

# Lower Columbia River Sturgeon Annual Review

Laura Heironimus and Bill Tweit  
Columbia River Management Unit, Fish Program



# Purpose

Annual review of stock status and fisheries.

- Commission Policy C-3001 “Lower Columbia Sturgeon Management”



# Outline

- Policy Guidance
- 2019 Fisheries
- Stock Status
- Predation
- 2020 Fisheries



# Lower Columbia River White Sturgeon

## Distribution:

- The Columbia River, downstream of Bonneville Dam.
- Nearshore marine areas and Washington and Oregon coastal bays and estuaries, including Puget Sound.



# Policy Guidance: C-3001

“...to provide consistent management guidelines that promote a healthy population and provide sustainable fisheries.”

## Conservation Objectives:

- Increase abundance of spawning population
- Manage with a precautionary approach
- Population monitoring (within available resources)

## Fishery Management Objectives:

- Quantify impacts of fisheries on sturgeon abundance
- Consider projected recruitment and mortality sources
- Monitor and manage fisheries

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.



# Recent Management

Lower Columbia sturgeon population closed to harvest in 2014.

Since 2017, the department has collaborated with Oregon Department of Fish and Wildlife staff to develop very limited White Sturgeon harvest fisheries in the lower Columbia River that are consistent with the reduced status of the population.



# 2019 Fishery Harvest Guidelines

- Total Catch Guideline: 6,160 fish
- Commercial Fishery: 1,230 fish (20%)
- Sport Fishery: 4,930 fish (80%)
  - CR Estuary: 2,960 fish
  - CR Wauna-Bonneville: 1,230 fish
  - Willamette River: 740 fish\*

\*no retention fishery opened



# 2019 Commercial Fishing Harvest

## Select Area (SAFE):

- Winter: 20 fish
- Spring/Summer: 459 fish
- Fall: 212 fish
- **Total:** 691 fish (58%)

## Mainstem:

- Early Fall: 509 fish (41%)

**Total Harvest: 1,200 fish**

98% of the 2019 commercial guideline





# 2019 Sport Fishing Harvest

## Estuary (below Wauna):

- May 13-June 5 (11 d)
- 22,012 angler trips
- **Total:** 2,838 fish (96%)

## Wauna to Bonneville:

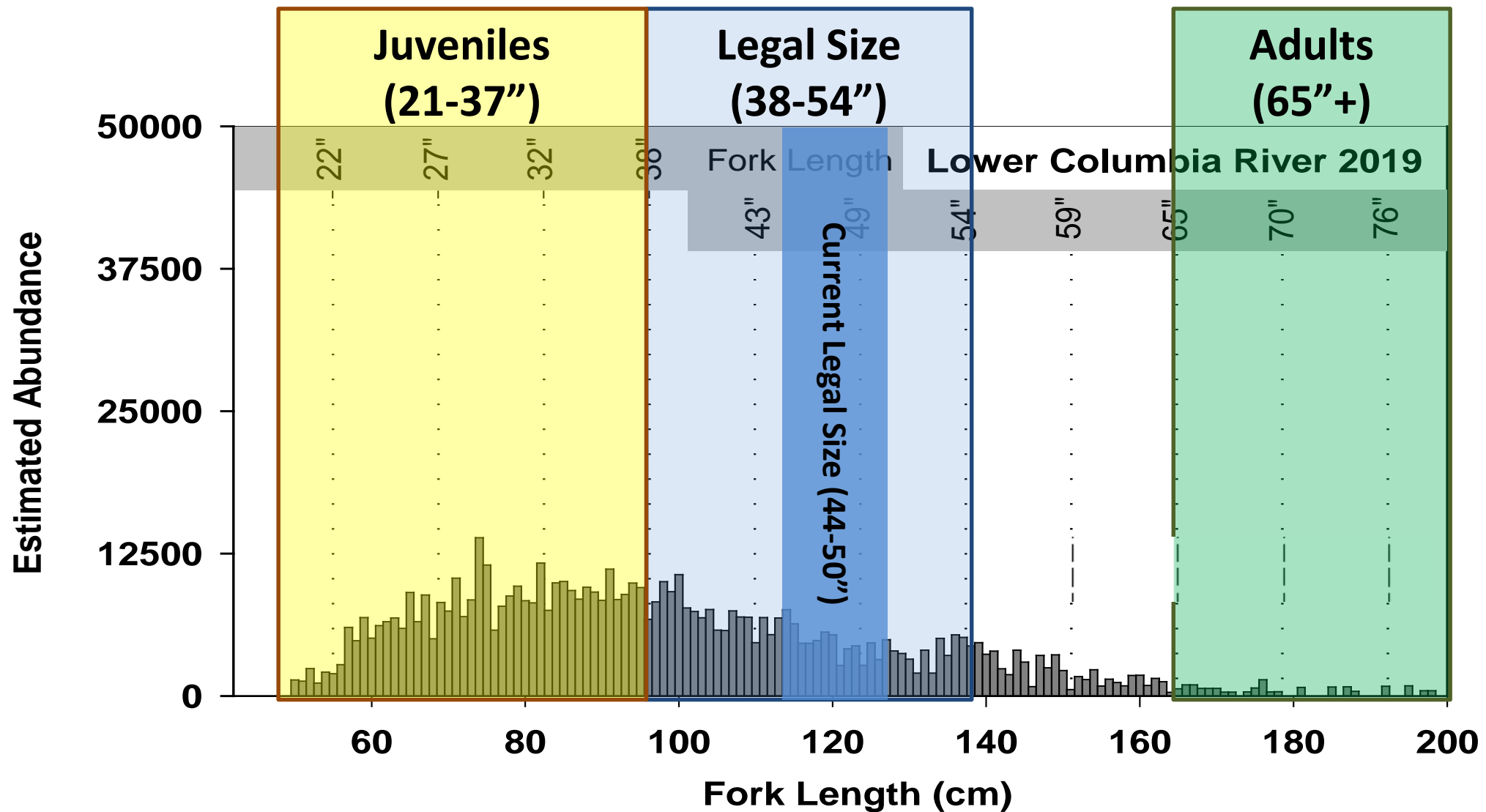
- Sept. 21–Oct. 24 (5 d)
- 12,063 angler trips
- **Total:** 685 fish (56%)

