

Concise Explanatory Statement (CES)

2022 North of Falcon Puget Sound Commercial Salmon Fishery Regulations

The Washington Department of Fish and Wildlife (WDFW) filed the Preproposal Statement of Inquiry (CR-101) on January 19, 2022 (WSR 22-03-087), and the Proposed Rule-making (CR-102) for the 2022 Puget Sound Commercial Salmon Fishery on May 18, 2022 (WSR 22-11-086). This proposed rule-making package is comprised of:

Rules amended as part of this rule-making:

WAC 220-354-080 Puget Sound salmon – Closed Areas
WAC 220-354-120 Puget Sound salmon – Purse seine – Open periods
WAC 220-354-160 Puget Sound salmon – Gillnet – Open periods
WAC 220-354-180 Puget Sound salmon – Reef net – Open periods
WAC 220-354-210 Puget Sound salmon – Beach seine – Open periods

Rules repealed as part of this rule-making:

N/A

Rules created as part of this rule-making:

N/A

1. Background/Summary of Project:

This Concise Explanatory Statement (CES) describes the Washington Department of Fish and Wildlife's (WDFW's) reasons for adopting the 2022-2023 Puget Sound commercial salmon fishing rules and responds to public comments received on the proposed rules. The rules, once adopted, will be set forth in the Washington Administrative Code (WAC) at the sections listed above. The annual management period for each fishing season typically ends in April and begins anew each May.

Rulemaking by the Department is guided by resource management policies adopted by the Fish and Wildlife Commission at its regularly or specially scheduled meetings that are open to the public. Those policies can be found at: <https://wdfw.wa.gov/about/commission/policies>.

In addition, the Department's Director and staff interact with the Commission by reporting on policy implementation, including rule development and implementation, as part of the Commission's open public meetings. Commission meeting agendas and staff reports to the Commission are available at: <https://wdfw.wa.gov/about/commission/meetings>.

Due to the complexity of the annual salmon season setting process, the Commission typically delegates the authority to the Director, as authorized by law, to develop and adopt the rules to implement the outcomes of the process, while also providing policy guidance, as described above. For example, the North of Falcon Policy (C-3608) contains policy objectives to guide fishery rule-making and provides an express delegation of rule-making authority to the Director.

As discussed below, the Administrative Procedure Act, RCW 34.05 (APA) envisions a rule-making process by which input is solicited from the public during the preproposal phase to aid in the development of proposed rules. This public process is then carried through as the rules, once proposed, undergo additional public review and comment. The Director employs agency staff to assist in the rule-making process but retains the final delegated decision-making authority on such rules. After consideration of public comments received and staff recommendations, the Director makes the final decision to sign the CR-103 rule-making order adopting the final rules.

The APA process for the proposed rules for the 2022-2023 Puget Sound commercial salmon season began when the CR-101, notice of intended rule-making, was filed on January 18, 2022 (WSR 22-03-087). Thereafter, the Department relied upon several forums to gather information and interact with regional fishery managers and constituent groups in order to develop the proposed rules that were presented in the CR-102 filed on May 18, 2022 (WSR 22-11-086) and became available for formal APA public review and comment.

These rule-making processes are described in more detail as follows:

North of Falcon / Pacific Fishery Management Council processes used to develop proposed rules (“Pre-notice Inquiry” stage of rule-making)

State, federal, and tribal fishery managers, and the Oregon Department of Fish and Wildlife (ODFW), work collaboratively with recreational and commercial stakeholders during North of Falcon (NOF) and Pacific Fishery Management Council (PFMC) meetings to develop fishery options based on the best available science. Data and information examined and considered include expected annual salmon returns; Endangered Species Act (ESA) requirements, expressed as annual stock-specific exploitation rates; treaty fishing rights of Northwest Tribes; and resource management policies of the Fish and Wildlife Commission. The name “North of Falcon” refers to Cape Falcon, Oregon, which is the southern border of active management for Washington salmon stocks. The process consists of series of public meetings involving federal, states’, and tribal representatives, who work together with input from recreational, commercial fishing, and conservation interests.

The NOF planning process deliberately overlaps with the March and April meetings of the PFMC, the federal authority responsible for setting ocean salmon seasons within the Exclusive Economic Zone, which extends from 3 to 200 miles off the Pacific coast. Work with federal fishery managers and fishing interests in offshore waters is essential to helping ensure coordinated state and federal fisheries for salmon stocks that migrate freely between state and federal waters.

In addition to the two PFMC meetings, the states of Washington and Oregon, and the Northwest Treaty Tribes, sponsor additional meetings to discuss alternative fishing seasons that meet conservation and harvest sharing objectives. Additionally, WDFW solicits input from advisory groups whose representatives represent a diverse range of user group interests.

The development of salmon fishing seasons begins with the completion of surveys of the previous year’s spawning grounds and hatchery return estimates by state and tribal biologists. These biologists apportion catch in each area to specific management groups and calculate a total run-size for each group. Biologists complete this analysis, also known as a run-reconstruction, each fall or early winter. Based on total run-size, and the associated survival rates, state and tribal biologists forecast the number of salmon and steelhead returning for the coming year. State

and tribal biologists, in coordination with PFMC participants, typically complete the forecasts each year by late February. From the run-size forecasts, fisheries managers determine the number of fish available for directed or incidental harvest according to the management objectives. Once the forecasts and the number of fish available for harvest are determined, state and tribal fisheries managers begin the process of developing specific annual fishing regulation proposals to achieve, but not exceed, those harvest levels.

Rule development for the North of Falcon process in 2022 began in early January with the filing of the CR-101 and a commercial industry meeting to review the 2021 salmon fishery. WDFW presented outcomes of the 2021 fishing season, discussed the state of salmon with regard to survival trends and biological effects (*e.g.*, climate and marine mammal predation), and began discussions on the upcoming 2022-23 fishing season.

Subsequently and similar to previous years, the 2022-23 NOF salmon season planning process included several meetings held with the public, from February to April:

Table 1. Public meetings for 2022 North of Falcon season setting process

Geographic Area	Date(s)	Location
All	March 4	Zoom webinar
Ocean – PFMC	March 8-14	Zoom webinar
Commercial Salmon	March 15	Zoom Webinar
Puget Sound Commercial	March 11	Zoom Webinar
All	March 16	Zoom webinar
Puget Sound Commercial	March 30	Zoom webinar
All	March 31	Zoom webinar
All / PFMC	April 6-9 and 12-15	Zoom webinar
Commercial Salmon	April 14	Zoom webinar

Due to the COVID-19 pandemic, all meetings were held using online formats.

During these public meetings, WDFW gathered input from stakeholders on the structuring of fishing seasons, reviewed possible rule changes, and provided the public with information on the status of the 2022-23 planning process. WDFW considered the fishing regulation proposals shared at public meetings as a work in progress (*i.e.*, not final proposals) that would be further informed by comments received from meeting participants. Additionally, WDFW solicited and accepted public comments to inform fishing proposals online, via WDFW’s website and through e-mail, thereby providing alternate avenues to comment, particularly for those individuals who could not attend the scheduled public meetings and webinars.

Concurrently in the 2022-23 NOF season planning process, tribal co-managers and WDFW conducted technical meetings and policy level discussions to co-develop conservation objectives, run-size forecasts, estimates of the allowable harvest, and tribal and non-tribal catch shares for the various salmon runs considered in defining fishing levels. Again, these meetings were held virtually (through online means) due to the COVID-19 Pandemic. WDFW and tribal co-managers negotiated coordinated fishing schedules for tribal- and state-managed Puget Sound salmon fisheries. These schedules provide the days of the week that are exclusively reserved for treaty fishing in areas where all-citizens fishing is also conducted. The Puget Sound commercial salmon fishing seasons adopted by WDFW in 2022 are the product of both the state-tribal

government-to-government negotiation and the public process planning components of the annual NOF process.

CR-102 rule proposal phase with comment period and formal rule-making hearing

Based upon all the information generated via these forums and outreach efforts, WDFW developed and proposed fishery rules for public consideration through the APA process. Accordingly, the CR-102 for WDFW's rulemaking proposals for the Puget Sound commercial salmon seasons for 2022-23 was filed on May 18, 2022 (WSR 22-11-086). The CR-102 filing included proposed changes to the WAC sections listed at the beginning of this CES. The package of proposed rules comprises a suite of amendments to those pre-existing WAC sections and reflects a unitary fishing season proposal for the 2022-23 proposed fishing season, expressed largely as time, place, and manner regulations for fishing activity, given the most recent conservation and allocation objectives. Functionally, the amended rules package is a unitary seasonal fishing package and replaces the prior year's (2021-22) suite of fishing season rules. Information regarding the proposed rule changes was electronically sent to participants in the NOF process who provided their contact information at meetings, as well as posted on WDFW's website. A news release on public comment opportunities associated with the CR-102 was also produced and sent to media and constituent distribution lists.

