



*Photo: CDFW*

# White Sturgeon Recreational Fishing Under FGC § 2084

**Presentation to the California Fish and Game Commission**

August 15, 2024 | Dr. John Kelly  
Fisheries Branch





# Presentation Overview

- I. Fishery timeline
- II. Economic emergency
- III. Impacts of fishing on White Sturgeon
- IV. CDFW recommendation



Photo: CDFW

# Sport Fishing Regulations 2007 to Nov 2023

- Report Card required (one per angler)
- Season open all year\*
- 1 fish per day, 3 per year
- 40–60 inch Fork Length slot limit

*\*existing Green Sturgeon closures:  
Sacramento River above Butte City (all year),  
central San Francisco Bay (Jan 1 to Mar 15)*

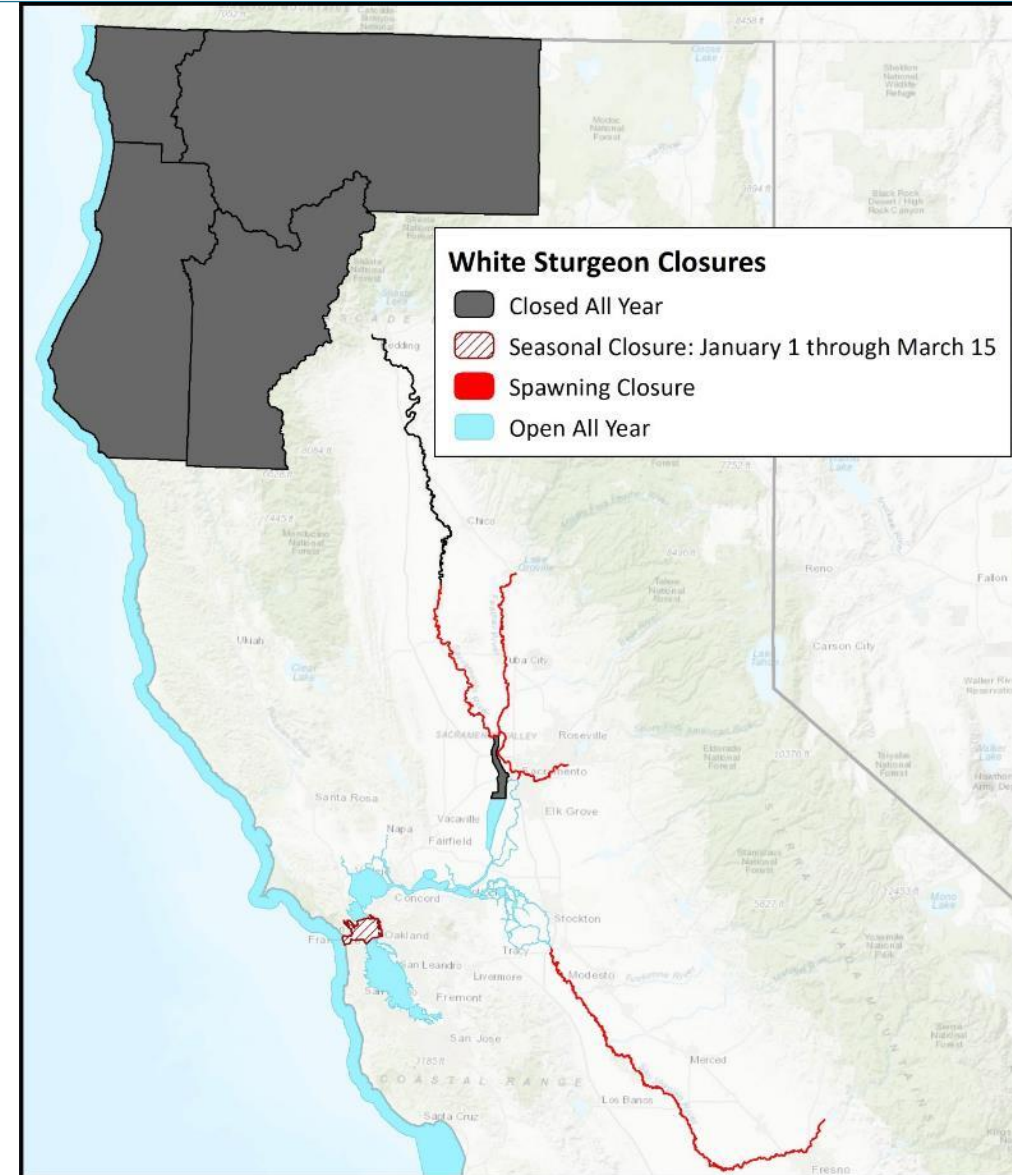


Photo: CDFW



# Emergency Fishing Regulations after Nov 2023

- Report Card required (one per angler)
- Season open all year except:
  - Existing Green Sturgeon closures
  - Upstream of the Hwy 50 bridge on the Sacramento River and I-5 bridge on the San Joaquin River: *Closed January 1 – May 31 to protect spawning*
- 1 per year, catch and release after
- 42–48 inch Fork Length slot limit
- Vessel maximum harvest limit: 2 fish per day



