

**Joint-State Columbia River Fishery Policy Review Committee**  
Narrative Descriptions and Analysis of Policy Issues, Alternatives and Options  
**SUMMER CHINOOK**  
*October 1, 2019*

**Description of Issues**

Following is a listing of possible policy changes related to non-treaty fisheries as part of the review of Columbia River salmon and steelhead fishery management under consideration by the Joint-State Columbia River Fishery Policy Review Committee (PRC) process. Most policy issues that have been introduced for consideration during the process are listed below, together with a narrative description of identified potential alternatives from the current status associated with that particular issue. The current status of PRC discussion and/or recommendation on each alternative is also shown, including rationale for any action taken to date to eliminate or de-prioritize an alternative from further consideration at this time. The recommendations made by the PRC on February 26 were focused primarily on allocation, allowable commercial fishing gear, and SAFE production levels. There are other sub-issues that were not addressed by the PRC at that time, some of which are shown below.

**Summer Chinook**

This issue involves the allocation of Upper Columbia summer Chinook harvestable surplus (returns in excess of spawning needs) between recreational and non-treaty commercial fisheries downstream of Priest Rapids Dam (PRD), the application of unused non-treaty commercial allocation, and allowable non-treaty commercial gears. It does not address the definition of harvestable surplus above/below PRD, as that is defined in the *U.S. v Oregon* Management Agreement. Upper Columbia summer Chinook are defined as Chinook passing Bonneville Dam during June 16 through July 31 and are destined for areas above PRD. They are not ESA-listed, and allocations are based upon shares of harvestable surplus.

A run size-based matrix is used to allocate harvest for treaty and non-treaty fisheries under the *U.S. v Oregon* Management Agreement, and is based on the predicted ocean abundance of Upper Columbia River summer Chinook. Non-treaty harvest in the ocean is subtracted first from the total non-treaty allocation and the remaining balance is apportioned to in-river non-treaty fisheries. This in-river apportionment prioritizes non-treaty fisheries upstream of PRD that include recreational and Colville Tribe (federally recognized tribe though not a *U.S. v Oregon* treaty tribe) fisheries. Allocations for non-treaty fisheries upstream of PRD range between 60-90% of the in-river non-treaty total. Fisheries below PRD are apportioned into recreational fisheries above/below Bonneville Dam and commercial fisheries (below Bonneville Dam only).

- Based on the February PRC recommendation/Current WA Policy, recreational fisheries below PRD are allocated 70% of the harvestable surplus and commercial fisheries 30% with gill nets allowed in the mainstem.
  - Mainstem gill net is not permitted under current Oregon rules but was recommended by the PRC and adopted by WDFW.
- The two states have different policies/rules regarding the use of unused non-treaty commercial summer Chinook allocation. Oregon applies the unused share to spawning escapement. Washington applies the unused non-treaty commercial share

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to recreational fisheries above Bonneville Dam (if it can be used) or to spawning escapement.

- Large-mesh (8" minimum mesh) gill net gear was the typical gear used in the commercial fishery since target harvest seasons were re-established in 2005. Oregon rules require the use of alternative gear types for any summer mainstem commercial fishing, but none have been identified for this fishery. The PRC recommendation and subsequent WDFW policy allow the use of large-mesh gill net gear and alternative gear. Tangle nets have not been used in the summer management timeframe and are not an appropriate gear type for this timeframe due to the abundance of sockeye, shad, and steelhead.

**Issue 1: Recreational/Commercial allocation downstream of Priest Rapids Dam**

- February PRC Recommendation/Current WA Policy
  - Recreational fisheries below PRD are allocated 70% of the harvestable surplus and commercial fisheries 30%.
- Current Oregon Policy
  - Allocation between recreational/commercial fisheries is 80%/20%.
- Alternative 1 (pre-2012 sharing)
  - Change the allocation between recreational/commercial fisheries to 50%/50%.
- Alternative 2
  - Use an abundance-based matrix for recreational/commercial allocation.
- *Status of Consideration: Active for further analysis.*

**Issue 2: Allocation of unused commercial impacts**

- Status Quo
  - The two states have different policies/rules regarding the use of unused non-treaty commercial summer Chinook allocation, as described in the summer Chinook Issue 1. This has not yet been addressed by the PRC.
- Alternative 1
  - OR Policy: apply unused non-treaty commercial allocation to escapement.
- Alternative 2
  - WA policy: apply unused non-treaty commercial allocation to recreational fisheries upstream of Bonneville Dam (if they can be used) or to aid in escapement.
- *Status of Consideration: Active for further analysis.*

