Columbia River Recreational Advisor Group Meeting

January 10, 2024
4:00-6:00p
Hybrid – WDFW Ridgefield

Prepared by: Columbia River Joint Staff

Columbia River Recreational Advisor Group Meeting

Ridgefield WDFW office: 5525 S 11th Street, Ridgefield, WA 98642
Join online: Click here to join the meeting ID: 230867980040 Passcode: 8iBbxX
Or call in (audio only): 1-564-999-2000 Conference ID: 921746246#

4:00p – 6:00p January 10, 2024

Agenda	
• **Welcome and Introductions** o Ground rules o Introduction o Roles and expectations o Agenda review	(30 minutes)
• **Update on white sturgeon** o 2023 Lower Columbia population status and trends o 2024 Lower Columbia fishery discussion o Zone 6 recreational sturgeon management	(45 minutes)
• **Update on Eulachon (smelt)** o Populations trend o 2024 outlook	(25 minutes)
• **Summary of 2023 Salmon Fisheries**	(5 minutes)
• **Ocean Conditions & Forecasts** o Ocean conditions o 2024 abundance forecasts (spring/summer Chinook and sockeye) o Preliminary 2024 spring season discussions	(15 minutes)
• **Future Meetings** o Compact Hearing (smelt), January 23, 10a o WA Fish and Wildlife Commission (C-3630 annual review), January 24-26 o **CRRAG (recreational spring Chinook), Clackamas ODFW, February 6, 4-6p** o Compact Hearing (Select Area commercial), February 13, 10a o Joint State Hearing (spring Chinook sport), February 21, 10a o Pacific Fishery Management Council, March 5-11, Fresno, CA o Pacific Fishery Management Council, April 5-11, Seattle, WA	

Ground rules

- Focus on the task at hand – *stick to the agenda*
- Be a conduit and collaborator – *share information*
- One person at a time to speak – speak your name to be added to the speaking list
    - Non-advisers will observe meeting and stay on mute – *comments may be permitted at the end of the meeting if time permits*
- Be respectful of others
    - Mute phone or line; take side conversations into another room
    - Be tough on issues and questions, not on people or organizations
    - No personal attacks, insults or threats
    - Listen to others
    - Speak and act professional – *no offensive, disrespectful, or derogatory language, including profanity*
    - Allow for a balance of speaking time – *limit length and number of times to speak on each topic*
- For virtual meetings
    - *6 to mute/unmute
    - Chat will not be monitored or used except for technical assistance

Columbia River Recreational Advisory Group (2024–2026)

Name	City	State
Harry Barber	Washougal	WA
Jim Bridwell	Cathlamet	WA
Kyle Hawes	Vancouver	WA
Jeremy Hull	Portland	OR
Les Kipper	The Dalles	OR
Don McBride	Richland	WA
Bill Monroe Jr.	Oregon City	OR
Robert Moxley	Dundee	OR
Pat O'Grady	Astoria	OR
Larry Phillips	Olympia	WA
Bob Rees	Clackamas	OR
David Sass	Warren	OR
Alexander Shar	Long Beach	WA
Greg Short	Hood River	OR
Jesse Vassar	Tualatin	OR
Steve Watrous	Battle Ground	WA
Chris (Clinton) Winn	Kalama	WA
Randy Woolsey	Tigard	OR

2024 Joint State Staff (OR-WA) roles

ODFW
Ocean Salmon and Columbia River Program (OSCRP)

- Ocean and Columbia River cross-regional fisheries management
- FCRPS hydro-system

Tucker Jones (971-673-6067), Clackamas

- Ocean Salmon and Columbia River Program Manager
  - Supervises OSCRP Program
- Policy level representation in various inter-jurisdictional forums
- OR representative for Compact/Joint State hearings

Columbia River Management

Jeff Whisler (971-673-6024), Clackamas

- Columbia River Fisheries Manager
  - Design, recommend, and implement fisheries in Columbia/lower Willamette rivers
- Supervise ODFW Columbia River Management program/staff
- Lead technical staff for Compact/Joint State hearings
- *U.S. v OR* Technical Advisory Committee (TAC) representative

Hannah Moore (971-673-6029), Clackamas

- Primary technical analyst
- Technical staff for Compact/Joint State hearings
- TAC representative

Rob Reagan (971-673-6017), Clackamas

- Columbia and Willamette River Project Leader
- Responsible for coordinating sampling of fisheries in lower Columbia/Willamette rivers
- Primary contact for Willamette Falls fishway/counts

Cameron Duff (971-673-6057), Clackamas

- Select Area /Estuary Fisheries Project Leader
- Primary contact for Select Area commercial fisheries
  - Responsible for implementing and evaluating Select Area fisheries
- Responsible for coordinating sampling of Estuary fisheries in lower Columbia River

WDFW

Kelly Cunningham – Fish Program Director (360-790-0778), Olympia

- Fish Program lead, supervise Charlene

Columbia River Management Unit (CRMU)

- Columbia River cross-regional fisheries management
- FCRPS hydro-system

Charlene Hurst – Columbia River Management Unit Lead (360-605-5247), Ridgefield

- Columbia River Policy lead, supervise Ryan, Laura, Mark, Eric Winther (northern pikeminnow), Charlie Morrill (hydro)
- Decision maker for Compact/Joint State hearings
- *U.S. v OR* policy representative

Ryan Lothrop – Columbia River Fisheries Manager (360-701-3602), Olympia

- Columbia River fishery lead, supervise Quinten, Beth, and Shannon
- Fishery coordinator with eastside regions, ODFW and tribes
- TAC representative and lead WA technical staff for Compact/Joint State hearings

Shannon Conley – Columbia River Fishery Policy Analyst (564-653-0500), Olympia

- Technical and statistical analysist for CRMU fisheries
- TAC representative (WA lead)

Quinten Daugherty – Columbia River Fishery Management Biologist (360-844-0205), Ridgefield

- Technical analyst, and design, recommend, and implement mainstem fisheries
- Technical staff for Compact/Joint State hearings and TAC representative

Beth Deacy – Columbia River Fishery Sampling Coordinator (360-600-7069), Ridgefield

- Coordinates fishery sampling and test fisheries, supervise Nathan White (field biologist) and Ken Keller (Pacific States Marine Fisheries Commission supervisor biologist)

Laura Heironimus – Sturgeon, Smelt, Lamprey lead (360-719-0677), Ridgefield

- Supervises sturgeon, smelt, and lamprey research/monitoring programs
- Lead on white sturgeon and eulachon conservation and management
- Provides support for Compact/Joint State Hearings
- Supervise Matt Sturza (sturgeon/smelt biologist) and Monica Blanchard (lamprey biologist)

Matt Sturza – Sturgeon, Smelt Biologist (360-355-5643), Ridgefield

- Coordinates and directs sturgeon/smelt population assessment and fishery monitoring projects
- Supervises sturgeon/smelt sampling staff
- On detail as Sturgeon, Smelt, Lamprey lead position until March 2024

Mark Sorel – Columbia River Fishery Analyst (607-351-7352), Ridgefield

- Provides analytical/statistical support
- TAC representative

Lower Columbia River White Sturgeon

Abundance and CPUE Trends

Table 1. Estimated and projected abundance of 38–54 inch FL (96–137 cm) white sturgeon in the LCR from 2008–2021 based on mark-recapture surveys. Historic method is the number of fish present at the start of July (2008–2009) or May (2010–2012), while the setline method is the number of fish present at the start of the year. Preliminary estimates are italicized.

Year	Historic method estimate	Setline method			Harvest guideline
		Estimate (95% C.I.)		Projection [1]	
2008	101,200	--		--	40,000
2009	95,000	--		--	40,000
2010	65,300	100,300		--	24,000
2011	72,800	80,600		77,000	17,000
2012	83,400	72,700		65,000	10,400
2013	--	113,900		74,300	10,105
2014	--	131,000	(75,500 – 186,480)	131,700	--
2015	--	143,900	(85,700 – 202,100)	138,200	--
2016	--	224,000	(118,300 – 329,600)	147,100	--
2017	--	199,800	(69,900 – 329,700)	237,900	6,235
2018	--	162,200	(93,400 – 230,950)	198,300	6,160
2019	--	168,200	(100,100-236,300)	164,100	6,160
2020 [2]	--	199,500	(40,100-358,800)	148,800	5,720
2021	--	110,100	(65,719-154,548)	201,400	6,160
2022		78,400	(40,411-116,368)	101,600	4,000
2023		65,600	(40,226-90,889)	74,500	--
2024				64,400	TBD

[1] Projected abundance is based on the previous year's setline estimate. Projections do not include harvest.

[2] Due to sampling issue related to COVID-19 pandemic, the sample size was lower than standards and therefore the estimate of 199,500 during 2020 has considerable uncertainty.

