

Joint-State Columbia River Fishery Policy Review Committee

August 29, 2019

Description and Analysis of the 500 Fish Transfer Alternative within the Recreational Fishery Allocation

In accordance with the agenda for the August 29, 2019 PRC meeting, below is an excerpt from the normal mode of presentation, showing a narrative description and analysis just for Alternative 3 of Issue 3 for Spring Chinook.

Spring Chinook

Issue 3: Allocation of upriver spring Chinook within recreational fisheries

Alternative 3: Change the allocation from status quo sharing (75%/25% allocation between lower river/upriver fisheries and 10%/15% sharing of upriver fisheries between the Bonneville Dam to the OR/WA State line area and the Snake River) by moving an additional 500 fish to the Snake River from the below Bonneville Dam fishery allocation to the Snake River recreational fishery.

This issue involves the allocation between lower river (below Bonneville Dam) and upriver (Columbia River upstream of Bonneville Dam and the Snake River) recreational fisheries, and allocation within the upriver allocation between recreational fisheries in concurrent Oregon-Washington mainstem Columbia River waters and recreational fisheries in the Snake River. As with recreational and commercial allocations, the allocation here is of ESA impacts; the *U.S. v Oregon* pre-season run size buffer and Catch-Balancing provisions apply.

When there are not enough harvestable fish available to support the desired fisheries, allocation conflicts can occur. This is the case with sharing of Upriver spring Chinook within the recreational fisheries above and below Bonneville Dam. Prior to 2001, mainstem Columbia River spring Chinook fisheries only occurred in the lower river downstream of the Willamette River and primarily from January through the end of March. There were no fisheries targeting Upriver spring Chinook and as a result, no fisheries upstream of the Willamette River. Beginning in 2001, several things happened including; a) the majority of hatchery spring Chinook were mass-marked, b) a new abundance-based harvest rate schedule was adopted; and c) a record high return of Upriver spring Chinook to the Columbia River. As a result, spring Chinook fisheries were extended in time and area to provide additional opportunity, including some limited opportunity above Bonneville Dam. Beginning in 2002, fisheries above Bonneville expanded to include the area from Bonneville Dam to McNary Dam and the Snake River.

Since 2002, interest in the spring Chinook fisheries has increased. Trying to balance meeting ESA goals and recreational fishery allocations can be challenging for fishery managers. The timing of the Upriver run over Bonneville has tended to be later than normal in several years since 2002, making it difficult to accurately estimate the run size in-season in a timely fashion.

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Table 1 shows the actual sharing of upriver spring Chinook impacts for the fisheries below and above Bonneville Dam during 2013-2018, as well as the sharing of impacts and harvest for other stocks.

Table 1. Sharing of post-season ESA impacts and harvest by Columbia River recreational fisheries, 2013-2018.							
Year	Fishery	Upriver CHS Impacts	Summer Chinook Harvest ²	Fall Chinook Harvest ³	Wild A-Index STS Impacts	Wild B-Index STS Impacts	Sockeye Harvest
2013	Below Bonneville	80%	41%	55%	52%	6%	6%
	Above Bonneville ¹	20%	59%	45%	48%	94%	94%
2014	Below Bonneville	76%	41%	58%	44%	17%	3%
	Above Bonneville ¹	24%	59%	42%	56%	83%	97%
2015	Below Bonneville	77%	52%	62%	32%	9%	2%
	Above Bonneville ¹	23%	48%	38%	68%	91%	98%
2016	Below Bonneville	75%	44%	65%	46%	38%	8%
	Above Bonneville ¹	25%	56%	35%	54%	62%	92%
2017	Below Bonneville	68%	46%	76%	22%	19%	9%
	Above Bonneville ¹	32%	54%	24%	78%	81%	91%
2018	Below Bonneville	65%	24%	79%	29%	15%	1%
	Above Bonneville ¹	35%	76%	21%	71%	85%	99%
Average	Below Bonneville	74%	41%	66%	38%	18%	5%
	Above Bonneville ¹	26%	59%	34%	62%	82%	95%

¹ Spring Chinook fishery includes mainstem Columbia from Bonneville Dam to Oregon-Washington border, plus mainstem Snake River; summer Chinook and Sockeye fisheries include mainstem Columbia from Bonneville Dam to Chief Joseph Dam; fall Chinook and summer steelhead fisheries include mainstem Columbia from Bonneville Dam to Hwy 395 Bridge in Pasco, Washington, as well as Hanford Reach Chinook fishery and wild A and B-Index steelhead ESA impacts associated with mortalities of tributary "dip-ins".

² Kept adult catch, plus release mortalities in mark-selective fisheries.

³ Kept adult catch.

In addition to ESA requirements, non-treaty fisheries must also remain within their allowed "Catch Balance" (kept fish plus release mortalities) of Upriver spring Chinook relative to treaty fisheries per the *U.S. v Oregon* Management Agreement. Catch Balance fish are allocated to and within the recreational fisheries based on commission direction on allocation of ESA impacts. As a result, shares of catch balance fish are not exactly the same as shares of impacts, due to differential impacts on ESA-listed fish by fisheries in various areas. Since implementation in 2010 recreational fisheries have encountered their Catch Balance limits before their ESA impact limits.

