Monitoring and Recovery Status of Endangered Species Act (ESA)-Listed Salmon and Steelhead

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Fish and Wildlife Commission Meeting
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Overview

- Salmon Recovery in Washington State

- Summarize Monitoring Methods

- Case Studies and Summary of Progress

Salmon Recovery in Washington State

- NOAA
  - Federal Endangered Species Act

- Salmon Recovery Act
  - Regional Recovery Boards
  - Lead Entity Watersheds

- WDFW and Tribal Co-managers

15 ESA Listed Salmon and Steelhead
ESUs (Evolutionary Significant Unit)

Puget Sound
- Chinook
- Steelhead

Hood Canal
- Summer Chum

Washington Coast
- Lake Ozette Sockeye

Lower Columbia
- Spring Chinook
- Fall Chinook
- Steelhead
- Coho
- Chum

Middle Columbia
- Steelhead

Upper Columbia
- Spring Chinook
- Steelhead

Snake River
- Fall Chinook
- Spring/Summer Chinook
- Steelhead

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NOAA Population Status

- **Viable Salmon Parameters (VSP)**
  - Abundance
  - Productivity
  - Spatial Distribution
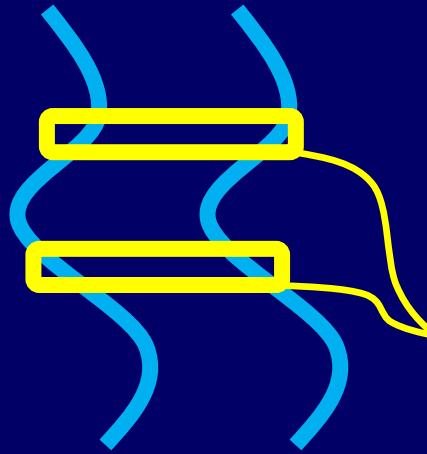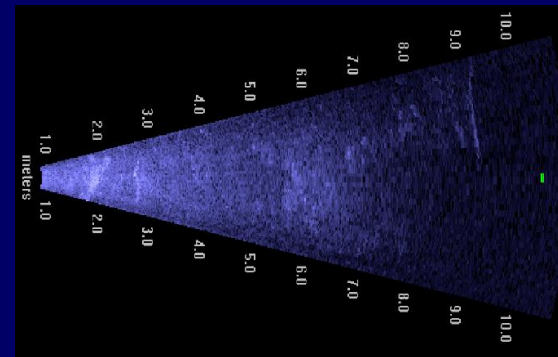 - Diversity