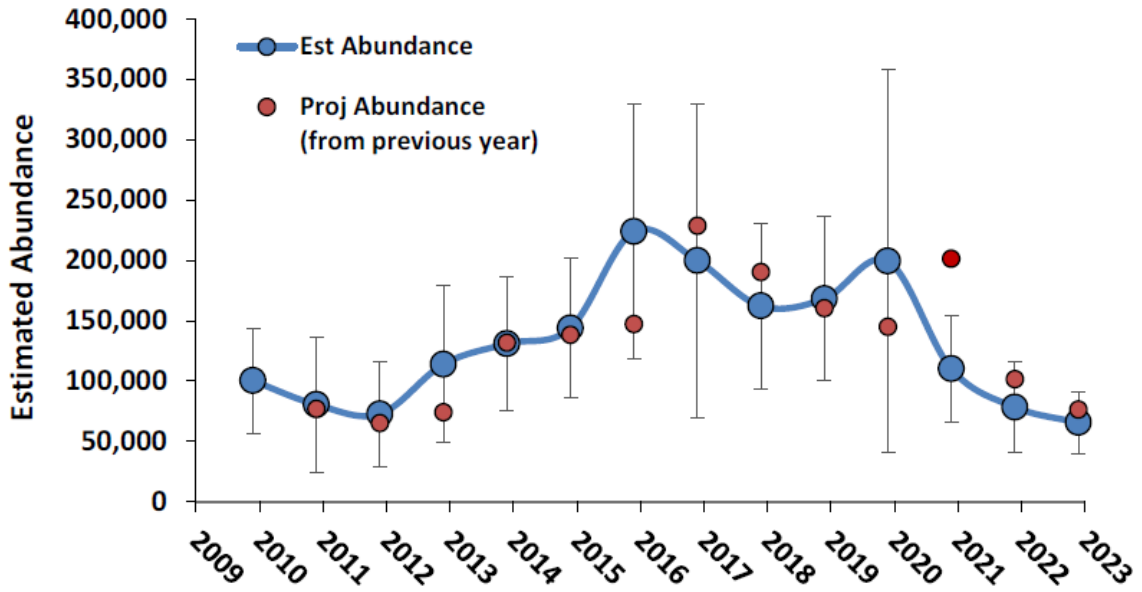


Figure 1. Estimated and projected abundance for 96–137 cm FL White Sturgeon from the LCR, 2010 – 2023. Error bars represent 95% CIs for the estimated abundance.

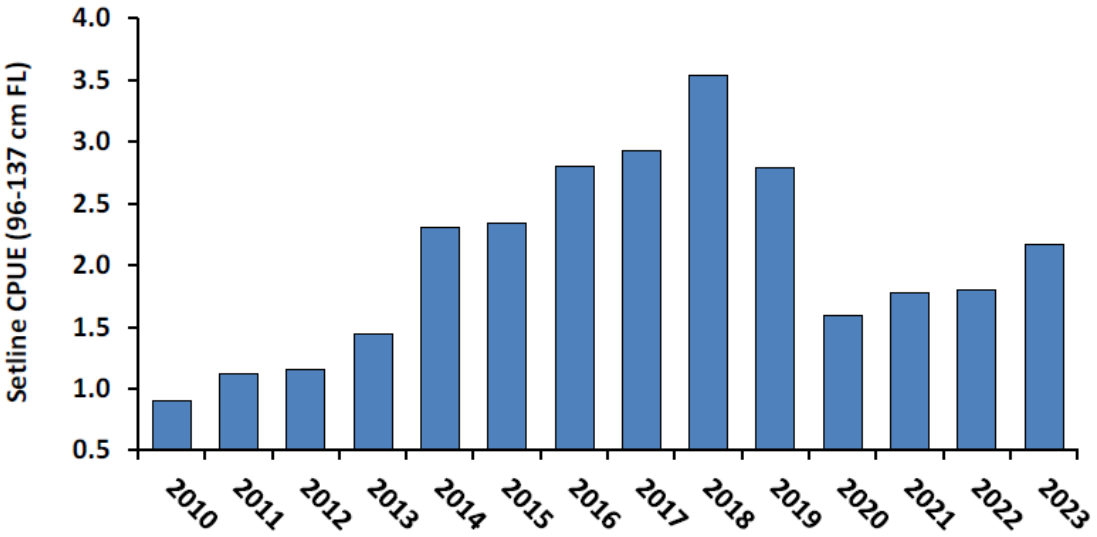


Figure 2. CPUE of 96 – 137 cm FL White Sturgeon caught with setlines in the LCR, 2010 – 2023.

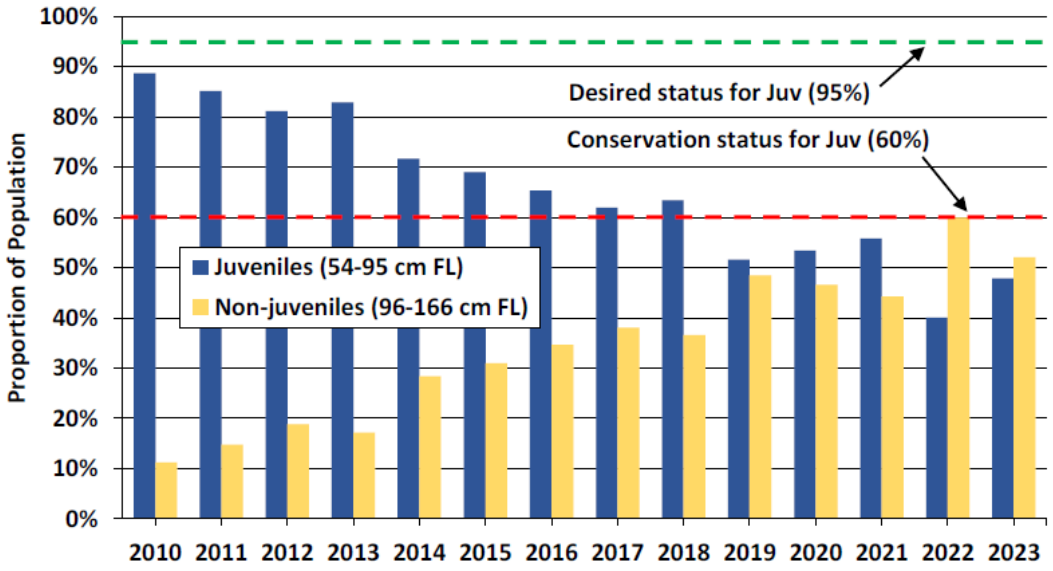


Figure 3. Lower Columbia River White Sturgeon population composition, 2010 – 2023.

Adult Abundance and CPUE Trends

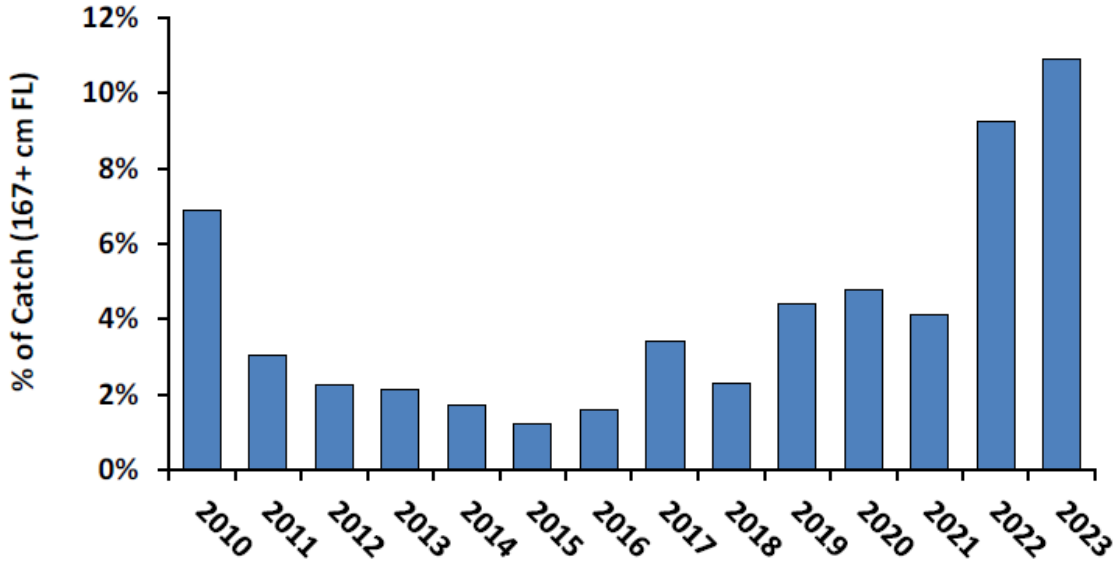


Figure 4. Percent of LCR setline catch comprised of White Sturgeon ≥ 167 cm FL, 2010 – 2023.

