

2021 Columbia River North of Falcon Virtual Meeting

2020 COLUMBIA RIVER SUMMER/FALL FISHERIES AND RUN SIZES

2021 COLUMBIA RIVER PRESEASON FORECASTS

All data preliminary and subject to change

March 17, 2021

2020 RETURNS AND CONSERVATION OBJECTIVES

Upper Columbia Summer Chinook

- Pre-season forecast was 38,000 fish
- Actual return was 65,494 fish (172% of forecast)

Snake River Wild (SRW)/Upriver Bright (URB)

- Preseason
 - URB run size = 227,600
 - Snake River wild (SRW) run size = 10,900
 - Total allowable URB harvest rate (HR) = 45%
 - Non-Treaty fisheries HR allowed = 15%
 - 8.25% planned for use prior to in-season run size update
 - Treaty Indian fisheries HR allowed = 30%
- Actual
 - URB run size = 299,336 (132% of forecast)
 - SRW run size = 12,282 (113% of forecast)
 - Total URB HR = 27.95% (45% allowed)
 - Non-Treaty fisheries URB HR = 9.11% (projected at 12.8-14.6% in-season)
 - Treaty Indian fisheries URB HR = 18.84% (30% allowed)

Lower Columbia River Tules (LCR)

- Preseason
 - Lower River Hatchery tule (LRH) run size = 50,200
 - Total allowable ocean and Columbia River exploitation rate (ER) = 38%
 - Total ocean and Columbia River ER expectation = 38%
 - Columbia River ER expectation = 10.1%
- Actual
 - LRH run size = 77,922 (155% of forecast)
 - Total ocean and Columbia River ER = 25.72%
 - Columbia River ER = 11.37%

Lower River Natural Coho (LCN)

- Preseason
 - Columbia River Coho run size = 140,200 (103,000 early stock, 37,100 late stock)
 - Total allowable ocean and Columbia River ER = 18%
 - Total ocean and Columbia River ER expectation = 16.9%

- Columbia River ER (including Buoy 10) expectation = 6.3%
- Actual
 - Columbia River Coho run size = 338,600 (242% of forecast; 222,000 early stock, 116,600 late stock)
 - Preliminary estimates total 6.72% ER for ocean and in-river fisheries.
 - Columbia River ER (including Buoy 10) = 1.82%

Upriver Summer Steelhead

- Preseason
 - Bonneville Dam passage (A-/B-Index, July – October) = 95,500 (1,400 wild B-Index)
 - Non-Treaty ESA impact limit = 2.0% wild A-Index and 2.0% wild B-Index
- Actual
 - Bonneville Dam passage (A-/B-Index, July – October) = 107,591 (113% of forecast), return included 5,278 wild B-Index (377% of forecast)
 - Non-Treaty ESA impact = <2% wild A-Index and <2% wild B-Index (both prelim.)

2020 FISHERY GUIDANCE

Columbia River fisheries were managed to meet the following guidelines and objectives:

Federal/State Endangered Species Act

- Sockeye, steelhead, Chinook, Coho, Chum

US v OR Management Agreement (MA)

- 2018-2027 MA in effect

OFWC/WFWC Guidance

- Impact/Allocation sharing
 - Summer Chinook: harvestable surplus available to in-river fisheries downstream of Priest Rapids Dam (<PRD) allocated 80% to recreational, 20% to commercial
 - Sockeye: ~80% of allowable Snake River ESA impacts to recreational, balance to commercial for incidental harvest in Chinook-directed fisheries.
 - Fall Chinook (LRH and SRW)
 - No more than 70% of allowable ESA impacts on the most constraining Chinook stock to recreational, no less than 30% to commercial.

WDFW/Colville Tribe Upper Columbia Management Agreement (UCMA)

- Upper Columbia summer Chinook

2020 NON-TREATY FISHERIES REVIEW

Recreational Fisheries:

- Due to the low forecast, expected harvest in ocean fisheries, and sharing guidelines in the UCMA, the summer recreational fishery <PRD was scheduled to be closed for Chinook retention. Sockeye retention was scheduled to be open May 16-July 31 from the Astoria-Megler Bridge upstream to the OR/WA border. Steelhead retention was scheduled to be open throughout the summer management period with a one steelhead bag.

