

Washington State Hatchery System

Historical and Contemporary Production, and Economic Value

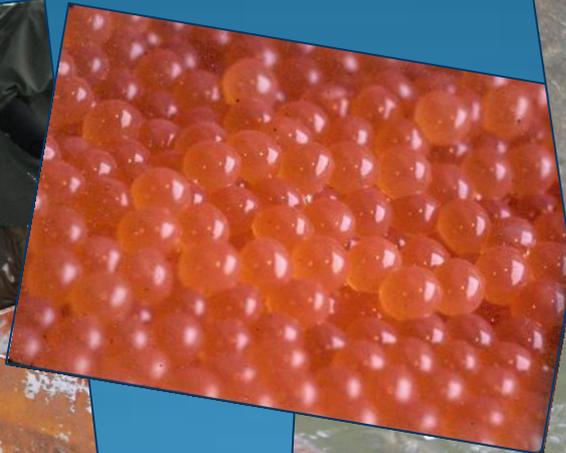
Heather Bartlett , Hatcheries Division Manager (Fish Program)
James Dixon, Hatcheries Division (Fish Program)



Organization of Hatchery Series

1. Historical and legal context – December 2010
2. Historical and contemporary production, and economic value – January 2011
3. Endangered Species Act, salmon recovery and hatchery reform – February 2011

WDFW Hatchery Production

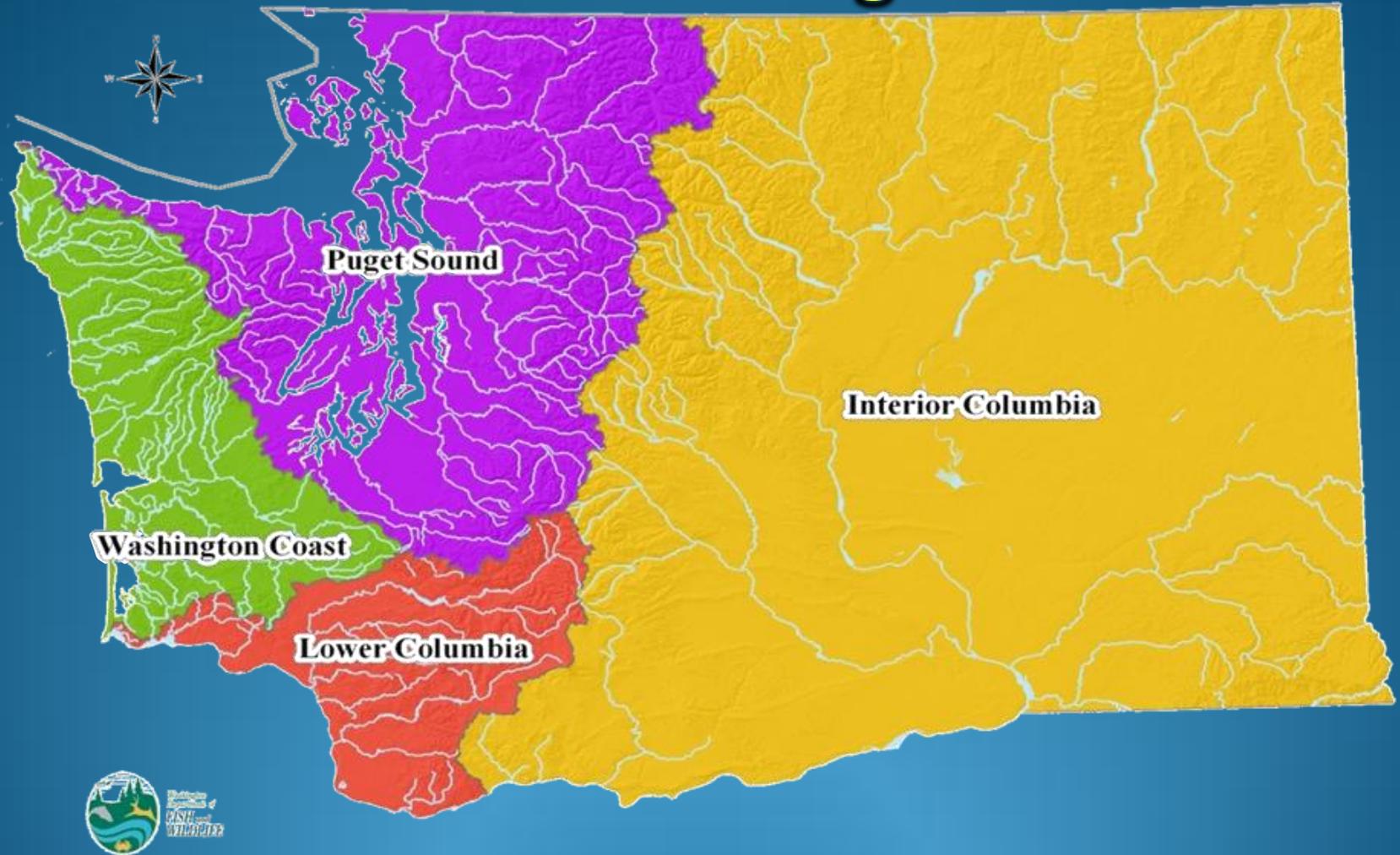


Statewide Hatchery Salmon and Steelhead Releases 1960-2008 (All Operators)