Adult Abundance Methods

Redd surveys

Larry Phillips

Weirs

Mark Recapture

Steve VanderPloeg

Adult Abundance Methods

PIT tag

SONAR

SONAR Images: Keith Denton

Juvenile Abundance Methods
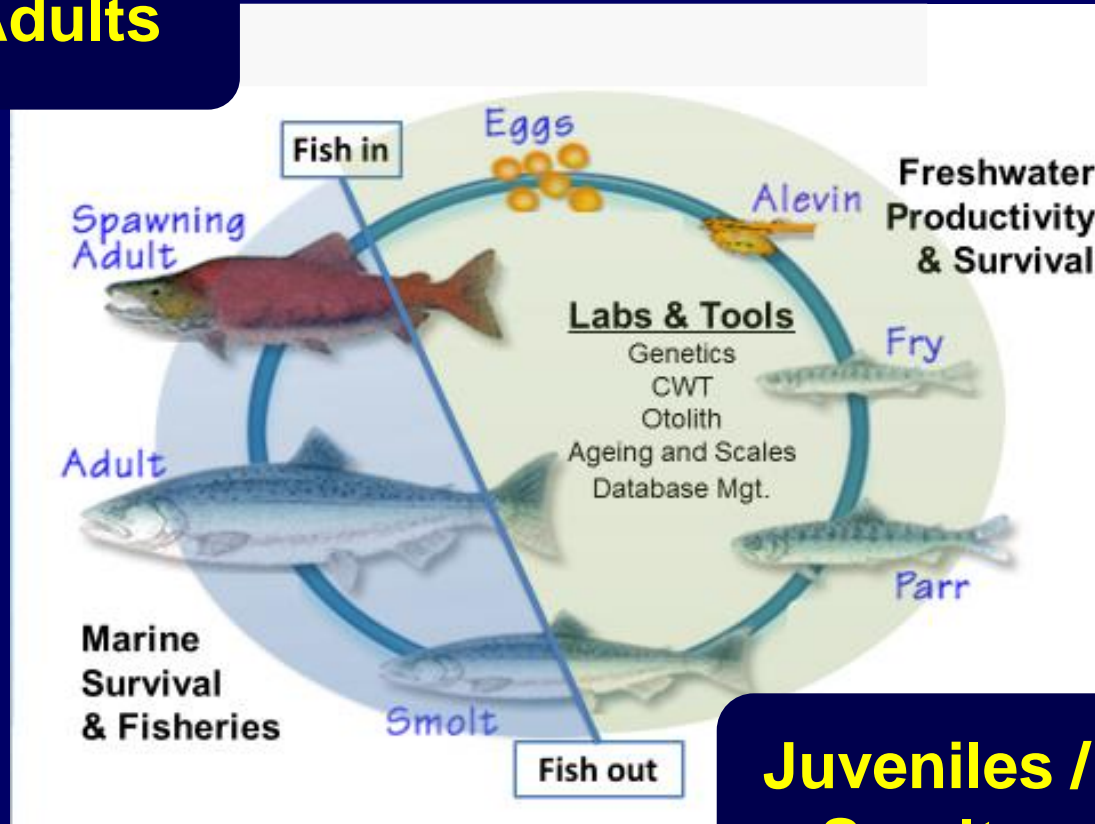
Screw traps

Inclined plane traps

Fence weirs

Fixed weirs

Abundance and Productivity

Adults

Eggs

Fish in

Spawning Adult

Alevin

Freshwater Productivity & Survival

Labs & Tools
Genetics
CWT
Otolith
Ageing and Scales
Database Mgt.