# CESA timeline

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- Nov 29, 2023 Commission receives petition to list White Sturgeon as **threatened** throughout its range in California
- Apr 17, 2024 CDFW Petition Evaluation noticed by Commission
- Jun 19 Discussion, public comment, and decision:
- *“the petition provides sufficient scientific information to indicate that the petitioned action to list White Sturgeon as threatened under CESA may be warranted”*
  - Commission asks CDFW to consider a fishery option
- Jul 12 Publication in *California Regulatory Notice Register*
- Start of 12-month Status Review period
  - White Sturgeon receive full protection during review
  - **Fishing for White Sturgeon is closed**

# Costs of closure

*Nor-Cal Guides and Sportsmen's Association estimate:*

Industry component	Estimated economic value
5 Commercial Passenger Fishing Vessels	\$300,000 annual sturgeon revenue
24 captains, 6-pack vessels (full time)	\$1.2 million annual revenue
16 captains, 6-pack vessels (part time)	\$300,000 annual revenue
~45 charter/guide services	\$1.8 million total revenue
Bait stores and distributors	\$1 million sturgeon revenue
10,000–15,000 recreational boats	Unknown revenue: launch fees, gas, bait, tackle, rods, reels, ice, etc.

# Economic emergency

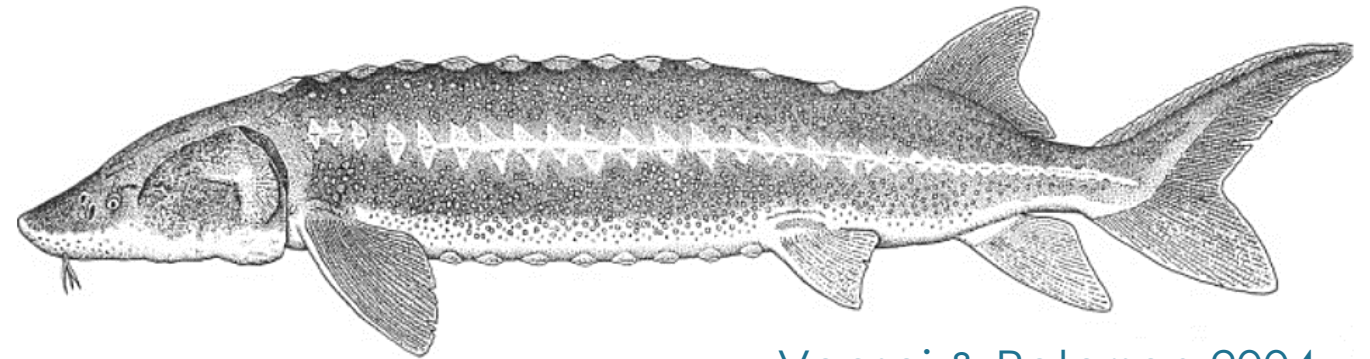
- Concern that closure will cause substantial economic harm to businesses that rely on the White Sturgeon fishery:
  - Charter captains, guides, bait and tackle stores and suppliers, marinas, related services
- Commercial Passenger Fishing Vessel logs, sturgeon listed as target:
  - 493 in 2022, 481 in 2023
- Declining Sturgeon Report Card sales
- CDFW Angler questionnaire trends
  - 67-80% recreation
  - 70% only or mostly catch and release
  - 18-27% fish for food



Photo: CDFW

# Fish and Game Code - FGC § 2084

- (a) The commission may authorize, subject to terms and conditions it prescribes, and based on the **best available scientific information**, (1) the taking of any candidate species, or (2) **the taking of any fish by hook and line for sport that is listed as an endangered, threatened, or candidate species, provided that in either case the take is consistent with this chapter.**
- (b) The department may recommend to the commission that the commission authorize, or not authorize, the taking of an endangered, threatened, or candidate species pursuant to this section.



