Lower Columbia River Sturgeon Population Status and Management Annual Policy (C-3001) Review - (Briefing/Public Comment)

TABLE OF CONTENTS

Page

Summary Sheet	.1 of 19
Lower Columbia River White Sturgeon Stock Assessment and Fishery Management	E of 10
2022 Update	.5 01 19
Lower Columbia Sturgeon Management Policy C-30011	7 of 19



Fish and Wildlife Commission Presentation Summary Sheet

Meeting date:

2/17/2022

Agenda item:

Lower Columbia River Sturgeon Population Status and Management Annual Policy (C-3001) Review (Briefing/Public Comment)

Presenter(s):

Laura Heironimus, CRMU Sturgeon, Smelt, Lamprey Unit Lead

Background summary:

The purpose of the Lower Columbia Sturgeon Management Policy (C-3001) "is to provide guidelines for management of the Lower Columbia River White Sturgeon population and fisheries" and the intent "to provide consistent management guidelines that promote a healthy population and provide sustainable fisheries."

The Commission has adopted a precautionary approach to management based on uncertainties around several factors affecting the population. The policy calls for an annual review for the Commission, as an essential component of this precautionary approach, to include updated information on stock status, available information on pinniped predation, review of in-season management actions, summary of catch data (including handling of sturgeon in non-target fisheries, when available), recommended management changes, and other pertinent information.

Detailed information regarding stock status, predation, harvest, and by-catch is summarized in Attachment 1: "Lower Columbia River White Sturgeon – Stock Assessment and Fishery Management – 2021 Update"

Stock Status

Since 2010, setlines have been used to capture and tag sturgeon and, based on the number of recaptured tagged sturgeon, population estimates were calculated using the Petersen mark-recapture model. The Petersen model estimates the abundance of fish greater than 22 inches fork length based on the setline catch rates and gear vulnerability, both of which vary with fork length. Based on this approach, abundance of legal-size fish declined from 2006 through 2012, but increased annually from a low of 72,700 fish in 2012 to 223,960 fish in 2016.

Using data collected during the 2021 stock assessment, the legal-size abundance was estimated at 122,395 legal-size fish (95% CI: 66,322–181,468) in 2021. CPUE for legal-sized fish was consistent with mark-recapture estimates and data indicate a decreasing trend in legal-size abundance since 2016.

The estimated number of adult-size White Sturgeon, fish larger than 66 inches FL, has generally trended upwards from an estimated 3,040 fish in 2015 to approximately 14,500 fish in 2020. The adult-size estimate for 2021 declined to an estimated 6,770 fish, however, this is a particularly difficult metric to monitor since sturgeon over 66-inch FL are not easily caught with stock assessment gear. This means that only a few fish are handled annually and a single fish can make a large difference in the point estimate for a given year. The three-year average adult abundance is used to better assess increases or decreases in abundance trends through time. The three-year average adult abundance continued to increase from 6,500 in 2017 to 11,064 in 2021. In 2016, this estimate moved the adult status above the conservation threshold specified in Oregon's Lower Columbia River and Oregon Coast White Sturgeon Conservation Plan. The adult abundance status has remained above the desired level for three consecutive years.

The continued low relative abundance of juvenile sturgeon indicates that there may still be productivity issues within the system. Additionally, the elevated water temperatures that resulted from the heatwave in June 2021 likely had a large impact on sturgeon spawning success and hatchling survival. The annual sub-yearling production index in the mainstem Columbia River (0.02 catch-per-net) was the lowest ever recorded and catch within the Willamette River (0.17 catch-per-net) was the second lowest ever recorded in that area. However, measurable recruitment has been detected in every year sampled, indicating the Lower Columbia River White Sturgeon population is a viable and healthy population.