Fry

Adult

Parr

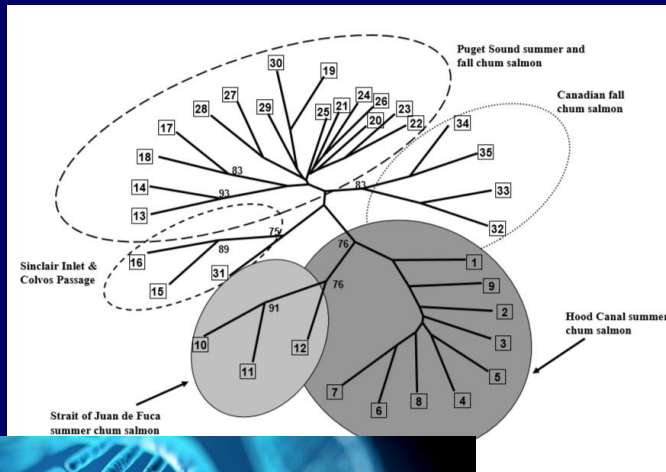Marine Survival & Fisheries

Smolt

Fish out

Juveniles / Smolts
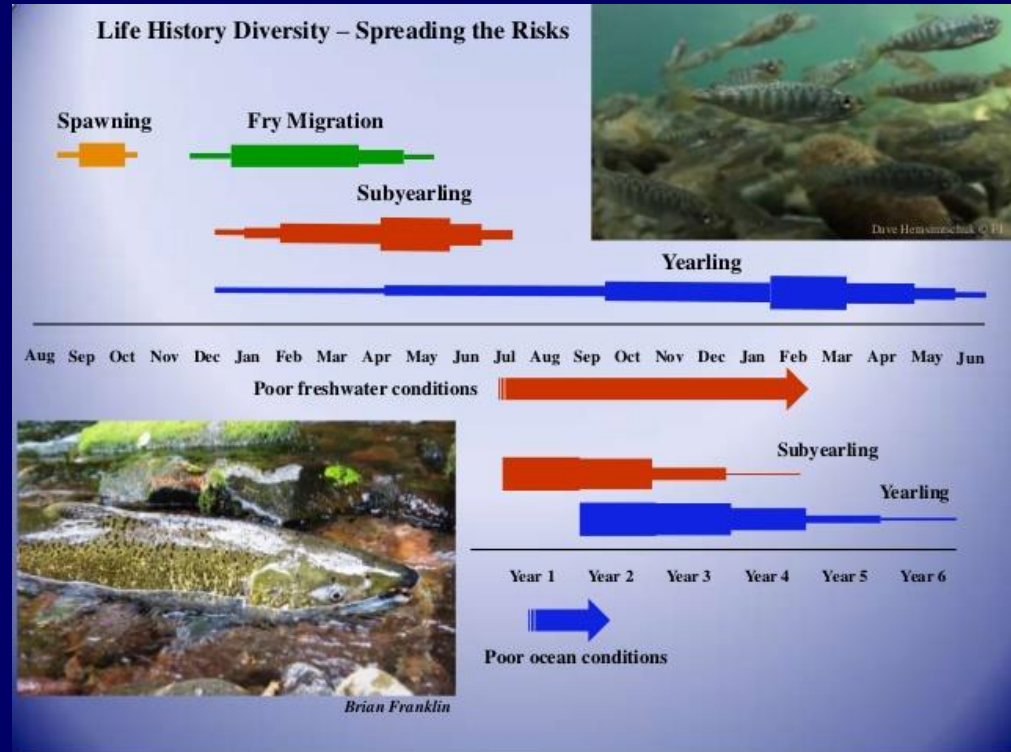
Spatial Distribution

Diversity

Genetic Diversity

Life History Diversity
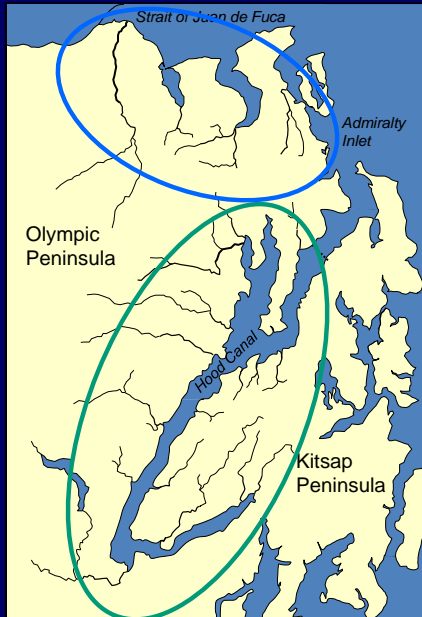Run timing, age structure, size, etc.