A formal APA rule-making hearing was held on June 22, 2022 (via Zoom webinar) to provide additional public opportunity for making comments on the proposed rules as published in the Washington State Register (WSR). A total of six individuals attended the rule-making hearing, and none of them provided testimony. A summary of the public hearing, the comments provided at the hearing, and WDFW's responses to those comments, has been prepared and provided to the Director of WDFW for his consideration in adopting the proposed rules. In addition to input received during the APA hearing, comments received by letter, electronic mail (addressed to the WDFW Rules Coordinator or other WDFW staff), and online (via the WDFW NOF webpage) during the NOF process and CR-102 comment period were considered throughout the rulemaking process.

2. Reasons for adopting the rules:

WDFW considered all the facts and circumstances surrounding the proposed 2022-23 Puget Sound commercial salmon season. The department carefully reviewed all input the public provided regarding preferred fishing rules during NOF public meetings (APA Pre-notice Inquiry stage) and the subsequent stages of the rule-making process designed to provide formal notice of and opportunity to comment on proposed rules (CR-102 filing of proposed rules, formal period of additional comment solicitation, and public rule-making hearing). WDFW considered and relied upon the best technical and scientific information available to tribal and state fishery management experts, including pre-season forecasts of the abundance of salmon stocks; and WDFW continues to use data during the season to update forecasts. Important characteristics of the commercial salmon fisheries were considered, including the catch likely to result from the proposed rules, providing significant harvest opportunities, and the economic value of these fisheries. WDFW also considered the proposed fishing schedules for state recreational fisheries and the schedules for tribal fisheries, as in some cases these schedules must be coordinated with the state's commercial fishing schedules as part of the co-management process developed under sub-proceedings of *U.S. v. Washington*.

Regulations for the 2022-23 Puget Sound commercial salmon fisheries were considered with respect to established objectives. These objectives include generally applied statewide objectives, together with detailed regional-specific objectives described within the regional sections set forth further below. WDFW shared these objectives with commercial fishery representatives during the 2022 NOF and APA public processes. These objectives are listed below in order of priority:

1. Conserve the wildlife and food fish, game fish, and shellfish resources in a manner that does not impair the resource (RCW 77.04.012) by achieving conservation objectives for all species and stocks.
 - a. Ensure fisheries are planned to meet primary stocks escapement goals and/or management objectives (*e.g.*, exploitation rate).
 - b. Manage fisheries consistent with Fish and Wildlife Commission Policies C-3608 (2019-2023 North of Falcon) and C-3619 (Hatchery and Fishery Reform). This includes using management strategies to limit seabird mortalities consistent with the federal Migratory Bird Treaty Act.
 - c. Monitor fisheries to facilitate meeting objectives (1.a.) and (1.b.) above.
2. Harvest the non-treaty share of harvestable salmon, considering the fishery policies and objectives that establish preferences on time, place and species of salmon to be harvested across all the State's fishing sectors.
3. Promote orderly fisheries and enhance and improve recreational and commercial fishing in this state (RCW 77.04.012).
4. Seek to maintain the economic well-being and stability of the fishing industry in the state (RCW 77.04.012).

When taking these objectives into account, WDFW conducted a thorough assessment of all technical and scientific information available to state and tribal co-managers. For example, the co-managers in 2022 analyzed pre-season forecast and stock identification data to determine agreed upon in-season harvest plans. Additionally, WDFW reviewed all input (written and oral, formal and informal) from industry representatives and the general public regarding preferred fishing rules received during NOF public meetings and in communication outside those scheduled public meetings, and all input received by the department via electronic or mail portals provided for public commenting upon the proposed rules.

Important five-to-ten-year metrics of the Puget Sound commercial salmon fishery considerations include: licensed vessel to active vessel participant ratios, catch and by-catch compositions, predicted harvest under proposed rules, and the economics of these commercial fisheries. WDFW also considered the coordination of State- and Tribal-managed commercial and recreational fishing schedules. These elements were evaluated in accordance with the sub-proceedings of *U.S. v. Washington*, to attain an agreed-to fishery package receiving ESA authorization for the 2022 all-citizens commercial salmon fisheries in Puget Sound.

Based upon the information and input gathered, received, and reviewed, WDFW believes that adoption of the proposed 2022-23 Puget Sound commercial fishing regulations will be consistent with the identified management objectives, according to the following rationale:

Objective 1.a.: Ensure primary stocks meet escapement goals and/or management objectives.

The proposed rules and regulations for Puget Sound commercial salmon fisheries are constructed with the objective of achieving conservation objectives defined for each target species, stock, or management unit. The proposed rules define schedules with open fishing periods only for those fisheries that are directed at salmon stocks with harvestable abundance; all fisheries are monitored to ensure that catches do not exceed the number allowed for each species, stock, or management unit at which the fishery is directed. WDFW relied on State-Tribal co-manager pre-season forecasts of abundance to construct the fishing schedules. WDFW will use in-season information, where available, to update pre-season forecasts of stock abundance and revise estimates of the allowable catches for each fishery.

Objective 1.b.: Manage fisheries to minimize mortalities on non-target species and stocks.

Fish and Wildlife Commission Policy C-3608, titled *2019-2023 North of Falcon*, instructs the department to manage fisheries to minimize mortalities on non-target species and stocks. In structuring rules for the 2022-23 Puget Sound commercial salmon seasons, WDFW considered impacts of fisheries on non-target species, including ESA-listed Puget Sound Chinook salmon, Hood Canal summer Chum salmon, and Puget Sound steelhead, and two species of rockfish occurring in Puget Sound (yelloweye rockfish and Boccaccio), as well as other fish and wildlife species of concern including Southern Resident killer whales (SRKW) and Western North Pacific Humpback whales. The proposed regulations are structured to ensure that incidental mortalities on non-target species are minimized by focusing fisheries at times and in areas of peak abundance for target salmon stocks, while avoiding times and areas with higher incidence of non-target species. For the proposed regulations to minimize bycatch, WDFW considered the best available science concerning the potential impact of these fishing seasons on non-target species, often relying on joint recommendations of tribal and state technical staff, commercial fisher observations, and historical catch accounting in the process.

Because bycatch mortalities vary by fishing method, the objective of minimizing bycatch requires WDFW to apply different rules to the different gear types. For example, salmon bycatch mortality associated with operation of reef net gear (used only in Salmon Management and Catch Reporting Area 7/7A fisheries) is assumed by state and tribal fishery managers to be zero, because minimal contact with non-target salmon occurs with this gear during fishing operations, and all prohibited bycatch is quickly released. For purse seine gear, state and tribal managers reviewed results of scientific studies on salmon bycatch mortality and agreed that the majority of Coho and Chinook salmon encountered by this gear will survive being sorted and returned to the water. Based on this scientific data, bycatch mortality of Chinook and Coho salmon in Puget Sound commercial purse seine fisheries targeting other salmon species can be minimized by requiring that these non-target species be released.

Scientific studies that have been conducted on mortality rates for Coho and Chinook salmon encountered by gillnet gear largely indicate that release mortality rates are high. In accordance with the best available science, WDFW addresses the bycatch minimization objective for gillnet gear differently than the approach used for purse seine gear. Relying on recommendations of the Joint Chinook Technical Committee of the Pacific Salmon Commission (Report TCCHINOOK (97)-1. PSC, 1997) that “CNR (Chinook non-retention) gillnet fisheries are unlikely to be implemented due to the high expected mortality rate of the fish released,” WDFW believes that requiring release of Chinook and Coho salmon in Puget Sound gillnet fisheries generally will not result in the minimization of bycatch mortality. In many Puget Sound gillnet fisheries WDFW does not require release of Chinook or Coho. Fishers are prohibited from discarding salmon that

may be legally retained, except for fish that are made unmarketable due to marine mammal depredation. Because all retained salmon are required to be reported on commercial fish tickets, WDFW assumes that bycatch of these species is accounted for through Commercial Fish Receiving Tickets. From 2013 to 2016, WDFW had increased on-board monitoring of gillnet vessels, with the objective of comparing levels of bycatch estimated from direct observation of gillnet bycatch of Chinook and Coho to levels accounted for on Commercial Fish Receiving Tickets. From 2016 to present, WDFW shifted on-board monitoring efforts to purse seines due to an increased concern over winter chum presence, and additional data collection needs. Though logistical constraints exist for on-board monitoring of gillnets, WDFW plans to increase their on-board monitoring presence during the night gillnet fisheries in the South Sound for the 2022-23 fishing season.

There may be unique circumstances where WDFW believes that the bycatch minimization objective will be achieved by requiring release of certain salmon species from gillnets. Such circumstances include when regulations restrict the number of participating licenses, such that all participants can be monitored; when regulations limit the size of fishing gear and length of net soak times (e.g., in the extreme terminal Area 12A Coho fishery with skiff gillnets); or when regulations require the use of recovery boxes.

