

Columbia River

2021 Adult Returns and 2022 Expectations

December 14, 2021 - DRAFT

	2021 Results	2022 Expectations
Willamette Spring Chinook	50,050 predicted adult return to CR (27% wild) 41,308 actual adult return (83% of forecast; 19% wild) 1,840 jack return (83% of 5-yr avg. 2,206) 39,959 adult return to Willamette R 28,646 adult/1,379 jack count at Willamette Falls 3,733 return (3,382 adult) to Clackamas	~51,200 CR adult return +1,740 jacks 4,200 adults to Clackamas
Sandy River	5,300 predicted adult CR return vs. 5,676 actual to CR	5,600 CR return
Cowlitz River	1,800 predicted adult CR return vs. 3,478 actual to CR	4,100 CR return
Kalama River	2,200 predicted adult CR return vs. 1,883 actual to CR	2,000 CR return
Lewis River	2,400 predicted adult CR return vs. 2,840 actual to CR	2,400 CR return
Wind River	1,200 predicted adult trib. return vs. 3,227 actual to trib.	4,200 to trib.
Drano (LWS)	3,900 predicted adult trib. return vs. 3,299 actual to trib.	3,800 to trib.
Klickitat	1,500 predicted adult trib. return vs. 1,821 actual to trib.	1,800 to trib.
Upriver Spring Chinook	75,200 predicted adult return 91,736 actual (~122% of forecast; 4 th lowest since 1999) 15,592 jacks @BON (2x 2020 passage; 68% of 10-yr avg.)	122,900 predicted highest since 2016 65% of 10-yr avg. return
Upper Columbia Summer Chinook	78,800 predicted adult return 56,800 actual (72% of forecast; 79% of 10-yr avg.) 9,686 BON jacks (76% of 10-yr avg.) Adult mark rate ~69% @ BON	57,500 predicted 29,000 escapement goal (at CR mouth)
Sockeye	155,600 predicted return 151,765 actual (98% of forecast)	198,700 CR return 200 SR stock; Wenatchee < esc. goal
Upriver Summer Steelhead	101,400 predicted return at BON 69,669 @ BON (69% of forecast; 35% of 10-yr (200K)	TBD
Bright Fall Chinook	455,100 predicted adult return Preliminary return ~80% of forecast	TBD
Tule Fall Chinook	121,100 predicted adult return Preliminary return similar to forecast	TBD
Coho	1,343,200 predicted adult return Preliminary return ~50% of forecast	Jack return 6 th highest since 1977
Shad	5.8 million minimum run vs. 10-yr avg. of 3.7 million	Strong run expected
Smelt	Spawning-stock biomass estimate ~9,000,000 pounds (highest since 2015)	Moderate run expected but improved over 2021
White Sturgeon	TBD	TBD

Recreational Fisheries

	2021 Results	2022 Expectations
Oregon Tributary Spring Chinook		
Lower Willamette River	Open 7 d/week under permanent regs; two poles allowed 76,802 trips (3/1-6/27) 6,334 adults kept (1,141 rel; 85% mark rate)	Permanent regs likely
Clackamas River	282 trips <River Mill Dam (5/24-6/27) 5 adults kept (12 rel)	Permanent regs likely
Sandy River	~600 adults kept	Permanent regs likely
Washington Tributary Spring Chinook		
Cowlitz River	7 d/wk 1/1-3/4 and 6/26-7/31 2 fish bag; closed 3/5-6/25 ~50 adults kept	Season TBD
Kalama River	7 d/wk 1/1-7/31; 2 fish bag 1/1-3/4 and 6/5-7/31; 1 fish 3/5-6/4 ~460 adults kept	Season TBD
Lewis River	7 d/wk 1/1-4/30 1 fish bag; closed 5/1-7/31 ~200 adults kept	Season TBD
Columbia River Fisheries		
Spring Season LCR	Chinook open: B10-I-5 Bridge; Jan-Feb; 7 d/wk; 2 Chinook bag B10-BON: 3/1-4/4 - Bank only Beacon R to BON TP-BON: 5/21-5/23, 5/29 and 6/1-6/15 2 fish/1 hatchery Chinook bag; 2 hatchery Chinook 6/12-6/15 Cowlitz Bubble 3/1-6/15 1 STH bag 5/21-6/15 67,219 trips (highest since 2018) 5,385 adult Chinook kept (1,128 rel) 294 STH kept (224 rel); 67 SOK rel)	Season TBD
Spring Season BON to McN	Chinook open 3/16-5/5, 5/22-23, 5/29-30, 6/5-6, 6/12-15 2 fish/1 hatchery Chinook bag; 2 hatchery Chinook 6/12-6/15 5,211 trips; 745 adult Chinook kept (341 rel)	Season TBD
Spring Season McN-OR/WA	Chinook open same as BON-McN 2 fish/1 hatchery Chinook bag 16 adult Chinook kept (7 rel)	Season TBD
Spring Season Snake River	Chinook open (IH section): May 4, 7, 11, 25, 28, June 4, and 6 7,736 angler hours; 443 adult Chinook kept (123 rel)	Season TBD
Summer Season LCR	Chinook open 6/16-7/5 Astoria Br.- BON SOK/STH open 6/16-7/31 Astoria Br - BON 2 fish/1 STH/1 SOK bag (hatchery Chinook/STH) 28,868 trips 2,134 adult Chinook kept (998 rel) 534 SOK kept (72 rel) 1,048 STH kept (950 rel)	Season TBD at NOF