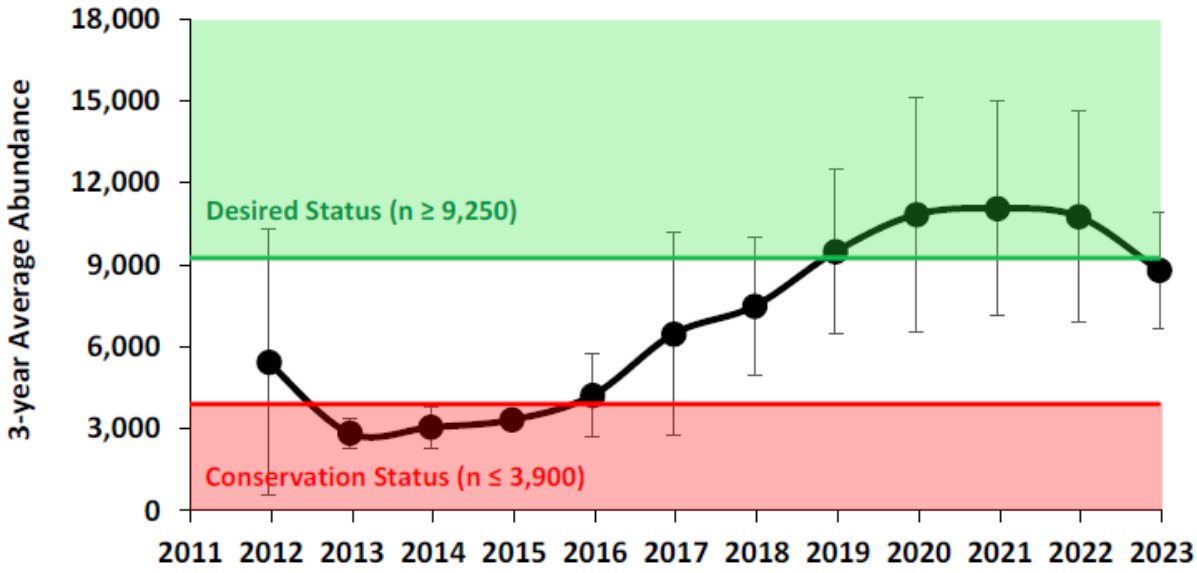


Figure 5. Three-year running average estimated abundance for White Sturgeon ≥ 167 cm FL from the LCR, 2012 – 2023. Less than three years of data were available prior to 2012, therefore no averages were calculated. Error bars represent one standard deviation.

Length Frequency Trend

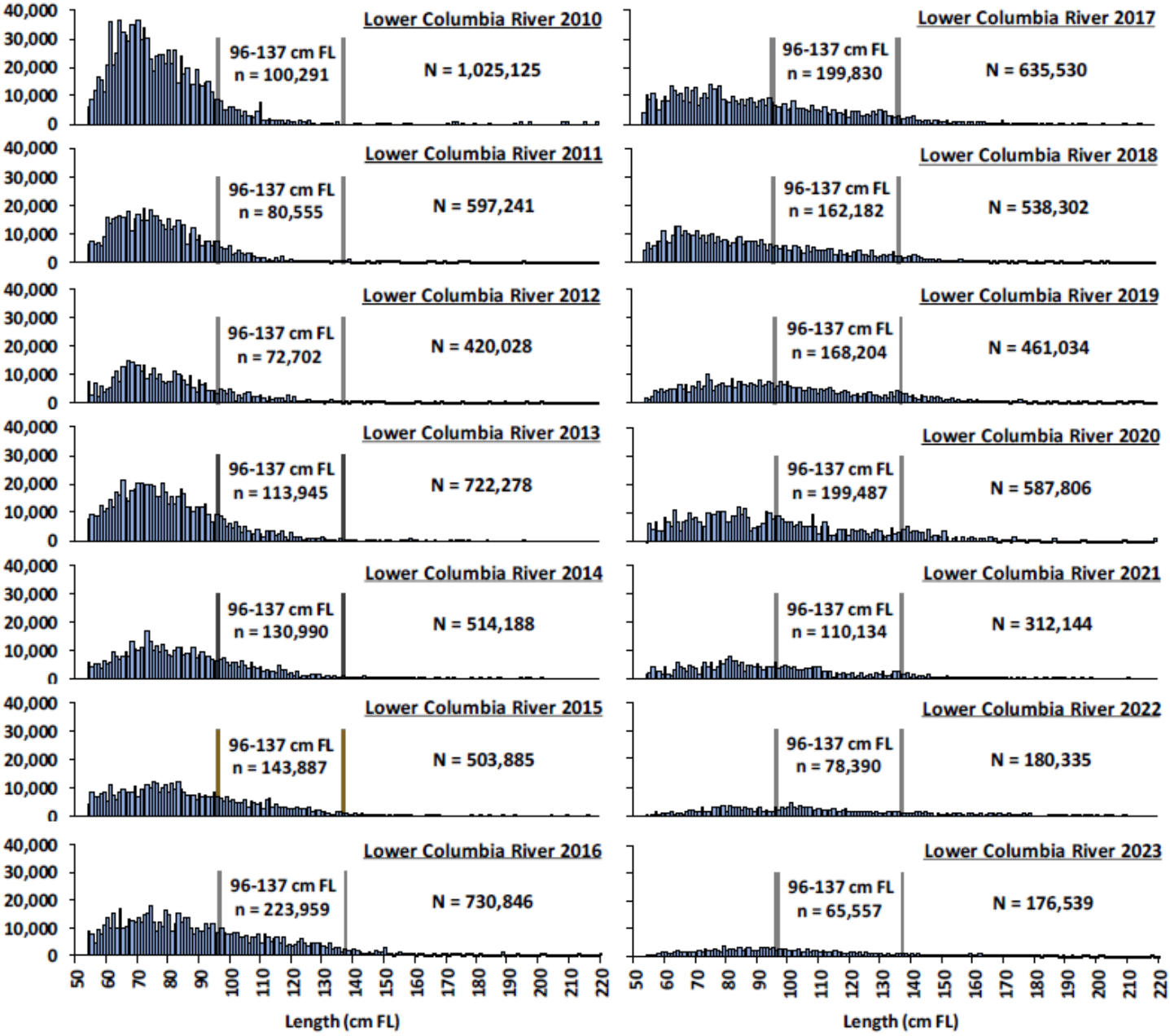


Figure 6. Estimated abundance by 1-cm length increments of White Sturgeon ≥ 54 cm FL from the LCR, 2010 – 2023.

Legal-size Abundance Forecasts

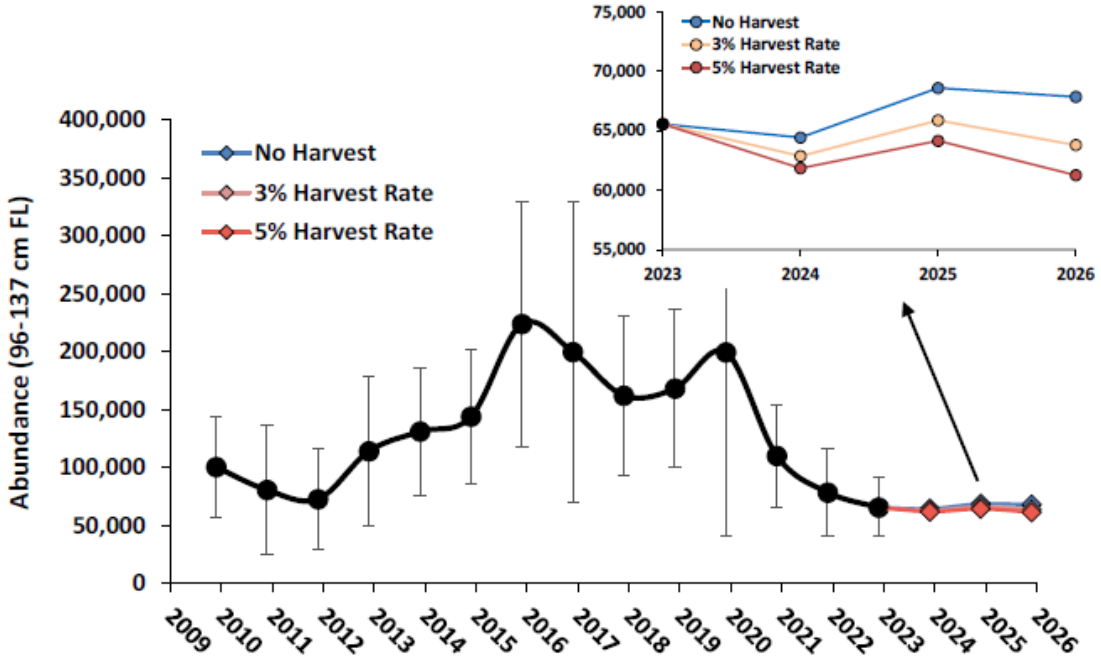


Figure 8. Projected abundance of White Sturgeon 96 – 137 cm FL in the LCR under different annual harvest rates.