The mortality rates applied to Chinook salmon encountered and released in Puget Sound purse seine fisheries, and the drop-out rates applied to gillnet fisheries, are based on joint-tribal-state technical recommendations and are documented in the *2022 Comprehensive Management Plan for Puget Sound Chinook: Harvest Management Component*. This plan was submitted to the National Marine Fisheries Service (NMFS) and when approved will provide ESA coverage for Puget Sound Fisheries under Limit 6 of the ESA 4(d) rule for a ten-year period. While the plan is under review, annual consultation with NMFS and the associated ESA coverage has come in the form of an annual take authorization under section 7 of the ESA with approval coming through the federal nexus of NMFS consultation with the Bureau of Indian Affairs.

In addition to measures described above, WDFW's proposed regulations for Puget Sound commercial salmon fisheries incorporate gear, time, and area restrictions to minimize bycatch encounters. This is particularly the case for summer Chum originating from Hood Canal and the Eastern Strait of Juan de Fuca. In March of 1999, NMFS determined that the summer Chum originating from Hood Canal and the Strait of Juan de Fuca represented an Evolutionarily Significant Unit (ESU), and formally listed these fish under the Endangered Species Act (ESA) as a threatened species.

In April 2000, the state and tribal co-managers published a summer Chum management plan, approved by NMFS (*Summer Chum Salmon Conservation Initiative - An Implementation Plan to Recover Summer Chum in the Hood Canal and Strait of Juan de Fuca Region*), which contains base conservation regimes (BCR) for fisheries with specific guidelines by area, timing gear type, and summer Chum forecasts combined with in-season escapement numbers. For example, in Area 12A, under the BCR guidelines, beach seine fisheries cannot begin prior to August 21, while gillnet fisheries cannot begin prior to September 1. Also, the BCR guidelines stipulate that these fisheries cannot open until at least 1,500 Chum have been counted in the river and can open one day per week if fewer than 2,500 Chum have been counted in-river. Further, all-citizens gillnets can open only if tribal fisheries are open, and gillnets must release Chum by cutting the mesh ensnaring the fish.

Conservation concerns over non-salmon species encountered during Puget Sound commercial salmon fisheries are increasing. Fish species of concern in Puget Sound include ESA-listed Chinook salmon, summer Chum salmon, and steelhead, as well as ESA-listed Boccaccio and Yelloweye rockfish. Other wildlife species of concern in the Puget Sound include federal ESA-listed Southern Resident killer whales and marbled murrelets; along with tufted puffins, a state-listed Endangered Species. For these species, data collected from purse seine observations indicate a low encounter rate, but (as discussed below) there is minimal gillnet monitoring data from recent seasons. Extrapolation of purse seine data to the gillnet fishery in general may not be valid, given known differences between the gear types and their impacts on various species.

Bycatch of seabirds entangled in gillnet gear is believed to pose the greatest risk of injury or mortality of the commercial salmon gear types currently employed. Encounters and mortalities of ESA-listed marbled murrelets are documented in the *USFWS Biological Opinion on the proposed 2017-2036 Puget Sound Salmon Fisheries and its effects on Marbled Murrelet*, 2017. This Biological Opinion (Bi-Op.) on marbled murrelets provides incidental take coverage for both WDFW and Treaty Tribal managed Puget Sound salmon fisheries through 2037, unless consultation by the USFWS is initiated prior to that time. In its Bi-Op., the United States Fish and Wildlife Service (USFWS) used all-citizens commercial effort data from 2000 to 2015 to extrapolate expected effort and impacts of the fishery to marbled murrelets during the proposed action. USFWS concluded that the proposed Puget Sound salmon fisheries are not likely to have an appreciable influence on the numbers of marbled murrelets when considering cumulative effects on the species.

However, should any substantial increases in fishing effort occur, WDFW is concerned that take limits could be exceeded and re-consultation on Puget Sound salmon fisheries triggered. Re-consultation of the current Bi-Op. for marbled murrelets could include further restrictions on Puget Sound commercial fisheries. WDFW is therefore particularly cautious about expanding fishing opportunity.

The proposed regulations for the 2022-23 Puget Sound commercial salmon seasons include restrictions specific to purse seine and gillnet gears that are expected to reduce seabird mortalities. These restrictions are identical to those implemented since the mid-1990s, based on recommendations of scientists conducting seabird bycatch studies as well as input from both gillnet and purse seine fishers. Marine mammal injuries and mortalities in Puget Sound net fisheries are another concern. The federal Marine Mammal Protection Act (MMPA) requires the National Oceanic and Atmospheric Administration (NOAA) Fisheries to address the impacts of all fisheries on individual marine mammal stocks, and to classify fisheries into one of three categories based on their risk of “incidental take” of marine mammals. All fisheries are required to report marine mammal injuries or mortalities to NOAA Fisheries within 48 hours of the event. Puget Sound purse seine fisheries are designated as a Category III fishery, “with a remote likelihood or no known serious injuries or mortalities” to marine mammals and have no requirements beyond reporting any injuries or mortalities.

Puget Sound gillnet fisheries are designated as a Category II fishery, “with occasional serious injuries or mortalities” to marine mammals. Category II fisheries require fishers to obtain an annual Marine Mammal Take Authorization from NOAA Fisheries and carry it on board the vessel during any commercial fishing operations. Currently NOAA Fisheries cites incidental takes of harbor porpoises as being the driver for the Category II designation of the gillnet fishery. NOAA Fisheries’ final rule, providing take authorization for the 2022-23 Puget Sound commercial salmon fisheries, was published in the Federal Register on May 18, 2022.

An additional concern with net fishing is lost or derelict gear because they can remain in the environment and entangle animals until they can be located and removed. Efforts to locate and remove derelict gear have increased in recent years, as have concerns over their impacts on ESA-listed rockfish species in Puget Sound. The Northwest Straits Foundation (NWSF) reported removing 5,808 pieces of derelict fishing nets, of which a large majority have been gillnets, from Puget Sound, the San Juan Islands, and the Strait of Juan de Fuca since 2002. The length of time the nets have been in the water is estimated based on biological growth on the net as well as the amount of sediment on the net. Most of the nets identified and removed were gillnets, and based on interviews with fishers, data from enforcement agencies, and recent fishing effort, NWSF estimates that between 5 and 13 additional nets or portions of nets are lost each year by all-citizens net fishermen in Puget Sound.

In 2012, the Legislature passed a law (RCW 77.12.870) requiring commercial fishermen to report any gear they abandon to WDFW within 24 hours, so that the gear can be located and removed as soon as possible. Reporting of derelict gear is summarized annually by the Northwest Indian Fisheries Commission in conjunction with the NWSF and WDFW.

In summary, WDFW believes that the proposed rules and regulations for the 2022-23 Puget Sound commercial salmon seasons are reasonably constructed to meet the objective to minimize bycatch overall. However, with respect to non-target salmon species and stocks, seabirds, and other non-salmon species, continued—and in certain cases increased—monitoring is needed to verify that bycatch is indeed minimized. As new scientifically reliable information becomes available in the future, WDFW will adapt and adjust the fisheries as necessary to continue to protect non-target species.

Objective 1.c.: Monitor fisheries to ensure objectives (1.a.) and (1.b.) are met.

Assessing non-target salmon bycatch is a matter of estimating both the number of fish encountered by the gear and the proportion of the fish released that will survive. WDFW relies on scientific studies to determine these release survival rates. The most accurate estimates of numbers of fish or other species incidentally encountered in purse seine and gillnet fisheries come from direct, on-board sampling by trained technical staff. The data collection is focused on non-target salmon species, although data on ESA-listed species and other species of concern are collected when possible. However, this on-board sampling does not provide estimates for additional sources of fishing related mortality, such as net dropout (*i.e.*, fish that fall out of the net while the net is being retrieved) or predation by marine mammals on fish captured in the net.

Sampling and monitoring programs implemented by WDFW have been primarily focused on purse seine fisheries to obtain mortality estimates on non-target salmonids. In-season monitoring data are needed from purse seine vessels to estimate the number of Chinook and Coho salmon they encounter in a fishery when they are not allowed to retain those species. For gillnet fisheries WDFW relies primarily on fish tickets for non-target salmon catch numbers, as gillnets are required to retain Chinook and Coho. This year WDFW will utilize the on-board observer program to monitor all purse seine and gillnet commercial fisheries prosecuted in the marine waters of Puget Sound.

Several species and stocks of conservation concern are encountered incidentally in Puget Sound commercial salmon fisheries, including ESA-listed Chinook salmon, Puget Sound steelhead, and species of Puget Sound rockfish. Commercial fishers are prohibited from landing some of these

species in any fishery (e.g., steelhead), and therefore, these fish are not reported on fish tickets. Consequently, WDFW has been unable to estimate bycatch in gillnets for some species. . WDFW will utilize available sampling information in a precautionary manner and may adjust fishing schedules if data indicate that non-target species bycatch levels for either gear type are greater than levels assumed in pre-season planning models and analyses.

Objective 2: Harvest the all-citizens share of salmon.

