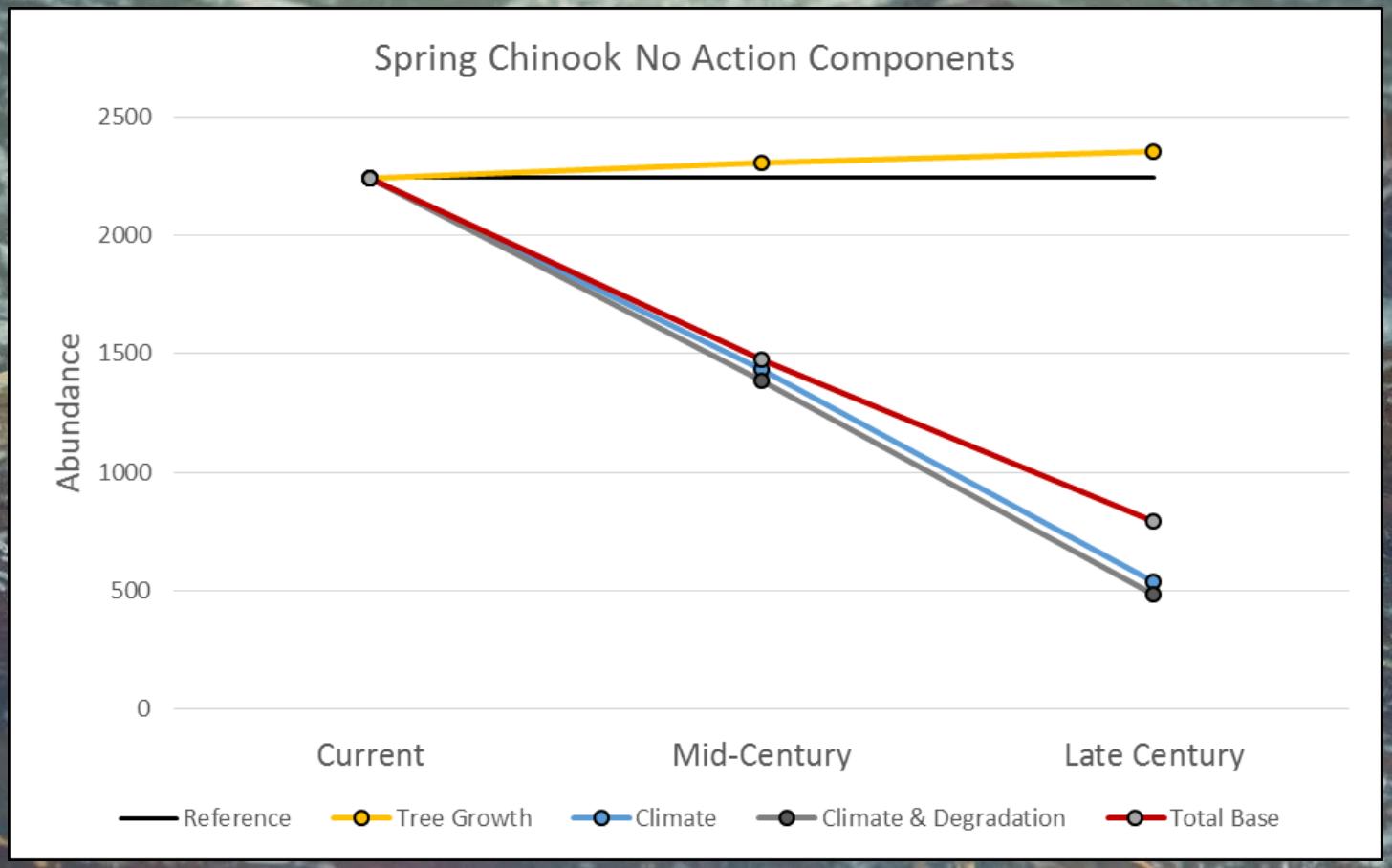
Photos courtesy of : Chronicleonline.com

No Action = $3.5 - $4.5B projected economic damages from future flooding

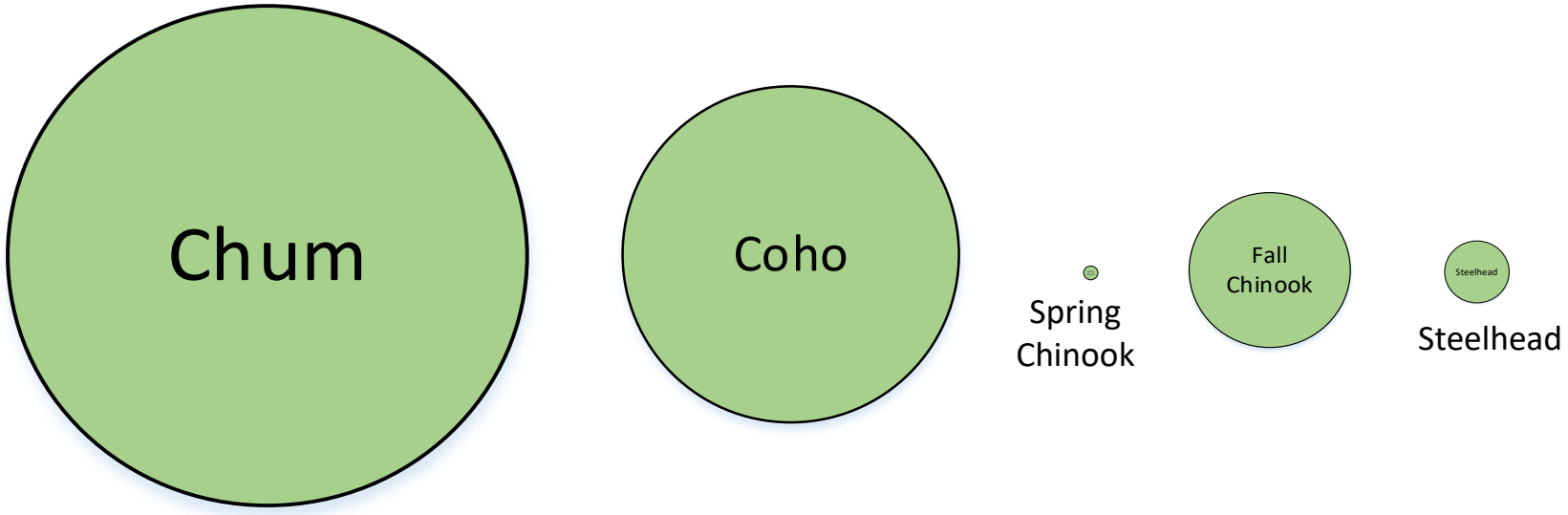
An Abundant River Basin…

…With Struggling Aquatic Species

And a Declining Baseline…



Relative Abundance of Fish Species



OCB'S LEGISLATIVE DIRECTIVE

To aggressively pursue an integrated strategy & funding for:

- **long-term flood damage reduction**
- **aquatic species habitat restoration**

CHEHALIS BASIN STRATEGY

"…must include a detailed set of actions to reduce flood damage and improve aquatic species habitat."

"…must include an implementation schedule and quantified measures for evaluating the success of implementation."

RCW 43.21A.732

CHEHALIS BASIN BOARD

"The board is responsible for…developing biennial and supplemental budget recommendations to the governor."

RCW 43.21A.731(6)

"For administrative purposes, the board is located within the department (of Ecology)."

RCW 43.21A.731(3)

OCR As Model for OCB

"In operating the office, the department must follow, to the greatest extent practicable, the model being used to administer the Columbia river basin water supply program..."