- The actual summer Chinook return was better than expected, allowing for retention opportunity during July 4-31. Due to high catch rates, sockeye retention seasons varied by river section but were shorter than expected.
- A total of 3,200 sockeye were kept (478 rel.) below Bonneville Dam during 2020.
- Total catch estimates for the summer fishery downstream of Bonneville Dam include 1,191 adult Chinook kept (1,504 released), 1,996 hatchery steelhead kept (2,584 rel.), and from 37,099 angler trips.
- For the area from Bonneville Dam upstream to PRD, summer season catches included 140 adult Chinook kept (246 rel.), 6,311 sockeye kept (244 rel.), and 46 steelhead kept (99 rel.) from 13,700 angler trips.
- Summer Chinook fisheries (including tributaries) upstream of Priest Rapids Dam were open from July 16 – October 15.
 - Total catch estimates include 4,658 adult Chinook kept (1,706 rel.) and 23,944 (35 rel.) sockeye from 37,767 angler trips.

2020 Non-Treaty Summer Chinook Fisheries Summary				
<i>(All data preliminary and includes kept + release mortalities)</i>				
	Preseason		Postseason	
Runsize	38,000		65,494	
Harvest allocated	Allowed		Actual	Actual/
Fishery	Pre	Post	Take	Allowed
PFMC Ocean Fisheries	3,919	2,258	2,258	100%
Below Priest Rapids Dam (PRD)	10.0%	31.8%	19.4%	
Commercial below BON	51	948	13	1%
Recreational Below Bonneville	173	3,222	1,417	44%
Recreational BON to PRD	30	569	177	31%
Below PRD Total	254	4,738	1,607	34%
Above Priest Rapids Dam (PRD)	90.0%	68.2%	80.6%	
Wanapum Tribal	30	165	36	22%
Colville Tribal	1,601	5,081	1,728	34%
Recreational above PRD	656	4,916	4,914	100%
Above PRD Total	2,286	10,161	6,678	66%
Non-Treaty Total	6,460	17,157	10,543	61%

- The Buoy 10 recreational fishery opened August 14 with a daily bag limit of one salmon. Chinook retention was scheduled to close August 28 - September 22 but remain open for Coho retention through December 31. Chinook retention was scheduled to reopen September 23 - December 31 pending a mid-September URB run size update. Steelhead retention was scheduled to be closed August - October. Preseason harvest expectations (kept plus release mortalities) included 19,400 Chinook (6.3% LCR Chinook ER and 3.4% SRW harvest rate) and 18,200 Coho.
 - The initial season occurred as expected; however, an improved URB return allowed for additional Chinook retention opportunity in early/mid-September. Coho harvest did not meet expectations even though the actual return exceeded expectations.

- Season total catch estimates include 14,633 kept Chinook (5,360 rel.), 7,064 Coho kept (7,252 rel.), and 70 steelhead released from 72,443 angler trips.
 - The LRH ER exceeded, and the URB HR was similar to, preseason expectations.
- The fall LCR recreational fishery included three subareas and opened August 1 or later depending on the subarea:
 - 1) Tongue Point/Rocky Point upstream to west Puget Island
 - 2) West Puget Island upstream to Warrior Rock/Bachelor Island
 - 3) Warrior Rock/Bachelor Island upstream to Bonneville Dam
- The subarea from Tongue Point/Rocky Point to west Puget Island was open concurrent with Chinook retention at Buoy 10 (except for the in-season addition of September 5-6 for Buoy 10) to reduce effort shift above the Tongue Point/Rocky Point line. A daily bag limit of one adult salmon (Chinook and hatchery Coho) was planned for lower Puget Island upstream to Warrior Rock through August 31 and an again beginning September 23. For the area upstream of Warrior Rock, the pre-season plan included Chinook retention 3-days/week (Friday-Sunday) through September 6 and 7 days/week beginning September 23 with a one adult salmonid daily bag limit. For all areas, steelhead retention was scheduled to be closed August – October and salmonid angling was closed whenever Chinook retention was prohibited. Preseason harvest expectations (kept plus release mortalities) for all areas combined included 19,200 Chinook (0.9% LCR Chinook ER and 6.2% SRW harvest rate) and 1,900 Coho.
 - The initial Chinook retention seasons in all areas occurred as planned. Due to the URB return exceeding expectations, additional post-update Chinook retention opportunity occurred in mid/late September. The daily bag limit was relaxed to two fish/one Chinook effective September 19 and two fish/two Chinook beginning October 1. As planned preseason, “Party Fishing” regulations were in effect all season which allow each legal angler aboard a vessel to continue fishing until the daily limit for all anglers aboard was achieved.
 - Season total catch estimates include 19,677 kept Chinook (752 released), 1,537 Coho kept (775 released), and 385 steelhead released from 90,413 angler trips.
 - Although total mortalities were higher than expected, bright Chinook catches and SRW impacts were within expectations. LRH impacts were higher than expected.
- The recreational fishery from Bonneville Dam upstream to the Highway 395 Bridge near Pasco, Washington was scheduled to be open for Chinook retention August 1 – September 8 and again beginning September 23. A one adult fish daily bag limit and area-specific steelhead block closures were in effect.
 - The initial Chinook retention season occurred as expected with additional opportunity provided beginning in mid-September due to the URB run upgrade.
 - Season total catch estimates included 5,800 kept adult Chinook (343 released) and 1,000 Coho kept (215 released) from 22,300 angler trips.
 - Total Chinook catch and SRW impacts were less than expected.
 - “Party Fishing” regulations were in effect all season.

