

North of Falcon Planning

2024 Summer Chinook (pre-PFMC), sockeye, and upriver summer steelhead forecasts

<i>Columbia River Adult Salmon Returns: Actual and Forecasted</i>				
		2023	2023	2024
		Forecast	Return	Forecast
Spring Chinook	Upriver Total *	198,600	141,179	121,000
	Upper Columbia	41,400	24,917	19,400
	<i>Upper Columbia natural-origin</i>	5,800	2,836	2,700
	Snake River Spring/Summer **	85,900	82,433	63,500
	<i>Snake River natural-origin**</i>	13,200	10,826	9,200
	Lower River Total	117,000	75,407	84,600
	Total Spring Chinook	315,600	216,586	205,600
	<u>Area-specific detail</u>			
	Willamette River	71,000	38,373	48,800
	<i>Willamette River hatchery-origin</i>	53,100	26,094	39,300
	Sandy River	7,800	6,312	7,700
	Select Areas***	22,100	18,789	18,100
	Cowlitz River	9,000	6,217	4,700
	Kalama River	2,400	2,525	1,900
	Lewis River	4,700	3,191	3,400
	Wind River***	4,400	5,068	4,200
	Drano Lake/Little White Salmon River***	8,000	7,550	5,300
	Hood River***	n/a	2,038	n/a
	Klickitat River***	1,400	651	1,300
	Deschutes River***	n/a	2,387	n/a
	John Day River***	n/a	2,686	n/a
	Umatilla River***	2,500	2,502	n/a
	Yakima River***	5,500	2,670	2,400
Summer Chinook	Upper Columbia	85,400	54,722	53,000
Sockeye	Total Sockeye	234,500	329,040	401,700
	Wenatchee	44,300	146,875	97,000
	Okanogan	187,400	179,655	288,700
	Yakima	100	443	12,100
	Deschutes	100	68	100
	Snake River	2,600	1,999	3,800
Winter Steelhead	Wild	15,700	14,699	14,400
Summer Steelhead	Total Upriver Steelhead	67,800	113,891	126,200
(to Bonneville Dam)	Upriver Skamania Index (total)	4,400	3,204	4,000
	<i>(wild)</i>	2,100	1,391	1,800
	A-Index (total)	55,400	90,900	89,900
	<i>(wild)</i>	17,300	30,593	32,400
	B-Index (total)	8,000	19,787	32,200
	<i>(wild)</i>	1,300	1,616	4,000

* Upriver totals are developed by TAC for use in management of *U.S. v. OR* fisheries. Wild components are included in the stock total. Area-specific estimates for upriver tributaries detailed here are provided by other agencies/entities and may not sum to TAC's upriver abundance estimates.

** 2023 return is based on current TAC run reconstruction methodology.

*** Return to tributary mouth.

2/14/2024

Preliminary fall Chinook forecasts

- River mouth run size forecasts are finalized at the conclusion of April PFMC.

Stock Group	2023		2024
	February Forecasts	Actual Returns	February Forecasts
Lower River Hatchery - LRH	77,100	87,127	85,500
Lower River Wild - LRW	8,600	11,415	10,500
Lower River Bright - LRB	4,300	3,160	2,400
Bonneville Pool Hatchery - BPH	136,100	198,864	129,800
Upriver Bright - URB	272,400	338,991	258,300
<i>Snake River Wild (SRW)</i>	<i>13,300</i>	<i>12,420</i>	<i>9,300</i>
Pool Upriver Bright - PUB	48,300	78,938	61,000
Select Area Bright - SAB	600	1,742	300
Columbia River Total	547,400	720,237	547,800

Coho forecast – pre-harvest ocean abundance

- 2023 forecast and post-season estimate and 2024 forecast of ocean abundance of OPI-H and OCN coho prior to harvest (thousands of fish). The 2024 forecast was derived from the newly Council-approved ARIMA MAPE-weighted ensemble forecast methodology.
- River mouth run size forecasts are produced/finalized at the conclusion of PFMC.