## **Total Harvest: 3,523 fish**

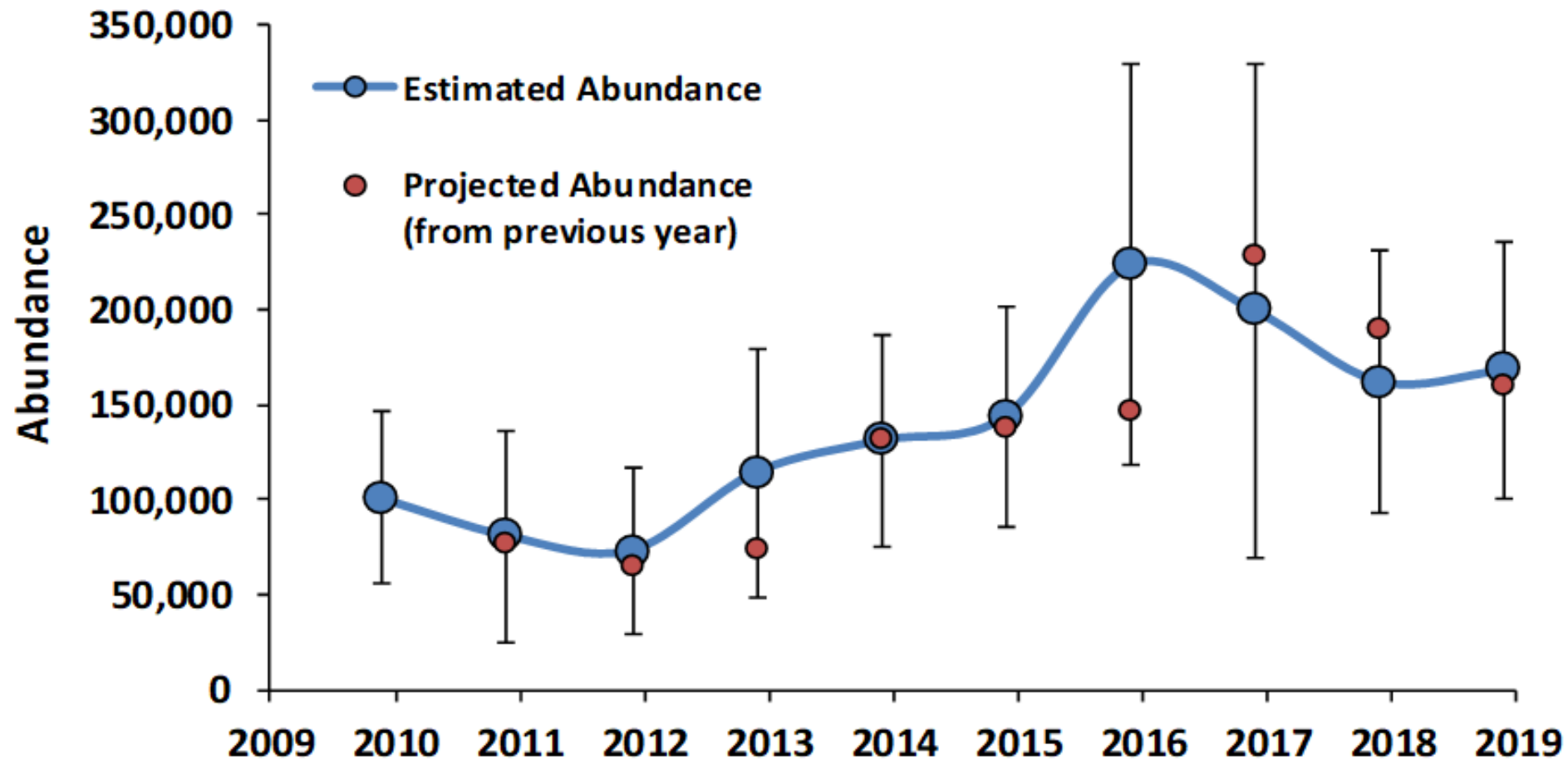
- 71% of the total 2019 sport guideline
- 84% of the Lower Columbia harvest guideline
- 37,703 total trips for retention and catch-and-release fisheries



