



NOAA
FISHERIES

West Coast
Region

Puget Sound Chinook Salmon

National Recovery Plan Review Case Study

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Puget Sound

- 12 Counties
- 110 cities
- 19 Federally Recognized Tribes
- 7 Regional Fisheries Enhancement Groups
- 12 conservation districts
- Nonprofit environmental groups
- 4.1 million people



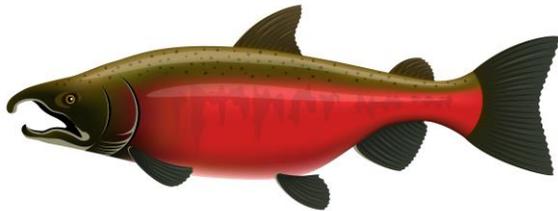
Puget Sound Salmon



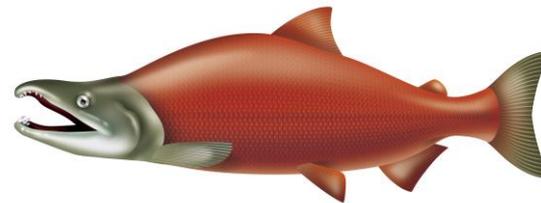
➤ Chinook



➤ Steelhead



➤ Coho



➤ Sockeye



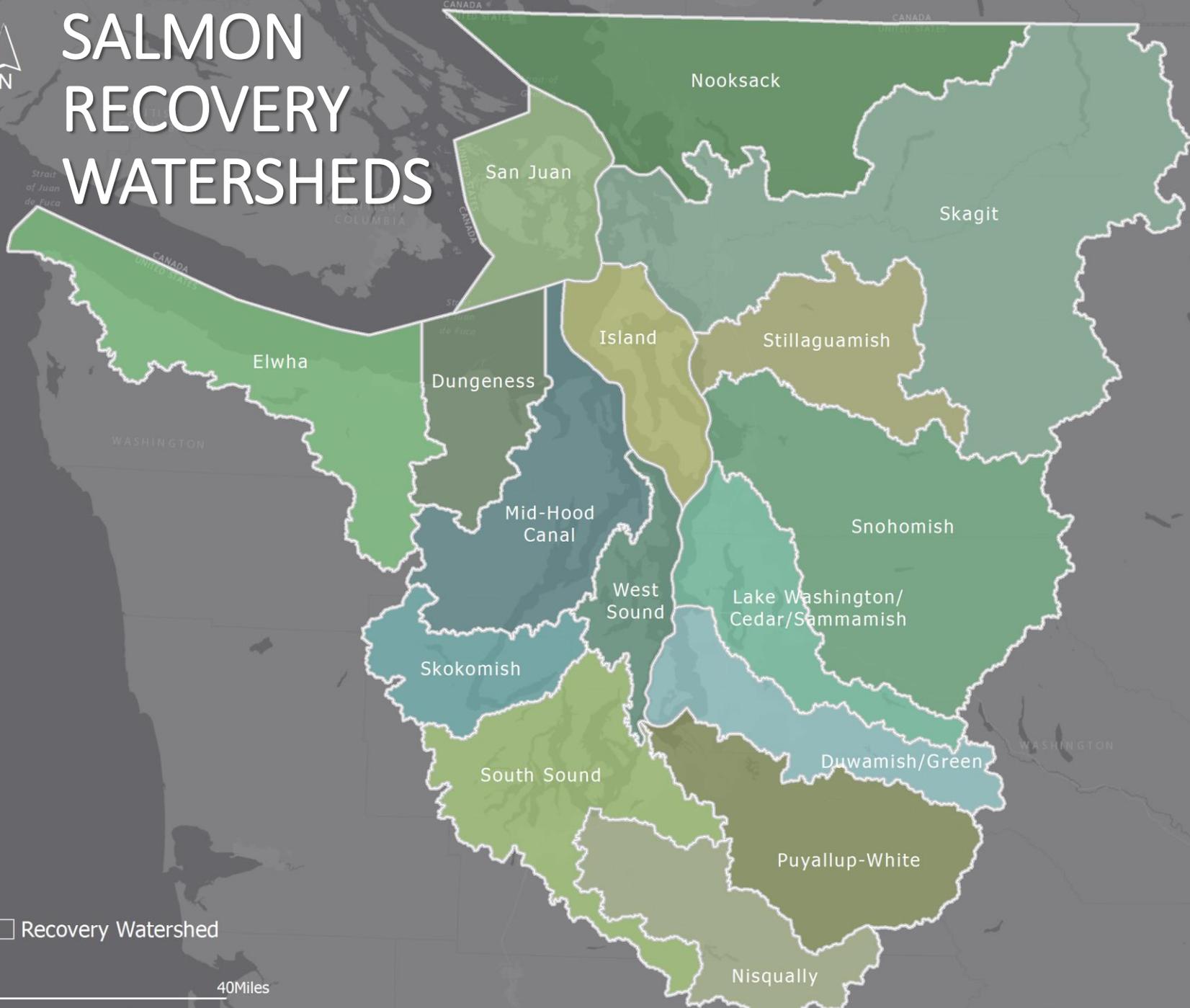
➤ Pink



➤ Chum

