



State of Washington  
**DEPARTMENT OF FISH AND WILDLIFE**

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December 1, 2022

The Honorable Christine Rolfes  
Chair, Senate Ways and Means  
303 John A. Cherberg Building  
Post Office Box 40466  
Olympia, WA 98504-0466

The Honorable Timm Ormsby  
Chair, House Appropriations  
315 John L. O'Brien Building  
Post Office Box 40600  
Olympia, WA 98504-0600

The Honorable Kevin Van De Wege  
Chair, Senate Agriculture, Water,  
Natural Resources, and Parks  
212 John A. Cherberg Building  
Post Office Box 40424  
Olympia, WA 98504-0424

The Honorable Mike Chapman  
Chair, House Rural Development,  
Agriculture, and Natural Resources  
132B Legislative Building  
Post Office Box 40600  
Olympia, WA 98504-0600

Dear Chairs Rolfes, Ormsby, Van De Wege, and Chapman,

I am writing to provide you with the Washington Department of Fish and Wildlife's report to the legislature regarding proviso (71) funding in our 2022 supplemental operating budget for various fisheries monitoring provisos. Funding and the proviso language requires a report to the relevant committees of the legislature per language that reads as follows:

(71) The legislature intends to fund the monitoring items contained in subsections (43) through (45) and (50) through (53) of this section through fiscal year 2025. A brief status report of the data collected and findings from each monitoring item funded in this section is due to the appropriate committees of the legislature by December 1st of each fiscal year through 2025.

The agency has focused work in the first fiscal year on hiring critical new positions and developing implementation strategies for this enhanced monitoring. This new monitoring investment is critical for helping us better understand the effectiveness of our hatchery programs at meeting conservation and harvest goals, the impacts of habitat restoration activities on fish productivity and salmon recovery, and the efficiency of our recreational and commercial fisheries. Please find details in the attached report on our implementation approach.

If you have any questions or concerns about this report, please feel free to contact Tom McBride, WDFW's Legislative Director, at (360) 480-1472.

Sincerely,

Kelly Susewind  
Director

# WDFW Fisheries Monitoring

## Report to the Legislature



Washington  
Department of  
**FISH and  
WILDLIFE**

December 1, 2022

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# Background

## Provisos:

(43) \$3,802,000 of the general fund—state appropriation for fiscal year 2023 is provided solely to monitor recreational salmon and steelhead harvest in freshwater streams and rivers in Puget Sound and along the Washington coast.

(44) \$2,116,000 of the general fund—state appropriation for fiscal year 2023 is provided solely to monitor salmon harvest from the ocean and Puget Sound.

(45) \$994,000 of the general fund—state appropriation for fiscal year 2023 is provided solely to monitor salmon harvest from commercial fisheries.

(50) \$4,283,000 of the general fund—state appropriation for fiscal year 2023 is provided solely to develop a monitoring and evaluation program for salmon and steelhead hatcheries in western Washington with the goal to improve survival of hatchery fish to adult returns and adaptively manage hatchery programs to better achieve management goals, including rebuilding natural populations for conservation purposes and increasing fishing opportunities.

(51) \$2,392,000 of the general fund—state appropriation for fiscal year 2023 is provided solely to conduct fish in/fish out monitoring for the purposes of measuring freshwater systems salmon productivity for purposes of salmon recovery.

(52) \$1,040,000 of the general fund—state appropriation for fiscal year 2023 and \$295,000 of the limited fish and wildlife account are provided solely to monitor recreational shellfish harvest in Puget Sound.

(53) \$710,000 of the general fund—state appropriation for fiscal year 2023 is provided solely to monitor recreational Dungeness crab harvest along the Washington coast.

## **To fulfill requirements of a 2022 operating budget proviso (SB 5693, 2022 p. 553), which reads as follows:**

(71) The legislature intends to fund the monitoring items contained in subsections (43) through (45) and (50) through (53) of this section through fiscal year 2025. A brief status report of the data collected and findings from each monitoring item funded in this section is due to the appropriate committees of the legislature by December 1st of each fiscal year through 2025.