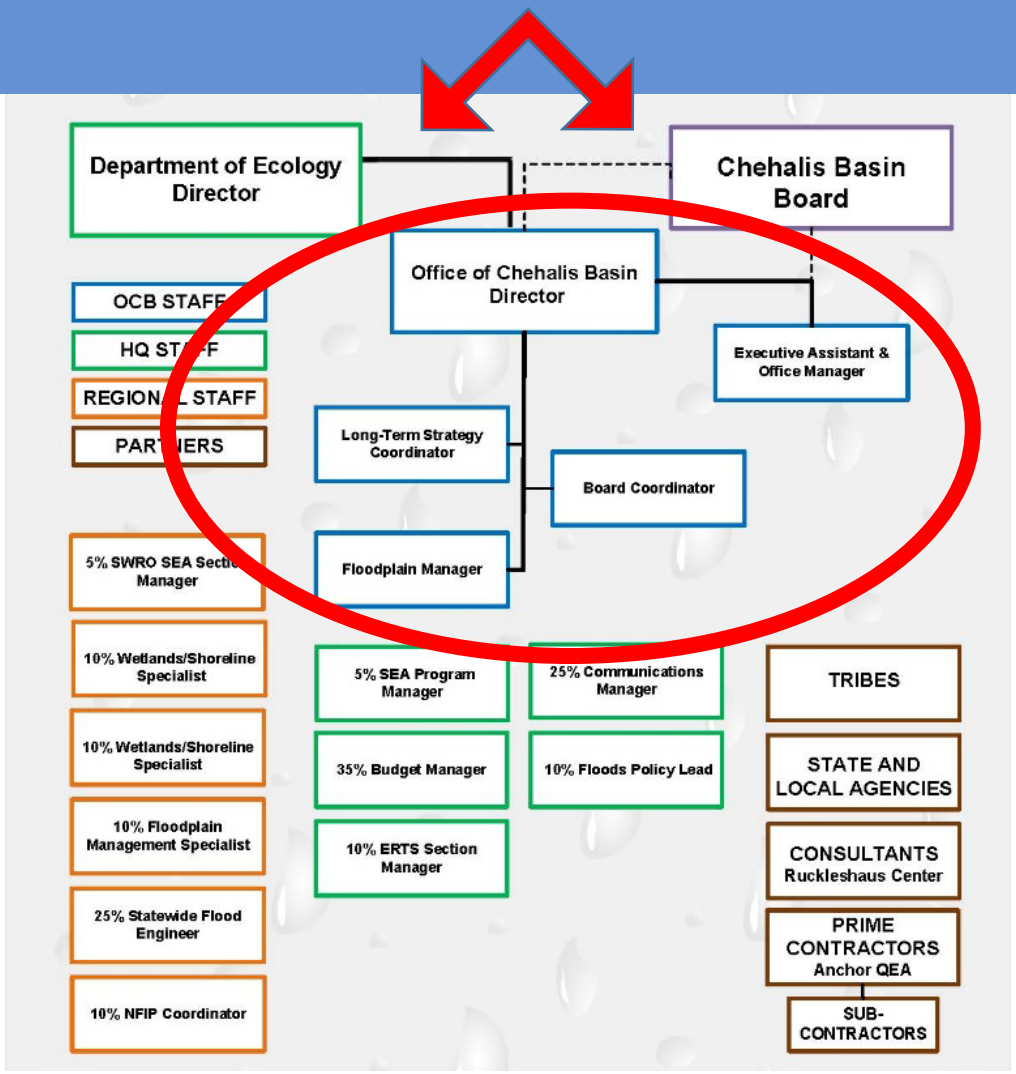
RCW 43.21A.730(3)

CHEHALIS BASIN BOARD

STATE OF WASHINGTON
OFFICE OF THE GOVERNOR

Chehalis Basin Board Members

OCB ORG CHART



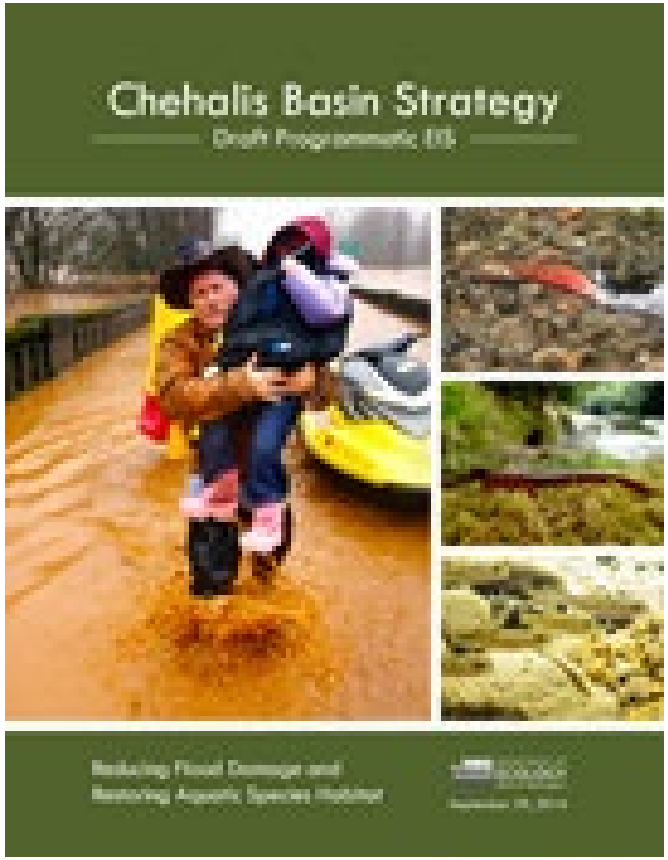
Elements of Chehalis Basin Strategy

Programmatic EIS

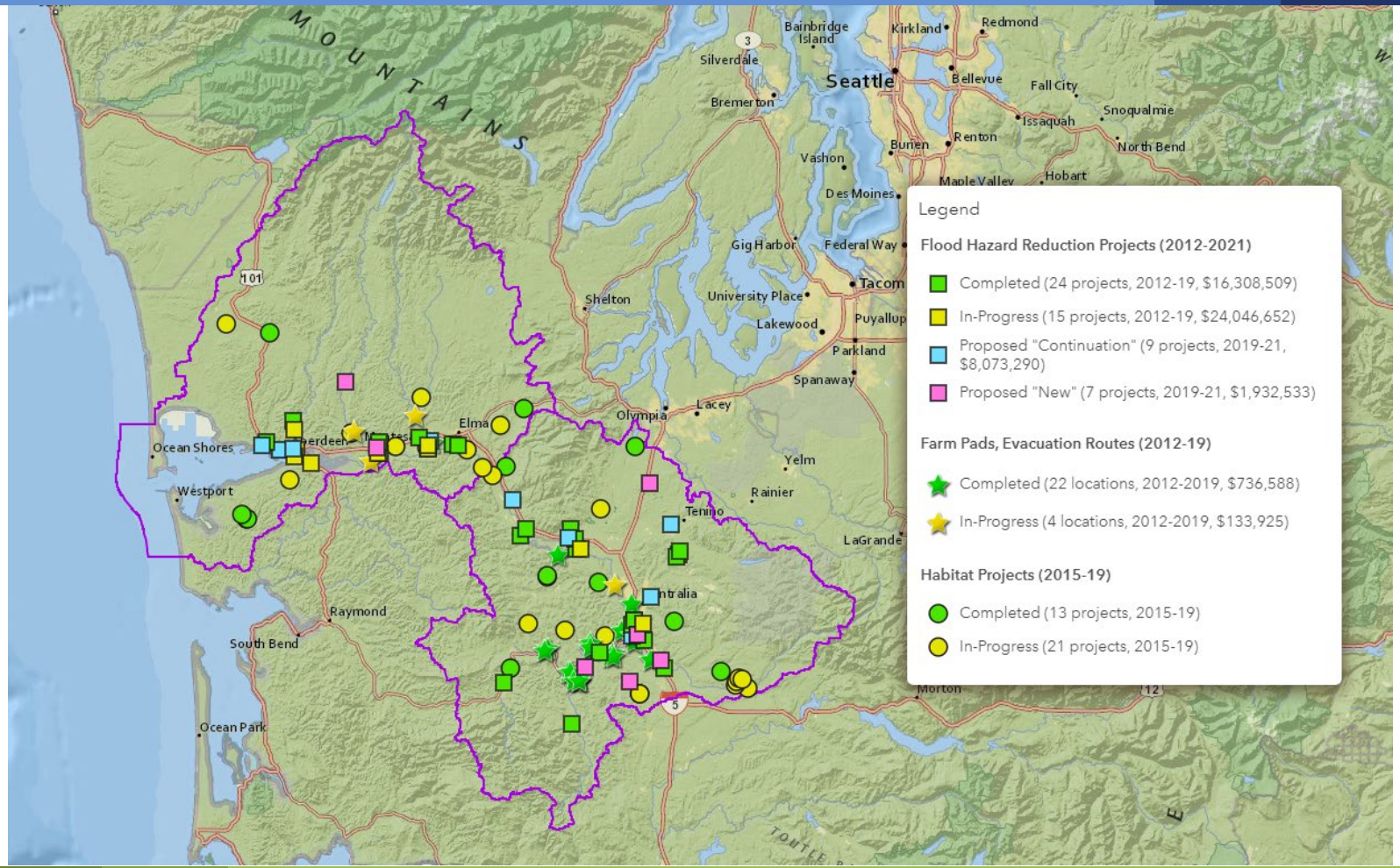
Completed: *Fall 2017*

Evaluated potential alternatives and actions for **basin-wide** flood damage reduction and aquatic species habitat restoration.

