

# Lower Columbia River White Sturgeon

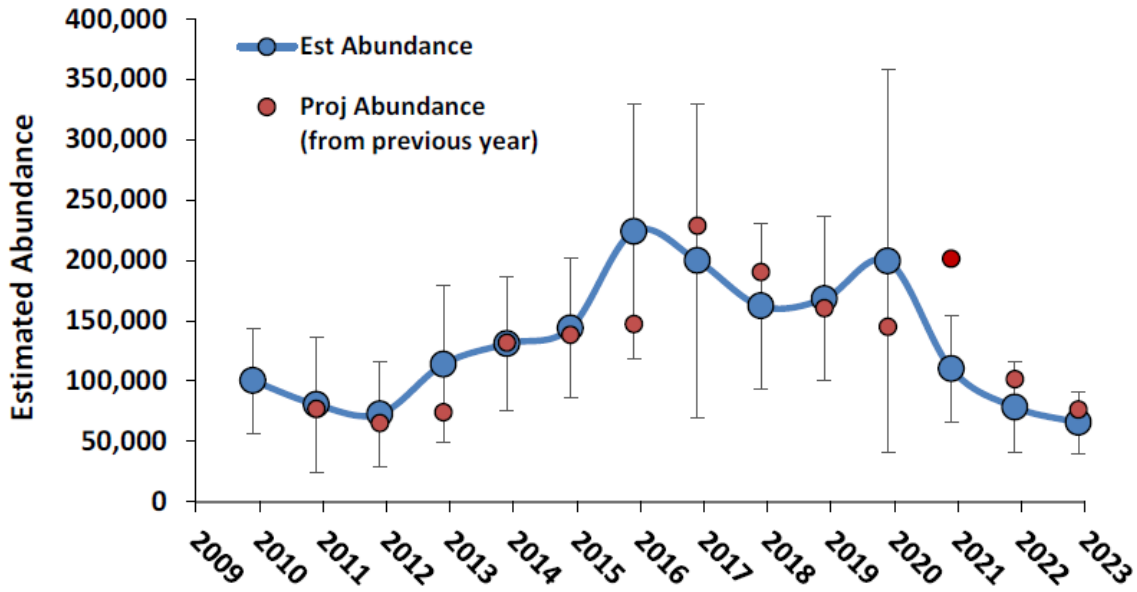
## Abundance and CPUE Trends

**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.

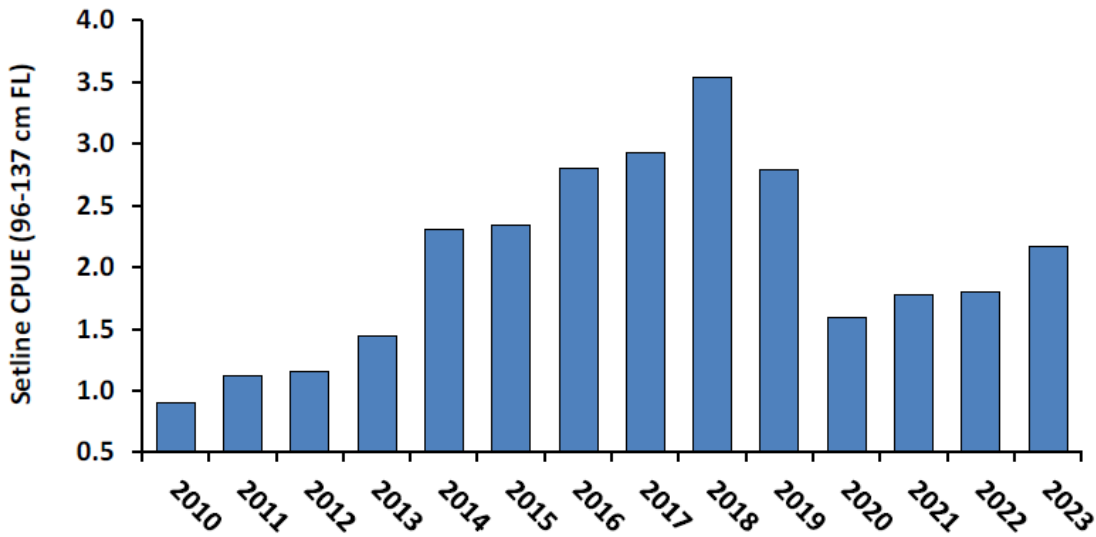
Year	Historic method estimate	Setline method		Harvest guideline
		Estimate (95% C.I.)	Projection <sup>1</sup>	
2008	101,200	--	--	40,000
2009	95,000	--	--	40,000
2010	65,300	100,300	--	24,000
2011	72,800	80,600	77,000	17,000
2012	83,400	72,700	65,000	10,400
2013	--	113,900	74,300	10,105
2014	--	131,000 (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 <sup>2</sup>	--	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

<sup>1</sup> Projected abundance is based on the previous year's setline estimate. Projections do not include harvest.

