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DEPARTMENT OF FISH AND WILDLIFE

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December 1, 2022

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Dear Legislators,

Earlier this year during the 2022 session, the Washington State Legislature directed the Department of Fish & Wildlife, per Section (65) subsection (c) of the budget bill, to develop recommendations for “any necessary changes in statute, regulations, or program funding levels to transition lower Columbia River mainstem gillnet fisheries to alternative, selective fishing gears, including pound nets or other gears capable of benefitting wild salmon conservation through mark-selective harvest practices.” The enclosed report is in response to this request.

The Department recently completed the [rulemaking process](#) to designate an Emerging Commercial Fishery (ECF) for the lower Columbia River. This designation allows alternative commercial fishing gears, such as pound nets, beach seines, and purse seines to be used for commercial fishing in the lower Columbia River in a limited capacity. While there has been some experience with alternative gears in the past several years, significant questions remain around the economic viability of alternative gears and the potential benefits to wild salmon conservation. The ECF process will allow the Department to assess these questions and determine if they could in fact serve as viable options for transitioning away from mainstem gillnet use. The ECF will also provide the operational experience necessary to identify the specific statutory and regulatory changes needed to implement permanent fisheries for these new gears (e.g., gear specifications, licensing structure, permitting process for pound nets).

The ECF process established by the legislature (RCW 77.65.400) provides a structured approach to address the questions outlined in this report and equip the Department with the information needed to make thoughtful recommendations when it reports to the Legislature on the findings from the ECF (RCW 77.70.180). The Department recommends following the established ECF process and providing funding

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to 1) implement and monitor the emerging commercial fishery and 2) create of an alternative gear purchase/optimization fund.

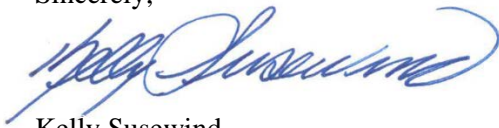
Given the broader context of deliberations on the future of the Columbia River commercial gillnet fishery, we also want to take this opportunity to emphasize that successful alternative gears will need to be economically viable for the commercial fleet. The Department and the commercial fishing industry have invested significant time to date and have a solid path forward to test and assess commercial fishing gears. Currently, the use of gillnets in the mainstem fall commercial fishery is the only option for an economically viable fishery.

Because of the dynamic and mixed-stock nature of Columbia River fisheries, managers and small fishing businesses will benefit from adding, rather than eliminating, fishing gears from the toolbox. Furthermore, alternative gears may not prove to be a viable replacement for gillnets. Having a diverse suite of gears that can be deployed tactically in the times, places and manners that are most appropriate will position the Department to promote salmon conservation while also making the best use of harvestable salmon resources for the fishing industry and the public.

The Department appreciates the Legislature's support of alternative gear development and the approach established by the Legislature in RCW 77.65.400 for testing the biological and economic viability of commercial fishing gear. The Emerging Commercial Fishery process will help identify the best set of fishing tools for the Columbia River commercial fishery and will allow the Department to develop a robust report and thoughtful set of recommendations for the Legislature's consideration.

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

Subsection C Report to Legislature



Washington
Department of
**FISH &
WILDLIFE**

December 1, 2022

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EXECUTIVE SUMMARY

The Washington Department of Fish and Wildlife (Department) recognizes the increased interest from lawmakers and the public to diversify the types of fishing gear used in the lower Columbia River commercial fishery, especially gears with mark-selective capabilities. In response to this interest, and the direction in the Columbia River Salmon Fishery Management Policy to develop alternative commercial fishing gears, the Department has designated an Emerging Commercial Fishery to assess the performance and viability of alternative commercial fishing gears.

The Emerging Commercial Fishery process established by the Legislature provides the best pathway for making progress toward implementation of alternative commercial fishing gears. This process provides the Department with the opportunity to work with commercial fishers, stakeholders, and co-managers within a prescribed framework, over a prescribed length of time (~5-years per RCW 77.70.180), to gather information and address important, outstanding questions about the viability of different gears. At the conclusion of the Emerging Commercial Fishery, the Department must provide the Legislature with a report outlining findings and recommendations to inform the Legislature's decision on whether to legalize additional commercial fishing gears.

While there has been some work with alternative gears in the past several years, significant questions remain around the potential economic viability of alternative gears and their harvest efficiency and selectivity compared to gillnets and tangle nets. The Emerging Commercial Fishery process will allow the Department to assess these questions and determine if these gears could serve as viable options for transitioning away from gillnets in the mainstem Columbia River. The use of gillnets in the mainstem fall commercial fishery is currently the only option for an economically viable commercial fishery. Should additional gears prove viable, the Emerging Commercial Fishery process will provide the Department with the operational experience needed to identify the necessary regulatory and statutory changes. The Department and commercial fishery advisors have invested a significant amount of time establishing rules to designate this Emerging Commercial Fishery (see Appendix 1) and outlining a path forward.

The Department appreciates the Legislature's support of alternative gear development and requests additional program funding to support the Emerging Commercial Fishery process. For the 2023-2025 Fiscal Year, the Department is seeking funds to 1) implement and monitor the Emerging Commercial Fishery, and 2) create a fund source for the purchase/optimization of gear.



LEGISLATIVE DIRECTION

The 2022 License Reduction Proviso, subsection c provides the following direction: 65 (c) The department must make recommendations to the Legislature for any necessary changes in statute, regulations, or program funding levels to transition lower Columbia River mainstem gillnet fisheries to alternative, selective fishing gears, including pound nets or other gears capable of benefitting wild salmon conservation through mark-selective harvest practices. The recommendation must be submitted to the appropriate committees of the Legislature by December 1, 2022.

BACKGROUND

Columbia River Policy (C-3630)

In 2013, The Washington Fish and Wildlife Commission (WFWC) adopted Columbia River Policy C-3620, with the purpose of promoting orderly fisheries, advancing the conservation and recovery of wild salmon and steelhead, and seeking to enhance the economic well-being and stability of the fishing industry in the state. The policy included substantial shifts in allocation from commercial to recreational fisheries, and policy provisions intended to maintain an economically viable commercial fishery despite the reduced allocation. These provisions included the development of alternative gears, a license reduction program and enhanced opportunity in off-channel areas.¹ After conducting the required 5-year policy review, the Commission adopted its new policy (C-3630) in 2020.² This new policy carried forward the three-pronged purpose outlined in the original policy, redistributed some allocation back to the commercial fishery, and reaffirmed the importance of the economic well-being of Columbia River fisheries and the intent to maintain the economic viability of the commercial fishery: *“In a manner that is consistent with conservation and recovery goals, seek to enhance the overall economic well-being and stability of Columbia River recreational and commercial fisheries in comparison to that yielded by the policies in place in the three years prior to the harvest reform policy provisions that began in 2013.”*³

The updated Columbia River policy also carried forward the provision to develop alternative commercial fishing gear *“that facilitates achieving conservation goals as well as enhancing and optimizing economic benefits to commercial and recreational fisheries.”* **Thus, implemented alternative gears will need to increase the selectivity of fishing gear compared to current capabilities, be economically viable for commercial harvesters, and promote state**

¹ Columbia River Basin Salmon Management Policy C-3620: <https://wdfw.wa.gov/sites/default/files/2019-03/c3620.pdf> (WDFW, visited 11/28/22)

² Columbia River Salmon Fishery Policy website: <https://wdfw.wa.gov/about/commission/columbia-river-policy-review#policy> (WDFW, visited 11/28/22)

³ Columbia River Basin Salmon Management Policy C-3630: <https://wdfw.wa.gov/sites/default/files/2020-09/columbia-river-policy-c3620-091120-revision.pdf> (WDFW, visited 11/28/22)



conservation objectives (i.e., controlling hatchery fish on the spawning grounds). In theory, gears with greater selectivity for hatchery fish will be able to harvest more hatchery-origin salmon while using the current number of allowable impacts to wild salmon and steelhead. This would extend commercial fishing seasons by offering additional opportunity before meeting harvest constraints and could potentially increase economic benefits to commercial fishers and their communities.