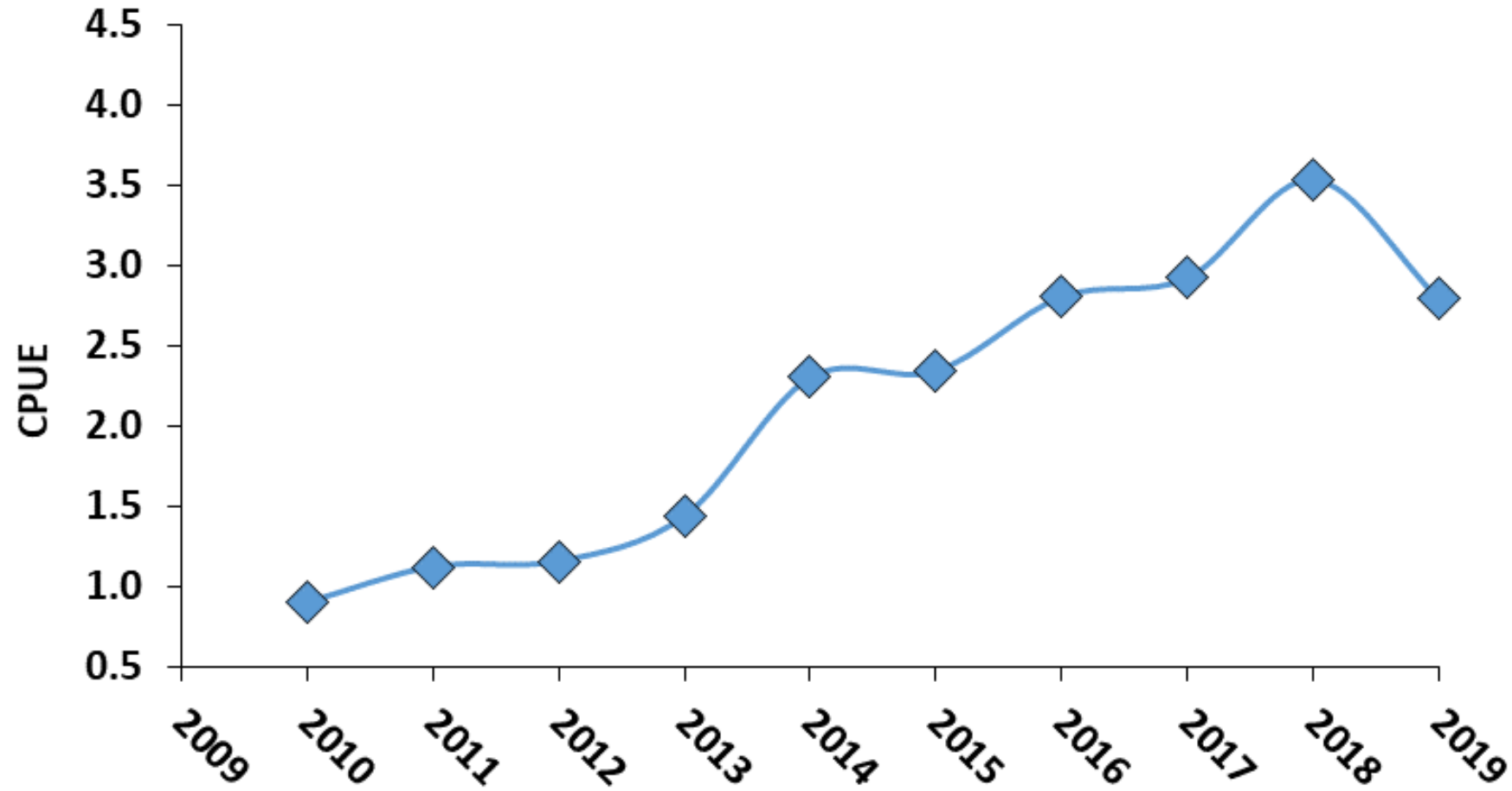
# 2019 Lower Columbia Sturgeon Size Distribution