	2023			2024
	Pre	Post	Pre/Post	Forecast
Columbia River Early	481.8	365.3	132%	227.5
Columbia River Late	404.3	143.6	282%	173.6
<i>Columbia River Subtotal</i>	886.1	508.9	174%	401.1
<i>Coast Subtotal</i>	10.8	5.3	202%	2.0
Total (OPI-H)	896.9	514.2	174%	403.1
<i>OCN Rivers</i>	226.3	171	132%	217.7
<i>OCN Lakes</i>	12.5	14.7	85%	15.5
OCN Total	238.8	185.7	129%	233.2
Grand Total	1135.7	699.9	162%	636.3

Consideration for 2024 fisheries (harvest control limits and/or commission guidance)

- Upper Columbia Summer Chinook
 - Final in-river allocations of upper Columbia River summer Chinook for 2024 will not be available until after the April PFMC meeting as ocean non-treaty (NT) fisheries are counted as part of the non-treaty allocation.
 - OR/WA Fish and Wildlife Commission guidance:
 - <PRD harvest allocations are non-concurrent: 70% recreational; 20% commercial; 10% unallocated.
 - Oregon rule does not allow for the use of gillnets in mainstem summer Chinook commercial fisheries.
- Sockeye
 - 1.0% Snake River allowable ESA-impact harvest rate (HR) for non-treaty fisheries.
 - Wenatchee/Okanogan escapement goals are forecasted to be met.
 - OR/WA Fish and Wildlife Commission guidance:
 - ESA allocations are non-concurrent: 70% recreational; 20% commercial; 10% unallocated.
 - Commercial fisheries targeting sockeye are not allowed in rule/policy. The commercial allocation of sockeye is available for use in Chinook-directed fisheries.
- Upriver Summer Steelhead
 - 2% non-treaty ESA-impact HR limit on both natural-origin A- and B-Index management stocks.
 - Preseason forecasts indicate the 2024 return could be low again; expect continued restrictions.
- Fall Chinook
 - 2024 constraints are expected to be similar to what occurred in 2023 given allowable ESA-impact rates due to similar abundances and associated commission guidance is similar.
 - OR/WA Fish and Wildlife Commission guidance:
 - Fall Chinook ESA is concurrent: no more than 70% of the most constraining stock to the recreational fishery and no less than 30% to the commercial fishery.
 - OR rule restricts gillnets to Zones 4-5.
 - OR rule provides defined fall Chinook recreational fishery season objectives; if season objectives are predicted to be met, additional opportunity for mainstem commercial fisheries shall be provided.
 - URB/SRW
 - Preseason URB and SRW forecasts are over the thresholds to allow for a 15.0% URB/SRW HR (thresholds: 200,000 URB, 8,000 SRW).
 - LRH
 - NMFS recently revised the abundance tier values in the harvest rate matrix to account for anticipated lower tule Chinook salmon abundance beginning in 2024 as a result of reductions in Mitchell Act production of tule Chinook. The reductions were realized with the juveniles released in 2022 (i.e., brood year 2021 for tule fall Chinook). See Agenda Item C.1.a Supplemental NMFS Report 1 March 2024 for more information.
 - The preseason LRH forecast abundance allows for a total exploitation rate (ER) of 41% which is shared between in-river and ocean fisheries.