Vecsei & Peterson 2004



# Impacts of fishing on White Sturgeon

## Lethal

- Harvest
- Discard mortality

## Sub-lethal

- Physical injury
  - Hook damage, ingestion of tackle
  - Poor handling practices
- Stress
  - Exhaustion
  - Air exposure
  - Thermal
  - Behavior changes (migration, spawning)
  - Reproductive physiology



*Photo: CDFW*

# Harvest Concerns

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- No current abundance estimate after the 2022 & 2023 Harmful Algal Bloom fish kills
  - New pilot monitoring program started in May
- Existing emergency regulations were an economic compromise
  - Insufficient time to evaluate effect on harvest and the population
  - No restrictions on total harvest
  - 42-48" FL slot limit may overexploit specific cohorts
- Revised long-term regulation options being considered were based on a quota system
  - Required annual abundance monitoring
  - Zero harvest (catch-and-release only) when conditions warranted it or if reliable data were lacking

# Catch and release: Mortality

- Catch and release fisheries in WA, OR, ID, BC
  - Fraser River fishery: US\$ 24.6 million, 46% guided, US\$ 628 per day
- Angling study, lower Fraser River, BC (Robichaud et al. 2006)
  - **25,219** angling events, **no mortality** at release
  - 96 Fish held in surface net pens for 3 days.
    - Days 1 & 2 – No mortality
    - Day 3 – 2.6% mortality (2 fish, due to pen effects)

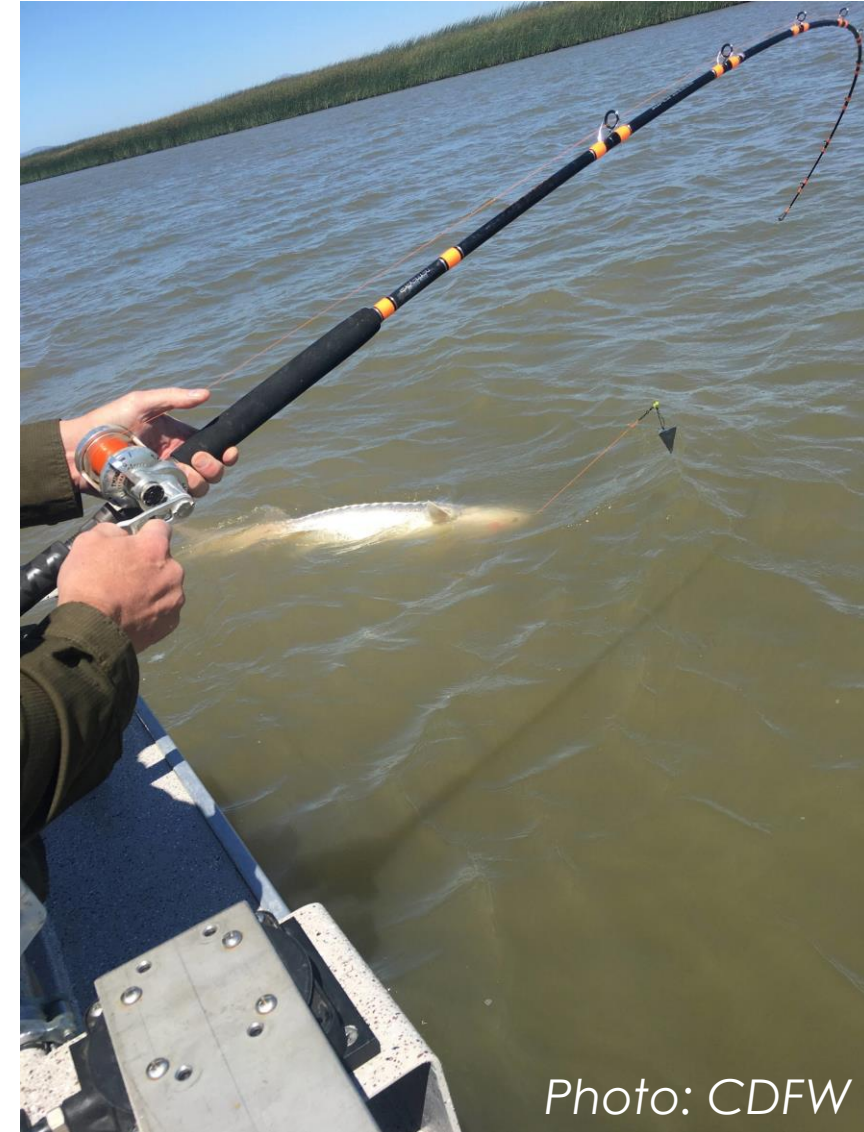


Photo: CDFW



# Catch and release: Physical Injury

- Adult White Sturgeon in the C.J. Strike Reservoir (Snake River, ID) catch and release fishery
  - **Hooked ~7.7 times/year**
  - **Landed 3.5 times/year**
  - Kozfkay and Dillon 2010
- Ingested metal tackle is processed and expelled quickly
  - e.g. Lamansky et al. 2018; Bowersox et al. 2016
- Risk from poor handling practices
  - Holding by gill plates
  - Hands on/in gills
  - Hanging by tail or mouth
  - Dragging across ground or boat deck
  - Long term air-exposure