Commercial Fisheries:

- A commercial summer Chinook fishery did not occur since current Oregon Commission guidance requires the use of gear other than traditional gillnets for this fishery. Currently, a viable alternative gear is not available.
- The preseason plan for the Early Fall commercial drift net fishery was for seven 9-hour fishing periods in Zones 4-5 during August 10-31. Any late fall Chinook-directed opportunity would be contingent upon results of the August fishery and in-season run-size updates. Based on the poor Coho forecast, a late-fall tangle net fishery would be considered if in-season indicators warranted a fishery.
- The actual August season consisted of six, 9-hour periods in Zones 4-5 with a 9-inch minimum mesh restriction. The catch of 16,612 Chinook exceeded the preseason expectation of 13,100. An additional 348 Coho and 406 white sturgeon were landed. Nine additional Chinook-directed fishing periods occurred in the late fall season (September 15 - October 22), landings included 16,102 Chinook, 2,465 Coho, and 161 white sturgeon. Deliveries per period for the fall Chinook-directed fisheries averaged 58 in August and 27 during the late fall. Ex-vessel value averaged \$2.35/lb for Chinook and \$1.64/lb for Coho. The Coho-directed fishery using tangle net gear consisted of 14 fishing periods during September 30-October 30. Landings included an estimated 3,367 adult hatchery Coho and 911 Chinook. Ex-vessel value averaged \$1.98/lb for Chinook and \$1.76/lb for Coho in this fishery.

Non-Treaty Catch Sharing - 2020 Pre-season						
SRW - IMPACTS			Brights - Mainstem			
	Impact	Percent		Mortalities	Percent	Harvest
Sport	10.49%	70%	Sport	32,800	70%	32,800
Comm	4.51%	30%	Comm	14,100	30%	14,100
LRH - Impacts			Chinook - Mainstem			
	Impact	Percent		Mortalities	Percent	Harvest
Sport	7.46%	74%	Sport	43,800	67%	43,800
Comm	2.60%	26%	Comm	21,100	33%	21,100

Non-Treaty Catch Sharing - 2020 Post-season						
SRW - IMPACTS			Brights - Mainstem			
	Impact	Percent		Mortalities	Percent	Harvest
Sport	5.28%	58%	Sport	30,100	60%	30,100
Comm	3.83%	42%	Comm	20,400	40%	20,400
LRH - Impacts			Chinook - Mainstem			
	Impact	Percent		Mortalities	Percent	Harvest
Sport	7.67%	67%	Sport	36,300	54%	36,300
Comm	3.70%	33%	Comm	32,500	46%	32,500