Pinniped Predation

Steller sea lion predation of White Sturgeon began around the mid-2000's in the gorge below Bonneville Dam and are currently responsible for most, if not all, of the observed predation on White Sturgeon. Numbers of steller sea lions present in the tailrace immediately below the dam remain at high levels. Predation estimates are provided by the Army Corps of Engineers, who observe the mile-long stretch of river below Bonneville Dam. During the spring observation period, observed consumption of White Sturgeon at Bonneville Dam has decreased to less than 5% of the peak level of over 3000 White Sturgeon reached 2011, indicating few sturgeon remain in the area when sea lions are present. The Army Corps of Engineers began monitoring pinniped predation in the fall of 2017, and found that during this fall period, predation rates on White Sturgeon were observed at 2–10 times that which was observed during the spring. In 2020, pinnipeds were observed consuming 57 White Sturgeon during the spring and 762 White Sturgeon during the fall. Predation throughout the remaining 145 miles of the lower Columbia River and in tributaries of the river are not observed; however, tracking data indicates that upon entering the estuary, steller sea lions will make a rapid upstream movement to Bonneville Dam, indicating that predation below the observable area is likely low.

Although overall observed predation at Bonneville Dam has decreased since 2011, White Sturgeon recruitment in the lower mainstem Columbia river still appears to be negatively impacted by the abundance of pinnipeds in the Bonneville Dam tailrace in the spring. A significant negative correlation exists between White Sturgeon catch-per-net and observed Stellar Sea Lion abundance in the Bonneville Dam tailrace. This indicates that abundance of Stellar Sea Lions is a significant predictor of weak White Sturgeon recruitment. This may indicate that the presence of pinnipeds is affecting spawning success by stressing spawning adult sturgeon or that adult sturgeon are selecting less optimal spawning habitat to avoid pinniped predation.

In-season Management/Harvest

Sport Fisheries

In 2021, a short-duration retention sturgeon fishery opened in the mainstem Columbia for the fifth time

since 2013 and in the Willamette River for the second time since 2013. The 2021 sport fishery and harvest guidelines were planned similarly to the 2017–2020 fisheries, targeting a 3.5-4.5% harvest rate. There were positive responses from anglers that participated in the fishery. While participation was still lower than pre-closure levels, overall angler trips (both retention and catch-and-release) increased when compared to the catch-and-release only seasons.

In the Estuary (below Wauna), the fishery was open for 13 days (May 10–June 12) with a 2pm closure, 2,960 fish guideline, and a 44–50" FL harvestable size slot limit. Sport anglers harvested 2,549 fish from approximately 19,100 angler trips, accounting for 86% of the estuary sport fishing guideline. Upstream of Wauna to Bonneville Dam, the fishery was open for six retention days (September 11–29) with a 1,230 fish guideline and a 44–50" FL harvestable size slot limit. During this fishery, sport anglers harvested 885 fish from approximately 10,500 angler trips, accounting for 72% of the Wauna-to-Bonneville sport fishing guideline. In the Willamette River, Oregon opened a two-day fishery (June 12 and 19) with a 740 guideline and a 44–50" FL harvestable size slot limit.

The 2021 White Sturgeon sport fisheries had a total guideline of 4,930 fish and a total catch of 3,521 fish. This catch accounts for 71% of the overall sport fishing guideline (including the Willamette River) and 82% of the Lower Columbia River sport fishing guideline (not including the Willamette River).

Commercial Fisheries

The retention of sturgeon in commercial fisheries was opened again in 2021, for the fifth time since 2013. In the mainstem, commercial fisheries brought 27 White Sturgeon to market in early-August, 270 White Sturgeon in Late-August, and 98 White Sturgeon in late-fall, for a total of 395 fish, or 33% of the commercial harvest guideline. In the select area, commercial fisheries brought 132 White Sturgeon to market in winter fisheries, 233 White Sturgeon in spring fisheries, 63 White Sturgeon in summer fisheries, and 371 White Sturgeon in fall fisheries, for a total of 799 fish, or 67% of the commercial harvest guideline. In total, the commercial fisheries brought 1,194 White Sturgeon to markets in 2021, accounting for 97% of the 1,230 fish commercial guideline.

