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# ESA Recovery Planning in the Washington Gorge

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# Recovery Plans in the Middle Columbia:

- DPS Recovery Plan
- Management Unit Recovery Plans:
  - Oregon
  - SE Washington
  - Yakima
  - Gorge
    - Klickitat
    - Rock Creek
    - White Salmon

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# Recovery Plans are:

1. Required by the ESA
2. Roadmaps toward recovery that:
  - Establish biological objectives
  - Target actions
  - Estimate time & costs to implement actions

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# Recovery Plans are not:

Regulatory documents

Replacements for other plans covering ESA-listed & non-listed species, such as Subbasin Plans or Watershed Plans

Replacements for existing laws & authorities

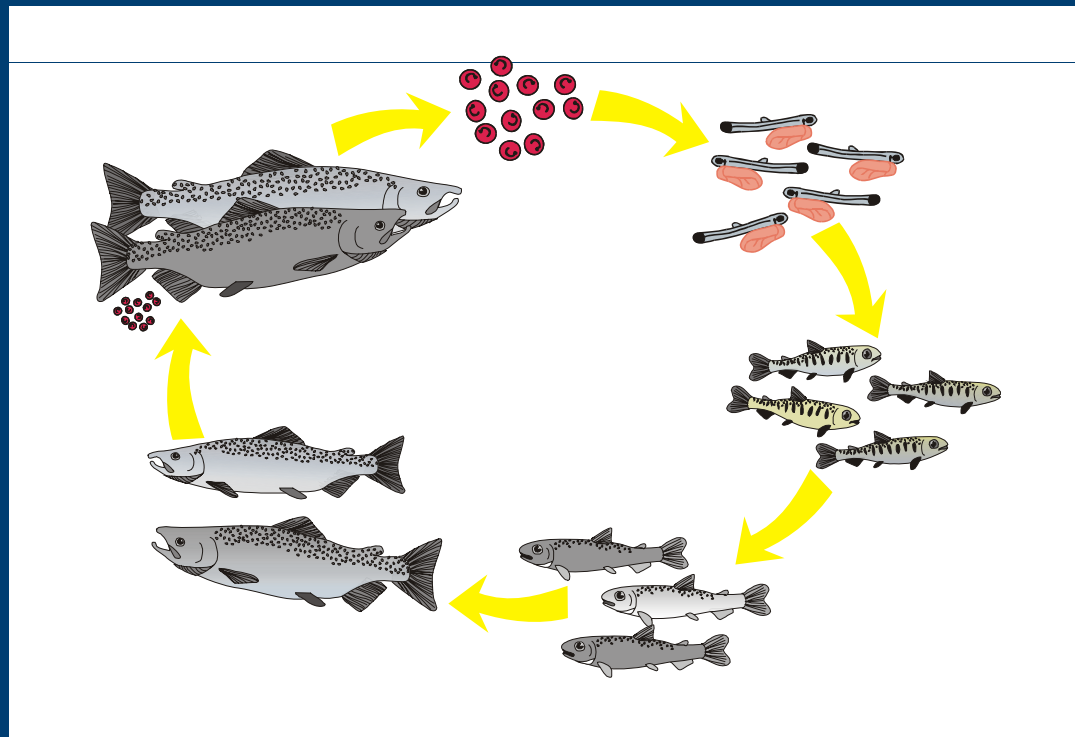


# Recovery Plans are Developed...

Collaboratively

Based on existing work & solid science

Considering the complete life cycle





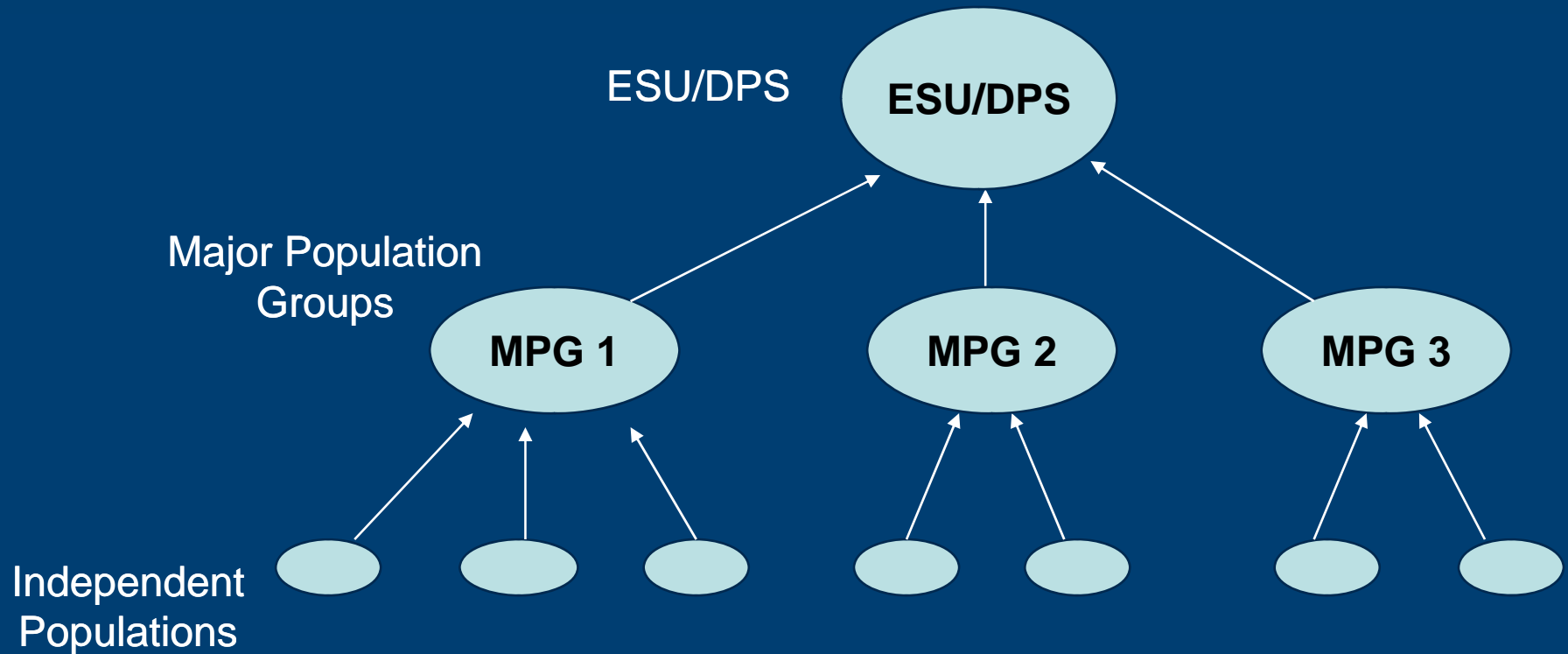
A topographic map of the Middle-Columbia River basin, showing the river's course from the mountains to the coast. The river is highlighted in a light green color. The surrounding land is shown in shades of brown and green, indicating elevation. The map is overlaid with a grid of latitude and longitude lines.

## Middle-Columbia Steelhead DPS

- Listed as threatened in 1999 and 2006
- 17 listed extant populations in 2 states



# Hierarchy in Salmonid Population Structure





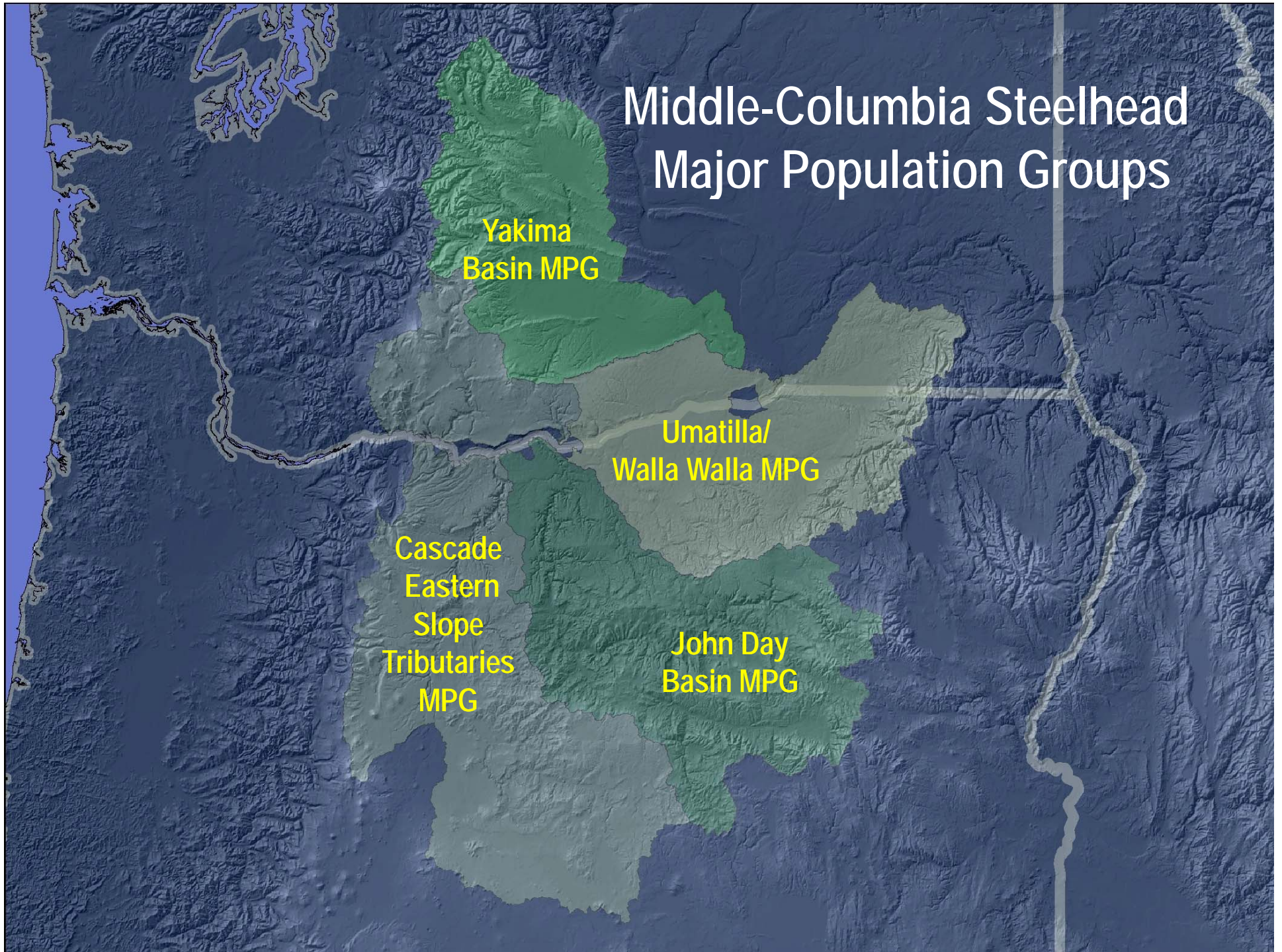
# Middle-Columbia Steelhead Major Population Groups

