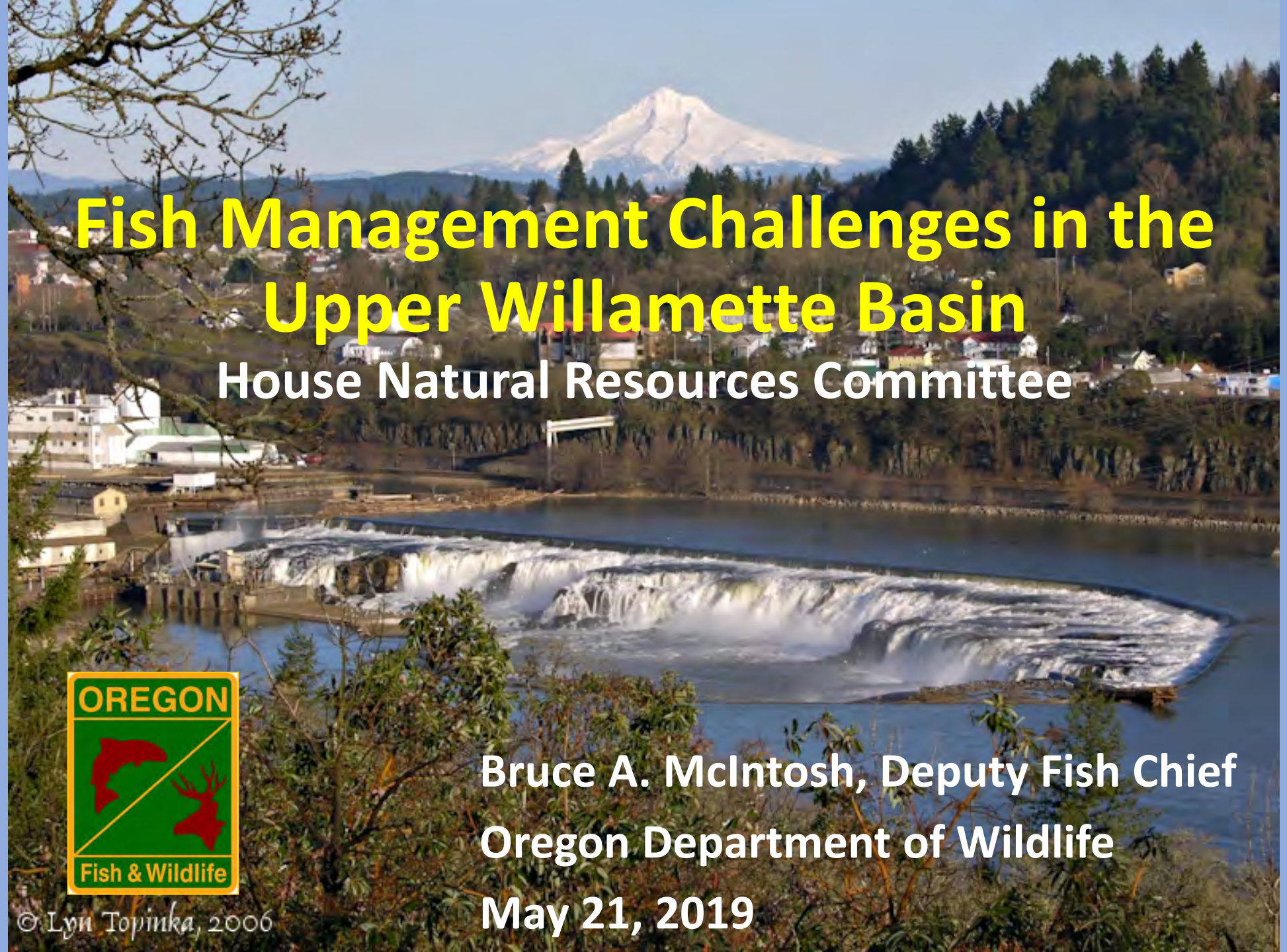

Fish Management Challenges in the Upper Willamette Basin

House Natural Resources Committee

Bruce A. McIntosh, Deputy Fish Chief
Oregon Department of Wildlife

May 21, 2019

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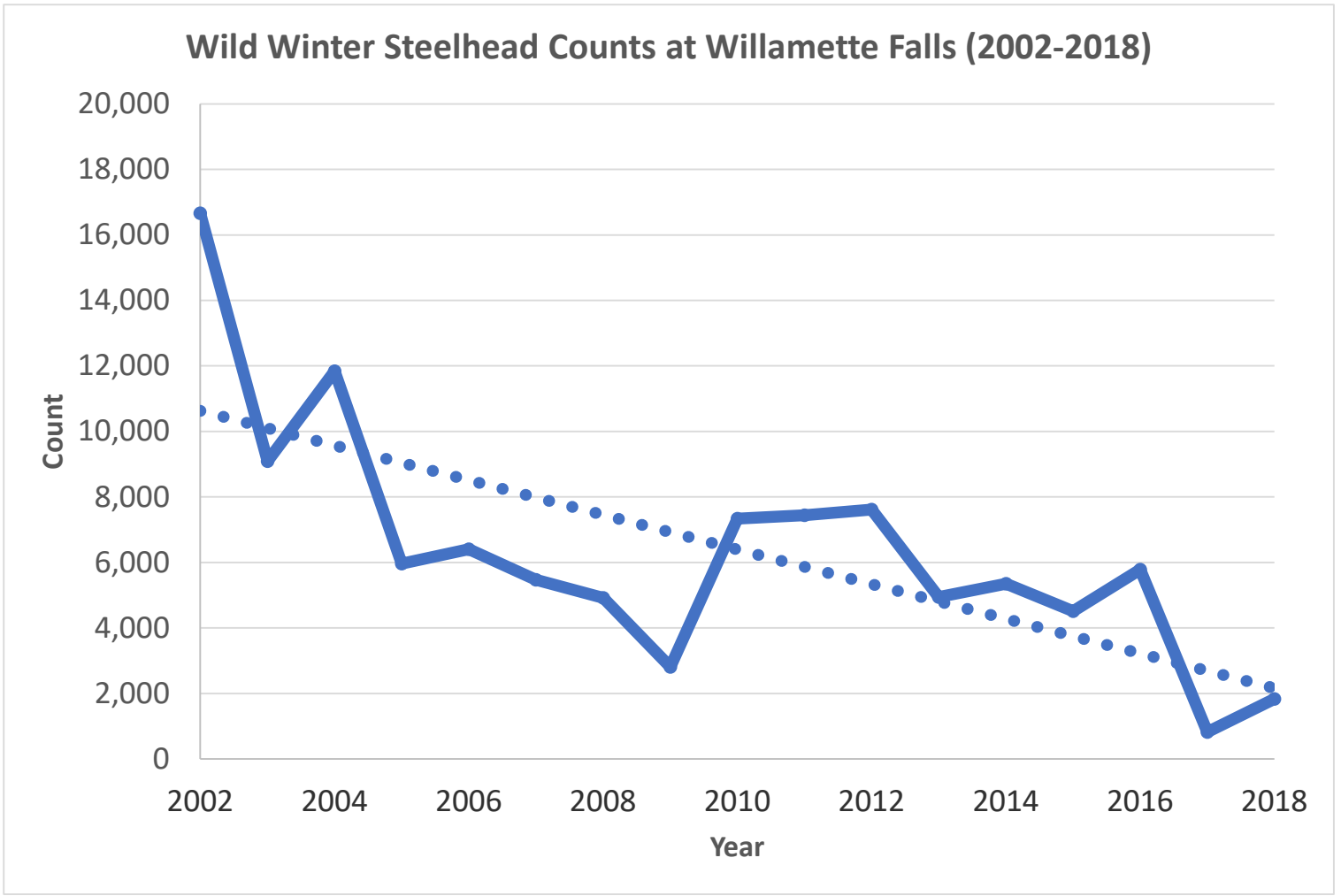
American's Ten Most Endangered Rivers of 2019