Columbia River Fisheries Management

The management of Columbia River fisheries is complex and involves numerous state, federal, tribal, and regional management organizations, guidelines and agreements. Thus, optimizing fisheries within this framework is both an art and a science. Managers aim to maximize the benefits of commercial and recreational fisheries across a number of different target stocks within finite limits for ESA and wild stocks.

This optimization looks different for each fishery, depending on which salmon stocks are being targeted, the non-target stocks that are present in the river, the time of year, and the environmental conditions. Because these fisheries are so dynamic, managers benefit from having a number of tools in the toolbox. Developing additional commercial fishing gears will provide managers and fishers with additional options for increasing the harvest of hatchery and healthy wild stocks, while limiting impacts to ESA-listed and other non-target species. The Department envisions alternative gears will be additive to existing gears, providing additional options to ensure the commercial fishery can continue to provide high-quality, locally harvested salmon to Washington residents.

Box 1: Mortality for ESA listed salmon and steelhead

All Columbia River fisheries encounter stocks that are listed under the Endangered Species Act (ESA). These ESA-listed stocks are managed to very specific legal limits, known as impact rates. The allowable ESA impact rates for Columbia River fisheries are established by consensus of the parties to *United States v Oregon* process. The allowable limits for ESA listed species establish a level of mortality that does not appreciably reduce the likelihood of survival and recovery of the ESA-listed species. Thus, the amount of mortality for ESA listed species permitted for Columbia River fisheries is consistent with recovery and does not pose jeopardy to the listed salmon and steelhead populations.

The Department and its Columbia River co-managers, manage fisheries within these limits, regardless of the gear used or the catch allocation between fishery sectors. Managers have a solid track record of staying within the acceptable level of ESA mortality for all Columbia River fisheries.

Commercial Fishing Gear

There are currently two fishing gears authorized for use in the Columbia River non-treaty commercial fishery: gillnets and tangle nets. While both gillnets and tanglenets are a type of drift net (WAC 220-350-060), they are fundamentally different gears and are each well suited for the specific fisheries in which they are used.

The Emerging Commercial Fishery will explore three commercial gear types currently not authorized for commercial use in the Columbia River: purse seines, beach seines and pound nets.



Purse seines and beach seines are mobile gears, meaning that they can be deployed in different areas of the river. Pound nets are a fixed gear, meaning that permanent and/or seasonal infrastructure is required, and the gear is fished in a fixed location.⁴

While there has been some experimentation with these gears in recent years, significant questions remain about how these gears could be operationalized in the Columbia River, and if they are effective and economically viable for commercial operations. Research to date suggests that purse seines, beach seines and pound nets are unlikely to provide a viable replacement for gillnets; however, the characteristics of these gears suggest that they may be valuable tools to supplement existing gear types, particularly as run sizes and mixed stock composition becomes more variable in the Columbia River.

A brief description of each existing and experimental gear types is included in Appendix 2.

2023 Emerging Commercial Fishery Implementation Budget Request

The Department recently completed the rulemaking process to designate an Emerging Commercial Fishery in the lower Columbia River.⁵ This will facilitate further investigation of alternative gears by allowing pound nets and seines to operate in a commercial setting (see section on Emerging Commercial Fishery Process and Questions). To support this work, the Department is seeking funds for Emerging Commercial Fishery Implementation in the 2023-2025 fiscal year. The funds requested will support two related elements.

1. Support continued research and development of alternative commercial fishing gear, as well as funds for monitoring the new Emerging Commercial Fishery and enhancing monitoring of existing commercial fisheries (\$1,216,000 in FY 2024, \$681,000 ongoing).
2. Assist fishers with purchasing alternative gear and/or making modifications to gear and assist with site selection prospecting for fixed gear (i.e., pound nets). This element also includes some staff and contractor time to develop the analytical documents necessary for the permitting of fixed gear infrastructure for commercial fishing use (\$468,000 in FY 2024, \$768,000 in FY 2025, and \$635,000 per FY until FY 2027).

The Department's 2023-2025 Emerging Commercial Fishery funding request is critical to making deliberate and thoughtful progress on alternative gear development and answering the outstanding questions that have been central to the Legislature's past deliberation on this topic. The Department's efforts with alternative gear also support broader statewide objectives, including maintaining consistent salmon harvest levels for commercial fishers in Washington, and providing managers with the tools to ensure commercial harvest of targeted stocks can continue and expand under the constraints of the federal Endangered Species Act (RCW 77.50.120).

⁴ The potential for mobile (floating) pound nets may also be explored through the Emerging Commercial Fishery.

⁵ <https://wdfw.wa.gov/about/regulations/adopted/2022/columbia-river-non-treaty-commercial-fisheries> (WDFW website, visited 11-5-22)



EMERGING COMMERCIAL FISHERY PROCESS AND QUESTIONS

Emerging Commercial Fishery process

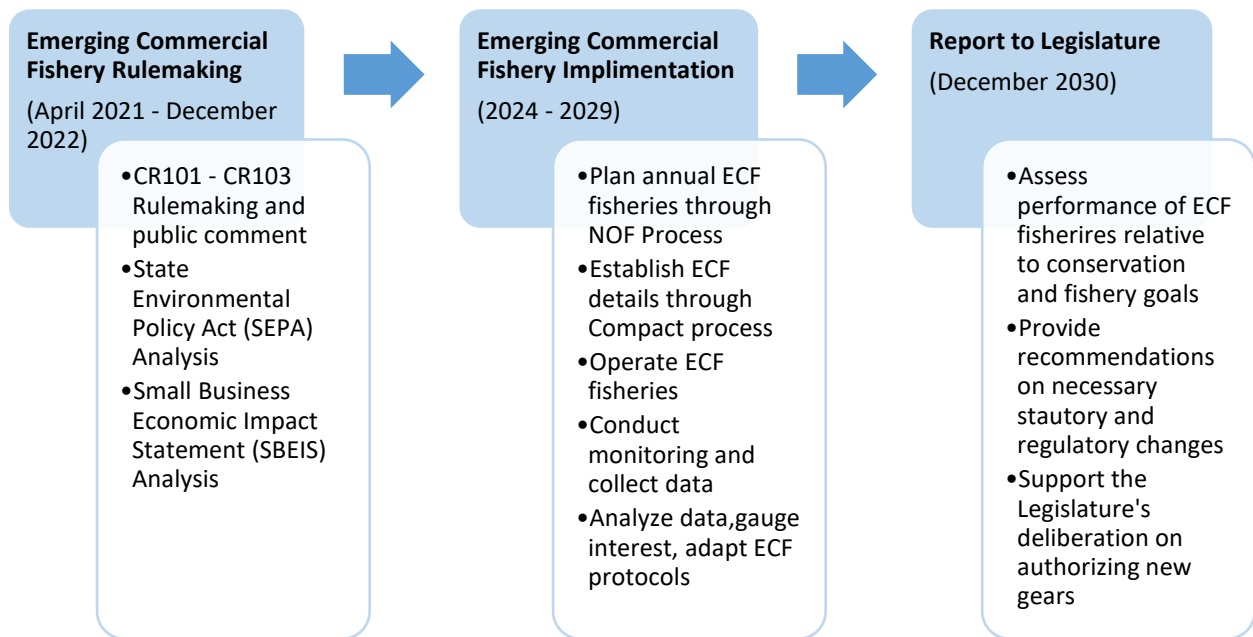
In 1993 the Washington State Legislature established a process to investigate new fishing gears through an Emerging Commercial Fishery ([RCW 77.65.400](#)). The Department recently completed the rulemaking process to designate an Emerging Commercial Fishery in the Lower Columbia River non-treaty commercial fishery. This designation allows the Department to experiment with new gears and assess the commercial viability of alternative gears in a commercial setting.