Columbia River Fall Chinook Fishery Model Summary				MR2020-Postseason Draft										
Ocean Option:	Chin3120-Final	03/16/21												
Columbia River Model Option:	Model	MR2020-Postseason Draft												
				Non-Treaty Catch Sharing										
Management Guidelines		Goal/Guideline	SRW	Total URB	SRW - IMPACTS			Brights - Mainstem						
Harvest Rate	45.00%	27.95%	27.95%	27.95%	of allowed	Impact	Percent	Mortalities	Percent	Harvest				
Non-Treaty	15.00%	9.11%	9.11%	35%	Sport	5.28%	58%	Sport	30,100	60%	30,100			
Treaty	30.0%	18.84%	18.8%	26%	Comm	3.83%	42%	Comm	20,400	40%	20,400			
% of Harvestable Surplus		Total		LRH - Impacts			Chinook - Mainstem							
Non-Treaty	50%	23%				Impact	Percent	Mortalities	Percent	Harvest				
Treaty	50%	28%				Sport	7.67%	67%	Sport	36,300	54%	36,300		
McNary Escapement	60,000	187,400				Comm	3.70%	33%	Comm	32,500	46%	32,500		
LRH Ocean/Inriver Exp. Rate	38%	25.7%												
Non-Treaty Wild B Index Steelhead	2%	<2%												
Treaty Total B Index Steelhead	13%	13.2%												
Upriver Coho to Bonneville Dam	50%	87%												
Lower Columbia Chum	5%	<5%												
				Total	LRH	LRW	BPH	URB	LRB	PUB	SAB	SRW	LRH ER	SRW HR
Ocean Harvest				25,620	4,770	3,520	4,050	8,760	270	4,250				
Columbia River Run				574,790	77,920	35,380	52,690	299,340	7,150	101,930	390	12,280	11.37%	9.11%
Harvest Below Bonneville				2020 Fisheries Fishery Description										
Zone 4-5 Wk 33-34. Aug 9-15 + Aug 16-22	4 days	9 hr periods	6,750	1,040	0	2,400	1,800	150	1,040	0	70	0.57%	0.60%	
Zone 4-5 Wk 35. Aug 23-29	2 days	9 hr periods	9,860	1,110	0	4,310	2,090	310	1,690	0	90	0.57%	0.70%	
Zone 4-5 Wk 38. Sep 13-19	1 day	10 hr periods	6,910	970	500	1,200	2,030	290	1,780	0	80	1.18%	0.68%	
Zone 4-5 Wk 39. Sep 20-26	2 days	10 hr periods	6,960	1,000	480	0	3,250	300	1,760	0	130	1.17%	1.09%	
Zone 4-5 Wk 40-43. Sep 30-Oct 22	6 days	10/12 hr periods	2,240	0	0	0	1,560	90	520	0	60	0.00%	0.52%	
Oct Coho Tanglenet Wk 40-44	14 days	13 hr periods	910	90	240	0	440	0	90	0	20	0.10%	0.15%	
Select Areas	Full Season		3,020	1,910	0	130	300	30	160	130	10	0.11%	0.10%	
Buoy 10 Kept + Morts	1 Chinook	Aug 14-27, Sep 5,6,11,12,13, 19-Dec	15,650	4,470	1,080	1,620	4,940	300	1,720	90	200	4.91%	1.65%	
TP to Lewis Kept + Morts	1 Chinook	Aug 1-31, Sep 11-13, 19-Dec	9,430	1,320	2,140	0	3,460	320	1,660	0	140	1.45%	1.16%	
Lewis to Bonn Kept + Morts	1 Chinook	Aug 7-Sep 6; 3d-wk/Sep 11-13, 19-Dec	12,520	620	0	0	6,440	670	3,810	0	260	0.79%	2.15%	
Tributary Sport below BON	MSF	Average season	5,330	2,620	2,700	0	0	0	0	0	0	0.52%	0.00%	
Lower River Total			75,140	15,150	7,140	9,660	26,300	2,460	14,210	230	1,080	11.37%	8.79%	
Bonneville Dam Passage			396,410			38,210	272,820		85,140		11,200			
Harvest Above Bonneville														
Z6 - Bonn to Hwy 395 Kept + Morts	1 Chinook	Aug 1-Sep 8, 11-13, 19-Dec	3,880			0	960		2,480		40		0.32%	
Treaty Comm. and C&S	Average season		100,810			18,390	56,220		26,010		2,310		18.8%	
Hanford Reach Sport Kept + Morts	Average season		14,670				14,630				0			
McNary Dam Passage			187,900				187,440							
Lower Granite Dam Passage											8,902			
Escapement					62,390	28,230	16,450		4,680	29,570	170			
Hatchery				37,340		15,430			17,220	110				
Natural				25,060	28,230	1,020	187,440	4,680	12,360	60				
Hatchery Surplus				17,890		8,430			8,240	(1,090)				
Natural Surplus					21,103	(280)	127,440							

2020 Preseason Expectations and Post-season Actual Coho Harvest and Exploitation Rates		
Harvest Summary (kept + release mortalities)		
	Total Harvest Mortalities	
Fishery	Preseason	Post-season
Mainstem Commercial (all gears)	5,600	6,320
Select Area Commercial	14,000	37,445
B10 Sport	18,200	8,006
LCR Sport	1,900	1,684
Ocean Fisheries	43,400	42,971
Total Harvest/Mortalities	82,900	62,534
	Exploitation Rate	
Fishery	Preseason	Post-season
Mainstem Commercial (all gears)	1.87%	0.59%
Select Area Commercial	0.14%	0.16%
B10 Sport	2.83%	0.95%
LCR Sport	1.48%	0.13%
Ocean Fisheries	10.55%	4.90%
Total Exploitation Rate	16.87%	6.72%