Yakima  
Basin MPG

Umatilla/  
Walla Walla MPG

Cascade  
Eastern  
Slope  
Tributaries  
MPG

John Day  
Basin MPG







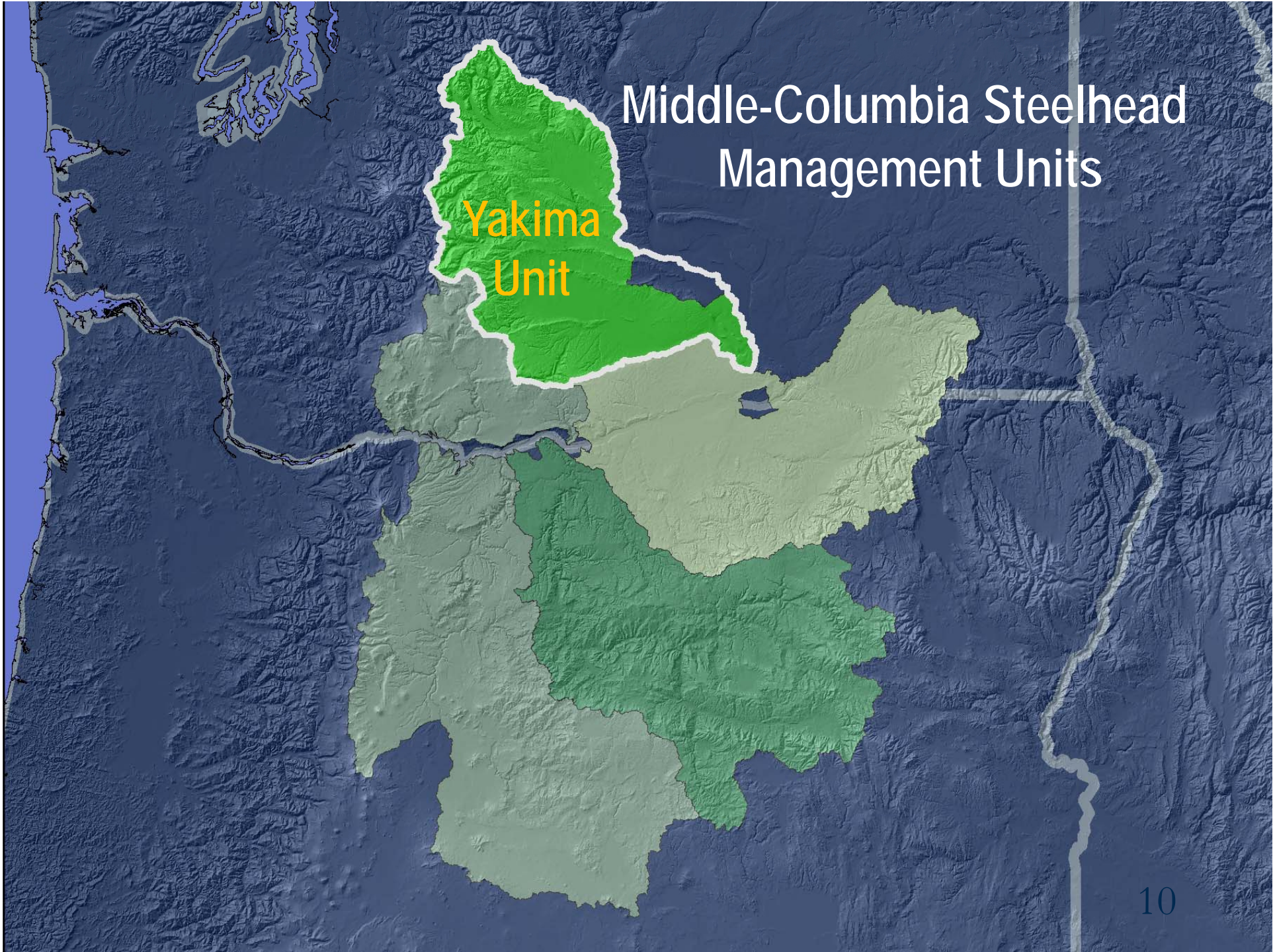
# Mid-C Steelhead DPS Plan (the "rollup" )