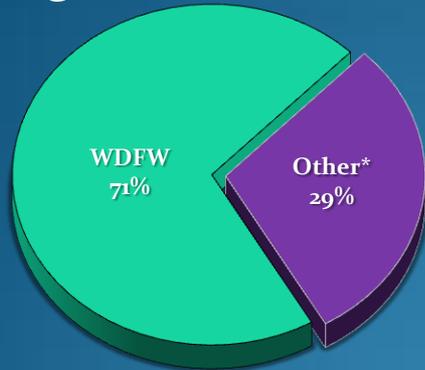
* WDFW's reconstructed releases from all agencies across the state. Releases from 1960-1989 are estimated from state's *Salmon 2000* report. Releases from 1989+ are from the WDFW Hatchery Plants database and PSC data (for non-WDFW estimates).

WDFW Production Regions

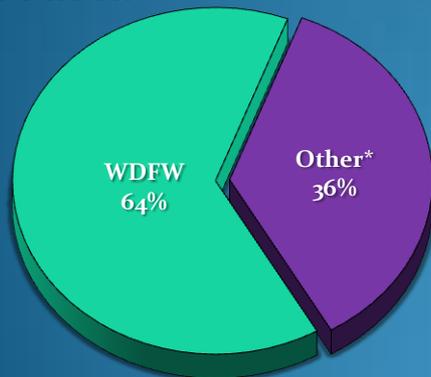


Current Planned Salmon and Steelhead Production Distribution

Puget Sound



Coastal



Columbia



- WDFW produces just over 60% of the overall current production.
- WDFW produced more in the past, however, the proportion has diminished overall as Federal funding has been stagnant and State funding has been diminished, while costs have continued to increase.

* Tribal, Federal, OR, ID, or local operation.

Data based on 2010-2011 WDFW Future Brood Document plans

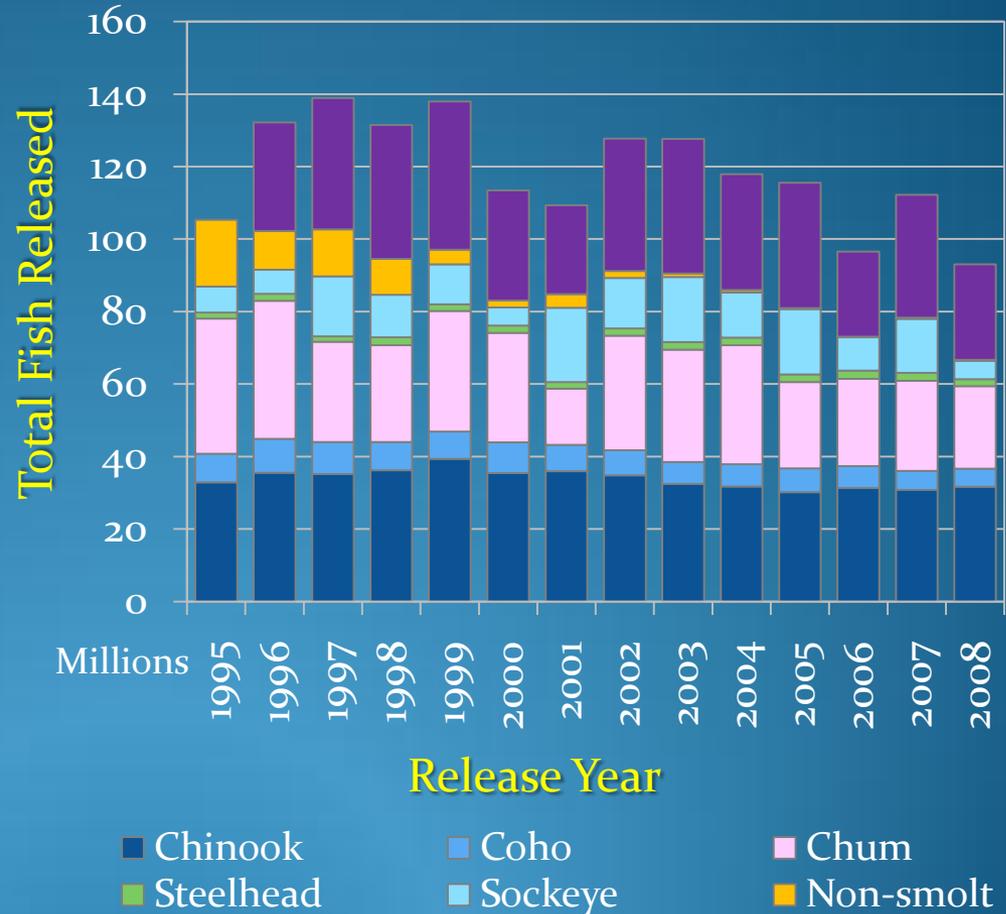
Recent Puget Sound Salmon and Steelhead Production

Gradual reduction in overall releases since the mid-1990s.