- Puget Sound Chinook - threatened, 1999
- Hood Canal Summer Chum - threatened, 1999
- Puget Sound Steelhead – threatened, 2007

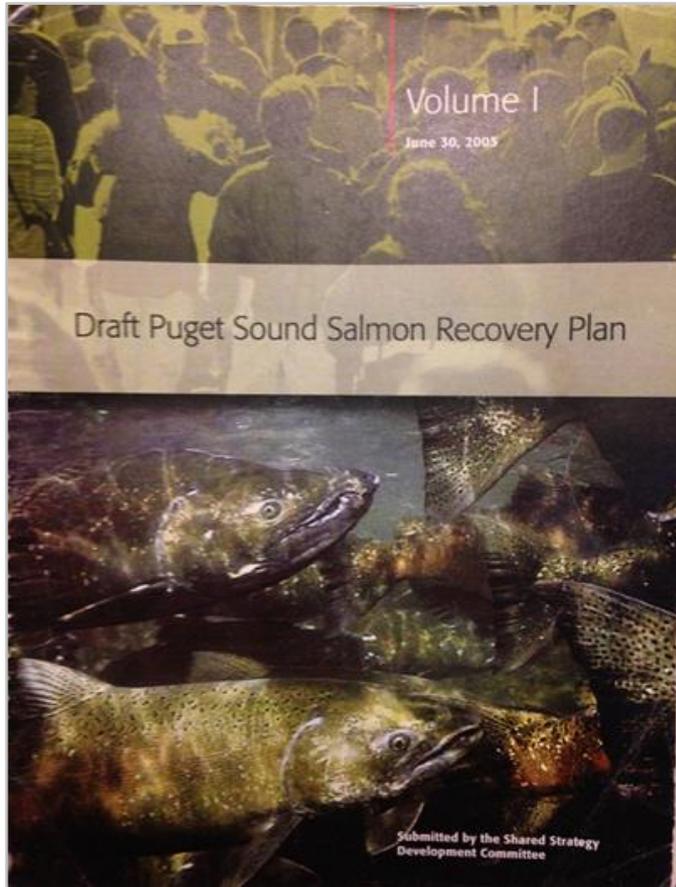
SALMON RECOVERY WATERSHEDS



□ Recovery Watershed

0 40 Miles

Puget Sound Plan – Chinook Recovery Plan – Developed by the **Shared Strategy for Puget Sound**



NOAA approved in 2007, with a supplemental section:

- Delisting criteria for 22 populations
 - All populations must improve from current status
 - Some need to get to low-risk status
- Monitoring & adaptive management system required
- Complete Skokomish watershed chapter