2021 FORECASTS, CONSERVATION OBJECTIVES, AND POLICY GUIDANCE

Upper Columbia Summer Chinook

- Pre-PFMC Forecast = 77,600
- Considering the projected 2021 run size, OR/WA Policy guidance regarding allocation of harvest impacts for 2021 commercial and recreational fisheries is not concurrent. Oregon rule allocates non-treaty sharing downstream of Priest Rapids Dam as 80% recreational and 20% commercial. Washington Policy sharing is for 70% recreational and 30% commercial at the preseason forecasted abundance.
 - Therefore, staff is modeling fisheries at 70% recreational and 20% commercial with 10% unallocated.
- The improved forecast for 2021 should provide for recreational fishing opportunity in all areas (June 16 start, MSF, 2 fish limit?)
 - Preliminary modeling indicates the lower river would be open through ~July 4.
- Current OR/WA policy guidance regarding allowable commercial gears is not concurrent. Oregon rules do not allow use of gillnets for summer season mainstem commercial fisheries. At this time, no other gears are readily available to the commercial fleet, therefore no fishery is expected to occur.
- The first in-season run size update is typically not available until around July 1.

Sockeye

- The 2021 sockeye forecast is 155,600 and is 69% of the 10-yr average return.
- The allowable non-treaty impact rate is 1% (1,556 fish) for fisheries downstream of Hwy 395.
- Some retention opportunity is likely (June 16 start, 1 fish limit?)

Upriver Summer Steelhead

- Forecast = 101,400 (Skamania + A-Index + B-Index)
 - A-Index = 89,200 (27,500 wild)
 - B-Index = 7,600 (1,000 wild)
- Non-treaty fisheries allowed 2% impact rate on both wild A-Index and wild B-Index.
- Given the poor expected return for upriver summer steelhead, fishery restrictions similar to those enacted in recent years are likely, for example:
 - Daily bag limit may not include more than one hatchery steelhead when open.
 - Thermal angling closures for Eagle Cr., Herman Cr., and Deschutes River.
 - Rolling block steelhead retention closures for mainstem and some tributary recreational fisheries. Below is last year's pre-season closure schedule for reference:
 - August - October: Buoy 10 to The Dalles Dam
 - August - December: The Dalles Dam to John Day Dam
 - September - December: John Day Dam to Hwy 395 Bridge (Pasco)
 - Washington tributary mouth area restrictions:
 - August retention closure: Cowlitz, Lewis, Kalama lower reaches (retention closure)
 - July – October steelhead angling closure: Wind, White Salmon, Klickitat lower reaches, and Drano

Fall Chinook Policy Guidance

- Policy guidance is concurrent for the most constraining fall Chinook stock is no more than 70% for recreational fisheries and not less than 30% commercial fisheries. Gillnets allowed in Zones 4-5.
 - OR rule limits impacts for use in lower river alternative gear commercial fisheries to 2 percentage points of the commercial allocation.
 - To clarify, 2% of 30% translates to a maximum of 6.7% of the commercial allocation available for alternative gears.
- Policy guidance for recreational sport fishery objectives are not concurrent. The Oregon policy provides the following guidance shown below, but the WA policy does not provide any guidance:
 - Buoy 10 to Tongue Point: August 1 through Labor Day (34 days; assuming Labor Day is September 3).
 - Tongue Point to Warrior Rock: August 1 through September 7 as non-mark selective and an additional week of mark-selective September 8-14 (45 days).
 - Warrior Rock to Bonneville Dam: August 1 through October 31 (92 days).
 - If established objectives for mainstem recreational fisheries are predicted to be met, additional opportunity for mainstem commercial fisheries shall be provided.

Lower Columbia River (LCR) Tule Fall Chinook

- Preliminary pre-PFMC forecast = 73,100
- Total ocean and Columbia River ER limit = 38%
- Columbia River ER = ~11%
- May be the most constraining fall Chinook stock in 2021, particularly in Buoy 10.

Snake River Wild/Upriver Bright (URB) Fall Chinook

- Preliminary pre-PFMC forecast = 354,200
- Based on the pre-season URB and SRW forecasts, the allowed non-treaty URB harvest rate is $\leq 15\%$.

Columbia River Fall Chinook Returns 2020-2021			
	2020		2021
Stock	Forecast	Return	Forecast
Lower River Hatchery - LRH	50,000	77,900	73,100
Lower River Wild - LRW	19,200	35,400	20,000
Lower River Bright - LRB	7,700	7,200	8,800
Bonneville Pool Hatchery - BPH	45,500	52,700	46,800
Upriver Bright – URB	227,600	299,300	354,200
<i>Snake River Wild (SRW)</i>	<i>10,900</i>	<i>12,300</i>	<i>11,000</i>
Pool Upriver Bright - PUB	69,300	101,900	77,400
Select Area Bright - SAB	1,000	400	500
Lower River Total	78,000	120,800	102,400
Upriver Total	342,300	454,000	478,400
Columbia River Total	420,200	574,800	580,800
<i>2020 forecast/return is post-NOF; 2021 is pre-NOF</i>			
<i>SRW is a sub-component of URB</i>			