Identified preferred suite of actions



Accomplishments So Far



Accomplishments So Far

35 Fish Barrier Removal Projects

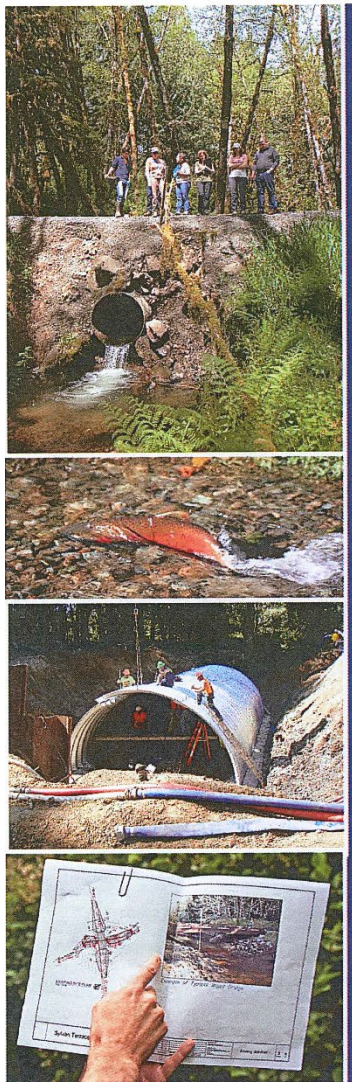
26 Farm Pads

55 Local Flood Damage Reduction Projects

Chehalis River Basin Flood Warning System

www.chehalisriverflood.com

On the Ground Success to Date



- **54** Fish Passage Barriers Addressed
  - **35** Fish-Friendly Crossing Constructions
  - **19** Fish-Friendly Crossing Designs

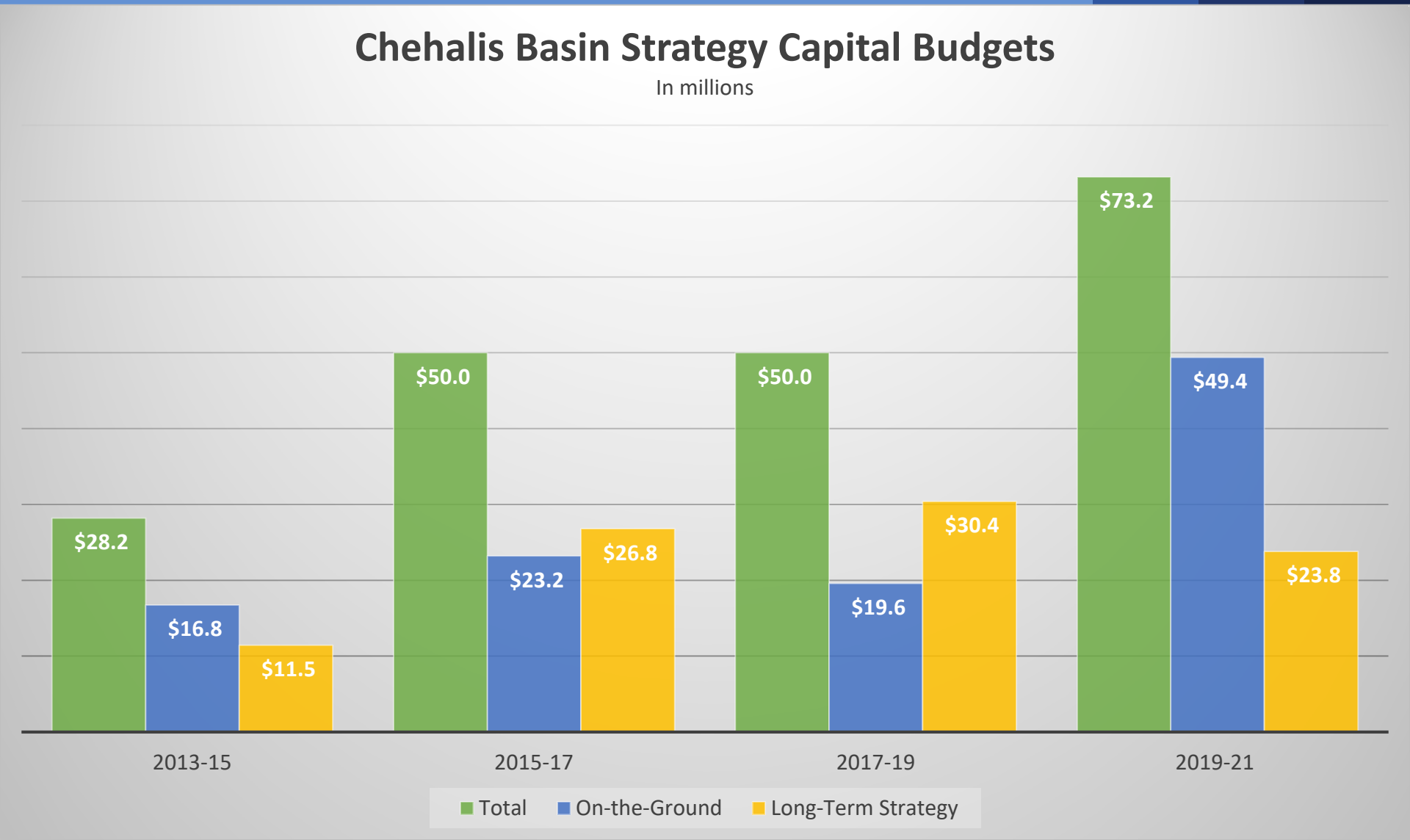
- **87** Miles of Fish Habitat Opened
  - Designs to open another **17** miles

Chehalis Strategy – Aquatic Species Restoration Projects (2015-2019)

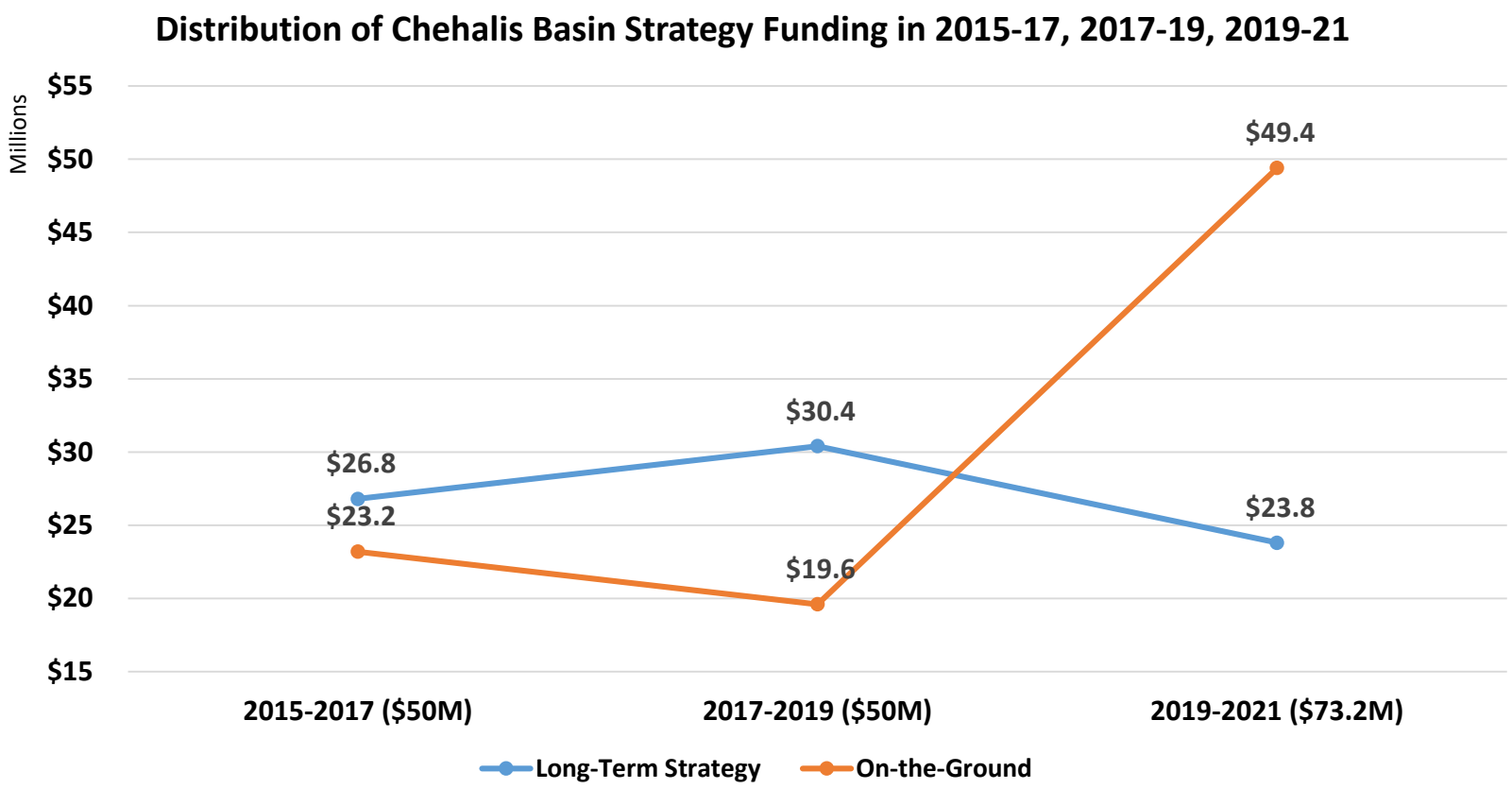
- $9.0 Million CBS $ Invested
- >75 Construction Jobs Created
- Builds on 18 Years of Restoration Efforts
- Leverages Other Funding Sources

- **30** Miles of Habitat Surveyed
- **6** Miles of Riparian Knotweed Removed; **4** Miles Replanted
- **1** Channel Reconnected; **21.5 acres** Off-Channel Reconnection Design