The proposed rules and regulations for the Puget Sound commercial fisheries are designed to ensure that the total allowable catches defined for each fishery are as fully utilized as possible considering competing policy objectives for other fisheries, and other constraints. Season structures considered for 2022-23 reflect expected abundance of target salmon species and stocks, based on pre-season forecasts. Abundances for some salmon stocks will be updated as the season progresses, based on scientific information collected from the fisheries and agreements reached by the state and tribal co-managers. The all-citizens total allowable catch will be adjusted accordingly and may result in increasing all-citizens fishing opportunity. However, given the uncertainty associated with estimates of fishing effort, harvest rates, and the abundance of the target species or incidentally caught species, in-season adjustments to the fisheries may be necessary to meet conservation objectives. These adjustments could result in the harvest of less than the full all-citizens allowable catch. WDFW will attempt to provide advanced notice to the commercial fishing fleet of any changes to schedules.

If tribal harvest allocations are not fully utilized, WDFW may seek to maximize the state's commercial-fishing harvest opportunity by adjusting the all-citizens total allowable catch, consistent with the state-tribal Puget Sound Salmon Management Plan and Washington Fish and Wildlife Commission's North of Falcon policy (C-3608). Policy C-3608 states in part: "The Department will seek non-treaty fishing access to unutilized portions of treaty harvest allocations through the implementation of pre-season agreements, taking into consideration changes in abundance, fishery conflicts, and factors that may influence attainment of spawning escapement objectives".

Objective 3: Maintain the economic well-being and stability of the fishing industry (RCW 77.04.012); allow a sustainable level of harvest sufficient to provide opportunity for each gear type (RCW 77.50.120).

The proposed rules and regulations for these commercial fisheries are designed to maintain the economic well-being and stability of the fishing industry, and to provide a sustainable level of harvest sufficient to provide opportunity for each gear type. This management objective is challenging to address, given the diversity of the Puget Sound commercial salmon fishing fleet in terms of gear types, and the number of discretely managed fisheries opened each year. In addition, the economic health and stability of these fisheries depends on many factors beyond WDFW's control, including the prices paid for salmon, the abundance of salmon, the relative size of the salmon, the proportion of vessels choosing to participate in a fishery, the catch rates of vessels that do participate, and other factors.

Prices paid for salmon caught in these fisheries are influenced by international market conditions and other factors WDFW cannot control. These include, but are not limited to, abundance of salmon in the fishery, the number of salmon available from fisheries in other areas such as Alaska, the amount of product stored from previous years, competition between buyers, quality

of the fish, and prices of farmed salmon. WDFW also cannot control the effort of fishers who hold limited-entry Puget Sound commercial salmon permits (171 gillnet, 77 purse seine, and 11 reef net).

While WDFW can open areas to harvest of salmon for commercial license holders, the department cannot control the number of vessels that choose to participate in full-fleet openings. Participation levels in each opening are driven by many factors, including the price of salmon, cost of fuel, weather and tidal conditions, and harvest opportunities on other species of fish and/or harvest opportunities in other Puget Sound salmon areas. Catch rates for a given gear type will vary between years and within a single year over individual openings due to changes in salmon abundance, salmon size, migration behavior, and many other operational decisions made by vessels participating in the fishery that are not listed here.

Finally, WDFW negotiates all-citizens commercial salmon fishing openings with tribal co-managers, consistent with the process developed under sub-proceedings of *United States v. Washington*. These negotiations, as well as in-season coordination and management with tribal co-managers, have many different components that reach far beyond the scope of Puget Sound commercial salmon fisheries. This means that there may be instances where WDFW would prefer to maintain or increase fishing opportunity for all-citizens fishers, but the ability to do so is affected by the need to make compromises in order to achieve successful negotiations with tribal co-managers. ESA requirements for affected listed species must also be factored into fishery impact modeling and state-tribal negotiations.

Given the many factors beyond WDFW's control, the department believes that the most effective means of positively affecting the well-being and stability of the industry is by providing a predictable season structure designed to access the full allowable harvest. WDFW believes it is prudent to avoid annual or short-term adjustments to season schedules because there is significant inter-annual variation in fishery performance, and the outcome of a single year may not indicate that an adjustment is appropriate or necessary to achieve this management objective. In situations where the all-citizens share is not being fully utilized, increased opportunity can promote the well-being of the industry if that opportunity can be provided while meeting conservation objectives for target and non-target species and stocks. This management approach gives fishing businesses the ability to plan for upcoming opportunities and to make business-based decisions about when and where to fish.

WDFW's basis for concluding that the 2022-2023 rules will promote the well-being and stability of the industry and allow a sustainable level of harvest is detailed by area and fishery immediately below. Due to the potential de-stabilizing effect of changes, focus is placed on modifications to schedules from past years and ways the modifications are expected to affect achievement of Objective 3. The various reasons for incorporating or not incorporating industry input received during the NOF process are also included here.

Area 6D (Coho) – The 2022 schedule is similar to that in recent years, and, per the Summer Chum Salmon Conservation Initiative (SCSCI), the fishery will open on September 21. The fishery will be open from Monday through Friday and close on weekends.

Area 7/7A (Chum) – In 2014 through 2016, the U.S. harvested its full share of Area 7/7A Chum available under the Pacific Salmon Treaty. These were the first years the U.S. harvested its full share of Chum since the renegotiation of the Chum annex of the Pacific Salmon Treaty in 2008. In order to provide opportunity for the all-citizens fleet to harvest its share, an agreement, similar

to that in recent years, was negotiated with tribal co-managers (1) providing additional all-citizens fishing opportunity early in the season (2) if, after the first 3 days of all-citizens fishing, only a small portion of the all-citizens share has been harvested. The all-citizens fishery will be open October 11, 12, 14, and 15. The fishery will potentially reopen through the end of the season on October 18, based on the all-citizens catch in those first 4 days. The 2022 schedule provides the maximum amount of fishing time for all gear types, within the constraints of the Pacific Salmon Treaty and negotiated co-management agreements, for Treaty Tribal and all-citizens fleets.

Area 7B/7C (Chinook/Coho/Chum) – The 2022 fishing schedule for Areas 7B and 7C has been adjusted for calendar dates, management periods, and forecasted returns. The start week was adjusted to back to Week 33 this year. The Coho management period again incorporates weeks 35 –37, allowing gill netters to select up to 7” mesh. An issue raised during negotiation of the 2021 commercial fishery season for Puget Sound centered upon reports of gear conflict between the all-citizen gill net fleet and tribal crab fishers in the 7C Samish Bay Chinook and Coho fisheries. This was first reported as a potential conflict during the 2020 fisheries and was introduced again during the 2021 NOF process. As stated above, the schedule has been adjusted to accommodate these concerns, however WDFW intends to monitor the all-citizen gill net fishery in attempts to validate any gear conflict. In Weeks 44-49 the chum fishery returned to its normal M-F schedule. Whatcom Creek Zone (east of a line from Post Point to flashing red light at west entrance of Squalicum Harbor) may close in-season if chum broodstock goals are not being met.

Area 8A (Coho/Pink) – The Area 8A Coho directed fishery is closed for 2022. Additionally, the status of Snohomish wild Coho are currently considered “over fished,” as described in the PFMC’s West Coast Salmon Management Plan, thereby requiring fishery managers to implement measures seeking to rebuild this stock.

Area 8D (Coho and Chum) – The Area 8D Coho- and Chum-directed fisheries are closed for 2022. Local Coho and Chum stocks are not projected to meet their escapement goals.

Area 9A (Coho) – The 2022 fishery structure is identical to that in recent years, with adjustments made for calendar dates, and will be open weekly Sunday through Saturday. The opening date of this fishery mirrors that of the Area 9A tribal fishery. Closure areas for 9A were restructured for 2021 and remain in place for the 2022 season, eliminating two of the closure areas around small creeks that feed into Port Gamble Bay.

Area 12A (Coho) – The 2022 fishery structure is like that in recent years, with beach seines opening on Monday, August 22, the earliest weekday date permitted under the SCSCI. Skiff gillnet openings may be scheduled later in the season pending summer Chum escapement numbers and discussions with tribal co-managers.

Area 12C (Chinook) – WDFW has implemented a beach seine fishery in the Hoodport Hatchery Zone of Area 12C to target a portion of the non-treaty share of hatchery Chinook returning to Hood Canal. The 2022 fishery is limited to those to whom WDFW has issued an Emerging Commercial Fishery license and a Puget Sound Beach Seine permit. Total landed catch for this fishery will not exceed 5,000 Chinook. The fishery is scheduled for one day per week (Mondays) from July 25 through August 29. Per the SCSCI, all Chum salmon must be released. Additionally, WDFW and Co-Managers have agreed to hold weekly calls to assess the fishery.

Area 10/11 and 12/12B (chum) – In past years, the fishing schedules for Areas 10/11 and 12/12B have been carefully planned to ensure that fishing effort is split between the two areas, rather than scheduling openings permitting the entire purse seine and gillnet fleets to participate in both areas each week. Recognizing the poor forecasted abundances of Mid-South Puget Sound chum stocks, the Area 10/11 fishery is planned to be closed if the Apple Cove Test Fishery In Season Update (ISU) run-size is under 350,000. If the ISU run-size is between 350,000 to 460,00, limited Area 10/11 fishery schedules will be prosecuted; and if the ISU run-size is larger than 460,000, Area 10/11 will be open to the full preseason fishery schedule. These ISU abundances were derived using approximately 50 years of historical Mid-South Puget escapement data to ensure conservation goals are met during a season with below-average forecasted abundances.

