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West Coast
Region



Washington
Department of
**FISH and
WILDLIFE**

Management Actions to Increase Southern Resident Killer Whale Prey Abundance

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May 30, 2018

Prey Enhancement Within Complex Resource Management and Governance Structures

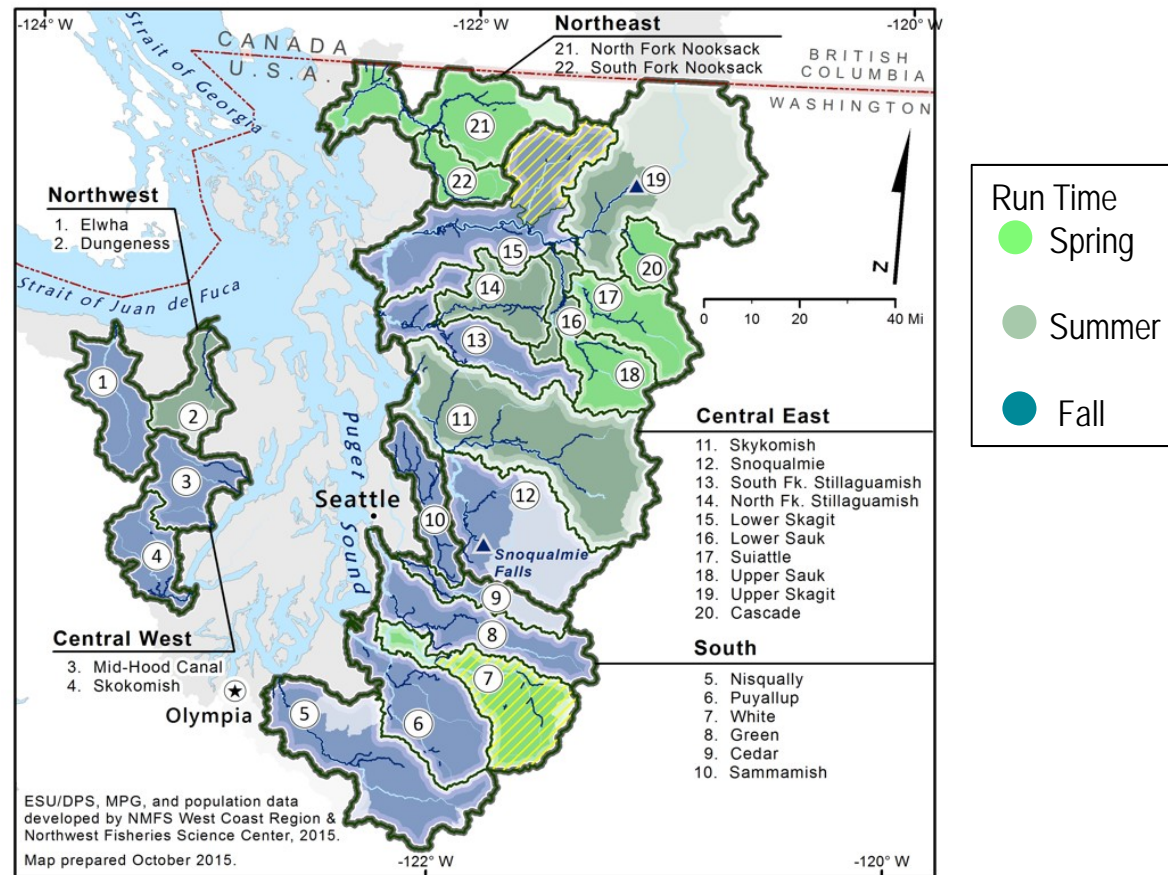
Salmon Habitat Protection and Restoration: Tribal, Federal, State, Local authorities