Sub-yearling (Age-0) Production

Table 2. Annual recruitment index (E_p) and catch-per-net (CPN) for age-0 White Sturgeon from the Willamette River (Will R) and the lower Columbia River (LCR), 2004 – 2023.

Year	Will R E_p	Will R CPN	LCR E_p	LCR CPN
2004			0.44	1.29
2005			0.49	1.74
2006			0.52	1.88
2007[1]			--	--
2008			0.45	1.23
2009			0.78	5.66
2010	0.24	0.43	0.18	0.19
2011	0.06	0.06	0.34	0.58
2012	0.22	0.25	0.35	0.77
2013[2]	--	--	0.12	0.21
2014	0.38	1.38	0.31	0.56
2015	0.26	0.58	0.05	0.06
2016	0.50	0.75	0.14	0.20
2017	0.50	1.75	0.58	1.64
2018	0.83	3.96	0.27	0.43
2019	0.58	1.13	0.19	0.30
2020[1]	--	--	--	--
2021	0.17	0.17	0.02	0.02
2022	0.29	0.42	0.18	0.20
2023	0.42	0.88	0.07	0.09

[1] No age-0 sampling in either the lower Columbia or Willamette rivers.
[2] No age-0 sampling in the Willamette River.

2024 LCR Fisheries:

In 2023, staff provided updates on the LCR white sturgeon status to the Columbia River Fishery Advisor groups. Advisors expressed some conservation concerns about population metrics. Additionally, advisors expressed concerns about a lack of meaningful fishing opportunities.

While data supports the conclusion that the population could support limited harvest, it has become difficult to prosecute retention fisheries with meaningful harvest opportunity within the legal-size abundance. Therefore, there was no retention of white sturgeon for either commercial or recreational fisheries downstream of Bonneville Dam in 2023.

The continued prolonged recruitment shortfall has reduced the abundance of legal-size fish, impacting our ability to prosecute meaningful retention fisheries again in 2024.

Zone 6 Recreational Sturgeon Management

Stock Status

- The states and tribes work cooperatively to complete White Sturgeon stock assessments, which are rotated among the Zone 6 reservoirs on a three-year annual basis. Young-of-year surveys are completed annually in all three reservoirs.
- The most recent stock assessment information available for each pool is summarized below:
    - Bonneville Pool—The 2021 survey indicated a 22% increase in the abundance of legal-sized sturgeon (38–54 inch fork length) and an 18% increase in the overall 38–65 inch fork length population. Young-of-year surveys indicate measurable recruitment annually during the past ten years, except in 2015.
    - The Dalles Pool—The 2020 survey indicated a 54% increase in the abundance of legal-sized sturgeon (43–54 inch fork length), but a 21% decline in the overall 38–65 inch fork length population. Since 2013, measurable recruitment has been detected in seven out of 10 years; however, recruitment has been lower in recent years. The detailed results for the 2023 stock assessment in The Dalles Pool are not currently available (expected by late January 2024) but the preliminary abundance estimate of legal-sized fish has increased.
    - John Day Pool—The 2022 survey indicated a 12% decrease in the abundance of legal-sized sturgeon (43–54 inch fork length) and an 11% decrease in the overall 38–65 inch fork length population. Since 2013, measurable recruitment has only been detected once, during 2019.

Management Guidelines

Table 1. Current white sturgeon harvest guidelines in Bonneville, The Dalles, and John Day reservoirs. Updated guidelines for The Dalles Pool will be considered in late January 2024.

Pool	Recreational Guideline	Treaty Guideline	Total Guideline
Bonneville	675	675	1,350
The Dalles	190	560	750
John Day	105	175	280

- Since 2012, total harvest guidelines have generally decreased in all three reservoirs based on the abundance of legal-size fish available for harvest. There is no harvest guideline for the treaty subsistence catch of sturgeon, but these catches are accounted for and used in population assessments. Subsistence harvest typically occurs in association with fisheries targeting other species and is generally low.

Past Recreational Fisheries

- Over the past 5-year period (2019–2023), total harvest guidelines have increased in Bonneville Pool and The Dalles Pool, but have remained constant in John Day Pool.

Bonneville Pool—Season length has averaged 36 days during the previous 5-year period but has been highly variable with a low of 6 days and a high of 102 days (Table 2).

Table 2. A summary of recreational sturgeon retention periods and harvest in Bonneville Pool.

Year	Retention Period(s)	Total Retention Days	Total Guideline	Recreational Harvest	Proportion of Guideline Harvested	Average Fish Kept Per Day
2019	1/1–4/12	102	500	448	90%	4
2020	1/1–2/13	44	500	431	86%	10
2021	1/1–1/7	7	500	655	131%	94
2022	1/1–1/19 & 3/9	20	675	622	92%	31
2023	1/1 & 1/2-1/11*	6	675	600	89%	100

**Three-days-per-week retention schedule (Mondays, Wednesdays, and Saturdays).*

- The Dalles Pool—Season length has averaged 21 days during the previous 5-year period and has also been the least consistent of the three pools (Table 3).

Table 3. A summary of recreational sturgeon retention periods and harvest in The Dalles Pool.

Year	Retention Period(s)	Total Retention Days	Total Guideline	Recreational Harvest	Proportion of Guideline Harvested	Average Fish Kept Per Day
2019	1/1–1/6	6	135	79	59%	13
2020	1/1–2/17	48	135	205	152%	4
2021	1/1–1/4	4	190	235	124%	59
2022	1/1–3/21*	35	190	204	107%	6
2023	1/1 & 1/2-1/25*	12	190	188	99%	16

**Three-days-per-week retention schedule (Mondays, Wednesdays, and Saturdays).*

- John Day Pool—Season length has averaged 67 days over the past 5-year period and has been both longer and more consistent relative to season lengths in Bonneville Pool and The Dalles Pool (Table 4).

Table 4. A summary of recreational sturgeon retention periods and harvest in John Day Pool.

Year	Retention Period(s)	Total Retention Days	Total Guideline	Recreational Harvest	Proportion of Guideline Harvested	Average Fish Kept Per Day
2019	1/1–4/2	92	105	129	123%	1.4
2020	1/1–3/9	69	105	102	97%	1.5
2021	1/1–3/18	77	105	98	93%	1.3
2022	1/1–3/9	68	105	94	90%	1.4
2023	1/1-1/29, 2/11, 2/15, 2/18	32	105	95	90%	3.3

- Catch rates and season length have been highly variable in Bonneville Pool and The Dalles Pool due to several factors, including variable water temperatures, weather, and on-the-water conditions. In order to moderate this variability in retention seasons, the states have recently adopted a days-per-week approach in Bonneville Pool (2023) and The Dalles Pool (2022 and 2023).

- In all pools, catch rates are often low at the start of the year and then can rapidly increase within a very short window, such as a day or weekend. The states' catch monitoring program provides catch estimates in a timely manner. However, some lead time is necessary to take appropriate management action and provide notice to the public.

2024 Recreational Fisheries

- John Day Pool is open under permanent rules (opened January 1 for seven days per week) due to the lower risk for exceeding the guideline within a short timeframe.
- Due to the track record of short retention seasons and harvest in excess of the guideline, Bonneville and The Dalles Pool fisheries were modified during the Joint State Hearing on October 31, 2023. The season set in Bonneville Pool included open retention on Mondays, Wednesdays, Saturdays from January 1 through February 7. Similarly, the season set in The Dalles Pool included open retention on Mondays, Wednesdays, Saturdays from January 1 through January 29.
    - Use of the days-per-week approach is expected to aide in increasing the relative length of the season and provide staff the opportunity to review fishery performance on a daily basis.
    - Daily effort is expected to be higher on holidays and weekends than weekdays.

Table 3. Current recreational sturgeon harvest summary in Zone 6 reservoirs (January 1-7, 2024).

Pool	Estimated Harvest	% of guideline	Guideline
Bonneville	692	103%	675
The Dalles	189	99%	190
John Day	48	46%	105

- Permanent regulations allow for catch-and-release sturgeon angling all year, except angling for sturgeon is prohibited May 1 through August 31 within the sanctuary areas designated downstream of each of the dam tailraces. Daily and annual sturgeon bag limits apply to all fisheries statewide.
    - Catch-and-release sturgeon angling was closed from The Dalles Dam upstream to Priest Rapids Dam from July 29 through September 15, 2023 as a proactive measure to prevent additional stress. Higher-than-normal mortalities of adult-size sturgeon observed in these areas were likely attributed to increased water temperatures.
- Consideration to modify permanent rules for future years requires a sufficient amount of time, communication, and coordination with staff and the public. Therefore, it is expected that the 2025 seasons will still be set by the current permanent rules and could be modified by the Compact/Joint State Hearing.
- Given the short retention period in 2024 in The Dalles and Bonneville pool fisheries, staff are interested in better understanding the fishing public's priorities of these fisheries.