The Emerging Commercial Fishery will run for approximately five years, at which point findings will be presented to the Washington Legislature to determine whether or not to establish permanent fisheries using these additional gears ([RCW 77.70.180](#)). As outlined in [RCW.77.180](#), the director shall provide to the appropriate senate and house of representatives' committees a report that:

- Outlines the status of the fishery,
- Recommends whether a separate commercial fishery license, license fee, or limited harvest program should be established,
- Provides information on the extent of the program, including to what degree mass marking and supplementation programs have been utilized in areas where emerging commercial fisheries using selective fishing gear have been authorized,
- Provides information on the benefit provided to commercial fishers including the effectiveness of emerging commercial fisheries using selective fishing gear in providing expanded fishing opportunity within mixed stocks of salmon,
- Provides information on the effectiveness of selective fishing gear in minimizing post-release mortality for nontarget stocks, harvesting fish so that they are not damaged by the gear, and aiding the creation of niche markets, and
- Provides information on the department's efforts at operating hatcheries in an experimental fashion by managing wild and hatchery origin fish as a single run as an alternative to mass marking and the utilization of selective fishing gear.



Figure 1: Emerging Commercial Fishery Process



An overarching principle for implementation of fisheries in the mainstem Columbia River is concurrency with the state of Oregon in all shared boundary waters (RCW 77.75.010). This concurrency extends to the usage of ESA impacts for non-treaty Columbia River fisheries, which are jointly managed by the states of Oregon and Washington, per the *US v OR* Management Agreement. For the ECF, staff of both states will agree to prosecute this fishery according to the Oregon rule on the suballocation of impacts for commercial alternative gear use.

OAR 635-500-6730 and 635-500-6735: "...Use up to 2% of commercial ESA impacts of the most constraining stock for use in lower river commercial fisheries using alternative gears."

As with any fishery, our ability to implement alternative gear fisheries under the ECF depends on a number of in-season factors such as run size.

Are alternative fishing gears economically and commercially viable?

Given the goal of developing alternative fishing gears for the Columbia River commercial fishery, implemented gears must be economically viable for small fishing businesses. This means that alternative gears will need to provide a reasonable profit relative to the costs and risks involved. The alternative gears being explored through the ECF are expected to have significantly higher capital and operating costs compared to existing gears (gillnet and tangle net); therefore, they will need to provide economic returns sufficient to cover costs and still produce a profit. If alternative gears are not economically viable, they will not be an effective commercial fishing gear.



An initial analysis of costs outlined in the Small Business Economic Impact Statement (SBEIS) undertaken for the Emerging Commercial Fishery rulemaking process⁶ estimated that costs of pound nets and purse seines will be substantial. Experimentation with these gears through the Emerging Commercial Fishery will need to assess if the costs of these gears can be recovered, if alternative gear fisheries can be structured in a way to provide consistent and reliable opportunity, and how risks can be mitigated. Box 2 (right) outlines several key questions that will inform if alternative gears can support viable commercial fisheries.

When assessing economic viability for Columbia River commercial fisheries it's important to recognize that fishers operate as small businesses. Unlike large fishing businesses or corporations, these small family businesses do not have ready access to capital or the ability to take significant financial risks. Successful implementation of alternative gear will require that fishers be willing to fish with the new gears. If the risks of alternative gear are too high relative the opportunity that can be guaranteed, fishers will choose to pursue other options that have less risk or a better return on investment.

BOX 2: Questions relating to economic and commercial viability

- What are the alternative gear capital and operating costs?
- What financing options are available to support investments in alternative gear?
- What amount and species of fish will be allowed to be harvested, and what is the economic value?
- What are the specific regulations for alternative gears (e.g., gear specifications, areas, manner)?
- What is the allocation of ESA impacts for alternative gears? Where will those impacts come from?
- Is there a reasonable expectation for sufficient and consistent opportunity with alternative gears?
- How will alternative gears influence markets (e.g., access to markets and market price)?
- How will markets and marketing influence the economic viability of alternative gears?
- How might fishers need to adjust their business model to be economically viable with alternative gears?

⁶ Lower Columbia River Emerging Commercial Fishery: Costs of Potential Alternative and Traditional Commercial Gear ([WDFW website](#), visited 11-5-22)



It will also be important to look beyond the economic viability of individual alternative gear fisheries to understand how the Columbia River commercial fishery performs as a whole. Many commercial fishers participate in more than one Columbia River fishery (e.g., select area fisheries, tangle net, gillnet), as well as fisheries in Willapa Bay, Grays Harbor and Alaska salmon fisheries. Therefore, it's imperative to assess how alternative gear fisheries fit within the portfolio of local and regional fisheries and any changes to the overall fishing opportunity in the Columbia River (See Box 3). For example, the implementation of alternative gear fisheries may reduce opportunity in existing fisheries, either through regulation or reallocation of impacts. The opportunity available in alternative gear fisheries, particularly fixed gear fisheries, may not be sufficient to support all displaced fishermen. This could result in negative economic consequences and consolidation of the fishery into the hands of a small subset of fishermen who can afford the capital investment and navigate the regulatory and permitting process.

Columbia River commercial fisheries play an important role in supporting the communities and maritime businesses in southwestern Washington. Fishing businesses are critical for small communities, providing job opportunities and anchoring income earned from other fisheries in the Columbia River region. Commercial fisheries also support many other small businesses in the region, such as processors, buyers, and other dockside services (e.g., ice, nets, vessel repair, fuel). Therefore, it is important to examine how alternative gear fisheries will support the broader communities and fishing related small businesses along the Columbia River.

How do alternative gears perform relative to fishery and conservation goals?

To achieve the objective of alternative gear in the Columbia River Policy, alternative gears will need to a) increase the selectivity of fishing gear compared to current capabilities and b) promote state conservation objectives (i.e., controlling hatchery fish on the spawning grounds), in addition to being economically viable.

BOX 3: Broader fishery performance questions

- How do alternative gears influence the available opportunity and economic performance of other Columbia River commercial fisheries?
- How will fixed gear use interact with mobile gear?
- How are the costs and benefits of alternative gear fisheries distributed among the fleet?
- How will the implementation of alternative gears impact new entrants into the commercial fishery?
- How will alternative gear fisheries impact the economic viability of seafood processors, buyers, and other local small businesses?
- How will alternative gear fisheries impact the economic viability of Columbia River communities?
- How do alternative gear fisheries perform relative to other West Coast fisheries?