Prepared by NMFS based on 4 Management Unit (MU) Plans

<b>Washington Gorge MU</b> <ul style="list-style-type: none"><li>• <i>NOAA</i></li></ul>	<b>Yakima MU</b> <ul style="list-style-type: none"><li>• <i>Yakima Basin Fish &amp; Wildlife Recovery Board</i></li></ul>
<b>Oregon MU</b> <ul style="list-style-type: none"><li>• <i>ODFW</i></li><li>• <i>Oregon Sounding Board</i></li></ul>	<b>SE Washington MU</b> <ul style="list-style-type: none"><li>• <i>Snake River Salmon Recovery Board</i></li></ul>

# Middle-Columbia Steelhead Management Units

Yakima Unit





# Middle-Columbia Steelhead Management Units

SE  
Washington  
Unit

A topographic map of the Middle-Columbia region showing several management units. The units are color-coded: a bright green unit in the north, a light green unit in the center, and a darker green unit in the south. A white outline highlights a specific unit in the east labeled 'SE Washington Unit'. The map shows the Columbia River and its tributaries, with a white line indicating a boundary or management area.



# Middle-Columbia Steelhead Management Units

Oregon Unit



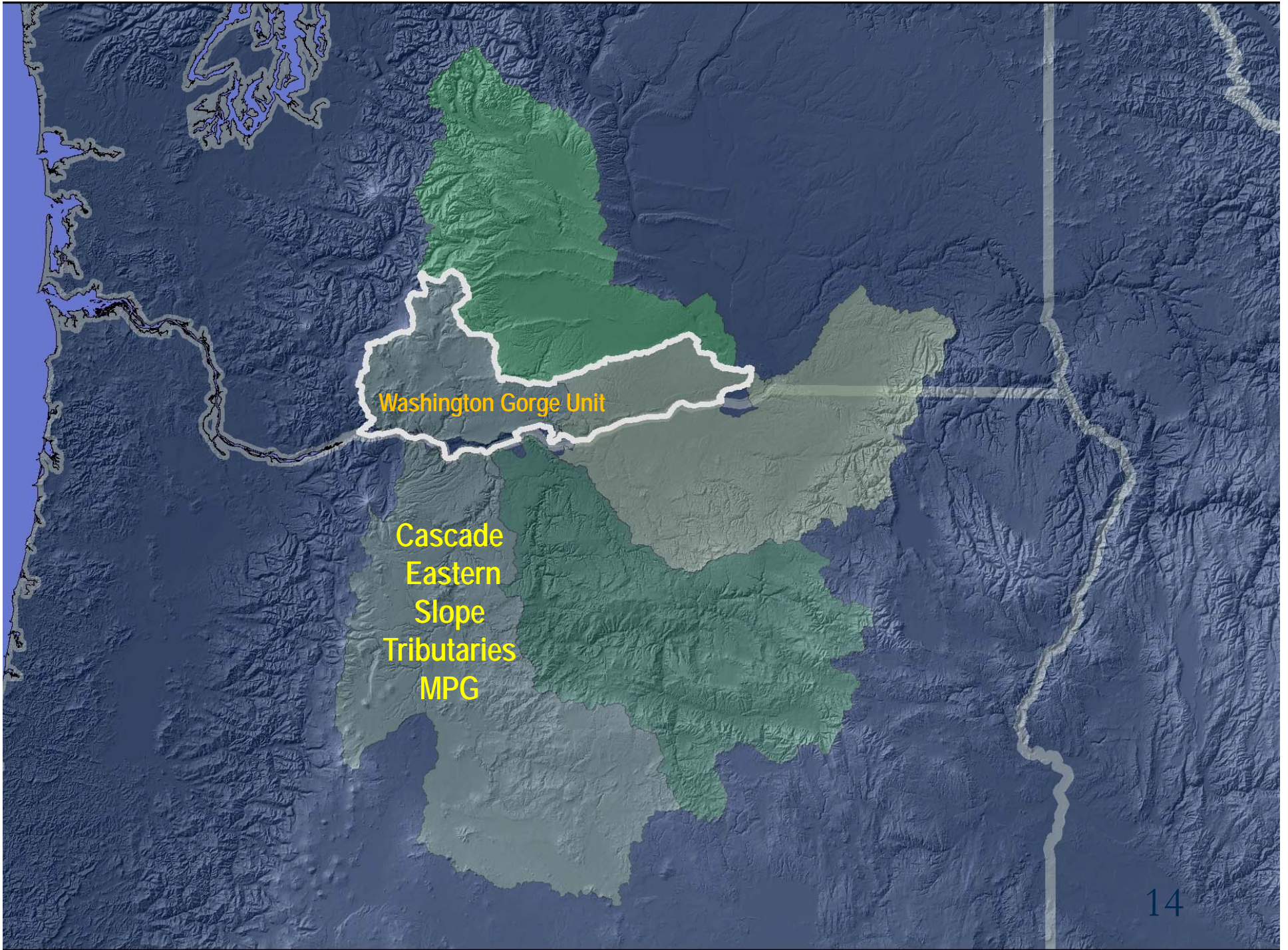