Columbia River Eulachon Smelt

Stock Status

- In the last decade, the adult run size has ranged from a low of 370,000 pounds in 2018 to 18,300,000 pounds in 2022 (Figure 1).
- In 2023, a complete field season was conducted with sampling occurring over 21 weeks from January 13 through May 24. The spawning-stock biomass (SSB) for 2023 is estimated at 16,900,000 pounds, which is the second highest SSB recorded using the current SSB sampling methodology. After factoring in harvest in 2023 fisheries, the run size is estimated at 17,000,000 pounds.

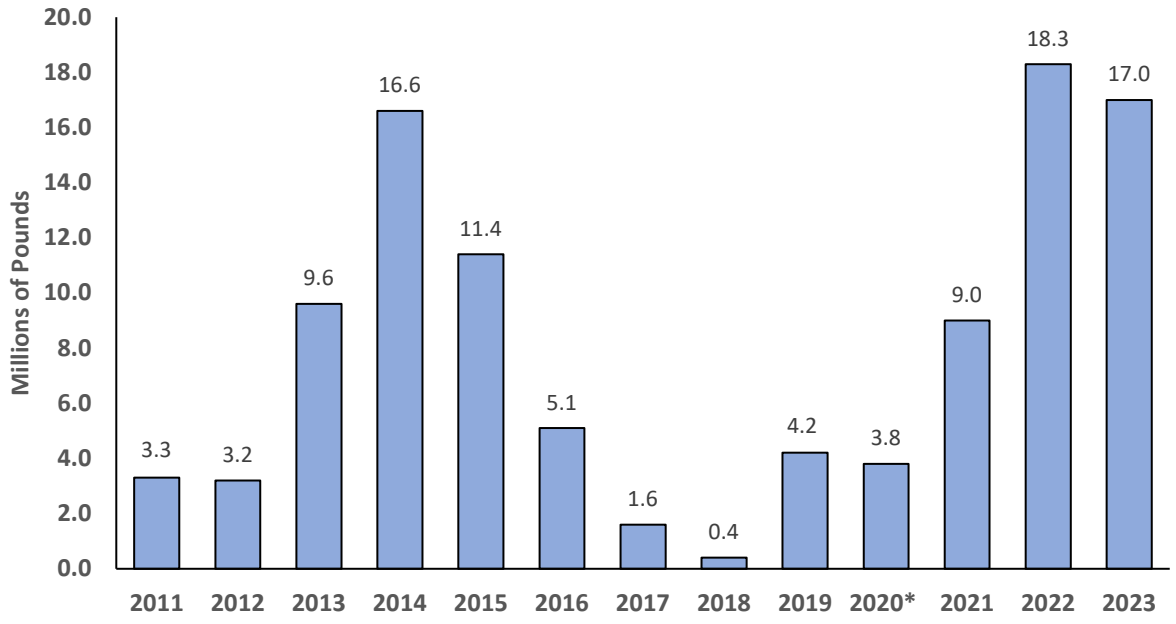


Figure 1. Columbia River Eulachon abundance, in millions of pounds, by year. The 2020 run size estimate is unreliable due to an incomplete sampling season.

Abundance indicators for 2024

- A strong 2023 return of Eulachon adults from brood year 2020 may indicate another strong return from this cohort in 2024.
- Improved in-river environmental conditions during outmigration for the 2019 (Age-5), and 2020 (Age-4) cohorts likely improved survival to the ocean:
    - January through March, river temperatures were cool to warm and the flow quick, which may have led to normal or late yolk sac absorption.
    - March through June, estuary water particle residence time was shorter than average, which might lead to an early to normal ocean arrival time.
    - April through June, the volume of the Columbia River plume was large, which may have improved conditions for larvae entering the ocean environment.
- Conversely warm water temperatures during the 2021 larval outflow period could have negatively impacted early survival of this cohort (Age-3).
- Ocean Indices such as PDO, SOI, and ONI improved from 2020 through 2023 to the most productive values in over a decade; however, marine upwelling in 2022 and 2023 was weak and

combined with warming sea surface temperatures during the spring of 2022 indicates some uncertainty for marine survival during these years.

- The overall copepod richness anomaly has improved and remained in the positive range from 2020 through 2023, although the biomass of nutritionally richer northern species of copepod began to slightly decline in 2022.

Table 1. Summary of factors to forecast the Columbia River Eulachon adult return in 2024.

		Cohort Survival Factors		
Brood Year	Age at Spawn	Freshwater Phase	Ocean Phase	Forecasted Contribution
2019	5	+	0	0
2020	4	0	+	+
2021	3	-	+	+
2022	2	0	+	0

2023-24 Observations

- Sightings of smelt were reported in the lower Cowlitz during December.
- Pinniped activity observed in the lower Columbia and Cowlitz rivers in late December.

Use of the commercial fishery data

- The biological data collected during the commercial fishery allow for investigation of the structure of the annual Eulachon run into the Columbia River including run distribution, run strength, weight distribution, age composition, sex ratio, stage of maturity, and fecundity.
- Fishery assessment provides data to evaluate the utility of SSB calculations and provides context to historical landings data. For example, there appears to be a correlation between the pounds per landing data provided by the mainstem commercial fishery and the data from the larval density survey (Figure 2).

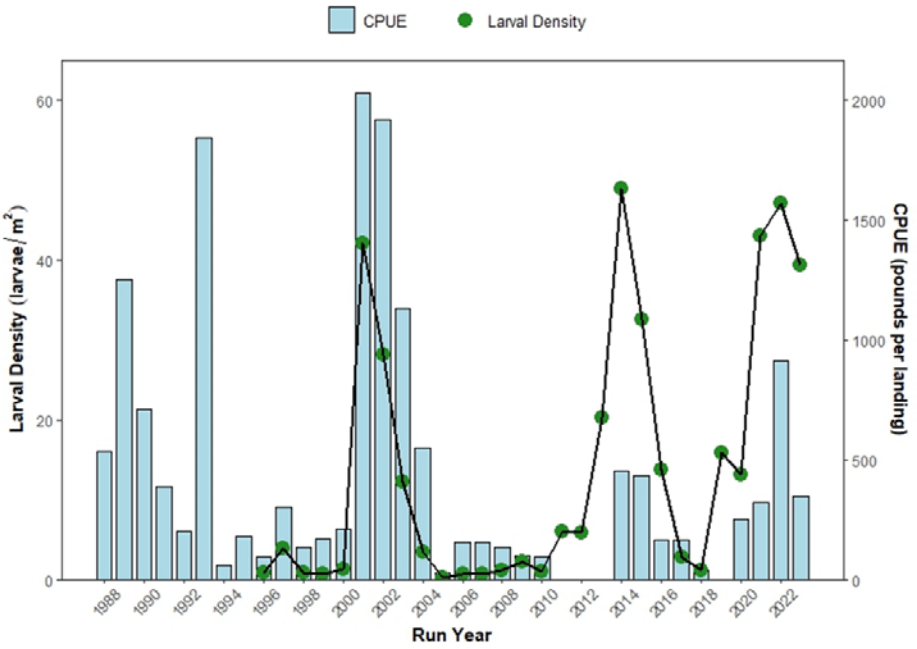


Figure 2. Comparison of adult Eulachon catch per unit effort (CPUE) in terms of total pounds per landing in the mainstem Columbia River commercial gillnet fishery and mean larval densities captured at mainstem Columbia index sites using plankton tow nets, 1988–2023.

Table 2. Columbia River Eulachon run size and harvest estimates, 2011–2023.