Number 5 - The Willamette River

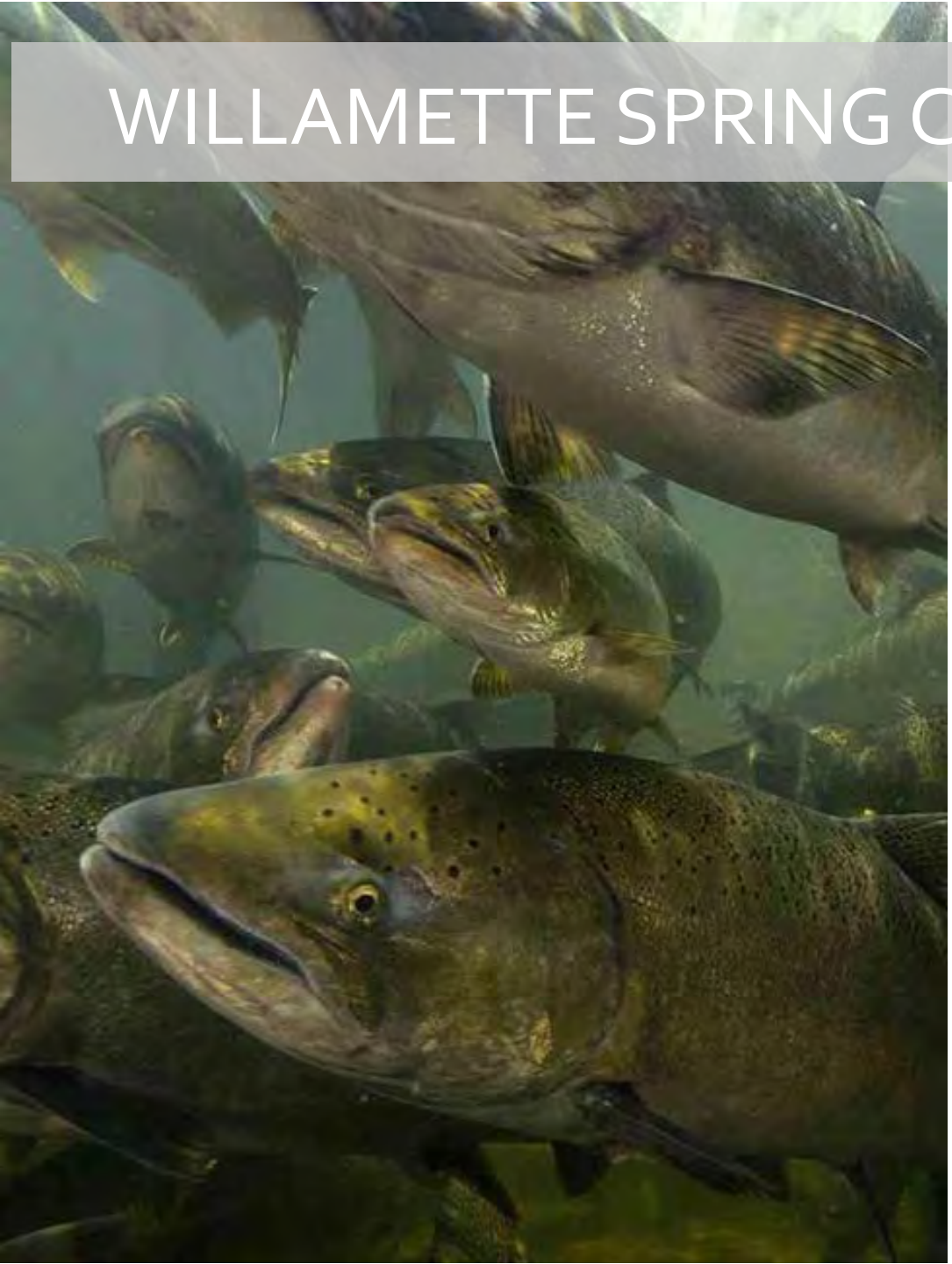
- **Threat:** Dam Operations
- **At Risk:** Salmon and Steelhead; Water Quality
- **Summary:**
  - Most of what is needed is in the 2008 Federal Biological Opinion
  - The Army Corps must modify dam operations and Congress must fund these actions

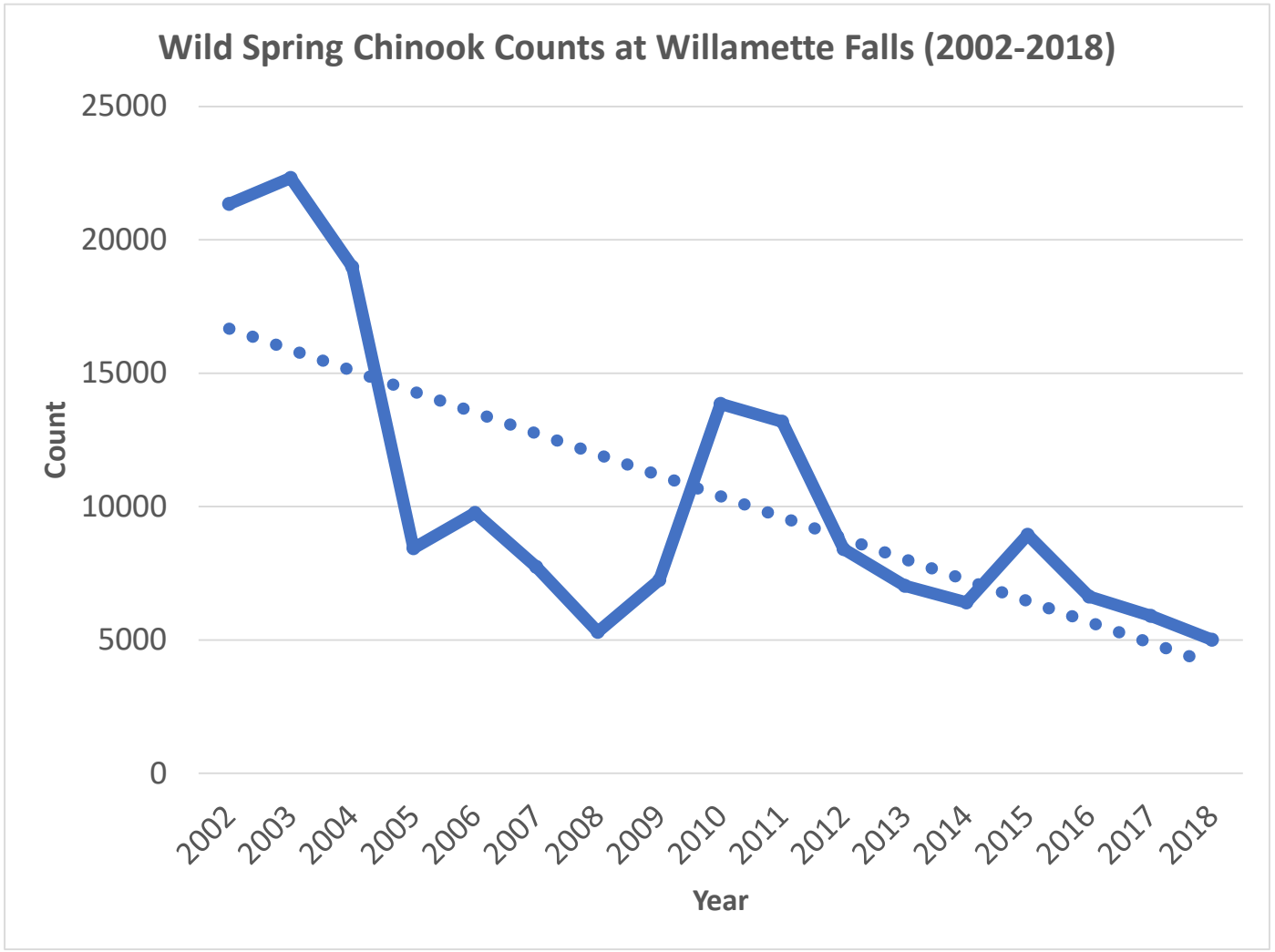
American Rivers
AMERICA'S MOST ENDANGERED RIVERS®

WILLAMETTE WINTER STEELHEAD



WILLAMETTE SPRING CHINOOK





History and Background:

- **The Willamette Project (1951 – present)**
  - **Corps Hatchery Mitigation**
- **ESA listings (1993-1999)**
- **NOAA Fisheries and FWS Biological Opinion (2008)**
- **State/Federal Recovery Plan (2011)**
- **Where are we in 2019 and Next Steps?**