Through the Emerging Commercial Fishery process the Department will assess the selectivity of alternative gears by evaluating the extent to which a fishery can harvest target stocks while avoiding and/or minimizing harm to non-target stocks. Box 4 outlines two key concepts, which are further discussed in the attached WDFW report: Selective Fishing on the Columbia River

BOX 4: Selectivity Concepts

Total post-release mortalities measure the impact of a fishery on a non-target species/stock. The number of total post-release mortalities is the product of the total number of non-target fish handled (i.e., caught and released) during the fishery and the individual post-release mortality rate.

Relative mortality relates the number of non-target mortalities to the overall catch in the fishery by calculating the number of fish harvested per non-target mortality. This reflects how selective a fishery is, and the effectiveness of the avoidance and harm minimization strategies used in the fishery.

While some past discussions on alternative gear have focused on individual post-release mortality rates, these rates are not particularly meaningful. The number of total post-release mortalities and the measure of relative mortality are more meaningful for evaluating selectivity. For example, experimental pound net fisheries have demonstrated a low individual post-release mortality rate. However, because they encounter and release a large number of non-target fish (62%), the number of total post-release mortalities is similar to other commercial gear types. However, with relatively low catches of target fish, experimental pound nets have yet to demonstrate sufficient performance in terms of relative mortality and fishery performance compared to existing gears.

The Zone 4-5 commercial gillnet fishery provides another illustration of these concepts. The gillnet fishery has some of the highest individual post-release mortality rates of all Columbia River fisheries. However, because of how gillnets are deployed, the fishery catches a high volume of target fish and only discards 3% of the catch. As a result, the number of total post-release mortalities remains low, and the fishery performs quite well in terms of relative mortality.

While the type of fishing gear is a significant factor in selectivity, how the gear is used is equally as important. **Managers use time, area, and manner restrictions to maximize the benefits to the fishery while minimizing the impacts to non-target stocks.** Managers time fishery openings to the days or seasons where there are more of the fish that fishers are allowed to catch and a lower likelihood of encountering the fish we want to avoid. Regulations also specify the types of gear that are allowed to be used in different times and areas, as well as detailed gear specifications like minimum mesh sizes and maximum soak times for commercial fisheries.

Gaining additional experience with alternative gears through the Emerging Commercial Fishery will allow the Department to assess and compare selectivity across gear types, and understand the best time, area, and manner restrictions to allow the gears to operate most effectively (see Box 5). For example, are there changes in time, area or manner that could be tweaked to improve pound nets?



This process of experimentation allows for iteration and will help address the important statutory and regulatory questions outlined in the next section.

BOX 5: Questions to assess selectivity and refine management

- Which target stocks are alternative gears most effective at catching?
- What non-target stocks are encountered? How best can those fish be avoided (i.e., time, area, manner restrictions) or handled in a way that minimizes harm?
- How does each alternative gear fishery perform relative to selectivity metrics?
- What are the specific configurations (e.g., mesh size) that provide the best selectivity?
- For fixed gears, what are the most selective locations on the river, and how would having multiple traps in operation influence catch rates and selectivity?
- How might gears perform under different environmental conditions?
- How might Oregon’s participation in traditional gear fisheries influence the opportunity that can be offered in alternative gear fisheries?

The Department will also assess which gear types would be most suitable for a mark-selective fisheries. Mark-selective fishing is a management strategy used in several commercial and recreational fisheries in the Columbia River. In both recreational and commercial mark-selective fisheries, encounters with unmarked fish occur, but anglers are only allowed to retain marked fish and must release all unmarked fish. Therefore, mark-selective fisheries aren’t inherently more “selective” than fisheries that employ avoidance strategies (e.g., time, area, manner) or utilize gear modifications or handling techniques that reduce injury or mortality to the non-target fish.

In the Columbia River, mark-selective fisheries are typically used to harvest marked hatchery-origin fish and release wild and ESA listed management stocks. Mark-selective fisheries are valuable because the presence of marking allows fishers/anglers to readily identify non-target stocks when encountered and release these fish alive. Therefore, mark-selective fisheries are most effective when the mark rate of the target fish is high, and the release mortality of the non-marked fish is low.

Because mark-selective fishing is a management strategy rather than an inherent characteristic of a specific gear, further experimentation with alternative gears will allow the Department to evaluate if these gears can be applied to target stocks with a high mark rate, and determine what time, area and gear measures may be needed to maximize encounters with marked fish and minimize encounters with unmarked fish. Because mark-selective fisheries do not necessarily result in fewer mortalities to non-target and ESA listed stocks, the Department will also need to evaluate if alternative gears, even when used in a mark-selective fishery, provide any conservation benefit.

Another important factor that the Department will need to assess is how ESA impacts will be allocated and used within the commercial fishery. Managers can be most effective at achieving fishery and conservation goals when they have a range of tools in the toolbox. Ideally, experimentation with alternative gears can result in the authorization of additional gears that can be integrated into the fishery as fishery conditions and available ESA impacts allow. Through the Emerging Commercial Fishery, the Department can gain insights into how different gears perform in response to different ESA sub-allocations, and how the suite of commercial fishing gears can be



used to maximize selectivity, fishery performance and economic viability within the commercial sector's ESA allocation.

In addition to assessing the selectivity of alternative gears relative to non-target mortality and allowable ESA impacts, the Department will also explore how different gears perform for other conservation priorities (see Box 6). For example, commercial fisheries play an important role in removing hatchery fish from the river, which helps to manage the number of hatchery fish returning to the spawning grounds.

BOX 6: Additional Conservation Considerations

- Are there other sources of non-target fish mortality that should be considered (e.g., sea lion predation on ESA-listed salmon, juvenile mortality in pound nets)?
- Are there non-lethal interactions with marine mammals that should be considered?
- How do alternative gears perform relative to landings and hatchery removals to support conservation goals?

How should alternative gear fisheries be authorized and structured?

Several questions need to be explored to determine the best approach for legalizing and licensing new commercial fishing gears and identifying the statutory changes needed to authorize new commercial fishing gears and update existing gear definitions. See Appendix A for a list of current statutes and regulations pertaining to Columbia River commercial fisheries that may need to be amended.

Given that Columbia River fisheries are jointly managed with the state of Oregon, it will also be important to examine how the gear regulations for Oregon and Washington fisheries align. For example, will legalized alternative gears be allowed in Oregon waters, can fishermen who hold Oregon permits fish with alternative gear, and will fish caught with alternative gear be allowed to be landed in both states?

Two of the alternative gears being explored in the Emerging Commercial Fishery, pound nets and seines, have not been fished commercially in Columbia River fisheries for almost 100 years, with the exception of an Emerging Commercial Fishery for seines in 2014 through 2016. Therefore, there are a number of questions that need to be explored to inform how these gears should be authorized, regulated, permitted, and operated.

The Department has little experience with fixed gears like pound nets and will need to explore how a commercial pound net fishery would operate in the Columbia River (See Box 7). While recent experimentation with pound nets in a research setting provides a good starting point, further experience with operating these gears in a commercial setting is needed. Because pound nets are a fixed gear, an extensive infrastructure permitting process is required involving several local, state, and federal agencies. In parallel with the Emerging Commercial Fishery process, the Department will continue to refine its understanding of the infrastructure permitting process. Feedback from commercial fishers confirms that the permitting process for pound nets presents a significant barrier to utilizing this gear type.