Sturgeon harvest in areas outside of the lower Columbia River

Since 2014, retention of White Sturgeon has been prohibited in recreational and non-Indian commercial fisheries on the Oregon and Washington coasts, Puget Sound, and their tributaries. This continued through 2021.

By-Catch

The 2021 commercial fisheries were monitored at a minimal level by WDFW staff. Total sturgeon bycatch in 2021 is unknown.

During the recreational sturgeon fishery, an estimated 9,747 White Sturgeon (3,560 sublegal-size and 6,187 over legal-size) and 16 green sturgeon were caught and released. This represents 3.1% of the estimated 312,144 fish greater than 54 cm FL.

Staff recommendation:

Staff will work with Oregon Department of Fish and Wildlife to develop another short-duration sport retention fishery, similar to the fisheries of 2017–2021.

Policy issue(s) and expected outcome:

Briefing only. The current policy, C-3001 (Attachment 2), was adopted January 25, 2018.

Fiscal impacts of agency implementation:

A 2022 sport retention fishery, similar to recent years, would require WDFW to sample the fishery. Impacts to the agency would include employee time and salary for fish management staff and enforcement officers. The amount of fiscal impact would be affected by the length of time a fishery is open, the time-period in which it is open (i.e., weekday, weekend, or holiday), and the intensity of the fishery (how many anglers are present).

Public involvement process used and what you learned:

Staff met with the Columbia River Recreational and Commercial advisor groups on January 11, 2022, and provided updates on the status of the Lower Columbia River White Sturgeon population. Both groups expressed some concern over the conservation status of the juvenile proportion of the population. Most advisors, though not all, generally supported another retention fishery in 2022.

Action requested and/or proposed next steps:

Briefing only.

Draft motion language:

N/A

Post decision communications plan:

N/A

Form revised 8-4-20

Lower Columbia River White Sturgeon

Stock Assessment and Fishery Management

2022 Update

Summary Prepared by

Joint Columbia River Management Staff

Washington Department of Fish and Wildlife Oregon Department of Fish and Wildlife

122,395		Abundance estimate continues recent
122,395		
		declining trend; Significantly above conservation status level.
2021: 6,769		2021 3-yr adult abundance avg is above desired status level (threshold =
-yr avg.: 11,064		9,250 adults); point estimate is above conservation status level (3,900).
		Low relative abundance of juvenile and sub-legal sized fish indicates population
~56% juvenile		productivity issues; Below conservation status level (threshold = 60%).
LCR: 0.02		Low recruitment numbers in both CR and WR indicate continued productivity
WR: 0.17		issues with this population segment.
Total: 36,704 angler trips		Participation still down from pre-closure levels, but interest in retention fishing opportunity remains.
	-yr avg.: 11,064 ~56% juvenile LCR: 0.02 WR: 0.17 Total: 36,704	-yr avg.: 11,064 ~56% juvenile

Table 1. Dashboard of key status indicators for lower Columbia River white sturgeon, 2021. Colored circles indicate status relative to Conservation Plan metrics and/or recent trend.

Abundance and CPUE Trends

Table 2. 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.

	Historic method		Setline method						
Year	estimate	Estim	ate (95% C.I.)	Projection ¹	Harvest guideline				
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		122,395	(63,322-181,468)	206,100	6,160				
2022				114,356	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.

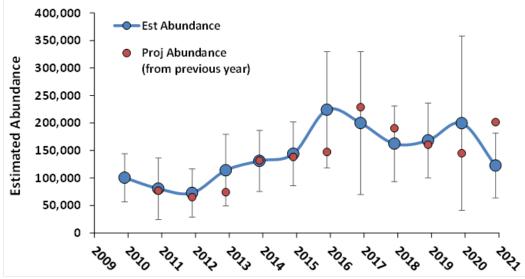


Figure 1. Estimated and projected abundance for 96–137 cm FL White Sturgeon from the LCR, 2010 – 2021. Error bars represent 95% CI's for the estimated abundance.

