

What is our priority?

- Salmon recovery in the region should be our priority
- “ECONW was not tasked with ranking the cost-effectiveness of every potential protection and recovery measure in all the salmon ecosystems in the Pacific basin. No doubt other measures in other locations might provide more bang for the buck.”

Salmon Recovery Funding vs. Snake River Dam Removal

Category	Amount
Salmon Recovery Funding	~\$50,000,000
Removal of LSR Dams	~\$1,000,000,000

Timeline to Extinction

If we don't act, Snake River salmon will disappear forever.

“Without prompt action, wild Snake River spring Chinook salmon, once the largest run of its kinds in the world, will be extinct by 2017.”

NY Times ad, 1999

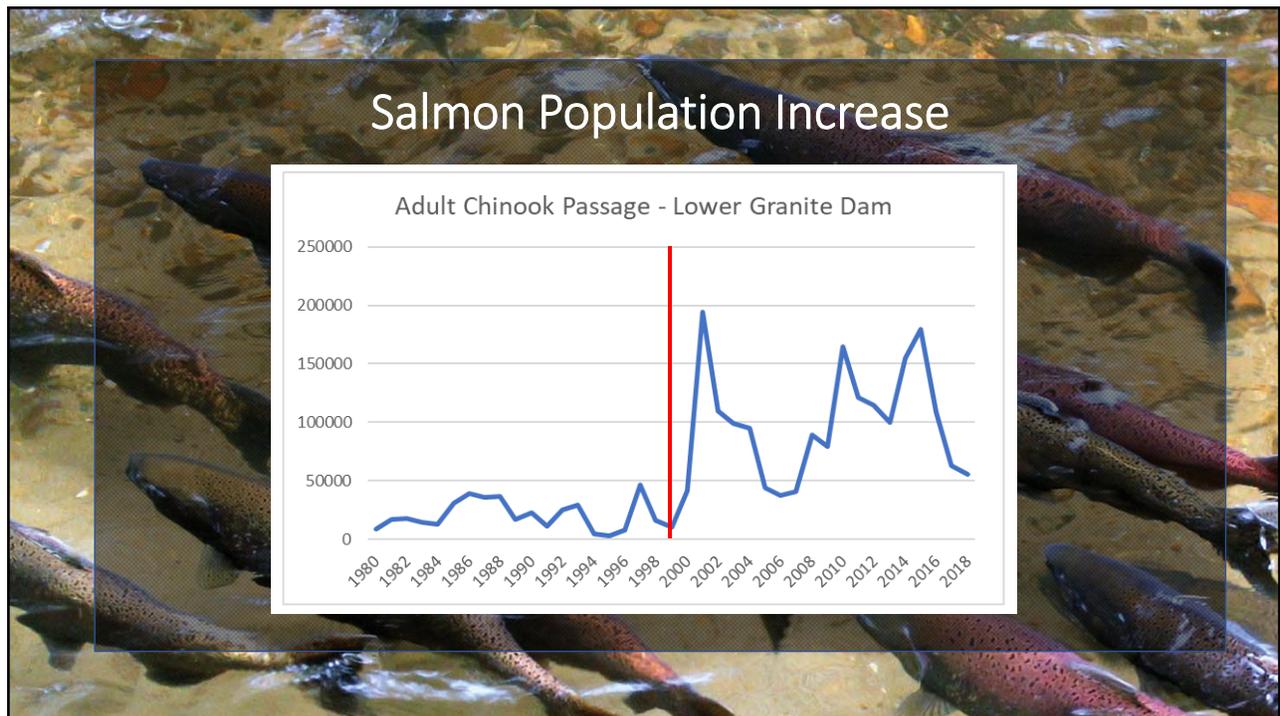
Prior to the mid-1960s, more than 100,000 wild salmon returned to the Snake River each year.

After the construction of four dams on the lower Snake River, fish populations plummeted to fewer than 10,000 wild salmon.

Without prompt action, wild Snake River spring chinook salmon, once the largest run of its kind in the world, will be extinct by 2017.

Comprehensive scientific research* shows that removing the dams is the surest way to save the salmon.

Don't let time run out for the salmon. Vice President Al Gore will help decide their fate. Tell him you care about salmon and want the lower Snake River dams removed.



LSR Dams and Electricity

- About 7% of electricity. More than all wind and solar in WA.
- “If we took these dams out, we would not need to replace the electricity and we would all save money.” – Dammed to Extinction
- ECONW study - \$500 million a year to replace
- After including salmon passage (\$90 million/year), it is \$23/MWh
- BPA’s bonds are “high grade”

Are LSR Dams Cost Competitive?