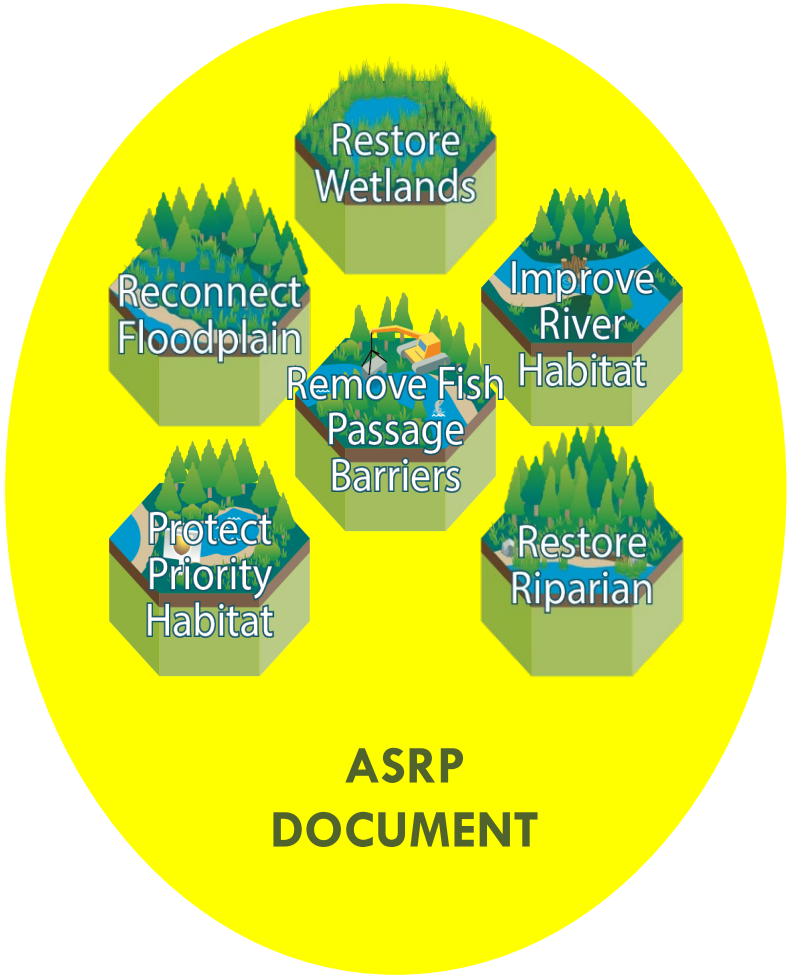
CBS Capital Budgets Over Time



Comparison of CBS Funding Distributions



Aquatic Species Restoration Plan



- Initial ASRP draft released late 2017
- Early actions reach restoration projects now underway
- Long-term restoration scenarios under development
- Phase 1 ASRP available for public comment Summer 2019

ASRP Vision

To provide for a future where the Chehalis Basin can support:

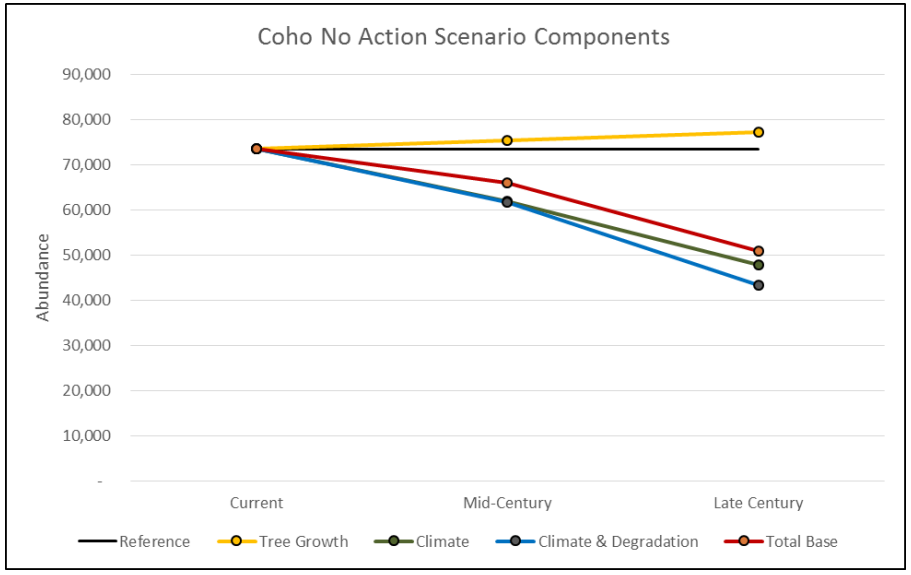
- Healthy and harvestable salmon populations,
- Robust and diverse populations of native aquatic and semi-aquatic species, and
- Productive, self-sustaining ecosystems that are resilient to climate change and anthropogenic stressors,

While also honoring the social, economic, and cultural values of the region.

Large wood on the Humptulips

Upper East Fork Satsop wetland complex

New Models Confirm Declining Baseline

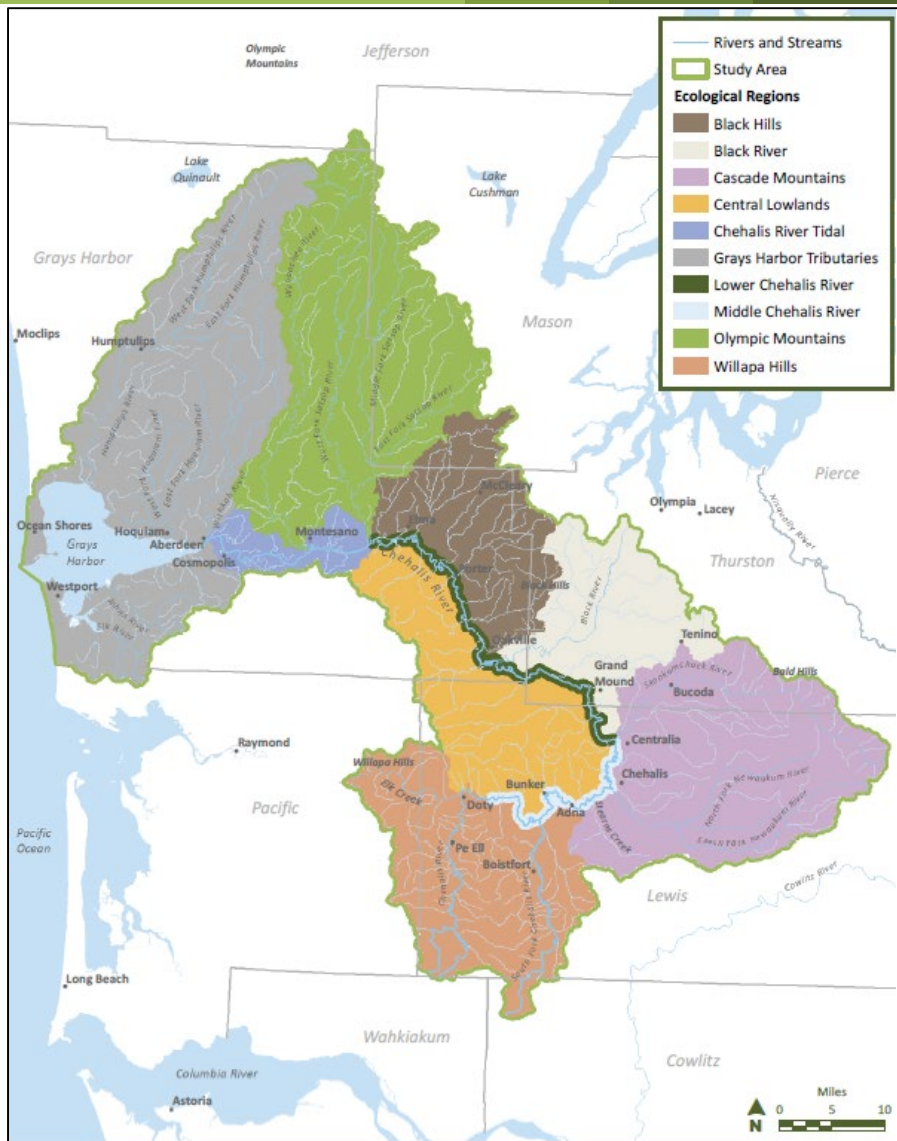


- No action = marked decline in abundance by Late Century
  - -30% Coho
  - -70% Spring Chinook
- Greatest decline due to climate change & temperature

ASRP Spatial Scale

Basin is divided into 10 ecological diversity regions.