Hatcheries: Tribal, Federal, State Management

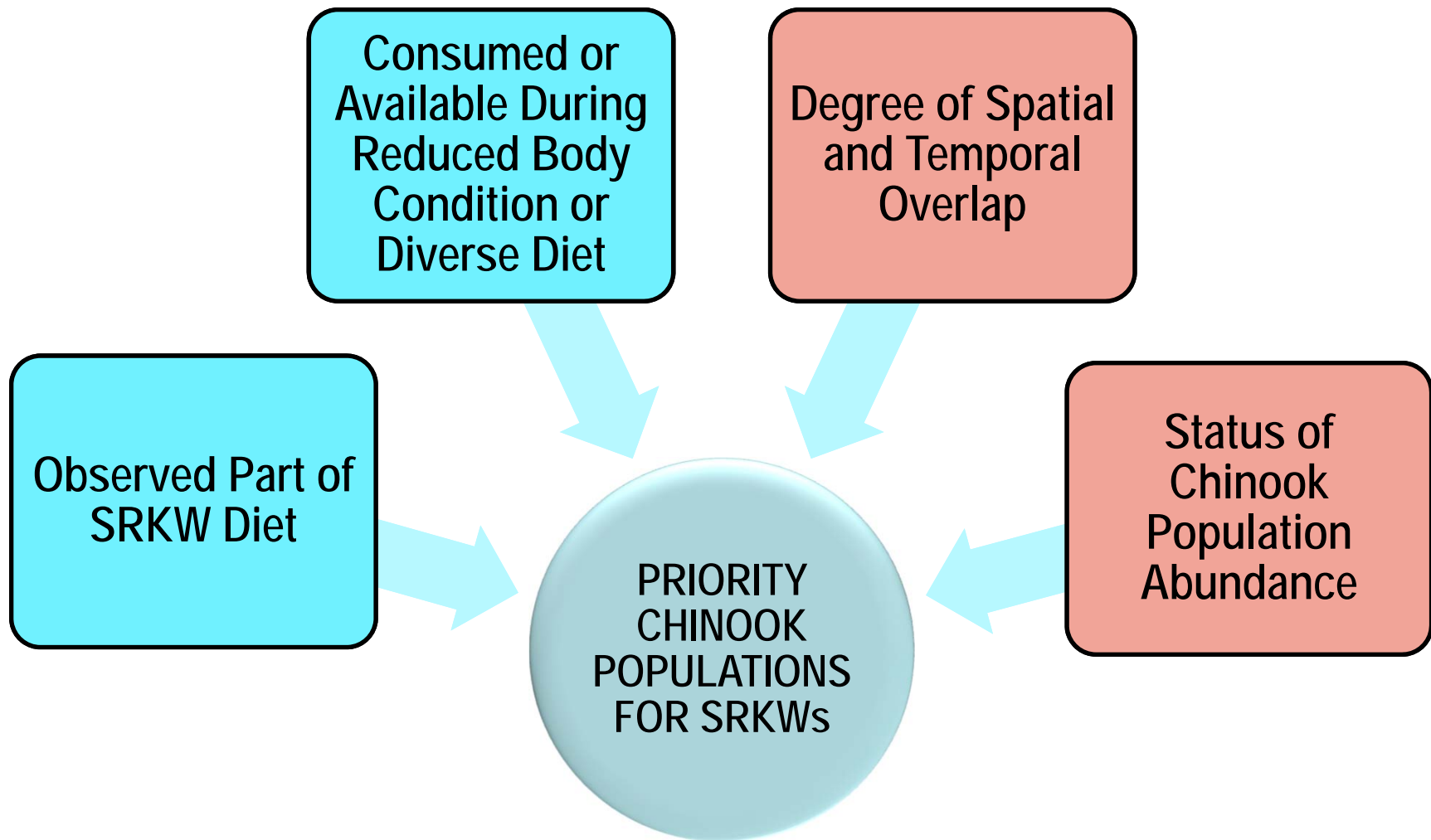
Harvest: Tribes, Regional Agencies and International Authorities