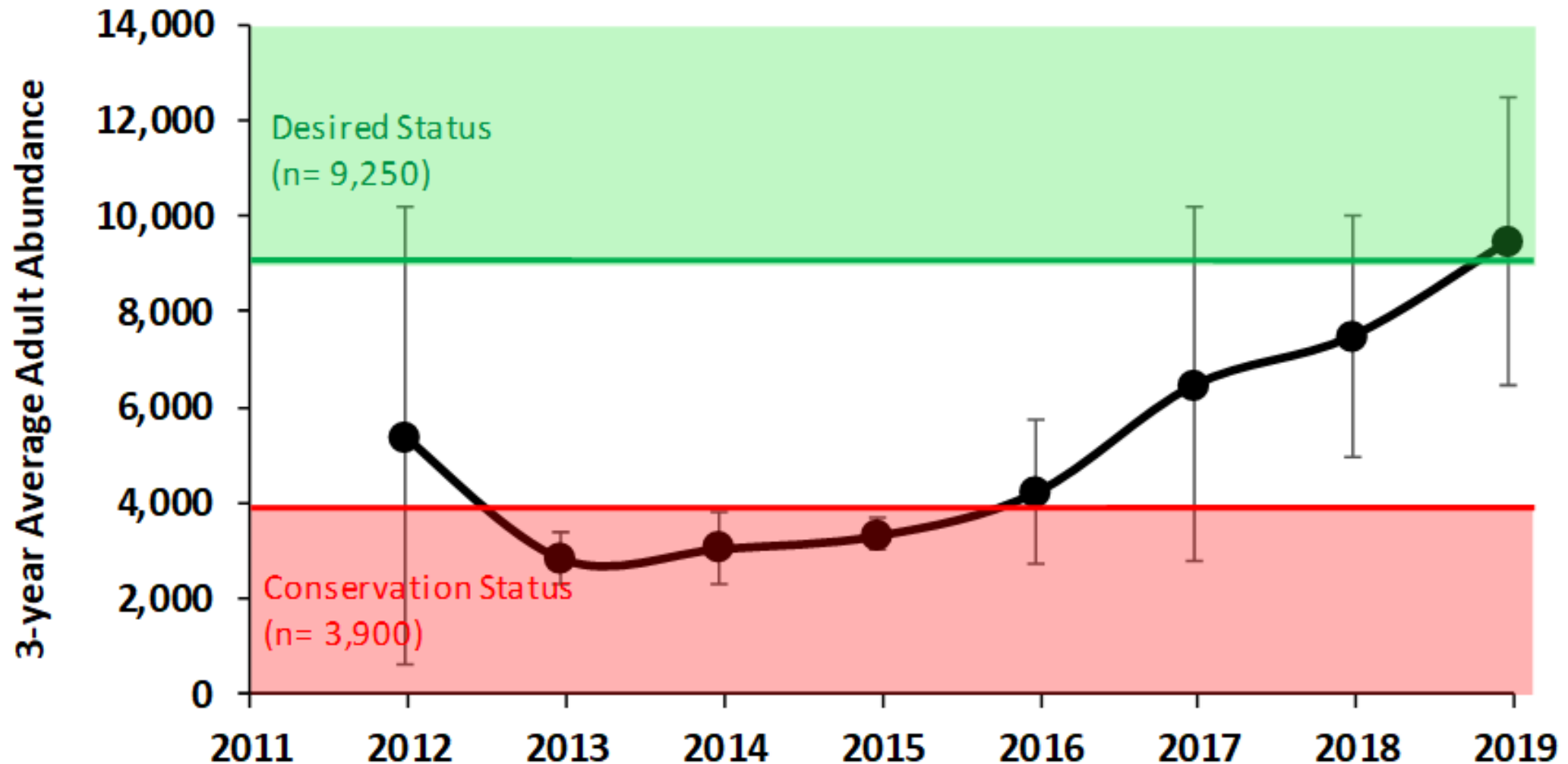
# Trends in Legal Abundance (38-54" FL)



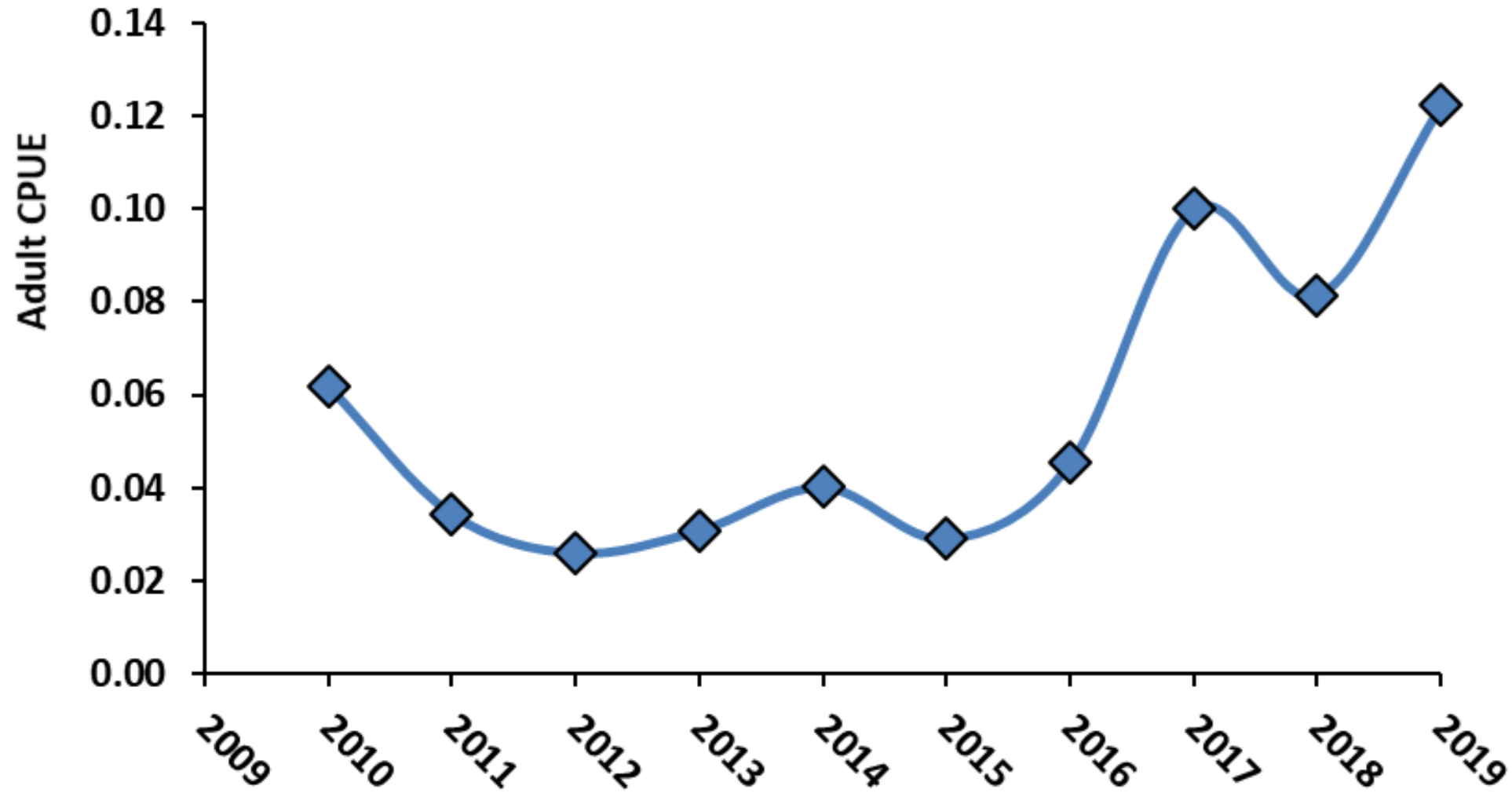
# Trends in Legal CPUE (38-54" FL)