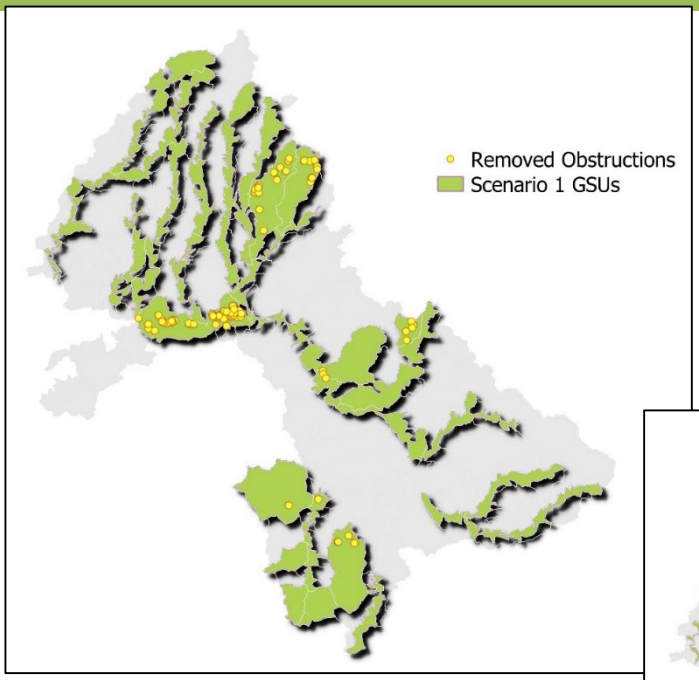
- Distinct ecological characteristics
- Unique geologic features



ASRP Major Strategies

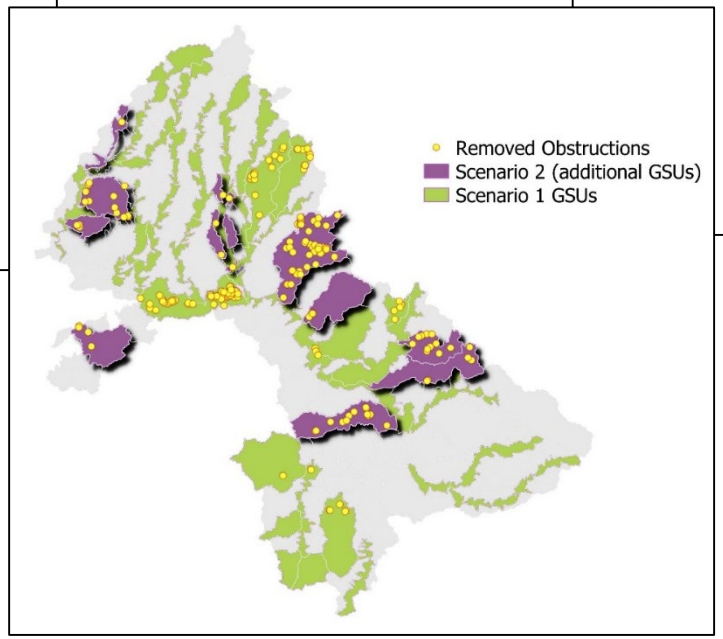
- Restoration
- Protection
- Institutional Capacity
- Community Planning & Involvement

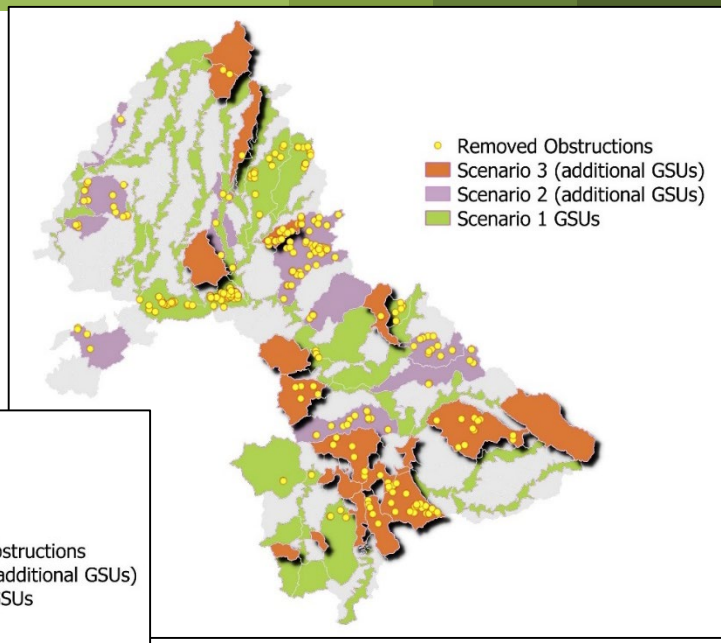
ASRP Scenarios



Scenario 1: Protect and Restore Core Habitats

Scenario 2: Protect and Expand Restoration





Scenario 3: Protect Core Habitats Restore Spatial Diversity

Colored polygons = Geographic areas where treatment was applied; dots = Culverts removed

Scenario 1
Protect and Enhance Core Habitats

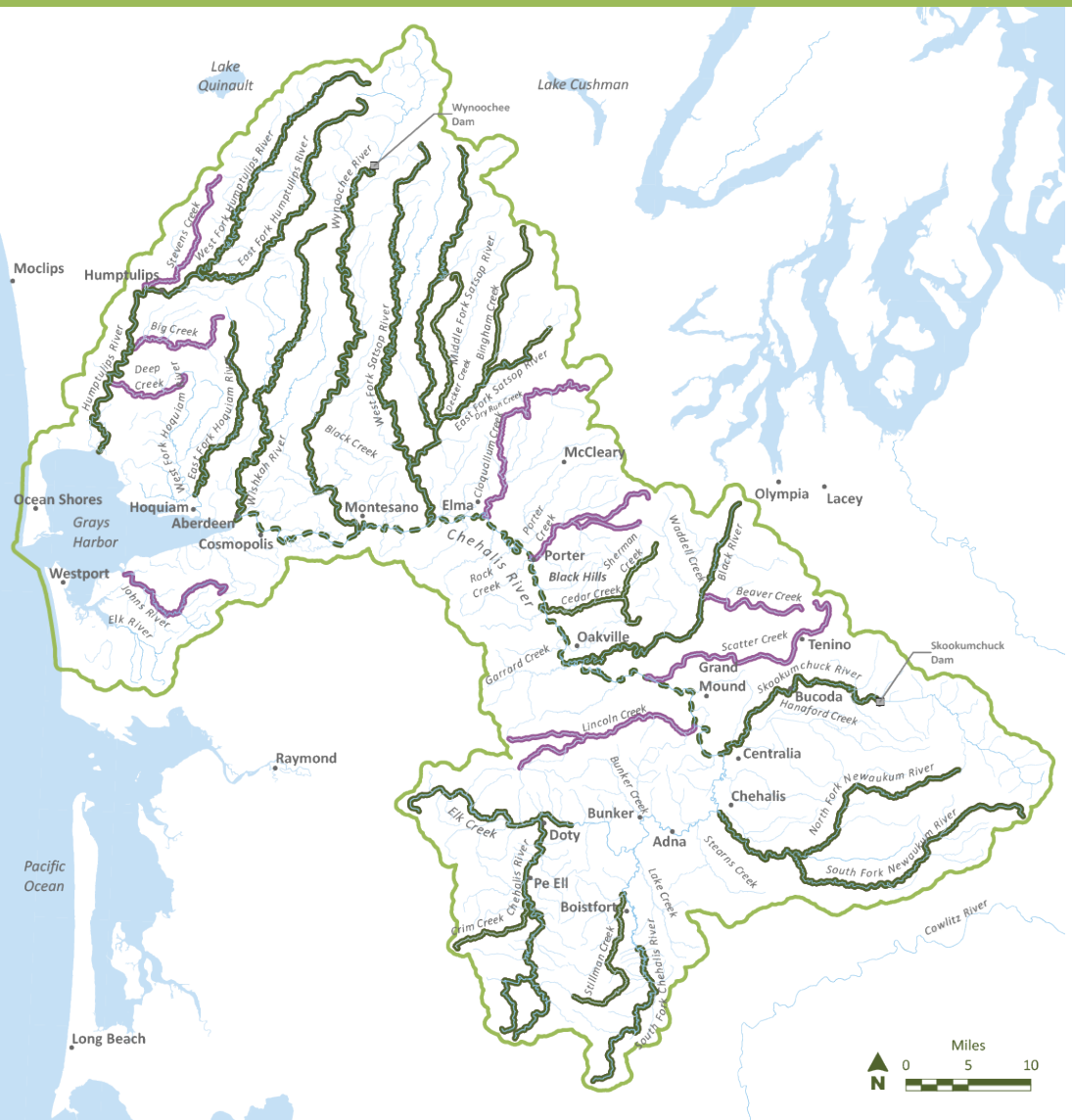
Scale of Restoration

220 river miles of restoration
9,590 acres riparian/floodplain
- 1,900 on large rivers
- 2,100 across mainstem nodes
- 5,560 on medium rivers
- 18 on small streams