Example: Puget Sound Chinook



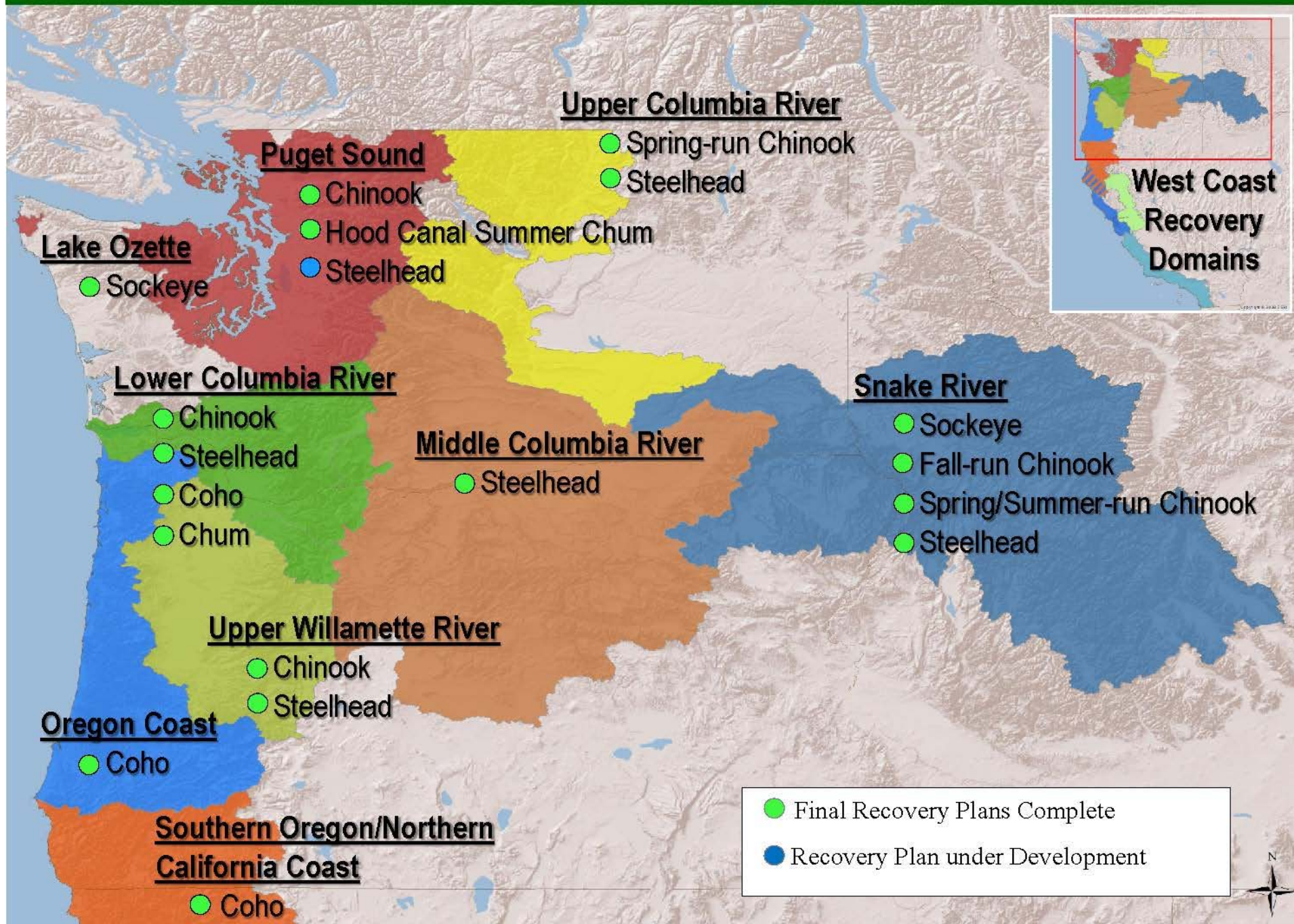
Prey Prioritization for SRKW – Draft Conceptual Model