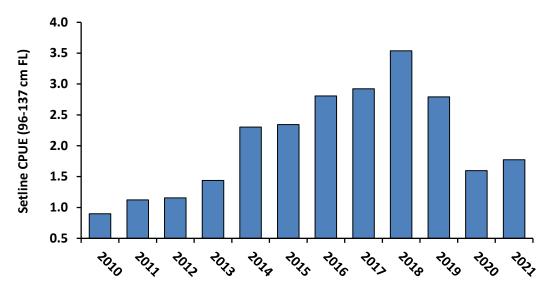


Figure 2. CPUE of 96 – 137 cm FL White Sturgeon caught with setlines in the LCR, 2010 – 2021.

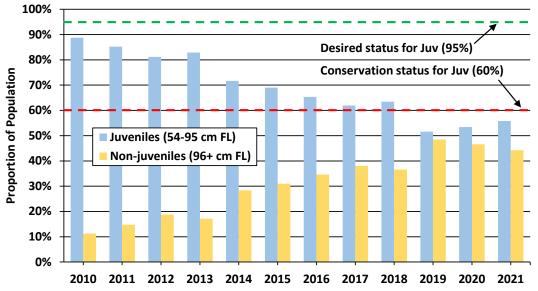
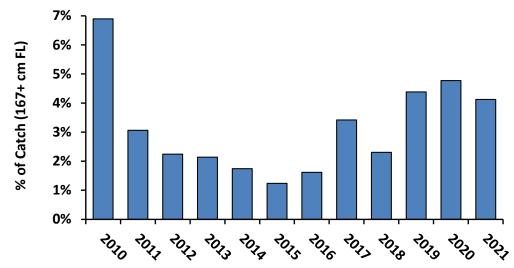


Figure 3. Lower Columbia River White Sturgeon population composition, 2010 – 2021.



Adult Abundance and CPUE Trends

Figure 4. Percent of LCR setline catch comprised of White Sturgeon ≥ 167 cm FL, 2010 - 2021.

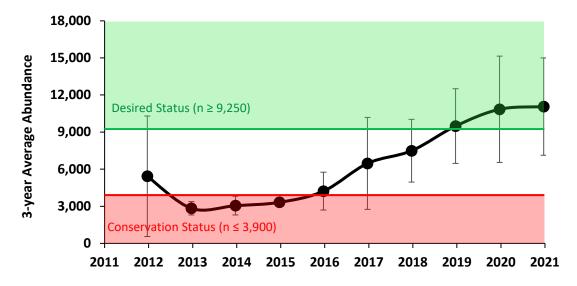
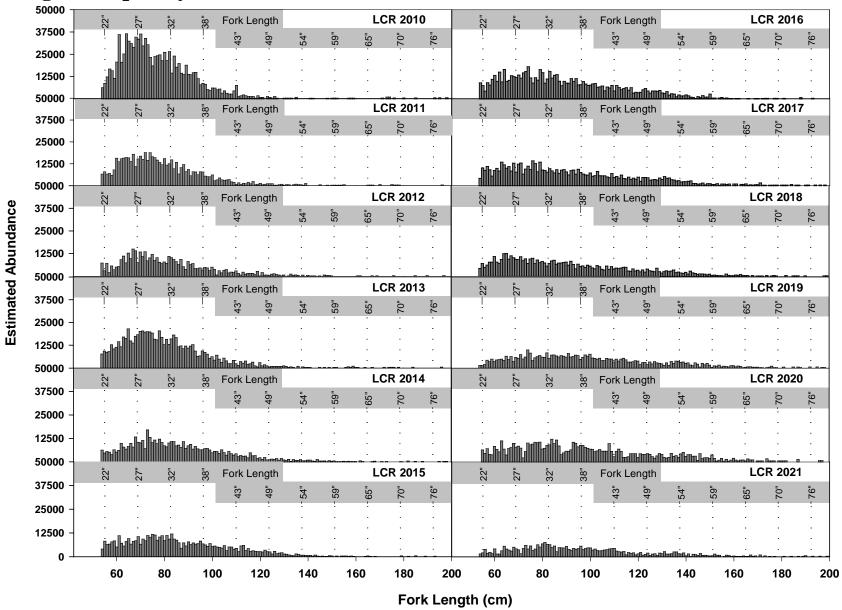