Columbia River Coho

- Current harvest matrix in place since 2015
- Ocean abundance (pre-fishery) forecast = 1,590,000 adults
 - 1,014,000 early stock and 576,000 late stock
- Guidelines: Lower River Natural (LCN) Coho impacts prioritized to Select Area fisheries, mainstem commercial Chinook fisheries, and commercial hatchery Coho fisheries (OR), followed by recreational fisheries, and then Coho-directed mainstem commercial fisheries (OR & WA). Total ocean and Columbia River ER limit = 30% on LCN Coho.
- Current OR/WA policy guidance regarding allowable commercial gears is not concurrent. Oregon rules do not allow use of 6" gillnets for Coho-directed fisheries while WA does.

Other

- Barbless hooks required in mainstem Columbia River (mouth upstream to the OR/WA border above McNary Dam).

NOAA Guidance Letter – See “Salmon Guidance Letter to PFMC” for additional information.

CONSIDERATIONS FOR 2021 FISHERIES

Track record of ESA Impacts

- Non-treaty fisheries exceeded the allowed SRW impact rate in 2017 and 2018 but were well within the allowed rate of 15% in 2019 and 2020.
- Tule impact rates have been exceeded twice since 2005.

2017-2020 SRW Fall Chinook Impacts by Fishery								
Fishery	2017		2018		2019		2020	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Mainstem Comm. Z 4-5	4.1%	4.0%	2.1%	2.2%	2.1%	1.6%	4.1%	3.6%
Coho Tangle net	0.0%	0.0%	0.3%	0.0%	0.2%	0.2%	0.2%	0.2%
Select Areas	0.2%	0.3%	0.2%	0.0%	0.2%	>0.1%	0.1%	0.1%
Buoy 10	1.6%	4.1%	1.7%	2.0%	1.5%	1.7%	3.4%	1.7%
TP to Lewis	2.2%	2.0%	1.3%	2.9%	1.1%	0.9%	2.3%	1.2%
Lewis to Bonneville	3.2%	4.8%	2.2%	2.1%	2.4%	1.8%	3.9%	2.2%
Bonneville to Hwy 395	0.7%	0.9%	0.5%	0.1%	0.8%	1.0%	0.9%	0.3%
Total	12.01%	16.00%	8.24%	9.35%	8.25%	7.4%	15.0%	9.1%
Commercial	4.3%	4.3%	2.5%	2.2%	2.5%	1.8%	4.5%	3.8%
Sport	7.7%	11.7%	5.7%	7.1%	5.8%	5.6%	10.5%	5.3%

Management Constraints

- The preseason URB and SRW forecasts are over the 15% URB harvest rate thresholds (200,000 URB and 8,000 SRW).
- Recent initial in-season run size updates (mid-September) have generally been below the final URB run size, averaging 80% of final for 2018-2020.

Harvest rates in recreational fisheries

- Buoy 10 angler effort fluctuates with annual salmon returns but average effort has remained relatively stable during the last decade when compared to years prior to 2010. However, Chinook handle rates have generally been increasing in recent years.
- Angler effort in the LCR fall recreational fishery has increased significantly over time, averaging 41,000 trips per year in the 1980s, 54,200 angler trips in the 1990s, 94,400 trips in the 2000s, and 78,100 trips in the 2010's.
 - Annual fall Chinook catch has also increased substantially, averaging 2,300 during the 1980s, 5,000 during 1990s, 14,700 during the 2000s, and 19,100 in the 2010's.

Non-target handle in recreational fisheries

- Due to various reasons (higher Chinook catch rates, varying URB HR, steelhead closures, lower Coho mark rates), a lower proportion of the fish handled in fall fisheries are being retained, resulting in more release mortalities.
- During certain timeframes in the different recreational fishery components, anglers have expressed concern over the higher numbers of non-target fish being caught and released.
- In 2019, the LCR remained open for hatchery Coho when Chinook retention closed to allow access to the expected high hatchery Coho return. With retention of most salmonids prohibited (Chinook, steelhead, and unmarked Coho), the ratio of target to non-target salmonids was low resulting in 53% of all salmonids handled that year being released. Based on the low Coho forecast for 2020, angling for salmonids in the LCR (TP-Bonneville) was closed whenever Chinook retention was prohibited resulting in a 25% non-target handle rate. The high Coho forecast for 2021 warrants discussion of which approach to take this year for the LCR and above Bonneville sport fisheries.