Brian Franklin

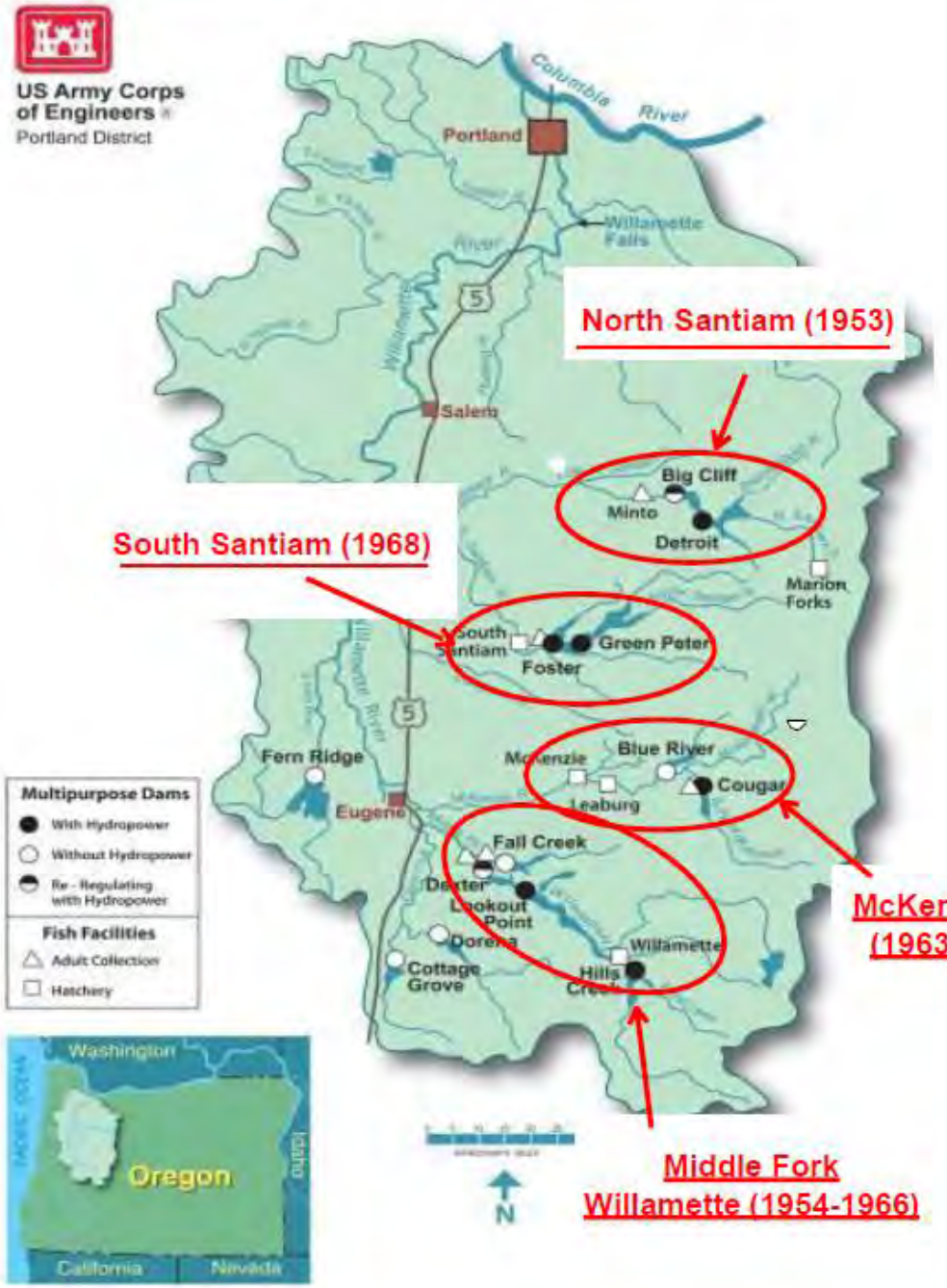
PROJECT OVERVIEW

13 Dams and Reservoirs:

- 8 Hydropower Plants
- Large Reservoir Fluctuations (100-160 ft.)
- Benefits
  - Flood control
  - Hydropower

Authorized Purposes:

- Flood Control
- Hydropower
- Fish & Wildlife
- Navigation
- Irrigation
- Recreation
- Water Quality and Quantity



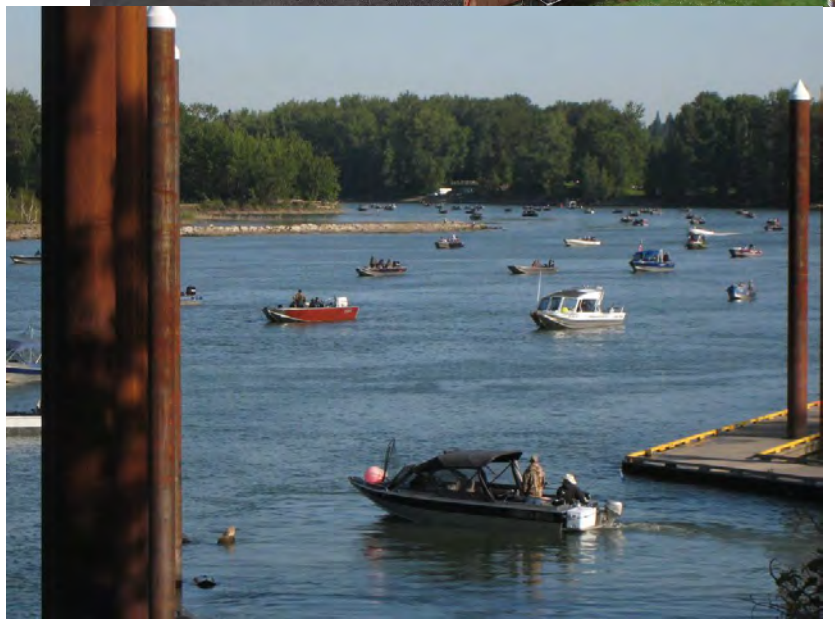
5 Mitigation Hatcheries

US Army Corps of Engineers
Portland District

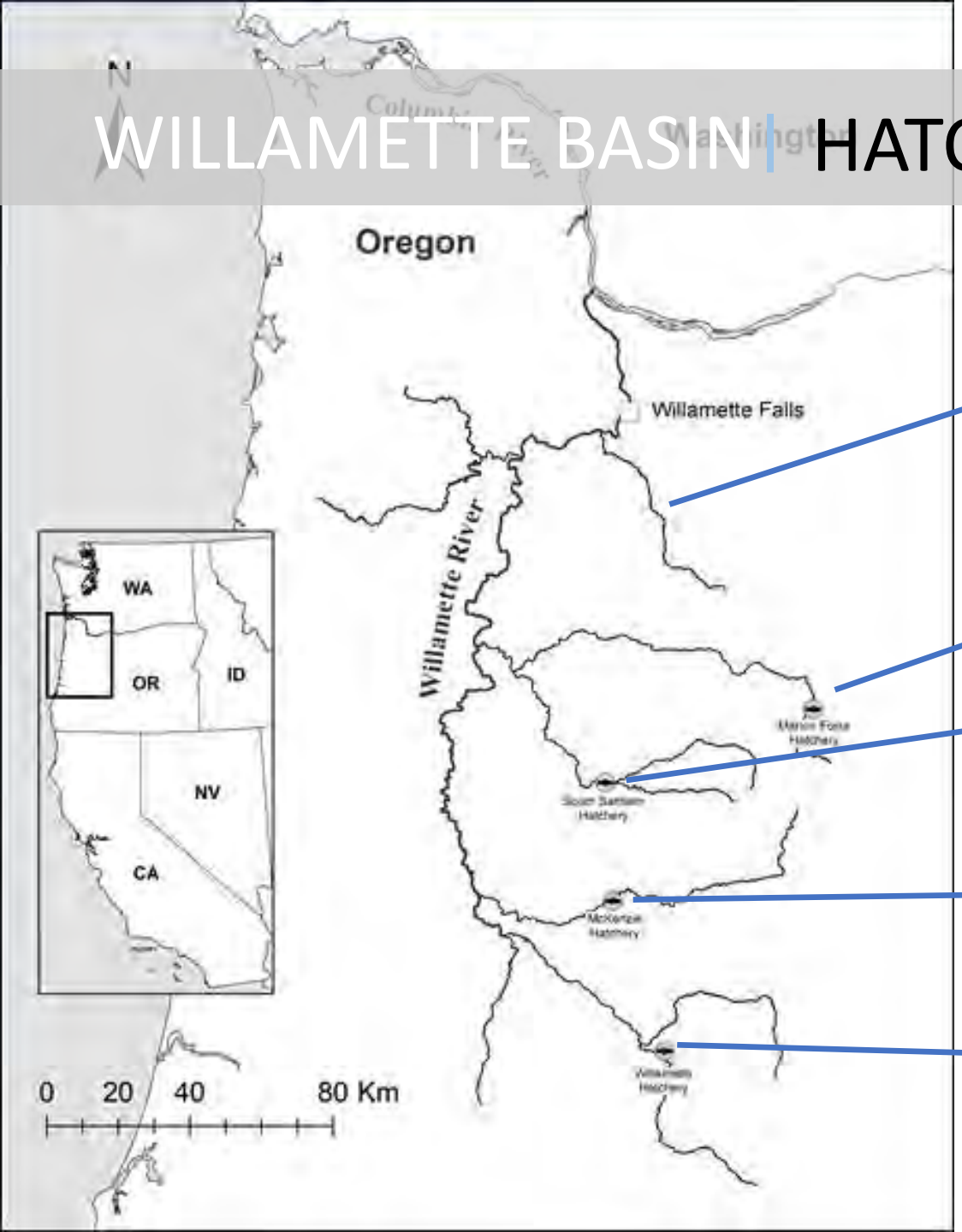
U.S.ARMY

Federal Hatchery Mitigation:

- **1951: Congress recognized the need to mitigate for lost production above Willamette Dams**
  - 5 federal mitigation hatcheries operated by ODFW
  - Marion Forks, South Santiam, McKenzie, ~~Leaburg~~, Willamette
- **1990: Corps mitigation responsibility 747,800 pounds of fish/yr.**
  - Salmon/Steelhead = 4.6 million smolts/yr.
  - Trout = 750,000 trout/yr.
- **2019: Corps fails to meet mitigation targets (-20%)**
  - more reductions to follow?
- **Discretionary?**