Figure 5. Three-year running average estimated abundance for White Sturgeon ≥ 167 cm FL from the LCR, 2012 - 2021. Less than three years of data were available prior to 2012, therefore no averages were calculated. Error bars represent one standard deviation.



Length Frequency Trend

Figure 6. Estimated abundance by 1-cm length increments of White Sturgeon \geq 54 cm FL from the LCR, 2010 – 2021.

Legal-size Abundance Forecasts

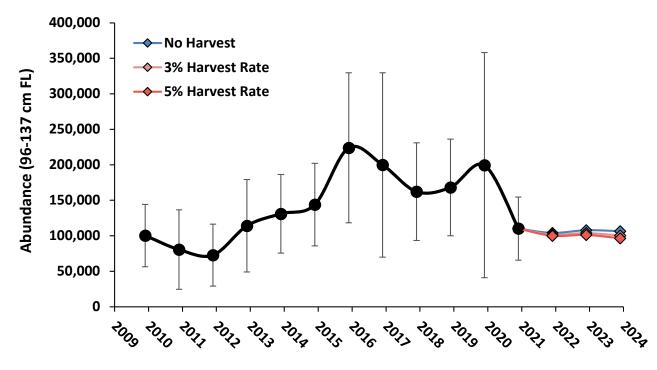


Figure 8. Projected abundance of White Sturgeon 96 - 137 cm FL in the LCR under different annual harvest rates.

Sub-yearling (Age-0) Production

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}				
$\frac{2021}{1}$	0.17	0.17	0.02	0.02

Table 4. 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 – 2021.

¹ No age-0 sampling in either the lower Columbia or Willamette rivers.

² No age-0 sampling in the Willamette River.

2022 Fisheries:

- Commission:
 - OR and WA will present updated stock status information and share staff recommendations for the 2022 fisheries to respective commissions in February.
 - Oregon: Feburary 18, 2022
 - Washington: February 18-19, 2022
 - Advisor feedback is important to developing staff recommendations and receiving commission support.
- Considerations for fisheries:
 - Guideline reduced by approximately 1/3 compared to 2021 in both recreational and commercial fisheries.
 - o Reduced opportunity to accommodate smaller guidelines is expected.

Appendix Predation and Harvest Data

Appendix Table 1. 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 – 2021.

	Spr	ing Sampling Period ²		Fall-Winter Sampling Period ³
Year	Total hours observed	Observed sturgeon catch	Adjusted sturgeon catch estimate	Adjusted sturgeon catch estimate (95% CI)
2005	1,109	1		
2006	3,650	265	413	
2007	4,433	360	664	
2008	5,131	606	1,139	
2009	3,455	758	1,710	
2010	3,609	1,100	2,172	
2011	3,315	1,353	3,003	
2012	3,404	1,342	2,498	
2013	3,247	314	635	
2014	2,947	79	146	
2015	2,995	24	44	
2016	1,974	30	90	
2017	1,142	6	24	238 (183-281)
2018	1,410	46	148	359 (301-416)
2019	836	22	187	762 (583-915)
2020 4	331	9	57	

¹Data from U.S. Army Corps of Engineers observation program

(http://pweb.crohms.org/tmt/documents/FPOM/2010/Task%20Groups/Task%20Group%20Pinnipeds/)

²Spring sampling period: January-July.