In response, the Department has requested funding for the Fiscal Year 2023-25 Budget Request to support the re-permitting of the existing pound net sites (from research to commercial operations) and provide a clear understanding of the steps, costs, and information required by other State, Federal and local agencies involved prior to legalization and licensing decisions.

BOX 7: Pound net questions

- What are the specific locations in the Columbia River that are appropriate for pound nets?
- How many pound net sites could/should be permitted and operated?
- How should it be determined who gets to fish at which site?
- What are the specific regulations for pound nets, including size, spacing, gear requirements (e.g., maximum length of lead nets, mesh size, in-season gear modifications), catch reporting and requirements for on-site observers?
- How does the operation of a pound net differ between commercial and research operations (e.g., number of staff, auxiliary equipment, access to markets)?
- What is the specific process for permitting pound nets in Washington waters? Does the permitting process need to be undertaken collectively (i.e., all pound net sites analyzed and permitted together) or individually (i.e., a separate process for each site)?
- What are the costs involved with siting and permitting pound nets (e.g., site selection research, permit and application fees, leasing property to gain shoreline access, preparing maps and legal descriptions)?
- What are the requirements and bonding for removing pound net infrastructure?
- What is the relationship between licensing and permitting for pound nets? How can these processes be aligned?

Through the Emerging Commercial Fishery several questions will need to be explored to determine how alternative gear fisheries will be licensed, and how the new fisheries will interact with the

BOX 8. Questions to be explored related to license structure

- How should alternative gears be licensed given the existing limited entry framework for Columbia River commercial licenses?
- How do different licensing options impact existing commercial fisheries? How might outcomes of the FY 2023 license reduction program inform licensing approach?
- Should licenses be geographically restructured, or should the current configuration be maintained (i.e., Columbia River – Willapa Bay and Columbia River – Grays Harbor)?
- Should licenses be gear specific or should there be a single Columbia River commercial fishing license that covers multiple gear types?
- What license fees are appropriate given the license structure?
- What are the eligibility requirements for alternative gear licenses? What are the criteria for determining who is issued a license (e.g., lottery)?
- What are the restrictions on licenses (e.g., transferability, holding multiple licenses)?
- Do landings taxes and surcharges need to be updated in response to new alternative gear fisheries and the distribution of licenses and landings revenue between Oregon and Washington?



existing license structure (see Box 8). The Columbia River commercial fishery is a limited entry fishery, meaning that no new licenses can be issued (RCW 77.70.090). Therefore, it will need to be determined if new licenses can be issued, if new gears can be incorporated into existing licenses, or if existing commercial gillnet licenses can be converted to alternative gear licenses. The Department will also work with industry advisors and stakeholders to assess if the geographic nature of Columbia River licenses should be restructured, and if licenses should be gear specific. As these questions are explored it will also be important to consider how alternative gears can be licensed and permitted in the most equitable manner.

What are the monitoring needs for an alternative gear fishery?

The Department's Fiscal year 2023-2025 budget highlights the importance of effectively monitoring the Emerging Commercial Fishery. The funding requested will enable Department staff to observe each fisher participating in the ECF for each fishing day. This comprehensive, short-term observation, paired with the required fish ticket information, will allow the Department to determine what specific monitoring requirements are necessary and appropriate for each fishery.

For existing Columbia River commercial fisheries, the Department utilizes several monitoring tools. A more detailed description of current monitoring approaches is included in Appendix 3.

- Fish tickets – Following each fishing period, fishers are required to report their landings to the states of Oregon or Washington on fish landing tickets completed at the point of sale.
- Observation – Washington and Oregon periodically monitor commercial fisheries using agency observers. Observers collect a variety of information including fishing effort, mark rates for hatchery fish and interactions with non-target fish.
- Voluntary logbooks – Voluntary logbooks are submitted by some fishers, which help agency staff better understand non-target interactions and effort trends.
- Electronic Monitoring (test stage) – The Department is exploring electronic monitoring as a cost-effective tool to supplement existing monitoring requirements and provide an alternative to increasing human observers

Monitoring is an important aspect of the ECF. This will allow the Department to learn about the selectivity, effectiveness and commercial viability of alternative gears, and will also provide valuable information for the Department to improve its monitoring approach for all Columbia River commercial fisheries moving forward. While full observer coverage is required under the ECF, long-term monitoring for these gears will draw on the range of tools described above and will likely not require full observer coverage.



RECOMMENDATIONS

There is currently no commercially viable alternative to mainstem Columbia River commercial gillnets, making a transition to other gear types infeasible at this time. The Emerging Commercial Fishery process established by the Legislature provides a well-defined structure in which to evaluate outstanding questions, especially those pertaining to the biological and economic viability of new gears, within a prescribed timeframe. The Department has invested considerable time and resources to designate the Emerging Commercial Fishery and outline a path for implementing and learning from this fishery.

The Department recommends that the Legislature uphold the process and values established in the Emerging Commercial Fishery statute (RCW 77.65.400) and support the Department's 2023-2025 budget request --Emerging Fishery Implementation for the Columbia River. At the conclusion of the Emerging Commercial Fishery, the Department will provide the Legislature with a comprehensive report and thoughtful recommendations regarding the statutory or regulatory changes needed to implement any viable alternative gear fisheries.

In parallel with the Emerging Commercial Fishery, the Department will continue efforts to improve monitoring for current commercial fisheries, further showcasing the state's commitment to adaptive management within the various sideboards of the Columbia River management regime. These efforts will include:

- Detailing the mesh size, fishing approach, and mortality rate differences between the different types of drift nets in permanent WACs.
- Requiring recovery boxes for all CR commercial salmon gear (like Puget Sound WAC 220-354-140).
- Use results of the recent electronic monitoring study to inform WACs for enhanced commercial monitoring on the Columbia River.
- Explore a policy similar to Oregon's rule for fall season commercial allocation of the most constraining fall stock for alternative gear fisheries, to achieve concurrency with Oregon as directed per RCW 77.75.010.
- Updating and providing additional Live Capture Certification Training.



APPENDIX 1: Relevant Statutes and Regulations

Fisheries

- RCW 77.04.012 Mandate of department and commission
- RCW 77.85.150 Statewide salmon recovery strategy – prospective application
- RCW 70A.02. Environmental Justice.

Salmon Fisheries Management

- RCW 77.65.010 Required licenses – exemption
- RCW 77.75.010 Columbia River Compact – provisions
- RCW 77.65.420 Wild salmonid policy -- establishment
- RCW 77.65.430 Wild salmonid policy – management strategies and gear types
- RCW 77.50.120 Maintaining consistent salmon harvest levels

Commercial Gear

- RCW 77.050.030 Salmon Fishing Gear
- RCW 77.50.040 Commercial net fishing for salmon in tributaries of Columbia River – boundaries defined
- RCW 77.50.110 Commercial salmon fishing – unauthorized gear
- WAC 220-350-040 Definitions – drag seine
- WAC 220-350-060 Definitions -- drift gillnet – drift net
- WAC 220-350-110 Definitions – purse seine

Emerging Commercial Fishery process

- RCW 77.65.400 Emerging commercial fishery – trial or experimental fishery – licenses and permits
- RCW 77.70.160 Emerging commercial fishery designation – experimental fishery permits
- RCW 77.70.170 Emerging commercial fishery – legislative review
- RCW 77.70.180 Emerging commercial fishery – license status – recommendations to Legislature – information included in report

Emergency Commercial Fishery Designation for Columbia River

- WAC 220-360-500 Designation of an Emerging Commercial Fishery in the Lower Columbia River.
- WAC 220-360-510 Columbia River emerging commercial fishery -- Qualifications.
- WAC 220-360-520 Columbia River emerging commercial fishery – Issuance of an emerging commercial fishery license and experimental fishery permit – License and permit conditions.
- WAC 220-360-530 Columbia River emerging commercial fishery – Season, area, and gear requirements.
- WAC 220-360-540 – Columbia River emerging commercial fishery – Allowable possession and sales – Catch handling requirements.