- Net pen Chinook eliminated
- Hood Canal fall chum
- Steelhead
- Variability in Cedar River sockeye

Result of diminished state funding and risks posed to ESA listed populations.

- PS Chinook and Hood Canal summer chum listed in 1999
- PS steelhead listed in 2007



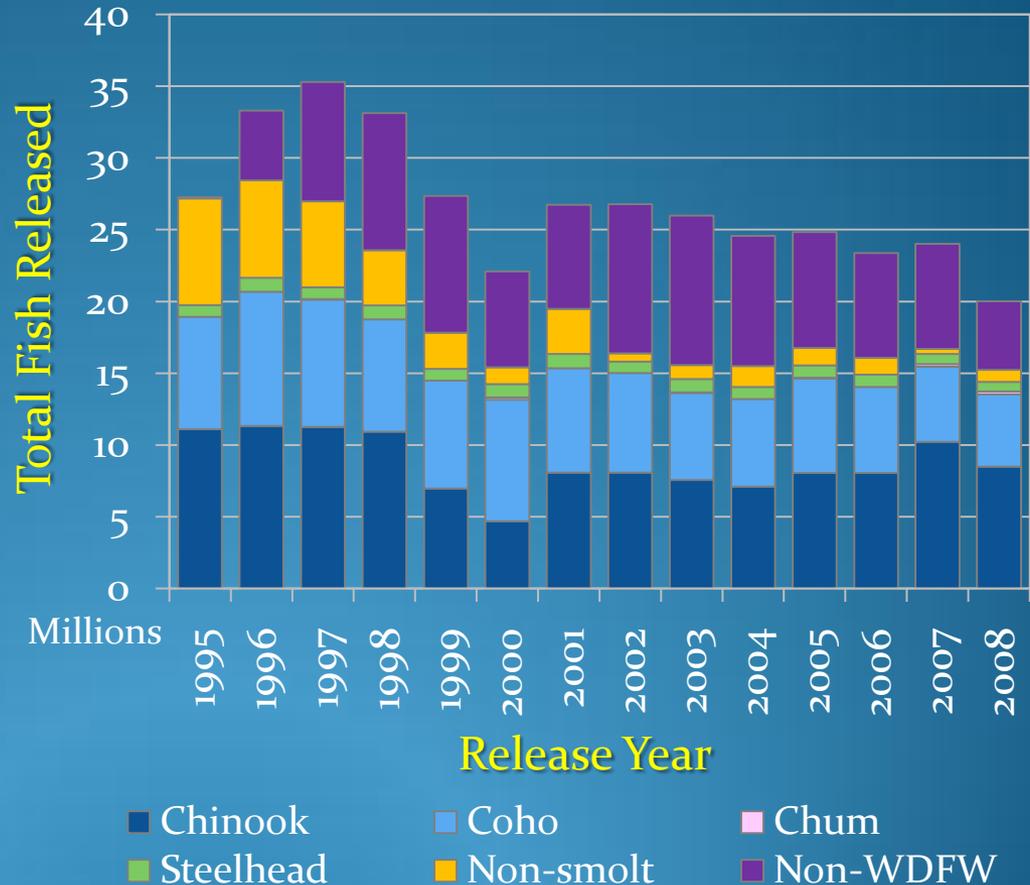
Recent Coastal Salmon and Steelhead Production

Gradual reduction in overall releases since the mid-1990s.

- Reduction of pre-smolt programs (especially coho)

Result of adaptive management and diminishment of state general fund.

- Reprioritized funding towards programs that contribute to harvest objectives.