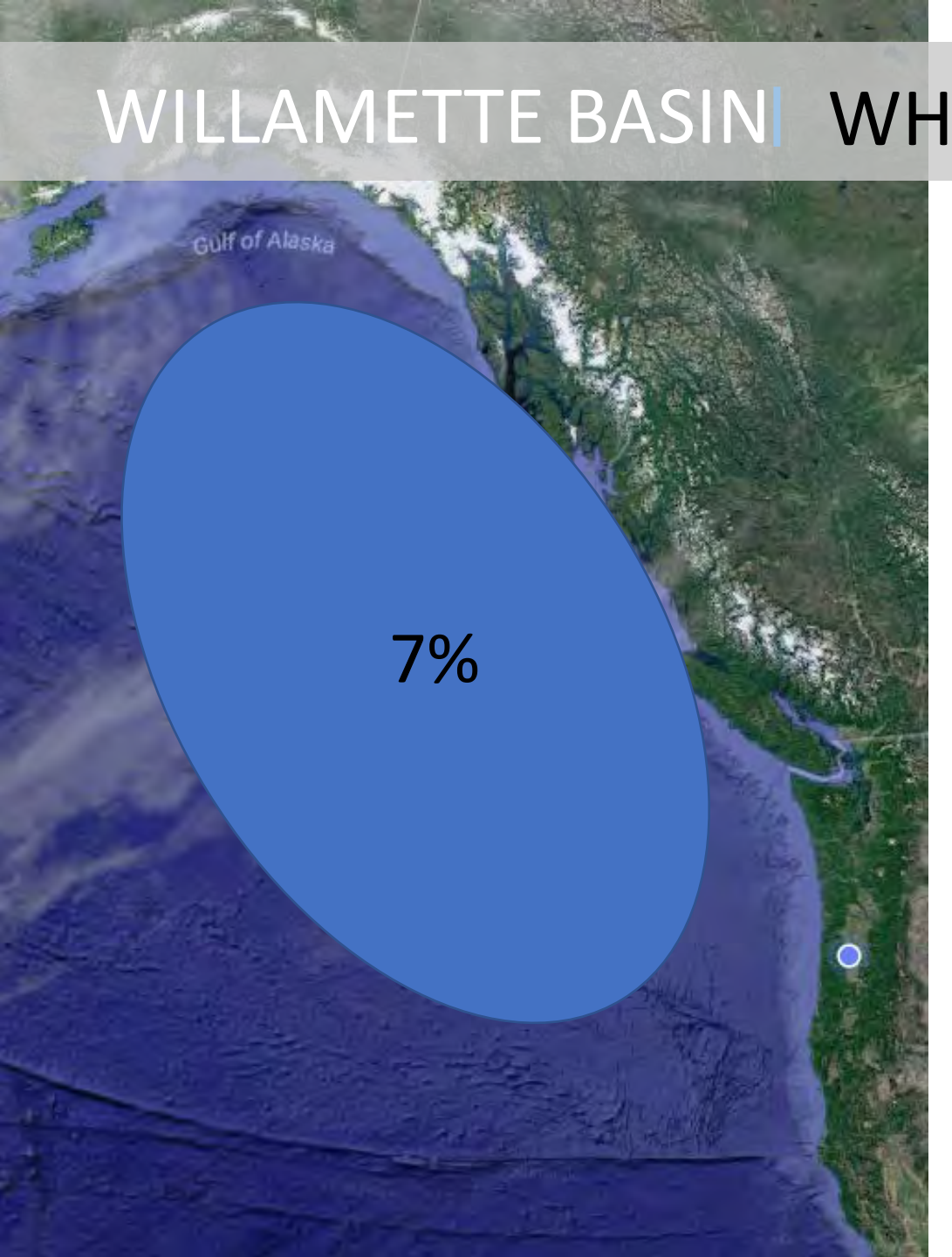


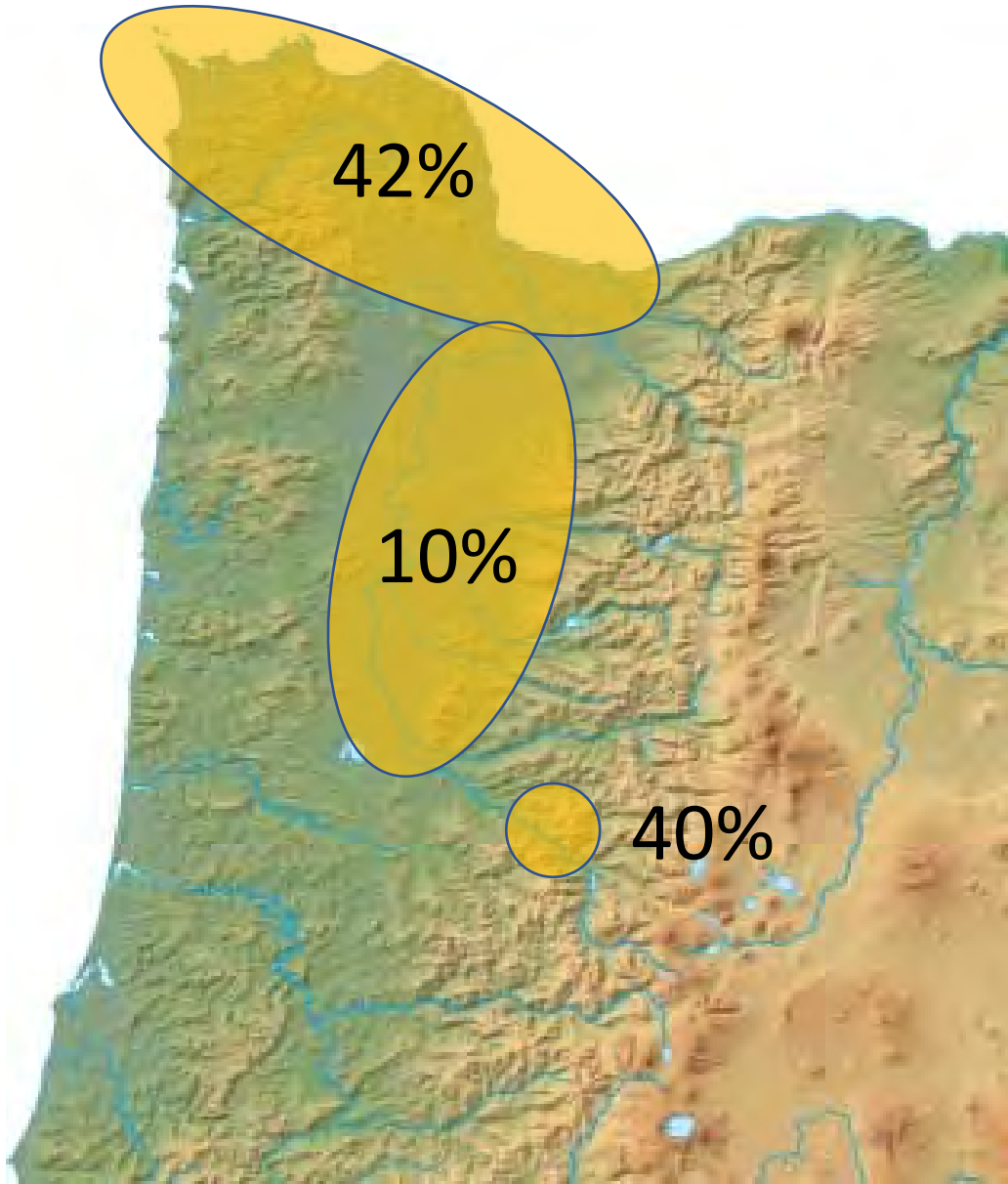
WILLAMETTE BASIN | HATCHERY RELEASES (5.6 M annually)

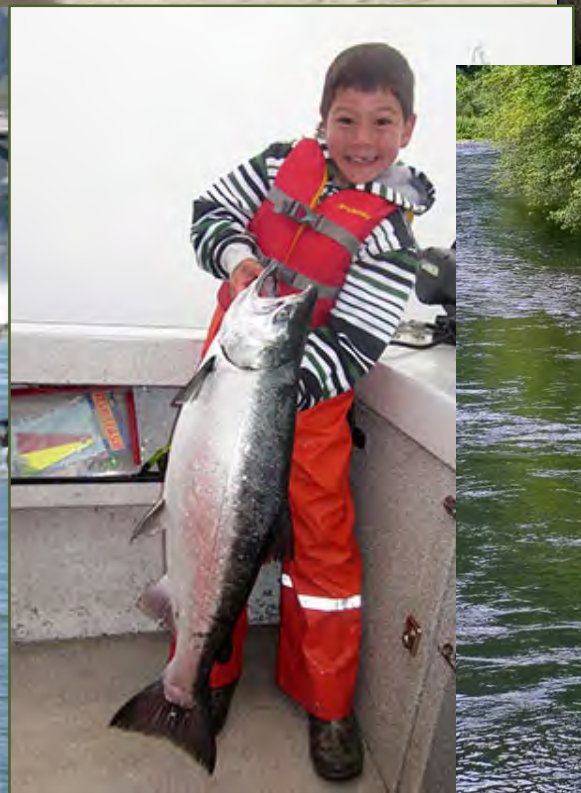


	Spring Chinook	Summer Steelhead	Trout
	100,000		
	704,000	90,000	
	1,021,000	120,000	750,000
	604,750	108,000	
	1,939,000	157,000	

WILLAMETTE BASIN | WHERE DO THE FISH GO?