In Areas 12/12B, co-managers agreed to a pre-season plan for 2022 that is scheduled for Weeks 4247. This schedule will be adjusted according to in-season updates of Chum abundance derived from a fleet-based fishery-dependent purse seine ISU.

2022-2023 Economic Analysis

To assess the short- and long-term stability and economic well-being of these two closely linked commercial fisheries WDFW assembled and analyzed catch and economic data from 1976 through 2021. Ex-vessel landing value data were adjusted according to the Gross Domestic Product: Implicit Price Deflator (GDPDEF) to account for inflation and allow for comparability of the economic data between years. These data and summary statistics are presented in Table 1 for this CES, including average values by each gear for the period 1975-2003 (the historical time period, with consistent yearly fishing schedules, providing equal fishing time to gillnet and purse seine gear); the period 2004-2021 (the time period in which extra fishing time was provided for gillnet gear); and also for the period 2011-2020 (the most recent time period with relatively consistent yearly fishing schedules providing additional fishing time for gillnet gear). How the characteristics of the gillnet and purse seine fisheries have changed during these timeframes and how WDFW has responded to those changes are described in more detail below, to provide context for the adopted rules for the 2022 fisheries.

Based on 2022 Chum run-size forecasts for Hood Canal, and preliminary calculations of expected harvestable numbers at those run-sizes, the total all-citizens share of Chum for those areas is estimated at 115,000 fish, or approximately 1,012,000 pounds (based on an average weight of 8.8 pounds per fish for 2011-2017). If the entire all-citizens share, as projected pre-season is harvested, using the 2021 average price per pound would result in an estimated ex-vessel value of \$1,487,000 for 2022. It is reasonable to expect that catch, and ex-vessel value totals will be split between gears in proportions similar to those seen since 2008, with the exception of the additional gillnet fishing time added with the change from market nights to full nights, and the removal of one day of seining during the peak of the fishery, which both began in 2014. Using the calculations described below, WDFW anticipates gillnets will catch 24% of the Chum and purse seines will catch 76% (see Table 1).

Catch Proportions and Fishery Timeline

In 2003, the Hood Canal and south Puget Sound Chum fishery schedules were significantly altered in response to multi-year signs of instability, including low prices per pound for Chum salmon across gear types and low participation and catches in these fisheries by the gillnet fleet. Prior to 2003, WDFW managed these fisheries by providing equal fishing opportunity for both gillnet and purse seine, in terms of number of days open. Beginning in 2003, WDFW provided

significant additional fishing time for gillnets to promote the economic well-being of that sector of the industry. From 2008 to 2013, the fishing schedules for Chum fishing in south Puget Sound and Hood Canal provided consistent ratios of gillnet-to-purse seine fishing time, with small changes made annually to provide variation in “first fishing” opportunities within areas and weeks for each fishing group. Industry representatives for both gear groups have long maintained that having the “first fishing” opportunity of the week maximizes the economic value for that fleet; however, WDFW’s past analysis of fish landing receipts has not shown conclusive evidence that this is consistently the case.

In 2014, several changes were made to the gillnet and purse seine fishing schedules for three primary reasons: 1) adjust the catch proportions between gillnet and purse seine for consistency with the 2008-2013 period; 2) avoid an on-the-water gear conflicts and 3) achieve co-manager agreement on Chum fisheries, which also has implications relative to securing co-manager agreement for the broader NOF process.

In scheduling the 2014 and 2015 seasons, WDFW used catch proportions of 25% for gillnets and 75% for purse seines, for Hood Canal and south Puget Sound Chum fisheries combined. The resulting actual catch proportions in 2014 were very similar to the pre-season projections, at 24% for gillnets and 76% for purse seines. For 2015 and 2016, however, a similar fishing schedule resulted in very different catch proportions: of 31% and 32% gillnet, and 69% and 68% purse seine, respectively. WDFW explored potential bias in the in-season run-size update models but could not achieve co-manager agreement on a run-size update. Without co-manager agreement on an increased run-size, WDFW-managed fisheries had to be constrained to preseason fishing schedules during what is considered a peak week of the fishery (Week 44).

In 2017, tribal co-managers were emphatic that no Chum fisheries occur in Areas 10 or 11 after Week 45 stating their concerns for conservation needs for late/winter Chum and required a thorough review of Chum management throughout south Puget Sound. In the negotiations, tribal co-managers again discussed the risks and benefits associated with Chum fisheries that occur in Marine Areas 10 or 11 after week 45. Ultimately, WDFW and tribal co-managers agreed to schedule fisheries in south Puget Sound that are similar to those which occurred during 2017-18; specifically, no fishing in Areas 10 and 11 after week 45, as well as specific exclusionary zones in Areas 10 and 11, as outlined in WAC 220-354-080. During the pre-season negotiations for 2021-2022, WDFW and tribal co-managers agreed that, in south Puget Sound, they will initiate a thorough co-manager technical review of conservation and management needs for south Puget Sound Chum.

In planning 2018 fisheries, WDFW took this information into account and addressed this by removing 1 day of gillnet fishing in the first week of the fishery, and scheduling 2 days of purse seine fishing in Week 45, to return to the 26% gillnet/74% purse seine catch proportions. The 2018 season resulted in catch proportions similar to those expected (28% gillnet; 72% purse seine).

In 2019, chum management was identified as a major priority by tribal co-managers around Puget Sound, with a particular emphasis on south Puget Sound chum, specifically related to a very weak forecast of Puyallup and Nisqually late/winter Chum. Co-managers agreed to a pre-season plan for 2019 that was similar to 2018 for gillnets and purse seines in Weeks 42-45, with the intent that this schedule would be adjusted according to in-season updates of Chum abundance.

In pre-season negotiations for 2021 Chum fisheries in south Puget Sound, WDFW and tribal co-managers continued to recognize the need for a conservative approach to management related to very weak forecasts of Puyallup and Nisqually late/winter Chum. WDFW and tribal co-managers agreed to delay the start of the Chum fishery in Areas 10/11 until at least Week 43, pending the outcome of the “In-season Update Model” generated by the Apple Cove Test Fishery. Though sufficient numbers of Chum were modeled in-season, co-managers failed to reach agreement to allow a non-treaty chum opening during weeks 43 and 44. Co-managers agreed to a pre-season plan for Area 12/12B that is similar to the 2019 plan for gillnets and purse seines in Weeks 42-45.

In 2022, fisheries directed at Chum in south Puget Sound are planned to be closed due to continuing weak forecasts of Puyallup and Nisqually late/winter Chum. Similar to 2021, fisheries may be opened in-season pending results of the “In-season Update Model” generated by the Apple Cove Test Fishery. WDFW and tribal co-managers have agreed that if the Apple Cove Test Fishery In-Season Update (ISU) model predicts the runsize of the aggregated South Sound Chum populations to be less than 350,000 fish, both tribal and non-tribal pre-terminal fisheries will continue to be closed. If the ISU runsize is between 350,000 to 460,00, limited Area 10/11 fishery schedules would be considered that would allow for some fishery opportunity to access a portion of the State’s harvestable share of South Sound Chum at that given runsize. In order to ensure these fishery opportunities don’t exceed management objectives strict management measures would be employed which could include limited participation (less-than full fleet openings), individual trip limits, and increased on-board monitoring. If the ISU runsize is larger than 460,000, Area 10/11 will be open to the full preseason fishery schedule. These ISU abundances were derived using approximately 50 years of historical Mid-South Puget escapement data to ensure conservation goals are met during a season with below-average forecasted abundances.

Avoiding Gear Conflicts

For 2022 gear conflicts, resulting from commercial gear overlap have been identified in the following areas:

Area 7C: Samish Bay: The gillnet schedule was planned to minimize gear conflicts between Tribal crab fishers and the commercial gill net fleet.

Area 12/12B: The Hazel Point closure zone was again implemented this year to avoid purse seining in this area due to conflicts with tribal gill netting.

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WDFW believes that the season structures proposed for the 2021 Puget Sound commercial salmon rules and regulations will promote the economic well-being and stability of the commercial fishing industry while meeting the constraints imposed by conservation objectives. Catch and ex-vessel value outcomes have not been projected for all species in all fishery management areas; however, WDFW has estimated that the likely outcomes will be similar to the commercial salmon fisheries in south Puget Sound and Hood Canal for Chum salmon, the two largest commercial salmon fisheries in Puget Sound. WDFW has routinely stated that consistent annual fishing schedules contribute to industry stability, and that there are factors beyond WDFW’s control contributing to instability. For 2022 WDFW anticipates catch proportions of total Chum for gillnets and purse seines will be similar to the 2009-2019 average,

at 25% and 75%, for gillnet and purse seine fisheries, respectively. This expected outcome is very close to the historic averages of 26% and 74% for gillnets and purse seines. WDFW believes the projected result of the 2022 season is consistent with promoting both short- and long-term stability of the fishing industry (as reflected by comparison to the historical record), is consistent with maintaining the economic well-being of the industry and provides sustainable harvest levels by offering opportunity for each gear type within the constraints of run-size forecasts for 2022.