# Freshwater Salmon Harvest

## Proviso Language (SB 5693, 2022 p. 548):

(43) \$3,802,000 of the general fund—state appropriation for fiscal year 2023 is provided solely to monitor recreational salmon and steelhead harvest in freshwater streams and rivers in Puget Sound and along the Washington coast.

## Budget Overview

This proviso provided \$3,802,00 in FY23 and \$3,271,000 annually to enhance freshwater monitoring activities including fisheries sampling, as well as juvenile and adult trapping activities for enhanced productivity estimates in targeted Western Washington rivers. This investment will enhance the agency’s fisheries sampling and monitoring in several rivers and strengthen our understanding of fisheries impacts in real time and of the productivity of freshwater environments.

These funds will enable a broader understanding of angling effort and impacts on targeted and non-target species during active fisheries. This information is vital to planning and implementation of salmon and steelhead fisheries to ensure they stay consistent with allowable Endangered Species Act (ESA) and conservation objectives. Other funding helps stabilize funding for existing adult and juvenile salmon abundance monitoring sites and fill key data gaps by adding new monitoring projects in places where monitoring is sparse.

Below is a list of planned fisheries monitoring activities for fisheries occurring in the Summer/Fall 2022.

Planned Location	Target Species	Planned Dates
Baker Lake	Sockeye	7/1 – 8/31
Skagit (Mouth to Marblemount)	Coho	9/1 – 12/31
Cascade (Mouth to Bridge)	Coho	9/16 – 11/30
Mainstem Stillaguamish	Trout, Whitefish, Steelhead (MSF)	9/1 – 1/31
NF Stillaguamish	Trout, Whitefish, Steelhead (MSF)	9/16 – 2/15
SF Stillaguamish	Trout, Whitefish	9/16 – 1/31
Skykomish	Chinook (MSF)	5/28 – 7/31
Wallace	Coho (MSF)	10/1 – 11/30
Green	Chinook, Coho, Chum	8/20 – 12/31
Puyallup	Chinook (MSF), Coho	8/16 – 11/30
Carbon	Chinook (MSF), Coho (MSF)	9/1 – 11/30
Nisqually	Chinook (MSF), Coho (MSF)	7/1 – 11/15



Humptulips	Chinook (MSF), Coho	9/1 – 12/31
Quilayute	Chinook, Fall Coho	9/1 – 11/30

## Next Steps

During this first year of funding, the agency was able to capitalize on existing resources and was successful in implementing monitoring and electronic data capture in several watersheds. Additional efforts through FY23 will include creation and hiring of positions, cross program coordinating and planning, and additional equipment purchases to implement monitoring projects.



Fishing Baker Lake sockeye fishery in 2018 with Mt. Baker in the backdrop. Photo credit: Hermes Adrada.



# Ocean and Puget Sound Salmon Harvest

## **Proviso Language (SB 5693, 2022 p. 548):**

(44) \$2,116,000 of the general fund—state appropriation for fiscal year 2023 is provided solely to monitor salmon harvest from the ocean and Puget Sound.

## **Budget Overview**

This proviso provided an additional \$1,958,000 in FY23 and \$1,158,000 annually to enhance existing salmon fishery monitoring programs occurring in the Ocean and Puget Sound. Mixed stock salmon fisheries management in the coastal and interior marine waters of Washington involves intensive sampling and monitoring to meet strict harvest guidelines to offer salmon fisheries opportunity while staying within agreed to conservation objectives required under the Endangered Species Act, the Pacific Salmon Treaty, and the US vs. WA and US vs. OR court decisions. As recreational fishing opportunities directed at salmon diminish and an increasing population demands access to abundant hatchery stocks, the need for robust and timely information regarding fisheries impacts is imperative. This funding is intended to complement existing funding and boost monitoring capability through increased staffing and one time equipment purchases.

A poor labor market, delays in hiring, and supply chain issues with new equipment have challenged the ability to fully implement the FY23 budget to date. Strategies are currently being employed to ensure needed equipment and staffing is in place for fisheries occurring in 2023.

