

**Draft Agenda**

**Joint-State Columbia River Salmon Fishery Policy Review Committee (PRC)**

February 26, 2019

10 a.m. – 5 p.m.

Oregon Fish and Wildlife Headquarters, Commission Room  
4034 Fairfield Industrial Drive SE, Salem, Oregon

10:00-10:30	<b>1. Opening Remarks and Adoption of Agenda</b> <ul style="list-style-type: none"> <li>a. Opening Remarks</li> <li>b. Adoption of Agenda</li> <li>c. List of materials provided</li> </ul>	Commissioners/Staff Commissioners Staff
10:30-3:30  <i>Working Lunch</i> 12:00 – 12:45	<b>2. 2019 Policies and Regulations</b> <ul style="list-style-type: none"> <li>a. Follow-up on Options Analysis from the Ridgefield PRC Meeting             <ul style="list-style-type: none"> <li>i. Narrative Description of each Option</li> <li>ii. Comparison of Options with Evaluation Criteria</li> <li>iii. Voluntary Barbless Hooks and the Youngs Bay Sanctuary</li> <li>iv. Additional Analysis and Considerations</li> </ul> </li> <li>b. Developing a Consolidated Recommendation             <ul style="list-style-type: none"> <li>i. Proposal</li> <li>ii. Transmission to Full Commissions</li> </ul> </li> </ul>	Commissioners  Staff  Staff Staff  Commissioners
3:30-4:00  <i>Break at ~3:00</i>	<b>3. Future Process and Schedule</b> <ul style="list-style-type: none"> <li>a. Review of draft Process and Schedule Document</li> <li>a. Discussion of Future Meeting Dates and Process Expectations Prioritization of Ideas in Matrix</li> </ul>	Commissioners Commissioners  Commissioners
4:00-4:30	<b>4. Policies and Regulations in 2020 and Beyond</b> <ul style="list-style-type: none"> <li>a. Description of Range of Alternatives for Analysis.             <ul style="list-style-type: none"> <li>i. Upriver sport allocation for spring chinook</li> </ul> </li> <li>b. Discussion of issues, next steps and staff analysis tasking</li> </ul>	Staff  Commissioners
4:30-5:00	<b>5. Conclusionary Matters</b> <ul style="list-style-type: none"> <li>a. Review of Staff Assignments</li> <li>b. Review of Expectations for Next Meeting</li> <li>c. Closing Remarks</li> </ul>	Staff/Commissioners Commissioners Commissioners

# Joint-State Columbia River Fishery Policy Review Committee

February 6, 2019

9am to 5pm

Location: WDFW Region 5 Office, Ridgefield WA

Meeting Summary Notes and Decisions

## ATTENDANCE:

Holly Akenson – ODFW Commissioner

Bruce Buckmaster – ODFW Commissioner

Bob Webber – ODFW Commissioner

Curt Melcher – ODFW Director

Ed Bowles – ODFW Staff

Tucker Jones – ODFW Staff

Chris Kern – ODFW Staff

April Mack – ODFW Staff

John North – ODFW Staff

Michelle Tate – ODFW Staff

Anika Marriot – OR AG office

David Graybill – WDFW Commissioner

Bob Kehoe – WDFW Commissioner

Don McIsaac – WDFW Commissioner

Myrtice Dobler – WDFW Staff

Cindy Lefleur – WDFW Staff

Tami Lininger – WDFW Staff

Ryan Lothrop – WDFW Staff

Ron Warren – WDFW Staff

## Opening Remarks and Adoption of the Agenda

The over-arching goal of the PRC as shown in the meeting summary notes of the January 17 meeting, was reiterated:

- The overarching goal is to achieve concurrent policies and regulations for 2019 and beyond:
  - First step: Focus on the 2019 season, to have concurrency prior to the start of the North of Falcon process in mid-March
  - Secondary priority: continue the dialogue on the long term beyond 2019 and make this the primary focus after mid-March

The draft agenda was adopted as the working agenda of the meeting without change (attached).

## 2019 Policies and Regulations

### Analysis of Options

Analysis of three new policy options were to be discussed in terms of the evaluation criteria agreed to at the January 17, 2019 PRC meeting in Salem, in comparison to the base period of 2010-2012 prior to the major change in policy approach that occurred in 2013 (the “pre-policy” base period). The evaluation criteria for the Policy Review Committee were the purpose/goals stated in the Washington policy document: 1) the ability to meet or advance conservation goals; 2) the ability to conduct orderly fisheries; and 3) the ability to advance the economic well-being of both the sport and commercial fishing industries.

Additionally, Oregon has a statutory requirement to optimize fishery benefits for the State of Oregon. The fishery metrics within the economic criteria for sport fisheries was angler trips and for commercial fisheries was ex-vessel value. The model outputs also show Local Personal

Income Impact, a metric that describes the broader economic impact of the fisheries to the region.

#### Option 1: Transition Period Policies

- In a discussion of refining the written description of this option, it was determined that the intent of this option is to freeze the policies in place during transition year of 2016, together with the suite of enhanced Oregon SAFE area hatchery production releases that were added to the March 2017 rules adopted by the Oregon Fish and Wildlife Commission.
- Initial modeling results of the sport and commercial fishery metrics of Option 1 were reviewed for 2019, as well as out years to 2024, and adjusted during the course of the meeting. Modeling results will be reviewed and verified for presentation at the next meeting.

Evaluation of Option 1 under the three criteria showed the following:

- Conservation
  - The ability to achieve conservation goals under Option 1 would be essentially the same as without changes brought forth by the new policy approach in 2013, and the same as Option 2 and Option 3.
- Orderly Fisheries
  - Staff indicated that evaluation of a particular policy approach in terms of the ability to conduct orderly fisheries was dependent upon the concurrency of the policies in the two states, not the details of individual model runs or policy options. Thus, in a manner similar to the conservation criteria, there would be no difference between Options 1 and the pre-policy base period, or Options 2 and 3 with regard to the ability to conduct orderly fisheries—so long as there is concurrency in policy between the States.
- Economics
  - As modelled for the meeting sport fishery angler trips under Option 1 for 2019-2024 would be collectively slightly better ~3% in comparison to the pre-policy base period, with slight increases for spring chinook and fall chinook seasons, and no change for summer chinook seasons.
  - Commercial fishery ex-vessel values would be ~15% worse in 2019 than the pre-policy base period allocations; modeling detail showed substantially reduced values in mainstem areas (~67% of base), but improved values in SAFE areas. However, with increased releases in SAFE areas, total commercial fishery economic benefits could show a slight increase of ~2% by 2024.

#### Option 2: 2018 Status Quo

- In a discussion of refining the written description of this option, it was determined that the intent of this option is to replicate the 2018 Washington policy, not the concurrent actual regulations negotiated to be in effect in 2018. The key difference is the sharing of

the most limiting fall chinook impacts (a commercial allocation of  $\geq 25\%$  is the 2018 Washington policy;  $\geq 30\%$  is how fisheries were managed in 2018). This option should be retitled “2018 Washington Policies” for future analytical work, to reduce any confusion with actual 2018 status quo seasons.

- Impromptu modeling of this clarified option was done during the meeting and will need to be confirmed for review at the next meeting.

Evaluation of Option 2 in comparison to the 2010-2012 base period under the three criteria showed the following:

- Policy performance under the conservation and orderly fisheries criteria showed no difference with the base period or Options 1 and 3, as noted above.
- Economics
  - As modelled for the meeting, sport fishery angler trips under Option 2 for 2019-2024 would be collectively slightly better (~4%) in comparison to the base period allocations and production, with most of the difference with Option 1 due to increased angler trips in the summer chinook season.
  - Commercial fishery ex-vessel values would be more than 30% less in 2019 than base period policies; modeling detail showed substantially worse values in mainstem areas (~-40% of base), but 15% better values in SAFE areas. Modeling of out years to 2024 still showed negative comparative ex-vessel values in excess of ~20%, even with increased releases in SAFE areas.

Option 3: No Loss of Economic Benefit Potential

- The January 17 PRC meeting notes describe this option as “...allocations and gear types that provide for no economic loss to the commercial fishery across a full season...” (compared to base period policy allocations and SAFE production). Noting there could be many ways to refine a written description of this option, the PRC had asked the staff to attempt a description.
- Staff modeled two sub-options for review to illustrate that different approaches could be taken to achieve this outcome. Modeling assumptions for commercial fisheries ranged from 20%-25% for spring chinook, 0%-20% for summer chinook,  $\geq 35\%$  for the most limiting fall chinook stock, and various other gear and area restriction assumptions.

Evaluation of Option 3 in comparison to the 2010-2012 base period under the three criteria showed the following:

- Policy performance under the conservation and orderly fisheries criteria showed no difference with the base period or Options 1 and 2, as noted above.

- Economics
  - As currently modelled, sport fishery angler trips under both Option 3 sub-options would be collectively slightly better (~3%) in comparison to base period policy allocations from 2019-2024.
  - Commercial fishery ex-vessel values under both Option 3 sub-options would be collectively less in 2019 than they would be without the 2013 harvest reform policy (~16%); modeling detail showed significant negative impacts in mainstem areas(~65% of base), but 15% better in SAFE areas for 2019. Modeling of out years to 2024 could achieve economic parity with pre-policy allocations and SAFE production with increased releases in SAFE areas.

#### Voluntary Barbless Hooks and the Youngs Bay Sanctuary

There was no discussion of proposals for these two topics, but rather assignments to staff for information to be discussed at the next PRC meeting (see conclusion, below).

#### Developing a Consolidated Recommendation

No proposals for a consolidated recommendation for 2019 policies and regulations were discussed, pending the confirmation of modeling results and additional comparative analysis to be shown at the February 26 PRC meeting.

#### **Policies and Regulations in 2020 and Beyond**

Committee members reiterated a strong interest to not neglect the need for a comprehensive policy approach for the long term, while still focusing on 2019. The committee did not modify the List of Ideas Matrix, but prioritized several items:

- Low Priorities: a search for new WA SAFE areas; Joint State commercial license buyback program
- High Priorities: all of the items on pages 1 and 2 of the matrix; the inclusion of a section on hatchery production goals with special attention to mitigation hatchery programs, and including SAFE target production goals
- Medium Priorities: all remaining items in the matrix.

#### **Future Process and Schedule Document**

The draft process and schedule document was reviewed, with most of the discussion about the timing needed for each full Commission to decide on a single set of policies for 2019 in time for the onset of the North of Falcon process in mid-March. There was agreement to strive for a recommendation from the PRC at its next meeting on February 26 in Salem, Oregon and to organize staff assignments with that priority in mind. Another review of the Future Process and Schedule document will occur at that meeting with any adjustments as necessary to achieve the primary (2019) and secondary (2020 and beyond) goals of the Committee.

## Conclusion

The Committee asked the Chair to work with the staff to prioritize the listing of assignments below so as to optimize the chances of reaching a recommendation for policies in 2019 at the next PRC meeting.

- Develop stand-alone narrative descriptions of each Option, as opposed to the model run assumptions, scalars, coefficients, etc.
- Review, confirm, and validate model output results.
- Review models to verify the difference in angler trips when allocation changes.
- Show economic returns for high and low run sizes within the 2013-2018 grouping, for display with the average results.
- Prepare easily viewed comparison of option results for 2019.
- Provide detail on Select Area assumptions (OR and WA)
  - Pre-policy level of releases, and releases for returns in 2019
  - Where the funding comes from
  - Where the broodstock comes from
  - Risk of not meeting broodstock/egg goals
- Where does the Columbia River endorsement money go (OR and WA)? What programs are supported by the endorsement funds?
- Identify which fisheries (commercial/sport/species) have unused allocation but were provided the opportunity to use their share
- Look at angler trips relative to different allocation levels
  - If it does not negatively affect sport and improves commercial that might show areas where we might want to make changes.
    - Keep the sport fishery in the positive with regards to angler trips (economically enhanced)
    - Need to truth economic response model with 2019 pre-season fisheries model.
- What is the marked/unmarked ratio in Spring/Summer/Fall MSF fishery and/or what are the mark rates?
  - Specifically, how many fish are caught and how many fish are released in each fishery
- Youngs Bay Control Zone - does the sanctuary increase the number of fish caught in the Youngs Bay commercial fishery?
- Obtain information of barbed hooks vs. barbless hook perspective within sport sector fishery participants, if available.
- Provide a Pound Net update to the group

- Develop an initial straw range of options for upriver/downriver sharing of spring Chinook (WA commissioner subgroup assignment- 2020 and beyond), for analysis for the 2020 and beyond period
- Briefing from OR and WA on hatchery productions goals (SAFE areas?)
  - Where is production occurring?
  - What species are being produced?
  - How many are produced?
  - What is the funding source?
  - How secure is the funding?
- Look at specific areas or runs that could benefit from additional sport or commercial fisheries to remove hatchery fish and improve PHOS
- Share the NOAA 5-year status review and Columbia River Partnership Taskforce goals with group
- Share WA white paper on Orcas (Chair McIsaac to provide)

**Narrative Description of Options**  
for PRC consideration for  
**2019 Columbia River Salmon Fishery Policies**

**Option 1: Transition Period Policies**

The intent of this option is to freeze the fishery management policies in effect in 2016, which was the last year of a 2013 – 2016 period in which the mainstem Columbia River commercial fishery would transition from a gillnet gear or alternative gear fishery to an alternative gear-only fishery. The fishery management policies for sport/commercial allocations, allowable commercial fishing gear in the mainstem Columbia River by season, and other fishery management measures for this option are as follows:

- **Spring Chinook Seasons:** 70%/30% sharing of allowable non-Treaty Upriver Run ESA impacts; both fisheries to be constrained by the pre-run size update buffer mechanism; tangle nets allowed pre-update and post-update, with gillnet gear allowable in the post update<sup>i</sup> period; of the 70% of Upriver Run ESA impacts allocated to the sport fishery, 25% (17.5% of the total allocation) is allocated to sport fisheries above Bonneville Dam. Within that 25% upriver allocation, 40% is allocated to OR/WA fisheries from Bonneville Dam up to the state line and 60% is allocated to the WA fishery in the Snake River and Upper Columbia River areas<sup>ii</sup>. The remaining amount of the 70% (52.5% of the total allocation) is allocated to sport fisheries below Bonneville Dam.
- **Summer Chinook Seasons:** The amount of the non-Treaty harvestable surplus above a spawning escapement goal of 20,000 at Priest Rapids Dam shall be allocated between fisheries above and below Priest Rapids Dam based on a sliding scale<sup>iii</sup>; the harvestable amount for the areas below Priest Rapids Dam are to be shared 70% /30% between sport and commercial fisheries; 5% of the commercial share (1.5% of the total allocation below Priest Rapids Dam) is to be set aside for incidental take in SAFE area fisheries; allowable commercial fishing gear includes gillnets and alternative gear.
- **Sockeye Seasons:** 70%/30% sharing of allowable non-Treaty Snake River ESA impacts; the 30% commercial share is to be used for incidental impacts in commercial fisheries directed at summer Chinook salmon.
- **Fall Chinook Seasons:**  $\leq 70\%$ / $\geq 30\%$  sharing of allowable LRH ESA impacts and allowable non-Treaty Snake River ESA impacts (whichever is more constraining in a given year); the commercial share of such ESA impacts is to cover mainstem Columbia River and SAFE area fisheries; allowable commercial fishing gear in the mainstem Columbia River includes gillnet, tangle net, and seine gear.

**Coho Seasons:** While there is no explicit numerical sharing of Lower Columbia River Natural ESA impacts, the allocation was prioritized as follows: commercial fisheries are to be assigned sufficient impacts to implement SAFE coho and fall Chinook fisheries and mainstem fall Chinook fisheries; and the balance to in-river mainstem recreational fisheries. If these fisheries are expected to be unable to use all of the impacts, the remainder will be assigned to mainstem commercial coho fisheries. Allowable commercial fishing gear is to include gill net, tangle net, beach seine, and purse seine fishing gear.



This option also calls for specific hatchery releases in SAFE areas as follows, which represent a net increase from the 2016 actual program, to the level specified in current Oregon policy.