License-related RCWs

- RCW 77.70.090 Commercial salmon fishing licenses and delivery licenses – limitations -- transfer
- RCW 77.65.110 Alternate operator designation -- fees
- RCW 77.65.130 Vessel operation – license designation – alternate operator license required
- RCW 77.65.140 Alternate operators – increase for certain licenses
- RCW 77.65.160 Commercial salmon fishery licenses –Gear and geographic designations – fees
- RCW 77.65.200 Commercial fishery licenses for food fish fisheries –fees – rules for species, gear, and areas
- RCW 77.65.340 Wholesale fish buyer endorsement -- fees
- RCW 77.65.280 Fish dealer license –exemption -- fees
- RCW 77.65.610 Crewmember license –requirements –rule-making –fee – exemptions
- RCW 77.80.020 Buybacks

LINKS AND REFERENCES

Selectivity Document: [Selective Fishing on the Columbia River | Washington Department of Fish and Wildlife](#)

Emerging Commercial Fishery Rule-making and associated small business economic impact statement (SBEIS): [Columbia River non-treaty commercial fisheries | Washington Department of Fish & Wildlife](#)

Washington Commercial License fees: <https://wdfw.wa.gov/licenses/commercial/fees#limited-entry>

Washington Fish and Wildlife Commission's Columbia River Salmon Fisheries Policy, C-3630: [Columbia River Salmon Fishery Management | Washington Department of Fish & Wildlife](#)

Summary and Analysis of Columbia River Harvest Reform Activities 2-2009-2017: https://www.dfw.state.or.us/fish/OSCRP/CRM/docs/2019/CRHR_Compilation_Report_DRAFT_20190114.pdf

[Comprehensive Evaluation of the Columbia River Basin Salmon Management Policy C-3620, 2013-2017 | Washington Department of Fish & Wildlife](#)

Improving Monitoring Methods for Estimation of Non-Retained Salmonids Encountered in Summer and Fall Columbia River Fisheries, ODFW 2011: [Microsoft Word - NA09NMF4270090 Completion Report.doc \(state.or.us\)](#)



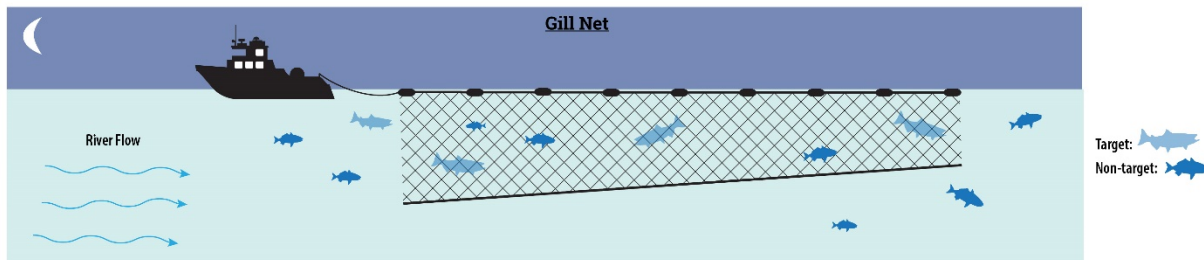
APPENDIX 2: Fishing Gear Descriptions

There is a long history of developing and evaluating alternative commercial gears on the Columbia River (see reports section of the [Alternative Gear webpage](#)). Below is a brief description of the gears that are currently being used in Columbia River commercial fisheries or are being proposed for use in the Emerging Commercial Fishery.

Gillnets (i.e., Drift Gillnet)

Gillnets are a type of drift net and are a legal commercial salmon fishing gear in the states of Oregon and Washington. In Washington, a drift gillnet is defined as a gillnet of single web construction, not anchored, tied, staked, placed, or weighted in such a manner that it cannot drift (WAC 220-350-060).

The Department's approach to fishing gillnets has been modified over the years to reduce catching non-target fish. For example, use of large-mesh gillnets in the mainstem Columbia River is restricted to only commercial zones 4 and 5, which reduces encounters with tule Chinook. The timing for this fishery is August and late September (with a break in the middle) which avoids the peak of the B-run steelhead migration. Columbia River gillnets use a large mesh size to allow smaller bodied fish such as steelhead to move through the net without getting caught. Finally, gillnet fisheries primarily occur at night to relieve conflict between recreational anglers and commercial fishers and increase Chinook catch rates due to better tidal and water quality conditions.



Tangle Net (i.e., Tooth Net)

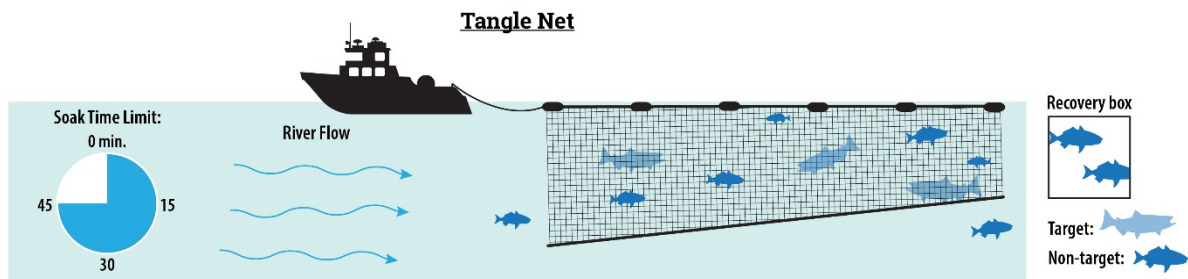
Tangle nets are another type of drift net that are legal in both Washington and Oregon. However, tangle nets are fundamentally different from gillnets in their fishing approach, regulations, and policy guidance.

Tangle nets use a small mesh (e.g., maximum mesh size of 3.75" for coho and 4.25" for spring Chinook in the Columbia River) to entangle fish as opposed to catching them by the gills or other body parts in the mesh. Tangle nets used in Columbia River fisheries are shorter in length and constructed using multifilament nets, which have a lower breaking strand point than monofilament nets. Furthermore, tangle nets are fished mark-selectively for spring Chinook and coho in the fall to harvest hatchery fish, while releasing wild salmon and all steelhead. Tangle net fisheries primarily occur during the day. This allows for the use of mandatory live-capture methods (e.g., recovery boxes and releasing wild fish) and produces better catch rates given the location of coho in the water column during the day. There are also soak time requirements in place for tanglenet fisheries to limit the time fish are entangled in the water before being released. There are inherently fewer



conflicts between recreational anglers and commercial fishers during the coho fishery, in part due to more area to fish.