Year	Weeks sampled for SSB	Run size (SSB plus harvest in pounds) [1]	Harvest (pounds)				
			Commercial				
			Mainstem	Tributary	Sport	Tribal	Combined
2011	19	3,300,000	--	--	--	--	0
2012	25	3,200,000	--	--	--	--	0
2013	29	9,600,000	--	--	--	7,470	7,470
2014	22	16,600,000	18,560	--	203,880	6,970	229,410
2015	33	11,400,000	16,550	--	290,770	10,400	317,720
2016	25	5,100,000	4,820	--	141,050	8,560	154,430
2017	18	1,600,000	5,019	--	541	1,900	7,531
2018	13	400,000	110	--	--	--	110
2019	16	4,205,000	--	--	--	23,660	23,660
2020	10	-- [2]	10,255	--	35,040	23,900	69,195
2021	17	9,000,000	10,997	--	91,250	55,940	158,187
2022	19	18,300,000	27,398	--	169,543	27,385	224,326
2023	22	17,000,000	1,726	--	55,595	10,806	68,127

[1] *Rounded to the nearest 100,000 pounds.*

[2] *The 2020 SSB estimate is incomplete due to truncated sampling during March*

2024 Management Considerations

- **2024 Forecast:** Overall, the 2024 run is expected to be similar to the 2023 run, though some variable ocean conditions leave some uncertainty in that forecast.
- **2024 Fisheries:**
    - Commercial Harvest:
        - Staff are considering a 2024 fishery season structure as follows:
            - Season: M, W & Th, late January-early March
            - Area: Zones 1-3
            - Gear: Gill net only

        **Commercial fishing season subject to decision at the Compact hearing, scheduled for January 23, 2024.*
    - Recreational Fisheries:
        - Plan to consider recreational fisheries after an observed minimum daily CPUE of 200 pounds per delivery for at least one period from the commercial fishery.
        - Similar to previous years, we plan to use additional observations of smelt within the Cowlitz River to ensure adequate fish exist to prosecute a fishery.
        - Staff are preparing to consider 1-3 recreational smelt dipping days between the Cowlitz and Sandy rivers.

Summary of 2023 Salmon Fisheries (all data considered preliminary)

Lower Columbia River Recreational Fisheries Summary

2023 Lower Columbia River Recreational Fisheries Catch Summary.

Time Period	Area	Species Allowed	Days for Chinook	Salmonid Anglers	Adult Chin. Kept	Adult Chin. Rel'd	Jack Chin. Kept	Jack Chin. Rel.	Sthd Kept 3/	Sthd Rel'd	Sockeye Kept 4/	Sockeye Rel'd	Adult Coho Kept	Adult Coho Rel'd	Jack Coho Kept	Jack Coho Rel.
Feb	Buoy 10 to I-5	ChS, StW		2,326	0	0	0	0	15	8	0	0	0	0	0	0
March	LCR	ChS, StW	31	18,345	457	84	7	7	96	123	0	0	0	0	0	0
April	LCR	ChS, StW	11	23,086	2,409	356	0	15	21	20	0	0	0	0	0	0
May 16-18	Buoy 10 to I-5	StS, ChS Jx	0	306	0	52	9	0	3	0	0	0	0	0	0	0
May 19-31	TP-I5/Tp-Bonn.	ChS, StS	13	16,414	1,825	627	426	37	181	17	0	0	0	0	0	0
June 1-15	TP-Bonn.	Shad only	0	0	0	0	0	0	0	3	0	0	0	0	0	0
ChS Totals 1/	**(February 1-June 15)**		**55**	**60,477**	**4,691**	**1,119**	**442**	**59**	**316**	**171**	**0**	**0**	**0**	**0**	**0**	**0**
June 16-30	Astoria Br-BO	ChR, StS, Sok	15	21,899	2,013	564	188	69	469	197	981	47	0	0	0	0
July 1-31	Astoria Br-BO	StS, Sok, ChR Jx	0	14,145	6	386	43	80	1,435	1,597	384	24	0	0	0	0
ChR Totals 2/	**(June 16-July 31)**		**15**	**36,044**	**2,019**	**950**	**231**	**149**	**1,904**	**1,794**	**1,365**	**71**	**0**	**0**	**0**	**0**
Spring/Summer Totals			**70**	**96,521**	**6,710**	**2,069**	**673**	**208**	**2,220**	**1,965**	**1,365**	**71**	**0**	**0**	**0**	**0**
Aug	WPI-BO	ChF, Co	31	33,530	6,761	662	270	235	0	569	0	0	213	171	3	0
Sep	WPI-BO	ChF, Co	30	53,232	18,078	1,459	1,965	247	0	41	0	0	2,042	1,055	173	68
Oct	WPI-BO	ChF, Co	31	10,953	2,567	220	506	45	0	0	0	0	1,033	260	219	29
ChF Totals 5/	**(August 1-October 31)**		**92**	**97,715**	**27,406**	**2,341**	**2,741**	**527**	**0**	**610**	**0**	**0**	**3,288**	**1,486**	**395**	**97**
LCR Spring Summer and Fall			**162**	**194,236**	**34,116**	**4,410**	**3,414**	**735**	**2,220**	**2,575**	**1,365**	**71**	**3,288**	**1,486**	**395**	**97**
OR Buoy 10	B10-TP	ChF, Co	53	58,607	15,313	13,155	0	0	0	117	0	0	7,359	5,223	0	0
WN Buoy 10	B10-TP	ChF, Co	53	19,572	2,823	2,519	0	0	0	0	0	0	2,473	1,821	0	0
	TP-WPI	ChF, Co	53	1,623	494	404	0	0	0	0	0	0	304	168	0	0
Buoy 10 Total 6/	**(August 1- October 31)**		**53**	**79,802**	**18,630**	**16,078**	**0**	**0**	**0**	**117**	**0**	**0**	**10,136**	**7,212**	**0**	**0**
B10 and Mainstem Fall Totals			**92**	**177,517**	**46,036**	**18,419**	**2,741**	**527**	**0**	**727**	**0**	**0**	**13,424**	**8,698**	**395**	**97**
LCR and B10 Grand Totals			**162**	**274,038**	**52,746**	**20,488**	**3,414**	**735**	**2,220**	**2,692**	**1,365**	**71**	**13,424**	**8,698**	**395**	**97**

1/ Spring Chinook open: B10 - I-5 Bridge February 1-28; B10 - Beacon Rock March 1-April 11; B10 - Beacon Rock plus the banks between Beacon Rock and Bonneville May 19-31.

2/ Retention of adult hatchery summer Chinook open June 16-30 from the Astoria-Megler Bridge to Bonneville Dam.

3/ Hatchery steelhead open: B10 - Bonneville Dam February 1-April 11; TP to I-5 May 16-18; TP - Bonneville Dam May 19-31; Astoria- Megler Bridge - Bonnevillle Dam Jun 16- July 31. One steelhead bag limit effective June 16.

4/ Sockeye retention was open during June 16-July 31 form the Astoria-Megler Bridge to Bonneville Dam.

5/ Fall Chinook and hatchery coho was open as follows: WPI-WR open Aug 1-Sep 4, Sep 15-17 and Sep 22-Dec 31; WR-BO open Aug 1-Dec 31.

6/ Buoy 10 and TP - WPI: open for hatchery Chinook and coho August 1-20, 24-27, 2 fish/ 1 Chinook. Coho open September 5-7 with a three fish bag limit. Chinook reopened Sep 8-Dec 31, 3 fish/ 1 Chinook (hatchery or wild).

Zone 6 Recreational Fisheries Summary

2023 Zone 6 (Bonneville Dam - McNary Dam) Spring, Summer, and Fall Salmon Fisheries. Final, post-season estimates from ODFW creel monitoring program.

Area/Pool	Time Period	Species Allowed	Salmonid Anglers	Adult Chin. Kept	Adult Chin. Rel'd	Jack Chin. Kept	Total Sthd Kept	Total Sthd Rel'd	Adult Coho Kept	Adult Coho Rel.	Jack Coho Kept	Sockeye Kept	Sockeye Rel'd
Bonneville			1,302	177	30	4	0	2	0	0	0	0	0
The Dalles	Apr 1 - Jun 15	Chinook, steelhead	3,860	473	88	41	0	0	0	0	0	0	0
John Day			2,804	388	386	104	0	20	0	0	0	0	0
Spring Management Period Total	**(Jan 1 - June 15)**		**7,966**	**1,038**	**504**	**149**	**0**	**22**	**0**	**0**	**0**	**0**	**0**
Bonneville			529	14	75	0	0	25	0	0	0	29	22
The Dalles	Jun 16 - Jul 31	Chinook, steelhead, sockeye	430	40	10	9	0	0	0	0	0	0	4
John Day			344	0	0	0	0	0	0	0	0	21	0
Summer Management Period Tota	**(June 16-July 31)**		**1,303**	**54**	**85**	**9**	**0**	**25**	**0**	**0**	**0**	**50**	**26**
Bonneville			31,978	11,901	1,663	1,321	0	270	2,861	377	552	0	0
The Dalles	Aug 1 - Nov 19	Chinook, steelhead, coho	11,737	2,999	184	562	0	12	493	28	10	0	6
John Day			5,287	948	26	192	0	22	91	32	0	0	0
Fall Management Period Total 3/	**(August 1-December 31)**		**49,002**	**15,848**	**1,873**	**2,075**	**0**	**304**	**3,445**	**437**	**562**	**0**	**6**
Grand Total			**58,271**	**16,940**	**2,462**	**2,233**	**0**	**351**	**3,445**	**437**	**562**	**50**	**32**

1/ Open April 4 - May 6; 2 fish, 1 Chinook. Open area Tower Island powerlines upstream to OR/WA border.