Spring Chinook: 3.7 M smolts (1.5 M greater than the 2018 actual release; increased to enhance commercial economics and offset Mitchell Act-related coho reductions since 2016).

Fall Chinook: 1.0 M smolts (decreased from 2.2 M smolt due to Mitchell Act related reductions and brood limitations).

Coho: 5.255 M smolts (somewhat reduced due to Mitchell Act related reductions).

## **Option 2: 2018 Washington Policy**

The intent of this option is to replicate the fishery management policies described in Washington Policy C-3620, *Columbia River Basin Salmon Management* for the year 2018. Because of differences in policy between Washington and Oregon for 2018, the negotiated seasons in effect in 2018 were different than described in this option and thus this option does not reflect an actual regulatory “2018 Status Quo” option. The fishery management policies for sport/commercial allocations, allowable commercial fishing gear in the mainstem Columbia River by season, and other fishery management measures for this option are as follows:

- Spring Chinook Seasons: 80%/20% sharing of allowable non-Treaty Upriver Run ESA impacts; the sport fishery is to be constrained by the pre-run size update buffer mechanism, but not the commercial fishery; no mainstem commercial fishing is allowed, regardless of gear; gillnets and alternative gears would be allowed in SAFE area; 75%/25% sharing of the sport fishery allocation between lower river and upriver sport fisheries as follows: of the 80% of Upriver Run ESA impacts allocated to the sport fishery, 75% (60% of the total allocation) is allocated to sport fisheries below Bonneville Dam, and 25% (20% of the total allocation) is allocated to sport fisheries above Bonneville Dam.
- Summer Chinook Seasons: The amount of the non-Treaty harvestable surplus above a spawning escapement goal of 20,000 at Priest Rapids Dam shall be allocated between fisheries above and below Priest Rapids Dam based on the sliding scale in place in 2016; 80%/20% sharing of the harvestable surplus below Priest Rapids Dam, with up to 75% of the 20% commercial share made possible for take in mainstem areas and the balance in SAFE areas; allowable commercial gear is non-gillnet selective alternative gear; any unused commercial share is to be made available to upriver sport fisheries or passed through to the spawning escapement.
- Sockeye Seasons: 80%/20% sharing of allowable non-Treaty Snake River ESA impacts; the 20% commercial share is to be used for incidental impacts in commercial fisheries directed at summer Chinook salmon.
- Fall Chinook Seasons:  $\leq 75\%$ / $\geq 25\%$  sharing of allowable LRH ESA impacts and allowable non-Treaty Snake River ESA impacts (whichever is most constraining in a given year); the commercial share of such ESA impacts is to cover mainstem Columbia River and SAFE area fisheries; allowable commercial fishing gear in the mainstem Columbia River includes gillnet (limited to the area above the mouth of the Lewis River) and other mark-selective alternative gear in all areas.

- Coho Seasons: While there is no explicit numerical sharing of Lower Columbia River Natural ESA impacts, the allocation was prioritized as follows: commercial fisheries are to be assigned sufficient impacts to implement SAFE coho and fall Chinook fisheries and mainstem fall Chinook fisheries; and the balance to Buoy 10 and mainstem recreational fisheries. If these fisheries are expected to be unable to use all of the impacts, the remainder are to be assigned to mainstem commercial coho fisheries. Allowable commercial fishing gear does not include gill net, but does include tangle net and other alternative gear fished in a mark-selective manner.

### **Option 3: No Loss of Economic Potential-**

The intent of this option is to describe fishery management policies for sport and commercial fishery allocations and gear types that provide for no economic loss to the commercial fishery across a full season, compared to the baseline policies that were in place prior to the significant policy changes that took place in 2013. Two sub-options were prepared by staff that both resulted in no modelled economic loss for recreational fisheries, and for commercial fisheries when Select Area production enhancements are fully realized (2024). The fishery management policies for sport/commercial allocations, allowable commercial fishing gear in the mainstem Columbia River by season, and other fishery management measures for this option are as follows:

- Spring Chinook Seasons: 75%/25% (sub-option 1) or 80%/20% (sub-option 2) sharing of allowable non-Treaty Upriver Run ESA impacts; the sport fishery is to be constrained by the pre-run size update buffer mechanism, but not the commercial fishery; sub-option 2 allows for commercial fishing in SAFE areas only, while sub-option 1 allows for post-update tangle net fishing in mainstem areas if not all commercial impacts are expected to be used in SAFE fishing areas. Sub-option 1 does not move any unused recreational impacts to the commercial fishery.
- Summer Chinook Seasons: 80%/5% (sub-option 1) or 80%/20% (sub-option 2) sharing of the harvestable surplus determined in the same manner as Option 1 above; allowable commercial gear is non-gillnet selective alternative gear for sub-option 1, with gillnet gear added in sub-option 2; the remaining 15% commercial harvest in sub-option 1 is allocated to additional spawning escapement if not utilized.
- Sockeye Seasons: No policy position was specified for Option 3.
- Fall Chinook Seasons:  $\leq 65\%$ / $\geq 35\%$  sharing of allowable LRH ESA impacts and allowable non-Treaty Snake River ESA impacts (whichever is most constraining in a given year); allowable commercial fishing gear in the mainstem Columbia River includes gillnet, limited to Zones 4 and 5 only, with alternative gear used under sub-option 2 but not sub-option 1.
- Coho Seasons: While there is no explicit numerical sharing of Lower Columbia River Natural ESA impacts, the allocation was prioritized as follows: commercial fisheries are to be assigned sufficient impacts to implement SAFE coho and fall Chinook fisheries and mainstem fall Chinook fisheries and mainstem hatchery coho fisheries (Oregon rule); and the balance to in-river mainstem recreational fisheries. If these fisheries are

expected to be unable to use all of the impacts, the remainder will be assigned to mainstem commercial coho fisheries. Allowable commercial fishing gear includes 6" gillnet and tangle net gear in Option 3.

This option also calls for specific hatchery releases in SAFE areas as follows, which represent a net increase from the 2016 actual program, to the level specified in current Oregon policy.

Spring Chinook: 3.7 M smolts (1.5 M greater than the 2018 actual release; increased to enhance commercial economics and offset Mitchell Act-related coho reductions since 2016).

Fall Chinook: 1.0 M smolts (decreased from 2.2 M smolts due to Mitchell Act related reductions and brood limitations).

Coho: 5.255 M smolts (somewhat reduced due to Mitchell Act related reductions).

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<sup>i</sup> Policy provisions in Oregon (allowing gillnets) and Washington (adaptive management) allowed for the gillnet fishery in 2016 that occurred after the run update.

<sup>ii</sup> This described sharing of the allocation to sport fisheries above Bonneville Dam was not itemized as policy in the Washington Policy Document C-3620.

<sup>iii</sup> See page 7 in the Washington Policy Document C-3620 *Columbia River Basin Salmon Management*.

Table 1. Summary of assumptions incorporated into modelling of policy options for the 2019 Policy Review Committee.

Policy Option	Allocation Sharing (%)			Mainstem Commercial Gears								Select Area Releases <sup>7</sup>		
	Sport/Commercial		(LRH tule/URB) <sup>2</sup>	Spring		Summer		Fall			(millions of smolts)			
	Spring	Summer <sup>1</sup>		Pre-Update Tangle Net <sup>3</sup>	Post-Update Tangle Net/Gillnet <sup>4</sup>	Gillnet	Alternative Gear <sup>5</sup>	Zone 4-5 Gillnet <sup>6</sup>	Seine MSF	Coho 6" Gillnet	Tangle Net MSF	Spring Chinook	SAB Fall Chinook	Coho
Transition Period Policy (2016) with Current OR Policy Releases	70/30	70/30	≤70/≥30	Y	Y	Y	Y	Y	Y	Y	Y	3.7	1.0	5.255
2018 Washington Policy	80/20	80/20	≤75/≥25	N	N	N	Y	Y	Y	N	Y	2.2	1.0	5.255
No Loss of Economic Benefit Potential #1	75/25	80/5	≤65/≥35	N	Y	N	N	Y	N	Y	Y	3.7	1.0	5.255
No Loss of Economic Benefit Potential #2	80/20	80/20	≤65/≥35	N	N	Y	N	Y	Y	Y	Y	3.7	1.0	5.255
Current Oregon Policy	80/20	80/20	≤70/≥30	N	Y	N	Y	Y	Y	N	Y	3.7	1.0	5.255
Pre-Policy (2010-2012 base for reference)	60/40	50/50	59/41	Y	Y	Y	--	Y	--	Y	--	1.2	1.45	4.05

<sup>1</sup> Five percent of the commercial share in the summer season is set aside for incidental harvest of upper Columbia summer Chinook in Select Area fisheries. The balance is available for implementation of mainstem commercial fisheries targeting upriver summer Chinook. If the balance is unused, or if it is left unallocated due to the 80% cap for the sport fishery (No Loss of Economic Benefit Potential #1), the model assumes that it is not available to the sport fishery downstream of Bonneville Dam.

<sup>2</sup> Although all policy options allow for fall allocation shares ≤ to the sport allocation and ≥ to the commercial allocation, modelling of the options used the allocation percentages shown.

<sup>3</sup> A pre-run update mainstem tangle net fishery assumes a commercial run size buffer.

<sup>4</sup> The Transition Period Policy and No Loss of Economic Benefit Potential #1 options assume that gillnets are allowed for a post-run update mainstem spring Chinook fishery under adaptive management provisions. Current Oregon Policy assumes use of tangle nets only for a post-run update mainstem fishery.

<sup>5</sup> Alternative gears may be used for mainstem commercial summer Chinook fisheries under the Transition Period Policy; however, since no alternative gear has been identified as available and practical for this fishery, the model assumes the use of gillnets (permitted by Policy) for this fishery. Alternative gears are required for mainstem commercial summer Chinook fisheries under the Current Oregon Policy and 2018 Washington Policy options. Since there is no approved alternative gear, the model assumes \$0 value for the fishery.

<sup>6</sup> The presumptive path under the Transition Period Policy was that fall mainstem large-mesh gillnet fisheries would be conducted in Zones 4-5; however, fisheries in Zones 1-3 were not prohibited when sufficient LRH impacts were available. During the pre-Policy period, fall large-mesh gillnets were allowed in Zones 1-5. All other policy options assume a Zone 4-5 large-mesh gillnet fishery.

<sup>7</sup> For all policy options (except Pre-Policy), Select Area releases shown are assumed to contribute to adult returns in 2022+ for spring Chinook, 2023+ for SAB fall Chinook, and 2021+ for Coho. SAB and Coho releases are capped at displayed values due to Mitchell Act production limitations.

**Summary of sport fishery angler trips and commercial ex-vessel value for the pre-Policy base, policy option modelling estimates for 2019 and 2024, best/worst years during 2013-2018, and Current Oregon Policy estimates for 2019 and 2024.**

	Pre-Policy Base	Modelling Estimates for 2019				Modelling Estimates for 2024				Model Comparisons				
		Transition Period Policy (2016) with Current OR Policy Releases	2018 Washington Policy	No Loss of Economic Benefit Potential #1	No Loss of Economic Benefit Potential #2	Transition Period Policy (2016) with Current OR Policy Releases	2018 Washington Policy	No Loss of Economic Benefit Potential #1	No Loss of Economic Benefit Potential #2	Best of 2013-2018 (2014) <sup>a</sup>	Worst of 2013-2018 (2018) <sup>a</sup>	Current Oregon Policy in 2019	Current Oregon Policy in 2024	
Economic Metrics	Sport Angler Trips	339,846	349,780	354,378	350,775	350,775	349,780	354,378	350,775	350,775	423,939	238,566	352,577	352,577
	Commercial Ex-Vessel Value	\$4,948,463	\$4,229,789	\$3,362,124	\$4,158,775	\$4,169,435	\$5,049,732	\$3,503,412	\$4,978,717	\$4,989,378	\$6,167,447	\$2,148,393	\$3,762,010	\$4,581,953
Angler Trip Detail	Spring Chinook	109,138	115,469	115,469	115,469	115,469	115,469	115,469	115,469	115,469	145,642	89,882	115,469	115,469
	Summer Chinook	22,350	22,350	25,147	25,147	25,147	22,350	25,147	25,147	25,147	26,831	11,737	25,147	25,147
	Buoy 10 (Fall Chinook/Coho)	88,472	90,002	90,767	89,237	89,237	90,002	90,767	89,237	89,237	107,522	67,318	90,002	90,002
	Mainstem (Fall Chinook/Coho)	119,886	121,959	122,995	120,922	120,922	121,959	122,995	120,922	120,922	143,946	69,629	121,959	121,959
Commercial Ex-Vessel Detail	Mainstem Spring Chinook	\$487,115	\$313,257	\$0	\$171,080	\$0	\$313,257	\$0	\$171,080	\$0	\$322,675	\$0	\$95,714	\$95,714
	Mainstem Summer Chinook	\$248,598	\$153,809	\$0	\$0	\$102,540	\$153,809	\$0	\$0	\$102,540	\$172,266	\$0	\$0	\$0
	Zone 4-5 Fall Chinook	\$2,363,775	\$1,581,695	\$1,277,523	\$1,885,867	\$1,885,867	\$1,581,695	\$1,277,523	\$1,885,867	\$1,885,867	\$2,575,129	\$378,454	\$1,581,695	\$1,581,695
	Coho 6-in Gillnet	\$110,991	\$96,427	\$0	\$48,214	\$96,427	\$96,427	\$0	\$48,214	\$96,427	\$460,466	\$0	\$0	\$0
	Beach Seine (Chinook/Coho)	\$0	\$8,534	\$8,534	\$0	\$8,534	\$8,534	\$8,534	\$0	\$8,534	\$0	\$0	\$8,534	\$8,534
	Purse Seine (Chinook/Coho)	\$0	\$22,453	\$22,453	\$0	\$22,453	\$22,453	\$22,453	\$0	\$22,453	\$0	\$0	\$22,453	\$22,453
	Coho Tangle Net	\$0	\$49,740	\$49,740	\$49,740	\$49,740	\$49,740	\$49,740	\$49,740	\$49,740	\$162,732	\$0	\$49,740	\$49,740
	Mainstem Total	\$3,210,479	\$2,225,915	\$1,358,250	\$2,154,900	\$2,165,561	\$2,225,915	\$1,358,250	\$2,154,900	\$2,165,561	\$3,693,268	\$378,454	\$1,758,136	\$1,758,136
	SAFE Spring Chinook	\$807,025	\$996,017	\$996,017	\$996,017	\$996,017	\$1,745,000	\$1,066,346	\$1,745,000	\$1,745,000	\$353,896	\$1,396,359	\$996,017	\$1,745,000
	SAFE Fall Chinook	\$392,373	\$219,083	\$219,083	\$219,083	\$219,083	\$354,146	\$354,146	\$354,146	\$354,146	\$497,362	\$200,179	\$219,083	\$354,146
SAFE Coho	\$538,586	\$788,774	\$788,774	\$788,774	\$788,774	\$724,671	\$724,671	\$724,671	\$724,671	\$1,622,922	\$173,401	\$788,774	\$724,671	
SAFE Total	\$1,737,984	\$2,003,874	\$2,003,874	\$2,003,874	\$2,003,874	\$2,823,817	\$2,145,162	\$2,823,817	\$2,823,817	\$2,474,179	\$1,769,939	\$2,003,874	\$2,823,817	

<sup>a</sup> "Best" and "worst" years are in terms of total angler trips and total ex-vessel value, and not necessarily for each component fishery.

**Conservation - No Substantial difference between any of the Options**

**Orderly Fisheries - No Substantial difference between any of the Options**

### **Summary of Modelling Approach for Comparison of Policy Options**

- Based on observed results from 2013-2018 (run sizes, angler trips, ex-vessel value, etc.), the model estimates fishery outcomes in out-years using various inputs with respect to ESA impact allocations, mainstem commercial gear types, and Select Area production levels.
- Out-year projections for angler trips and commercial ex-vessel value are compared to expected values for these metrics in the absence of the Harvest Reform Policy.
- The "without policy" baselines for angler trips and ex-vessel value represent an average annual expectation for out-years, based on 2013-2018 observed results adjusted to what they would have been with pre-Reform (2010-2012 average) allocations and Select Area releases.
- Out-year modelling results are not intended to be predictive, but instead provide a relative comparison to the expected baseline for different policy options.