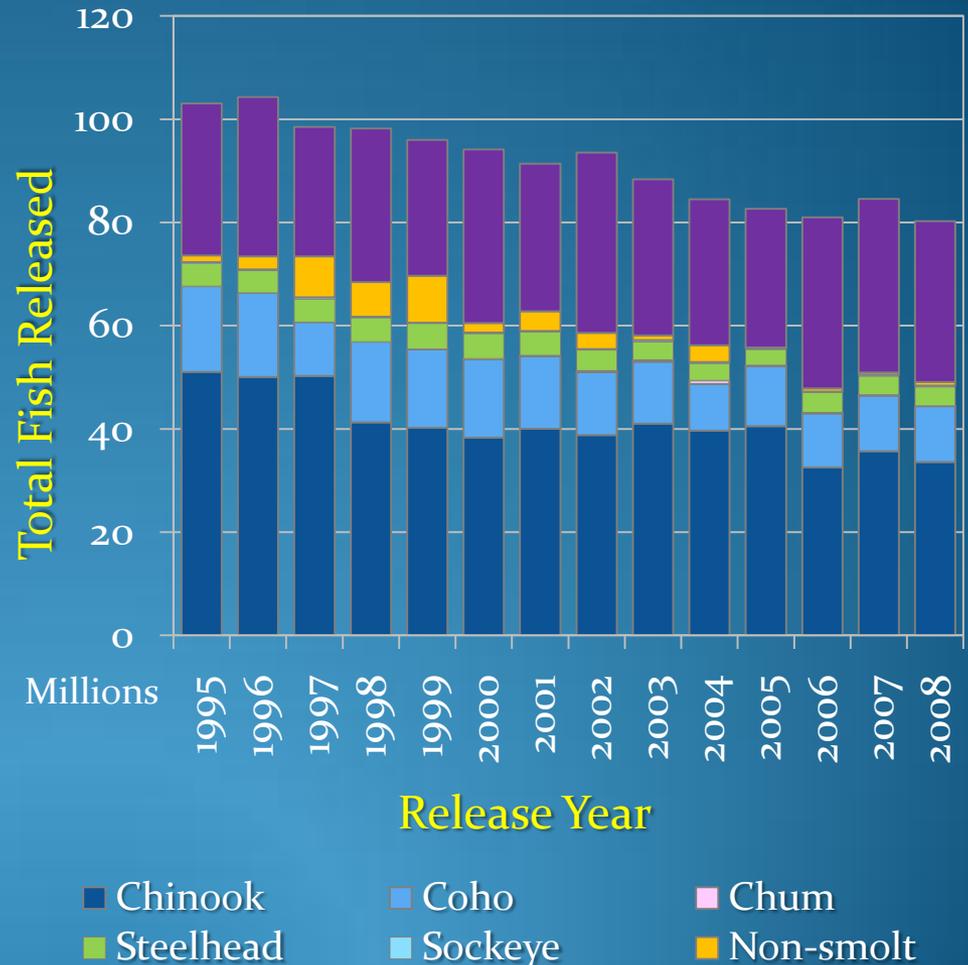
Recent Columbia River Salmon and Steelhead Production

Gradual reduction in overall releases since the mid-1990s.

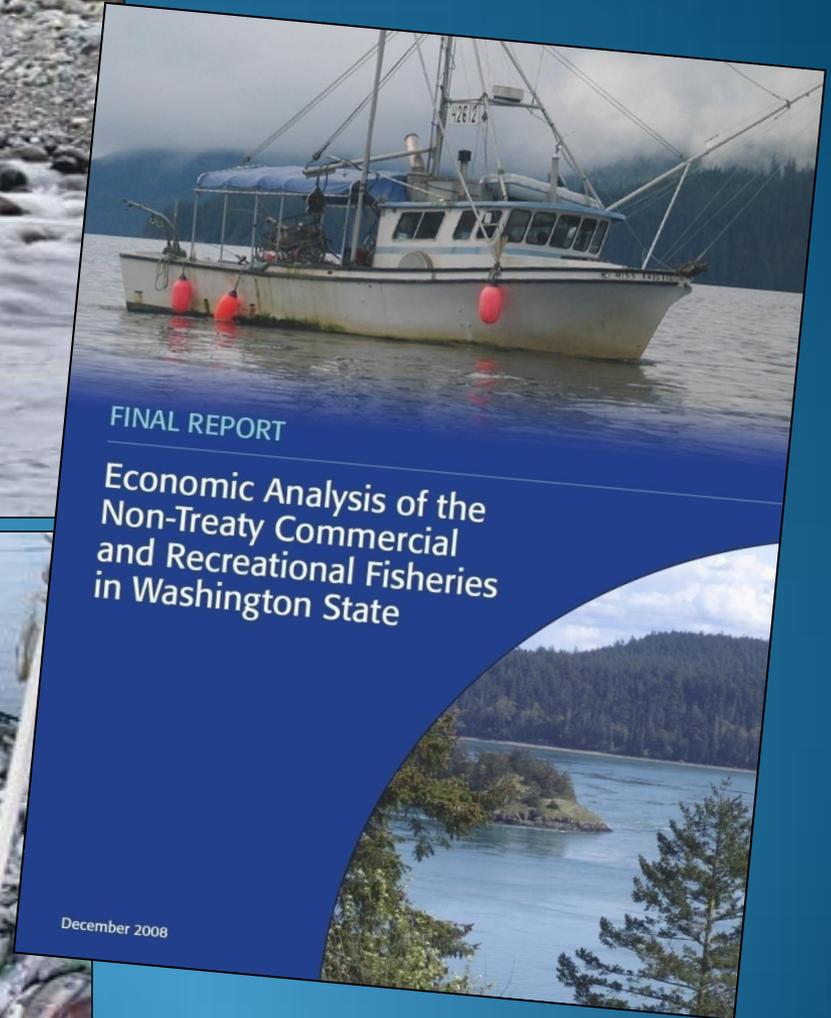
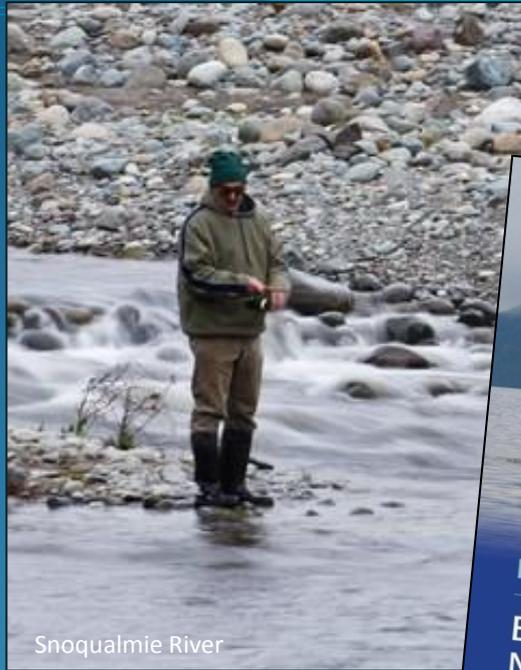
- Elimination of pre-smolts.
- Reduction in yearling coho and Chinook in the Lower Columbia River.