The Washington Columbia River Policy C-3630 recognizes tangle nets as an alternative gear. Tangle nets are the only alternative to gillnets for spring or fall mainstem fisheries. While tangle nets provide important opportunity for lower river salmon fisheries, they are not a viable replacement for the zone 4/5 gillnet fishery given the target catch, composition of stocks in the river, and ability to handle high catch volumes.



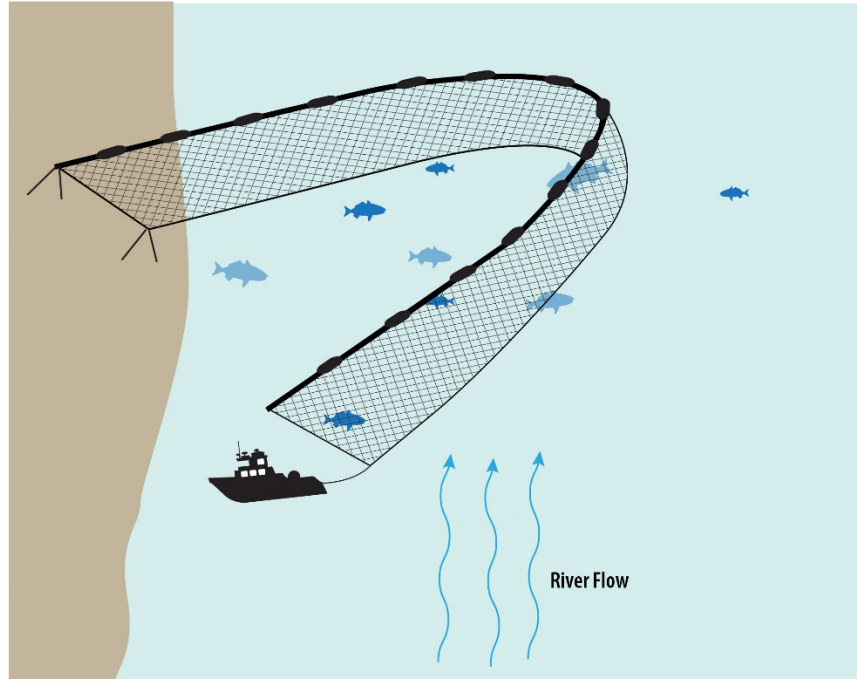
Beach Seine

Beach seines are a type of “drag seine” defined in WAC 220-350-040 as fishing gear consisting of a lead line, cork line, auxiliary lines and a mesh net webbing fashioned in such a manner that it can be used to encircle fish in waters adjacent to any beach, with the catch landed directly on the beach.

Modern beach seines adapted for use in the Columbia River are typically comprised of a net made of knotted nylon twine with a relatively small mesh size (e.g., 3½ inches bar measure), and have a float line and lead line. Most beach seines are 125-150 fathoms (750-900 ft) in length and 30-40 ft in depth. In modern beach seining, one end of the net is anchored on the beach and the other end is towed out into the river and in a downstream direction (or upstream if the tide has reversed river flow) using a conventional gillnet boat. The end of the seine attached to the boat is brought back to shore approximately 75-100 yards downstream of the anchor point. This can be challenging to accomplish without losing fish when the river current is strong and wants to “pull” the seine downstream. Once back onshore, the seine is pulled through a block anchored on the beach using the boat or hauled in with a truck (ODFW 2019).



Beach Seine

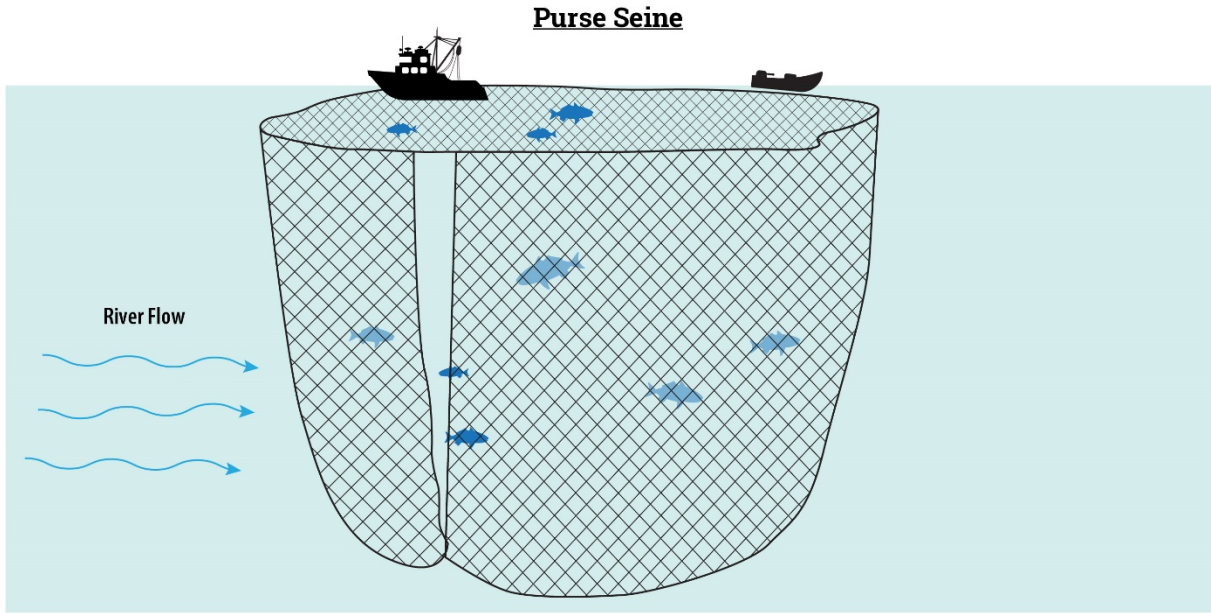


Purse Seine

Purse seines are defined in WAC 220-350-110 as including all types of fishing gear consisting of a lead line, cork line, auxiliary lines, purse line and purse rings and mesh net webbing fashioned in such a manner that it is used to encircle fish, and in addition prevents their escape under the bottom or lead line of the net by drawing in the bottom of the net by means of the purse line so that it forms a closed bag.

Modern purse seines adapted for use in the Columbia River are typically comprised of a net made of knotted nylon twine with a relatively small mesh size (e.g., 3½ inches bar measure), have a float line, lead line, and ring line, and are smaller vessels due to working in a smaller water body than traditional purse seine vessels. Unlike beach seines, most purse seines also have a pocket, or “bunt”, comprised of smaller 1-in mesh, in the middle of the net where captured fish collect as the seine is pursed. Most purse seines are 150-250 fathoms (900-1,500 ft) in length and 35-50 ft in depth. In modern purse seining, one end of the net is pulled off the stern of a purse seine vessel by a skiff and is towed across the river and in a downstream direction as the purse seiner moves with the current. The entire seine is then towed with the current for a period of time before the skiff brings the outer end of the net back to the purse seiner, encircling fish within the seine (ODFW 2019).