Option	Model Inputs	Fishery	Metric	2019	2020	2021	2022	2023	2024		
<b>Transition Period Policy (2016) with Current Oregon Policy Releases</b>	Spring allocation 70% sport/30% commercial (pre-run update commercial buffer), with pre-update mainstem tangle net and post-update tangle net/gillnet allowed; Summer allocation 70% sport/30% commercial with mainstem gillnets allowed; Fall LRH tule/URB allocation ≤70% sport/≥30% commercial with gillnets allowed in Zones 4-5; mark-selective beach and purse seine fishery at average value and frequency of occurrence during 2014-2018; Coho 6" gillnet fishery and mark-selective Coho tangle net fishery at average value and frequency of occurrence during 2013-2018; SAFE releases: CHS 3.7M (2022+ return), SAB 1.0M (Mitchell Act cap, 2023+ return), Coho 5.255M (Mitchell Act cap, 2021+ return)	Sport	Total Angler Trips	349,780	349,780	349,780	349,780	349,780	349,780		
			Without Policy Angler Trips	339,846	339,846	339,846	339,846	339,846	339,846		
			Angler Trip Δ	9,934	9,934	9,934	9,934	9,934	9,934		
			Angler Trip Δ %	2.9%	2.9%	2.9%	2.9%	2.9%	2.9%		
			Local Personal Income Impact	\$27,451,212	\$27,451,212	\$27,451,212	\$27,451,212	\$27,451,212	\$27,451,212		
		Commercial	Total Ex-Vessel Value	\$4,229,789	\$4,237,721	\$4,394,477	\$4,804,541	\$5,000,360	\$5,049,732		
			Without Policy Ex-Vessel Value	\$4,948,463	\$4,948,463	\$4,948,463	\$4,948,463	\$4,948,463	\$4,948,463		
			Ex-Vessel Value Δ	-\$718,673	-\$710,742	-\$553,985	-\$143,922	\$51,898	\$101,270		
			Ex-Vessel Value Δ %	-14.5%	-14.4%	-11.2%	-2.9%	1.0%	2.0%		
			Local Personal Income Impact	\$7,089,470	\$7,102,764	\$7,365,500	\$8,052,800	\$8,381,009	\$8,463,760		
		Combined	Local Personal Income Impact	\$34,540,682	\$34,553,976	\$34,816,712	\$35,504,012	\$35,832,221	\$35,914,972		
		Contribution to Total Commercial Ex-Vessel Value by Fishery		Mainstem Gillnet	Spring Chinook	\$313,257	\$313,257	\$313,257	\$313,257	\$313,257	\$313,257
		Summer Chinook	\$153,809		\$153,809	\$153,809	\$153,809	\$153,809	\$153,809		
		Zone 4-5 Fall Chinook	\$1,581,695		\$1,581,695	\$1,581,695	\$1,581,695	\$1,581,695	\$1,581,695		
		Coho	\$96,427		\$96,427	\$96,427	\$96,427	\$96,427	\$96,427		
		Select Area Gillnet	Spring Chinook	\$996,017	\$1,092,537	\$1,222,113	\$1,594,665	\$1,745,000	\$1,745,000		
			Fall Chinook	\$219,083	\$213,480	\$221,779	\$259,290	\$304,774	\$354,146		
			Coho	\$788,774	\$705,789	\$724,671	\$724,671	\$724,671	\$724,671		
		Mainstem Seine	Beach Chinook/Coho	\$8,534	\$8,534	\$8,534	\$8,534	\$8,534	\$8,534		
			Purse Chinook/Coho	\$22,453	\$22,453	\$22,453	\$22,453	\$22,453	\$22,453		
Mainstem Tangle Net	Coho	\$49,740	\$49,740	\$49,740	\$49,740	\$49,740	\$49,740				
Total Commercial				\$4,229,789	\$4,237,721	\$4,394,477	\$4,804,541	\$5,000,360	\$5,049,732		
Contribution to Total Sport Angler Trips by Fishery		Spring	Spring Chinook	115,469	115,469	115,469	115,469	115,469	115,469		
	Summer	Summer Chinook	22,350	22,350	22,350	22,350	22,350	22,350	22,350		
	Fall-Buoy 10	Fall Chinook/Coho	90,002	90,002	90,002	90,002	90,002	90,002	90,002		
	Fall-Mainstem	Fall Chinook/Coho	121,959	121,959	121,959	121,959	121,959	121,959	121,959		
Total Sport				349,780	349,780	349,780	349,780	349,780	349,780		

-Select Area releases of Coho, tule CHF, and Select Area Bright CHF are capped at 5.255M, 3.875M, and 1.0M, respectively, due to Mitchell Act production limitations. Expected ex-vessel values were adjusted down accordingly effective 2020 return year.

-"Without Policy" angler trips and ex-vessel value represent the average number of trips and average ex-vessel value expected for 2013-2018 had the Harvest Reform Policy not been implemented. These averages are used as the baseline values for 2019-2024.

-Local Personal Income Impact is a measure of the impact to local economies in the Oregon/Washington region associated with angler trips in the lower Columbia River sport fishery (e.g. gas, food, lodging, guide fees, etc.), and the impact to local economies of lower Columbia River commercially landed salmon (e.g. value to processors, wholesalers, etc.). Sport and commercial value multipliers from the 2016 Input-Output Pacific Fisheries (I-O PAC) model were applied to total angler trips and ex-vessel value for the respective fisheries. Different multipliers were applied to estimated guided and non-guided angler trips in the sport fishery.

Option	Model Inputs	Fishery	Metric	2019	2020	2021	2022	2023	2024		
<b>2018 Washington Policy</b>	Spring allocation 80% sport/20% commercial (no pre-run update commercial buffer) for SAFE only; Summer allocation 80% sport/20% commercial with alternative gear (assumes \$0 value if no approved alternative gear); Fall LRH tule/URB allocation ≤75% sport/≥25% commercial with gillnets allowed in Zones 4-5; mark-selective beach and purse seine fishery at average value and frequency of occurrence during 2014-2018; No Coho 6" gillnet fishery; mark-selective Coho tangle net fishery at average value and frequency of occurrence during 2013-2018; SAFE releases: CHS 2.20M (2022+ return), SAB 1.0M (Mitchell Act cap, 2023+ return), Coho 5.255M (Mitchell Act cap, 2021+ return)	Sport	Total Angler Trips	354,378	354,378	354,378	354,378	354,378	354,378		
			Without Policy Angler Trips	339,846	339,846	339,846	339,846	339,846	339,846		
			Angler Trip Δ	14,532	14,532	14,532	14,532	14,532	14,532		
			Angler Trip Δ %	4.3%	4.3%	4.3%	4.3%	4.3%	4.3%		
			Local Personal Income Impact	\$27,807,344	\$27,807,344	\$27,807,344	\$27,807,344	\$27,807,344	\$27,807,344		
		Commercial	Total Ex-Vessel Value	\$3,362,124	\$3,370,055	\$3,526,812	\$3,468,460	\$3,454,040	\$3,503,412		
			Without Policy Ex-Vessel Value	\$4,948,463	\$4,948,463	\$4,948,463	\$4,948,463	\$4,948,463	\$4,948,463		
			Ex-Vessel Value Δ	-\$1,586,339	-\$1,578,407	-\$1,421,651	-\$1,480,002	-\$1,494,423	-\$1,445,051		
			Ex-Vessel Value Δ %	-32.1%	-31.9%	-28.7%	-29.9%	-30.2%	-29.2%		
			Local Personal Income Impact	\$5,635,192	\$5,648,486	\$5,911,222	\$5,813,421	\$5,789,251	\$5,872,002		
		Combined	Local Personal Income Impact	\$33,442,536	\$33,455,830	\$33,718,566	\$33,620,765	\$33,596,595	\$33,679,346		
		Contribution to Total Commercial Ex-Vessel Value by Fishery		Mainstem Gillnet	Spring Chinook	\$0	\$0	\$0	\$0	\$0	\$0
		Summer Chinook	\$0		\$0	\$0	\$0	\$0	\$0		
		Zone 4-5 Fall Chinook	\$1,277,523		\$1,277,523	\$1,277,523	\$1,277,523	\$1,277,523	\$1,277,523		
		Coho	\$0		\$0	\$0	\$0	\$0	\$0		
Select Area Gillnet	Spring Chinook	\$996,017	\$1,092,537	\$1,222,113	\$1,126,250	\$1,066,346	\$1,066,346				
	Fall Chinook	\$219,083	\$213,480	\$221,779	\$259,290	\$304,774	\$354,146				
	Coho	\$788,774	\$705,789	\$724,671	\$724,671	\$724,671	\$724,671				
Mainstem Seine	Beach Chinook/Coho	\$8,534	\$8,534	\$8,534	\$8,534	\$8,534	\$8,534				
	Purse Chinook/Coho	\$22,453	\$22,453	\$22,453	\$22,453	\$22,453	\$22,453				
Mainstem Tangle Net	Coho	\$49,740	\$49,740	\$49,740	\$49,740	\$49,740	\$49,740				
Total Commercial			\$3,362,124	\$3,370,055	\$3,526,812	\$3,468,460	\$3,454,040	\$3,503,412			
Contribution to Total Sport Angler Trips by Fishery		Spring	Spring Chinook	115,469	115,469	115,469	115,469	115,469	115,469		
Summer	Summer Chinook	25,147	25,147	25,147	25,147	25,147	25,147				
Fall-Buoy 10	Fall Chinook/Coho	90,767	90,767	90,767	90,767	90,767	90,767				
Fall-Mainstem	Fall Chinook/Coho	122,995	122,995	122,995	122,995	122,995	122,995				
Total Sport			354,378	354,378	354,378	354,378	354,378	354,378			

-Select Area releases of Coho, tule CHF, and Select Area Bright CHF are capped at 5.255M, 3.875M, and 1.0M, respectively, due to Mitchell Act production limitations. Expected ex-vessel values were adjusted down accordingly effective 2020 return year.

-"Without Policy" angler trips and ex-vessel value represent the average number of trips and average ex-vessel value expected for 2013-2018 had the Harvest Reform Policy not been implemented. These averages are used as the baseline values for 2019-2024.

-Local Personal Income Impact is a measure of the impact to local economies in the Oregon/Washington region associated with angler trips in the lower Columbia River sport fishery (e.g. gas, food, lodging, guide fees, etc.), and the impact to local economies of lower Columbia River commercially landed salmon (e.g. value to processors, wholesalers, etc.). Sport and commercial value multipliers from the 2016 Input-Output Pacific Fisheries (I-O PAC) model were applied to total angler trips and ex-vessel value for the respective fisheries. Different multipliers were applied to estimated guided and non-guided angler trips in the sport fishery.



Option	Model Inputs <sup>a</sup>	Fishery	Metric	2019	2020	2021	2022	2023	2024		
<b>No Loss of Economic Benefit Potential #1</b>	Spring allocation 75% sport/25% commercial (no pre-run update commercial buffer), with mainstem post-update tangle net fishery allowed if not all ESA impacts expected to be used in SAFE; Summer allocation 80% sport/5% commercial for SAFE only (15% for escapement); Fall LRH tule/URB allocation ≤65% sport/≥35% commercial with gillnets allowed in Zones 4-5; no seine fishery; Coho 6" gillnet fishery at 50% of average value and frequency of occurrence during 2013-2018; mark-selective Coho tangle net fishery at average value and frequency of occurrence during 2013-2018; SAFE releases: CHS 3.7M (2022+ return), SAB 1.0M (Mitchell Act cap, 2023+ return), Coho 5.255M (Mitchell Act cap, 2021+ return)	Sport	Total Angler Trips	350,775	350,775	350,775	350,775	350,775	350,775		
			Without Policy Angler Trips	339,846	339,846	339,846	339,846	339,846	339,846		
			Angler Trip Δ	10,929	10,929	10,929	10,929	10,929	10,929		
			Angler Trip Δ %	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%		
			Local Personal Income Impact	\$27,516,050	\$27,516,050	\$27,516,050	\$27,516,050	\$27,516,050	\$27,516,050		
		Commercial	Total Ex-Vessel Value	\$4,158,775	\$4,166,706	\$4,323,462	\$4,733,526	\$4,929,345	\$4,978,717		
			Without Policy Ex-Vessel Value	\$4,948,463	\$4,948,463	\$4,948,463	\$4,948,463	\$4,948,463	\$4,948,463		
			Ex-Vessel Value Δ	-\$789,688	-\$781,756	-\$625,000	-\$214,937	-\$19,117	\$30,255		
			Ex-Vessel Value Δ %	-16.0%	-15.8%	-12.6%	-4.3%	-0.4%	0.6%		
			Local Personal Income Impact	\$6,970,443	\$6,983,737	\$7,246,473	\$7,933,773	\$8,261,982	\$8,344,734		
		Combined	Local Personal Income Impact	\$34,486,493	\$34,499,787	\$34,762,523	\$35,449,823	\$35,778,032	\$35,860,784		
		Contribution to Total Commercial Ex-Vessel Value by Fishery		Mainstem Gillnet	Spring Chinook	\$171,080	\$171,080	\$171,080	\$171,080	\$171,080	\$171,080
		Summer Chinook	\$0		\$0	\$0	\$0	\$0	\$0		
Zone 4-5 Fall Chinook	\$1,885,867	\$1,885,867	\$1,885,867		\$1,885,867	\$1,885,867	\$1,885,867				
Coho	\$48,214	\$48,214	\$48,214		\$48,214	\$48,214	\$48,214				
Select Area Gillnet	Spring Chinook	\$996,017	\$1,092,537	\$1,222,113	\$1,594,665	\$1,745,000	\$1,745,000				
	Fall Chinook	\$219,083	\$213,480	\$221,779	\$259,290	\$304,774	\$354,146				
	Coho	\$788,774	\$705,789	\$724,671	\$724,671	\$724,671	\$724,671				
Mainstem Seine	Beach Chinook/Coho	\$0	\$0	\$0	\$0	\$0	\$0				
	Purse Chinook/Coho	\$0	\$0	\$0	\$0	\$0	\$0				
Mainstem Tangle Net	Coho	\$49,740	\$49,740	\$49,740	\$49,740	\$49,740	\$49,740				
Total Commercial				\$4,158,775	\$4,166,706	\$4,323,462	\$4,733,526	\$4,929,345	\$4,978,717		
Contribution to Total Sport Angler Trips by Fishery		Spring	Spring Chinook	115,469	115,469	115,469	115,469	115,469	115,469		
	Summer	Summer Chinook	25,147	25,147	25,147	25,147	25,147	25,147	25,147		
	Fall-Buoy 10	Fall Chinook/Coho	89,237	89,237	89,237	89,237	89,237	89,237	89,237		
	Fall-Mainstem	Fall Chinook/Coho	120,922	120,922	120,922	120,922	120,922	120,922	120,922		
Total Sport				350,775	350,775	350,775	350,775	350,775	350,775		

<sup>a</sup> Model inputs for commercial allocations and allowable gears were adjusted to achieve no commercial economic loss when Select Area production enhancements are fully realized (2024).

-Select Area releases of Coho, tule CHF, and Select Area Bright CHF are capped at 5.255M, 3.875M, and 1.0M, respectively, due to Mitchell Act production limitations. Expected ex-vessel values were adjusted down accordingly effective 2020 return year.

-"Without Policy" angler trips and ex-vessel value represent the average number of trips and average ex-vessel value expected for 2013-2018 had the Harvest Reform Policy not been implemented. These averages are used as the baseline values for 2019-2024.

-Local Personal Income Impact is a measure of the impact to local economies in the Oregon/Washington region associated with angler trips in the lower Columbia River sport fishery (e.g. gas, food, lodging, guide fees, etc.), and the impact to local economies of lower Columbia River commercially landed salmon (e.g. value to processors, wholesalers, etc.). Sport and commercial value multipliers from the 2016 Input-Output Pacific Fisheries (I-O PAC) model were applied to total angler trips and ex-vessel value for the respective fisheries. Different multipliers were applied to estimated guided and non-guided angler trips in the sport fishery.