- Status Quo (not changed by the PRC Recommendation of February 26)
 - Sharing of spring Chinook between lower river and upriver recreational fisheries is based on the allocation of impacts on ESA-listed Upriver spring Chinook allowed in non-treaty recreational fisheries, with 75% of that allocation currently provided for lower river fisheries and 25% provided to upriver fisheries.
 - Within upriver fisheries, 10% (40% of 25%) of the recreational impacts are sub-allocated to the fishery from Bonneville Dam to the Oregon-Washington state line, and 15% (60% of 25%) of the impacts are sub-allocated to the Snake River fishery.

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- Under the *U.S. v Oregon* Management Agreement, prior to the first run size update from the Technical Advisory Committee (TAC), non-treaty fisheries will be managed for the allowed treaty catch guideline based on a run size that is 70% of forecast (i.e. 30% run size buffer).
- Alternative 3
 - Change the allocation of ESA impacts for lower river/upriver fisheries from 75%/25% and the sub-allocation of 10%/15% between the fishery in the Bonneville Dam to the WA/OR State line and the Snake River, by moving 500 fish (Upriver spring Chinook kept plus release mortalities) from the fishery below Bonneville Dam to the Snake River fishery.

Analysis Results:

As requested at the Aug 1 meeting, staff conducted an in-depth analysis of the “500 fish transfer” alternative, which supplements the analysis done for Alternative 3 in Tables 4A-E (ROA analyses). This analysis used data for three recent years (2015-2017) in which run sizes for Upriver spring Chinook ranged from 115,800 in 2017 to 289,000 in 2015. This allowed us to estimate the effects of this alternative at a range of run sizes covering most years since mark-selective fisheries began in 2001. Year-specific pre-season models were used for the Below Bonneville fishery, and to calculate allocated ESA impacts for all fisheries. The estimated changes in fishing days, angler trips, and kept catch for the Below Bonneville fishery due to the transfer of 500 fish represent those expected pre-season for the pre-update fishery. Most years the majority of the Snake River fishery occurs after the run update, there is no pre-season model, so actual data for the 2015-2017 fisheries were used to estimate changes in fishing days, angler trips, and kept catch.

Table 2 portrays the average modelled change in open retention days, angler trips, kept catch (all stocks), and allocated ESA impacts for the recreational spring Chinook fisheries in 2015-2017 based on a transfer of 500 fish (Upriver mortalities) from the fishery below Bonneville Dam to the Snake River fishery.

Table 2. Average and range of change in fishing days, angler trips, and kept catch, and ESA impacts (relative to these metrics at status quo suballocations) when the 2015-2017 Columbia River spring Chinook sport fisheries were modelled with a transfer of 500 catch balance fish (upriver spring Chinook mortalities) from the Below Bonneville fishery to the Snake River fishery.							
Sport Fishery	Fishing Days	Angler Trips	Kept Catch	Allocated ESA Impacts			
				Avg Delta	% Sport Share ¹	% Upriver Share ²	
Below Bonn	-1 (-1-0)	-4,987 (-5,467-0)	-809 (-959-0)	-0.052%	68 (67-69)	--	
Bonn-State Line	0 (0-0)	0 (0-0)	0 (0-0)	0.000%	10 (10-10)	31 (29-31)	
SNAKE RIVER	3 (0-6)	726 (0-1,676)	285 (0-434)	0.086%	22 (21-23)	69 (69-71)	
Sport Total	2 (-1-5)	-4,261 (-4,508-502)	-524 (-658-422)	0.034%	100%	--	

¹ The status quo sharing of the sport impacts is 75% Below Bonneville, 10% Bonneville-State Line, and 15% Snake.

² The status quo sharing of the impacts available to upriver sport fisheries is 40% to the Bonneville-State Line fishery and 60% to the Snake River fishery.

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- On average, the fishery below Bonneville Dam lost one retention day at the end of the pre-update fishery (early April), and the Snake River fishery gained an average of three retention days. The season length for the fishery between Bonneville Dam and the Oregon/Washington state line was not affected by this alternative.
- On average, the below Bonneville fishery lost nearly 5,000 angler trips per year, and the Snake River fishery gained over 700 trips per year.
- Due to the presence of other spring Chinook stocks in the recreational catch below Bonneville, transferring 500 Upriver mortalities from this fishery results in an average loss of approximately 800 kept spring Chinook (all stocks) per year. The average annual gain in kept catch for the Snake River fishery was 285 fish. This difference is primarily caused by a large run downgrade preventing utilization of the transferred fish in 2017. In addition, not all transferred fish could be fully utilized by adding whole fishing days. For example, at a rate of 110 upriver mortalities per day, this fishery would gain four fishing days, but it would leave an unused balance of 60 fish.
- In terms of allocated ESA impacts, this alternative would result in a slight net increase (+0.034%) for the recreational fishery overall, equating to an average annual increase in impact use of 3%; but still within ESA limitations.
- The resulting lower river/upriver impact sharing for this alternative would average 68%/32%, compared to the current 75%/25%. For fisheries above Bonneville, impact sharing would change to 69% Snake and 31% Bonneville to OR/WA state line, compared to the current 60%/40%.
- The analysis statements above are based on the average information for 2015-17, which involve a significant range of abundance for upriver spring chinook in comparison to the last several decades. If one looked just at the lowest Upriver run size (2017), the change would be -4,508 angler trips and -658 kept fish, and result in an allocation of 67%/33%. If one looked just at the highest Upriver run size (2015), the change would be +502 angler trips and +422 kept fish, and result in an allocation of 69%/31%. It is important to note that there was not as great a fluctuation of abundance in the run sizes of Willamette, Cowlitz, Lewis and Kalama stocks during 2015-17 when compared to the historic profile of the last several decades.