Technical Recovery Team (TRT)

(Succeeded by Recovery Implementation Technical Team)

- Identified historical populations of Puget Sound Chinook
- Developed viability criteria and guidance
- Developed guidelines for viable ESUs (how many and which populations)
- Developed technical products
- RITT provided technical guidance for adaptive management

Viability Criteria-Viable Salmonid Populations (VSP)

- Abundance
- Productivity
- Spatial Structure
- Diversity



Puget Sound Chinook Salmon Viability Criteria

- At least two and up to four Chinook salmon populations in each of five bio-geographical regions within the ESU achieve viability
- At least one population from each major genetic and life history group historically present within each of the five bio-geographical regions is viable.
- Tributaries to Puget Sound not identified as primary freshwater habitat for any of the 22 identified populations are functioning in a manner that is sufficient to support an ESU-wide recovery scenario.

Viability Criteria (continued)

- Production of Chinook salmon from tributaries to Puget Sound not identified as primary freshwater habitat for any of the 22 identified populations occurs in a manner consistent with an ESU recovery.
- Populations that do not meet the viability criteria for all VSP parameters (i.e. abundance, productivity, spatial structure and diversity) are sustained to provide ecological functions and preserve options for ESU recovery.

Guidance to watersheds:

- Identify Chinook population targets
- Identify actions to meet targets

No guidance to watersheds on:

- consistent format
- consistent language to describe the salmon populations and the habitat
- consistent measures of progress or quantitative targets for habitat