112 culvert/barriers corrected
61 river miles opened

Est. Average Cost: $442 m

Scenario 2, Protect Core Habitats and Restore Key Opportunities



Added Restoration

315 river miles of restoration

+ 95 miles

10,900 acres riparian/floodplain

+ 700 on medium rivers

+ 567 on small streams

233 culvert/barriers corrected

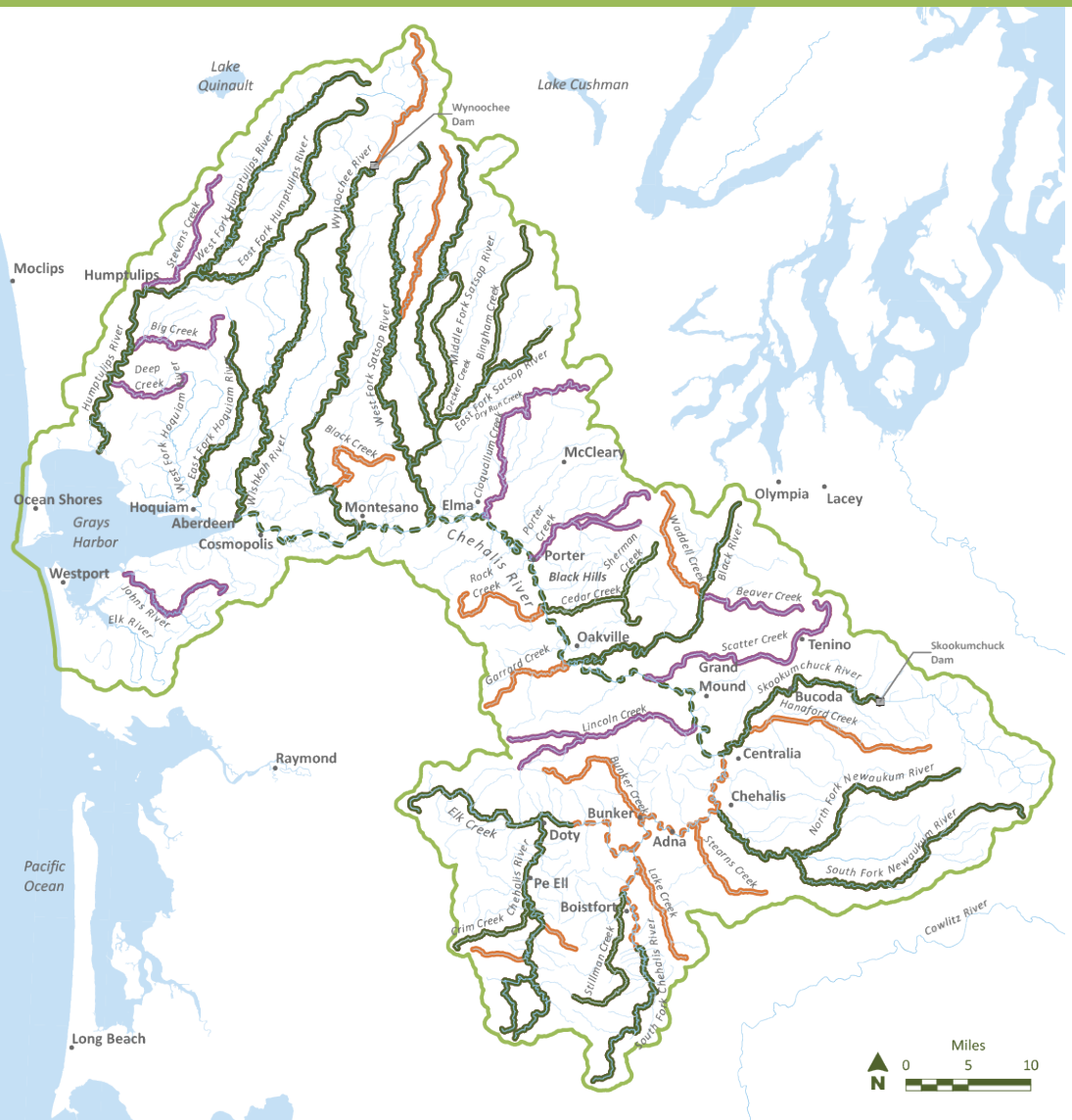
+ 121 culverts

157 river miles opened

+ 96 miles

Est. Average Cost: $541 m

Scenario 3a, Protect Core Habitats and Expand Distribution



Added Restoration

430 river miles of restoration
+ 115 miles

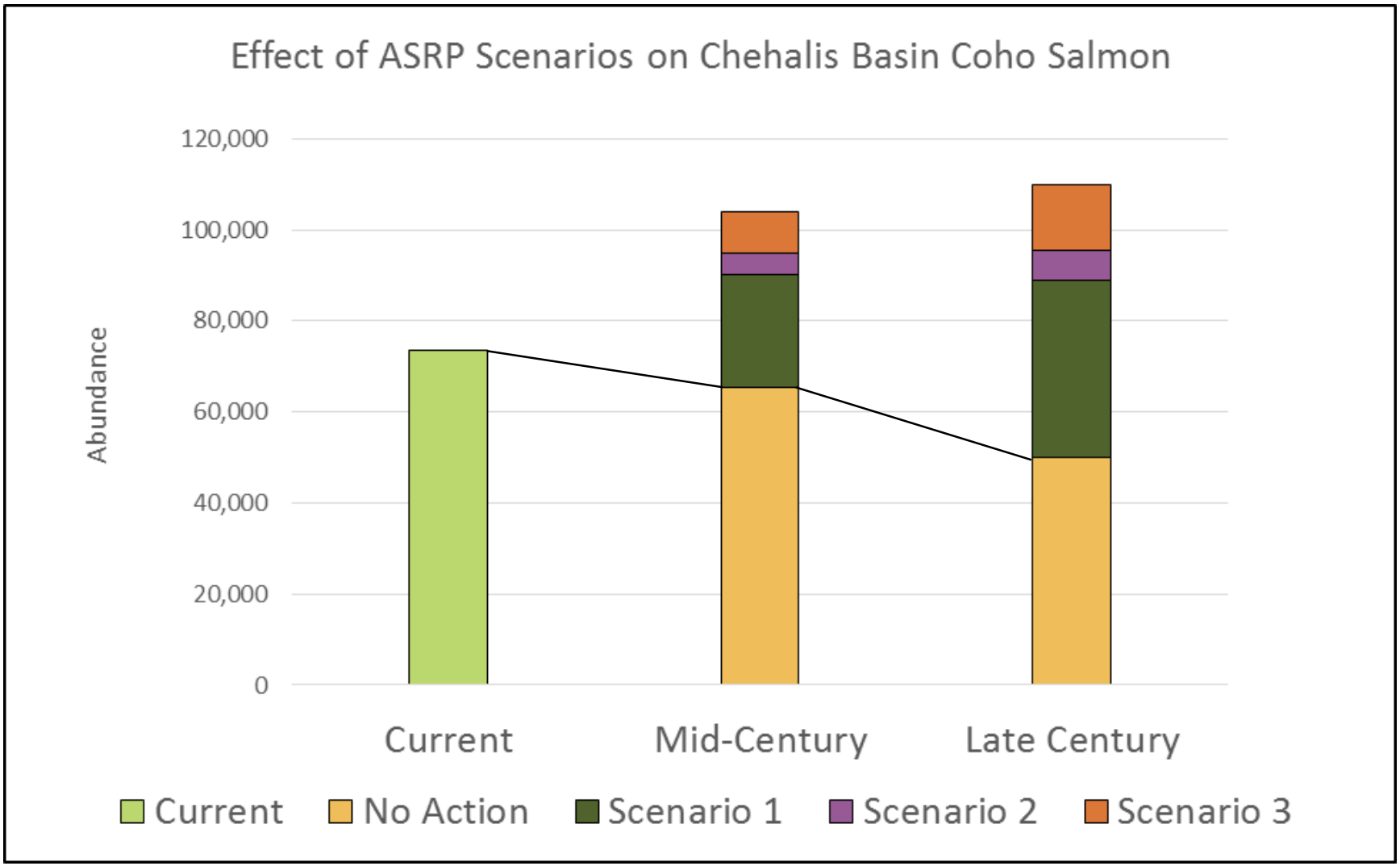
15,000 acres riparian/floodplain
+ 4,100 on all size streams