- Columbia River Coho
 - Lower River Natural (LCN) coho ESA impacts will be limited to 23.0% ER which is shared between in-river and ocean fisheries.
 - OR/WA Fish and Wildlife Commission guidance:
 - LCN coho ESA impacts are prioritized by fisheries; there is no numerical allocation.
 - OR rule does not allow for the use of gillnets in Zones 1-3.
- Chum
 - 5% ESA-impact HR limit for Columbia River non-treaty fisheries.
 - WA/OR Fish and Wildlife Commission guidance:
 - Recreational and commercial harvest (retention) is not permitted.
- Alternative Gear (Commercial) Fisheries
 - The states expect that limited alternative gear fisheries (up to 3 pound nets and 3 seines) will occur in 2024 as part of a multi-year evaluation conducted through WDFW’s Emerging Commercial Fishery process. OR/WA will set aside 2% ESA impacts of the non-treaty share for the most constraining stock for use in these fisheries.
- March PFMC alternative modeling results
 - Alternative 1 (high option)
 - LRH: 40.6% total ER; 10.5% in-river ER
 - LCN Coho: 22.3% total ER
 - Upper Columbia summer Chinook: 5,828 ocean NT; 7,824 in-river NT fisheries
 - Alternative 2 (medium option)
 - LRH: 39.5% total ER; 10.7% in-river ER
 - LCN Coho: 20.8% total ER
 - Upper Columbia summer Chinook: 4,366 ocean NT; 9,073 in-river NT fisheries
 - See table below for LRH breakout for current ocean alternatives under consideration. Northern (Alaska/Canada) and inside (Puget Sound/Coastal/Columbia River) fisheries will be updated and incorporated in the model runs at the April Council meeting.

	Chin0724	Chin0824	Chin0924
	Alt 1	Alt 2	Alt 3
SEAK	2.0%	2.1%	2.1%
BC	13.9%	14.1%	14.3%
PS, JDF, WACoast	0.4%	0.4%	0.4%
NoF			
Treaty Troll	2.2%	2.0%	1.7%
Recreational	4.5%	4.1%	3.8%
Non-Indian Troll	6.1%	5.6%	5.1%
SoF			
Recreational:	0.2%	0.1%	0.1%
Troll:	0.8%	0.4%	0.2%
River	10.5%	10.7%	10.8%
TOTAL	40.6%	39.5%	38.6%

2023 Preliminary pre-season/post-season results

2023 Upper Columbia Summer Chinook Allocations				
<i>(All data preliminary and includes kept + release mortalities)</i>				
	Pre		Post	
Runsize	85,387		54,722	
Harvest allocated Fishery	Allowed Pre	Post	Actual Take	Actual/ Allowed
PFMC Ocean Fisheries	5,318	2,420	2,420	100%
Below Priest Rapids Dam (PRD)	37.1%	19.4%	23.2%	
Commercial below BON	1,516	418	51	12%
Recreational Below Bonneville	4,511	1,245	2,162	174%
Recreational BON to PRD	796	220	136	62%
Unallocated	758	174		0%
Below PRD Total	7,581	2,056	2,349	114%
Above Priest Rapids Dam (PRD)	62.9%	80.6%	76.8%	
Wanapum Tribal	343	91	73	80%
Colville Tribal	7,076	4,333	1,759	41%
Recreational above PRD	5,447	4,242	5,943	140%
Above PRD Total	12,865	8,666	7,775	90%
Non-Treaty Total	25,765	13,143	12,544	95.4%