Case Studies

- Hood Canal Summer Chum

- Puget Sound Chinook
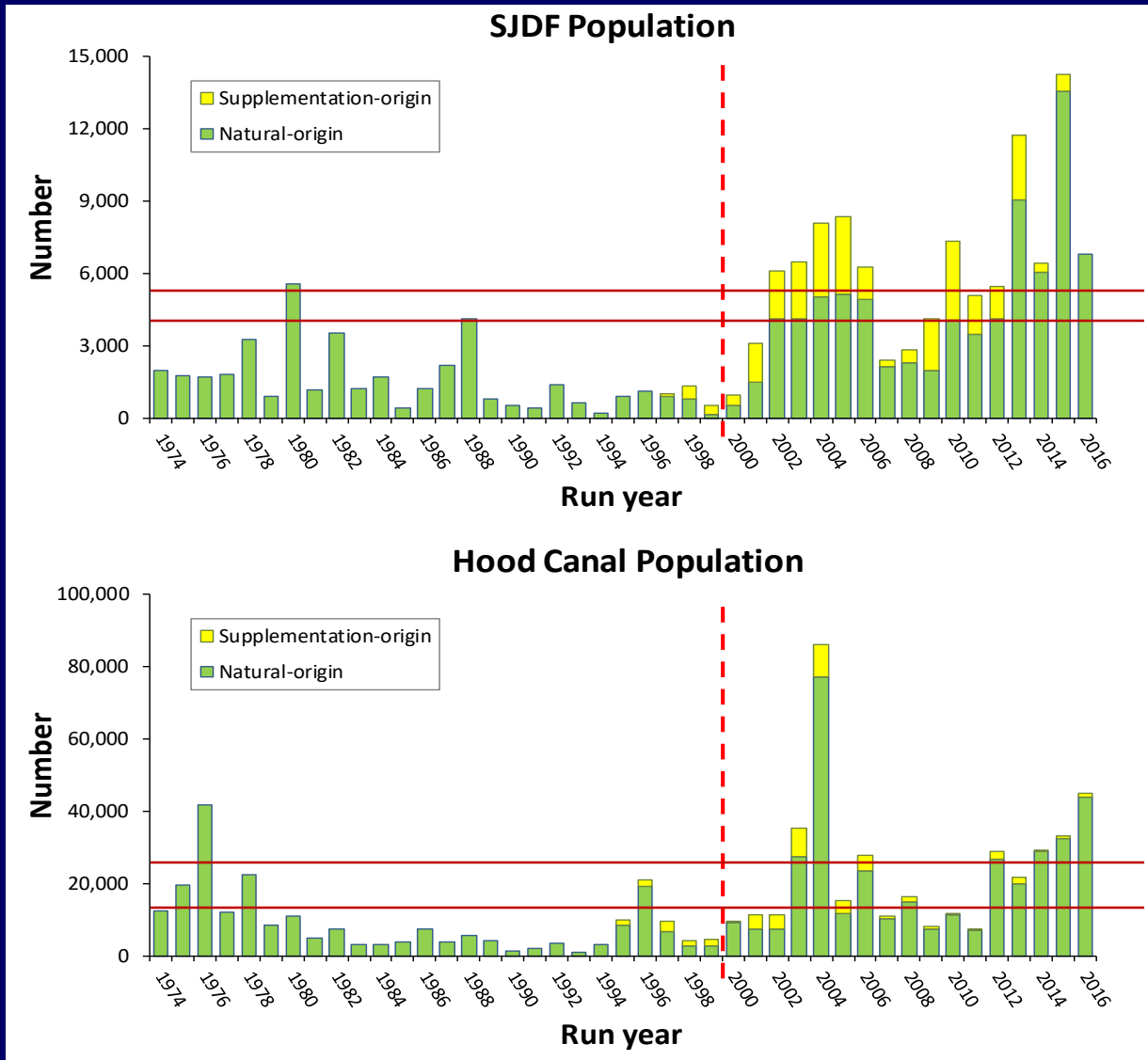
Hood Canal Summer Chum

- Hood Canal Coordinating Council

- ESA listed 1999

- 2 populations
  - Strait of Juan de Fuca
  - Hood Canal

- Key NOAA Listing Factors
  - Overutilization (harvest)
  - Habitat degradation and stream flow

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Hood Canal Recovery Actions

- Population reintroductions & hatchery supplementation

- Reduced harvest
    - Eliminated directed fisheries, significantly curtailed incidental harvest