Result of diminished federal funding and Federal ESA Listings.

- Federal Mitchell Act dollars flat for this period, while costs of production increased.

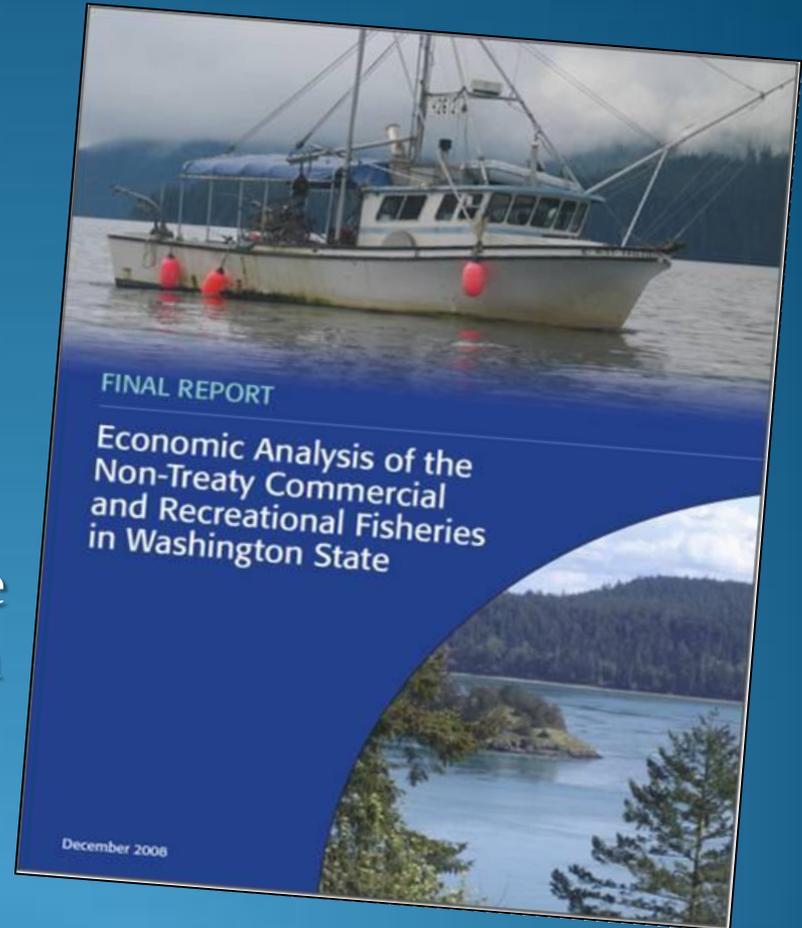


Economic Impacts



Economic Impacts:

- In 2008, the Fish and Wildlife Commission contracted for an economic analysis to be conducted on the state's non-treaty commercial and recreational fisheries.
- WDFW opted to utilize the same economist to focus an evaluation on our state's Hatchery System and its value to the economy. It provides a springboard for looking at state hatcheries' contribution to the state's overall economy from the inside out.