## **Next Steps**

Purchasing of needed equipment including test fishing boats, electronic data capture devices, and Coded Wire Tag detection equipment and other needed items will continue. Initial planning for sampling and monitoring the 2023/24 fishing season is under way.



# Commercial Salmon Harvest

## **Proviso Language (SB 5693, 2022 p. 548):**

(45) \$994,000 of the general fund—state appropriation for fiscal year 2023 is provided solely to monitor salmon harvest from commercial fisheries.

## **Budget Overview**

This monitoring proviso provided \$994,000 in FY23 and \$544,000 in annual funding to enhance monitoring of commercial chum salmon fisheries occurring in Puget Sound. WDFW developed a broad strategy with tribal co-managers to address information gaps and devote resources to expanded data collection associated with both State and Tribal commercial fisheries directed at chum salmon. Co-manager strategies include expanded test fisheries to inform stock and run-timing information, enhanced tissue sampling to add to fishery managers understanding of stocks impacted from fishing, and increased spawning ground sampling for tissue and age information. This information is intended to coalesce into the development of new tools for co-managers to employ real time genetic information from test fisheries and fishery openings to inform harvest decisions and ensure continued productivity of chum salmon returning to Puget Sound.

A poor labor market, delays in hiring, and supply chain issues with new equipment have challenged the ability to fully implement the FY23 budget to date. Strategies are currently being employed to ensure needed equipment and staffing is in place for fisheries occurring in 2023.

## **Next Steps**

Purchasing of needed equipment including an additional monitoring vessel, genetic analysis of samples taken in 2022 fisheries and spawning ground sampling, and an evaluation of programs implemented in fall fisheries for desired outcomes and effectiveness.





# Hatchery Production Evaluation

## Proviso Language (SB 5693, 2022 p. 549):

(50) \$4,283,000 of the general fund—state appropriation for fiscal year 2023 is provided solely to develop a monitoring and evaluation program for salmon and steelhead hatcheries in western Washington with the goal to improve survival of hatchery fish to adult returns and adaptively manage hatchery programs to better achieve management goals, including rebuilding natural populations for conservation purposes and increasing fishing opportunities.

## Budget Overview

One of the priorities for state and tribal co-managers in Governor Inslee’s Salmon Strategy was development of a comprehensive hatchery monitoring and evaluation program for our westside hatcheries. The 2022 supplemental budget included \$4.2M in ongoing funding to develop a robust monitoring program similar to what we have for our eastside hatchery programs. This monitoring program will allow us to answer critical questions about survival of hatchery fish and better understand and explain their role in conservation and recovery of wild stocks. It will allow us to compare the effectiveness of our programs at achieving not just hatchery survival and production goals but also out-of-hatchery survival metrics.



A WDFW staff member records data while sampling hatchery origin Chinook at the Washougal River weir.

Photo credit: Danny Warren.



With this new funding, the agency's first task is to recruit and hire a planning and implementation team including a project lead in our fish science division along with regional leads to develop and oversee regional implementation of the monitoring plan. This structure will ensure integration and consistency in our science and monitoring activities while also ensuring flexibility and adaptability to accommodate the unique operational needs at facilities. We have also hired two IT positions to support development of a statewide hatchery production database so we can collect monitoring data in a consistent manner in one place, enhancing our analysis capabilities.

In the first year of implementation, the agency also purchased one auto trailer to support marking and tagging of fish at westside hatchery facilities, marking and tagging equipment and hired a trailer operator to support marking and tagging activities.

## **Next Steps**

In FY24 the agency will move from comprehensive plan development into full implementation of phase one of this work which will focus on in-hatchery monitoring. Regional teams will expand to support this work until we have coverage for all westside facilities and hatchery programs. In FY25 the agency team will work on both implementation of phase 1 and development of phase 2 of the comprehensive plan which will include monitoring of post release survival.