³Fall-Winter sampling period: August-December

⁴Data for spring 2020 limited to April 4 through May 20 due to the COVID-19 pandemic. Data for fall 2020 and spring 2021 not currently available.

	Belov	Below Wauna ¹		e Wauna	Combined		
Year	Catch	Guideline ²	Catch	Guideline ³	Catch	Guideline	
1994	15,578	N/A	17,893	N/A	33,471		
1995	29,714	N/A	15,423	N/A	45,137		
1996	27,694	N/A	15,068	N/A	42,762		
1997	24,511	N/A	13,646	N/A	38,157	53,840	
1998	30,303	N/A	11,293	N/A	41,596	53,840	
1999	29,238	N/A	10,561	N/A	39,799	40,000	
2000	24,267	N/A	16,238	N/A	40,505	40,000	
2001	21,619	N/A	19,597	N/A	41,216	39,500	
2002	26,234	N/A	12,045	N/A	38,279	38,300	
2003	18,367	19,200	13,565	12,800	31,932	32,000	
2004	15,050	16,000	10,519	12,800	25,569	28,800	
2005	17,911	17,783	11,891	11,560	29,802	29,343	
2006	15,726	16,000	8,545	12,800	24,271	28,800	
2007	19,131	16,274	10,675	13,852	29,806	30,126	
2008	13,614	13,143	7,959	12,387	21,573	25,530	
2009	13,109	15,529	4,599	11,430	17,708	26,959	
2010	6,491	9,600	4,831	4,835	11,322	14,435	
2011	6,117	6,800	2,908	3,410	9,025	10,210	
2012	4,466	4,160	1,859	2,080	6,325	6,240	
2013	4,559	4,042	1,942	2,021	6,501	6,063	
2014 4	0	0	0	0	0	0	
2015 4	0	0	0	0	0	0	
2016 4	0	0	0	0	0	0	
2017	3,235	3,000	430	1,245	3,665	4,245	
2018 5	2,412	2,960	1,050	1,230	3,462	4,190	
2019 5	2,838	2,960	735	1,230	3,573	4,190	
2020 5,6	0	2,750	857	1,140	857	3,890	
2021 5,7	2,549	2,960	885	1,230	3,434	4,190	

Appendix Table 2. Annual recreational white sturgeon catch and harvest guidelines in the lower Columbia River, 1994-2021.

¹ Recreational catch estimates for 1993-2002 are above and below the western tip of Puget Island (RM 38).

 2 The switch to a 45-inch min. (TL) size limit in 2004 required a 17% reduction in the base guideline.

³ Actual in-season guidelines were different than represented here. Beginning in 2010, the guideline for the area above Wauna does not include the Willamette guideline.

⁴ No sturgeon retention allowed during 2014-2016.

⁵ The Cowlitz River was opened with the Above Wauna fishery in 2018–2021.

⁶ No estuary sturgeon retention allowed during 2020.

⁷ Preliminary.

V			Catch in Excess of		
Year	Catch ¹	Baseline ²	Baseline ³	Guideline ³	% of Guideline
2004	4,099	1,225	2,874	Na	
2005	2,327	1,225	1,102	Na	
2006	3,348	1,225	2,123	Na	
2007	6,555	1,225	5,330	Na	
2008	9,148	1,225	7,923	Na	
2009	7,346	1,225	6,121	Na	
2010	3,529	735	2,794	2,865	98%
2011	2,690	520	2,170	2,030	107%
2012	1,535	520	1,015	1,248	81%
2013	1,410	520	890	1,213	73%
2014 4	0	0	0	0	NA
2015 4	0	0	0	0	NA
2016 4	0	0	0	0	NA
2017 5	0	0	0	745	0%
2018 5	0	0	0	740	0%
2019 5	0	0	0	740	0%
2020	167	0	0	690	24%
2021	87	0	0	740	12%

Appendix Table 2. Annual recreational white sturgeon catch and harvest guidelines in the lower Willamette River, 2004-2021.