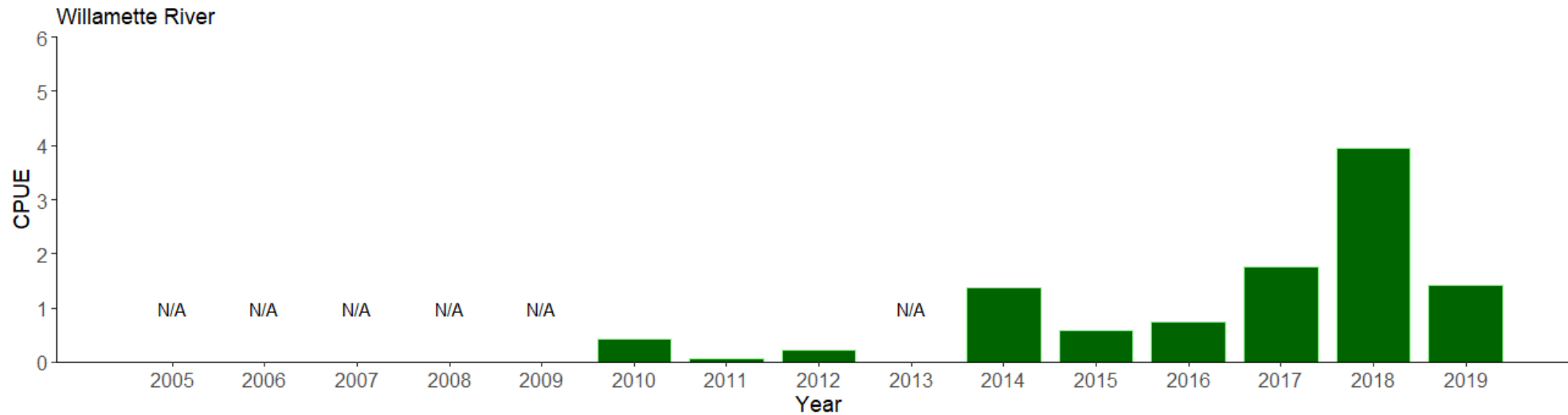
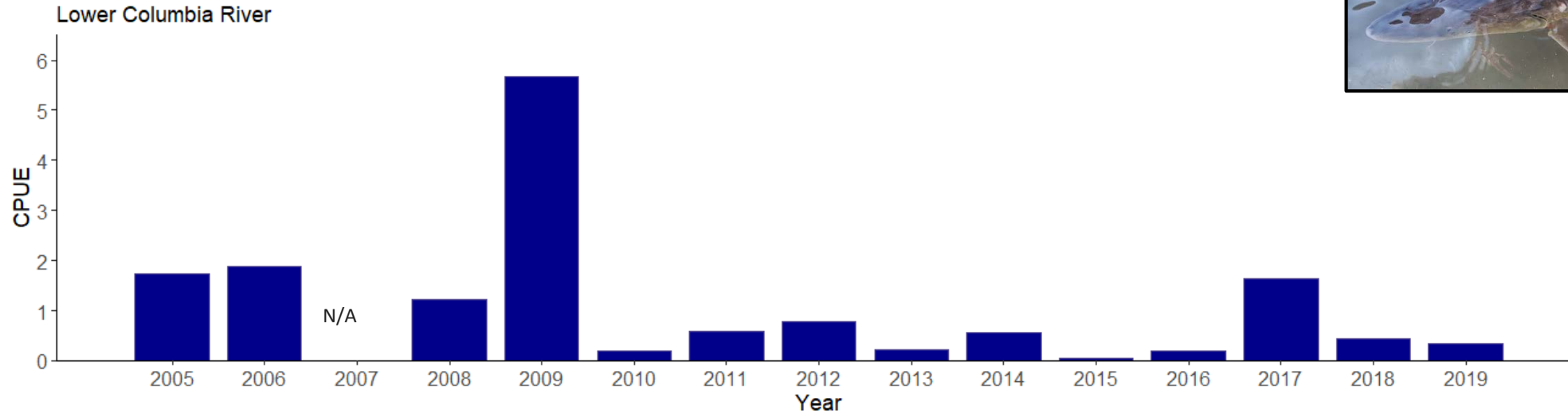
# Trends in Adult Sturgeon Abundance (>65" FL)