3. Differences between the text of the proposed rules and the rules as adopted:

None were identified for the 2022 - 2023 CR 102 filings.

Public comments, response to comments, and consideration of comments

The following are the issues identified and comments received from participants in the Puget Sound commercial fishery meetings following the filing of the Preproposal Statement of Inquiry (CR-101) and prior to the filing of the Proposed Rules (CR-102):

Puget Sound/Hood Canal gillnet:

Comment: The Puget Sound Gillnet Fishermen requested an early start, if possible, in Areas 10/11 without purse seines.

WDFW Response: As discussed in above, commercial fisheries in Areas 10/11 are planned to be closed preseason due to weak forecasts of Chum returning to south Puget Sound. WDFW has reached agreement with the tribal co-managers on in-season abundance triggers pending results of the Apple Cove Test Fishery that may allow for some limited commercial fishery opportunity at low run sizes and more traditional fishery schedules at higher abundances. Allowing for only gill net opportunity, even at low run sizes, would be inconsistent with RCW 77.50.120 which directs the Department to allow for a sustainable level of harvest sufficient to provide opportunity for each gear type.

Comment: The Bellingham Bay gillnet fishers asked that we move the Pile Point closure marker farther east to the dry dock. This would allow the fishers to avoid bad weather and fish inside of Pile Point.

WDFW Response: After consulting with the affected tribes in the area the closure marker was moved to the dry dock.

Beach Seine:

Questions from industry representatives relating to the Area 12C Chinook, beach seine fishery were generally addressed with the members of the Beach Seine Advisory Board. The only non-treaty commercial Chinook salmon fishing opportunity in recent years in Area 12C has been for beach seine operators. A lower abundance of hatchery Chinook are forecasted to return again this year. After discussions with co-managers, it was agreed that both fisheries would again limit fishing to one day per week and a reduction in quota from 10,000 to 5,000. These measures were taken to ensure the Hoodspout Hatchery makes escapement. Most of the members were not in favor of that drastic of a quota reduction but it was considered essential to get co-manager

approval. Co-managers agreed to weekly calls during the season to reassess the return size in hopes of offering more opportunity if broodstock needs are being met.

Comment: We received comments from the beach seine fishers again this year about the reduced schedule and quota in Hood Canal, 12C. Due to the rising costs in fuel, motels and maintenance they asked that we reconsider these reductions, in-season.

WDFW response: We are aware of these issues and agreed during NOF that we would meet weekly with comanagers. As the season progresses, we will meet with comanagers to discuss current hatchery take needs and explore opportunities to expand this fishery if possible.

Purse Seines:

Comments were received by the commercial purse seine fleet regarding Area 7B (Bellingham Bay) and again requested to increase the number of purse seine days from 1 to 2 in Area 7B during the Chinook management period.

Historically, this fishery was opened one day per week over three successive weeks. This fishery proposal was modeled during the NOF process to evaluate the impacts of the fishery. Based on that evaluation, WDFW concluded that prosecution of the proposed fishery would exceed management or escapement objectives for those stocks expected to be encountered in the fishery. Consequently, this fishery proposal as written was rejected. Based on evaluation of the fishery proposal, WDFW was able to include an additional day of purse seine opportunity in a single week. The fishery proposed in the 2022 rules package would provide purse seine opportunity one day a week in the first and last week of the fishery with two days of purse seine opportunity in the middle week.

Responses to Comments Received during the Comment Period for WSR 21-11-109 (rule-making comments after filing of the CR-102)

The CR-102 setting forth the proposed rules for the 2022 all-citizens commercial salmon fisheries in Puget Sound was filed on May 18, 2022 (WSR 22-11-086). The comment period for the proposed rules closed on June 22, 2022, and an APA rule-making hearing was held via webinar at 2:00 p.m. on June 22, 2022.

WDFW received comments on the 2022-23 Puget Sound commercial fisheries through noticed Public Meetings, on-line commenting porthole on WDFW's website and through communications received by individual staff within the Agency. In addition, the Department considered substantive comments received during the 2022 NOF salmon season setting process.

The Department received comments supporting increased requirements allowing for Department observers onboard fishing commercial and charter fishing vessels. As an outcome of the 2022 legislative session, the Department received additional funding to increase monitoring of the commercial fisheries occurring in Puget Sound. The Department plans to implement increased on-board monitoring of all gear types, as well as increased sampling at the tending vessels and fish houses that support the industry. This will allow for more precise and timely estimates of harvest, effort, and by-catch across all Puget Sound commercial fisheries.

The Department also received comment advocating for the closure of all fisheries within Puget Sound for a period between 1 and 5 years, to allow ESA listed stocks to rebuild and to provide adequate food for Southern Resident Killer Whales (SRKW). The salmon fishery package proposed for 2022 was evaluated by the National Marine Fisheries Service (NMFS) in relation to recovery of ESA listed species including Puget Sound Chinook salmon and Southern Resident Killer Whales. The evaluation of the proposed 2022 salmon fishery package resulted in a determination that the suite of fisheries would not impede recovery of any ESA listed species.

Furthermore, the Governor's Salmon Task Force State of Salmon Report concluded that fishery impacts are not the limiting factor in achieving recovery of Puget Sound Chinook salmon. The State of Salmon report clearly states that fisheries are not impeding recovery: "While important during the initial federal listings, today harvest in Washington has been curtailed significantly and is not a primary factor limiting salmon recovery. Fishing in Washington State is highly managed and relies primarily on hatcheries. In addition, a significant portion of the overall harvest of salmon originating from Washington occurs in Canada and Alaska. Protection and restoration of habitat, addressing predation, and mitigating the impacts from climate change must be pursued to fully benefit from the restrictions that have been applied to fishing for recovery."

Fishery impacts to ESA listed stocks were reviewed and approved by NMFS through the annual Biological Opinion (BIOP) and annual ESA authorization issued by NOAA. No jeopardy was found to either SRKW or ESA listed Chinook stocks. It was found that today harvest in Washington has been curtailed significantly and is not a primary factor limiting salmon recovery. Fishing in Washington State is highly regulated and relies primarily on hatcheries.

Specifically regarding SRKW, in April of 2019, the Pacific Fishery Management Council established the SRKW Ad Hoc Workgroup with the task of reassessing the effects of PFMC fisheries on SRKW and if needed, developing proposed conservation measures or management tools that would limit PFMC fishery impacts to Chinook salmon, the whales' primary prey. The workgroup included representatives of WDFW, NMFS, PFMC, Washington Coastal treaty tribes, and state fish and wildlife agencies from Oregon, California, and Idaho. The workgroup built on existing knowledge of whale and Chinook abundance and distribution to develop new modeling tools for evaluation of relationships between SRKW demography and indices of regional Chinook abundance. The workgroup undertook that work through several public meetings in 2019 and 2020, with periodic progress reports provided to PFMC throughout that time.

Two primary documents were produced by the workgroup. The first was a risk assessment document that provides background on PFMC fisheries and SRKW as well as presenting the modeling and analysis approach that was developed by the workgroup and used to evaluate potential times and areas where Chinook abundance (and corresponding fishery removals) could potentially affect SRKW population demographics.

<https://www.pcouncil.org/documents/2020/05/e-2-srkw-workgroup-report-1-pacific-fishery-management-council-salmon-fishery-management-plan-impacts-to-southern-resident-killer-whales-risk-assessment-electronic-only.pdf/>

The second document presented a range of management alternatives and recommendations that were developed for the Council's consideration. Although no strong statistical links between Chinook abundance and SRKW demographics were found in the risk assessment, the workgroup

recommended measures designed to be precautionary and conservative in years of low Chinook abundance given observed trends in SRKW populations.

<https://www.pcouncil.org/documents/2020/10/f-2-a-srkw-workgroup-report-1-pacific-fishery-management-council-salmon-fishery-management-plan-impacts-to-southern-resident-killer-whales-draft-range-of-alternatives-and-recommendations-with-strik.pdf/>

In November 2020, the PFMC adopted a final preferred alternative to address the effect of Council-area fisheries on SRKW. This alternative included a management threshold for Chinook abundance in the area North of Cape Falcon. In years when abundance is predicted to be below that threshold, a number of management actions intended to reduce potential effects of fisheries will be implemented through annual regulations. Those actions include additional limits to quotas North of Cape Falcon as well as area fishery closures in times and places that may be important to SRKW. These actions are under review by NMFS and are being incorporated into PFMC's Pacific Coast Salmon Management Plan. Details of the actions are listed in the Council's Decision Document from their November 2020 meeting.