# Fish Migration Monitoring

## Proviso Language (SB 5693, 2022 p. 549):

(51) \$2,392,000 of the general fund—state appropriation for fiscal year 2023 is provided solely to conduct fish in/fish out monitoring for the purposes of measuring freshwater systems salmon productivity for purposes of salmon recovery.

## Budget Overview

Proviso 51 provided \$2,392,000 annually to conduct fish in/fish out monitoring for state hatchery programs in Western Washington. This investment will enhance the agency's monitoring and strengthen our understanding of the productivity of freshwater and marine environments so we can build baseline data and measure effects of habitat restoration actions and climate change.

A portion of these funds (\$667,000) will be used to stabilize funding for existing adult and juvenile salmon abundance monitoring sites and another portion of the funds (\$525,000) will be used to fill key data gaps by adding new monitoring projects in regions where monitoring is sparse. Various existing sites that were on unstable or partial funding including Snow Creek, Salmon Creek, Duckabush, Touchet, Grays River, Wind River were fully funded on an ongoing basis thanks to these funds. To identify new projects, the agency solicited proposals through



A juvenile Chinook salmon. Photo credit: David Price

an internal grant solicitation process and selected three new projects. New projects being funded by this proviso include an adult abundance estimation project on the Samish River, an investigation into Skagit River Chinook genetic baseline, and a new Sonar Team for the Washington Coast. A one-time investment in equipment (\$300,000) will support getting these new projects off the ground.

In addition to the investments in project equipment and ongoing project staffing we have dedicated \$370,000 of the proviso funds for building additional research, analyzing, and reporting trends in the data and project management support.

## Next Steps

During this first year of funding, the agency is focused on getting new project sites up and running, purchasing smolt traps and other monitoring equipment and hiring critical new positions to support this work. Recruitment and hiring are underway for a project coordinator who will provide budget and coordination support and report out the results of these projects as well as two research scientists to support research design and data analysis. The agency has also established a workgroup with partners at the Northwest Indian Fisheries Commission (NWIFC) and the



University of Washington (UW) Climate Impacts Group to review the science around salmon productivity, instream flows, and assess likely effects of climate change.



# Shellfish Harvest

## **Proviso Language (SB 5693, 2022 p. 549):**

(52) \$1,040,000 of the general fund—state appropriation for fiscal year 2023 and \$295,000 of the limited fish and wildlife account are provided solely to monitor recreational shellfish harvest in Puget Sound.

## **Puget Sound Shellfish Monitoring \$1,040,000**

The Department requested funding to expand the Puget Sound Shellfish Program's capacity to help address priority needs including risks to shellfish from climate change, record fisheries participation, and a rapidly growing human population in Puget Sound. Updating our program by adding a range of staff is necessary to address short and long-term needs, to adapt to evolving management conditions, to continue to meet tribal co-management obligations, and to continue to ensure the healthy shellfish populations for the citizens of Washington state.

The fully funded budget request to support this work was \$1.68 million per year. Given the reduced funding we received, the agency needed to reduce the number of staff positions we planned to hire. The agency prioritized hiring the following positions:

- (1) Fish and Wildlife Biologist 4 (1 FTE), Shellfish Disease Prevention Unit (Unit Lead) – hired Oct. 2022
- (1) Scientific Technician 2 (1 FTE), Shellfish Disease Prevention Unit (Surveys and monitoring) – hiring Winter 2022/23
- (1) Fish and Wildlife Biologist 3 (1 FTE), Intertidal Unit (Olympia Oyster, emerging issue focus, Commercial Fishery support) – hiring Winter 2022/23
- (1) Fish and Wildlife Biologist 2 (1 FTE), Crustacean Unit (Recreational crab and shrimp focus) – hired and starting in Dec. 2022
- (1) Scientific Technician 2 (1 FTE), Crustacean Unit (Commercial fisheries monitoring) – Hired Aug. 2022
- (1) Scientific Technician 3 (1 FTE), Crustacean Unit (Recreational fisheries monitoring) – Hired and starting Dec. 2022
- (3) Scientific Technician 2 (0.25 FTE), Crustacean Unit (Recreational fisheries monitoring) – hiring in Spring 2023 ahead of planned summer field season (see further details below).