# Trends in Adult Sturgeon Abundance (>65" FL)



# Age-0 Catch Per Net



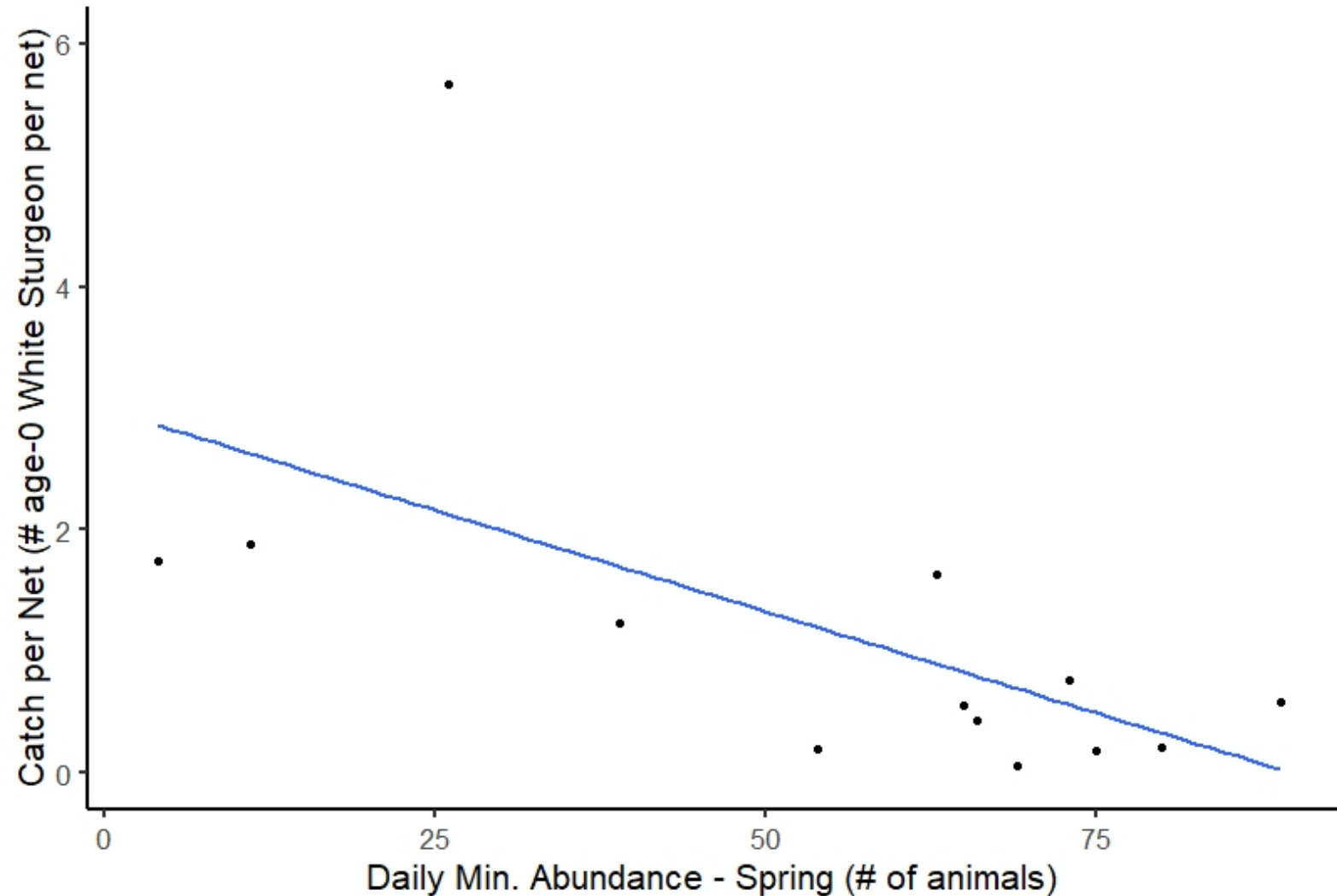
# Pinniped Predation at Bonneville Dam





# Pinniped Abundance vs Age-0 Catch Per Net

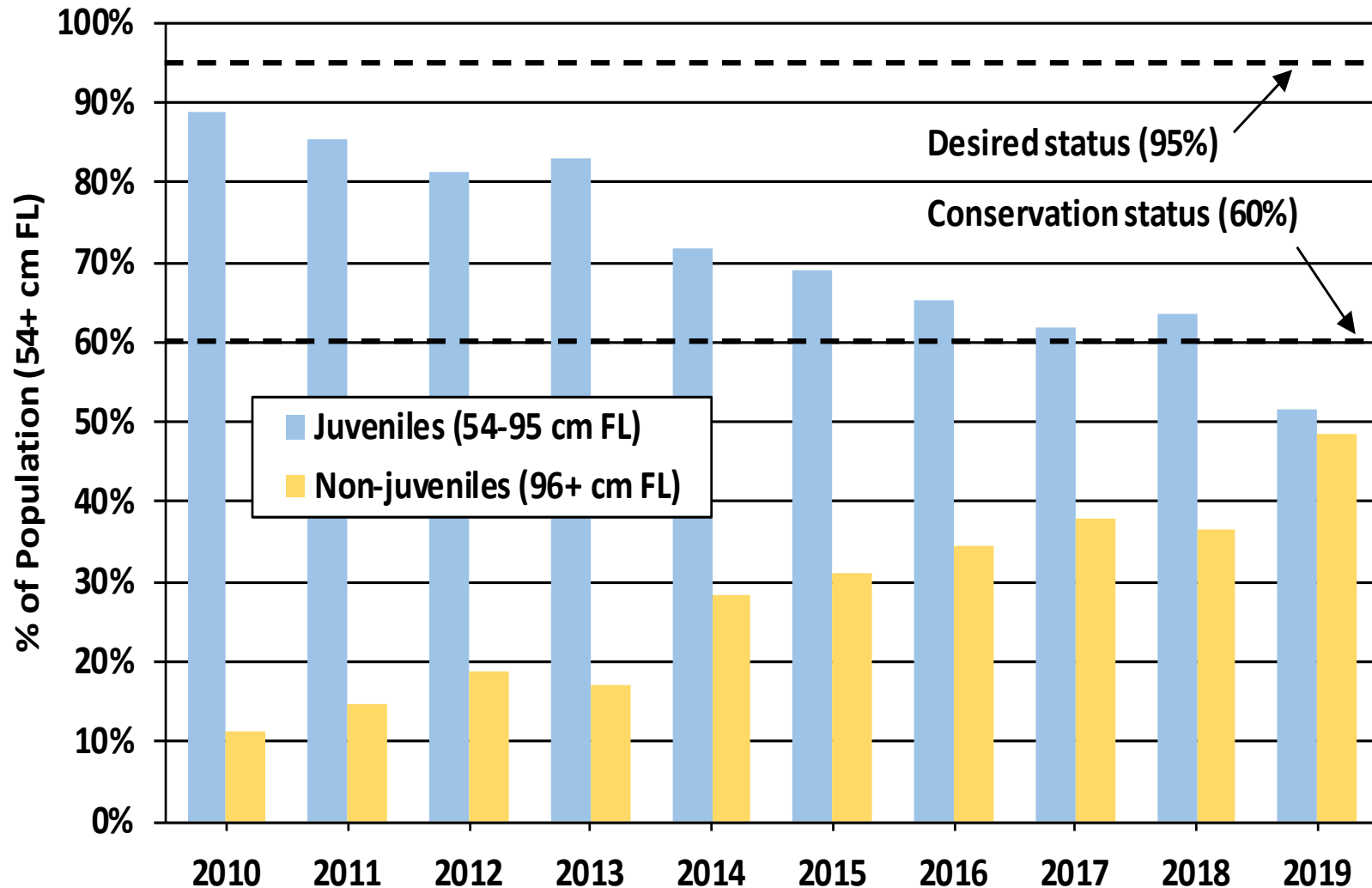
- Stellar Sea Lions are the primary predator for White Sturgeon in the Columbia River.
- The abundance of Stellar Sea Lions is a significant predictor of weak White Sturgeon recruitment.