- Implemented freshwater and estuarine habitat restoration

# Adult Abundance

Hood Canal Summer Chum

- **On road to recovery**

- **Conversations with NOAA (de-listing)**

- **Large-scale habitat restoration projects**

- **Resiliency to changing climate and ocean conditions**
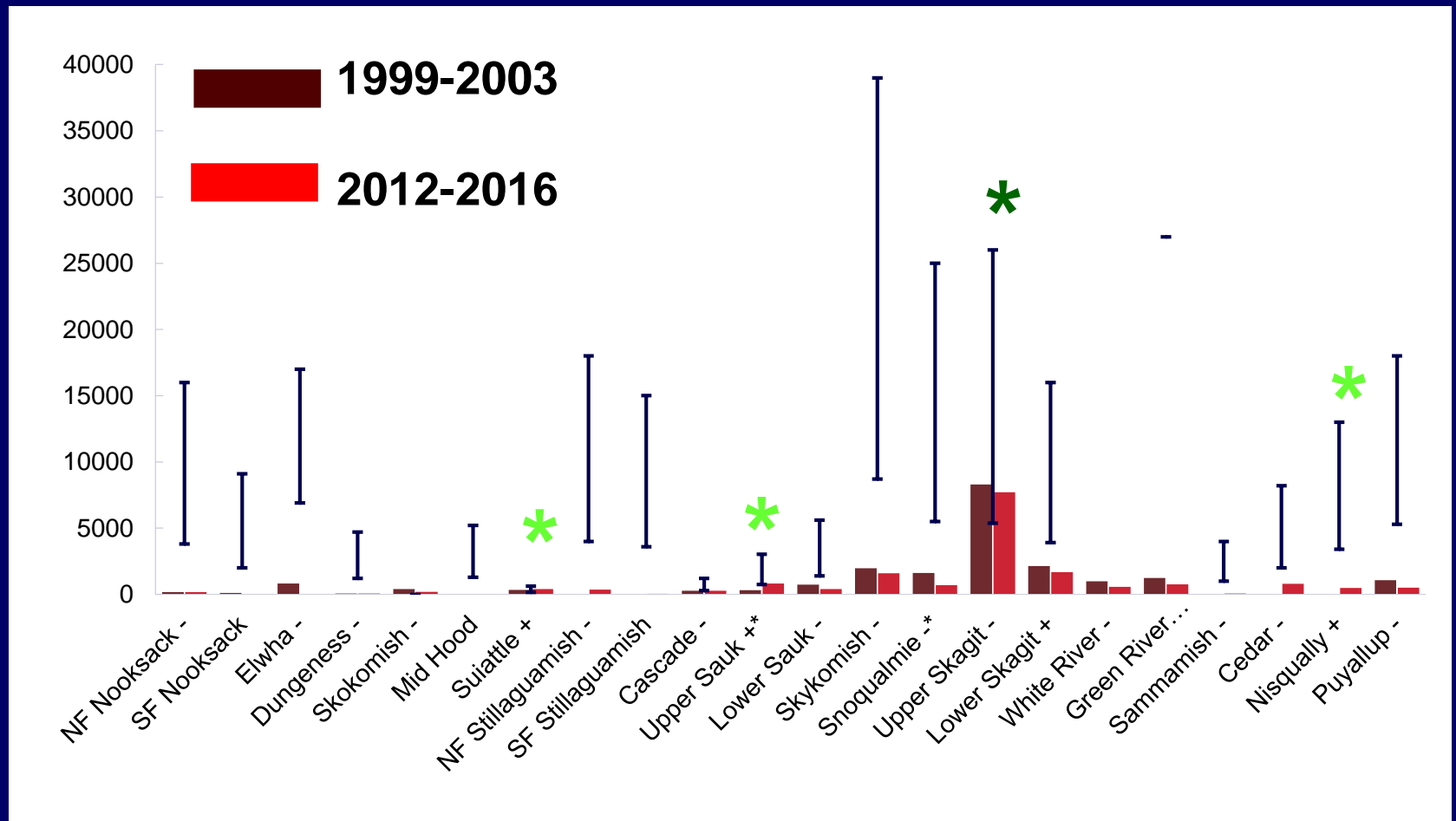
Puget Sound Chinook

- Puget Sound Partnership

- ESA listed 1998

- 22 populations

- Key NOAA Listing Factors
  - Freshwater habitat
  - Nearshore and estuary habitat
  - Toxics and contaminants
  - Overutilization (harvest)
  - Disease or predation
  - Hatcheries
  - Inadequacy of existing regulatory mechanisms