<https://www.pcouncil.org/november-2020-decision-summary-document/>

In 2018, the Orca Task Force developed 16 recommendations that addressed threats to SRKW persistence and recovery. Of these, Recommendation #6 includes a significant increase in hatchery production to benefit SRKWs in a manner consistent with existing state and federal policies. The increased hatchery production goal is 50 million smolts, based on 2018 production levels. To meet this goal, since 2018 the Washington Department of Fish and Wildlife (WDFW), as well as several tribes and one utility, have increased hatchery production of Chinook Salmon, Coho Salmon (*O. kisutch*), and Chum Salmon (*O. keta*) at existing facilities through modified operations and maximized facility use, in an effort to increase prey abundance for the endangered SRKW. Combined, salmonid production goals under all programs from 2019 to 2020 have increased by 26,075,200 salmon (of all species) compared to production levels prior to 2018 (WDFW 2019). Specific to Chinook Salmon, the 2019 production goal for WDFW facilities was 9,125,000 fish. This annual Chinook Salmon production goal was specifically intended to increase prey for SRKWs. The WDFW established similar Chinook Salmon production goals for 2020 and beyond.

Legislative direction and funding from the general state appropriation for fiscal year 2021 was provided for WDFW to conduct a master planning process. In summary, this Master Plan identifies a Chinook Salmon production increase of approximately 36.425 million fish from improvements at existing facilities and from two new state hatchery facilities (Deschutes River Hatchery and Cowlitz River State Salmon Hatchery) that would support SRKW prey production. With WDFW's ongoing annual program of over 9.125 million Chinook Salmon for SRKW prey enhancement, plus 5.35 million Chinook Salmon from tribal and utility production initiated in 2018, the total potential Chinook Salmon (approximately 51 million) now exceeds the EO 18-02 goal of 50 million Chinook Salmon smolts. However, it demonstrates that the goal of EO 18-02 is achievable with the recommended Chinook Salmon production pathways presented in this Master Plan.

Additional comments were provided by members of the public to increase hatchery production to increase adults returns. WDFW has taken these suggestions along with the recommendations from the Orca Task Force and worked to balance increases in production for programs directed

at improving SRKW food supply and increasing adult returns for recreational and commercial fishermen.

CONCLUSION

WDFW has considered all the facts and circumstances surrounding the 2022-2023 Puget Sound commercial salmon season schedule. WDFW carefully reviewed all input from industry representatives and the public during the North of Falcon rule development process. WDFW believes the 2022-2023 Puget Sound commercial salmon fishing regulations are reasonably developed to comply with WDFW's statutory mandates and to be consistent with WDFW's management objectives for these fisheries.

Year	GDPDEF Factor	Combined Gears Total Catch	Combined Gears Ex-vessel Value	Combined Gears Ex-vessel Value GDPDEF adjusted	GN Licenses	GN Catch	GN Proportion of catch	GN Ex-vessel Value	GN Ex-vessel Value GDPDEF Adj	GN Ex-vessel Value GDPDEF Adjusted Per License	Purse Seine Licenses	PS Catch	PS Proportion of Catch	PS Ex-vessel Value	PS Ex-vessel Value GDPDEF Adj	PS Ex-vessel Value GDPDEF Adjusted Per License
1976	3.176	119,743	\$1,107,754	\$3,518,005	1,536	65,385	0.55	\$644,114	\$2,045,577	\$1,332	376	54,358	0.45	\$463,640	\$1,472,428	\$3,916
1977	2.990	146,509	\$1,471,793	\$4,401,241	1,517	114,444	0.78	\$1,189,141	\$3,555,998	\$2,344	393	32,065	0.22	\$282,653	\$845,243	\$2,151
1978	2.794	291,755	\$3,110,616	\$8,692,525	1,532	166,416	0.57	\$2,132,816	\$5,960,091	\$3,890	402	125,339	0.43	\$977,800	\$2,732,434	\$6,797
1979	2.580	13,063	\$87,840	\$226,585	1,501	6,901	0.53	\$54,040	\$139,396	\$93	402	6,162	0.47	\$33,800	\$87,188	\$217
1980	2.365	192,116	\$1,029,828	\$2,436,048	1,487	78,977	0.41	\$513,517	\$1,214,719	\$817	398	113,139	0.59	\$516,311	\$1,221,329	\$3,069
1981	2.161	123,688	\$1,113,134	\$2,405,510	1,450	63,428	0.51	\$587,612	\$1,269,843	\$876	396	60,260	0.49	\$525,522	\$1,135,666	\$2,868
1982	2.035	200,191	\$1,144,347	\$2,329,111	1,420	70,801	0.35	\$425,611	\$866,254	\$610	390	129,390	0.65	\$718,736	\$1,462,857	\$3,751
1983	1.959	128,969	\$1,039,556	\$2,036,533	1,374	46,097	0.36	\$376,604	\$737,782	\$537	383	82,872	0.64	\$662,953	\$1,298,751	\$3,391
1984	1.891	266,228	\$2,016,143	\$3,811,782	1,259	94,041	0.35	\$708,422	\$1,339,364	\$1,064	367	172,187	0.65	\$1,307,722	\$2,472,418	\$6,737
1985	1.833	184,764	\$935,630	\$1,714,638	1,196	53,811	0.29	\$335,146	\$614,191	\$514	349	130,953	0.71	\$600,483	\$1,100,447	\$3,153
1986	1.796	276,814	\$1,141,165	\$2,049,922	1,200	71,595	0.26	\$301,284	\$541,209	\$451	345	205,219	0.74	\$839,881	\$1,508,713	\$4,373
1987	1.753	466,208	\$6,608,284	\$11,585,155	1,148	105,651	0.23	\$1,760,755	\$3,086,826	\$2,689	341	360,557	0.77	\$4,847,529	\$8,498,329	\$24,922
1988	1.693	471,548	\$3,651,358	\$6,183,319	1,142	153,758	0.33	\$1,223,330	\$2,071,623	\$1,814	342	317,790	0.67	\$2,428,028	\$4,111,696	\$12,023
1989	1.629	274,858	\$2,430,410	\$3,960,208	1,152	95,913	0.35	\$828,325	\$1,349,705	\$1,172	341	178,945	0.65	\$1,602,086	\$2,610,503	\$7,655
1990	1.571	261,821	\$2,270,850	\$3,566,423	1,148	89,200	0.34	\$776,463	\$1,219,453	\$1,062	337	172,621	0.66	\$1,494,388	\$2,346,970	\$6,964
1991	1.519	307,908	\$1,481,976	\$2,251,470	1,132	77,835	0.25	\$423,123	\$642,823	\$568	330	230,073	0.75	\$1,058,853	\$1,608,647	\$4,875
1992	1.485	529,520	\$2,461,390	\$3,656,222	1,118	173,808	0.33	\$833,282	\$1,237,781	\$1,107	327	355,712	0.67	\$1,628,109	\$2,418,441	\$7,396
1993	1.451	402,089	\$2,316,092	\$3,360,693	1,083	125,238	0.31	\$757,658	\$1,099,376	\$1,015	318	276,851	0.69	\$1,558,434	\$2,261,316	\$7,111
1994	1.421	386,967	\$1,104,806	\$1,569,597	1,042	64,465	0.17	\$181,819	\$258,310	\$248	306	322,502	0.83	\$922,987	\$1,311,287	\$4,285
1995	1.391	288,538	\$809,434	\$1,126,319	966	55,178	0.19	\$150,667	\$209,652	\$217	297	233,360	0.81	\$658,767	\$916,668	\$3,086
1996	1.366	490,370	\$786,358	\$1,074,551	887	74,319	0.15	\$114,229	\$156,093	\$176	292	416,051	0.85	\$672,129	\$918,458	\$3,145
1997	1.343	209,837	\$856,313	\$1,150,298	872	19,488	0.09	\$74,057	\$99,482	\$114	290	190,349	0.91	\$782,255	\$1,050,816	\$3,624
1998	1.328	414,133	\$682,627	\$906,781	820	52,035	0.13	\$86,581	\$115,012	\$140	276	362,098	0.87	\$596,046	\$791,770	\$2,869
1999	1.309	90,471	\$317,261	\$415,446	682	18,782	0.21	\$63,843	\$83,601	\$123	262	71,689	0.79	\$253,418	\$331,845	\$1,267
2000	1.281	123,932	\$627,545	\$803,779	679	19,329	0.16	\$92,279	\$118,194	\$174	262	104,603	0.84	\$535,266	\$685,585	\$2,617
2001	1.253	679,244	\$1,490,595	\$1,868,131	359	48,505	0.07	\$100,715	\$126,224	\$352	122	630,739	0.93	\$1,389,880	\$1,741,906	\$14,278
2002	1.234	788,468	\$1,317,428	\$1,625,420	215	29,534	0.04	\$48,076	\$59,316	\$276	84	758,934	0.96	\$1,269,351	\$1,566,105	\$18,644
2003	1.211	713,597	\$1,339,056	\$1,622,075	208	59,043	0.08	\$104,987	\$127,177	\$611	83	654,554	0.92	\$1,234,068	\$1,494,897	\$18,011
2004	1.180	1,047,080	\$2,718,389	\$3,206,629	204	113,781	0.11	\$324,818	\$383,157	\$1,878	81	933,299	0.89	\$2,393,572	\$2,823,472	\$34,858
2005	1.144	318,802	\$1,327,792	\$1,518,938	202	94,944	0.30	\$386,887	\$442,583	\$2,191	81	223,858	0.70	\$940,905	\$1,076,355	\$13,288
2006	1.110	695,849	\$3,748,099	\$4,161,554	198	116,160	0.17	\$590,702	\$655,862	\$3,312	75	579,689	0.83	\$3,157,397	\$3,505,692	\$46,743
2007	1.081	598,376	\$4,719,458	\$5,103,019	198	169,933	0.28	\$1,324,268	\$1,431,894	\$7,232	75	428,443	0.72	\$3,395,191	\$3,671,125	\$48,948
2008	1.061	375,857	\$2,947,450	\$3,125,943	196	92,454	0.25	\$732,344	\$776,694	\$3,963	75	283,403	0.75	\$ 2,215,105	\$2,349,249	\$31,323
2009	1.053	278,064	\$1,891,232	\$1,990,688	195	78,693	0.28	\$531,471	\$559,420	\$2,869	75	199,371	0.72	\$ 1,359,761	\$1,431,268	\$19,084
2010	1.040	404,366	\$3,431,392	\$3,570,352	195	98,057	0.24	\$835,904	\$869,756	\$4,460	75	306,309	0.76	\$ 2,595,488	\$2,700,596	\$36,008
2011	1.019	431,128	\$4,421,962	\$4,506,850	195	88,405	0.21	\$951,290	\$969,552	\$4,972	75	342,723	0.79	\$ 3,470,672	\$3,537,298	\$47,164
2012	1.000	538,130	\$3,804,469	\$3,804,469	195	131,532	0.24	\$878,373	\$878,373	\$4,504	75	406,598	0.76	\$ 2,926,095	\$2,926,095	\$39,015
2013	0.983	874,442	\$5,113,149	\$5,025,083	195	115,008	0.13	\$639,352	\$628,340	\$3,222	75	759,434	0.87	\$ 4,473,797	\$4,396,743	\$58,623
2014	0.965	468,939	\$3,711,457	\$3,581,328	195	111,225	0.24	\$838,759	\$809,351	\$4,151	75	357,714	0.76	\$ 2,872,698	\$2,771,977	\$36,960
2015	0.956	481,038	\$2,608,822	\$2,493,527	195	148,114	0.31	\$742,932	\$710,098	\$3,642	75	332,924	0.69	\$ 1,865,890	\$1,783,428	\$23,779
2016	0.946	363,686	\$2,837,737	\$2,684,192	195	117,897	0.32	\$918,078	\$868,403	\$4,453	75	245,789	0.68	\$ 1,919,658	\$1,815,789	\$24,211
2017	0.928	649,177	\$6,287,663	\$5,837,783	195	148,899	0.23	\$1,430,999	\$1,328,612	\$6,813	75	500,278	0.77	\$ 4,856,664	\$4,509,171	\$60,122
2018	0.907	349,970	\$3,336,182	\$3,024,832	171	98,756	0.28	\$943,782	\$855,703	\$5,004	75	251,214	0.72	\$ 2,377,379	\$2,155,510	\$28,740
2019	0.891	133,290	\$1,074,674	\$957,283	171	33,246	0.25	\$264,290	\$235,421	\$1,377	75	100,044	0.75	\$ 810,384	\$721,863	\$9,625
2020	0.880	53,586	\$440,040	\$387,320	171	6,832	0.13	\$56,684	\$49,893	\$292	75	46,754	0.87	\$ 383,356	\$337,427	\$4,499
2021	0.845	84,247	\$1,016,812	\$859,297	171	19,058	0.23	\$227,953	\$192,641	\$1,127	71	65,189	0.77	\$ 788,859	\$666,656	\$9,390
1976-2003 Avg.	1.779	315,834	\$1,598,200	\$2,869,564	1,076	74,785	0.30	\$31,732	\$1,083,753	\$71	315	241,049	0.70	\$1,066,468	\$1,785,811	\$6,543
2004-2021 Avg.	0.999	452,557	\$3,079,821	\$3,102,171	191	99,055	0.23	\$701,049	\$702,542	\$3,637	75	353,502	0.77	\$2,377,937	\$2,398,873	\$31,799
2011-2021 avg.	0.938	402,512	\$3,150,270	\$3,014,724	186	92,634	0.23	\$717,499	\$684,217	\$3,596	75	309,878	0.77	\$2,431,405	\$2,329,269	\$31,012