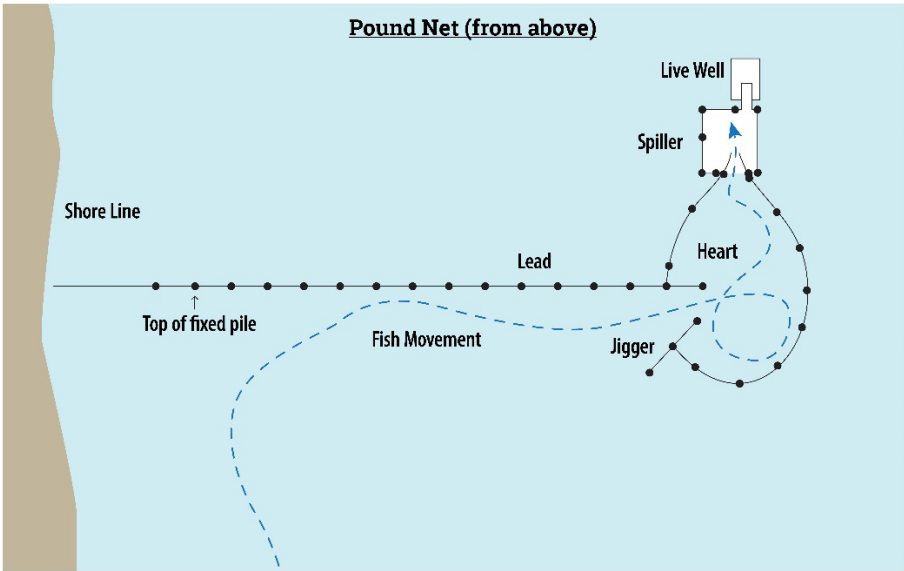


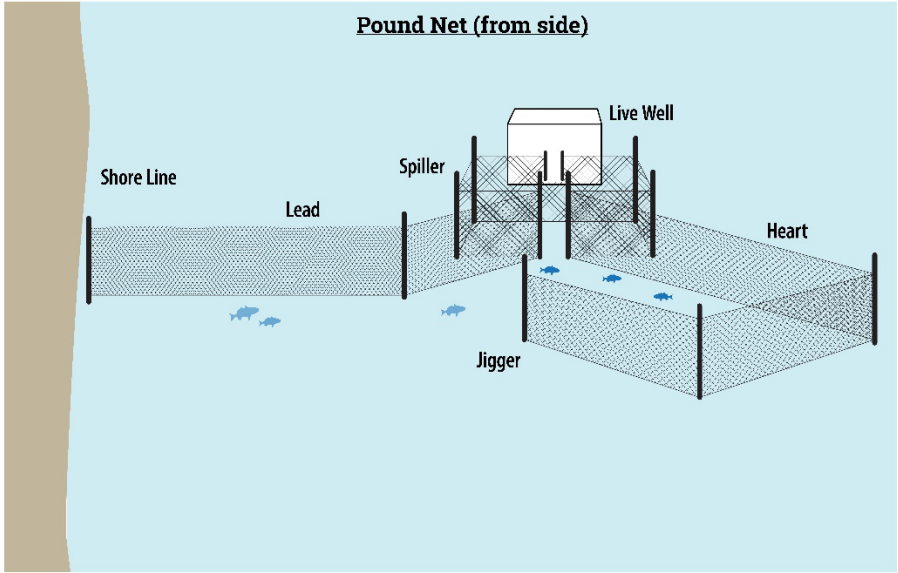


Pound Nets (i.e., Fish Traps)

The Department recently defined pound nets for the Emerging Commercial Fishery as nets attached to fixed pilings, stakes, and/or anchors to form a lead, guiding fish into at least one heart, pot, or spiller that directs fish into a live well for sorting (WAC 220-360-530).

A pound net in the Columbia River is a fixed gear utilizing pilings and attached nets to form a fence that leads upstream migrating fish into a trap, which is also formed by pilings and nets. The pound net most often consists of a lead (usually extending from shore to the trap), heart, pot/tunnel, and spiller. Fish are guided along the lead, and through the heart and pot/tunnel to the spiller, which feeds fish into a live well where harvestable fish are removed from the trap using a dip net by the fisher (ODFW 2019).





APPENDIX 3: Commercial Fishery Monitoring

Below is a summary of the current Columbia River commercial fishery monitoring approach which was documented in a report produced by the Oregon Department of Fish and Wildlife in 2011.

Fish Tickets

During an open commercial fishing period, which typically ranges from 8-16 hours, an individual boat will make multiple fishing efforts, or “drifts”. A drift is a single fishing effort consisting of the deployment and retrieval of gear in a specific fishing location by a single fishing boat. Depending on the fishers’ preferred fishing area and which areas are open, a fisher may choose to fish only a portion of the open period to ensure their fishing effort coincides with the most productive portion of the tidal cycle in that area.

Following each fishing period, fishers are required to report their landings to the states of Oregon or Washington on fish landing tickets completed at the point of sale. Portions of landed fish are sampled for biological data (e.g., scales, etc.) and coded-wire tags (CWTs) at buying stations by agency staff; these data are combined with landing reports to determine total landings by species and stock. Washington and Oregon staff share ticket data, and Oregon reports combined landings each week, often within 1-2 days after each fishing period concludes.

Fishers are not required to report their fishing effort (drifts) in a given period. This limits the ability to use effort-based expansions for estimating non-retained catch. Currently, the only available record of fleet-wide fishing effort is the number of individual deliveries, that are typically composed of several drifts for each fisher, and do not include fishing trips with no landed catch. Fishers are required to submit all catches of kept fish on a fish ticket, including any fish that may be retained for personal use.

Observation

Oregon and Washington have been able to periodically monitor drift gillnet commercial fisheries using agency observers to validate some model assumptions; 2009, 2012 and 2017 are the most recent occurrences. Tangle net fisheries are observed with more frequency, and observer coverage for any Emerging Commercial Fishery is required.

Observation can occur in one of two ways. The first is via “ride-along” where agency observers meet a specified fisher at a previously arranged time and location and remained on the vessel for the entire fishing trip. In this method, the data collected represent a complete fishing trip for the specific period. The second method is “on-the-water” where agency observers are deployed from an agency boat onto randomly selected commercial vessels during the fishery. This technique allows for a greater proportion of vessels to be observed but produces a subsample of fishing activity rather than a complete trip. When observing, agency staff can collect a variety of information, including numbers of non-target fish that are caught but released by fishers, mark rates for hatchery fish, and fishing effort.

Although observation is a useful tool, the nature of Columbia River commercial fisheries can make this challenging. Commercial boats are small and provide limited room for an observer to be onboard in addition to the captain and deckhands. For nighttime fisheries, limited visibility can make it difficult to observe operations.



Logbooks

There is no mandatory logbook requirement for Columbia River commercial fisheries. However, voluntary logbooks have and continue to be submitted by some fishers which help agency staff further understand commercial fishery encounters with non-target fish, mark rates, and fishing effort.

Potential Commercial Fishery Monitoring Tools – Electronic Monitoring

The Department recently conducted a study to test whether electronic monitoring (EM) can be used to improve and automate monitoring and in-season reporting of small boat operations and determine impacts to non-target fish. Along with the EM camera system, on-board observers recorded catch on each study vessel to validate the recorded information. Working with a number of commercial and recreational guide fishers who volunteered to participate, the Department was able to study EM in a variety of salmon fishery settings. Study results are expected to be available in the coming months.

Funding for this project was provided by the National Fish and Wildlife Foundation's Fisheries Innovation Fund ([Project ID 0303.20.070318](#)) with matching funds provided by WDFW. Additional project partners include the Pacific States Marine Fisheries Commission (PSMFC) and Saltwater Inc.