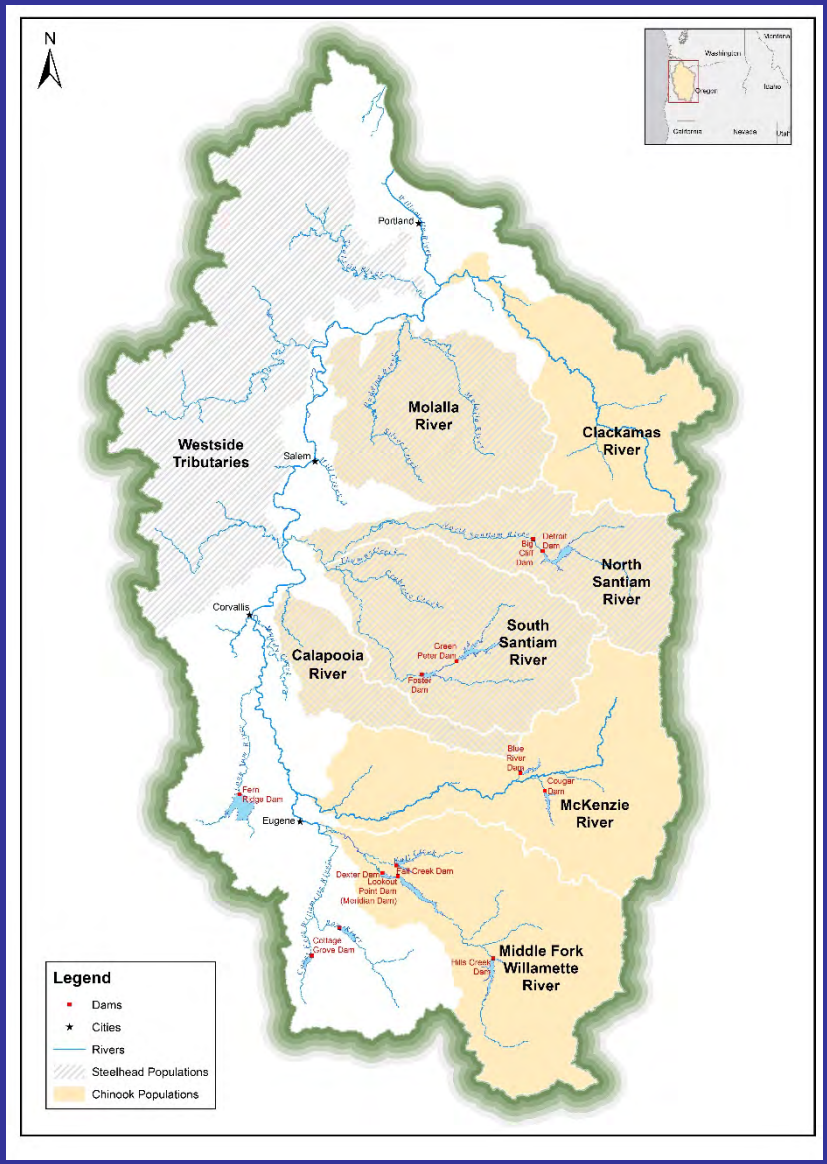






ESA Listings and Recovery Actions (1993 – 2019):

- **ESA listings (1993-1999)**
  - Oregon Chub (1993)
  - Bull Trout (1998)
  - Spring Chinook and Winter Steelhead (1999)
- **2008 NOAA Fisheries and FWS Biological Opinions (BiOp)**
  - litigation and Court-ordered settlement
  - Jeopardy with Reasonable and Prudent Alternatives
  - Focus on dams
- **2011 State/Federal Recovery Plan**
  - Roadmap to recovery



ADVERSE EFFECTS OF THE WVP ON ESA-LISTED SPECIES AS OF 2008 (NOAA)

- Populations of UWR Chinook and UWR steelhead are at extremely low levels
- Trends in adult returns continued to decline between ESA-listings in 1999 and 2008
- WVP operations affect 4 of 7 sub-basins with Chinook and 2 of 4 tribs with steelhead by
  - Preventing access to historical habitat – this causes the most harm
  - Exacerbating poor habitat and altered natural water temperatures
  - Creating a risk of introgression with hatchery-origin fish

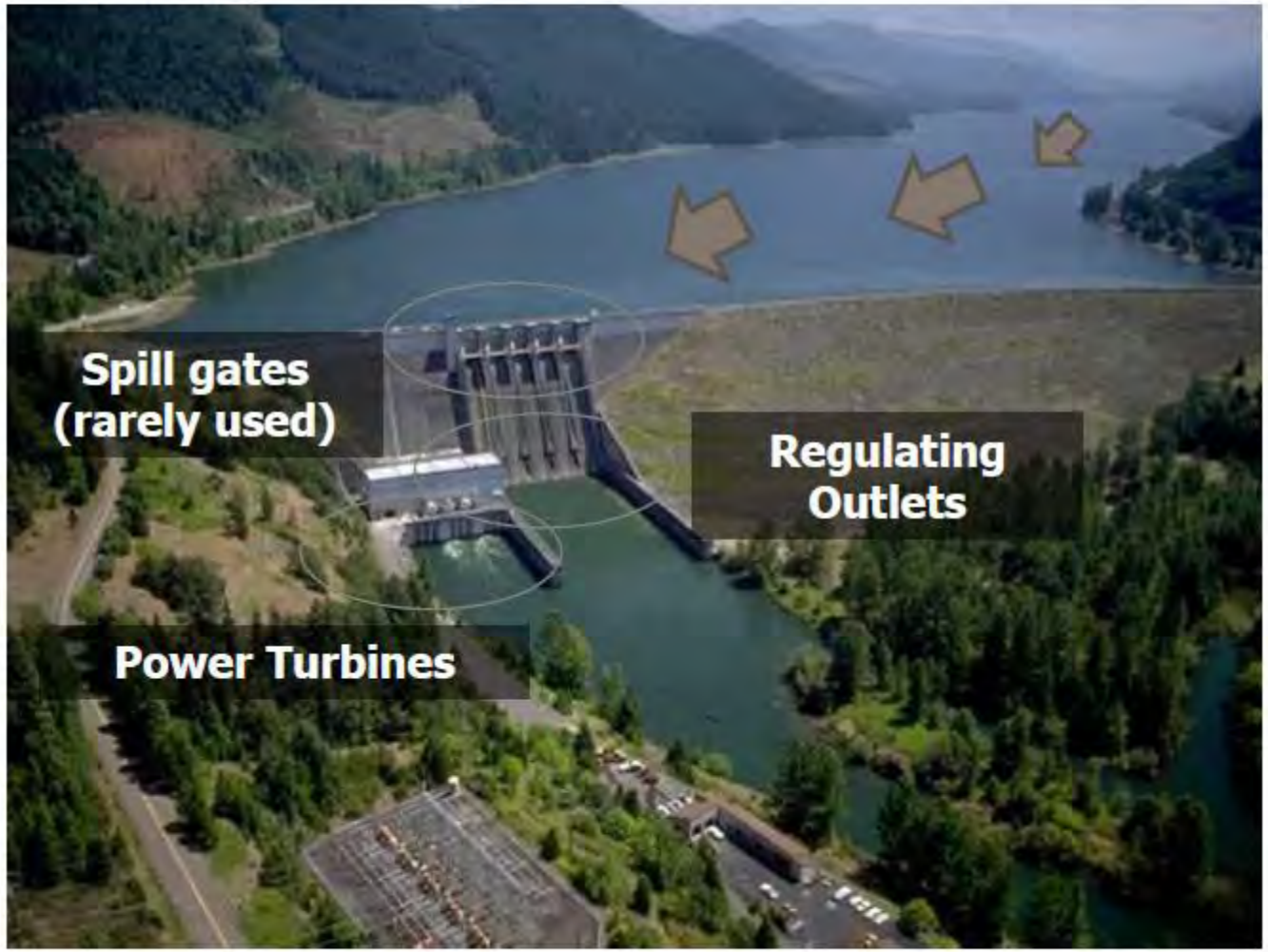
Improved fish passage is necessary for survival and recovery

- Proportion of high quality spring Chinook spawning/rearing habitat above WVP dams:
  - McKenzie: 25%
  - North Santiam: 71%
  - South Santiam: 85%
  - Middle Fork Willamette: 94%
- Most adult fish now spawn in degraded habitat downstream of WVP dams
- Estimated at-dam mortality for juveniles produced above the dams can be as high as 71-89%

Willamette BiOp Major Strategies and Actions:

- **Focus on Dams**
  - **Big 4 (North and South Santiam, Cougar, Middle Fork)**
    - Upstream/downstream passage
    - Temperature control and flow modification
- **Revetments and other physical habitat (mainstem projects)**

ISSUE: DOWNSTREAM JUVENILE FISH PASSAGE IS CHALLENGING



Lookout Point Dam

- Long reservoirs
- Predators / Copepods
- Limited passage routes
  - Deep intakes (juveniles are surface oriented)
  - High mortality
- Fish movement in reservoirs
- Annual Reservoir Fluctation (100-160ft)
- Biologically Beneficial – Feasible – Cost Effective