2024 Columbia River NOF/PFMC update
 March 12, 2024

Columbia River Fall Chinook Fishery Model Summary													
Ocean Option:		Chin2023											
Columbia River Model Option:		Model		MR2023-Final Preseason 4-13-23									
				MR2023-Final Preseason 4-13-23									
				Non-Treaty Catch Sharing									
Management Guidelines		Goal/Guideline	SRW	Total URB									
Harvest Rate		45.00%	42.5%	43.5%									
Non-Treaty		15.00%	12.0%	13.5%									
Treaty		30.0%	30.6%	30.0%									
% of Harvestable Surplus			Total										
Non-Treaty		50%	33%										
Treaty		50%	43%										
McNary Escapement		60,000	136,400										
LRH Ocean/Inriver Exp. Rate		38%	38.0%										
Non-Treaty Wild B Index Steelhead		2%	0.7%										
Treaty Total B Index Steelhead		13%	13%										
Upriver Coho to Bonneville Dam		50%	60%										
Lower Columbia Chum		5%	1.14%										
				SRW - IMPACTS									
		Impact	Percent					Brights - Mainstem					
Sport		7.41%	62%					Sport		36,800	69%		
Comm		4.57%	38%					Comm		16,300	31%		
Total		11.98%											
				LRH - Impacts									
		Impact	Percent					Chinook - Mainstem					
Sport		6.57%	70%					Sport		66,500	64%		
Comm		2.83%	30%					Comm		37,400	36%		
Total		9.41%											
Ocean Harvest													
		Total	LRH	LRW	BPH	URB	LRB	PUB	SAB	SRW	LRH ER	SRW HR	
		74,350	13,880	2,480	27,300	25,640	400	4,650					
Columbia River Run													
		554,080	77,140	8,710	135,310	278,550	4,400	49,370	600	13,300	9.41%	11.90%	
Harvest Below Bonneville													
2023 Fishery Description													
Zone 4-5 Wk 32. Aug 6-12		1	410	30	0	140	220	0	10	0	10	0.02%	0.08%
Zone 4-5 Wk 33. Aug 13-19		2	1,100	80	0	410	560	0	30	0	30	0.07%	0.20%
Zone 4-5 Wk 34. Aug 20-26		2	9,870	910	0	5,210	3,230	40	480	0	150	0.68%	1.16%
Zone 4-5 Wk 35. Aug 27-Sep 2		3	18,840	1,450	0	11,420	4,500	140	1,330	0	210	1.13%	1.61%
Zone 4-5 Wk 36. Sep 3-9		0	0	0	0	0	0	0	0	0	0	0.00%	0.00%
Zone 4-5 Wk 37. Sep 10-16		0	0	0	0	0	0	0	0	0	0	0.00%	0.00%
Zone 4-5 Wk 38. Sep 17-23		<1	1,670	180	20	520	710	30	210	0	30	0.18%	0.26%
Zone 4-5 Wk 39. Sep 24-30		1	1,780	250	20	380	830	60	240	0	40	0.25%	0.30%
Zone 4-5 Wk 40-43 October		2	1,860	0	0	0	780	150	930	0	40	0.00%	0.28%
Fall Tanglenet Wk 40-44			1,920	110	50	10	1,560	10	170	0	70	0.10%	0.56%
Select Areas			4,240	2,810	0	830	340	10	100	150	20	0.40%	0.12%
Buoy 10 to WPI Kept + Morts		2 fish/1 CHF	37,450	14,150	260	8,560	8,520	70	3,240	240	200	3.21%	1.53%
WPI to Lewis		2 fish/1 CHF	10,400	1,510	450	230	5,870	150	1,720	0	370	1.40%	2.11%
Lewis to Bonn		2 fish/1 CHF	12,330	1,550	220	10	7,930	210	2,420	0	290	1.66%	2.85%
Tributary Sport		MSF	1,090	870	220	0	0	0	0	0	0	0.30%	0.00%
Lower River Total			102,950	23,890	1,240	27,720	35,050	870	10,890	390	1,470	9.41%	10.98%
Bonneville Dam Passage			374,060			93,610	243,500		36,950		11,830		
Harvest Above Bonneville													
Z6 - Bonn to Hwy 395		2 fish/1 CHF	6,300			800	2,570		2,930		120		0.92%
Treaty Comm. and C&S			170,690			75,770	83,560		11,350		4,060		30.0%
Hanford Reach Sport			8,780				8,780				0		
McNary Dam Passage			136,450				136,450						
Lower Granite Dam Passage											8,057		
Escapement													
Hatchery			32,060			14,560			8,510		150		
Natural			21,190	7,470	2,480	136,450	3,530	14,150			50		
Hatchery Surplus			17,150			7,560			(470)		(1,050)		
Natural Surplus				682	1,180	76,450							