2021 Management Approach (Preliminary Modelling Rationale and Results)

- Rationale/assumptions
 - Model runs incorporate
 - FRAM output from PFMCC#1 Alternative 1b
 - Alternative 1b exceeds LRH 38.0%, other options meet objective.
 - In-river: 10.5% LRH ER
 - SRW: 15% SRW/URB HR
 - Allocation: no less than 30% for commercial fisheries and no more than 70% for recreational fisheries for the most constraining stock (LRH).
 - Recreational Chinook fishery season objectives (see page 9) in the OR policy guided initial modeling.
 - MSF regulations are being used to meet the Labor Day objective for Buoy 10.
 - MSF has been used in the past (2013-2016) to achieve the Buoy 10 objective.
 - Objectives for Tongue Point-Bonneville Dam match OR objectives.
 - Tongue Point-West Puget Island is open concurrent with Tongue Point-Warrior R.
 - Reserve Chinook mortalities to cover Coho-directed fisheries.
 - Steelhead modeling is not complete but recreational and commercial fisheries are expected to be within the allowable impact rate.

Columbia River Fall Chinook Fishery Model Summary										MR2021-Preseason OFWC Fall Objectives Base										
Ocean Option:	Alt 1b	16-Mar																		
Columbia River Model Option:	Model	MR2021-Preseason OFWC Fall Objectives Base																		
										Non-Treaty Catch Sharing										
Management Guidelines		Goal/Guideline	SRW	Total URB		SRW - IMPACTS			Brights - Mainstem											
Harvest Rate	45.00%	44.8%	44.9%	44.9%	model	allowed@70/30	Impact	Percent	Mortalities	Percent	Harvest									
Non-Treaty	15.00%	14.8%	14.9%	14.9%	33560	37716	Sport	9.22%	62.3%	Sport	47,500	65%	47,500							
Treaty	30.0%	30.0%	30.0%	30.0%	19100	16164	Comm	5.59%	37.7%	Comm	25,000	35%	25,000							
% of Harvestable Surplus		Total			52660	53880	LRH - Impacts			Chinook - Mainstem										
Non-Treaty	50%	33%					Impact	Percent	Mortalities	Percent	Harvest									
Treaty	50%	37%					Sport	7.20%	69.4%	Sport	61,900	63%	61,900							
McNary Escapement	60,000	171,900					Comm	3.17%	30.6%	Comm	35,100	37%	35,100							
LRH Ocean/Inriver Exp. Rate	38%	38.9%																		
Non-Treaty Wild B Index Steelhead	2%																			
Treaty Total B Index Steelhead	13%																			
Upriver Coho to Bonneville Dam	50%																			
Lower Columbia Chum	5%																			
										Total	LRH	LRW	BPH	URB	LRB	PUB	SAB	SRW	LRH ER	SRW HR
Ocean Harvest										76,550	12,260	6,290	9,960	39,490	1,060	7,500				
Columbia River Run										569,740	72,130	19,650	46,050	359,200	9,990	62,240	500	10,900	10.37%	14.81%
										2020 Fisheries										
										Harvest Below Bonneville										
										Fishery Description										
Zone 4-5 Wk 33. Aug 8-14				Aug 9, 11	1,190	60	0	190	890	0	40	0	30	0.06%	0.25%					
Zone 4-5 Wk 34. Aug 15-21				Aug 15, 17, 19	5,780	590	0	1,520	3,220	40	410	0	100	0.48%	0.90%					
Zone 4-5 Wk 35. Aug 22-28				Aug 23, 25	6,880	690	20	1,820	3,650	100	600	0	110	0.58%	1.02%					
Zone 4-5 Wk 36. Aug 29-Sep 4				Aug 30	6,000	590	0	1,540	2,910	130	840	0	90	0.56%	0.81%					
Zone 4-5 Wk 38. Sep 12-18				1 day	4,990	530	200	760	2,620	260	630	0	80	0.54%	0.73%					
Zone 4-5 Wk 39. Sep 19-25				2 day	6,240	450	290	780	3,580	260	880	0	110	0.47%	1.00%					
Zone 4-5 Wk 40. Sep 26-Oct 2				1 day	1,480	0	0	210	970	150	150	0	30	0.00%	0.27%					
Zone 4-5 Wk 41 October				1 day early	1,480	0	0	210	970	150	150	0	30	0.00%	0.27%					
Oct Coho Tanglenet				Coho target	1,020	90	80	0	770	0	80	0	20	0.08%	0.21%					
Select Areas				Full Season	5,780	4,810	0	190	490	10	70	210	10	0.40%	0.14%					
Buoy 10 Kept + Morts	2 fish / 1 CHF	Aug1-13-MSF; Aug14-Sep6 nMSF; Sep7+ CO only			26,540	6,180	1,260	3,550	9,770	570	3,710	170	290	5.43%	2.68%					
TP to Lewis	2 fish / 1 CHF	Aug1-Sep7-nMSF; Sep8-14-MSF; Sep15+ CO only			9,880	880	490	220	6,800	160	1,270	60	200	0.76%	1.81%					
Lewis to Bonn	2 fish / 1 CHF	Aug 1 - Oct 31 nMSF; Nov 1+ Closed			19,220	680	0	890	13,420	580	3,640	0	410	0.71%	3.74%					
Tributary Sport	MSF	Average season			3,650	2,290	1,360	0	0	0	0	0	0	0.29%	0.00%					
Lower River Total					98,800	17,830	3,700	11,880	50,070	2,410	12,470	440	1,510	10.4%	13.82%					
Bonneville Dam Passage										386,490			28,640	309,130		48,720		9,400		
Harvest Above Bonneville																				
Z6 - Bonn to Hwy 395	2 fish / 1 CHF	Aug 1 - Oct 31 nMSF; Nov 1+ Closed			6,250			670	3,570		2,010		110		0.99%					
Treaty Comm. and C&S		Average season			152,580			15,750	107,760		29,060		3,270		30.0%					
Hanford Reach Sport		Average season			12,500				12,500				0							
McNary Dam Passage										171,860				171,860						
Lower Granite Dam Passage																		6,080		
Escapement											54,300	15,950	12,220		7,580	17,650	60			
Hatchery																				
Natural																				
Hatchery Surplus						19,380		3,230			(1,450)	(1,170)								
Natural Surplus							8,564	680	111,860											