¹Harvest estimates revised November 2011 based on updated punch card

and existing creel information.

² Baseline harvest levels for the lower Willamette River were based on average harvest during 1986-1996 (1,225 fish). The lower Willamette River baseline decreased to 735 fish in 2010 and 520 fish in 2011 consistent with declining legal abundance estimates. The baseline was eliminated in 2017.

³ During 2003-2009, harvest in excess of the baseline was applied to the above Wauna recreational harvest guideline. Beginning in 2010, a separate harvest guideline was established for the lower Willamette River.

⁴ No sturgeon retention allowed during 2014-2016.

⁵ No retention fisheries occurred in 2017-2019.

	Mainstem						Select Area					
Year	Winter Sturgeon ¹	Winter Salmon	Summer	Early August	Late August	Late Fall	Total	Winter/ Spring/ Summer	Fall	Total	Grand Total	Guideline
2000	2,260			2,490	300	5,130	10,180	540	160	700	10,880	10,000
2001	3,060			4,720	1,020	0	8,800	490	20	510	9,310	9,100
2002	2,720			1,340	380	4,200	8,640	650	330	980	9,620	9,800
2003	1,490	27		2,170	410	3,430	7,527	250	170	420	7,947	8,000
2004	1,696	174	9	1,550	917	3,219	7,565	184	117	301	7,866	8,000
2005	473	70	1,369	1,129	965	3,793	7,799	279	74	353	8,152	8,200
2006	288	1,651	544	1,548	363	3,492	7,886	317	109	426	8,312	8,000
2007	1,424	47	414	2,646	91	2,734	7,356	257	148	405	7,761	7,850
2008	869	17	523	2,706	103	3,170	7,388	337	134	471	7,859	7,927
2009	1,697	21	624	2,213	756	2,001	7,312	311	114	425	7,737	8,000
2010	518	28	289	1,578	297	1,348	4,058	211	116	327	4,385	4,800
2011	50	125	504	967	353	1,187	3,186	201	0	201	3,387	3,400
2012	40	14	281	585	409	368	1,697	225	0	225	1,922	2,080
2013	15	274	326	0	719	324	1,658	254	100	354	2,012	2,021
2014 ²	0	0	0	0	0	0	0	0	0	0	0	0
2015 ²	0	0	0	0	0	0	0	0	0	0	0	0
2016 ²	0	0	0	0	0	0	0	0	0	0	0	0
2017	0	0	0	0	485	239	724	266	237	503	1,227	1,245
2018	0	0	0	0	413	0	413	296	117	413	826	1,230
2019	0	0	0	0	509	0	509	487	212	699	1,208	1,230
2020	0	0	0	74	332	161	567	547	0	547	1,114	1,140
2021	0	0	0	27	270	98	395	428	371	799	1,194	1,230

Appendix Table 3. Annual commercial white sturgeon landings and harvest guidelines in the lower Columbia River, 2000-2021.

¹ Prior to 2003, values reflect all winter fisheries.

² No sturgeon retention allowed during 2014-2016.

FISH AND WILDLIFE COMMISSION POLICY DECISION

POLICY TITLE: Lower Columbia Sturgeon Management POLICY NUMBER: C-3001

Supercedes: 2014-2018 Lower Columbia Sturgeon Management C-3001 Effective Date: January 25, 2019 Termination Date:

See Also: Policy C-3608

Approved January 25, 2019 by: Washington Fish and Wildlife Commission

Purpose

The purpose of this policy is to provide guidelines for management of the Lower Columbia River White Sturgeon population and fisheries.