Columbia River Fall Chinook Fishery Model Summary

Ocean Option: **PrelimPostseason**

Columbia River Model Option: **Model MR2023-PostseasonDRAFT 3-7-24**

MR2023-PostseasonDRAFT 3-7-24

Management Guidelines	Goal/Guideline	SRW	Total URB
Harvest Rate	45.0%	29.07%	29.66%
Non-Treaty	15.0%	10.38%	11.11%
Treaty	30.0%	18.69%	18.54%
% of Harvestable Surplus		Total	
Non-Treaty	50%	26%	
Treaty	50%	27%	
McNary Escapement	60,000	196,100	
LRH Ocean/Inriver Exp. Rate	38%	28.86%	
Non-Treaty Wild B Index Steelhead	2%	TBD	
Treaty Total B Index Steelhead	15%	TBD	
Upriver Coho to Bonneville Dam	50%	82%	
Lower Columbia Chum	5%	TBD	

Non-Treaty Catch Sharing					
SRW - IMPACTS			Brights - Mainstem		
	Impact	Percent		Mortalities	Percent
Sport	6.67%	64%	Sport	48,100	78%
Comm	3.71%	36%	Comm	13,300	22%
Total	10.38%				
LRH - Impacts			Chinook - Mainstem		
	Impact	Percent		Mortalities	Percent
Sport	3.19%	60%	Sport	64,900	66%
Comm	2.17%	40%	Comm	33,100	34%
Total	5.36%				

	Total	LRH	LRW	BPH	URB	LRB	PUB	SAB	SRW	LRH ER	SRW HR		
Ocean Harvest	70,360	10,320	2,200	31,210	22,450	360	3,820						
Columbia River Run	720,240	87,130	11,420	198,860	338,990	3,160	78,940	1,740	12,420	5.36%	10.38%		
Harvest Below Bonneville	2023 Fishery Description												
Zone 4-5 Wk 32. Aug 6-12	410	60	0	0	340	0	0	0	10	0.00%	0.10%		
Zone 4-5 Wk 33. Aug 13-19	1,350	350	0	420	560	0	0	0	20	0.35%	0.16%		
Zone 4-5 Wk 34. Aug 20-26	4,960	330	0	2,910	1,430	20	140	0	50	0.25%	0.42%		
Zone 4-5 Wk 35. Aug 27-Sep 2	20,680	1,640	0	12,140	5,010	160	1,290	0	180	1.21%	1.48%		
Zone 4-5 Wk 38 Sep 17-23	*2 2,160	110	0	1,590	370	0	50	0	10	0.00%	0.11%		
Zone 4-5 Wk 39 Sep 24-30	3 1,290	0	0	0	1,170	0	50	0	40	0.00%	0.35%		
Zone 4-5 Wk 40-42 October	6 1,490	0	0	0	1,000	0	460	0	40	0.00%	0.30%		
	0	0	0	0	0	0	0	0	0	0.00%	0.00%		
	0	0	0	0	0	0	0	0	0	0.00%	0.00%		
Fall TangleNet Wk 40-43	28	Coho target	1,590	260	0	0	1,210	0	0	40	0.23%	0.36%	
Select Areas	8,440	Full Season	8,440	4,220	0	1,110	1,490	0	140	740	50	0.13%	0.44%
Buoy 10 to WPI Kept + Morts	2-3 fish/1 CHF	Aug1-Sep4 MSF; Sep5-7 Coho; Sep8-Dec31 nMSF	21,690	8,050	360	6,180	4,880	10	1,130	300	90	2.05%	0.71%
WPI to Lewis	2 fish/1 CHF	Aug 1-Sep 4; Sep 15-17; Sep 22-Dec 31 nMSF	9,600	1,010	0	0	5,160	130	1,680	100	190	0.88%	1.52%
Lewis to Bonn	2 fish/1 CHF	Aug1-Dec31 nMSF	20,990	220	1,410	1,390	13,240	250	3,100	0	490	0.00%	3.91%
Below Bonn Tributary Sport	MSF	Average season	2,760	1,810	800	0	0	0	0	0	0	0.25%	0.00%
Lower River Total	97,410	18,050	2,570	25,730	35,860	570	8,050	1,140	1,220	5.36%	9.85%		
Bonneville Dam Passage	598,220			172,260	302,900		70,610		11,200				
Harvest Above Bonneville													
Z6 - Bonn to Hwy 395	2 fish/1 CHF	Aug1-Dec 31 nMSF	18,370		0	1,820	14,530		70		0.54%		
Treaty Comm. and C&S		Average season	154,630		76,050	62,630	11,760		2,310		18.5%		
Hanford Reach Sport		Average season	11,100		10,460		160		0				
McNary Dam Passage			213,930		196,090								
Lower Granite Dam Passage									7,491				
Escapement													
Hatchery			68,730	8,850	64,440		2,600	25,640	610				
Natural			37,180		63,170			13,340	580				
			31,550	8,850	1,270	196,090	2,600	12,290	30				
Hatchery Surplus			15,080		56,170			4,370	(620)				
Natural Surplus				1,929	(30)	136,090							