**Issue 3: Allowable mainstem commercial gear**

- February PRC Recommendation/Current WA Policy
  - Gill net and alternative gear allowed.
- Current Oregon Policy

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- OR Policy: Limit commercial fisheries to gear types other than gill nets.
- *Status of Consideration: Active for further analysis.*

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**Results**

Following are the results associated with possible policy changes as part of the review of Columbia River salmon and steelhead fishery management under consideration by the Joint-State Columbia River Fishery Policy Review Committee (PRC) process. Issues and options previously removed from the list are excluded.

**Summer Chinook**

**Issue 1: Recreational/Commercial allocation downstream of Priest Rapids Dam**

**Analysis Results- PRC/Current Status Quo/Alternative 1:**

Table 1 compares the expected average annual angler trips (below Bonneville only) and commercial ex-vessel value for three different non-treaty summer Chinook allocation shares and commercial gear types; OR Status Quo (80%/20%), PRC/WA Status Quo (70%/30%), and Alternative 1 (50%/50%). Outputs are based on 2013-2018 results adjusted to the hypothetical allocations shown, and therefore are best interpreted as an assessment of what might have occurred in those years under a different set of policies, rather than as an estimate of what would occur in the future.

Modelling results indicated a significant gain in ex-vessel commercial value as the commercial share increases and gill net gear is allowed. Angler trips increased with an allocation change from 70% to 80% but not from 50% to 70%. The analysis indicated that gains in angler trips due to allocation increases during 2013-2018 did not occur in every season and year, and when gains did occur, they were not linearly proportional to the increase in allocation. Often, factors outside of the Policy (run size changes, fishing conditions, in-season management actions, etc.) had a far greater effect on the season structure than the allocation change.

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Table 1. Modelled economic metrics for mainstem sport and commercial summer Chinook fisheries below Bonneville Dam at different combinations of allocation shares and allowable commercial gears.

Summer Chinook Issue- Alternative Combination <sup>1</sup>	Allocation % (sport/commercial)	Allowable Mainstem Commercial Gear	Economic Metrics <sup>2</sup>	
			Sport Angler Trips <sup>3</sup>	Commercial Ex-Vessel Value
Issue 1 OR Status Quo/Issue 3 OR Status Quo	80/20	Alternative Gear <sup>4</sup>	25,147	\$0
Issue 1 PRC-WA Status Quo/Issue 3 PRC-WA Status	70/30	Large-Mesh GN	22,350	\$153,809
Issue 1 Alt 1/Issue 3 PRC WA Status Quo	50/50	Large-Mesh GN	22,350	\$256,349
Issue 1 Alt 2	Abundance Based Matrix	NA	NA	NA

<sup>1</sup> Potential combinations of allocation shares and allowable commercial gears other than those presented in this table were not modelled.

<sup>2</sup> 2013-2018 averages used for sport and commercial metrics.

<sup>3</sup> Effort data for 2013-2018 modelling period only available for sport fisheries downstream of Bonneville Dam.

<sup>4</sup> No summer alternative gear currently available.

For example, in the 2014-2016 summer Chinook recreational fisheries, relatively modest catch rates (and run upgrades in 2014 and 2015) held the Chinook catch well below both the pre-and post-Reform guidelines. Therefore, in-season management decisions made during these years were not affected by the allocation increase. However, catch rates and mark rates in 2017 were higher than expected, resulting in the Chinook catch exceeding the pre-Reform guideline (70%), but the higher post reform guideline (80%) allowed the recreational fishery to be re-opened in mid-July. Therefore, the allocation increase in 2017 did affect in-season management decisions for the recreational summer Chinook fishery below Bonneville Dam.

**Analysis Results- Alternative 2 – Abundance-based harvest matrix:**

An abundance-based harvest rate schedule would have differing recreational/commercial allocations based upon the run size. In past examples, this type of allocation schedule would provide a higher allocation to recreational fisheries at lower abundances with increasing allocation to the non-treaty commercial fishery as abundances increased. Part of the rationale for this approach is that when abundance is high, the recreational fishery is less likely to use all of the harvestable fish while the non-treaty commercial fishery has the ability to catch their share. The *U.S. v. Oregon* Management Agreement includes several abundance-based harvest allocation

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matrices, including one for summer Chinook. The Washington/Colville summer Chinook sharing agreement includes a matrix for upriver/downriver sharing as well. The non-treaty share includes harvest in ocean fisheries, and recreational, commercial, and Colville fisheries in the Columbia River. Examples from the current *U.S. v. OR* schedule (Table 2) and the WDFW/Colville harvest rate schedule (Table 3) are provided below. No analytical results for Alternative 2 are provided at this time.