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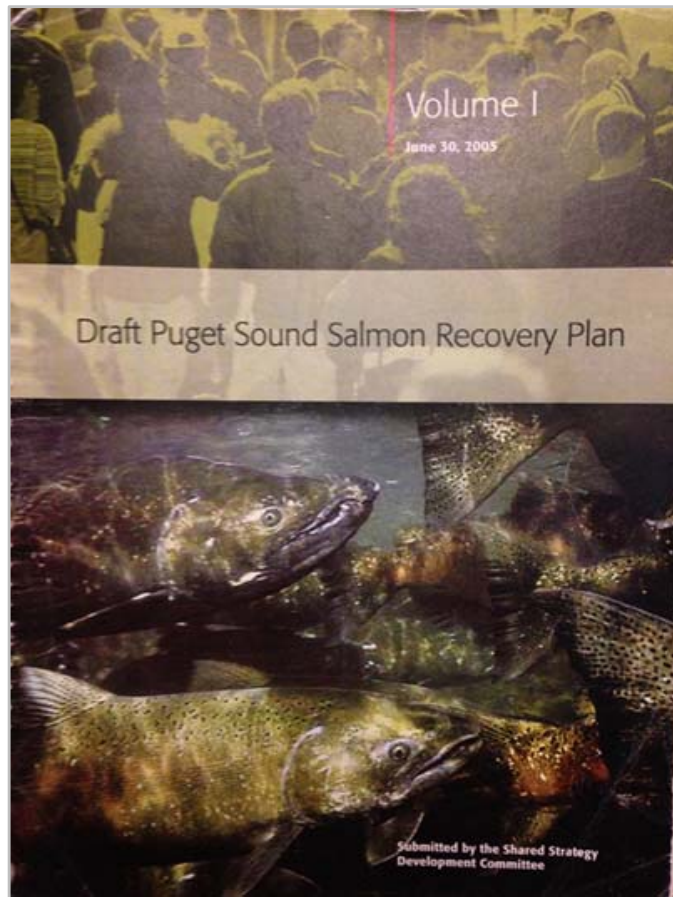


Status of Salmon and Steelhead Recovery Planning in the Pacific Northwest



Puget Sound Example – Chinook Recovery Plan

“All-H” Roadmap for Salmon Recovery



- NOAA approved in 2007, with a supplemental section:
- Delisting criteria for 22 populations
 - All populations must improve from current status
 - Identifies “essential” populations that must achieve low-risk status
- Monitoring & adaptive management system required



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Habitat and Land Use Governance: Puget Sound

- NMFS and Federal Task Force
- WDFW and state resource agencies
- 19 Federally Recognized Tribes
- 12 Counties, 110 cities
- 16 Watershed/Recovery boards
- 7 Regional Fisheries Enhancement Groups
- 12 conservation districts
- Nonprofit environmental groups
- 4.1 + million people



Pacific Coastal Salmon Recovery Fund

Since FY2000 PCSRF Funds have:

- Awarded over \$1.35 billion in federal funds
- Leveraged over \$1.69 billion state-matching and other funds
- Implemented over 13,200 projects
- Restored or protected over 1.09 million acres
- Restored access to over 10,550 stream miles



Puget Sound Estuary Restoration Success:

Elwha River Dam Removal

- Two dams removed
- Access restored to 60 miles of pristine spawning and rearing habitat