313 culvert/barriers corrected
+ 80 culverts

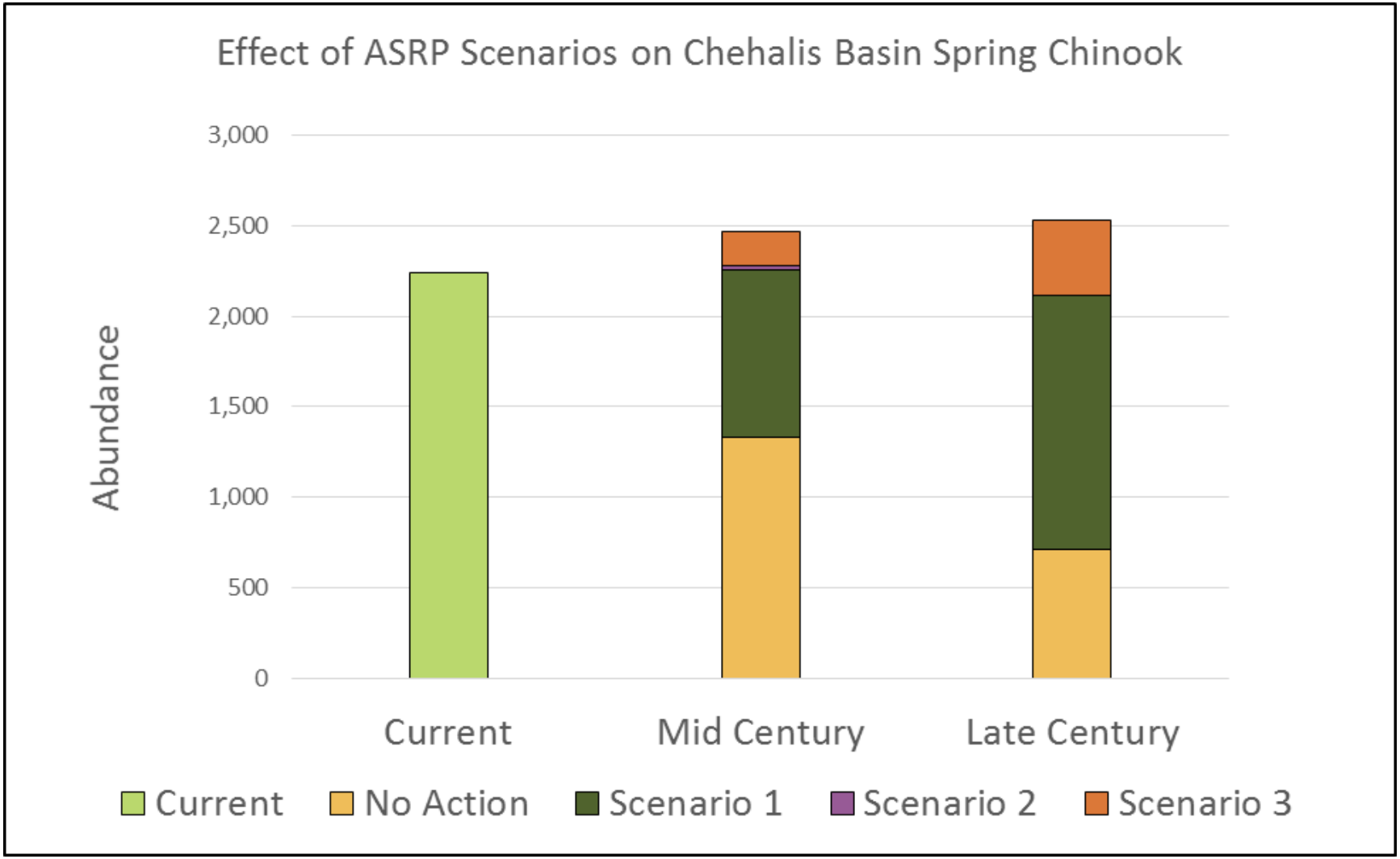
254 river miles opened
+ 150 miles

Est. Average Cost: $892 m

ASRP Scenario Effects (coho)



ASRP Scenario Effects (spring Chinook)



ASRP Take-Away Messages

We face a **declining baseline**. The hole will only get deeper, and prospects for success less certain, unless actions are taken sooner than later.

ASRP focuses on improving habitat **capacity**.

We have **confidence** in the **actions** to take and **locations** to take them in the basin's freshwater environment.

It will take **significant investment** over the next couple decades to make the difference that is needed.

North Shore Levee

Aberdeen-Hoquiam North Shore Levee

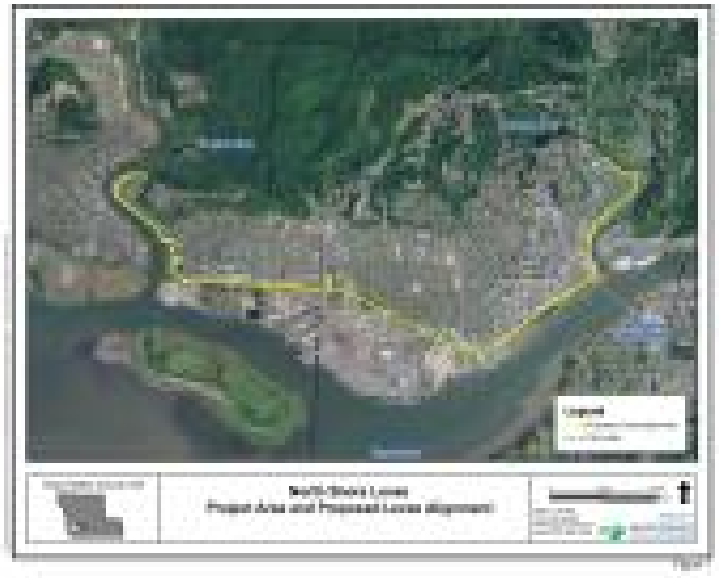
- Early project phases funded through Flood Authority local projects
- Currently undergoing environmental review/permitting
- $10M State Capital Budget proviso for NSL in 2019-2021

North Shore Levee

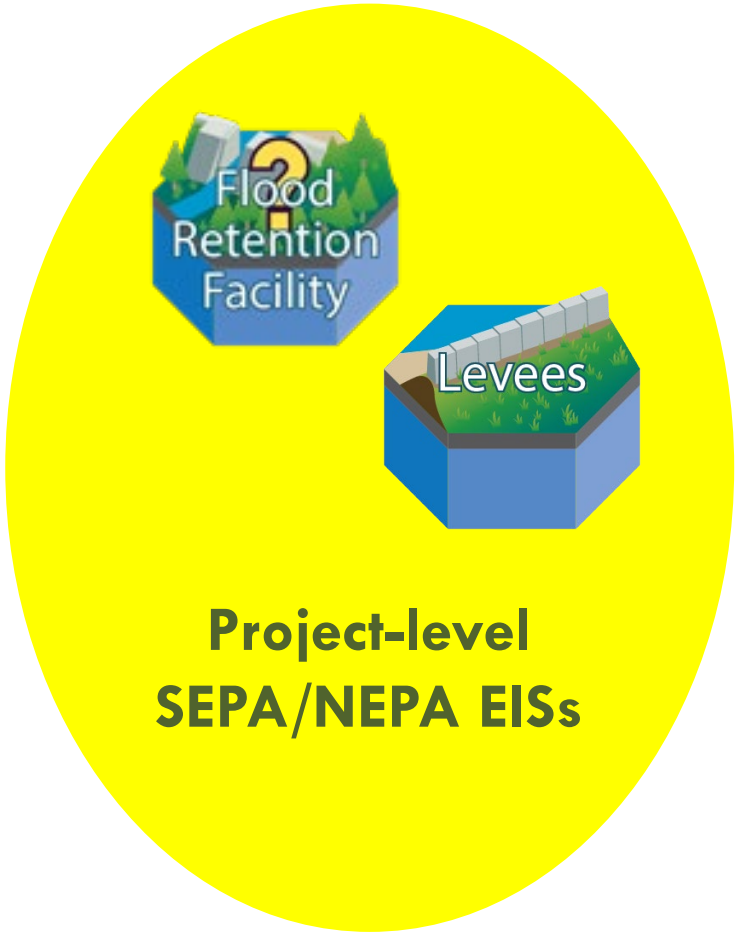
Project objectives:

- Protect 3,500+ homes & properties assessed at over $480m from 100-year coastal flood event

- Remove them from regulatory floodplain, eliminating currently mandated Federal flood insurance requirements on mortgages



Project-Level SEPA/NEPA EISs



EISs will:

Evaluate environmental impacts of FCZD's Project to reduce flood damage in Chehalis & Centralia from storm events originating in the Willapa Hills.

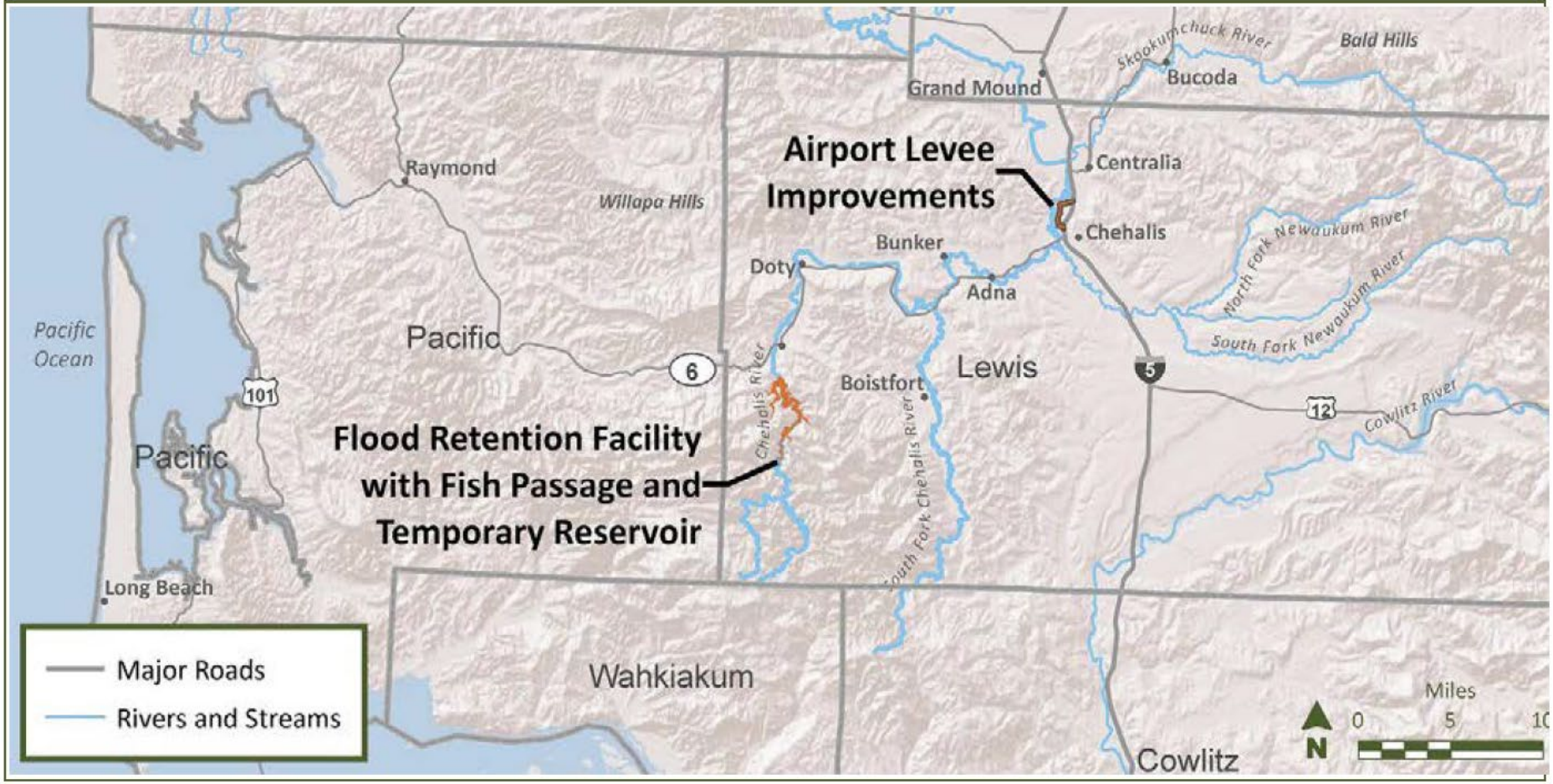
Currently undergoing environmental review through SEPA and NEPA.