Table 2. <i>U.S. v. Oregon</i> Harvest Rate Schedule	
Run Size	Non-Treaty HR
36,250	10.0%
50,000	21.0%
70,000	25.7%
100,000	29.3%

Table 3. WDFW/Colville Harvest Rate Schedule	
Run Size	Allocation below PRD
<50,000	10% below PRD
50,001 -60,000	90% -70%
60,001 -75,000	70 - 65%
75,001 -100,000	65% - 60%
100,000	60%

**Issue 2: Allocation of unused commercial impacts**

The two states have different policies/rules regarding the use of unused non-treaty commercial summer Chinook allocation. Results will be provided in a separate document.

**Issue 3: Allowable mainstem commercial gear**

The modelling results in Table 1 indicate that the use of large-mesh gill nets in non-tribal commercial summer Chinook fisheries can generate increasing ex-vessel value at increasing commercial allocations. To date, no alternative gear has been identified as viable for use in commercial summer Chinook fisheries below Bonneville Dam. Based on a 4-year evaluation of summer beach and purse seines, use of these gears for a mark-selective commercial summer Chinook fishery in the lower Columbia River is not feasible (Tables 4 and 5). Catch rates of hatchery adult Chinook were relatively low, particularly in relation to catch rates of non-target sockeye and steelhead. In addition, analysis of hook and line data for recreational summer Chinook fisheries below Bonneville Dam indicated that catch rates, even for professional fishing guides, and mark rates were too low to harvest an economically viable number of fin-clipped hatchery summer Chinook in a mark-selective commercial hook and line fishery. The daily ex-vessel value per boat in a modelled mark-selective fishery ranged

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from \$20 to \$59, depending on whether the catch rate for an average angler or guide was used. Operating expenses would need to be subtracted from the daily value to estimate net daily income for the fishers.

Table 4. Summer beach seine evaluation test fishing summary, 2011-2014.

Year	Mesh Size (in)	Fisher-		Avg Water		Adult Chinook		Chinook Mark Rate	Mkd Adult CH/Set	Sockeye/ Set	Sockeye/ Mkd		Steelhead/	
		Days	Sets	Temp °F	Marked	Unmarked	Adult CH				Steelhead	Set		
2011	3.5	22	84	62	102	70	59%	1.2	141	1.7	1.4	107	1.3	
2012	3.5	28	111	61	126	40	76%	1.1	921	8.3	7.3	79	0.7	
2013	3.5, 2.5	12	50	--	142	110	56%	2.8	1,596	31.9	11.2	53	1.1	
2014	3.5, 2.5	16	64	64	110	145	43%	1.7	4,909	76.7	44.6	143	2.2	
Total		78	309	63	480	365	57%	1.6	7,567	24.5	15.8	382	1.2	

*\*Table does not include any fish whose life stage or fin-mark status could not be determined.*

Table 5. Summer purse seine evaluation test fishing summary, 2011-2014.

Year	Mesh Size (in)	Fisher-		Avg Water		Chinook		Mkd Adult CH/Set	Sockeye/ Set	Sockeye/ Mkd		Steelhead/	
		Days	Sets	Temp °F	Marked	Unmarked	Mark Rate			Adult CH	Steelhead	Set	
2011	3.5, 1.0 bunt	30	120	61	202	162	55%	1.7	495	4.1	2.5	71	0.6
2012	3.5, 1.0 bunt	12	48	61	178	120	60%	3.7	3,148	65.6	17.7	63	1.3
2013	3.5, 2.0, 1.0 bun	12	49	63	230	184	56%	4.7	1,836	37.5	8.0	65	1.3
2014	3.5, 2.0, 1.0 bun	15	64	64	235	273	46%	3.7	6,264	97.9	26.7	272	4.3
Total		69	281	62	845	739	53%	3.0	11,743	41.8	13.9	471	1.7

*\*Table does not include any fish whose life stage or fin-mark status could not be determined.*