Skokomish Estuary

- 1000 acres restored since 2007



Nisqually Estuary

- 1800+ acres restored



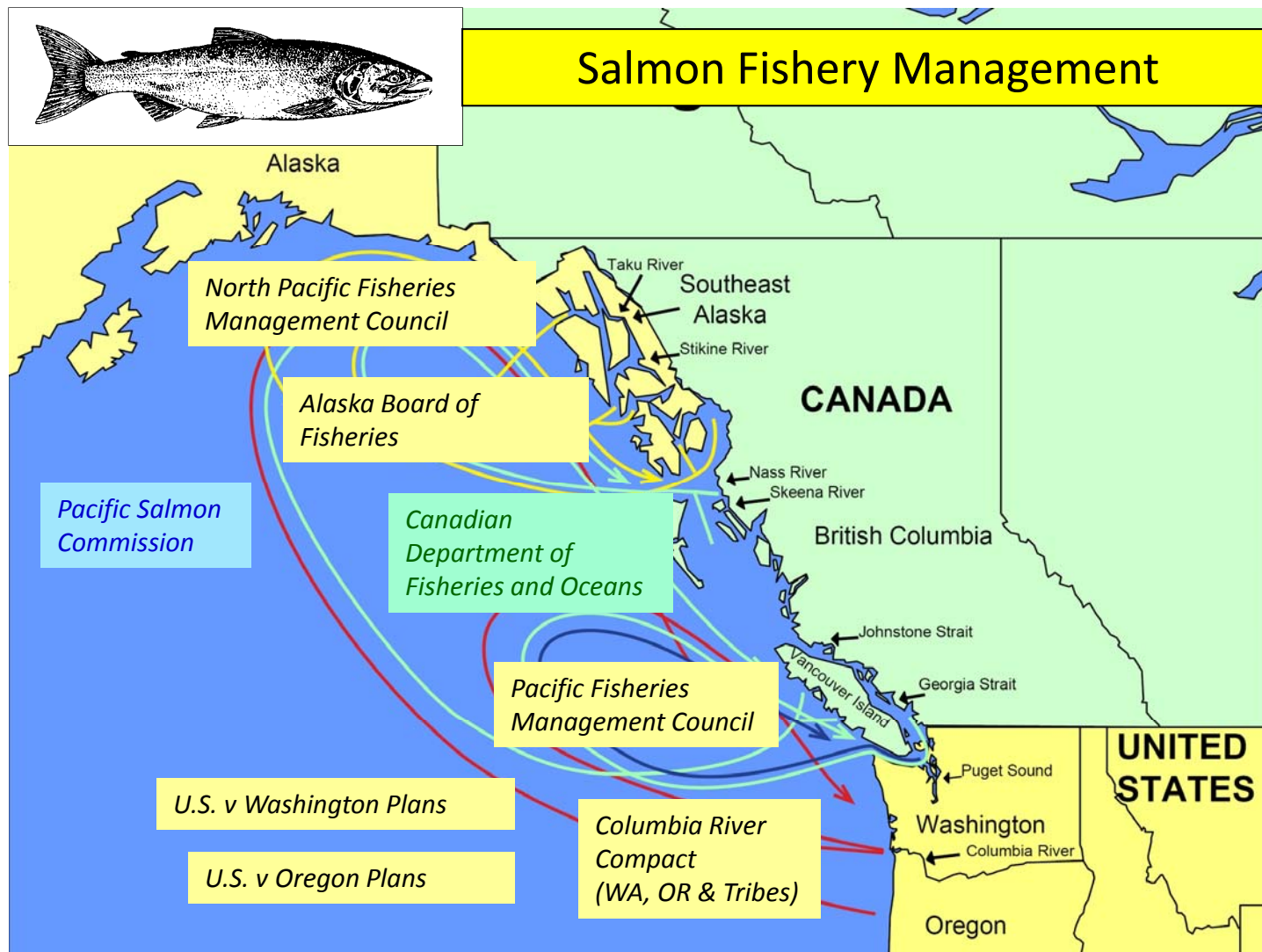