Option	Model Inputs <sup>a</sup>	Fishery	Metric	2019	2020	2021	2022	2023	2024		
<b>No Loss of Economic Benefit Potential #2</b>	Spring allocation 80% sport/20% commercial (no pre-run update commercial buffer) for SAFE only; Summer allocation 80% sport/20% commercial with mainstem gillnets allowed; Fall LRH tule/URB allocation ≤65% sport/≥35% commercial with gillnets allowed in Zones 4-5; mark-selective beach and purse seine fishery at average value and frequency of occurrence during 2014-2018; Coho 6" gillnet fishery and mark-selective Coho tangle net fishery at average value and frequency of occurrence during 2013-2018; SAFE releases: CHS 3.7M (2022+ return), SAB 1.0M (Mitchell Act cap, 2023+ return), Coho 5.255M (Mitchell Act cap, 2021+ return)	Sport	Total Angler Trips	350,775	350,775	350,775	350,775	350,775	350,775		
			Without Policy Angler Trips	339,846	339,846	339,846	339,846	339,846	339,846		
			Angler Trip Δ	10,929	10,929	10,929	10,929	10,929	10,929		
			Angler Trip Δ %	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%		
			Local Personal Income Impact	\$27,516,050	\$27,516,050	\$27,516,050	\$27,516,050	\$27,516,050	\$27,516,050		
		Commercial	Total Ex-Vessel Value	\$4,169,435	\$4,177,366	\$4,334,123	\$4,744,186	\$4,940,006	\$4,989,378		
			Without Policy Ex-Vessel Value	\$4,948,463	\$4,948,463	\$4,948,463	\$4,948,463	\$4,948,463	\$4,948,463		
			Ex-Vessel Value Δ	-\$779,028	-\$771,096	-\$614,340	-\$204,276	-\$8,457	\$40,915		
			Ex-Vessel Value Δ %	-15.7%	-15.6%	-12.4%	-4.1%	-0.2%	0.8%		
			Local Personal Income Impact	\$6,988,311	\$7,001,605	\$7,264,341	\$7,951,641	\$8,279,850	\$8,362,601		
		Combined	Local Personal Income Impact	\$34,504,361	\$34,517,655	\$34,780,391	\$35,467,691	\$35,795,900	\$35,878,651		
		Contribution to Total Commercial Ex-Vessel Value by Fishery		Mainstem Gillnet	Spring Chinook	\$0	\$0	\$0	\$0	\$0	\$0
		Summer Chinook	\$102,540		\$102,540	\$102,540	\$102,540	\$102,540	\$102,540		
		Zone 4-5 Fall Chinook	\$1,885,867		\$1,885,867	\$1,885,867	\$1,885,867	\$1,885,867	\$1,885,867		
Coho	\$96,427	\$96,427	\$96,427		\$96,427	\$96,427	\$96,427				
Select Area Gillnet	Spring Chinook	\$996,017	\$1,092,537	\$1,222,113	\$1,594,665	\$1,745,000	\$1,745,000				
	Fall Chinook	\$219,083	\$213,480	\$221,779	\$259,290	\$304,774	\$354,146				
	Coho	\$788,774	\$705,789	\$724,671	\$724,671	\$724,671	\$724,671				
Mainstem Seine	Beach Chinook/Coho	\$8,534	\$8,534	\$8,534	\$8,534	\$8,534	\$8,534				
	Purse Chinook/Coho	\$22,453	\$22,453	\$22,453	\$22,453	\$22,453	\$22,453				
Mainstem Tangle Net	Coho	\$49,740	\$49,740	\$49,740	\$49,740	\$49,740	\$49,740				
Total Commercial				\$4,169,435	\$4,177,366	\$4,334,123	\$4,744,186	\$4,940,006	\$4,989,378		
Contribution to Total Sport Angler Trips by Fishery		Spring	Spring Chinook	115,469	115,469	115,469	115,469	115,469	115,469		
Summer	Summer Chinook	25,147	25,147	25,147	25,147	25,147	25,147				
Fall-Buoy 10	Fall Chinook/Coho	89,237	89,237	89,237	89,237	89,237	89,237				
Fall-Mainstem	Fall Chinook/Coho	120,922	120,922	120,922	120,922	120,922	120,922				
Total Sport				350,775	350,775	350,775	350,775	350,775	350,775		

<sup>a</sup> Model inputs for commercial allocations and allowable gears were adjusted to achieve no commercial economic loss when Select Area production enhancements are fully realized (2024).

-Select Area releases of Coho, tule CHF, and Select Area Bright CHF are capped at 5.255M, 3.875M, and 1.0M, respectively, due to Mitchell Act production limitations. Expected ex-vessel values were adjusted down accordingly effective 2020 return year.

-"Without Policy" angler trips and ex-vessel value represent the average number of trips and average ex-vessel value expected for 2013-2018 had the Harvest Reform Policy not been implemented. These averages are used as the baseline values for 2019-2024.

-Local Personal Income Impact is a measure of the impact to local economies in the Oregon/Washington region associated with angler trips in the lower Columbia River sport fishery (e.g. gas, food, lodging, guide fees, etc.), and the impact to local economies of lower Columbia River commercially landed salmon (e.g. value to processors, wholesalers, etc.). Sport and commercial value multipliers from the 2016 Input-Output Pacific Fisheries (I-O PAC) model were applied to total angler trips and ex-vessel value for the respective fisheries. Different multipliers were applied to estimated guided and non-guided angler trips in the sport fishery.

Option	Model Inputs	Fishery	Metric	2019	2020	2021	2022	2023	2024		
<b>Current Oregon Policy</b>	Spring allocation 80% sport/20% commercial (no pre-run update commercial buffer), with mainstem post-update tangle net fishery allowed if not all ESA impacts expected to be used in SAFE; Summer allocation 80% sport/20% commercial with alternative gear (assumes 0 value if no approved alternative gear); Fall LRH tule/URB allocation ≤70% sport/≥30% commercial with gillnets allowed in Zones 4-5; mark-selective beach and purse seine fishery at average value and frequency of occurrence during 2014-2018 (limited to ≤2% of commercial impacts used for most constraining stock); No Coho 6" gillnet fishery; mark-selective Coho tangle net fishery at average value and frequency of occurrence during 2013-2018; SAFE releases: CHS 3.7M (2022+ return), SAB 1.0M (Mitchell Act cap, 2023+ return), Coho 5.255M (Mitchell Act cap, 2021+ return)	Sport	Total Angler Trips	352,577	352,577	352,577	352,577	352,577	352,577		
			Without Policy Angler Trips	339,846	339,846	339,846	339,846	339,846	339,846		
			Angler Trip Δ	12,731	12,731	12,731	12,731	12,731	12,731		
			Angler Trip Δ %	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%		
			Local Personal Income Impact	\$27,661,696	\$27,661,696	\$27,661,696	\$27,661,696	\$27,661,696	\$27,661,696		
		Commercial	Total Ex-Vessel Value	\$3,762,010	\$3,769,942	\$3,926,698	\$4,336,762	\$4,532,581	\$4,581,953		
			Without Policy Ex-Vessel Value	\$4,948,463	\$4,948,463	\$4,948,463	\$4,948,463	\$4,948,463	\$4,948,463		
			Ex-Vessel Value Δ	-\$1,186,452	-\$1,178,521	-\$1,021,764	-\$611,701	-\$415,882	-\$366,509		
			Ex-Vessel Value Δ %	-24.0%	-23.8%	-20.6%	-12.4%	-8.4%	-7.4%		
			Local Personal Income Impact	\$6,305,434	\$6,318,728	\$6,581,464	\$7,268,764	\$7,596,973	\$7,679,725		
		Combined	Local Personal Income Impact	\$33,967,130	\$33,980,424	\$34,243,160	\$34,930,460	\$35,258,669	\$35,341,421		
		Contribution to Total Commercial Ex-Vessel Value by Fishery		Mainstem Gillnet	Spring Chinook	\$95,714	\$95,714	\$95,714	\$95,714	\$95,714	\$95,714
		Summer Chinook	\$0		\$0	\$0	\$0	\$0	\$0		
		Zone 4-5 Fall Chinook	\$1,581,695		\$1,581,695	\$1,581,695	\$1,581,695	\$1,581,695	\$1,581,695		
		Coho	\$0		\$0	\$0	\$0	\$0	\$0		
		Select Area Gillnet	Spring Chinook	\$996,017	\$1,092,537	\$1,222,113	\$1,594,665	\$1,745,000	\$1,745,000		
			Fall Chinook	\$219,083	\$213,480	\$221,779	\$259,290	\$304,774	\$354,146		
			Coho	\$788,774	\$705,789	\$724,671	\$724,671	\$724,671	\$724,671		
		Mainstem Seine	Beach Chinook/Coho	\$8,534	\$8,534	\$8,534	\$8,534	\$8,534	\$8,534		
			Purse Chinook/Coho	\$22,453	\$22,453	\$22,453	\$22,453	\$22,453	\$22,453		
Mainstem Tangle Net	Coho	\$49,740	\$49,740	\$49,740	\$49,740	\$49,740	\$49,740				
Total Commercial			\$3,762,010	\$3,769,942	\$3,926,698	\$4,336,762	\$4,532,581	\$4,581,953			
Contribution to Total Sport Angler Trips by Fishery		Spring	Spring Chinook	115,469	115,469	115,469	115,469	115,469	115,469		
	Summer	Summer Chinook	25,147	25,147	25,147	25,147	25,147	25,147	25,147		
	Fall-Buoy 10	Fall Chinook/Coho	90,002	90,002	90,002	90,002	90,002	90,002	90,002		
	Fall-Mainstem	Fall Chinook/Coho	121,959	121,959	121,959	121,959	121,959	121,959	121,959		
Total Sport			352,577	352,577	352,577	352,577	352,577	352,577	352,577		

-Select Area releases of Coho, tule CHF, and Select Area Bright CHF are capped at 5.255M, 3.875M, and 1.0M, respectively, due to Mitchell Act production limitations. Expected ex-vessel values were adjusted down accordingly effective 2020 return year.

-"Without Policy" angler trips and ex-vessel value represent the average number of trips and average ex-vessel value expected for 2013-2018 had the Harvest Reform Policy not been implemented. These averages are used as the baseline values for 2019-2024.

-Local Personal Income Impact is a measure of the impact to local economies in the Oregon/Washington region associated with angler trips in the lower Columbia River sport fishery (e.g. gas, food, lodging, guide fees, etc.), and the impact to local economies of lower Columbia River commercially landed salmon (e.g. value to processors, wholesalers, etc.). Sport and commercial value multipliers from the 2016 Input-Output Pacific Fisheries (I-O PAC) model were applied to total angler trips and ex-vessel value for the respective fisheries. Different multipliers were applied to estimated guided and non-guided angler trips in the sport fishery.

Option	Model Inputs	Fishery	Metric	2019	2020	2021	2022	2023	2024		
<b>Pre-Policy (2010-2012 base)</b>	Pre-Reform allocations using 2010-2012 averages; Spring 60% sport/40% commercial (pre-run update commercial buffer), with pre-update mainstem tangle net and post-update tangle net/gillnet allowed; Summer 50% sport/50% commercial with mainstem gillnets allowed; Fall LRH tule/URB 59% sport/41% commercial with gillnets allowed in Zones 4-5; Coho 6" gillnet fishery; SAFE releases at pre-Reform base levels: CHS 1.2M, SAB 1.45M, Coho 4.05M	Sport	Total Angler Trips	339,846	339,846	339,846	339,846	339,846	339,846		
			Without Policy Angler Trips	339,846	339,846	339,846	339,846	339,846	339,846		
			Angler Trip Δ	0	0	0	0	0	0		
			Angler Trip Δ %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
			Local Personal Income Impact	\$26,712,904	\$26,712,904	\$26,712,904	\$26,712,904	\$26,712,904	\$26,712,904		
		Commercial	Total Ex-Vessel Value	\$4,948,463	\$4,948,463	\$4,948,463	\$4,948,463	\$4,948,463	\$4,948,463		
			Without Policy Ex-Vessel Value	\$4,948,463	\$4,948,463	\$4,948,463	\$4,948,463	\$4,948,463	\$4,948,463		
			Ex-Vessel Value Δ	\$0	\$0	\$0	\$0	\$0	\$0		
			Ex-Vessel Value Δ %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
			Local Personal Income Impact	\$8,294,024	\$8,294,024	\$8,294,024	\$8,294,024	\$8,294,024	\$8,294,024		
		Combined	Local Personal Income Impact	\$35,006,928	\$35,006,928	\$35,006,928	\$35,006,928	\$35,006,928	\$35,006,928		
		Contribution to Total Commercial Ex-Vessel Value by Fishery		Mainstem Gillnet	Spring Chinook	\$487,115	\$487,115	\$487,115	\$487,115	\$487,115	\$487,115
		Summer Chinook	\$248,598		\$248,598	\$248,598	\$248,598	\$248,598	\$248,598		
		Zone 4-5 Fall Chinook	\$2,363,775		\$2,363,775	\$2,363,775	\$2,363,775	\$2,363,775	\$2,363,775		
		Coho	\$110,991		\$110,991	\$110,991	\$110,991	\$110,991	\$110,991		
		Select Area Gillnet	Spring Chinook	\$807,025	\$807,025	\$807,025	\$807,025	\$807,025	\$807,025		
			Fall Chinook	\$392,373	\$392,373	\$392,373	\$392,373	\$392,373	\$392,373		
			Coho	\$538,586	\$538,586	\$538,586	\$538,586	\$538,586	\$538,586		
		Mainstem Seine	Beach Chinook/Coho	\$0	\$0	\$0	\$0	\$0	\$0		
			Purse Chinook/Coho	\$0	\$0	\$0	\$0	\$0	\$0		
Mainstem Tangle Net	Coho	\$0	\$0	\$0	\$0	\$0	\$0				
Total Commercial			\$4,948,463	\$4,948,463	\$4,948,463	\$4,948,463	\$4,948,463	\$4,948,463			
Contribution to Total Sport Angler Trips by Fishery		Spring	Spring Chinook	109,138	109,138	109,138	109,138	109,138	109,138		
	Summer	Summer Chinook	22,350	22,350	22,350	22,350	22,350	22,350			
	Fall-Buoy 10	Fall Chinook/Coho	88,472	88,472	88,472	88,472	88,472	88,472			
	Fall-Mainstem	Fall Chinook/Coho	119,886	119,886	119,886	119,886	119,886	119,886			
Total Sport			339,846	339,846	339,846	339,846	339,846	339,846			

-"Without Policy" angler trips and ex-vessel value represent the average number of trips and average ex-vessel value expected for 2013-2018 had the Harvest Reform Policy not been implemented. These averages are used as the baseline values for 2019-2024.

-Local Personal Income Impact is a measure of the impact to local economies in the Oregon/Washington region associated with angler trips in the lower Columbia River sport fishery (e.g. gas, food, lodging, guide fees, etc.), and the impact to local economies of lower Columbia River commercially landed salmon (e.g. value to processors, wholesalers, etc.). Sport and commercial value multipliers from the 2016 Input-Output Pacific Fisheries (I-O PAC) model were applied to total angler trips and ex-vessel value for the respective fisheries. Different multipliers were applied to estimated guided and non-guided angler trips in the sport fishery.