Table 1. Chum catch, licenses, and economic values DGPDEF adjusted for gillnet and purse seine, in the combined south Puget Sound and Hood Canal fisheries, 1976-2021.

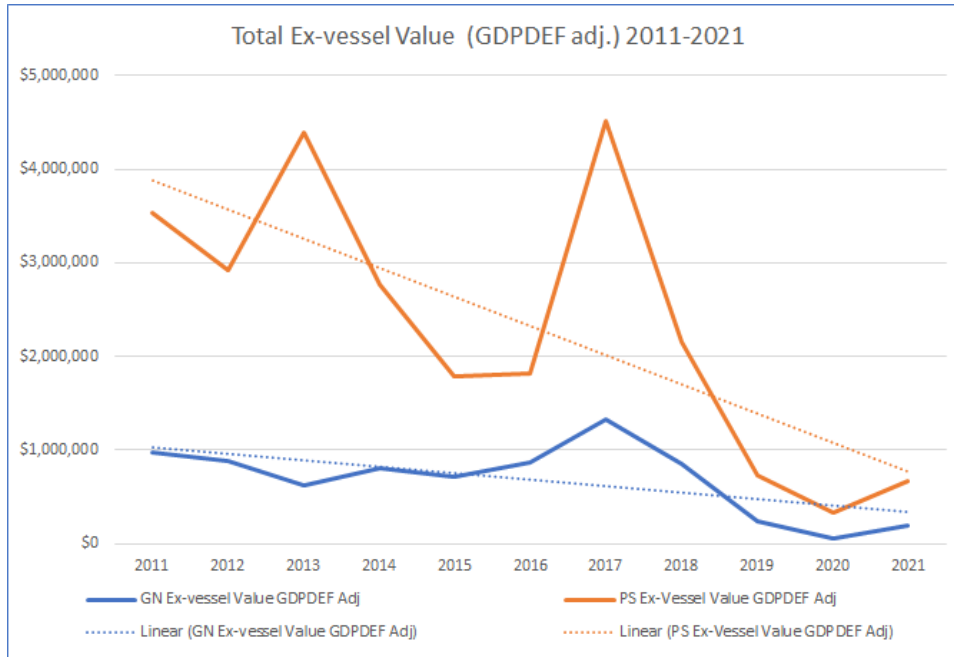


Figure 1. Trends in annual, GDPDEF-adjusted ex-vessel value of gillnet and purse seine Chum salmon landings for south Puget Sound (Areas 10 and 11) and Hood Canal (Areas 12, 12B and 12C), 2011 – 2021.

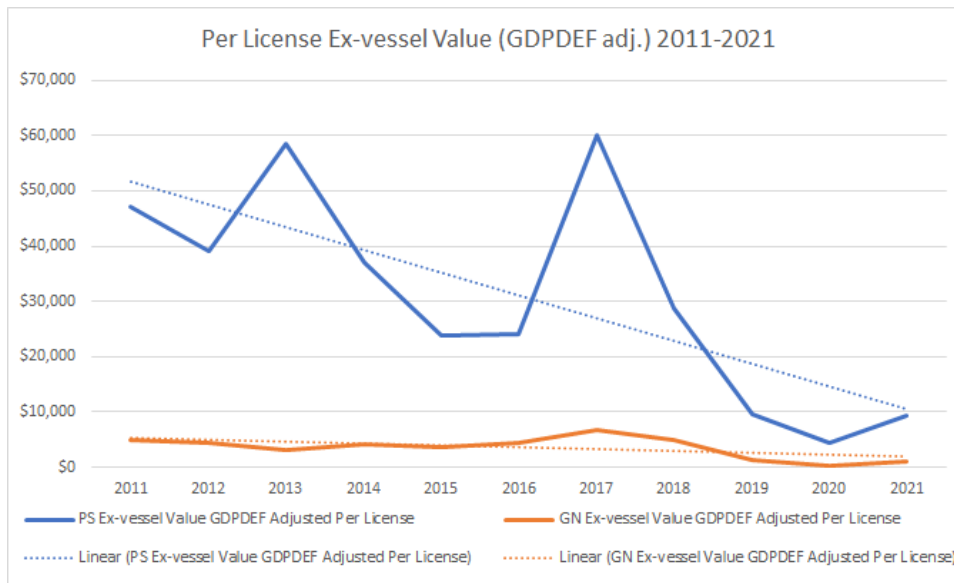


Figure 2. Trends in annual, GDPDEF-adjusted ex-vessel value per license for gillnet and purse seine Chum salmon landings for south Puget Sound (Areas 10 and 11) and Hood Canal (Areas 12, 12B, and 12C), 2011– 2021.