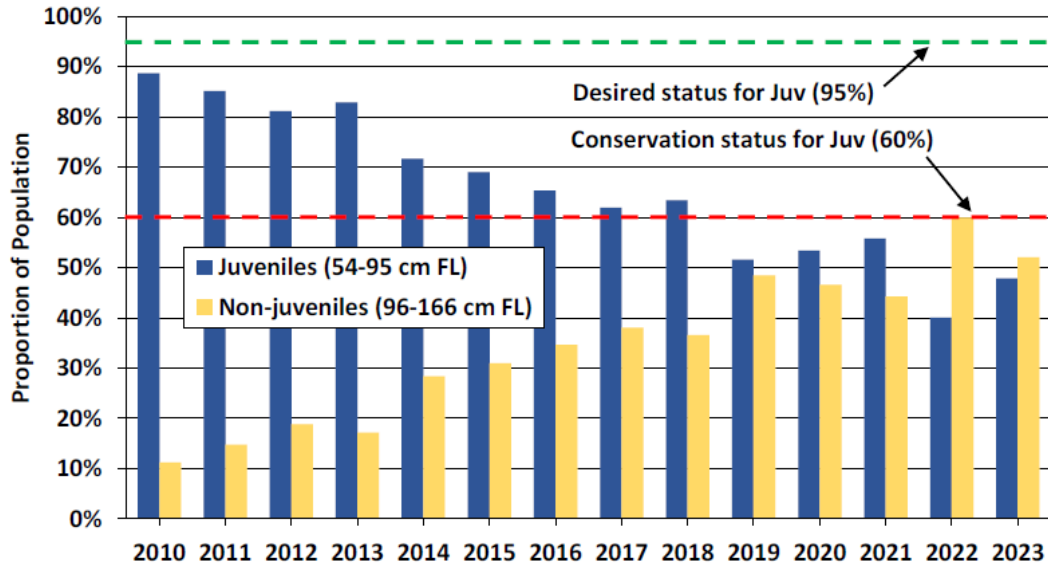
<sup>2</sup> Due to sampling issue related to COVID-19 pandemic, the sample size was lower than standards and therefore the estimate of 199,500 during 2020 has considerable uncertainty.