2/ Open June 16 - July 31. 2 fish/ 1 steelhead. Closed July 1- July 31 for retention of Chinook.

3/ Open August 1 - December 31. 2 fish, 1 Chinook. Only hatchery Coho may be retained downstream of the Hood River Bridge.

Upstream of McNary Dam Recreational Summary

Fishery	Kept Adults	Released Adults	Chinook Season
Spring Chinook: Snake R.	411	71	May 2-5, 9-12, 23-26
Spring Chinook: McNary – OR/WA border	21	10	April 1 – May 6, 19-24
Summer Chinook: HWY 395 – PRD	43	12	June 16-30
Sockeye: Hwy 395 – PRD	1,067	3	June 16 – August 15
Summer Chinook: Above PRD+tribs	5,735	1,384	July 1 – October 15
Sockeye: Above PRD	33,909	55	
Fall Chinook: Hanford Reach	10,388	0	August 16 – December 31

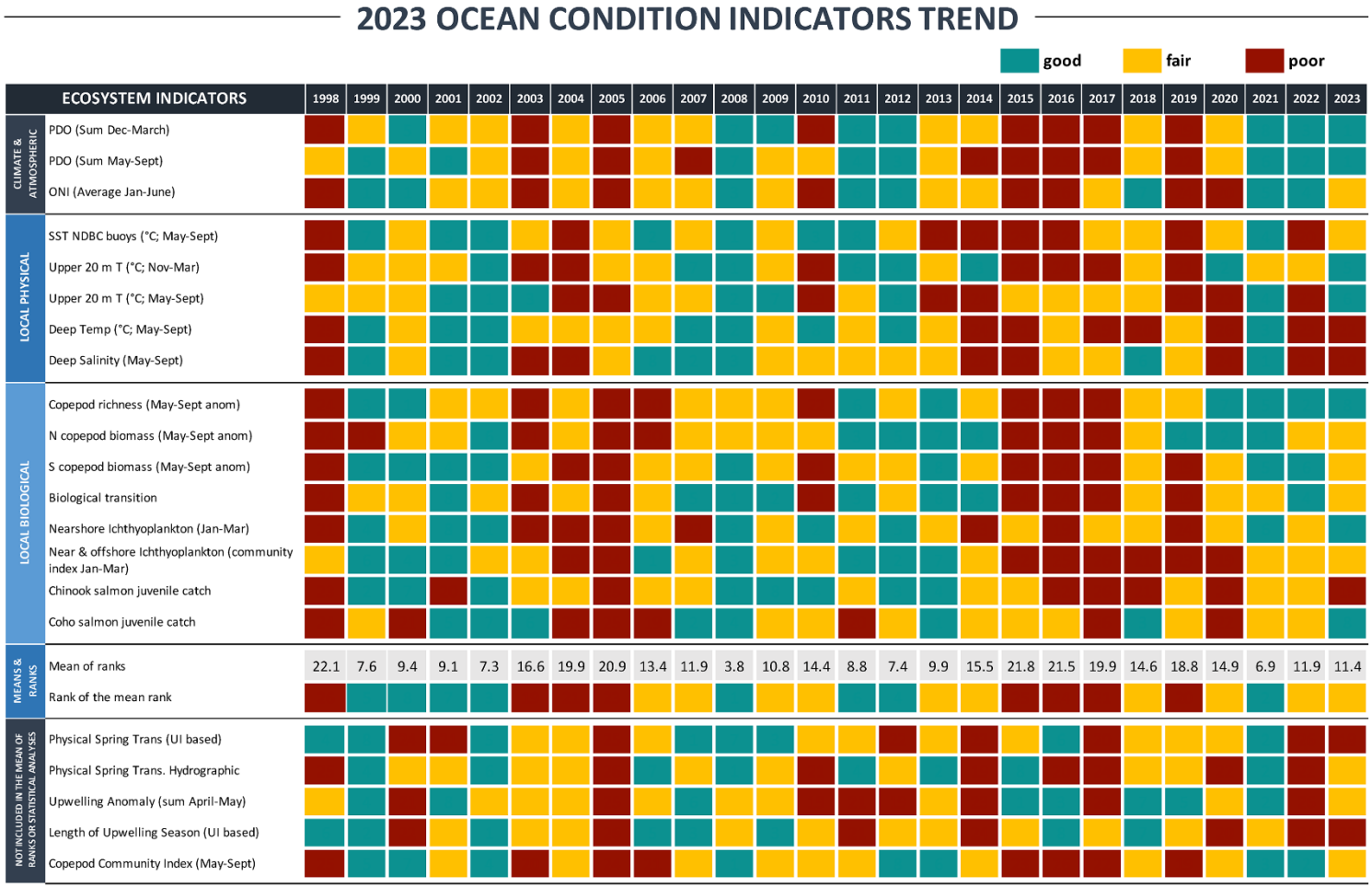
Fall Recreational Fishery Summary

Fall Season Buoy 10 TP/RP-WPI	Chinook open 8/1-20, 24-27, 8/30-9/4 (MSF), 2 fish/1 CHF; 9/5-9/7, 3 Coho; 9/8-12/31 (nMSF CHF) 3 fish/1 CHF Coho open 8/1-9/1, 9/15-12/31 STH retention closed Aug-Oct 79,802 trips, 18,630 Chinook kept – 11th highest (16,178 rel) 10.136 Coho kept (7,212 rel) LRH handle lower than preseason expectation
Fall Season LCR Sport WPI - BON	Chinook and Coho open WPI - Warrior R. 8/1-9/4; 9/15-9/17, 9/22-12/31, 2 Fish/1 Chinook Warrior R. - BON: 8/1-12/31, 2 Fish/1 Chinook STH retention closed Aug-Oct 97,715 trips Aug-Oct – highest since 2017 (12th highest since 1980) 27,406 adult Chinook kept 2,341 rel 3,288 Coho kept 1,487 rel 0 STH kept (610 rel H+W) LRH handle tracked lower than preseason expectation
Fall Season BON - McNary	Chinook and Coho open 8/1-12/3 1 CHF bag STH closed Aug-Oct BON Pool; Sep-Dec TDA/JD/McN pools 49,002 trips Aug-Dec 31; 15,848 adult Chinook kept (1,873 rel) 3,445 Coho kept (437 rel); 2 STH kept (304 rel H+W) C&E higher than preseason expectation
Fall Season McNary-Hwy 395	Same season as JD-McN 1380 trips; 45 Chinook, 19 Coho and 0 STH kept 6 Chinook, 8 Coho and 31 STH (H+W) released
Fall Season Hanford Reach	Fall Chinook open 8/16-12/31; 6 fish/1 adults 26,369 trips; 10,388 adults and 415 jack Chinook kept; 53 Coho kept; Similar Chinook harvest as 2022