Mark Rates in Columbia River Sport Fisheries  
For Policy Review Committee  
February 19, 2019

<b>Spring Chinook (LCR)</b>			
	Chinook	Chinook	
Year	Kept	Released	% Released
2010	29,247	5,355	15%
2011	11,694	3,154	21%
2012	13,332	3,476	21%
2013	6,950	2,666	28%
2014	15,728	6,776	30%
2015	19,586	5,052	21%
2016	12,666	3,776	23%
2017	9,047	943	9%
2018	7,509	1,530	17%
Average			21%

<b>Summer Chinook (LCR)</b>			
	Chinook	Chinook	
Year	Kept	Released	% Released
2010	2,539	1,328	34%
2011	5,160	2,771	35%
2012	2,897	2,558	47%
2013	1,832	1,508	45%
2014	1,980	2,703	58%
2015	5,928	1,491	20%
2016	3,080	4,170	58%
2017	3,516	2,248	39%
2018	1,027	750	42%
Average			42%

<b>Fall Chinook (B10+ LCR)</b>			
	Chinook	Chinook	
Year	Kept	Released	% Released
2010	24,133	2,426	9%
2011	39,088	6,984	15%
2012	40,988	12,750	24%
2013	54,473	26,016	32%
2014	53,124	23,192	30%
2015	77,060	28,224	27%
2016	42,913	9,912	19%
2017	54,536	9,045	14%
2018	21,422	5,916	22%
Average			21%

## Assumptions related to Select Area smolt production

Provided to the Joint-State Columbia River Salmon Fishery Policy Review Committee (PRC)

February 26 2019

### Oregon

Sites: Youngs Bay, Tongue Point/South Channel, and Blind/Knappa sloughs

Stocks: Spring Chinook, Select Area Bright fall Chinook, tule fall Chinook, and Coho

Production:

OREGON	Pre-Transition Harvest Reform				Transition Harvest Reform					Post-Transition Harvest Reform			
Stock	2010	2011	2012	Average	2013	2014	2015	2016	Average	2017	2018	2019 <sup>a</sup>	Average
Spring Chinook	1,172,197	1,056,669	1,124,255	<b>1,117,707</b>	1,509,159	1,646,624	1,606,482	1,850,963	<b>1,653,307</b>	1,805,731	2,135,115	2,347,409	<b>2,096,085</b>
Goal (%)	<b>1,200,000</b>			<b>93%</b>	<b>1,700,000</b>				<b>97%</b>	<b>1,950,000</b>		<b>3,450,000</b>	<b>86%</b>
SAB Fall Chinook	914,161	1,356,859	1,358,046	<b>1,209,689</b>	1,850,270	2,227,353	1,670,665	621,928	<b>1,592,554</b>	599,463	300,460	371,816	<b>423,913</b>
Goal (%)	<b>1,450,000</b>			<b>83%</b>	<b>1,950,000</b>				<b>82%</b>	<b>1,000,000</b>			<b>42%</b>
Tule Fall Chinook	6,042,154	5,187,736	5,569,479	<b>5,599,790</b>	4,942,539	4,482,875	7,239,507	5,893,586	<b>5,639,627</b>	2,312,352	3,936,732	4,581,218	<b>3,610,101</b>
Goal (%)	<b>5,700,000</b>			<b>98%</b>	<b>5,200,000</b>				<b>108%</b>	<b>5,200,000</b>	<b>4,675,000</b>	<b>4,650,000</b>	<b>75%</b>
Coho	3,109,678	2,964,009	3,032,821	<b>3,035,503</b>	3,771,737	3,934,432	3,890,319	4,513,486	<b>4,027,494</b>	3,879,526	4,870,000	5,050,000	<b>4,599,842</b>
Goal (%)	<b>3,270,000</b>			<b>93%</b>	<b>3,870,000</b>				<b>104%</b>	<b>4,870,000</b>	<b>5,050,000</b>	<b>4,480,128</b>	<b>96%</b>

<sup>a</sup> 2019 release goals reflect current Oregon Policy production targets of 3.45 million spring Chinook, 1.0 M SAB fall Chinook, and 4.48 million Coho. Out-year modelling assumes these targets will be met by 2020, 2021, and 2020, respectively.

Funding:

BPA – coho, spring Chinook, net pens

Mitchell Act – coho, tule fall Chinook,

Other Fund CBE – coho, spring Chinook

Other Fund License – coho, spring Chinook, SAB fall Chinook

General Fund/General Fund Reform - coho, SAB fall Chinook, net pens

Broodstock Sources:

Stock	Source Hatcheries				
	Willamette Basin	Big Creek	ODFW Klaskanine	CCF Klaskanine	Bonneville
Spring Chinook	X				
SAB fall Chinook			X	X	
Tule fall Chinook*		X	X		X
Coho**		X	X	X	

\*All production must be from local sources

\*\*All production must be from local stock by 2020

**Washington**

Sites: Deep River

Stocks: Spring Chinook and Coho

Production:

WASHINGTON	Pre-Transition Harvest Reform				Transition Harvest Reform					Post-Transition Harvest Reform			
	2010	2011	2012	Average	2013	2014	2015	2016	Average	2017	2018	2019 <sup>a</sup>	Average
Stock	363,000	234,000	405,000	<b>334,000</b>	320,000	0	0	0	<b>80,000</b>	0	170,000	225,000	<b>131,667</b>
Spring Chinook <sup>b</sup>													
Goal (%)	<b>350,000</b>			<b>95%</b>	<b>250,000</b>			<b>32%</b>	<b>250,000</b>			<b>53%</b>	
Tule Fall Chinook <sup>c</sup>	700,000	862,000	893,000	<b>818,333</b>	2,620,000	930,000	975,000	875,000	<b>1,350,000</b>	910,000	0	0	<b>303,333</b>
Goal (%)	<b>700,000</b>			<b>117%</b>	<b>875,000</b>			<b>154%</b>	<b>1,000,000</b>	<b>0</b>		<b>91%</b>	
Coho <sup>d</sup>	747,000	692,000	800,000	<b>746,333</b>	600,000	725,000	654,000	920,000	<b>724,750</b>	855,000	723,000	700,000	<b>759,333</b>
Goal (%)	<b>750,000</b>			<b>100%</b>	<b>950,000</b>			<b>76%</b>	<b>950,000</b>	<b>700,000</b>		<b>97%</b>	

<sup>a</sup> 2019 release goals reflect current Washington production targets of 0.25 million spring Chinook and 0.7 million Coho. Out-year modelling assumes these targets will be met by 2020.

<sup>b</sup> Due to poor returns, spring Chinook production was discontinued at Deep River in 2014 and relocated to Cathlamet Channel during 2014-2018. Due to poor returns at Cathlamet Channel, production was reinstated at Deep River starting with sub-yearling releases in 2018. Therefore, releases of 200,000, 141,000, 108,000, 120,000, and 260,000 spring Chinook from Cathlamet Channel during 2014-2018 are not included since they did not contribute to a Select Area fishery.

<sup>c</sup> Tule fall Chinook production discontinued in 2018 due to Mitchell Act BIOP.

<sup>d</sup> Deep River net pen releases. Coho production shifted from early to late stock starting with 2018 releases.

Funding:

BPA – Coho

Mitchell Act – Coho

State funding – Spring Chinook/coho

Broodstock Sources:

Stock	Source Hatcheries				
	Kalama	Cowlitz	Grays	Beaver Creek	Lewis, Kalama, Toutle
Spring Chinook	X	X			
Coho			X	X	X

Note: Coho broodstock will only be from Grays/Beaver Creek hatcheries in the future.

Adapted from *Summary and Analysis of Columbia River Harvest Reform Activities 2009-2017* (ODFW 2019).

### Assessment of Youngs Bay Closure Zone

The Youngs Bay Closure Zone (YBCZ), also known as Control Zone, is an area at the mouth of Youngs Bay that is closed to recreational fishing during August 1 to September 15. It was established in 2014 by the Oregon Fish and Wildlife Commission as a result of Harvest Reform-related legislation (Senate Bill 830) passed by the 2013 Oregon Legislature. The closure is intended to increase the number of hatchery salmon (Select Area Bright (SAB) fall Chinook and Coho) returning to the Youngs Bay Select Area by reducing the number of fish intercepted by recreational anglers.

The YBCZ includes waters north of the Hwy 101 Bridge to a line projected from the east end of the seawall at the Warrenton Fiber log yard, northeasterly through four green navigational buoys, to the Astoria-Megler Bridge abutment adjacent to, and north, of the ship channel. The control zone is bordered on the upstream end (heading up the Columbia) by the center of the Astoria-Megler Bridge (Figure 1).



Figure 1. Detailed view of the Youngs Bay Closure (Control) Zone.

The YBCZ encompasses approximately 4.7 mi<sup>2</sup>, which constitutes about 4% of the fishable area available to the popular Buoy 10 recreational fishery (Figure 2). The Buoy 10 fishery extends



from August 1 into the month of October, although most of the angling effort occurs in August and early September.



Figure 2. Buoy 10 recreational fishery area and Youngs Bay Closure Zone.

We attempted to assess the effectiveness of the YBCZ in meeting its objective of reducing recreational harvest of SAB fall Chinook by analyzing recreational and commercial harvest, as well as harvest shares for this stock. SAB harvest was based on analysis of CWT data from the respective fisheries.

Harvest shares of adult SAB fall Chinook for the Buoy 10 sport and Youngs Bay commercial fisheries have fluctuated over the last 18 years, but the Buoy 10 share of the SAB harvest has trended upward since 2009 (Figure 3). This increase in the Buoy 10 harvest share does not appear to be positively associated with the strength of the SAB return, and in recent years, the Buoy share of SAB harvest has been high at relatively low returns. Average harvest of SABs in the Buoy 10 fishery increased between the 4-year period just before implementation of the YBCZ (2010-2013) and the 4-year period after implementation (2014-2017), while the average SAB harvest in the Youngs Bay commercial fishery decreased (Table 1). The average Buoy 10 share of SAB harvest also doubled from 21% to 42% between the pre- and post-implementation years. During this time, the average SAB return decreased, but average angler effort in the Buoy 10 fishery increased substantially. Figure 4 shows a moderately strong positive relationship ( $R^2 = 0.44$ ) between Buoy 10 angler effort and the Buoy 10 share of SAB harvest during 2000-2017.

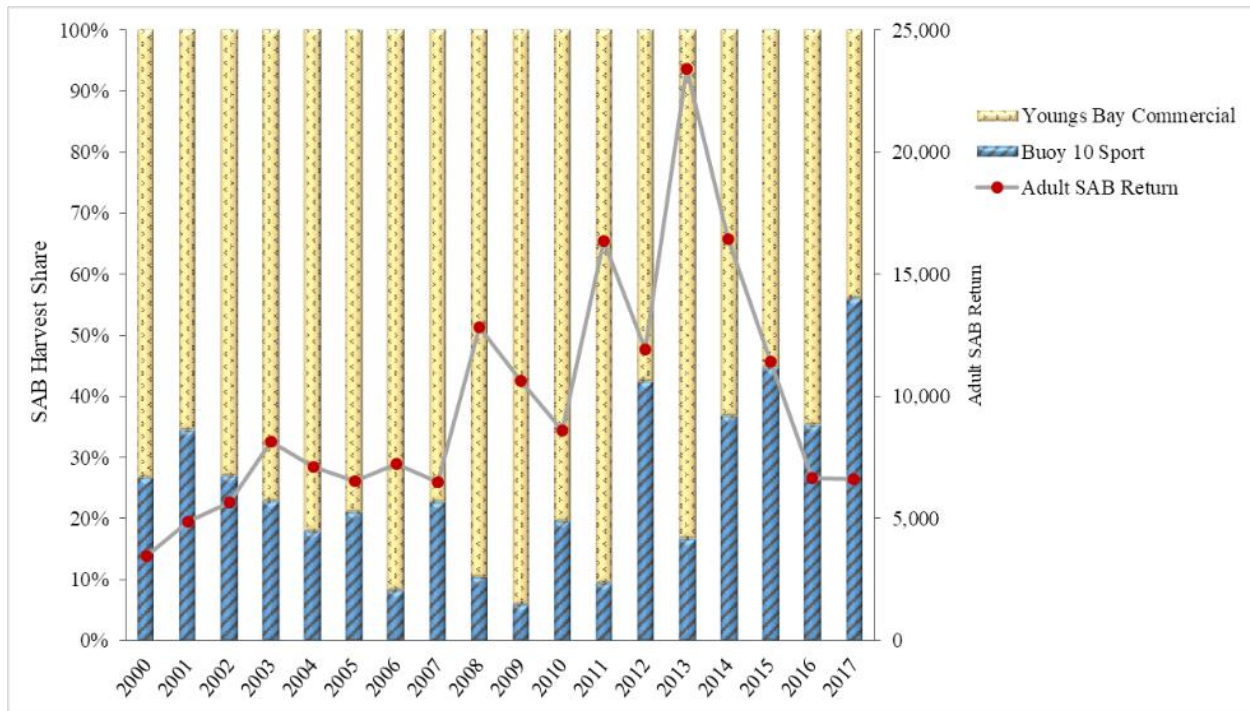


Figure 3. Harvest shares of adult SAB fall Chinook for the Youngs Bay Select Area commercial fishery and the Buoy 10 sport fishery compared to SAB returns, 2000-2017.

Table 1. Harvest and harvest shares of adult SAB fall Chinook for the Buoy 10 sport fishery and Youngs Bay Select Area commercial fishery, 2000-2017.

Year	Adult SAB Return	Buoy 10 Angler Trips	SAB Harvest		SAB Harvest Share	
			Buoy 10 Sport	Youngs Bay Commercial	Buoy 10 Sport	Youngs Bay Commercial
2000	3,472	72,518	428	1,181	27%	73%
2001	4,862	125,829	850	1,624	34%	66%
2002	5,681	84,434	694	1,873	27%	73%
2003	8,134	88,827	1,004	3,391	23%	77%
2004	7,097	68,818	465	2,137	18%	82%
2005	6,551	55,183	769	2,884	21%	79%
2006	7,232	40,608	238	2,638	8%	92%
2007	6,493	36,064	932	3,180	23%	77%
2008	12,854	32,467	836	7,192	10%	90%
2009	10,629	72,803	334	5,399	6%	94%
2010	8,617	52,300	901	3,730	19%	81%
2011	16,358	49,409	996	9,623	9%	91%
2012	11,935	65,070	3,728	5,085	42%	58%
2013	23,393	65,767	2,320	11,591	17%	83%
2014	16,462	107,522	3,893	6,697	37%	63%
2015	11,440	108,213	3,527	4,376	45%	55%
2016	6,676	94,950	1,498	2,758	35%	65%
2017	6,617	93,547	2,957	2,328	56%	44%
2010-2013 Avg	15,076	58,137	1,986	7,507	21%	79%
2014-2017 Avg	10,299	101,058	2,969	4,040	42%	58%

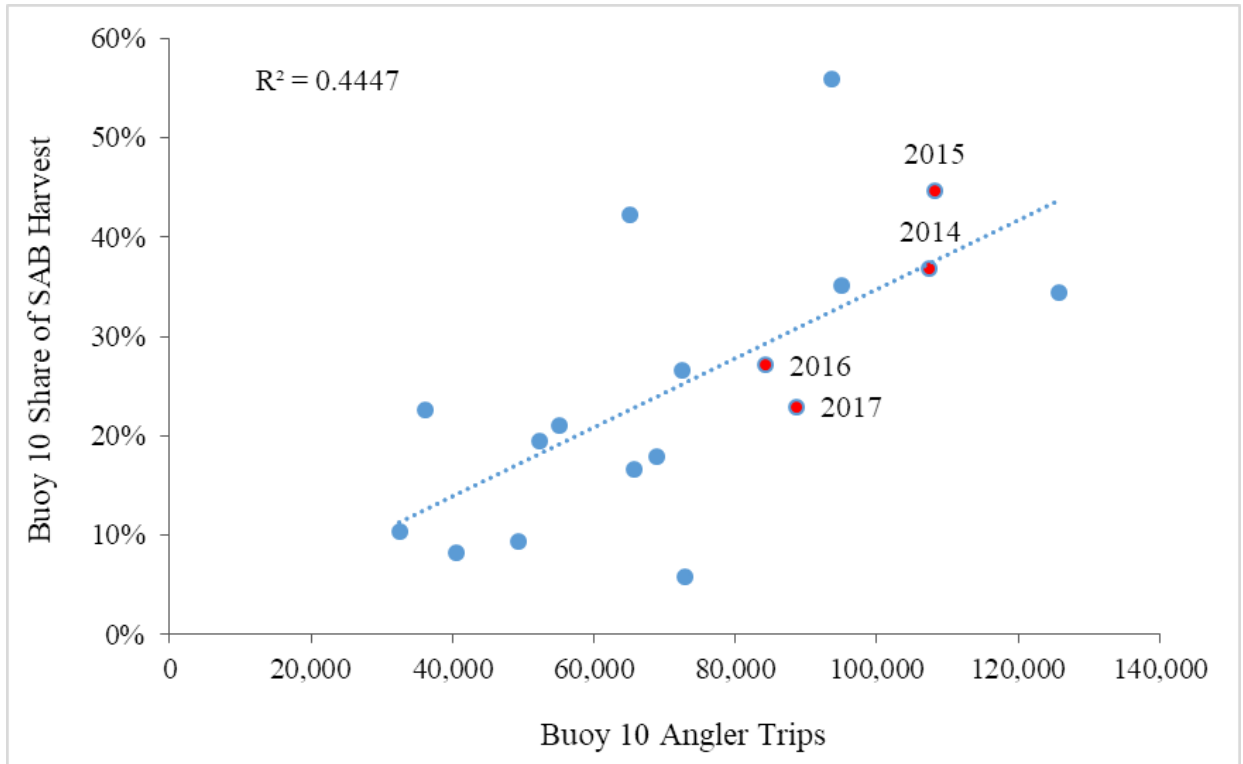


Figure 4. Relationship between angler effort in the Buoy 10 fishery and the Buoy 10 share of the adult SAB fall Chinook harvest, 2000-2017 (2014-2017 data points highlighted to indicate years when YBCZ was in effect).