Definition and Intent

The Lower Columbia River White Sturgeon population inhabits the waters of the Columbia River and tributaries downstream of Bonneville Dam and migrates into ocean and coastal estuaries. The intent of the policy is to provide consistent management guidelines that promote a healthy population and provide sustainable fisheries.

General Policy Statement

Manage the Lower Columbia River White Sturgeon population with conservation and fishery management objectives that are consistent with a healthy population.

Policy Guidelines

Conservation Objectives:

- Provide regulatory protection to increase the abundance of the spawning population.
- Manage with a precautionary approach due to uncertainties in population parameters.
- Manage for an annual combined sport and commercial harvest of White Sturgeon to provide measurable population growth to achieve the goals of: (1) fully seeded habitats and (2) full representation of each size class within the population.
- Population Monitoring (within available resources):
 - o Index young-of-the-year (YOY) to track spawning and recruitment success.
 - Estimate population abundance of all size classes.

- Evaluate methods to improve accuracy of abundance estimates.
- Monitor sea lion predation for incorporation into stock status evaluations.
- Advocate for Columbia River flow regimes that promote successful spawning, incubation, and early rearing.

Fishery Management Objectives:

- Provide sufficient sturgeon spawning sanctuaries or other protective measures where and when appropriate.
- Quantify impacts of commercial and recreational fisheries on sublegal, legal, and over-size (including spawning adult) abundances.

When Retention Fisheries are Allowed:

- Manage Lower Columbia River sturgeon fisheries through an agreement with Oregon.
- Maintain concurrent Washington and Oregon regulations in the Columbia River.
- Manage fisheries in a manner that considers projected recruitment, with the objectives of increasing abundance of the legal size segment and increasing escapement into the spawning segment of the population. Management should consider all mortality sources, including both recreational and commercial fisheries and pinniped predation.
- Manage fisheries using an 80/20 sport/commercial harvest allocation.
- Strive for viable and diverse recreational and commercial fishing opportunities.
- Develop sport fishery regulations consistent with the following objectives:
 - Stay within approved harvest guidelines.
 - Balance catch between estuary and non-estuary fisheries.
 - Maintain fishery monitoring and management capabilities.
- Develop commercial fishery regulations consistent with the following objectives:
 - o Optimize economic value (adjust to market needs).
 - o Spread harvest opportunity throughout the year.
- Consideration of fisheries outside the Lower Columbia River must take into account the ability to monitor and manage those fisheries and be consistent with Lower Columbia River sturgeon conservation objectives.
- Maintain prohibition of Green Sturgeon retention until delisting occurs and retention can be re-evaluated.

Annual Review

Given the degree of uncertainty about various population parameters (e.g., recruitment success, pinniped predation, and size-class structure) of the Columbia River White Sturgeon, the Commission is adopting a precautionary approach to management. The Director will provide an annual review of the population status and fisheries for the Commission, as an essential component of this precautionary approach, to include updated information on:

- stock status;
- available information on pinniped predation;

- review of in-season management actions;
- summary of catch data, including handling of sturgeon in non-target fisheries, when available;
- recommended management changes; and
- other pertinent information.

This policy may be updated as part of any Lower Columbia sturgeon stock status review. The Director will provide the Commission a review of this Policy at least every five years.

Delegation of Authority

The Commission delegates the authority to the Director to develop and negotiate Lower Columbia Sturgeon Management Accords with Oregon Department of Fish and Wildlife that are consistent with these policies and objectives. The Director will consult with appropriate recreational and commercial advisory bodies during this process. Additionally, the Commission delegates the authority to the Director, through the Columbia River Compact, to set seasons for recreational and commercial fisheries in the Columbia River, and to adopt permanent and emergency regulations to implement these fisheries. The Director shall work with the Oregon Department of Fish and Wildlife to achieve implementation of this Commission action in a manner that results in concurrent regulations between the two states. The Director shall consult with the Commission Chair if it becomes necessary to deviate from the Commission's policy to achieve concurrent regulations with Oregon.