2023 Pre-season Coho catch and impact summary

FRAM Run: bc-Coho2317_NOF

Catch Summary						
Fishery	Total Mortality	Unmarked morts (kept + rel. mort)			Marked Kept Catch	
		Early	Late	Total	Early	Late
Mainstem commercial	44,237	4,709	838	5,547	9,611	29,080
Youngs Bay	20,603	851	-	851	19,752	-
Blind/Knappa	9,426	805	-	805	8,620	-
Tongue Point	13,776	947	-	947	12,829	-
Deep River	2,348	-	96	96	-	2,252
LCR Sport Catch	2,603	173	29	201	791	1,611
B10 Catch	45,806	5,931	203	6,134	29,133	10,539
Ocean Catch	306,475	30,222	3,741	33,963	107,921	164,591
Sum	445,274	43,637	4,907	48,544	188,657	208,073

Exploitation Rates						
Fishery		Unmarked			Marked	
		Early	Late	Total	Early	Late
Lower Mainstem		0.89%	2.38%	1.45%	2.65%	6.84%
Upper Mainstem		0.81%	1.13%	0.93%	0.88%	0.71%
Select Areas		0.18%	0.04%	0.13%	15.11%	0.58%
B10 Sport		2.70%	0.83%	2.01%	10.68%	2.74%
LCR Sport		0.08%	0.12%	0.09%	0.29%	0.42%
Ocean		13.78%	15.35%	14.36%	39.58%	42.72%
Sum		18.44%	19.86%	19.0%	69.19%	54.01%

2023 Post season Coho catch and impact summary

FRAM Run: bc-bk2023_postOPITT_2.6.24

Catch Summary						
Fishery	Total Mortality	Unmarked morts (kept + rel. mort)			Marked Kept Catch	
		Early	Late	Total	Early	Late
Mainstem commercial	8,926	1,509	279	1,788	3,327	3,811
Youngs Bay	16,738	758	-	758	15,980	-
Blind/Knappa	18,869	797	-	797	18,072	-
Tongue Point	11,935	947	-	947	10,988	-
Deep River	89	-	11	11	-	78
LCR Sport Catch	3,906	215	100	314	2,046	1,546
B10 Catch	11,032	1,411	90	1,501	8,369	1,162
Ocean Catch	89,224	18,560	4,699	23,259	38,546	27,419
Sum	160,720	24,197	5,179	29,376	97,328	34,016

Exploitation Rates						
Fishery		Unmarked			Marked	
		Early	Late	Total	Early	Late
Lower Mainstem		0.25%	0.53%	0.36%	1.19%	3.16%
Upper Mainstem		0.44%	0.28%	0.37%	0.53%	0.35%
Select Areas		0.22%	0.00%	0.13%	23.38%	0.07%
B10 Sport		0.82%	0.26%	0.58%	4.34%	1.07%
LCR Sport		0.12%	0.28%	0.19%	1.06%	1.42%
Ocean		10.75%	13.45%	11.89%	20.01%	25.24%
Sum		12.60%	14.80%	13.53%	50.53%	31.31%