Overall, it is difficult to accurately assess the effectiveness of the YBCZ. Although the Buoy 10 SAB harvest and harvest share actually increased after implementation of the closure area in 2014, this may have been due to other confounding factors. During 2014-2017, there was a significant increase in angler effort in the Buoy 10 fishery, and in recent years, anglers accustomed to the large Chinook returns in 2014 and 2015 have been fishing in greater numbers during the first half of August, when SABs are more abundant in the fishery area. These changes in the dynamics of the Buoy 10 fishery may have overwhelmed any reduction in SAB harvest that might have been attributed to the YBCZ. It is also possible that the YBCZ may have tempered what could have been an even greater increase in the Buoy 10 share of the SAB harvest had the closure area not existed.

# FISH AND WILDLIFE COMMISSION

## POLICY DECISION

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**POLICY TITLE:** Columbia River Basin  
Salmon Management

**POLICY NUMBER:** C-3620

Cancels or  
Supercedes: C-3617, 2009

Effective Date: January 14, 2017  
Termination Date: December 31, 2023  
C-3620, 2013  
Approved by:



Chair, Washington Fish and Wildlife Commission

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### **Purpose**

The objectives of this policy are to promote orderly fisheries (particularly in waters in which the states of Washington and Oregon have concurrent jurisdiction), advance the conservation and recovery of wild salmon and steelhead, and maintain or enhance the economic well-being and stability of the fishing industry in the state.

### **Definition and Intent**

This policy is applicable to the management by the Washington Department of Fish and Wildlife (Department) of Pacific salmon (spring Chinook, summer Chinook, fall Chinook, sockeye, chum, and coho) fisheries in the mainstem of the Columbia River and the Snake River.

### **General Policy Statement**

This policy provides the Department a cohesive set of guiding principles and a progressive series of actions to improve the management of salmon in the Columbia River basin. The actions will be evaluated and, as appropriate, progressively implemented in a transitional period occurring from 2013 through 2016. There is uncertainty in this presumptive path forward, including the development and implementation of alternative selective fishing gear, securing funding for enhanced hatchery production, and the expansion or development of off-channel fishing areas. Consequently, the Commission recognizes that management decisions in the transitional period, and subsequent years, must be informed by fishery monitoring (biological and economic) and may be modified as necessary to meet the stated purpose of this policy.

The Department will promote the conservation and recovery of wild salmon and steelhead and provide fishery-related benefits by maintaining orderly fisheries and by increasingly focusing on the harvest of abundant hatchery fish. The Department will seek to implement mark-selective salmon and steelhead fisheries, or other management approaches that are at least as effective, in achieving spawner and broodstock management objectives.

Fishery and hatchery management measures should be implemented as part of an “all-H” strategy that integrates hatchery, harvest, hydro-system and habitat actions. Although it focuses on hatchery and harvest reform, this policy in no way diminishes the significance of habitat and hydro-system protection and restoration.

In implementing the policy guidelines, the Department will work with the tribes in a manner that is consistent with *U.S. v. Washington* and *U.S. v. Oregon* and other applicable state and federal laws and agreements.

### **Guiding Principles**

The Department will apply the following principles in the management of salmon fisheries in the Columbia River:

1. Promote the recovery of Endangered Species Act (ESA)-listed species and the conservation of wild stocks of salmon and steelhead in the Columbia River and ensure that fisheries and hatcheries are operated in a manner consistent with the provisions of the ESA.
2. Continue leadership on fish recovery actions, including improved fish survival through the Columbia River hydropower system, improved habitat conditions in the tributaries and estuary, hatchery reform, reduced predation by fish, birds, and marine mammals, and harvest management that meets conservation responsibilities.
3. Continue to meet the terms of *U.S. v. Oregon* management agreements with Columbia River Treaty Tribes.
4. Meet Colville tribal subsistence and ceremonial needs consistent with agreements with the Confederated Tribes of the Colville Reservation.
5. Provide Wanapum Band fishing opportunity consistent with RCW 77.12.453 (“Salmon fishing by Wanapum (Sokulk) Indians”).
6. In a manner that is consistent with conservation and does not impair the resource, seek to enhance the overall economic well-being and stability of Columbia River fisheries.
7. Subject to the adaptive management provisions of this Policy, for steelhead and salmon, prioritize recreational fisheries in the mainstem and commercial fisheries in off-channel areas of the lower Columbia River.
8. Subject to the adaptive management provisions of this Policy, and after thorough evaluation, seek to phase out the use of non-selective gill nets in non-tribal commercial fisheries in the mainstem Columbia River, and transition gill net use to off-channel areas.
9. In a manner consistent with the Department’s licensing authorities, develop and implement alternative selective-fishing gear and techniques for commercial mainstem

fisheries to optimize conservation and economic benefits. Provide incentives to commercial fishers to develop and implement these gear and techniques.

10. Enhance the economic benefits of off-channel commercial fisheries in a manner consistent with conservation and wild stock recovery objectives.
11. Seek to maintain consistent and concurrent policies between Oregon and Washington related to management of non-tribal Columbia River fisheries.
12. Develop a program that seeks to implement Marine Stewardship Council or other certification of salmon fisheries in the Columbia River as sustainably managed fisheries.

### **General Provisions**

The Department will implement the following actions to promote the achievement of the purpose of this policy.

1. Gill Net License Buyback Program. Aggressively pursue the development (with Oregon) of a program to buyback non-tribal gill net permits for the Columbia River and implement that program as soon as the appropriate authority and financing is secured. Efforts should be made to also develop, evaluate, and implement other tools (e.g., minimum landing requirements) to reduce the number of gillnet permits.
2. Development and Implementation of Alternative Selective Gear. The Department will investigate and promote the funding, development, testing, and implementation of alternative selective gear with a target date for full implementation of 2019. The development and implementation of alternative selective gear such as traps, purse seines and beach seines should provide area-specific opportunity to target fishery harvests on abundant hatchery stocks, reduce the number of hatchery-origin fish in natural spawning areas, limit mortalities of non-target species and stocks, and provide commercial fishing opportunities. To facilitate the timely development of and transition to alternative selective gear and techniques, Washington should work with Oregon to develop incentives for those commercial fishers who agree to use these gear and techniques. The Department shall provide the Commission in December 2017 with a proposed approach for providing incentives to commercial fishers to promote the transition to alternative selective gear.
3. Development and Implementation of Alternative Selective Gear in Long Term. Subject to available legal authorities and the adaptive management provisions of this Policy, and after thorough evaluation, non-tribal mainstem commercial fisheries should be restricted to the use of alternative selective gear and fishing techniques beginning in 2017. With respect to Upriver Bright fall Chinook, the presumptive path forward regarding targeted commercial harvest upstream of the Lewis River is to access these Chinook with alternative selective gear and techniques. Because the alternative gear is not yet fully implemented, the



presumptive path allows for a gill net fishery upstream from the Lewis River in 2017 and 2018 to provide access to Upriver Bright fall Chinook. Because access to Upriver Bright fall Chinook is critically important to ensuring the long-term economic health of commercial fishers, adaptive management will be used to ensure available gear types and techniques are effective and that commercial fishers continue to have profitable mainstem access to these important salmon stocks.

4. Additional Opportunities for Mainstem Commercial Fisheries in the Transition Period. During the transition period, opportunities for additional mainstem commercial fishing directed at Upriver Bright fall Chinook and hatchery coho salmon using alternative selective gear, or gill nets if alternative selective gear is not available and practical, may be provided under the following conditions:
  - a. If mainstem recreational fisheries are predicted to be unable to fully use their shares of ESA-impacts or harvestable surplus, or
  - b. If reasonable goals<sup>1</sup> for mainstem recreational fisheries are predicted to be met, or
  - c. If alternative selective gear programs, off channel fishing opportunities, or other commercial fishing program elements of this Policy are unable to provide the anticipated catch and economic expectations to the commercial salmon fishing industry.
  
5. Additional Opportunities for Mainstem Commercial Fisheries in the Long Term. After the transition period, opportunities for additional mainstem commercial fishing directed at Upriver Bright fall Chinook, lower river hatchery fall Chinook, and hatchery coho salmon may be provided under the following conditions:
  - a. If mainstem recreational fisheries are predicted to be unable to fully use their shares of ESA-impacts or harvestable surplus, or
  - b. If reasonable goals for mainstem recreational fisheries are predicted to be met, or
  - c. As needed to remove lower river hatchery tule Chinook and coho consistent with conservation objectives, or
  - d. If alternative selective gear programs, off channel fishing opportunities, or other commercial fishing program elements of this Policy are unable to provide the anticipated catch and economic expectations to the commercial salmon fishing industry.

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<sup>1</sup> See Appendix B of Mainstem Strategies for Columbia River recreational and Commercial Fisheries: 2013 and Beyond. Recommendation of the Columbia River Fishery Management Workgroup to the Fish and Wildlife Commissions of Oregon and Washington. November 21, 2012.

6. Off-Channel Commercial Fishing Sites. Seek funding (with Oregon) to evaluate the feasibility of establishing new off-channel sites. Seek funding to invest in the infra-structure and fish rearing and acclimation operations necessary to establish new off-channel sites in Washington, as identified by evaluations completed during the transition period.
7. Barbless Hooks. Implement in 2013 the use of barbless hooks in all mainstem Columbia River and tributary fisheries for salmon and steelhead.
8. Logbooks. Evaluate the benefits of requiring licensed recreational fishing guides and charters to maintain and use logbooks. Logbook reporting could provide fishery managers with additional catch and harvest data on guided salmon, steelhead, sturgeon fishing trips on the Columbia River. In addition, evaluate the use of volunteer trip reports in private boat fisheries.
9. Enhance Fishery Management. Because implementation of this policy will change the current management of fisheries and because run-size forecasts play a vital role in shaping fisheries, two enhancements will be put in place during the transition period.
  - a. Increase Management Certainty. Increase management certainty, and ensure conservation effectiveness by: implementing outreach programs to increase compliance with recreational fishing rules; seeking means to increase the effectiveness of enforcement programs; and conducting enhanced fishery monitoring that more accurately accounts for harvest and fishing-related mortality. In 2017 and 2018, the Department shall estimate the encounters of sturgeon and steelhead in the gill net fishery upstream of the Lewis River through onboard or other field methods, with particular respect to Group B steelhead. In addition, the Department shall seek funding to improve estimates of salmon release mortality in recreational mark-selective fisheries during the summer and early fall months when water temperatures are high.
  - b. Improve Management Tools. Explore and develop alternative approaches to improve: pre-season forecasts of run size and timing; in-season updates of run-size estimates; and in-season estimates of the harvest impacts by fishery.

### **Spring Chinook Salmon**

The presumptive path for the management of spring Chinook salmon fisheries is summarized in Appendix Table A. Subject to the adaptive management provisions of this policy, the Department will manage spring Chinook salmon fisheries consistent with the Guiding Principles and the following objectives:

1. The Department will exercise in-season management flexibility to utilize the non-Indian upriver spring Chinook impact allocation to meet the objectives of both



fisheries, i.e., upriver impact sharing adjustments in response to in-season information pertaining to catch and run size.

2. **Fishery Management Buffer.** To account for uncertainties in the information used to plan and implement fisheries, a management buffer in fishery structure will be established and applied to fisheries occurring prior to the run size update (primarily in March and April). The buffer is intended to be sufficient to cover potential run-size forecasting error and ensure compliance with ESA requirements and *U.S. v. Oregon* allocation provisions. Prior to the run size update, the Department will manage non-treaty fisheries for a run size that is 70% of the pre-season forecast (30% buffer) or other fishery management buffer as agreed through *U.S. v. Oregon*. During the transition period, the overall buffer will be achieved by applying: a fishery management buffer of 20% of the sport fishery impact to the sport fishery; and a fishery management buffer of 40% of the commercial fishery impact to the commercial fishery.
3. **Recreational-Commercial Allocation During Transition Period (2013-2016).** In 2013, the Department will assign 65% of the ESA-impact for upriver spring Chinook stocks to mainstem recreational fisheries and the balance (35%) to off-channel and mainstem commercial fisheries.

During 2014-16, the Department will assign 70% of the ESA-impact for upriver spring Chinook stocks to mainstem recreational fisheries and the balance (30%) to off-channel and mainstem commercial fisheries

4. **Recreational-Commercial Allocation in Long Term (2017 and Beyond).** The Department will assign 80% of the ESA-impact to mainstem recreational fisheries to meet management objectives and the balance (20%) to commercial fisheries for use in off-channel areas. The commercial fishery ESA-impact share will not be subject to the pre-run-size update buffer in the off-channel areas.
5. The Department will ensure broad geographic distribution of recreational fishing opportunity in the main-stem Columbia River including the Snake River. Seventy-five percent (75%) of the impacts allocated to the sport fisheries will be assigned to the sport fishery downstream from Bonneville Dam. Twenty-five percent (25%) will be assigned and reserved for the sport fishery upstream from Bonneville Dam. After the run-size update, the Department will place the highest sport fishery priority on providing for a sport fishery upstream from Bonneville Dam. .
6. The Department will provide to the Commission each year a briefing on the effectiveness of fishery management actions in meeting spring Chinook recreational fishery allocation objectives throughout the Columbia River basin. The Commission may consider changes to the recreational allocation in this policy in the future to balance recreational fishery objectives in the areas below Bonneville Dam, above Bonneville Dam, and in the Snake River.

7. Without compromising the objectives for recreational fisheries upstream of Bonneville Dam, the Department will seek in the long-term to extend recreational fishing opportunity downstream of Bonneville Dam as long into April as possible, with a high probability of an uninterrupted 45-season beginning March 1.

**Summer Chinook Salmon**

The presumptive path for the management of summer Chinook salmon fisheries is summarized in Appendix Table B. Subject to the adaptive management provisions of this policy, the Department will manage summer Chinook salmon fisheries consistent with the Guiding Principles and the following objectives:

1. The Department will manage the upper Columbia summer Chinook populations for sustainable natural production and for the artificial production programs that are necessary to meet mitigation requirements and provide conservation safeguards.
2. The Department will manage for population specific performance goals for Wenatchee, Methow and Okanogan natural populations, and for hatchery escapement goals.
3. Non-treaty Sharing Above and Below Priest Rapids Dam. The highest priority for state managed summer Chinook fisheries is recreational fishing opportunity above Priest Rapids Dam. In light of the changing abundance of summer Chinook, the Department will adjust the allocation of the non-treaty (including the Confederated Tribes of the Colville Reservation) harvest assigned to fisheries above Priest Rapids Dam to be consistent with the following guidelines:

River-mouth run size	Percent of non-treaty allocation assigned to fisheries above Priest Rapids Dam
0 – 29,000	>90%
29,001 – 50,000	90%
50,001 – 60,000	70% - 90%
60,001 – 75,000	65% - 70%
75,001 – 100,000	60% - 65%
>100,000	60%

4. Nontreaty Sharing Below Priest Rapids Dam. The harvestable surplus available for nontreaty fisheries below Priest Rapids Dam will be allocated as follows:
  - a. Through 2014, assign 60% of the nontreaty harvestable surplus to mainstem recreational fisheries and the balance (40%) to mainstem commercial fisheries.