# Middle-Columbia Steelhead Management Units

Washington Gorge Unit



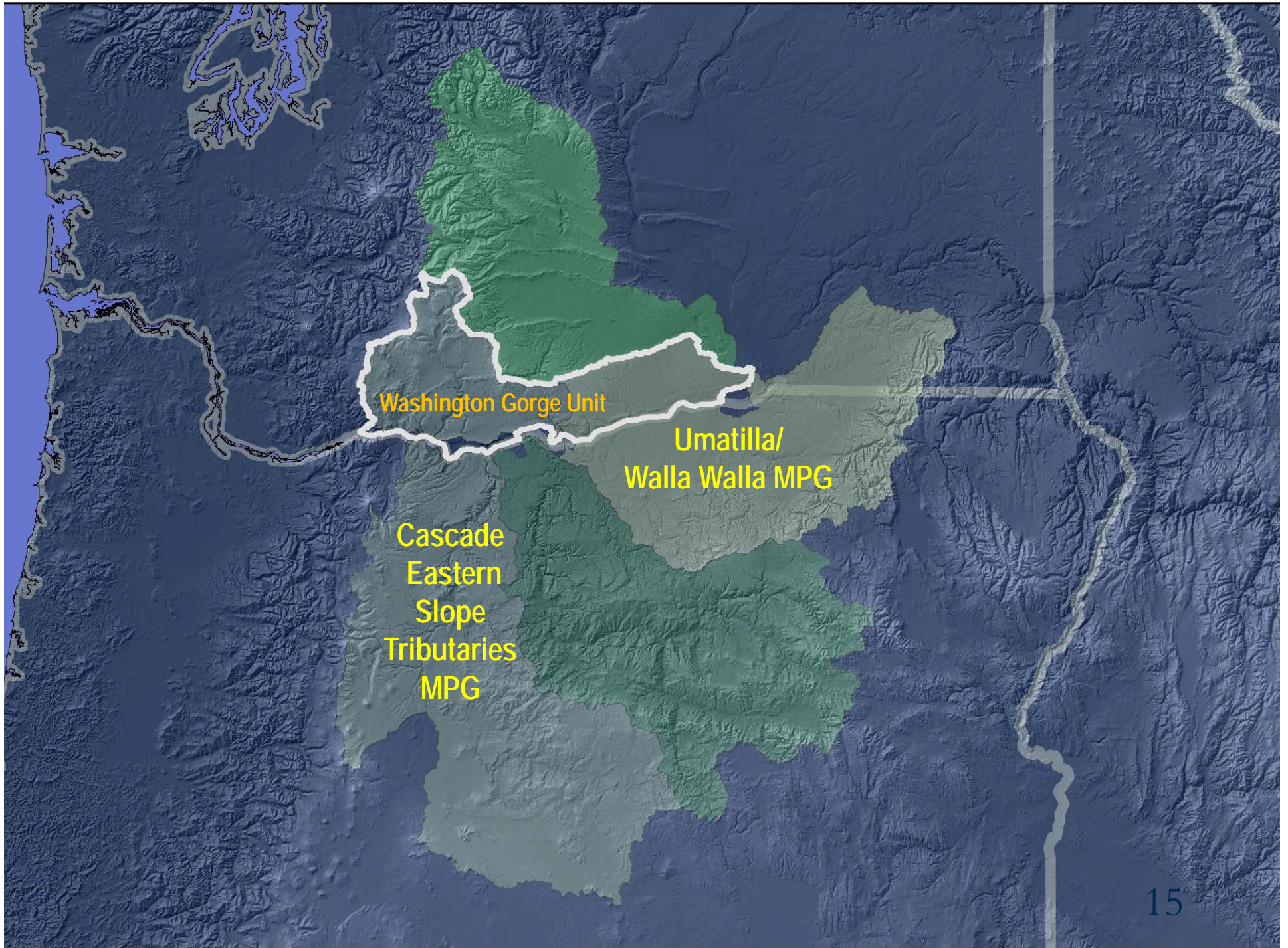




Washington Gorge Unit

Cascade  
Eastern  
Slope  
Tributaries  
MPG





Washington Gorge Unit

Umatilla/  
Walla Walla MPG

Cascade  
Eastern  
Slope  
Tributaries  
MPG



# What's in these Recovery Plans?

- Explanation of steelhead biology
- Recovery goals & criteria (biological viability & threats) \*
- Assessment of current status, limiting factors, & threats
- Recovery strategy & site-specific actions \*
- Estimates of time & costs to implement actions \*
- Research, monitoring, & evaluation to track progress

— \* Required under the ESA





## Biological Criteria

**Productivity:** number of adult spawner offspring produced per parent spawner

**Abundance:** number of parent spawners

**Spatial Structure:** geographic distribution of spawners

**Diversity:** genetic, phenotypic & life history diversity

# WA Gorge Management Unit Independent Populations of the Mid-Columbia Steelhead DPS

**Klickitat Population:**  
**Run Timing:** Winter & Summer steelhead  
**Abundance Threshold:** 1,000  
**Size Category:** Large