No resources provided to watersheds



RESULT: Quality and content of 16 watershed recovery chapters varied widely

2007



PUGET SOUND
PARTNERSHIP

Plan implementation responsibility shifted to a new state agency





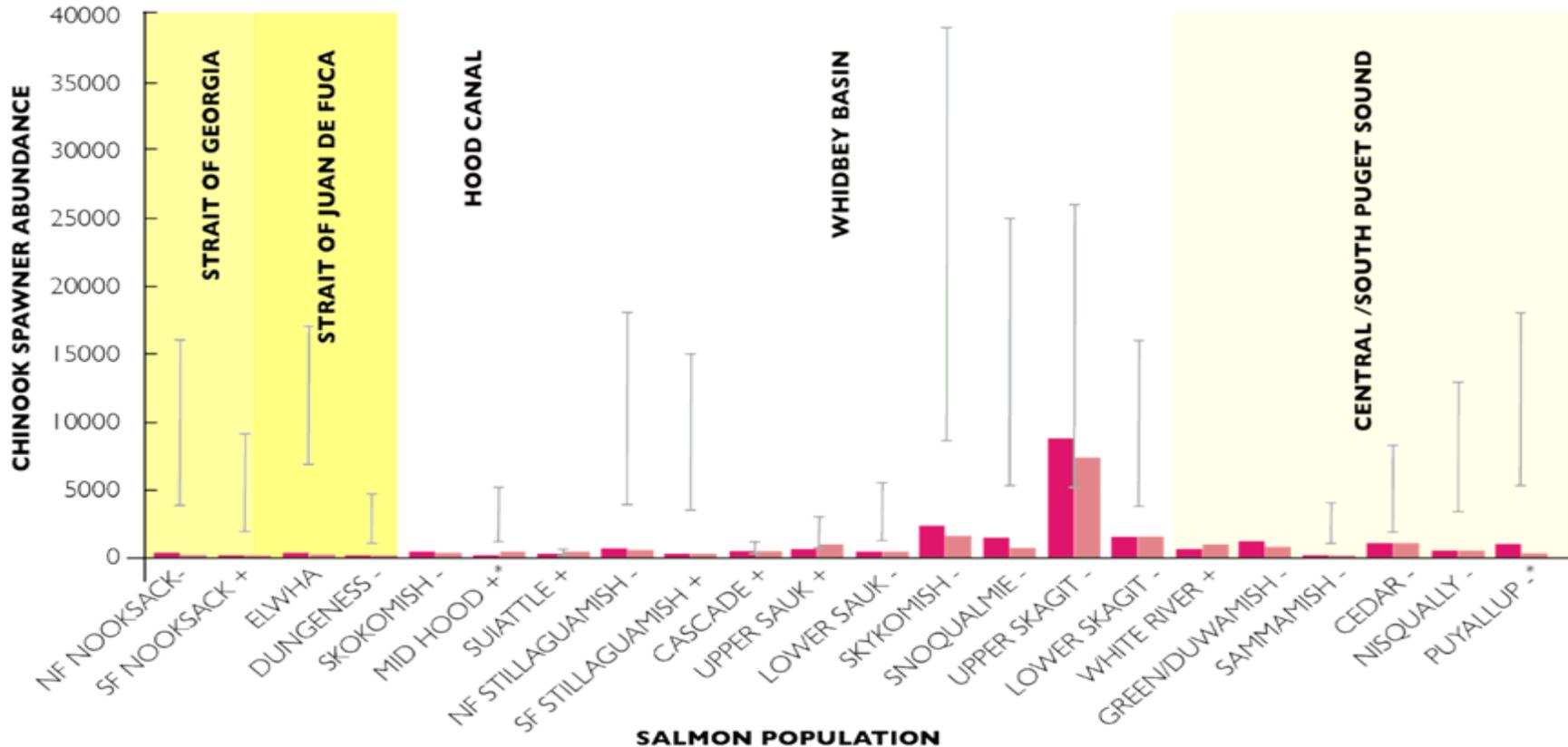
Chinook

GETTING WORSE

Interim targets are not met



■ 2006–2010 geometric mean ■ 2011–2013 geometric mean — Range of recovery targets



Effectiveness of Implementation

- Varies across the Evolutionarily Significant Unit based on local capacity and funding
- Watershed-based project lists and cost estimates aid implementation tracking and are improving over time
- Absence of designated roles in recovery for each of the 22 populations complicates priority-setting
- TRT uncertainty about certain populations led to management uncertainty
- Absence of quantitative habitat recovery goals makes it challenging to determine how much is enough
- Absence of locally-specific guidance on habitat makes setting management priorities difficult for multiple jurisdictions and NMFS

Updated Puget Sound Chinook Adaptive Management Approach: “Common Framework”

Provide common terminology for:

- salmon
- habitat components

Provide common way to describe hypotheses & strategies

Enable comparisons

Enable evaluation at multiple scales



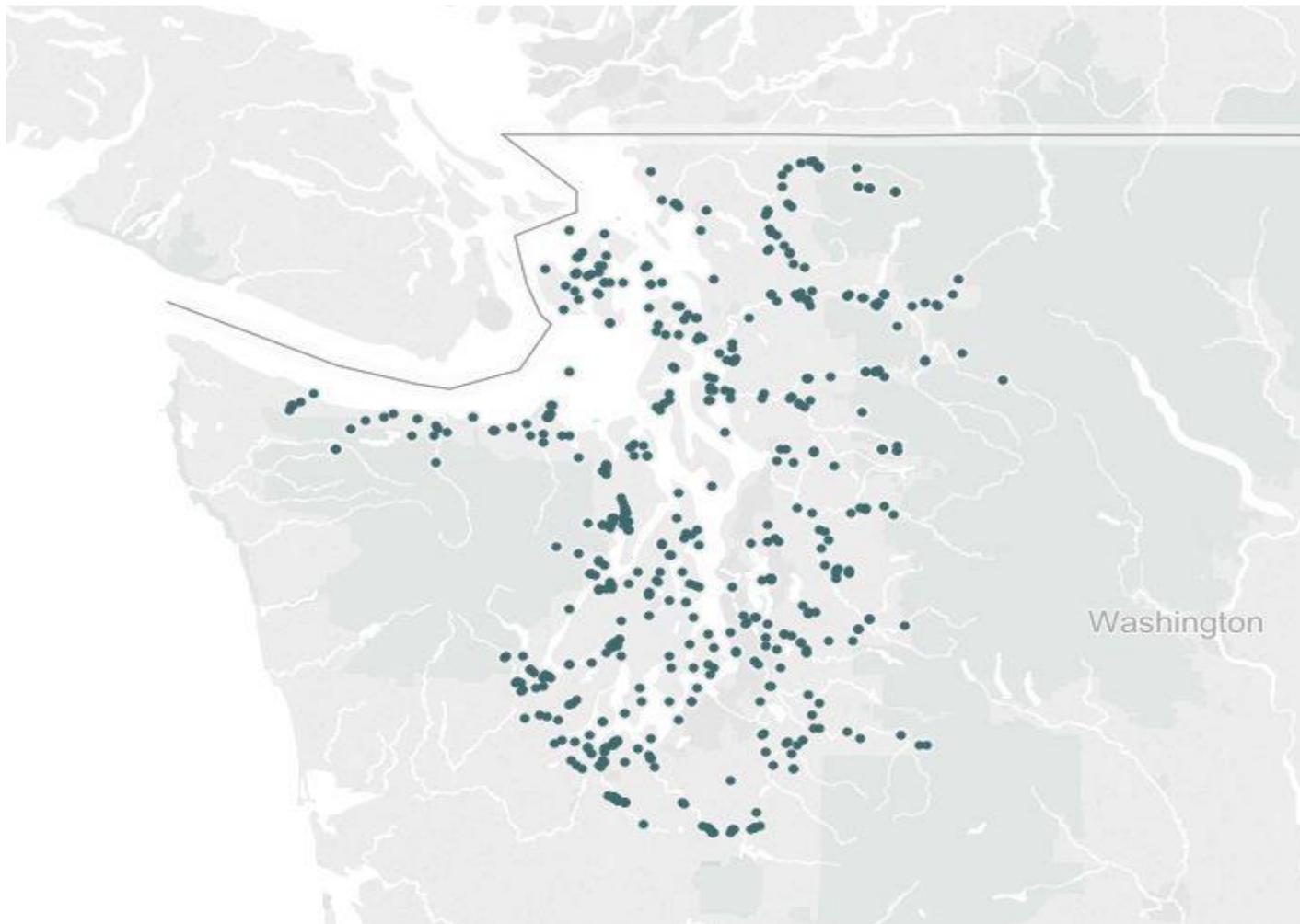
Puget Sound Chinook Adaptive Management

Update and standardize watershed 16 chapters to enable consistent evaluations and tracking of progress

- Apply a common taxonomy
- Develop logic chains that tie strategies to desired outcomes
- Identify local monitoring priorities
- Highlight strengths and gaps
- Strengthen knowledge base, relationships and collaboration
- Improve decision-making

Puget Sound Project Locations (\$400M since 2006)

Puget Sound Partnership



Remaining challenges

- Assessment of fish response to restoration actions
- Complexity: 16 watershed plans, each with its own structure and content
- Lack of specificity in the regional plan results in lack of prioritization
- Absence of definition of roles for each of the 22 populations in recovery of the ESU; all populations are addressed simultaneously
- Insufficient funding and political will to support watershed-level implementation of actions, especially habitat conservation actions



Thank you!

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TRT Guidance for Prioritizing Actions

- Consistency with Viability Criteria;
- Consistency with priority hypotheses;
- Have the highest probability of achieving the objectives;
- Biological (VSP) Immediacy;
- Precursors or antecedents for other actions
- Linked by cause or effect

Sequence the actions to achieve the desired VSP effect or objectives in time to avoid loss of VSP integrity.

A well-sequenced series of actions minimizes the risk to the population while maximizing the probability of achieving viability.