- b. Beginning in 2015 and for the remainder of the transition period (through 2016), assign 70% of the harvestable surplus to the recreational fisheries and the balance (30%) to commercial fisheries.
  - c. Beginning in 2017, assign 80% of the harvestable surplus to the recreational fishery and the balance (20%) to the commercial fishery. Of the commercial share, up to 75% may be used for mainstem fisheries using non-gill net selective gear and fishing techniques (currently undetermined) that minimize impacts on sturgeon, steelhead, and sockeye. If the commercial share is unlikely to be used, transfer the allocation to the recreational fishery upstream of Bonneville Dam (if it can be utilized) or to aid spawning escapement.
5. Provide for in-season management flexibility to utilize the non-treaty summer Chinook harvest to meet the objectives of all fisheries.

### **Sockeye Salmon**

Subject to the adaptive management provisions of this policy, the Department will manage sockeye salmon fisheries consistent with the Guiding Principles and the following objectives:

1. During 2013-2016, assign 70% of the ESA-impact for Snake River sockeye to mainstem recreational fisheries and the balance (30%) to mainstem commercial fisheries for incidental harvest of sockeye in Chinook-directed fisheries.
2. Beginning in 2017, assign approximately 80% of the ESA-impact for Snake River sockeye to mainstem recreational fisheries to meet management objectives and the balance (approximately 20%) to mainstem commercial fisheries for incidental harvest of sockeye in Chinook-directed fisheries.
3. If NOAA Fisheries increases the allowable ESA-impact for Snake River sockeye, the Department will provide opportunities for increased commercial harvest using alternative selective gear if developed and practical, within the constraints of achieving escapement objectives for other sockeye populations in the Columbia River Basin.

### **Tule Fall Chinook Salmon**

The presumptive path for the management of tule fall Chinook salmon fisheries is summarized in Appendix Table C. Subject to the adaptive management provisions of this policy, the Department will manage tule fall Chinook fisheries consistent with the Guiding Principles and the following objectives:

1. During 2013-2016, the Department will assign no more than 70% of the ESA-impact for lower Columbia River tule fall Chinook to mainstem recreational fisheries to meet management objectives and the balance (not less than 30%) to: off-channel commercial fisheries; mainstem commercial fisheries that target Upriver Bright fall Chinook; and, if selective gear is developed during the transition

period, mainstem commercial fisheries that harvest Washington Lower River Hatchery Chinook to help reduce strays.

2. In 2017 and 2018, the Department will assign no more than 75% of the ESA-impact for lower Columbia River tule fall Chinook to mainstem recreational fisheries to meet management objectives and the balance (not less than 25%) to: off-channel commercial fisheries; mainstem commercial fisheries that target Upriver Bright fall Chinook upstream of the Lewis River; and mainstem commercial fisheries that harvest Washington Lower River Hatchery Chinook with selective gear to help reduce strays.
3. Beginning in 2019, the Department will assign no more than 80% of the ESA-impact for lower Columbia River tule fall Chinook to mainstem recreational fisheries to meet management objectives and the balance (not less than 20%) to: off-channel commercial fisheries; mainstem commercial fisheries that target Upriver Bright fall Chinook; and mainstem commercial fisheries that harvest Washington Lower River Hatchery Chinook with selective gear to help reduce strays.
4. The Department will seek to achieve the following recreational fisheries objectives:
  - a. Buoy 10 season – August 1 to Labor Day
  - b. Tongue Point to Warrior Rock season – August 1 to September 7 as non-mark-selective and September 8-14 as mark-selective
  - c. Warrior Rock to Bonneville Dam season – August 1-October 31.

### **Upriver Bright Fall Chinook Salmon**

The presumptive path for the management of Upriver Bright fall Chinook salmon fisheries is summarized in Appendix Table D. Subject to the adaptive management provisions of this policy, the Department will manage Upriver Bright fall Chinook fisheries consistent with the Guiding Principles and the following objectives:

1. During 2013-2016, the Department will assign no more than 70% of the ESA-impact for Snake River Wild fall Chinook to mainstem recreational fisheries to meet management objectives and the balance (not less than 30%) to off-channel and mainstem commercial fisheries.
2. In 2017-2018, the Department will assign no more than 75% of the ESA-impacts for Snake River Wild fall Chinook to mainstem recreational fisheries to meet management objectives and the balance (not less than 25%) to off-channel and mainstem commercial fisheries upstream of the Lewis River.
3. Beginning in 2019, the Department will assign no more than 80% of the ESA-impact for Snake River Wild fall Chinook to mainstem recreational fisheries to meet management objectives and the balance (not less than 20%) to off-channel and mainstem commercial fisheries.

4. a) The Department will allow mainstem commercial gill net fisheries to target Upriver Bright fall Chinook in the area upstream of the Lewis River in 2017 and 2018 where the incidental take of lower river tule Chinook is reduced;
- b) Harvest of Upriver Bright fall Chinook in the area downstream from the Lewis River will occur in selective fisheries that target Washington Lower River Hatchery Chinook and coho.
5. The presumptive path forward regarding targeted commercial harvest of Upriver Bright fall Chinook upstream of the Lewis River will be to access available Chinook with alternative selective gear and techniques. Because access to Upriver Bright fall Chinook will be important to ensuring the long-term economic viability of commercial fishers, adaptive management will be used to ensure alternative selective gear and techniques are effective and that commercial fishers continue to have profitable mainstem access to these economically important salmon stocks.

### **Coho Salmon**

The presumptive path for the management of coho salmon fisheries is summarized in Appendix Table E. Subject to the adaptive management provisions of this policy, the Department will manage coho fisheries consistent with the Guiding Principles and the following objectives:

1. During 2013-2016, the Department will assign: commercial fisheries a sufficient share of the ESA-impact for Lower Columbia Natural coho to implement off-channel coho and fall Chinook fisheries and mainstem fall Chinook fisheries; and the balance to in-river mainstem recreational fisheries (currently in-river mainstem recreational fisheries are assigned a sufficient share of the allowable incidental-take of ESA-listed coho to meet fishery objectives). If these fisheries are expected to be unable to use all of the ESA-impact for Lower Columbia Natural coho, the Department will assign the remainder to mainstem commercial coho fisheries. As selective techniques and alternative gear are developed, the Department will provide additional commercial mainstem coho fisheries with an emphasis on harvesting hatchery coho in October when wild coho are less abundant.
2. Beginning in 2017, the Department will assign: commercial fisheries a sufficient share of the ESA-impact for Lower Columbia Natural coho to implement off-channel coho and fall Chinook fisheries and mainstem fall Chinook fisheries; and the balance to in-river mainstem recreational fisheries. If these fisheries are unable to use all of the ESA-impact for Lower Columbia Natural coho, the Department will assign the remainder to mainstem commercial coho fisheries. It is expected that substantial new opportunities for selective mainstem commercial fisheries will be available for hatchery coho, particularly in October.

## **Chum Salmon**

The Department will maintain the current practice of opening no fisheries that target chum salmon and assign commercial fisheries a sufficient share of the ESA-impact for chum to implement off-channel and mainstem fisheries targeting other salmon species (retention in recreational fisheries is currently prohibited).

## **Adaptive Management**

The Commission recognizes that appendix tables A-E describe a presumptive path forward for salmon fishery management in the Columbia Basin. Uncertainty exists in some aspects of the presumptive path, including the development and implementation of alternative selective fishing gear, the securing of funding for enhanced hatchery production, and the expansion or development of off-channel fishing areas. Under these conditions, adaptive management procedures will be essential to achieve the purpose of this policy. As indicated in the General Policy statement, management actions will be evaluated and, as appropriate, implemented in a progressive manner.

The Commission will track implementation and results of the fishery management actions and artificial production programs in the lower Columbia River during the transition period, with annual reviews beginning at the end of 2013 and a comprehensive review at the end of the transition period (e.g., 2016) and at the end of 2018. State-managed fisheries pursuant to this Policy will be adaptive and adjustments may be made to mainstem fisheries if policy objectives, including catch or economic expectations for commercial or recreational fisheries, are not achieved consistent with the principles of this plan. If these expectations are not achieved, efforts will be made to determine why and to identify actions necessary to correct course. Department staff may implement actions necessary to manage adaptively to achieve the objectives of this policy and will coordinate with the Commission, as needed, in order to implement corrective actions. Reconsideration of state-managed mainstem fisheries may take place under the following circumstances:

1. Lower than anticipated catch and economic expectations to the commercial salmon fishing industry, or
2. Insufficient space within off-channel sites to accommodate the commercial fleet, or
3. Biological, fiscal and/or legal circumstances that delay or preclude implementation of alternative selective gear, buyback of commercial fishing permits, and/or additional off-channel hatchery investments, or
4. Management objectives are not achieved for commercial or recreational fisheries, or
5. Conflicts with terms of *U.S. v Oregon* management agreements with Columbia River Tribes, or
6. Failure to meet conservation objectives.

Planned enhancements of salmon and steelhead production upstream from Bonneville Dam may have implications to harvest management contemplated in this plan. For production enhancements that come on-line and produce adult salmon on or after 2017, Oregon and Washington staff should evaluate the implications of the increased mainstem production on these harvest strategies, including *U.S. v. Oregon* harvest agreements, and make additional recommendations to the Commission as needed, consistent with the guiding principles.

### **Delegation of Authority**

The Commission delegates the authority to the Director, through the Columbia River Compact and North of Falcon stakeholder consultation process, to set seasons for recreational and commercial fisheries in the Columbia River, to adopt permanent and emergency regulations to implement these fisheries, and to make harvest agreements with treaty tribes and other government agencies. The Director will work with the Oregon Department of Fish and Wildlife to achieve implementation of this Commission action in a manner that results in concurrent regulations between the two states. The Director will consult with the Commission Chair if it becomes necessary to deviate from the Commission's policy to achieve concurrent regulations with Oregon.

**Appendix A.** Tabular Summary of the Presumptive Management Framework for Non-Tribal Mainstem Columbia River Recreational and Commercial Fisheries - **Spring Chinook Salmon.**

**Sharing Metric:** Incidental-take of ESA-listed upriver spring Chinook

Fishing Year	Recreational Fishery		Commercial Fishery		
	Impact Share	Location	Share	Location	Gear
2013	65%	Mainstem Columbia River and Snake River	35%	Mainstem Columbia below Bonneville Dam Off-Channel Areas	Tangle Net Tangle-Net/ Gill Net
2014-2016	70%	Mainstem Columbia River and Snake River	30%	Mainstem Columbia below Bonneville Dam	Tangle Net
				Off-Channel Areas	Tangle Net/ Gill Net
2017+	80%	Mainstem Columbia River and Snake River	20% <sup>1</sup>	Off-channel areas of the Columbia River	Tangle Net/ Gill Net Beach Seine/ Purse Seine/Other Alternative Selective Gear

<sup>1</sup> Not subject to pre-update buffer.



**Appendix B.** Tabular Summary of the Presumptive Management Framework for Non-Tribal Mainstem Columbia River Recreational and Commercial Fisheries – **Summer Chinook Salmon.**

**Sharing Metric:** Harvestable share of summer Chinook available downstream from Priest Rapids Dam

**Fishery-Specific Objective:** Meet terms of agreements with the United Tribes of the Colville Reservation.

Fishing Year	Recreational Fishery		Commercial Fishery <sup>1</sup>		
	Share	Location	Share	Location	Gear
2013-2014	60%	Mainstem Columbia River below Priest Rapids Dam	40%	Mainstem Columbia River below Bonneville Dam	Gill Net
2015-2016	70%	Mainstem Columbia River below Priest Rapids Dam	30%	Mainstem Columbia River below Bonneville Dam	Gill Net
2017+	80%	Mainstem Columbia River below Priest Rapids Dam	20%	Mainstem Columbia River below Bonneville Dam	Non-gill net selective gear and fishing techniques (currently undetermined) that minimize impacts on sturgeon, steelhead, and sockeye.

<sup>1</sup>To offset reductions in mainstem commercial harvest of summer Chinook, Oregon will enhance the fisheries for Select Area Bright Fall Chinook.

**Appendix C. Tabular Summary of the Presumptive Management Framework for Non-Tribal Mainstem Columbia River Recreational and Commercial Fisheries – Tule Fall Chinook Salmon.**

**Sharing Metric:** Incidental-take of ESA-listed Lower Columbia River natural (tule) fall Chinook

Fishing Year	Recreational Fishery		Commercial Fishery		
	Share	Location	Share	Location	Gear
2013-2015	≤70%	Mainstem Columbia below Bonneville Dam	≥30%	Mainstem Columbia River below Bonneville Dam and off-channel areas	Gill Net/ Pilot Beach Seine/ Pilot Purse Seine
2016	≤70%	Mainstem Columbia below Bonneville Dam	≥30%	Mainstem Columbia River below Bonneville Dam	Beach Seine/ Purse Seine
				Off-channel areas	Gill Net
2017-2018	≤75%	Mainstem Columbia below Bonneville Dam	≥25%	Mainstem Columbia River below Bonneville Dam	Beach Seine/ Purse Seine/ Other Alternative Selective Gear
				Above Lewis River, off-channel areas	Gill Net
2019+	≤80%	Mainstem Columbia below Bonneville Dam	≥20%	Mainstem Columbia River below Bonneville Dam	Beach Seine/ Purse Seine/ Other Alternative Selective Gear
				Off-channel areas	Gill Net

**Appendix D. Tabular Summary of the Presumptive Management Framework for Non-Tribal Mainstem Columbia River Recreational and Commercial Fisheries – Upriver Bright Chinook Salmon.**

**Sharing Metric:** Incidental-take of ESA-listed Snake River wild fall Chinook

**Fishery-Specific Objective:** Implement mainstem commercial fisheries in Zones 4 and 5 upstream of the Lewis River to remove excess hatchery-origin bright Chinook and harvest surplus wild bright Chinook

Fishing Year	Recreational Fishery		Commercial Fishery		
	Share	Location	Share	Location	Gear
2013-2016	Necessary to meet recreational objectives, but not more than 70% <sup>1</sup>	Mainstem Columbia below Bonneville Dam	Dependant on recreational fisheries need, but not less than 30%	Mainstem Columbia River below Bonneville Dam	Gill Net <sup>2</sup> / Beach Seine <sup>3</sup> / Purse Seine <sup>3</sup>
2017-2018	Necessary to meet recreational objectives, but not more than 75%	Mainstem Columbia below Bonneville Dam	Dependant on recreational fisheries need, but not less than 25%	Mainstem Columbia River below Bonneville Dam	Beach Seine/ Purse Seine/ Other Alternative Selective Gear
				Above Lewis River	Gill Net
2019+	Necessary to meet recreational objectives, but not more than 80%	Mainstem Columbia below Bonneville Dam	Dependant on recreational fisheries need, but not less than 20%	Mainstem Columbia River below Bonneville Dam	Beach Seine/ Purse Seine/ Other Alternative Selective Gear
				Above Lewis River	Alternative Selective Gear <sup>4</sup>

<sup>1</sup> It is expected that recreational fishery objectives (Buoy 10 season August 1-Labor Day; Tongue Point to Warrior Rock season August 1-September 7 as non-mark selective and September 8-14 as mark selective and Warrior Rock to Bonneville Dam season August 1-October 31 when the season is assumed to be essentially complete) will be met in most years at less than a 50% share of Snake River Wild fall Chinook impacts (see Appendix B, Table B.3). However, the recreational fishery share will likely need to be increased to meet objectives in years when Upriver Bright fall Chinook returns are significantly less than recent years.

<sup>2</sup> The mainstem gill net fishery will be restricted to the area above the Lewis River in 2016.

<sup>3</sup> Beach seine and purse seine fisheries will be pilots in 2013, 2014 and 2015.