Summer Season BON-OR/WA border	Chinook/SOK/STH open 6/16-7/31 2 fish/1 STH/1 SOK bag (hatchery Chinook/STH) 1,509 trips; 20 adult Chinook, 6 SOK, 0 STH kept 22 adult Chinook, 4 SOK, 2 STH rel	Season TBD at NOF
Summer Season Hwy 395 - PRD	Chinook/SOK open 6/16-8/15; STH closed 2 fish (hatchery Chinook) 7,016 trips; 74 adult Chinook, 1,784 SOK kept 29 Chinook, 0 SOK, 16 STH released	Season TBD at NOF
Summer Season Upstream of PRD	Chinook open with MSF regs in various locations (including tribs), 7/1-10/15 29,208 trips; 5,057 adult Chinook kept; 1,952 rel	Season TBD at NOF
Fall Season Buoy 10	Chinook open 8/1-26, 10/1-10/31 2 fish/1 CHF 8/1-8/26; 2 Coho 8/27-9/6; 3 Coho 9/7-30; 3 Fish/1 ChF 10/1-10/31 Coho open 8/1-12/31 STH retention closed Aug-Oct ~102,449 trips (highest since 2015) ~20,749 Chinook kept (9,860 rel) ~35,628 Coho kept (26,924 rel) SRW/LRH HR slightly/much higher than preseason expectation	Season TBD at NOF
Fall Season LCR Sport TP/RP - BON	Chinook and Coho Open: Tongue Pnt. - Warrior R. 8/1-9/3, 10/1-31, Coho only 9/17-30 Warrior R.-BON: 8/1-9/6, 9/11-10/31 STH retention closed Aug-Oct 87,268 trips Aug-Oct 18,900 adult Chinook kept (11 th highest) 1,046 rel 5,524 Coho kept (2 nd highest) 2,910 rel 11 STH kept (478 rel H+W) SRW HR w/in and LRH higher than preseason expectation	Season TBD at NOF
Fall Season BON - McNary	Chinook and Coho open 8/1 – 12/31 1 ChF bag STH closed Aug-Oct BON Pool; Sep-Dec JD/TDA/McN Pools 19,771 trips Aug-Nov 25; 5,306 adult Chinook kept (519 rel) 4,921 Coho kept (200 rel); 0 STH kept (49 rel H+W) SRW HR w/in preseason expectation	Season TBD at NOF
Fall Season McNary-Hwy 395	Same season as JD-McN 511 trips; 136 Chinook and 78 Coho kept	Season TBD at NOF
Fall Season Hanford Reach	Fall Chinook open 8/16-10/31; 6 fish/2 adults 33,271 trips; 11,494 adults and 957 jack Chinook kept; 234 Coho kept; 22% decrease in Chinook harvest from 2020 fishery	TBD
Sturgeon LCR B10-BON	Below Wauna: 2,960 fish guideline; 44-50-inches FL; 13 retention days May 10, 12, 15, 17, 19, 22, 24, 26, 29, 31, June 2, 5, 12 19,273 trips; 2,549 kept (86% of guideline); 6,500 over-leg. Above Wauna: 1,230 fish guideline; 44-50-inches FL; 6 retention days Sept. 11, 18, 19, 22, 25, 29 10,137 trips; 866 kept (70% of guideline) Lower Willamette 740 fish guideline; 44-50-inches FL; 2 retention days June 12 & 19 2,801 trips; 87 kept (12% of guideline)	2022 season and guidelines TBD