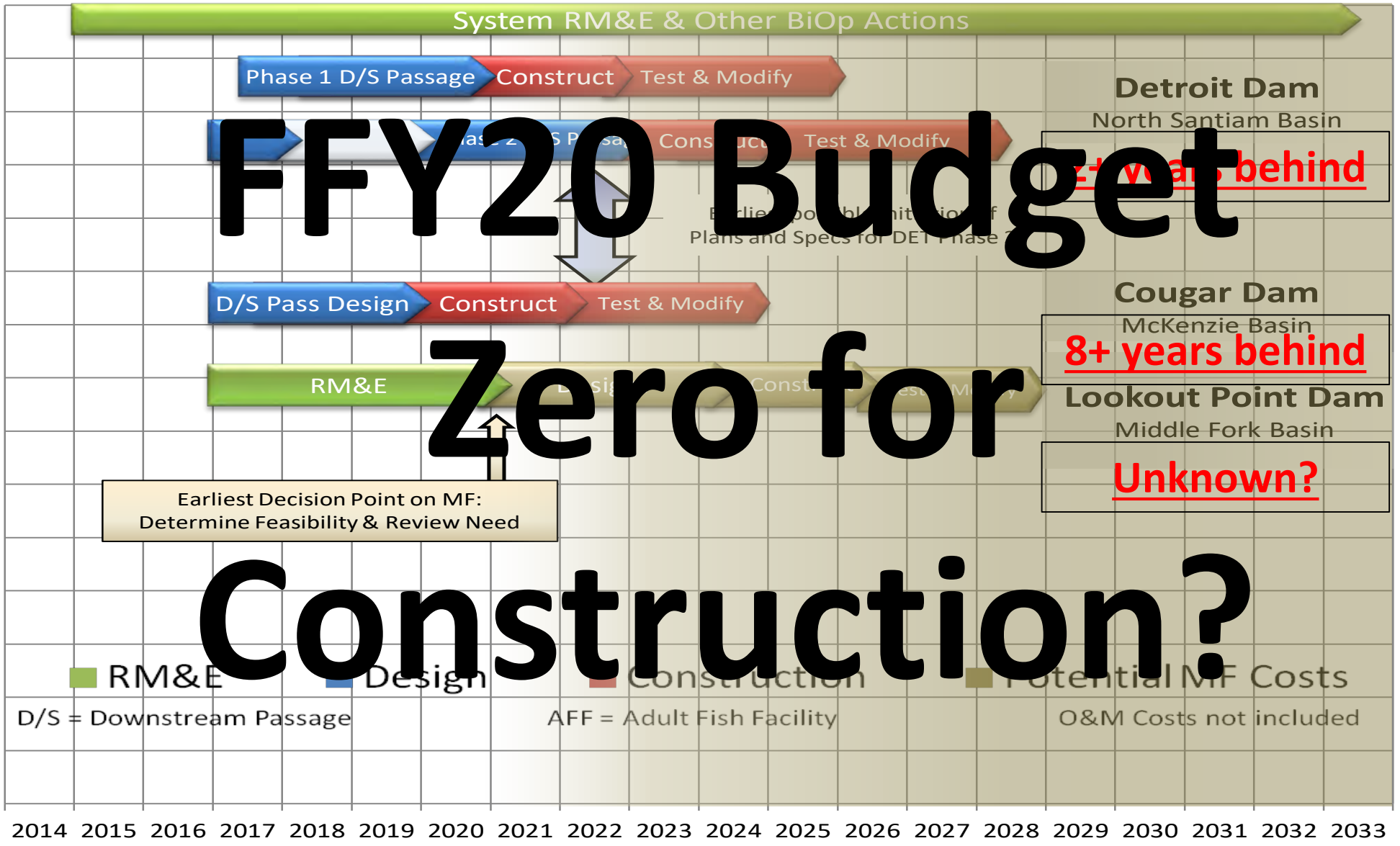
US Army Corps
of Engineers ®
Portland District

U.S.ARMY

Flood Control/Hydropower Accomplishments

- **Clackamas: 2012-2015**
  - PGE implements upstream and downstream fish passage structures their dams
  - **Highly Effective** – significant increase in survival
- **North Santiam: 2013**
  - adult collection facilities completed
- **South Santiam: 2014-2018**
  - Adult collection facilities completed
- **McKenzie: 2005-2010**
  - Temperature control tower at Cougar Dam completed
  - Adult collection facility completed
- **Middle Fork Willamette: 2010-2018**
  - winter drawdown operations at Fall Creek Dam
  - Fall Creek Adult Collection Facility completed

Recommended Plan Implementation Schedule



FFY20 Budget Zero for Construction?

Upper Willamette Conservation and Recovery Plan for Chinook Salmon and Steelhead

2011

- Joint plan prepared by ODFW and NMFS
- Adopted in August 2011
  - Oregon conservation plan under Native Fish Conservation Policy
  - Federal ESA recovery plan