<sup>4</sup> The presumptive (expected) path forward regarding targeted commercial harvest of Upriver Bright fall Chinook upstream of the Lewis River will be to access available Chinook with alternative selective gear and techniques. Because access to Upriver Bright fall Chinook is critically important to ensuring the long-term economic viability of commercial fishers, adaptive management will be used to ensure alternative selective gear and techniques are effective and that commercial fishers continue to have profitable mainstem access to these economically important salmon stocks.

**Appendix E. Tabular Summary of the Presumptive Management Framework for Non-Tribal Mainstem Columbia River Recreational and Commercial Fisheries – Coho Salmon.**

**Sharing Metric:** Incidental-take of ESA-listed coho

Fishing Year	Recreational Fishery		Commercial Fishery		
	Share	Location	Share	Location	Gear
2013-2016	1	Mainstem Columbia below Bonneville Dam	1	Mainstem Columbia River below Bonneville Dam and off-channel areas	Gill Net/ Tangle Net <sup>2</sup> / Beach Seine <sup>2</sup> / Purse Seine <sup>2</sup>
2017+	3	Mainstem Columbia below Bonneville Dam	3	Mainstem Columbia River below Bonneville Dam and off-channel areas	Tangle Net/ Beach Seine/ Purse Seine/ Other Alternative Selective Gear

<sup>1</sup> Maintain current sharing except provide sufficient additional impacts to the commercial fishery to implement the pilot alternative selective gear fisheries.

<sup>2</sup> Tangle net, beach seine and purse seine fisheries will be pilots in 2013, 2014 and 2015.

<sup>3</sup> Assign commercial fisheries a sufficient share of the ESA-impact for Lower Columbia Natural coho to implement off-channel coho fisheries, fall Chinook fisheries as described above, and alternative selective gear fisheries to reduce the number of hatchery-origin coho in natural spawning areas. Assign the balance to mainstem recreational fisheries. If these recreational fisheries are unable to use all of the ESA-impact for Lower Columbia Natural coho, assign the remainder to mainstem commercial coho fisheries.



## Oregon Administrative Rules Oregon Department of Fish and Wildlife

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### 635-500-6700

#### Organization of Rules

These rules (OAR 635-500-6700 through 635-500-6765) establish the Commission's policy for the non-tribal Columbia River Recreational and Commercial Fisheries Management Framework.

Stat. Auth.: ORS 496.138, 496.146 and 506.119

Stats. Implemented: ORS 506.109 and 506.129

Hist.: Adopted 12-7-12, f. 12-27-12, ef. 1-1-13

### 635-500-6705

#### Guiding Principles for Columbia River fisheries management:

- (1) Promote the recovery of ESA-listed species and the conservation of wild stocks of salmon, steelhead, and sturgeon in the Columbia River.
- (2) Continue leadership on fish recovery actions, including improved fish survival through the federal Columbia River hydropower system, improved habitat conditions in the tributaries and estuary, hatchery reform, reduced predation by fish, birds, and marine mammals, and harvest management that meets conservation responsibilities.
- (3) Continue to meet terms of *U.S. v. Oregon* management agreements with Columbia River Treaty Tribes.
- (4) In a manner that is consistent with conservation and does not impair the resource, seek to enhance the overall economic well-being and stability of Columbia River fisheries in Oregon.
- (5) For steelhead, salmon and sturgeon, prioritize recreational fisheries in the mainstem and commercial fisheries in off-channel areas of the lower Columbia River. Toward this end:
  - a) Assign mainstem recreational fisheries a sufficient share of ESA-impacts and harvestable surplus to enhance current fishing opportunity and economic benefit.
  - b) Assign commercial fisheries a sufficient share of the ESA-impacts and harvestable surplus to effectively harvest fish in off-channel areas and harvest surplus fish with selective techniques in the mainstem Columbia River.
- (6) Limit the use of gill nets in non-tribal commercial fisheries, other than shad and smelt, in the mainstem Columbia River to fall fisheries in Commercial Zones 4 and 5. Limit other non-tribal gill net use to off-channel areas only.
- (7) Enhance the economic benefits of off-channel commercial fisheries, in a manner consistent with conservation and wild stock recovery objectives. Enhancements include:
  - a) Providing additional hatchery fish for release in off-channel areas by shifting currently available production, and where possible providing new production for release in off-channel areas, emphasizing complementary conservation benefits in tributaries.
  - b) Expanding existing seasons and boundaries in off-channel areas and/or establishing new off-channel areas, allowing increased harvest in areas where the likelihood of impacting ESA-listed stocks is lower than the mainstem.
- (8) Develop and implement selective-fishing gear and techniques for commercial mainstem fisheries to optimize conservation and economic benefits consistent with mainstem recreational objectives, combined with incentives to commercial fishers to expand the development and implementation of these gear and techniques.
- (9) Maintain consistent and concurrent policies between Oregon and Washington related to management of non-tribal Columbia River fisheries, to ensure orderly fisheries as well as the sharing of investments and benefits.



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(10) To maximize economic return, develop a program that seeks to implement Marine Stewardship Council or other certification of commercial salmon and sturgeon fisheries in the Columbia River as sustainably managed fisheries.

Stat. Auth.: ORS 496.138, 496.146 & 506.119

Stats. Implemented: ORS 506.109 & 506.129

Hist.: Adopted 3-17-17, f. 3-22-17, ef. 4-4-17

**635-500-6710**

**Columbia River Fisheries**

Department staff shall manage fisheries consistent with the guiding principles and the allocation framework and provisions in OAR 635-500-6715 through 635-500-6765.

Stat. Auth.: ORS 496.138, 496.146 and 506.119

Stats. Implemented: ORS 506.109 and 506.129

Hist.: Adopted 12-7-12, f. 12-27-12, ef. 1-1-13

**635-500-6715**

**Spring Chinook**

(1) Transition Period (2013-January 31, 2017).

(a) In 2013, assign 65%, then 70% of the ESA-impact for upriver spring Chinook stocks to mainstem recreational fisheries.

(b) In 2013, assign 35%, then 30% to off-channel and mainstem commercial fisheries.

(2) Long Term (February 1, 2017 and Beyond).

(a) Assign 80% of the ESA-impact to mainstem recreational fisheries. If the recreational allocation, including areas upstream of Bonneville Dam and in the Snake River, is unlikely to be fully used, the unused portion of that allocation shall be transferred to the commercial fishery.

(b) Assign 20% to commercial fisheries. Mainstem commercial fisheries may occur only after the run size update and will use tangle nets or other selective gear, if developed. Unused commercial impacts will not be transferred to recreational fisheries.

Stat. Auth.: ORS 496.138, 496.146 & 506.119

Stats. Implemented: ORS 506.109 & 506.129

Hist.: Adopted 3-17-17, f. 3-22-17, ef. 4-4-17

**635-500-6720**

**Summer Chinook**

(1) Transition Period (2013-April 4, 2017).

(a) In 2013-14, assign 60%, then 70% of the harvestable surplus available for use downstream from Priest Rapids Dam to mainstem recreational fisheries.

(b) In 2013-14, assign 40%, then 30% to off-channel and mainstem commercial fisheries.

(2) Long Term (April 5, 2017 and Beyond).

(a) Assign 80% of the harvestable surplus available for use downstream from Priest Rapids Dam to mainstem recreational fisheries.

(b) Assign 20% of the harvestable surplus available for use downstream from Priest Rapids Dam to



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off-channel and mainstem commercial fisheries using gears other than gill nets. Unused commercial harvest will not be transferred to recreational fisheries.

Stat. Auth.: ORS 496.138, 496.146 & 506.119

Stats. Implemented: ORS 506.109 & 506.129

Hist.: Adopted 3-17-17, f. 3-22-17, ef. 4-4-17

**635-500-6725**

**Sockeye**

(1) Transition Period (2013- January 31, 2017).

(a) Assign 70% of the ESA-impact for Snake River sockeye to mainstem recreational fisheries.

(b) Assign 30% to mainstem commercial fisheries for incidental harvest of sockeye in Chinook-directed fisheries.

(2) Long Term (February 1, 2017 and Beyond).

(a) Assign approximately 80% of the ESA-impact for Snake River sockeye to mainstem recreational fisheries.

(b) Assign the remaining balance to commercial fisheries for incidental harvest of sockeye in Chinook-directed fisheries.

Stat. Auth.: ORS 496.138, 496.146 & 506.119

Stats. Implemented: ORS 506.109 & 506.129

Hist.: Adopted 1-20-17, f. & ef. 1-25-17

**635-500-6730**

**Tule Fall Chinook**

(1) Transition Period (2013-April 4, 2017).

(a) Assign no more than 70% of the ESA-impact for lower Columbia River Tule fall Chinook to mainstem recreational fisheries.

(b) Assign not less than 30% to off-channel commercial fisheries, mainstem commercial fisheries that target Upriver Bright and Lower River Hatchery Fall Chinook.

(2) Long Term (April 5, 2017 and Beyond).

(a) Assign no more than 70% of the remaining ESA-impact for lower Columbia River Tule Fall Chinook to mainstem recreational fisheries.

(b) Assign not less than 30% of the remaining ESA-impact for lower Columbia River Tule Fall Chinook to off-channel commercial fisheries and mainstem commercial fisheries that target Upriver Bright and Lower River Hatchery Fall Chinook and hatchery coho. Use up to 2% of commercial ESA impacts of the most constraining stock for use in lower river commercial fisheries using alternative gears. The Department shall approve alternative gears for use.

Stat. Auth.: ORS 496.138, 496.146 & 506.119

Stats. Implemented: ORS 506.109 & 506.129

Hist.: Adopted 3-17-17, f. 3-22-17, ef. 4-4-17



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**635-500-6735**

**Upriver Bright Fall Chinook**

(1) Transition Period (2013-April 4, 2017).

(a) Assign no more than 70% of the ESA-impact for Snake River Wild Fall Chinook to mainstem recreational fisheries.

(b) Assign not less than 30% to off-channel and mainstem commercial fisheries. Provide additional mainstem commercial harvest when recreational fishery objectives (OAR 635-500-6760) are expected to be met.

(2) Long Term (April 5, 2017 and Beyond).

(a) Assign no more than 70% of the ESA-impact for Snake River Wild Fall Chinook to mainstem recreational fisheries.

(b) Assign not less than 30% to off-channel and mainstem commercial fisheries. Provide additional mainstem commercial harvest when recreational fishery objectives (OAR 635-500-6760) are expected to be met. Use up to 2% of commercial ESA impacts of the most constraining stock for use in lower river commercial fisheries using alternative gears. The Department shall approve alternative gears for use.

Stat. Auth.: ORS 496.138, 496.146 & 506.119

Stats. Implemented: ORS 506.109 & 506.129

Hist.: Adopted 3-17-17, f. 3-22-17, ef. 4-4-17

**635-500-6740**

**Coho**

(1) Transition Period (2013-January 31, 2017).

(a) Assign commercial fisheries a sufficient share of the ESA-impact for Lower Columbia Natural coho to implement off-channel coho and fall Chinook fisheries and mainstem fall Chinook fisheries.

(b) Assign the remaining balance to in-river mainstem recreational fisheries. If these fisheries are expected to be unable to use all of the ESA-impact for Lower Columbia Natural coho, assign the remainder to mainstem commercial coho fisheries.

(2) Long Term (February 1, 2017 and Beyond).

(a) Assign commercial fisheries a sufficient share of the ESA-impact for Lower Columbia Natural coho to implement off-channel coho and fall Chinook fisheries and mainstem fall Chinook and hatchery coho fisheries.

(b) Assign the balance to in-river mainstem recreational fisheries. If these fisheries are unable to use all of the ESA-impact for Lower Columbia Natural coho, assign the remainder to mainstem commercial coho fisheries.

Stat. Auth.: ORS 496.138, 496.146 & 506.119

Stats. Implemented: ORS 506.109 & 506.129

Hist.: Adopted 1-20-17, f. & ef. 1-25-17

**635-500-6745**

**Chum**

(1) Transition Period (2013-January 31, 2017).

(a) Assign commercial fisheries a sufficient share of the ESA-impact for chum to implement off-channel and mainstem fisheries targeting other salmon species.

(b) Prohibit the retention of chum salmon in recreational and commercial fisheries.





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(2) Long Term (February 1, 2017 and Beyond).

(a) Assign commercial fisheries a sufficient share of the ESA-impact for chum to implement off-channel and mainstem fisheries targeting other salmon species.

(b) Prohibit the retention of chum salmon in recreational and commercial fisheries

Stat. Auth.: ORS 496.138, 496.146 & 506.119

Stats. Implemented: ORS 506.109 & 506.129

Hist.: Adopted 1-20-17, f. & ef. 1-25-17

**635-500-6750**

**White Sturgeon**

(1) Transition Period (2013-January 31, 2017).

(a) In years when retention is allowed, allocate 90% of the harvestable surplus downstream from Bonneville Dam for use in non-tribal fisheries and hold 10% in reserve as an additional conservation buffer above the maximum harvest rate allowed in Oregon's white sturgeon conservation plan.

(b) Assign 80% of the white sturgeon available for harvest to the recreational fishery.

(c) Assign 20% to off-channel and mainstem commercial fisheries.

(2) Long Term (February 1, 2017 and Beyond).

(a) In years when retention is allowed, allocate 90% of the harvestable surplus downstream from Bonneville Dam for use in non-tribal fisheries and hold 10% in reserve as an additional conservation buffer above the maximum harvest rate allowed in Oregon's white sturgeon conservation plan.

(b) Assign 80% of the white sturgeon available for harvest to the recreational fishery.

(c) Assign the balance (20%) to off-channel and mainstem commercial fisheries.

Stat. Auth.: ORS 496.138, 496.146 & 506.119

Stats. Implemented: ORS 506.109 & 506.129

Hist.: Adopted 1-20-17, f. & ef. 1-25-17

**635-500-6755**

**Additional Commercial Opportunity**

Additional opportunity for mainstem commercial fisheries shall be provided:

(1) If recreational fisheries are predicted to be unable to use their allocated impacts;

(2) If established objectives for mainstem recreational fisheries are predicted to be met; or

(3) If needed to remove lower river hatchery tle Chinook and coho using selective techniques to meet conservation objectives.

Stat. Auth.: ORS 496.138, 496.146 and 506.119

Stats. Implemented: ORS 506.109 and 506.129

Hist.: Adopted 12-7-12, f. 12-27-12, ef. 1-1-13

**635-500-6760**

**Fall Recreational Fishery Objectives**

Within limitations described in OAR 635-500-6730 thru OAR 635-500-6750, fall recreational fishery objectives include:



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(1) Buoy 10 to Tongue Point.

The recreational fishing objective for Buoy 10 is defined as a season beginning August 1 and continuing through Labor Day (34 days; assuming Labor Day is September 3).

(2) Tongue Point to Warrior Rock.

The recreational fishing objective for the area from Tongue Point upstream to Warrior Rock is defined as a season beginning August 1 and continuing through September 7 as non-mark selective with an additional week of mark selective fishing during September 8-14 (45 days).

(3) Warrior Rock to Bonneville Dam.

The recreational fishing objective for the area from Warrior Rock upstream to Bonneville Dam is defined as a season beginning August 1 and continuing through October 31 when the season is assumed to be essentially complete (92 days).

Stat. Auth.: ORS 496.138, 496.146 and 506.119

Stats. Implemented: ORS 506.109 and 506.129

Hist.: Adopted 12-7-12, f. 12-27-12, ef. 1-1-13

### **635-500-6765**

#### **Adaptive Management**

(1) The Department shall use adaptive management principles within its statutory authority in support of achieving the expectations outlined in the guiding principles of this plan.

(2) The Commission will monitor implementation of the plan with an initial review in 2014 and undertake a comprehensive review at the end of the transition period. If the guiding principles are not being met, efforts will be made to determine why and the Commission will direct the Department to identify and evaluate alternative or additional management actions necessary to meet the principles.

Stat. Auth.: ORS 496.138, 496.146 and 506.119

Stats. Implemented: ORS 506.109 and 506.129

Hist.: Adopted 12-7-12, f. 12-27-12, ef. 1-1-13