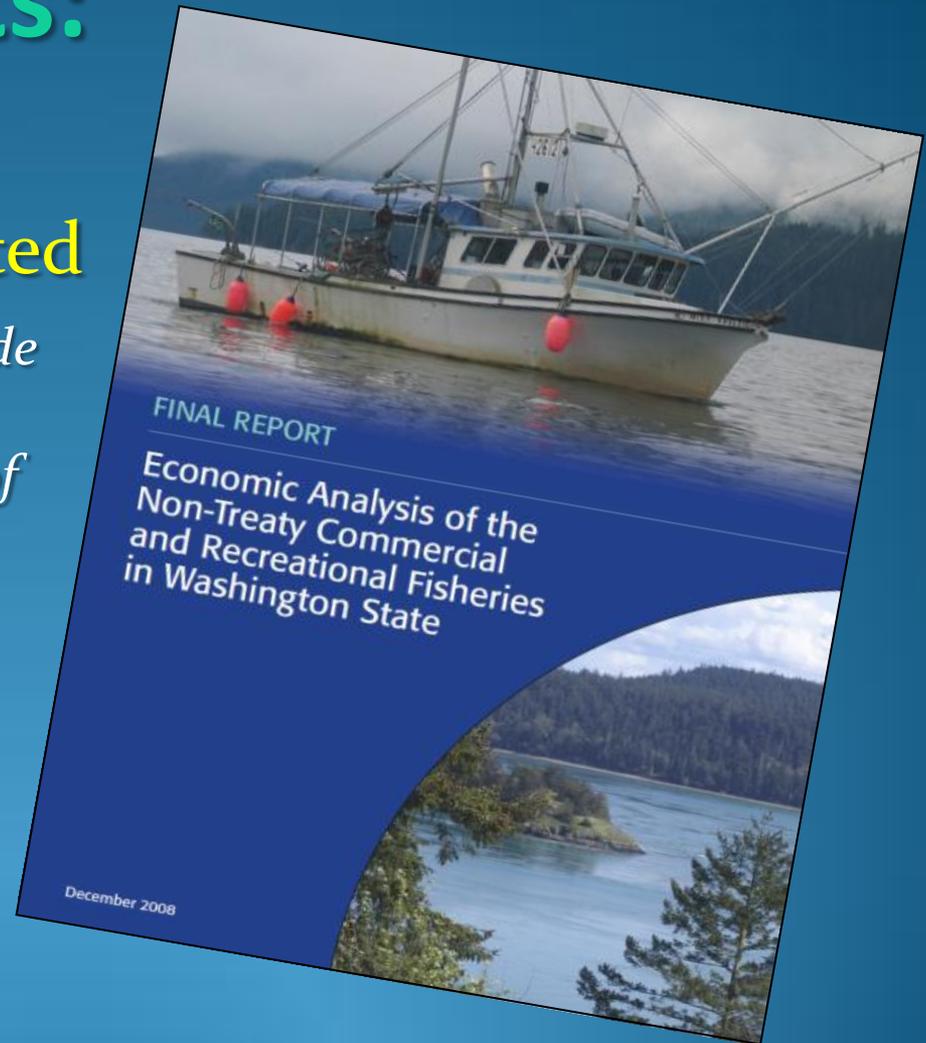


Economic Impacts:

Personal Income Generated

Estimates of personal income include the value of wages and proprietary income generated by the spending of commercial harvesters and processors and by recreational anglers. The estimates include personal income generated in all sectors of the economy from direct, indirect, and induced spending.

Source: *TCW Economics*



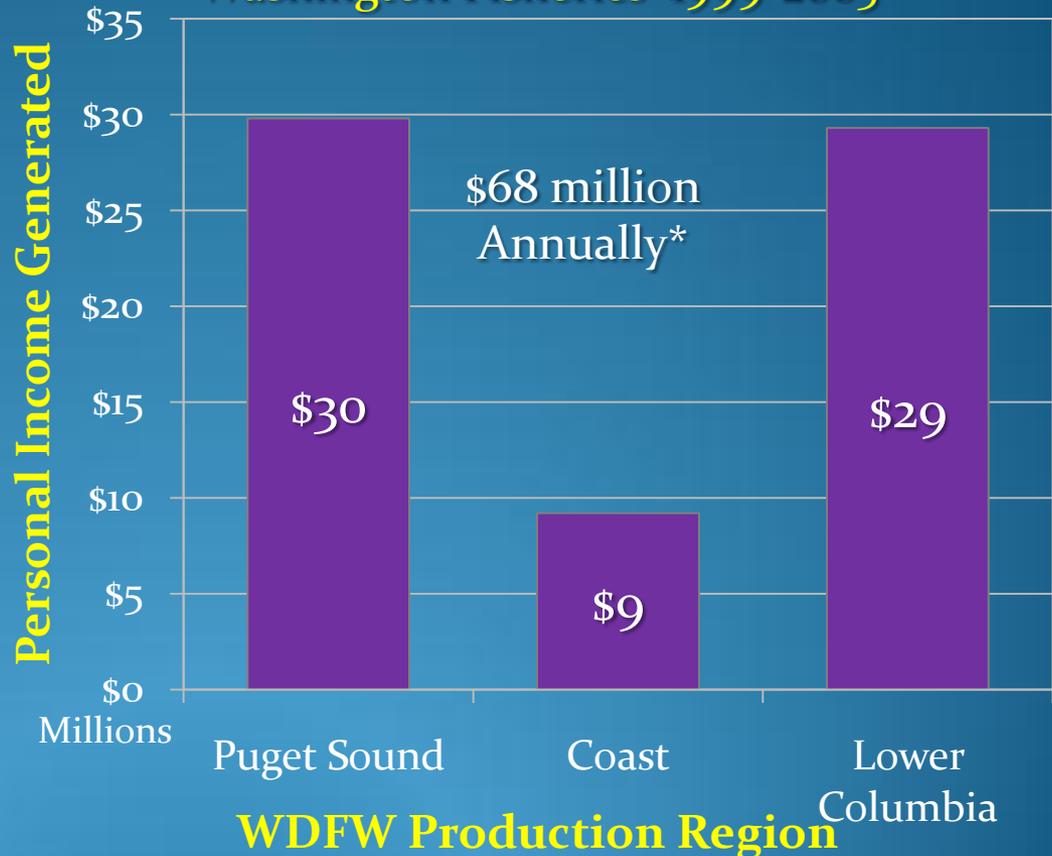
Economic Impacts:

What data forms the basis of the report (TCW 2009)

- Treaty and non-treaty fisheries in Washington
- Average fishery contribution in years 2000 – 2005

* Not all WDFW hatchery production is represented in the following estimate. Economic indicators represent only a monetary value.

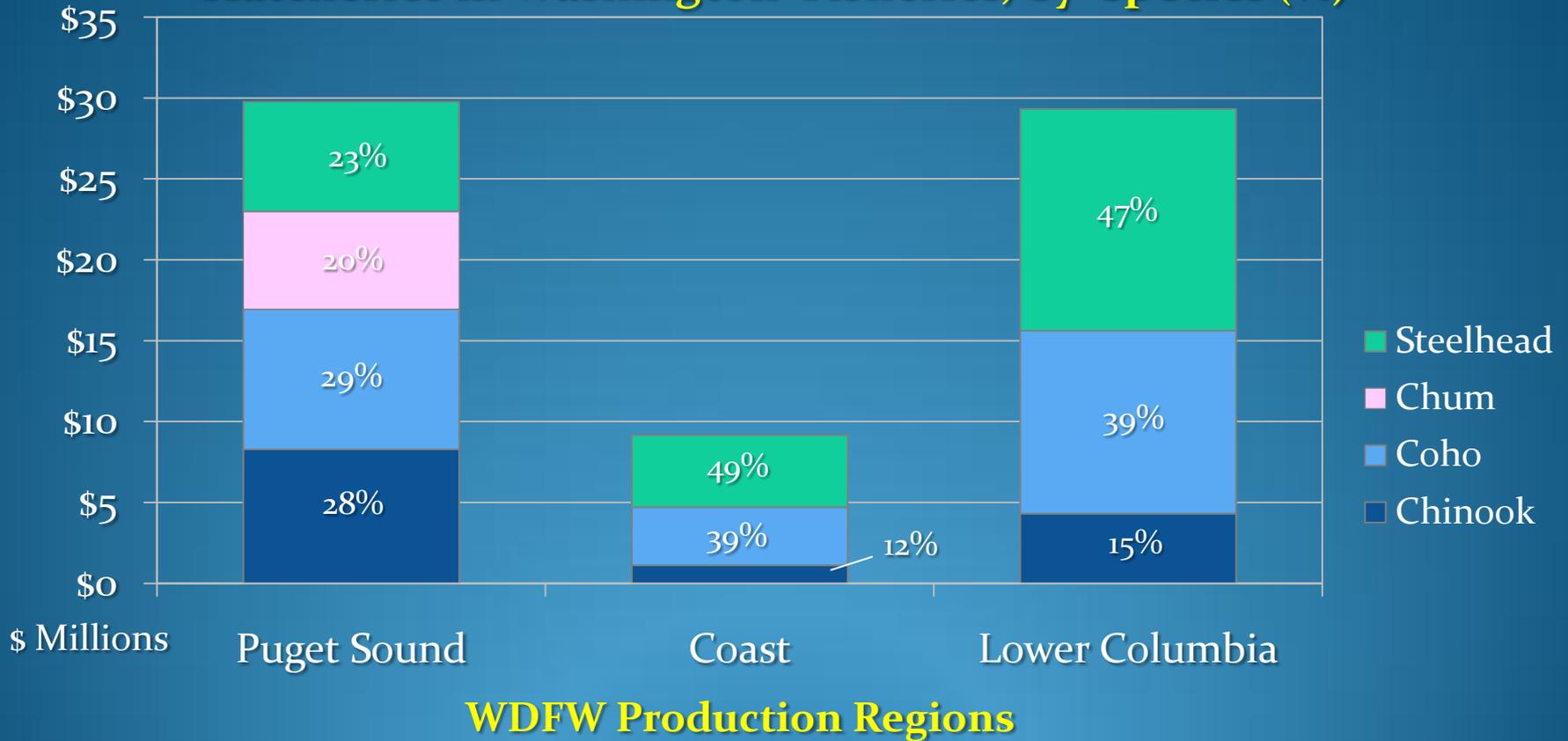
Minimum Annual Personal Income Generated by WDFW Salmon & Steelhead Hatcheries in Washington Fisheries 1999-2005