2021 Fall Recreational - Preliminary Modelling Results

OFWC "Fall Objectives" Base	Chinook Retention	Daily Bag*	CHF Morts (kept+rel)	URB Morts (kept+rel)	Impact delta from Base
Buoy 10	8/1-13 MSF; 8/14-9/6 nMSF	2 fish/1 CHF bag 8/1-9/6; 3 fish/0 CHF 9/7+	26,540	9,770	
Tongue Pnt-Warrior R. **	8/1-9/7 nMSF; 9/8-14 MSF	2 fish/1 CHF bag 8/1-9/14; 2 fish/0 CHF 9/15+	9,880	6,800	
Warrior R.-Bonneville	8/1-10/31 nMSF	2 fish/1 CHF bag 8/1-10/31;	19,220	13,420	
Zone 6+McN-395	8/1-10/31 nMSF	11/1+ closed	6,250	3,570	

Other Approach (WA)	Chinook Retention	Daily Bag*	CHF Morts (kept+rel)	URB Morts (kept+rel)	Impact delta from Base
Buoy 10	8/1-23 nMSF	2 fish/1 CHF bag 8/1-23; 2 fish/0 CHF 8/24-9/6; 3 fish/0 CHF 9/7+	19,130	6,570	+0.12% LRH ER -0.85% SRW HR
Buoy 10	8/1-? nMSF; 8/?-9/6 MSF	2 fish/1 CHF bag 8/1-9/6; 3 fish/0 CHF 9/7+	TBD	TBD	

* Rolling steelhead closures will be in effect

**Tongue Pnt-Warrior R. with nMSF 8/1-9/10 results in similar estimates.

2021 Commercial Option

NT preseason commercial industry request

	Catch	Season	URB Catch	Catch/URB
Commercial				
Zone 4-5 Wk 32. Aug 1-7		none		
Zone 4-5 Wk 33. Aug 8-14	1,190	2 periods	890	1.3
Zone 4-5 Wk 34. Aug 15-21	5,780	3 periods	3,220	1.8
Zone 4-5 Wk 35. Aug 22-28	6,880	2 periods	3,650	1.9
Zone 4-5 Wk 36. Aug 29-Sep	6,000	1 period	2,910	2.1
August Subtotal	19,850	8 periods	10,670	
Zone 4-5 Wk 38. Sep 12-18	4,990	1 period	2,620	1.9
Zone 4-5 Wk 39. Sep 19-25	6,240	2 periods	3,580	1.7
Zone 4-5 Wk 40. Sep 26-Oct 2	1,480	1 period	970	1.5
Zone 4-5 Wk 41. Oct 3-9	1,480	1 period	970	1.5
Oct Coho Tanglenet	1,020	TBD	770	1.3
September+ Subtotal	15,210		8,910	
Select Area	5,780	Full Season	490	11.8
Grand Total	40,840		20,070	

Ocean fishery options - see "2021 NOF Ocean Management Alternatives"

*Oregon/Washington Departments of Fish and Wildlife
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