Sturgeon BON-McNary	BO Pool: 1/1-1/7; 655 kept (131% of guideline) TD Pool: 1/1-1/4; 235 kept (124% of guideline) JD Pool: 1/1-3/19; 98 kept (93% of guideline)	TBD: December 15 JS Hearing
Shad	LCR: 16,918 trips; 153,606 kept LWR: 7,925 trips (5/3-6/20); 30,193 kept	Large population No changes to fishery
Smelt	One day retention season (3/2) in Cowlitz R. 91,250 lbs landed.	TBD

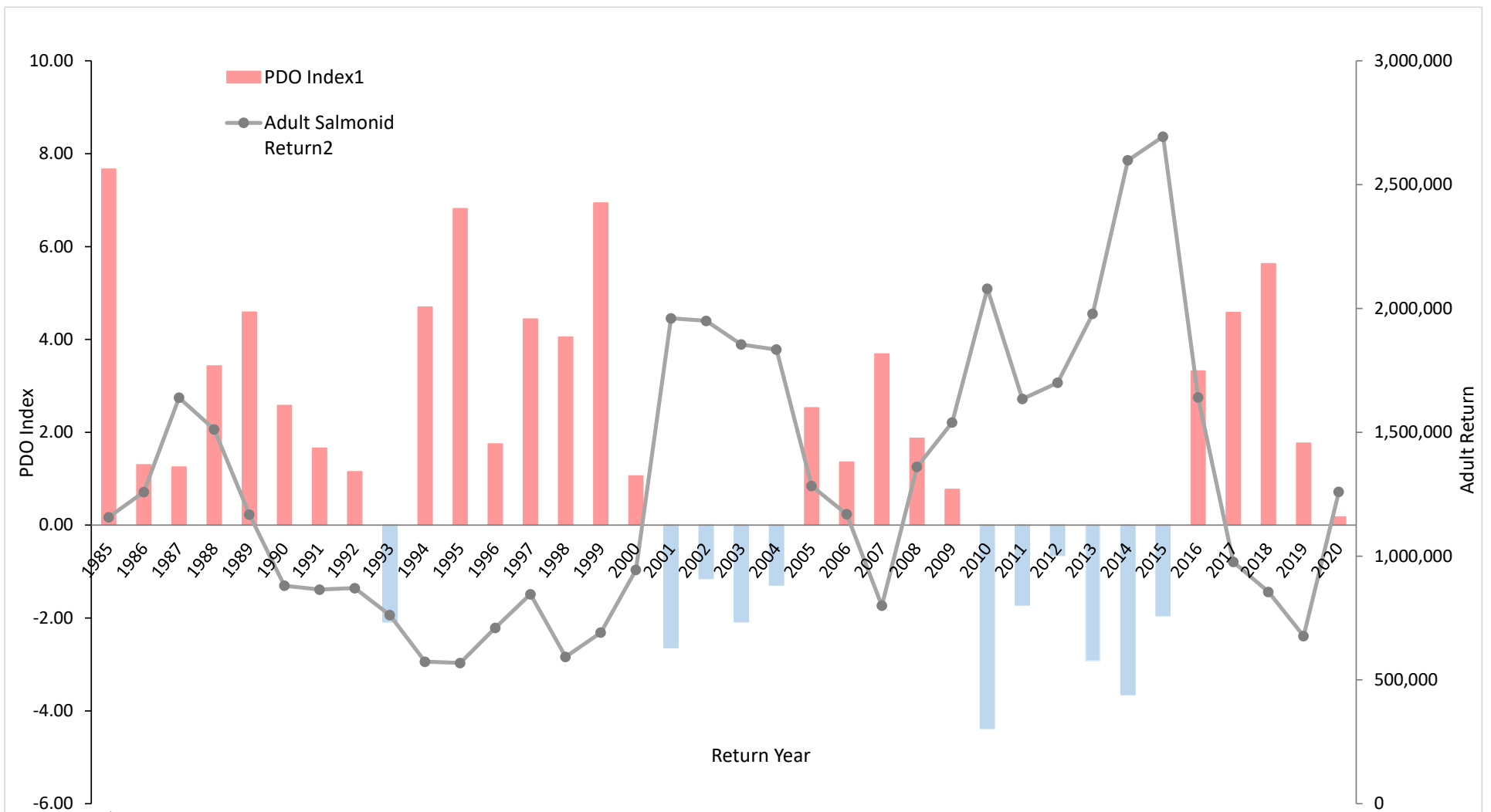
Commercial Fisheries

	2021 Results	2022 Expectations
Columbia River Fisheries		
Winter/Spring	No fishery	TBD
Summer	No fishery	TBD
August (Early Fall)	Aug 9–Sept 2, 8 periods; 9 hrs each Zones 4-5; 9-inch min. mesh 13-81 deliveries per period 21,228 CHF, 2,768 Coho, 297 WSTG	TBD
Late Fall	19 tangle net periods (Sep 27-Oct 29) 0-42 deliveries/period 8,562 hat. Coho (~5% jacks) & 611 CHF, 10 WSG 8 large mesh Z4-5 periods (Sep 19-Oct 14) 5-54 del/period 5,348 CHF, 1,663 Coho, 87 WSTG	TBD
Seine	No fishery	TBD
Shad	2S fishery open 5/10-6/18 (perm regs) 2,033 shad landed	Area 2S fishery
Smelt	13 periods; Jan 28-Mar 11, 10,997 lbs landed Highest CPUE since 2015	TBD
Select Area Fisheries		
Winter/Spring	Below avg. season (67%/64% of 5/10-yr avg.) Winter – 673 Chinook; 132 WSTG Spring – 3,879 Chinook; 233 WSTG	~8,800 Select Area-origin predicted vs 6,300 actual in 2021 Season TBD (likely similar to 2021)
Summer	Below avg. season (78%/86% of 5/10-yr avg.) 1,987 Chinook; 63 WSTG	Season TBD
Fall	Mixed season (CHF below avg. and COH 3 rd highest) 4,484 Chinook (60%/30% of 5/10-yr. avg.) 99,062 Coho (330%/216% of 5/10-yr avg.) ~2% Coho jacks 371 WSTG	Season TBD (structure expected to be similar to 2021)

NOAA ocean condition scorecard for outmigrating salmon with ratings from 1 (best) to 24 (worst). The years shown correspond to the years the smolts entered the ocean.

Ecosystem Indicators	Year																							
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
PDO (Sum Dec-March)	21	7	3	15	8	23	14	19	16	11	5	1	18	4	2	9	12	24	22	20	13	17	10	6
PDO (Sum May-Sept)	12	5	7	6	13	19	18	20	14	16	2	11	8	4	1	9	22	24	23	17	15	21	10	3
ONI (Average Jan-June)	23	1	1	8	15	17	16	19	9	13	3	12	20	5	7	9	11	21	24	14	6	22	18	4