**Klickitat**

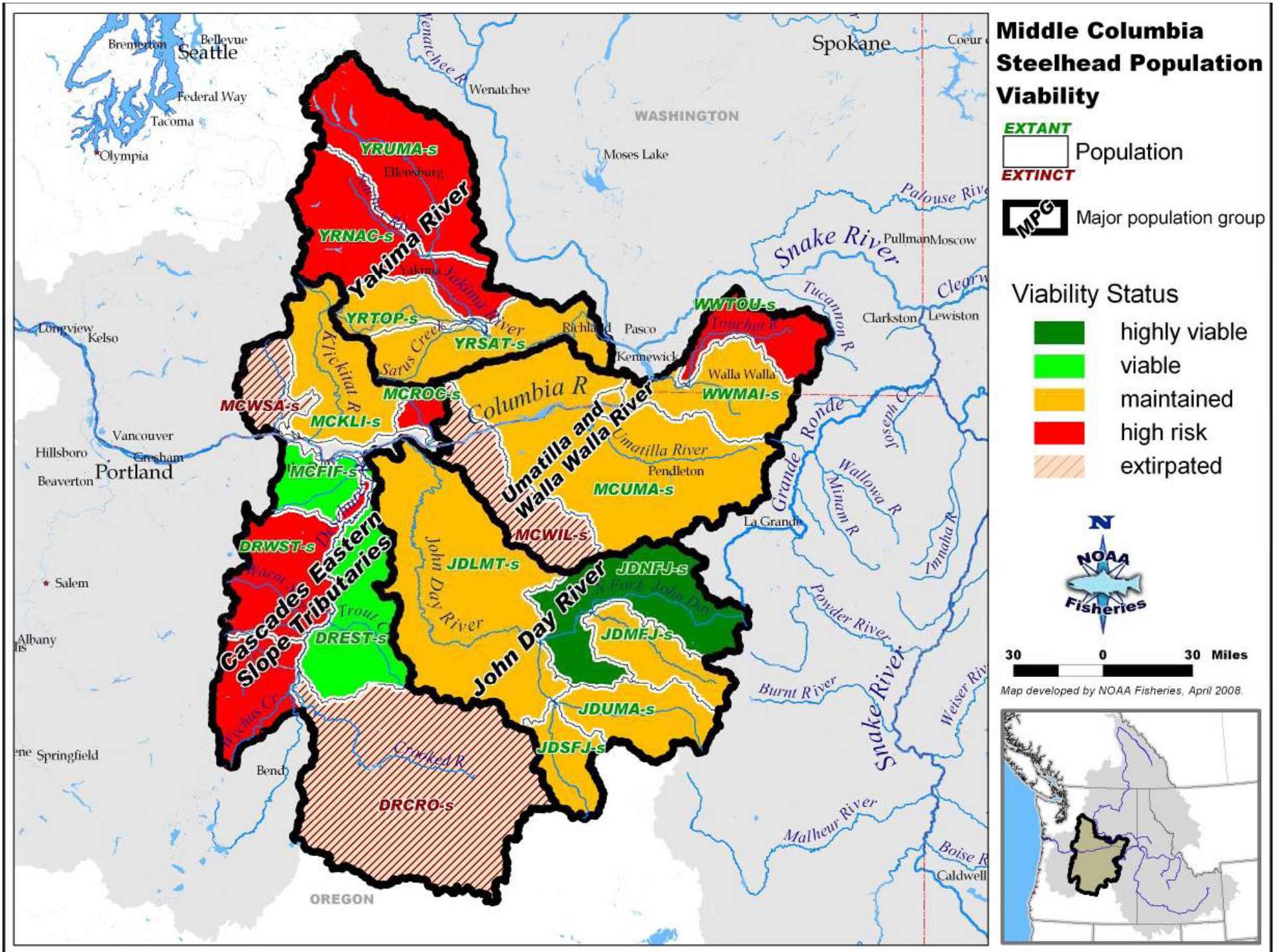
**White Salmon**

**White Salmon Population:**  
*(functionally extirpated)*  
**Run Timing:** Summer steelhead spawned and reared up to RM 16  
**Abundance Threshold:** 500  
**Size Category:** Basic

**Rock Creek**

**Rock Creek Population:**  
**Run Timing:** Summer steelhead  
**Abundance Threshold:** 500  
**Size Category:** Basic







# NMFS' Overall Goal for DPS Viability

- All four MPGs at viable (low risk) status
- Representation of all the major life history strategies historically present
- Representation of abundance, productivity, spatial structure & diversity attributes required for long-term persistence



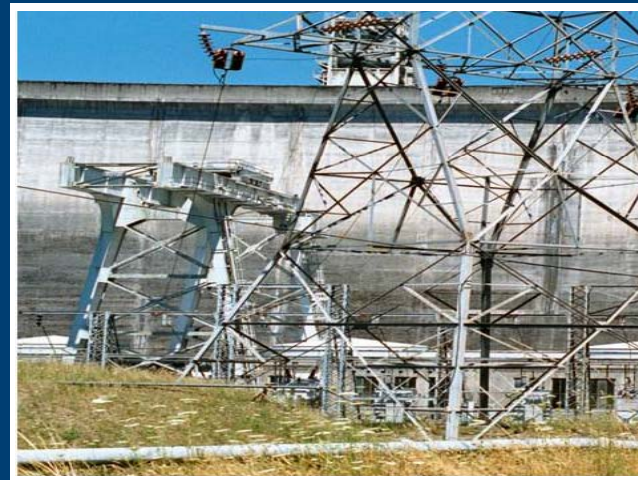


# Major Factors for Decline



- Hatchery-related effects
- Predation/Competition/Disease

- Degraded tributary habitat
- Impaired fish passage in the Mainstem Columbia River





# Major Factors for Decline & Strategies for Recovery: **Tributary Habitat**

## **Limiting Factors**

Lack of key habitat quantity, quality, & diversity

## **Strategies**

- Protect, improve and increase tributary habitat
- Restore historical passage to the White Salmon River above Condit Dam





# Major Factors for Decline & Strategies for Recovery: Hatcheries

## Limiting Factors

Hybridization & Straying