Draft EISs expected in 2020

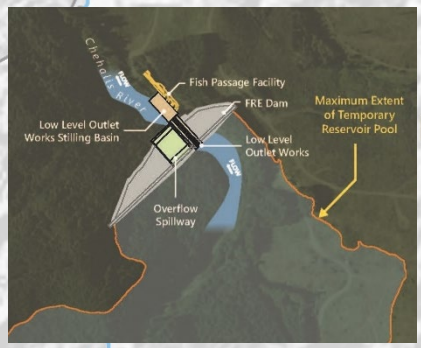
Flood Control Zone District Project

Figure 1

Chehalis River Basin Flood Damage Reduction Project

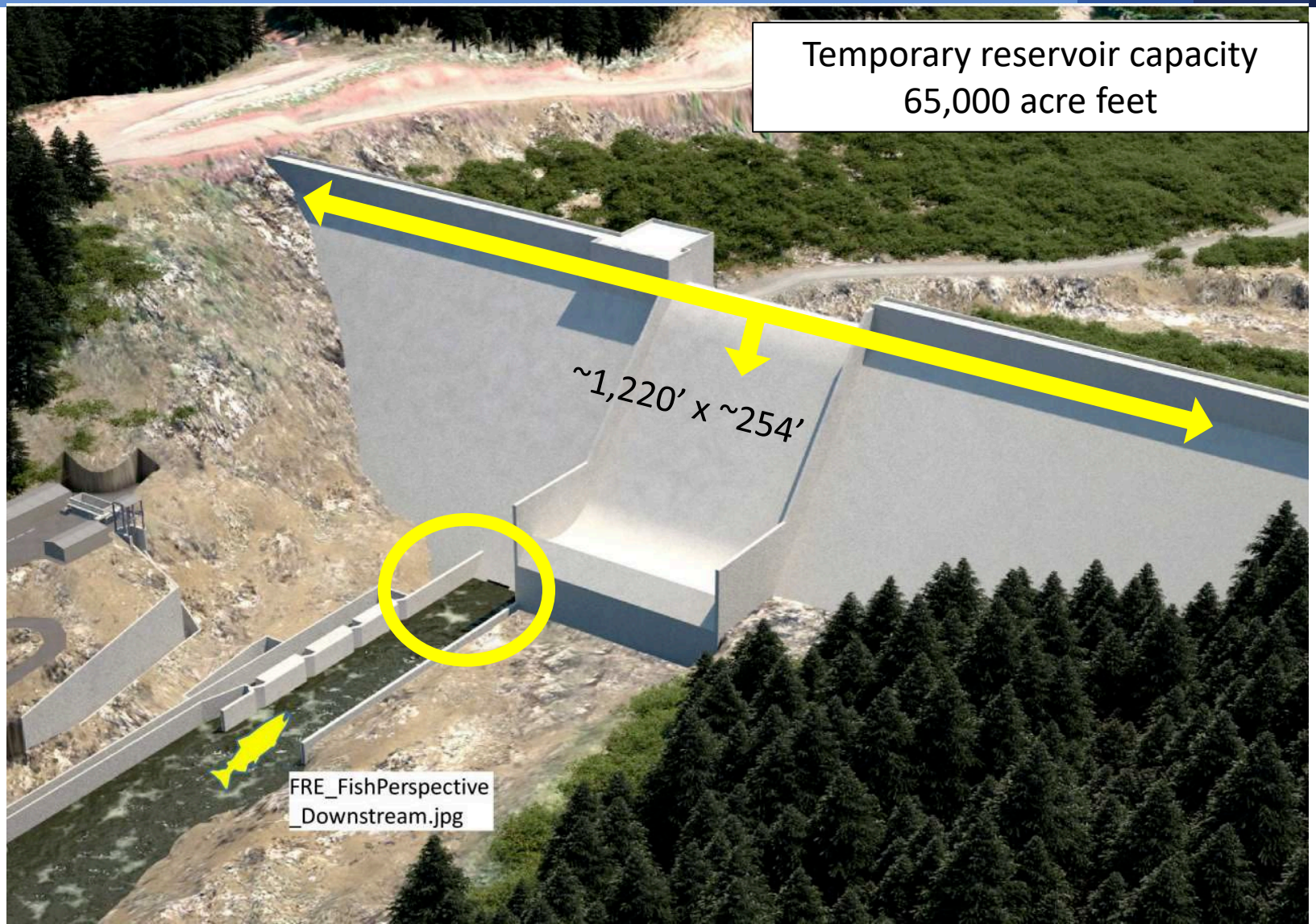


FCZD Project Objectives



- Reduce closure of I-5
- Reduce severity of major flooding on 4,000+ acres & provide relief from more than $900m of economic impacts from major flood event
- Provide future leaders flexibility to address increase peak flows and summer low flows

FRE Rendering

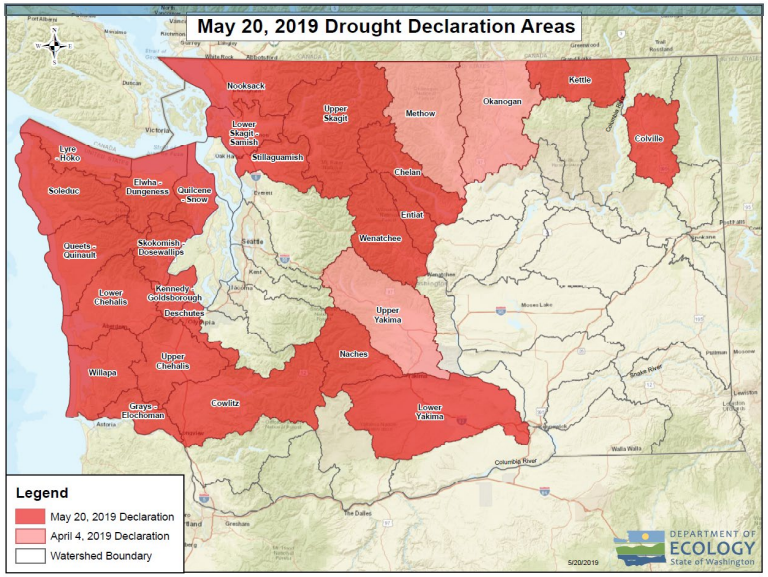


Fish Passage

Compare/Contrast OCB & OCR

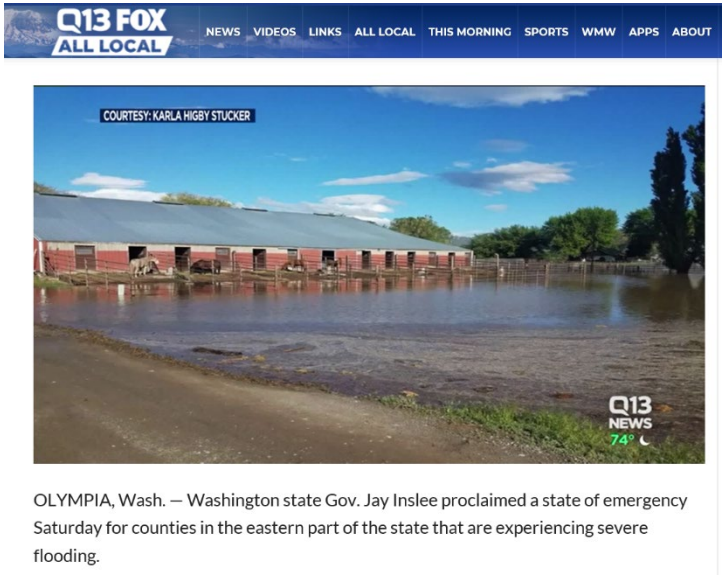
Compare/Contrast OCB & OCR

"Fish & Flood"



… plus drought

"Fish & Water Supply"



OLYMPIA, Wash. — Washington state Gov. Jay Inslee proclaimed a state of emergency Saturday for counties in the eastern part of the state that are experiencing severe flooding.

…plus flood

Compare/Contrast OCB & OCR

- Governance Structure/Authorizing Environment
- Tribal Engagement
- Federal Engagement
- Agriculture Sector Engagement
- Consensus decision-making
- History of issues & conflicts
- Scale & Size of Projects
- Legislative Champions

Questions?

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