**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.

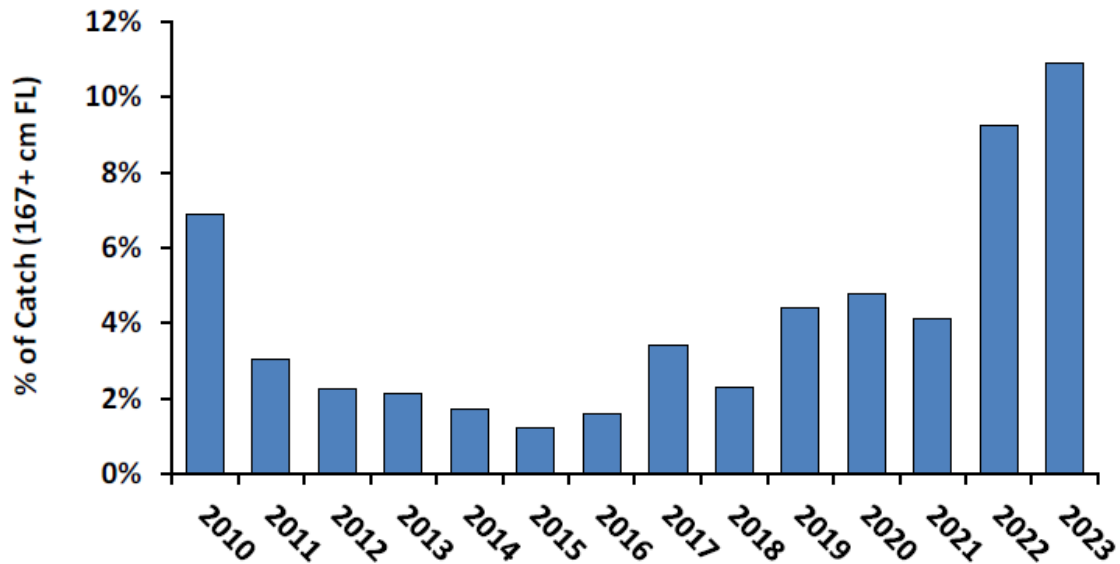


**Figure 2.** CPUE of 96 – 137 cm FL White Sturgeon caught with setlines in the LCR, 2010 – 2023.

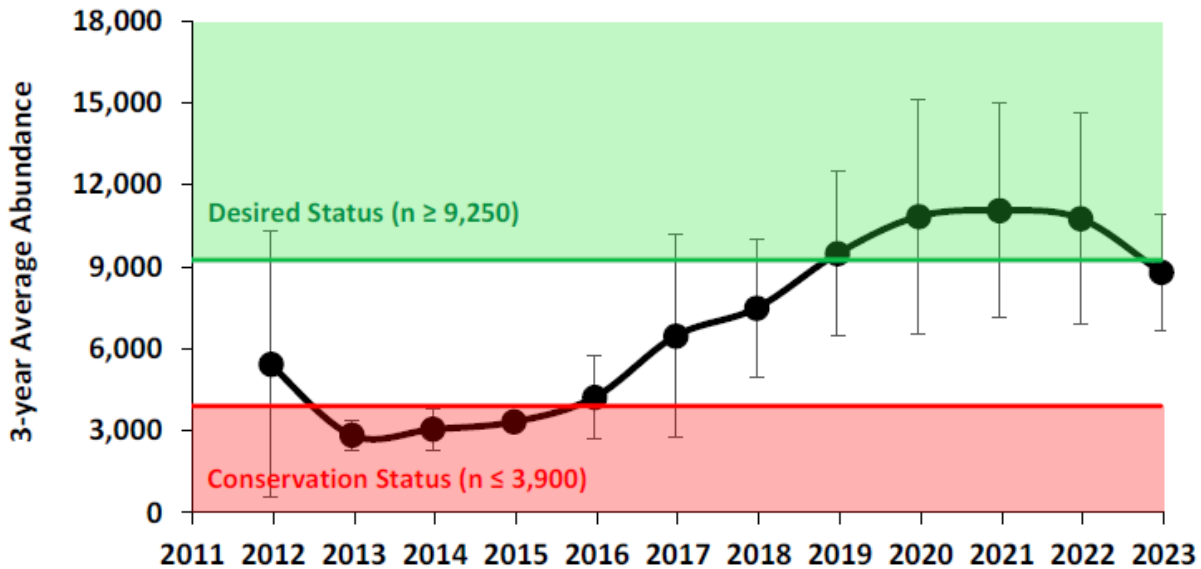


**Figure 3.** Lower Columbia River White Sturgeon population composition, 2010 – 2023.

## Adult Abundance and CPUE Trends

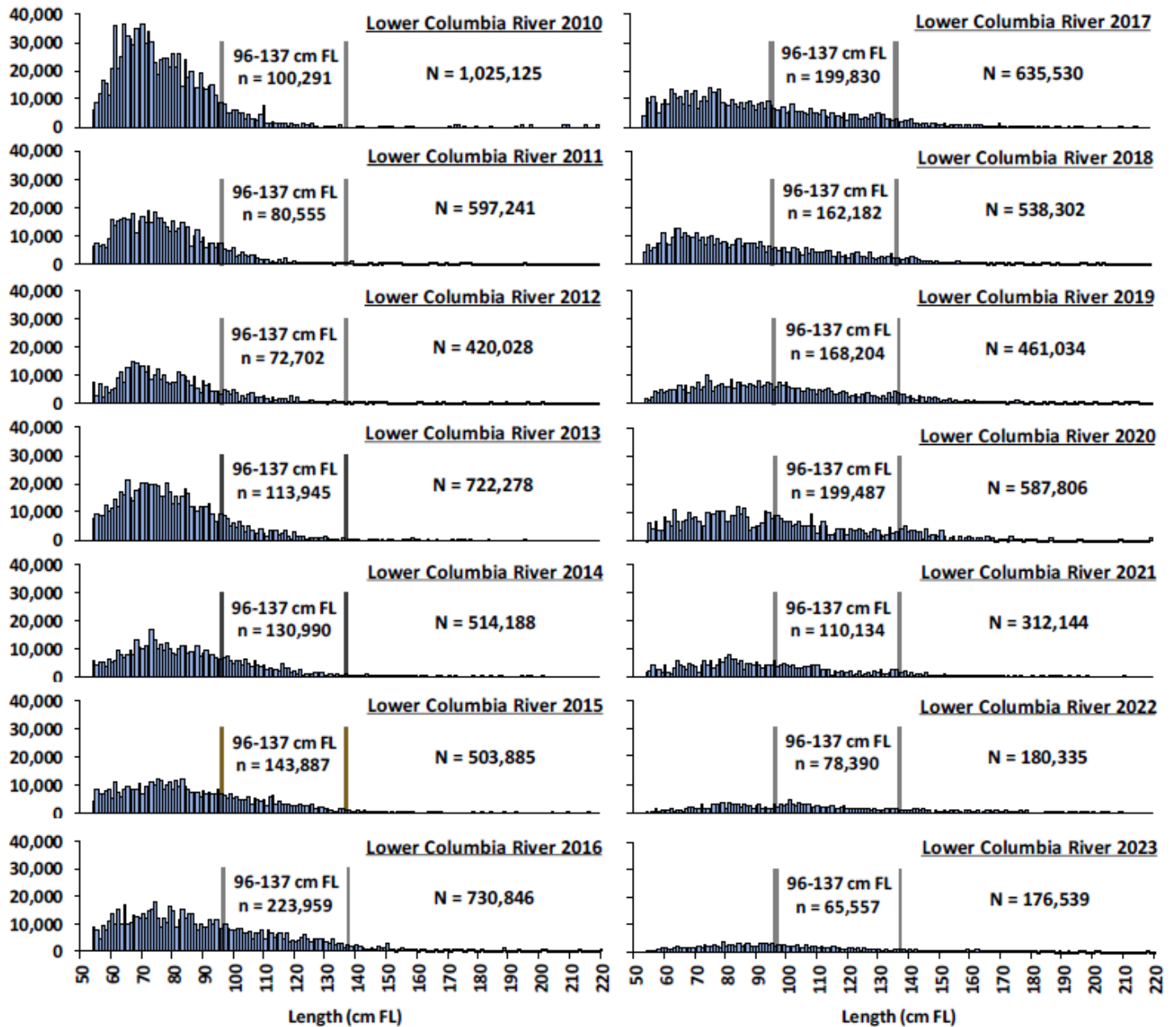


**Figure 4.** Percent of LCR setline catch comprised of White Sturgeon  $\geq 167$  cm FL, 2010 – 2023.



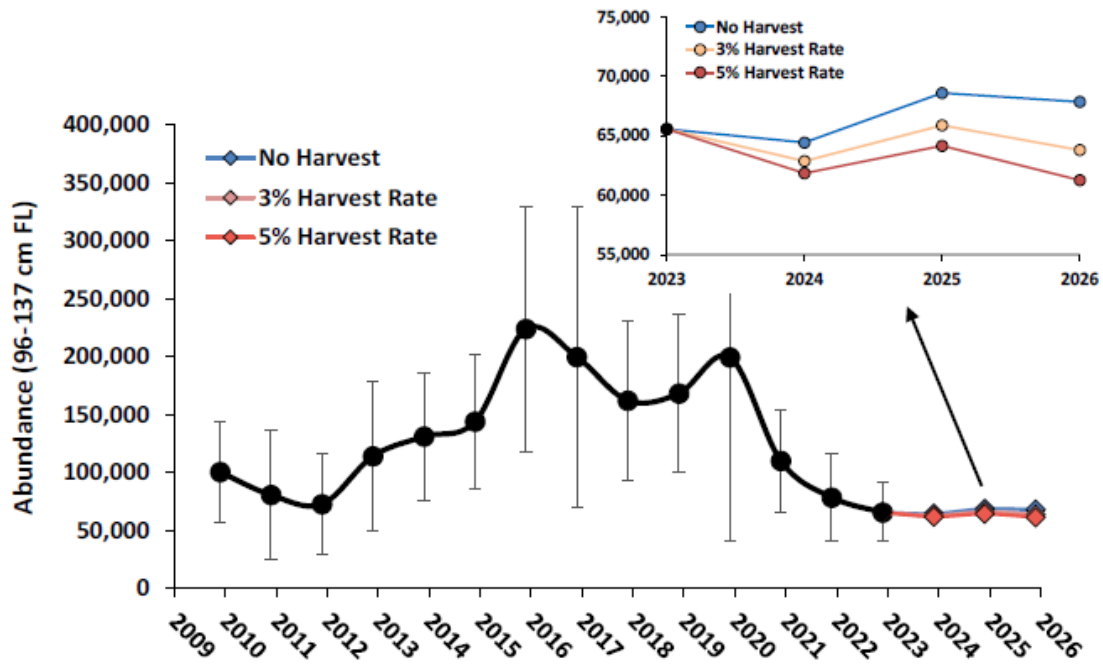
**Figure 5.** Three-year running average estimated abundance for White Sturgeon  $\geq 167$  cm FL from the LCR, 2012 – 2023. Less than three years of data were available prior to 2012, therefore no averages were calculated. Error bars represent one standard deviation.

# Length Frequency Trend



**Figure 6.** Estimated abundance by 1-cm length increments of White Sturgeon  $\geq 54$  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 <sup>1</sup>			--	--
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 <sup>2</sup>	--	--	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 <sup>1</sup>	--	--	--	--
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

<sup>1</sup> No age-0 sampling in either the lower Columbia or Willamette rivers.

<sup>2</sup> 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.