SST NDBC buoys (°C; May-Sept)	19	7	9	5	6	13	24	14	2	16	1	12	3	8	10	18	22	21	20	15	17	23	11	4
Upper 20 m T (°C; Nov-Mar)	23	13	10	12	7	17	18	15	14	6	1	11	20	5	4	9	3	24	22	21	16	19	2	8
Upper 20 m T (°C; May-Sept)	16	11	13	4	1	3	24	20	9	10	2	6	17	8	7	18	22	19	14	12	15	23	21	5
Deep temperature (°C; May-Sept)	23	7	9	5	1	11	13	17	12	6	2	8	15	10	4	16	22	21	14	19	20	18	24	3
Deep salinity (May-Sept)	23	4	12	5	6	19	20	13	8	2	3	17	21	15	16	14	24	18	10	9	7	11	22	1
Copepod richness anom. (no. species; May-Sept)	22	2	1	9	8	17	16	21	18	12	10	11	20	5	7	3	13	23	24	19	15	14	6	4
N. copepod biomass anom. (mg C m ⁻³ ; May-Sept)	22	17	13	14	6	19	16	23	18	15	9	12	11	3	5	7	8	20	24	21	10	4	2	1
S. copepod biomass anom. (mg C m ⁻³ ; May-Sept)	24	2	6	5	3	16	18	23	15	12	1	8	19	11	9	7	13	21	22	20	14	17	10	4
Biological transition (day of year)	21	13	8	3	11	17	14	22	16	4	1	2	19	5	12	6	6	23	23	20	15	17	8	10
Nearshore Ichthyoplankton Log(mg C 1,000 m ⁻³ ; Jan-Mar)	19	3	13	7	1	23	24	17	10	19	3	15	2	9	5	12	21	16	17	14	11	22	8	6
Nearshore & offshore Ichthyoplankton community index (PCO axis 1 scores; Jan-Mar)	11	6	5	8	10	13	18	22	2	15	3	12	16	4	1	7	9	20	23	24	19	21	17	14
Chinook salmon juvenile catches Log(no. km ⁻¹ ; June)	21	3	7	19	6	10	17	23	14	12	1	8	5	15	2	4	9	16	20	24	18	13	22	11
Coho salmon juvenile catches Log(no. km ⁻¹ ; June)	22	11	19	5	7	6	21	23	17	2	4	8	9	18	13	1	10	16	15	24	3	14	20	12
Mean of ranks	20.1	7.0	8.5	8.1	6.8	15.2	18.2	19.4	12.1	10.7	3.2	9.6	13.9	8.1	6.6	9.3	14.2	20.4	19.8	18.3	13.4	17.3	13.2	6.0
Rank of the mean rank	23	5	8	7	4	17	19	21	12	11	1	10	15	6	3	9	16	24	22	20	14	18	13	2
<i>Ecosystem Indicators not included in the mean of ranks or statistical analyses</i>																								
Physical Spring Trans. UI based (day of year)	4	8	23	20	5	15	18	24	15	1	7	3	10	13	21	11	22	12	6	19	13	15	9	2
Physical Spring Trans. Hydrographic (day of year)	23	4	14	9	6	13	16	24	7	10	1	10	20	4	12	2	18	8	19	21	16	15	21	2
Upwelling Anomaly (April-May)	12	4	20	8	11	17	15	24	12	6	9	10	18	20	18	14	22	1	3	23	7	5	15	2
Length of Upwelling Season UI based (days)	6	2	22	14	1	16	12	24	5	3	9	3	18	21	18	17	23	13	8	15	7	10	20	10
Copepod Community Index (MDS axis 1 scores; May-Sept)	23	2	6	9	4	18	16	22	19	11	1	8	15	10	7	5	13	21	24	20	14	17	12	3