The agency was unable to hire the positions below due to the reduced funding we received. However, we continue to see these positions as critical to meet our long-term shellfish monitoring and research goals.

- (1) Scientific technician 2 (0.25 FTE) – crustacean creeling
- (1) Research Scientist 1 (1 FTE)
- (2) Scientific technician 2(2 FTE) – fisheries sampling (2 FTE)
- (1) IT Data Management Specialist (1 FTE)
- (1) Microbiologist 2 (0.3 FTE), Shellfish Disease Prevention Unit – we are evaluating how to best utilize these funds to meet our shellfish pathogen diagnostic testing needs.



For more information on hiring plans, see the Next Steps section following the “Recreational Shellfish Monitoring” section.



WDFW Puget Sound Shellfish Program staff and Puget Sound Restoration Fund Biologist survey oysters on Quilcene Bay. Photo credit: Danny Warren.

## Recreational Shellfish Monitoring \$295,000

The request to increase the spending authority for Puget Sound crab catch record card funds will allow the Puget Sound shellfish team to add capacity needed to adequately monitor recreational shellfisheries by updating historic harvest, effort, and compliance data that is crucial for sustainable fisheries management. To meet these needs, we requested to hire 7 seasonal scientific technicians (2.7 FTE) dedicated to creel monitoring summer recreational Dungeness crab and recreational intertidal bivalve harvest. With the allocated funds, we were able to include an additional .25 FTE of scientific technician 2, bringing the total staff to 8 seasonal scientific technicians (2.9 FTE) dedicated to creel monitoring summer recreational Dungeness crab and recreational intertidal bivalve fisheries.

To ensure we had adequate staff to support these new seasonal scientific technicians and the new data they will be collecting, we prioritized hiring support biologist and technician positions identified in the “Puget Sound Shellfish Monitoring” decision package above. The hiring sequence challenge, the timing of when funds became available, in addition to internal hiring delays, made it unfeasible to hire the 8 temporary technicians in time for our intended 2022 spring and summer field seasons.



## Next Steps

The agency will be hiring the seasonal technicians ahead of the originally planned Spring/Summer field season in Winter/Spring 2023 to help monitor other fisheries needing additional support, including Puget Sound recreational squid and shrimp. These technicians will transition to sampling the originally intended recreational crab and intertidal bivalve fisheries starting in summer and spring respectively. The data collected by these staff will inform critical gaps in harvest assessment and will help ensure we meet tribal comanagement obligations.



# Dungeness Crab Harvest

## Proviso Language (SB 5693, 2022 p. 549):

(53) \$710,000 of the general fund—state appropriation for fiscal year 2023 is provided solely to monitor recreational Dungeness crab harvest along the Washington coast.

## Budget Overview

This new funding for Dungeness crab monitoring will allow the agency to hire new staff positions and purchase critical equipment needed to enhance our recreational Dungeness crab harvest monitoring along the Washington Coast. This work will be implemented in two phases. In this first fiscal year, phase one of this work will commence and we will be focused on program development, building the monitoring plan, hiring and training staff and purchasing monitoring equipment. In the second fiscal year we will enter phase two of the project, the implementation phase, where our team will begin executing the monitoring plan.



WDFW Crustacean Biologist with a Dungeness Crab.

Photo credit: Don Velasquez

The agency's first step in phase one was to recruit and hire a lead biologist position to oversee this work. The lead biologist started November 16, 2022 and is working to develop an appropriate monitoring program that produces statistically sound recreational Dungeness crab harvest estimates. The first task of the lead biologist will be to begin researching and reviewing existing sampling and estimation programs to inform the monitoring program. The lead biologist is also working to hire additional staff to support program development and implementation and is developing a list of necessary equipment, sampling tools and estimation software programs to support implementation and analysis.

## Next Steps

Before moving out of planning and development and into the implementation phase of this work, the lead biologist will seek internal and potentially external review of the sampling regime and estimation methods. Full implementation of the recreational fishery monitoring program is planned for Fall 2023.