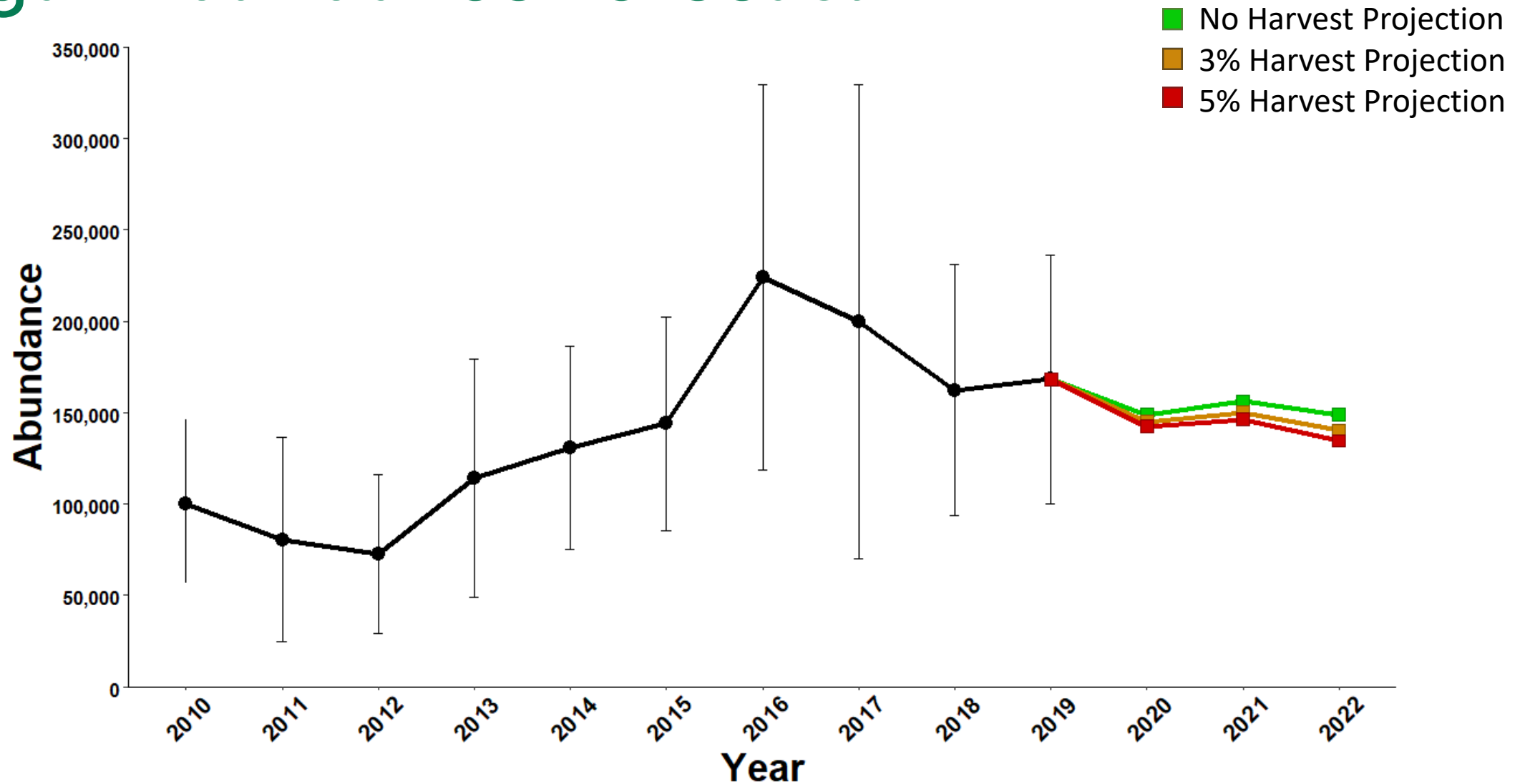
Source: Peter Stevens, ODFW 2019






# Population Composition: 2010-2019



# Legal Abundance Forecast






# 2019 Summary

Metric	N	Interpretation	Brief Summary
Abundance Trends 38" – 54" FL	168,204		<ul style="list-style-type: none"> <li>Stable since 2018 but down from 2016 and 2017. However, trend in CPUE setline tagging fisheries is still upward overall.</li> </ul>
Adult (>65" FL)	2019: 11,926 3-yr avg.: 9,484		<ul style="list-style-type: none"> <li>2019 3-yr adult abundance average is above desired status level (threshold = 9,250 adults).</li> </ul>
Population Structure	~52% juvenile		<ul style="list-style-type: none"> <li>Low proportional abundance of juvenile and sub-legal sized fish indicates population productivity issues; Below conservation status level (threshold = 60%)</li> </ul>



# 2019 Summary

Metric	N	Interpretation	Brief Summary
<b>Recruitment Index (CPN)</b>	LCR: 0.33 WR: 1.42		<ul style="list-style-type: none"> <li>Mixed Results</li> <li>&lt;1 CPN in LCR</li> <li>3<sup>rd</sup> highest ever for LWR</li> </ul>
<b>Sea Lion Predation</b>	Bonneville 2018 Spring: 148		<ul style="list-style-type: none"> <li>Lower predation observed at Bonn. than 2011 (unknown levels elsewhere in LCR)</li> <li>Correlation with abundance and low recruitment</li> </ul>
<b>LCR Fisheries</b> (retention and catch-and-release)	Estuary: 22,012 angler trips  Total: 37,703 angler trips		<ul style="list-style-type: none"> <li>Participation down from pre-closure.</li> <li>Higher participation than during catch-and-release only fisheries.</li> <li>Overall participation increasing.</li> </ul>



# Public Input

Shared stock status update with Columbia River advisory groups in January.

- Sport advisors expressed conservation concerns but generally supported another retention fishery similar to the structure of 2017-2019.
- Commercial advisors also expressed conservation concerns but agreed with assessment and asked for a balanced approach to commercial harvest.



# Next Steps

- Work with ODFW to develop another short-duration retention fishery, similar to 2017-2019.
- Target low harvest rate to continue building population while providing sustainable fishing opportunity.



# Thank you



# Questions?