Long Term Abundance Trends
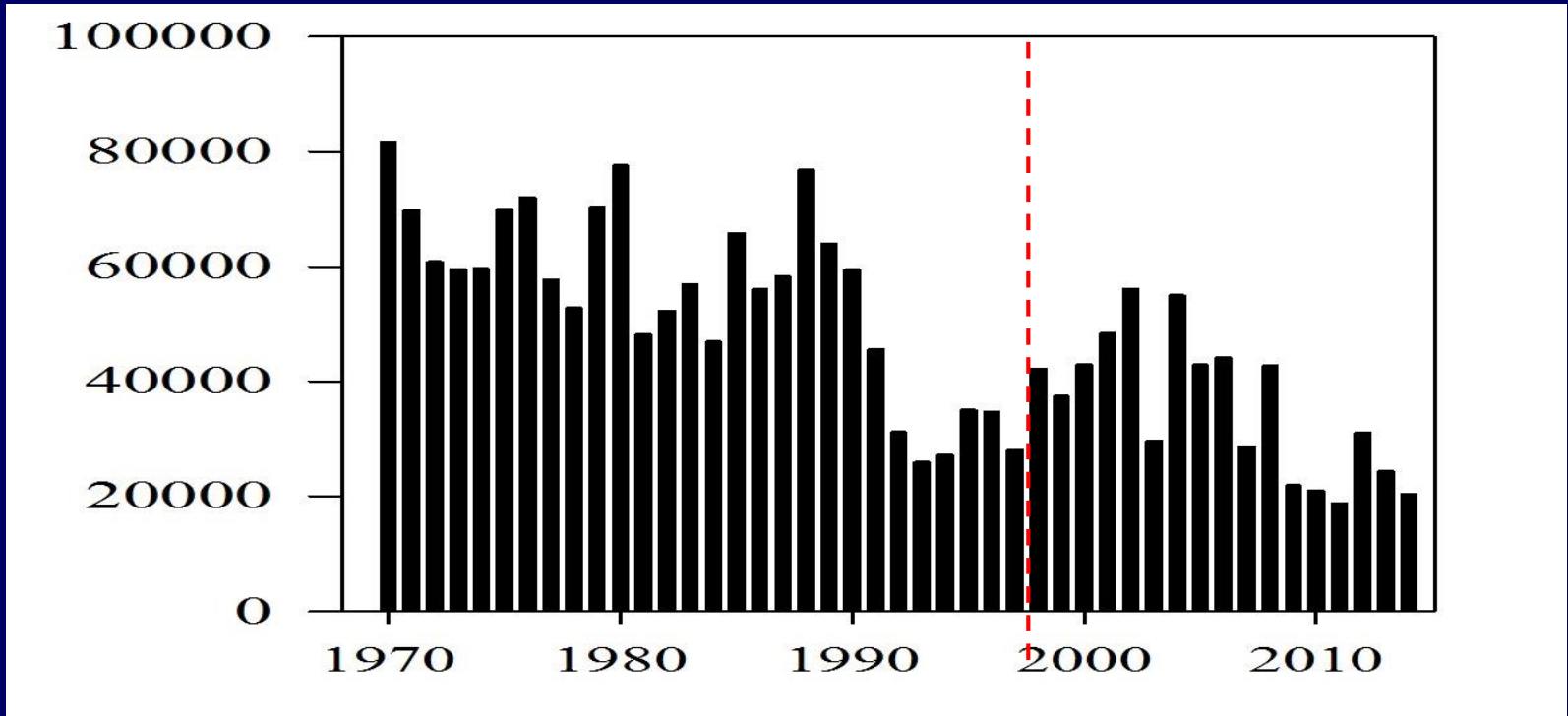
Abundance Since ESA Listing

Puget Sound Chinook Populations

Progress and Challenges

- Progress
  - Harvest
  - Hatcheries
  - Regulatory mechanisms

- Continued Challenges
  - Freshwater (esp. rearing habitat)
  - Nearshore and estuary habitat
  - Puget Sound health (early marine survival)
  - Changing climate and ocean conditions

Statewide Status Summary

BELOW GOAL (ENDANGERED SPECIES ACT-LISTED SALMON IN WASHINGTON)			NEAR GOAL
Getting Worse	*Not Making Progress*	*Showing Signs of Progress*	*Approaching Goal*
Puget Sound Chinook Puget Sound steelhead* Upper Columbia River spring Chinook	Upper Columbia River steelhead Lower Columbia River chum Lower Columbia River fall Chinook Lower Columbia River spring Chinook	Middle Columbia River steelhead Lake Ozette sockeye Lower Columbia River coho Lower Columbia River steelhead Snake River spring and summer Chinook Snake River steelhead	Hood Canal summer chum Snake River fall Chinook

Concluding Remarks

- Washington is model of success
  - Local partnerships, local support, and on the ground success

- Stay the course, maintain investments
  - Leverage decades of investments

- Need a success story
  - ESA de-listing

- Extinction is not an option
  - Recovery, ecosystem health, and sustainable fisheries intricately linked

Thank you