Lower Columbia River Commercial Landings Summary

Season	Fishing Period	Week	Hours	Zones	Mesh Size	WSTG Limit [1]	Del.	Chinook	Coho	Sockeye	Pink	Chum	White Sturgeon
								ChS Adults	*ChS Jacks*				
Spring	No season.	–	--	–	–	--	—	—	—	—	—	Prohibited	Prohibited
					Spring Season Totals (and average number of deliveries):		**0**	**0**	**0**	**0**	**0**	–	--
								Chinook	Coho				
Summer	No season.	–	--	–	–	--	—	—	—	—	—	Prohibited	Prohibited
					Summer Season Totals (and average number of deliveries):		**0**	**0**	**0**	**0**	**0**	–	--
August	Aug 9, 9 PM - Aug 10, 6 AM	*32*	9	4–5	9"–9 3/4"	Prohibited	15	407	0	0	0	Prohibited	Prohibited
	Aug 14, 9 PM - Aug 15, 6 AM	*33*	9	4–5	9"–9 3/4"	Prohibited	32	1,133	4	1	0	Prohibited	Prohibited
	Aug 16, 9 PM - Aug 17, 6 AM	*33*	9	4–5	9"–9 3/4"	Prohibited	23	200	0	0	0	Prohibited	Prohibited
	Aug 21, 9 PM - Aug 22, 6 AM	*34*	9	4–5	9"–9 3/4"	Prohibited	48	2,327	15	0	0	Prohibited	Prohibited
	Aug 23, 9 PM - Aug 24, 6 AM	*34*	9	4–5	9"–9 3/4"	Prohibited	54	2,635	37	0	0	Prohibited	Prohibited
	Aug 27, 9 PM - Aug 28, 6 AM	*35*	9	4–5	9"–9 3/4"	Prohibited	59	7,421	118	0	0	Prohibited	Prohibited
	Aug 29, 9 PM - Aug 30, 6 AM	*35*	9	4–5	9"–9 3/4"	Prohibited	64	7,557	433	0	0	Prohibited	Prohibited
	Aug 31, 9 PM - Sep 1, 6 AM	*35*	9	4–5	9"–9 3/4"	Prohibited	50	5,703	1,055	0	0	Prohibited	Prohibited
					August Season Totals (and average number of deliveries):		**43**	**27,383**	**1,662**	**1**	**0**	–	--
Late-Fall	Sep 17, 8 PM - Sep 18, 6 AM	*38*	10	4–5	8"–9 3/4"	Prohibited	31	1,714	448	0	0	Prohibited	Prohibited
	Sep 18, 4 AM - 10 PM	*38*	18	1–3	3-3/4" max tangle-net	Prohibited	19	340	701	0	0	Prohibited	Prohibited
	Sep 19, 8 PM - Sep 20, 6 AM	*38*	10	4–5 [2]	8"–9 3/4"	Prohibited	6	449	78	0	0	Prohibited	Prohibited
	Sep 20, 4 AM - 10 PM	*38*	18	1–3	3-3/4" max tangle-net	Prohibited	30	419	1,084	0	0	Prohibited	Prohibited
	Sep 22, 4 AM - 6 PM	*38*	14	1–3	3-3/4" max tangle-net	Prohibited	21	276	714	0	0	Prohibited	Prohibited
	Sep 24, 8 PM - Sep 25, 6 AM	*39*	10	4–5	8"–9 3/4"	Prohibited	14	775	144	0	0	Prohibited	Prohibited
	Sep 25, 4 AM - 10 PM	*39*	18	1–3	3-3/4" max tangle-net	Prohibited	11	141	497	0	0	Prohibited	Prohibited
	Sep 26, 4 AM - 10 PM	*39*	18	1–3	3-3/4" max tangle-net	Prohibited	16	94	519	0	0	Prohibited	Prohibited
	Sep 26, 8 PM - Sep 27, 6 AM	*39*	10	4–5	8"–9 3/4"	Prohibited	8	370	80	0	0	Prohibited	Prohibited
	Sep 27, 4 AM - 10 PM	*39*	18	1–3	3-3/4" max tangle-net	Prohibited	9	22	163	0	0	Prohibited	Prohibited
	Sep 28, 4 AM - 10 PM	*39*	18	1–3	3-3/4" max tangle-net	Prohibited	8	37	304	0	0	Prohibited	Prohibited
	Sep 28, 7 PM - Sep 29, 7 AM	*39*	12	4–5	8"–9 3/4"	Prohibited	5	144	47	0	0	Prohibited	Prohibited
	Sep 29, 4 AM - 6 PM	*39*	14	1–3	3-3/4" max tangle-net	Prohibited	19	83	1,124	0	0	Prohibited	Prohibited
	Oct 1, 7 PM - Oct 2, 7 AM	*40*	12	4–5	8"–9 3/4"	Prohibited	6	252	42	0	0	Prohibited	Prohibited
	Oct 2, 4 AM - 10 PM	*40*	18	1–3	3-3/4" max tangle-net	Prohibited	12	36	157	0	0	Prohibited	Prohibited
	Oct 3, 4 AM - 10 PM	*40*	18	1–3	3-3/4" max tangle-net	Prohibited	10	46	192	0	0	Prohibited	Prohibited
	Oct 4, 4 AM - 10 PM	*40*	18	1–3	3-3/4" max tangle-net	Prohibited	4	9	47	0	0	Prohibited	Prohibited
	Oct 4, 7 PM - Oct 5, 7 AM	*40*	12	4–5	8"–9 3/4"	Prohibited	5	219	76	0	0	Prohibited	Prohibited
	Oct 5, 4 AM - 10 PM	*40*	18	1–3	3-3/4" max tangle-net	Prohibited	8	51	121	0	0	Prohibited	Prohibited
	Oct 6, 4 AM - 6 PM	*40*	14	1–3	3-3/4" max tangle-net	Prohibited	2	8	49	0	0	Prohibited	Prohibited
	Oct 8, 7 PM - Oct 9, 7 AM	*41*	12	4–5	8"–9 3/4"	Prohibited	5	197	23	0	0	Prohibited	Prohibited
	Oct 9, 4 AM - 10 PM	*41*	18	1–3	3-3/4" max tangle-net	Prohibited	6	2	28	0	0	Prohibited	Prohibited
	Oct 10, 4 AM - 10 PM	*41*	18	1–3	3-3/4" max tangle-net	Prohibited	1	2	7	0	0	Prohibited	Prohibited
	Oct 11, 4 AM - 10 PM	*41*	18	1–3	3-3/4" max tangle-net	Prohibited	2	2	17	0	0	Prohibited	Prohibited
	Oct 11, 7 PM - Oct 12, 7 AM	*41*	12	4–5	8"–9 3/4"	Prohibited	5	262	2	0	0	Prohibited	Prohibited
	Oct 12, 4 AM - 10 PM	*41*	18	1–3	3-3/4" max tangle-net	Prohibited	0	0	0	0	0	Prohibited	Prohibited
	Oct 13, 4 AM - 6 PM	*41*	14	1–3	3-3/4" max tangle-net	Prohibited	1	2	17	0	0	Prohibited	Prohibited
	Oct 15, 7 PM - Oct 16, 7 AM	*42*	12	4–5	8"–9 3/4"	Prohibited	4	299	1	0	0	Prohibited	Prohibited
	Oct 16, 4 AM - 10 PM	*42*	18	1–3	3-3/4" max tangle-net	Prohibited	0	0	0	0	0	Prohibited	Prohibited
	Oct 17, 4 AM - 10 PM	*42*	18	1–3	3-3/4" max tangle-net	Prohibited	1	3	3	0	0	Prohibited	Prohibited
	Oct 18, 4 AM - 10 PM	*42*	18	1–3	3-3/4" max tangle-net	Prohibited	0	0	0	0	0	Prohibited	Prohibited
	Oct 18, 7 PM - Oct 19, 7 AM	*42*	12	4–5	8"–9 3/4"	Prohibited	4	261	0	0	0	Prohibited	Prohibited
	Oct 19, 4 AM - 10 PM	*42*	18	1–3	3-3/4" max tangle-net	Prohibited	0	0	0	0	0	Prohibited	Prohibited
	Oct 20, 4 AM - 6 PM	*42*	14	1–3	3-3/4" max tangle-net	Prohibited	0	0	0	0	0	Prohibited	Prohibited
	Oct 23, 4 AM - 10 PM	*43*	18	1–3	3-3/4" max tangle-net	Prohibited	0	0	0	0	0	Prohibited	Prohibited
	Oct 24, 4 AM - 10 PM	*43*	18	1–3	3-3/4" max tangle-net	Prohibited	0	0	0	0	0	Prohibited	Prohibited
	Oct 25, 4 AM - 10 PM	*43*	18	1–3	3-3/4" max tangle-net	Prohibited	0	0	0	0	0	Prohibited	Prohibited
	Oct 26, 4 AM - 10 PM	*43*	18	1–3	3-3/4" max tangle-net	Prohibited	0	0	0	0	0	Prohibited	Prohibited
	Oct 27, 4 AM - 6 PM	*43*	14	1–3	3-3/4" max tangle-net	Prohibited	0	0	0	0	0	Prohibited	Prohibited
					Late-fall Zones 1-3 subtotals (and average number of deliveries):		**6**	**1,573**	**5,744**	**0**	**0**	–	--
					Late-fall Zones 4-5 subtotals (and average number of deliveries):		**8**	**4,942**	**941**	**0**	**0**	–	--
					Late-Fall Season Totals (and average number of deliveries):		**7**	**6,515**	**6,685**	**0**	**0**	–	--
								Chinook	**Coho**	**Sockeye**	**Pink**	Chum	White Sturgeon
					2023 Grand Totals:			**33,898**	**8,347**	**1**	**0**	Prohibited	Prohibited

Ocean Conditions and Forecasts



* 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.

** This table is easier to interpret if printed in color. Green represents more favorable indicators. Yellow is intermediate and Red indicates unfavorable.

Columbia River Adult Salmon Returns: Actual and Forecasted †				
		2023 Forecast	**2023 Return**	**2024 Forecast**
Spring Chinook	**Upriver Total ***	**198,600**	**141,179**	**121,000**
	Upper Columbia	41,400	24,917	19,400
	Upper Columbia natural-origin	*5,800*	*2,836*	*2,700*
	Snake River Spring/Summer **	85,900	82,433	63,500
	Snake River natural-origin **	*13,200*	*10,826*	*9,200*
	Lower River Total	**117,000**	**75,407**	**84,600**
	Total Spring Chinook	**315,600**	**216,586**	**205,600**
	Area-specific detail			
	Willamette River	71,000	38,373	48,800
	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

† All forecasts are rounded to the nearest 100s place.

* 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.

12/12/2023