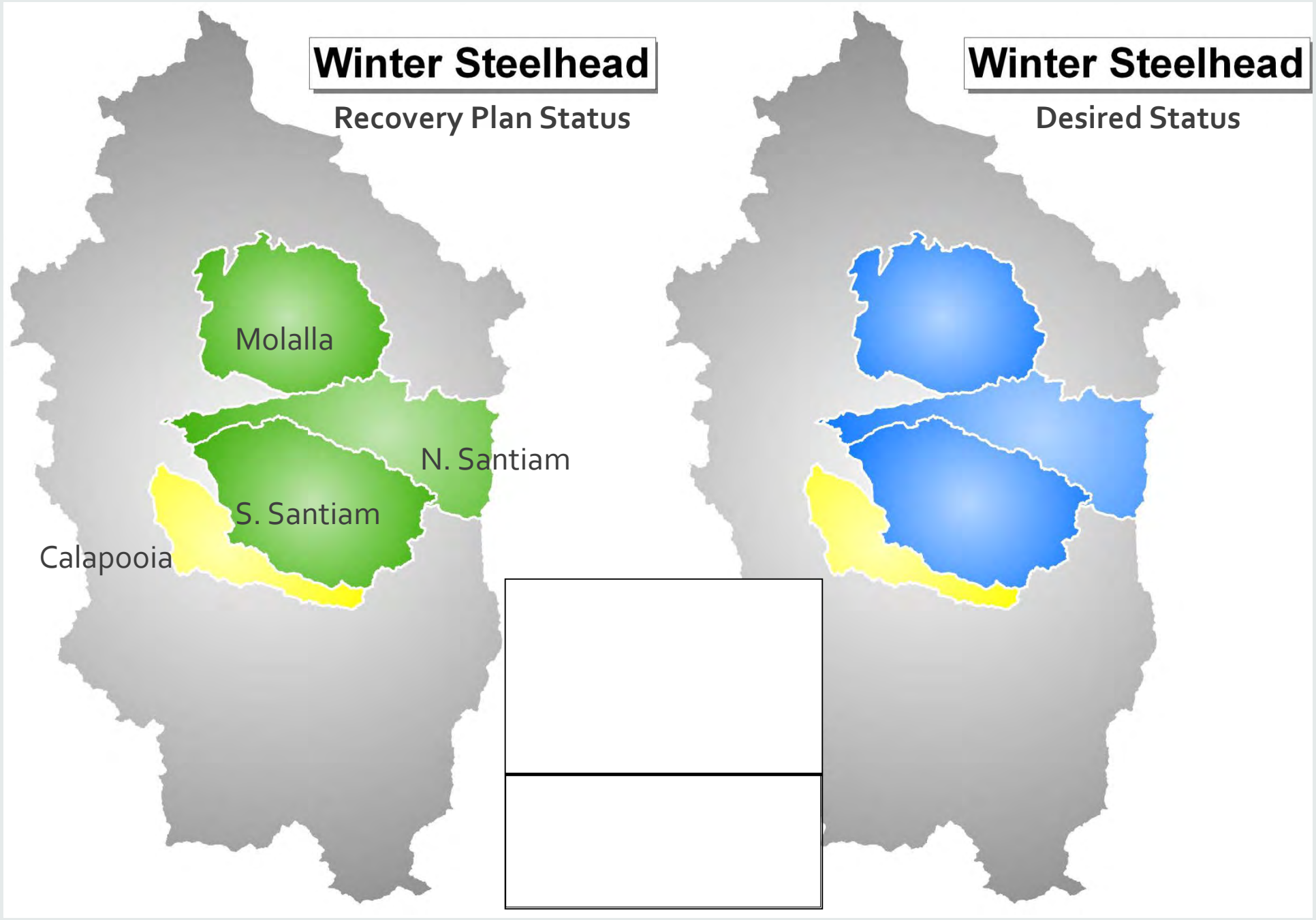
Recovery Goals and Criteria

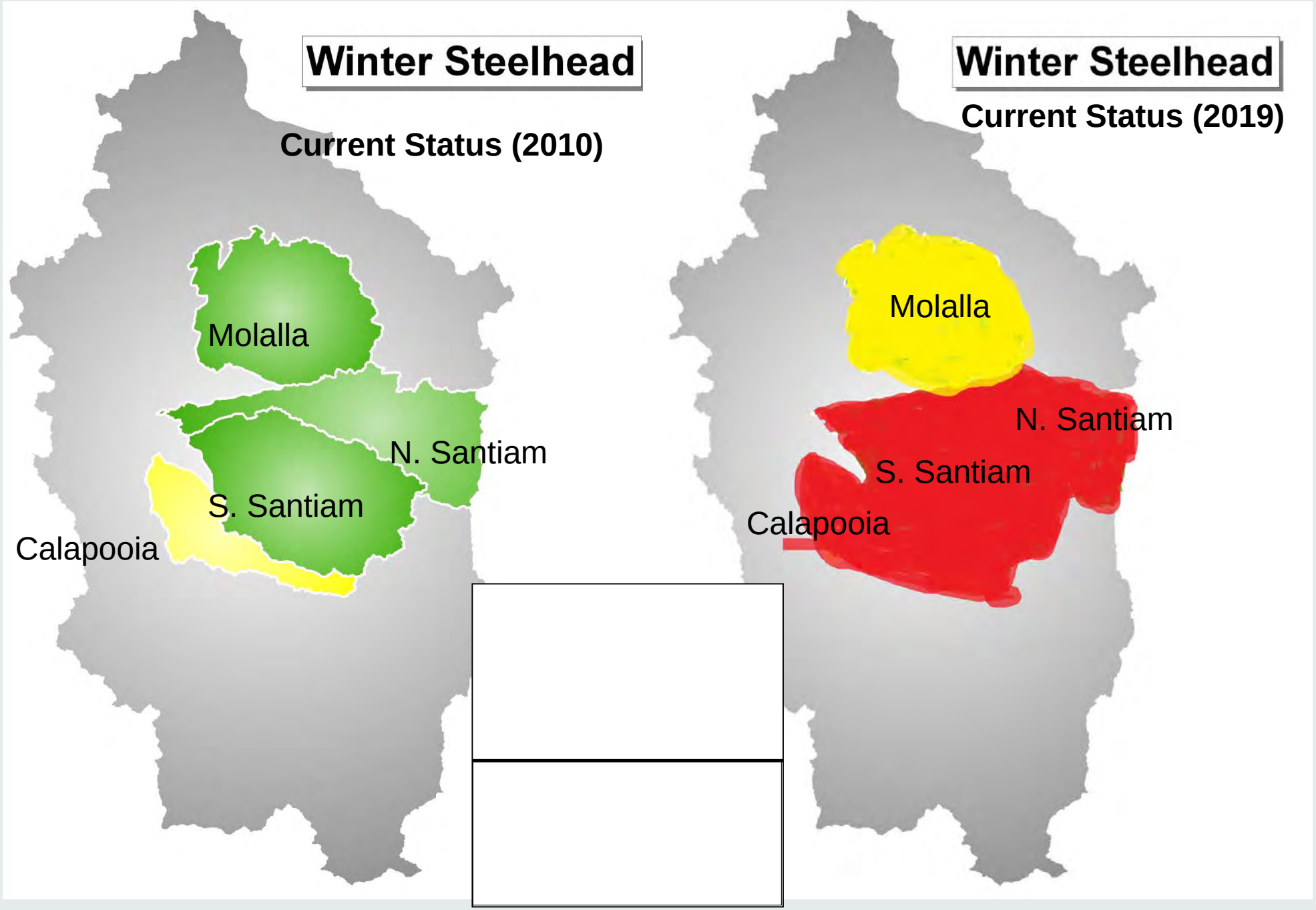
- Conservation road map to delist both species
- ESA Delisting Recovery Goals
- Broad Sense Recovery
  - Support range of economic, ecological, and cultural needs

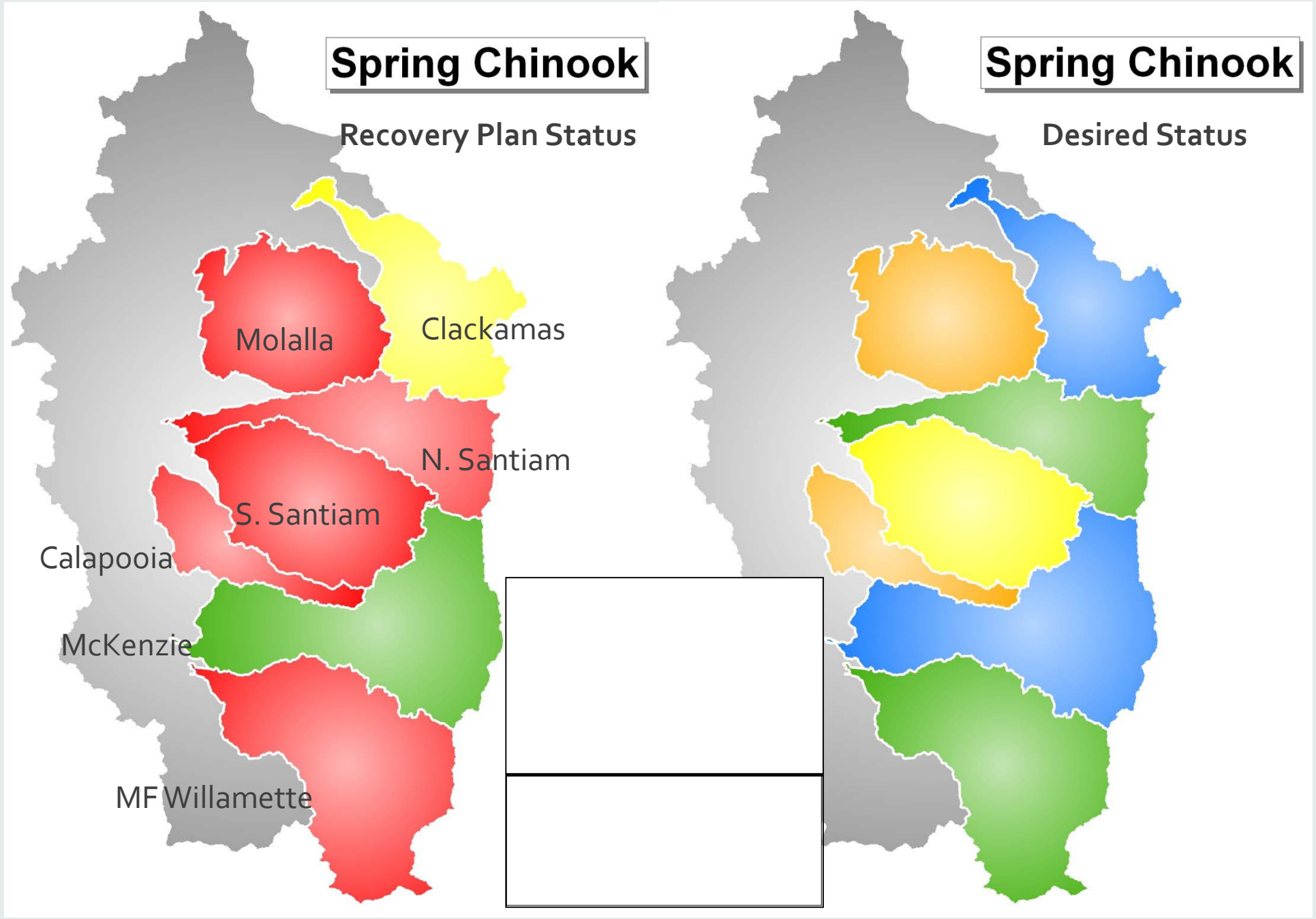
“All H” Strategy

- Hydro
- Habitat
- Hatchery
- Harvest
- Other species

CANNOT DELIST WITHOUT REINTRODUCTION ABOVE BIG 4


Winter Steelhead
Recovery Plan Status
Molalla
N. Santiam
S. Santiam
Calapooia
Winter Steelhead
Desired Status


Winter Steelhead
Current Status (2010)
Molalla
N. Santiam
S. Santiam
Calapooia
Winter Steelhead
Current Status (2019)
Molalla
N. Santiam
S. Santiam
Calapooia


Spring Chinook
Recovery Plan Status
Molalla
Clackamas
N. Santiam
S. Santiam
Calapooia
McKenzie
MF Willamette
Spring Chinook
Desired Status