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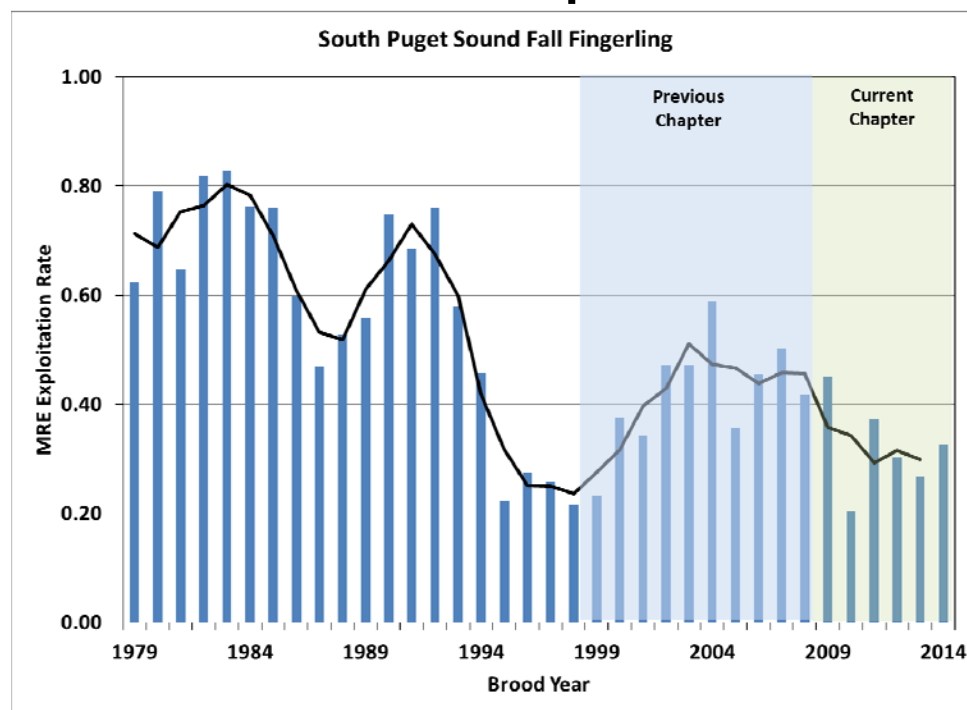
Salmon Fishery Management