*Note: this table is easier to interpret if printed in color. Green represents more favorable indicators. Yellow is intermediate and Red indicates unfavorable. If printed in black and white red will appear very dark.



¹ Sum of May-July PDO values two years prior to adult return; adjusted to return year.

² Includes species returning as adults primarily two years after ocean entry (Chinook, Sockeye, and summer steelhead).

Figure X. Annual return of adult salmonids to the Columbia River mouth and corresponding PDO Index, 1985-2020. Positive (red) PDO represents relatively poor (warm) ocean conditions and negative (blue) PDO represents relatively good (cool) ocean conditions.

2022 Columbia River Process Schedule (Preliminary Draft – Dates and Times are Tentative)

Dec 14, 2021 1-3p	NSIA Annual Meeting • 2021 results and 2022 expectations	All meetings will be held via teleconference or other virtual platform
Dec 15, 2021 3:00p	CR Joint State Hearing • Z6 Recreational WSG	
Jan 11, 2022 10a-12:30p	Columbia River Commercial Advisor Group Meeting • Sturgeon, smelt, 2022 forecasts, 2021 fall review, etc.	
Jan 11, 2022 4-6:00p	Columbia River Recreational Advisor Group Meeting • Sturgeon, smelt, 2022 forecasts, 2021 fall review, etc.	
Jan 12, 2022 7-8:30p	Select Area Commercial Fisheries Meeting 2021 results; 2022 season structure discussion	
TBD	CR Compact/Joint State Hearing Research smelt, Treaty	
Feb 8, 2022 10a-12p	Columbia River Commercial Advisor Group Meeting • If needed	
Feb 8, 2022 4-6:00p	Columbia River Recreational Advisor Group Meeting • Spring Chinook	
TBD	CR Compact Select Area commercial, Treaty	
Feb 17-18, 2022	Oregon Fish and Wildlife Commission • Lower Columbia River White Sturgeon - Briefing	
Feb 17-19, 2022	Washington Fish and Wildlife Commission Lower Columbia River White Sturgeon - Briefing	
TBD	CR Joint State Hearing • Recreational spring Chinook	
<i>See Ocean Calendar for NoF planning process</i>		

2022 Ocean Fishery Process Schedule (Preliminary Draft – Dates are Tentative)

Feb 24	Ocean Salmon Industry Group <ul style="list-style-type: none"> • 2022 forecasts • Initial discussions of 2022 season options 	Locations/Times TBD; teleconference or virtual options likely
early March	WDFW Public Meeting <ul style="list-style-type: none"> • 2022 forecasts and fishing opportunities 	
Mar 8-14 San Jose DoubleTree	Pacific Fishery Management Council (PFMC) Adopt initial 2022 ocean salmon options for public review	
TBD	2022 Columbia R North of Falcon #1	
TBD	Northeast of McNary – North of Falcon	
Mar 22 (WA) Mar 23 (OR)	PFMC Public Options Hearings Public input on 2021 season options	
TBD	2022 Columbia R North of Falcon #2	
Apr 6-13	Pacific Fishery Management Council (PFMC) Adopt 2022 ocean salmon fishery regulations	
Apr 22	Oregon Fish and Wildlife Commission <ul style="list-style-type: none"> • Adopt state water ocean salmon fishery regulations 	