Source: TCW Economics, *Economic Analysis of WDFW's Hatchery 2020 Plans*, Tech. Memo, 2009. Reported in 2007 dollars

Economic Impacts:

Minimum Annual Personal Income Generated by WDFW Hatcheries in Washington Fisheries, by Species (%)



Source- TCW Economics, *Economic Analysis of WDFW's Hatchery 2020 Plans*, Tech. Memo, 2009

Key points

General trend downward in statewide production from all sources in recent decades.

WDFW production currently represents about 60% of the total statewide hatchery production.



Economics is only one measure of value. Other non-economic values include:

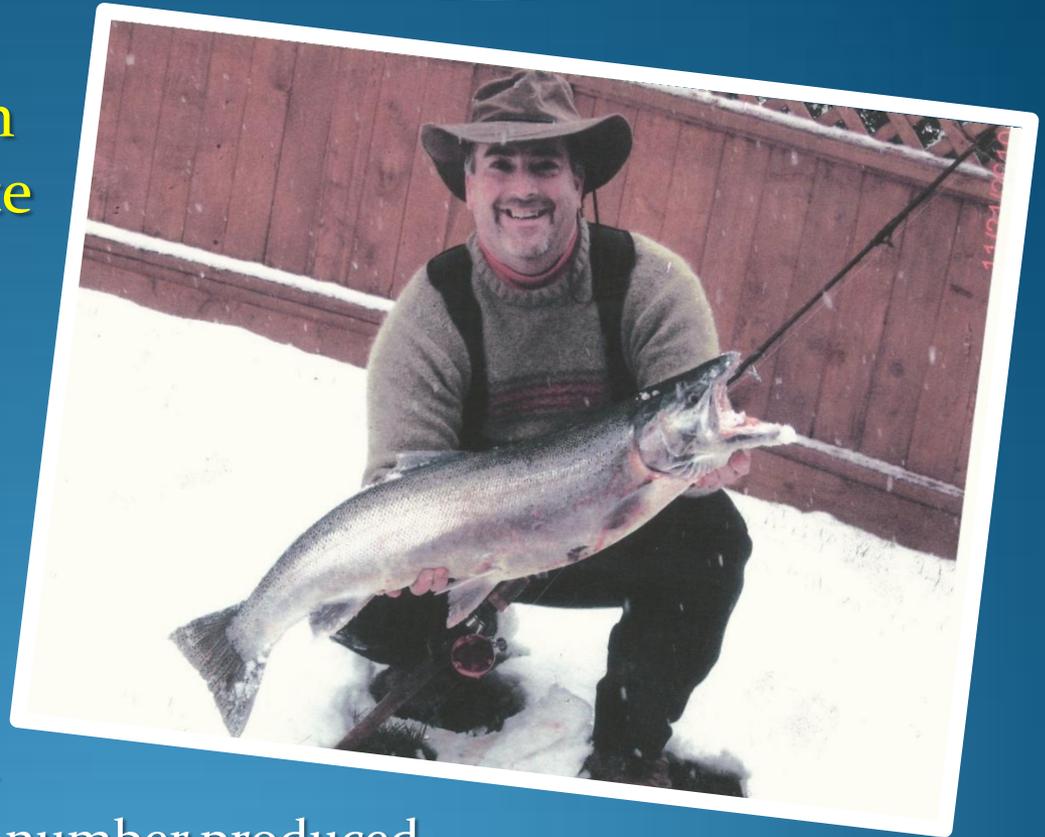
- Cultural value associated with fishing
- Ecological value of carcass nutrients in watersheds

Key points

WDFW produced salmon and steelhead contribute significantly to the overall economic value of Washington's fisheries.

Benefits of state's hatchery system to the economy vary by region

- Influenced by species and number produced.
- Steelhead contribute primarily through recreational fisheries, whereas, chum contributes principally to commercial fisheries.
- Chinook and coho contribute significantly to both recreational and commercial fisheries



Key points

Next and final presentation of this series will focus on Hatchery Reform.

- Hatchery Reform is the initiative to reduce the biological risks posed by hatchery fish while maintaining the significant economic contribution to fisheries.



Questions?