Chinook stocks that are prey for SRKW range from Alaska to California

- Managed by:
 - States of Alaska, Washington, Oregon, California, Idaho
 - Thirty plus Northwest Indian Tribes
 - U.S. and Canada Governments
- Managed through overlapping jurisdictions including:
 - Pacific Salmon Commission
 - North Pacific Fishery Management Council
 - Pacific Fishery Management Council
 - North of Falcon
 - Columbia River Compact
- Managed subject to:
 - Endangered Species Act (ESA)
 - Magnuson-Stevens Fishery Conservation and Management Act
 - Case law related to reserved rights of the Northwest Tribes

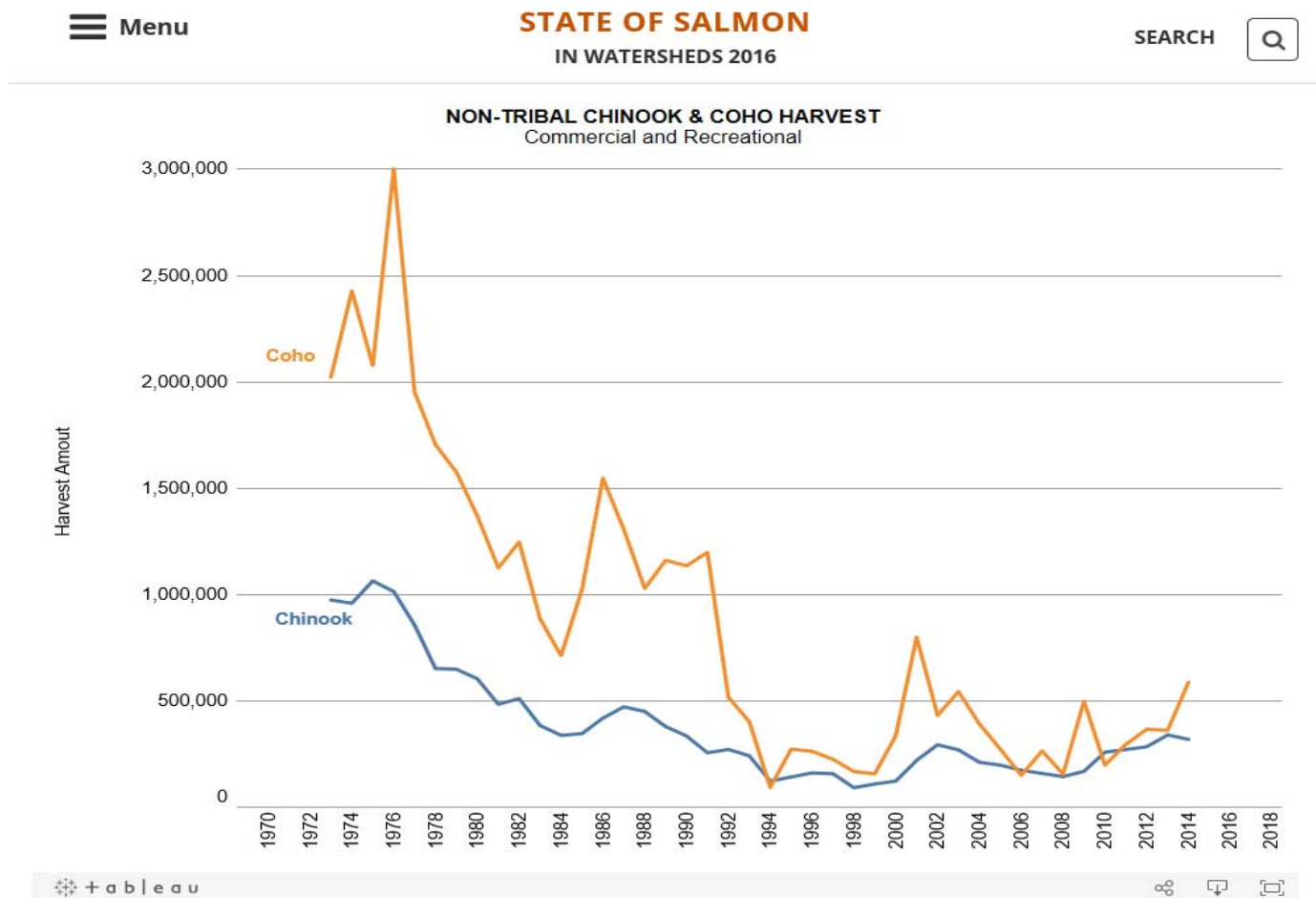


Calendar Year Exploitation Rates



Caveat: Positive bias in estimates of exploitation rates on natural-origin stocks in SUS fisheries as differential effects of mark-selective fisheries not considered.

Declining Harvest Levels in Washington



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Effects of fishing on SRKW subject of ongoing consideration

- Independent Science Panel (2012) – The Effects of Salmon Fisheries on SRKW

http://www.westcoast.fisheries.noaa.gov/publications/protected_species/marine_mammals/killer_whales/recovery/kw-effects_of_salmon_fisheries_on_srkw-final-rpt.pdf

- Technical Workshop Proceedings (2017) – Availability of Prey for SRKW

http://www.marinemammal.org/wp-content/pdfs/SRKW_Prey_Workshop_Proceedings_2018.pdf

- Through continuing ESA consultations on the effects of fishing on the survival and recovery of salmon and SRKW

Hatcheries

- Hatcheries may be an important tool for increasing prey availability for SRKW, especially in intermediate term.
- We are looking for opportunities to increase or reprogram hatchery production to benefit the SRKW while still providing essential protections to ESA-listed salmon and steelhead.



Hydropower Management

Federal Power
Act, ESA, CWA

Passage
improvements

Reservoir
management

Flow controls



A view into the fish ladder



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Predation

Multiple predators: Harbor seals, sea lions, seabirds, predatory fish

Some particular areas of geographic concern (e.g. Hood Canal), but other areas unknown

Limited management tools

SSMS Pinniped Assessment



Persistent challenges



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Thank You!

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