## Strategies

- Determine impacts of Skamania Hatchery steelhead
- Develop an integrated hatchery program for the Klickitat River
- Improve passage at Lyle Falls Fishway
- Assess natural recolonization of upper Klickitat
- Minimize adverse impacts of large scale hatchery releases of *U.S. v. Oregon* production stocks (coho and fall Chinook salmon)



# Major Factors for Decline & Strategies for Recovery:

## Hydro

### Limiting Factors

Mainstem Columbia River passage:

- Direct mortality
- Delayed upstream migration of returning adults
- Cumulative impact of hydropower system on mainstem and estuary habitat

### Strategies

Improve juvenile & adult steelhead migratory passage & survival in the Federal Columbia River Power System





# Major Factors for Decline & Strategies for Recovery: Harvest

## Limiting Factors

Illegal/excessive harvest of listed Mid-C steelhead

## Strategies

- Enforce existing harvest regulations
- Enact/enforce OR/WA proposed regulations for tributary sports fisheries under the 4(d)rule
- Maintain low-impact fisheries
- Increase harvest of hatchery strays



# Major Factors for Decline & Strategies for Recovery: **Predation/Competition**

## **Limiting Factors**

- Predation in the mainstem Columbia River and Estuary
- Hatchery stray competition with natural Mid-C steelhead