- Alternatives are both more expensive and rely heavily on federal subsidies
- After including salmon passage (\$90 million/year), it is \$23/MWh
- BPA’s bonds are “high grade”
- Renewable costs are increasing

2018 dollars per megawatt-hour

regional range

capacity-weighted average

unweighted average

regional range

regional range

regional range

advanced combined-cycle

solar photovoltaic²

onshore wind

Source: U.S. Energy Information Administration, Annual Energy Outlook 2019

The Elwha "Success" That Isn't

- The removal of the Elwha dams is cited as evidence that removal works
- Several problems
 - No fish passage at Elwha
 - Populations are about average
 - 96% are hatchery fish
- Increase this year, but also in region (Dungeness)

Figure 5. Natural and hatchery origin adult Chinook proportions for the Elwha River, return years 2010-2017.

Problems With the ECONorthwest Survey

- Survey done by Save Our Wild Salmon
- Factual errors
- "Would restore wild salmon...ensure that wild salmon would be protected."
 - ECONW study admits dam removal increases recovery chance by 20%.
- Survey is 400 voters in WA, but results are applied to ID, MT, OR & CA

Figure 3: A Majority Supports Removing Lower Snake River Dams
Over the past two decades, use of the Snake River dams for transportation has declined by 70%, and the dams only generate about 4% of the electricity used in Washington. At the same time, the dams have reduced wild salmon populations by acting as a barrier to adult salmon moving upriver to spawn, and young salmon moving back downstream. Having heard this, would you support or oppose removing these four dams on the lower Snake River in order to restore wild salmon?

Figure 4: Voters Are Willing to Pay More on Their Electric Bills to Restore Wild Salmon
Removing four dams on the lower Snake River would restore wild salmon and improve water quality, but might lead to a slight increase in electricity costs. Would you be willing to pay an additional ____ on your electric bill in order to ensure that wild salmon would be protected?

Additional Cost	Very Will.	Somet. Will.	DK/NA	Somet. Unwill.	Very Unwill.	Total Will.	Total Unwill.
\$7 per month	39%	24%	11%	22%	2%	63%	33%
\$5 per month	45%	21%	9%	22%	3%	65%	32%
\$3 per month	55%	14%	7%	21%	3%	69%	28%
\$1 per month	64%	11%	5%	18%	2%	74%	23%

Contingent Valuation Is “Misguided”

- “Thus, we conclude that reliance on contingent valuation surveys in either damage assessments or in government decision making is basically misguided.” – Peter Diamond, Nobel Prize 2010
- People don’t answer based on knowledge, but a surrogate of “caring for the environment.”
 - This is why numbers are same no matter what you ask
- People don’t even know how many dams there are on the Snake River

Number of Dams	Percentage
1	~6%
2	~12%
3	~11%
4	~9%
5+	~12%
Don't Know	~48%

How Can We Help Orca?

- “...size of the Snake River salmon stocks compared to others on the West Coast means that increases in their numbers, whether from breaching dams or otherwise, would result in only a marginal change in the total salmon available to the killer whales.”
- Fund priority salmon stocks
- “From each according to their ability, to each according to their need.” – Deborah Giles, UW

Priority Chinook Stocks Using Conceptual Model		
ESU / Stock Group	Run Type	Rivers or Stocks in Group
Northern Puget Sound	Fall	Nooksack, Elviha, Dungeness, Skagit, Stillaguamish, Snohomish
Southern Puget Sound	Fall	Nisqually, Puyallup, Green, Duwamish, Deschutes, Hood Canal systems
Lower Columbia	Fall	Fall Tules and Fall Brights (Cowlitz, Kalama, Clackamas, Lewis, others)
Strait of Georgia	Fall	Lower Strait (Cowichan, Nanaimo), Upper Strait (Klinaklinj, Wakeman, others), Fraser (Harrison)
Upper Columbia & Snake Fall	Fall	Upriver Brights
Fraser	Spring	Spring 1.3 (upper Pitt, Birkenhead; Mid & Upper Fraser; North and South Thompson) and Spring 1.2 (Lower Thompson, Louis Creek, Besette Creek)
Lower Columbia	Spring	Lewis, Cowlitz, Kalama, Big White Salmon
Middle Columbia	Fall	Fall Brights
Snake River	Spring: Summer	Snake, Salmon, Clearwater
Northern Puget Sound	Spring	Nooksack, Elviha, Dungeness, Skagit (Stillaguamish, Snohomish)
Washington Coast	Spring	Hoh, Queets, Quillayute, Grays Harbor
Washington Coast	Fall	Hoh, Queets, Quillayute, Grays Harbor
Central Valley	Spring	Sacramento and tributaries
Middle & Upper Columbia Spring	Spring	Columbia, Yakima, Wenatchee, Methow, Okanagan
Middle & Upper Columbia Summers	Summer	