Major Strategies and Actions - Habitat

Freshwater Habitat Actions

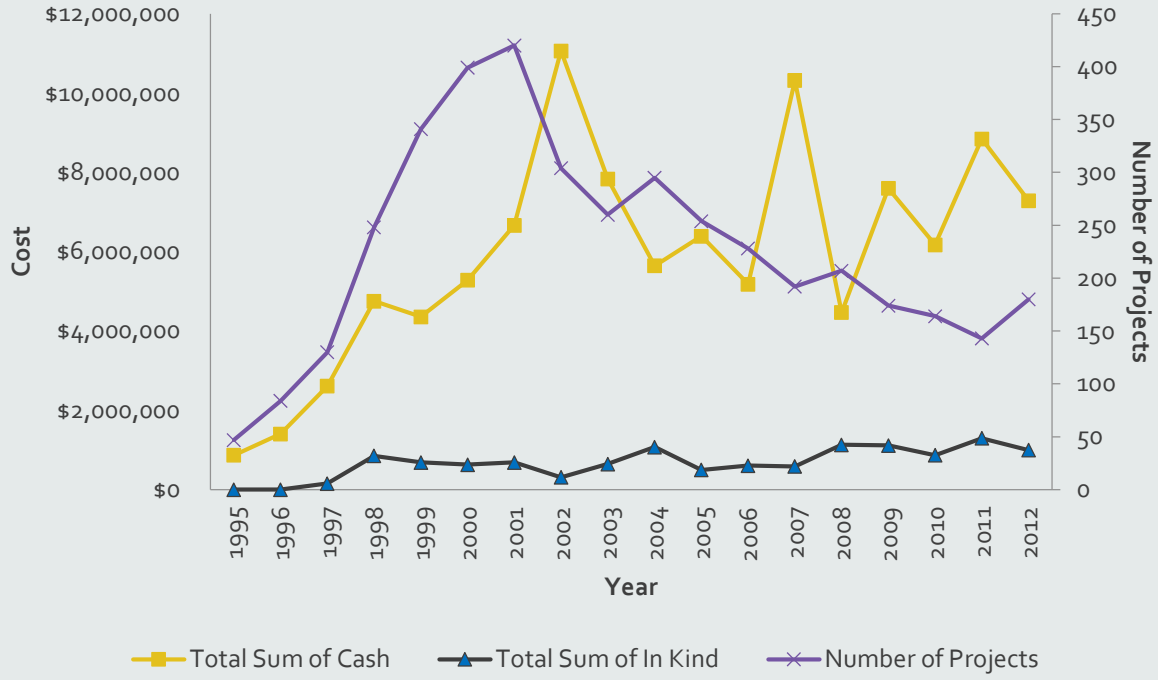
- Best Management Practices, State/Federal guidelines
- Voluntary protective and restoration actions
- ODEQ TMDL Water Quality actions

Estuarine Habitat Actions

- NMFS Lower Columbia Estuary Recovery Plan

Habitat Accomplishments – Basin-wide

- $135 M spent on habitat restoration since 1999
- 4,000 restoration projects completed
- 161 miles of instream habitat restored
- 885 miles of riparian habitat restored
- Over 1,100 miles of habitat made accessible



Number and cost of Willamette Basin habitat restoration and protection projects reported to the OWRI between 1995 and 2012.

SEA-LION MANAGEMENT | 2019

Removed

34

At Willamette

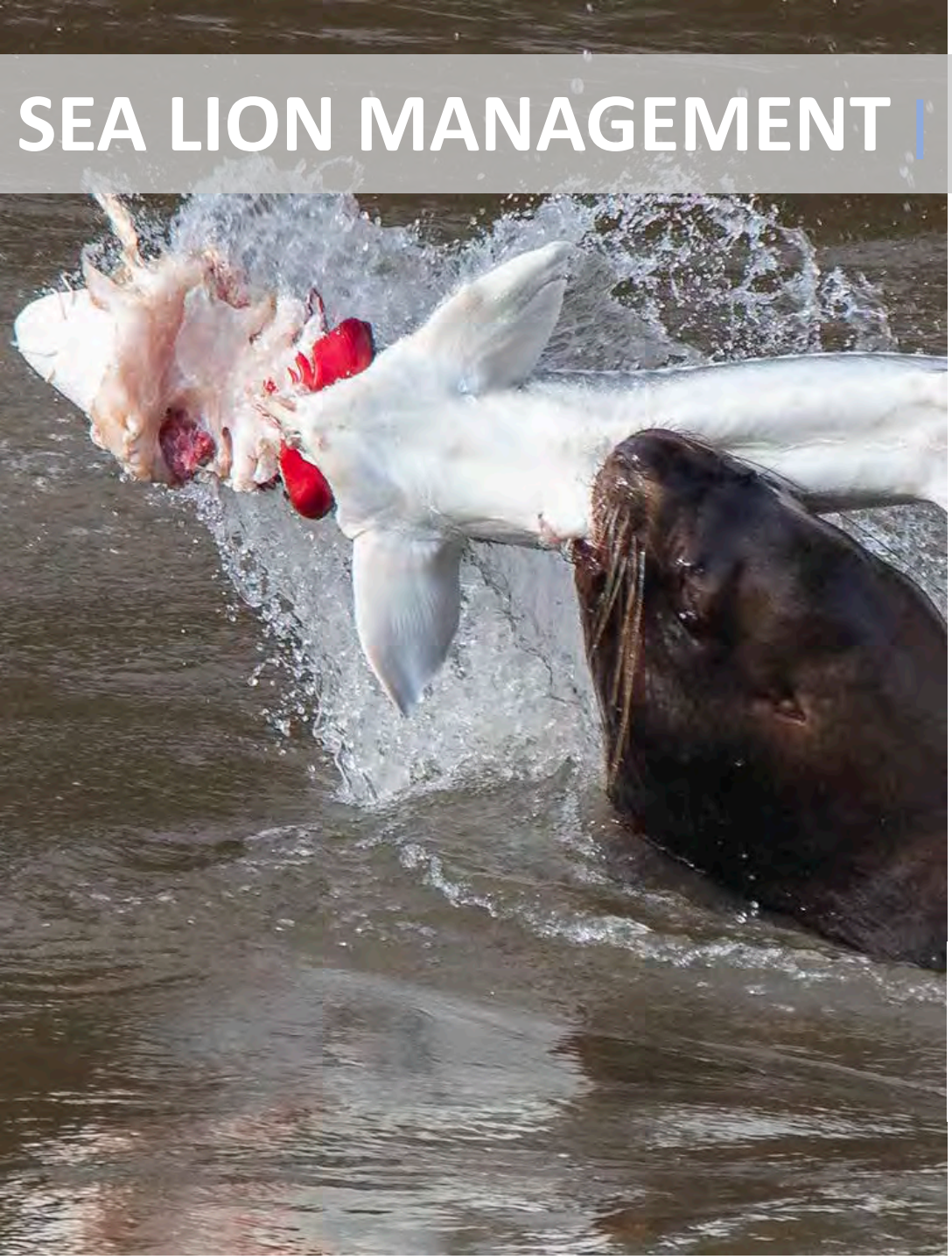
Winter Steelhead

3128

Returned

Additional Removal Authority

SEA LION MANAGEMENT | 2020



FULL IMPLEMENTATION

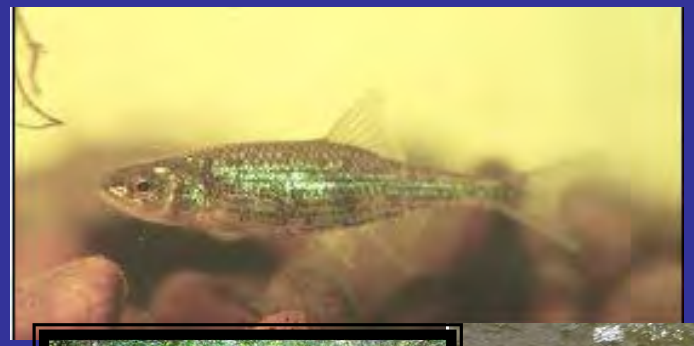
All Locations

California

Steller

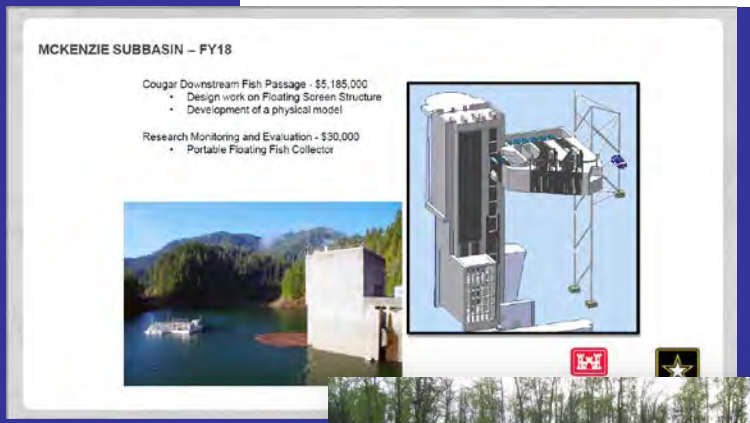
Where Are We in 2019?

- **The Good News:**
  - Oregon Chub Delisted (2015)
  - Significant investments and progress on habitat protection/restoration
  - Getting in front of the marine mammal issue
  - Oregon and Oregonians are doing their part, the Feds need to hold up their end of the bargain.



Where Are We in 2019?

- **The Bad News:**
  - Spring Chinook and Winter Steelhead at MUCH greater risk of extinction
  - Expected benefits from BiOp actions over last 10 years have not been realized
  - Feds are not honoring hatchery mitigation responsibilities
- **Next Steps:**
  - Fed's must expedite and fully implement passage at the Big 4 or salmon/steelhead will go extinct in the Willamette



Questions?