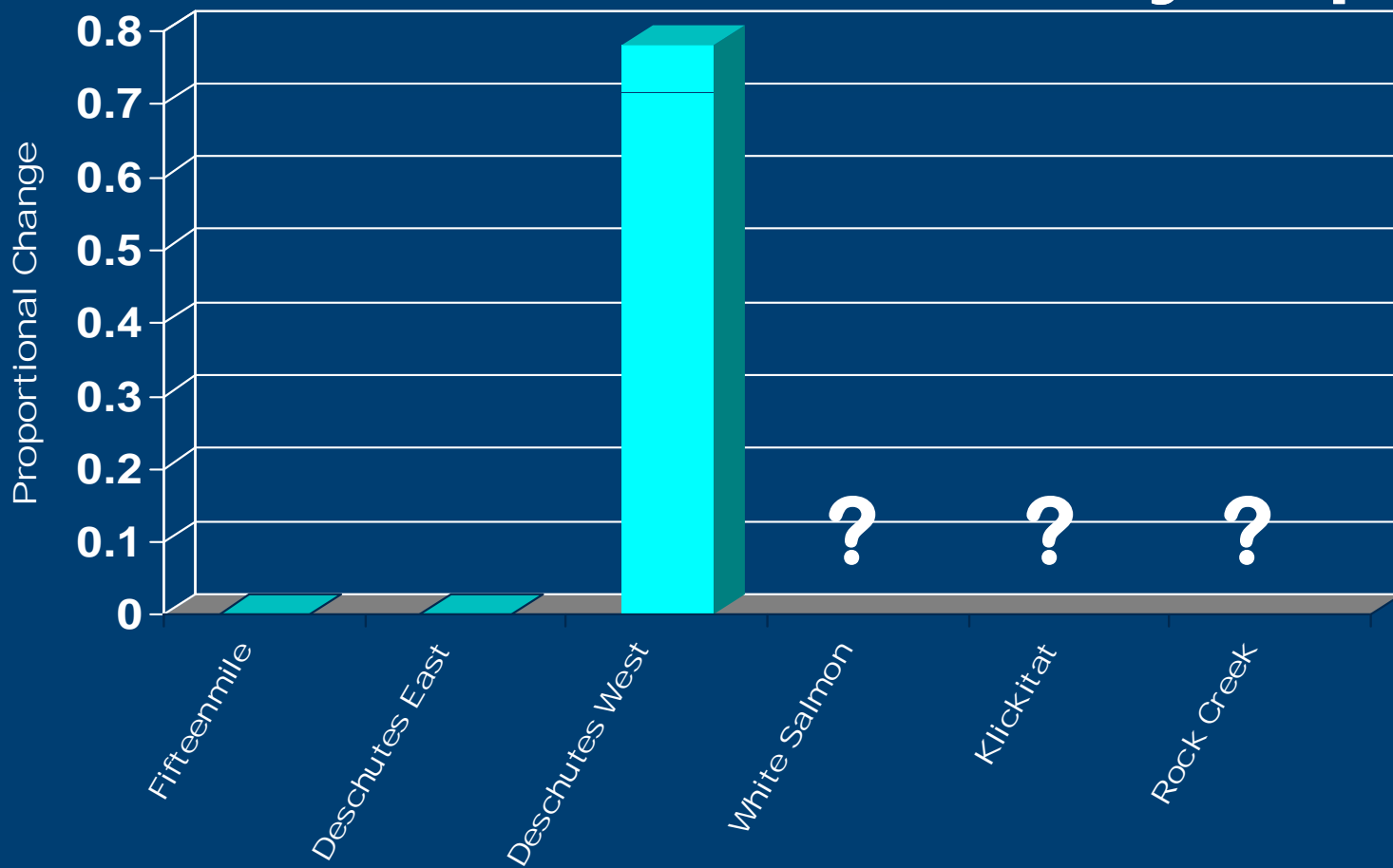
## **Strategies**

- Reduce predation in the mainstem Columbia River & Estuary
- Reduce hatchery stray competition with Mid-C steelhead





# Cascade Eastern Slope Tributaries MPG Abundance/Productivity Gaps





# Implementation/ Coordination

NMFS proposes to:

- Work with co-managers (State & Tribes), Counties, and funding agencies to assist in prioritizing and implementing highest priority actions
- Participate with Middle Columbia River Forum to:
  - Assist in sequencing recovery actions
  - Monitoring for adaptive management



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# Cost Estimates, 2009-2014

**White Salmon:** \$6.5 million

**Klickitat:** \$12.9 million

**Rock Creek:** \$1.0 million

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# Challenges Ahead

- Action Implementation & Funding
- Climate Change
- Population Growth & Development
- Changing Society & Values





Questions?