# Catch and release: Stress

- Classic fish stress response, normal recovery (McLean et al. 2016, 2019)
  - E.g. exhaustion, air exposure, temperature
- Behavioral changes
  - 65% of adult White Sturgeon abandoned migration after setline capture in river, external radio tag application. Fish out of water 2-3 minutes. (Schaffter 1997)
- Reproductive physiology changes
  - 30–40% of wild-captured ripe WS did not continue to mature after capture and transfer to hatchery (Barton 1988)

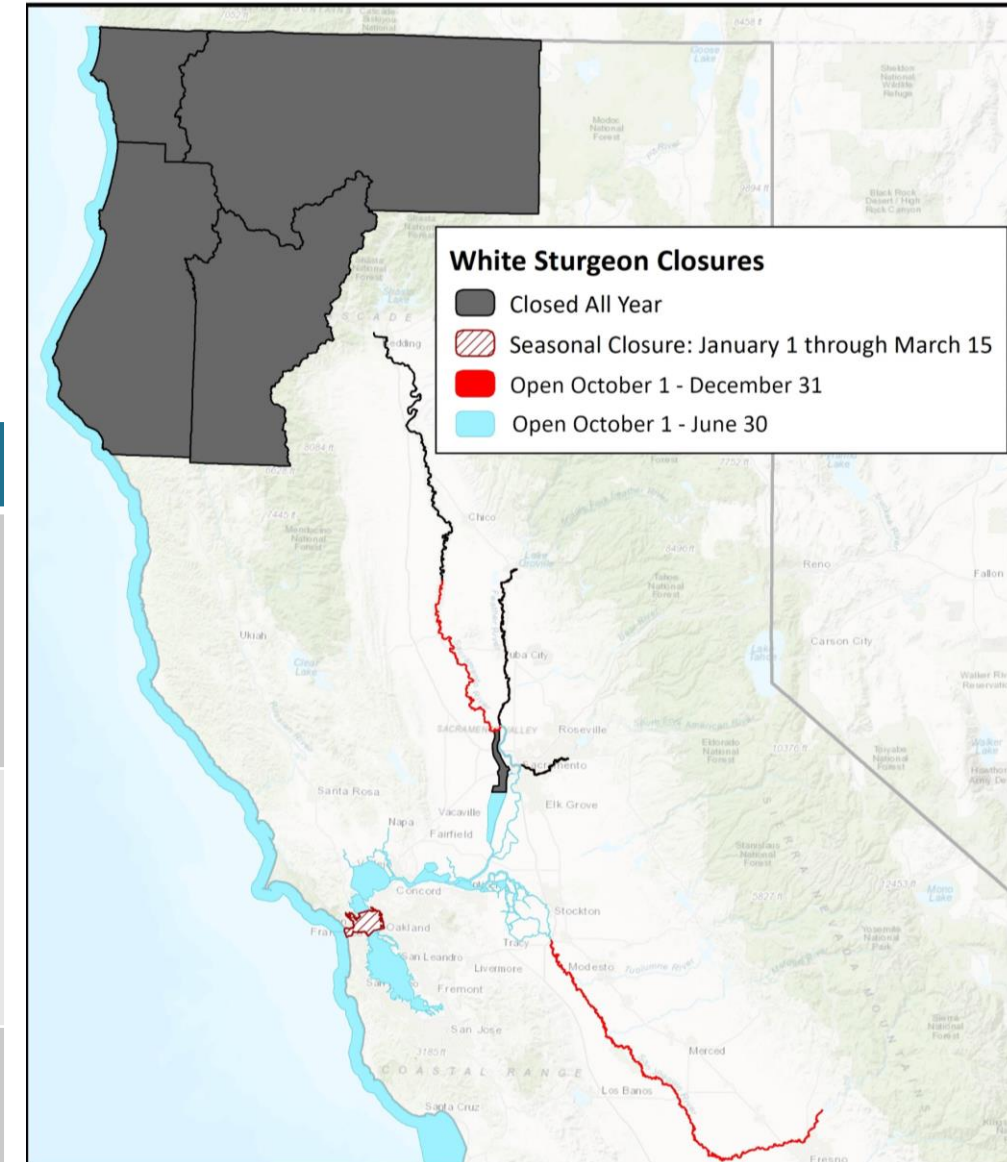


Photo: CDFW

# CDFW recommendation (part 1)

- Two new Title 14 sections (§5.78 and §27.93) supersede existing sections during candidacy
  - **Report card required**
  - **Catch and release only**, no harvest
  - **Fishing season and area closures**

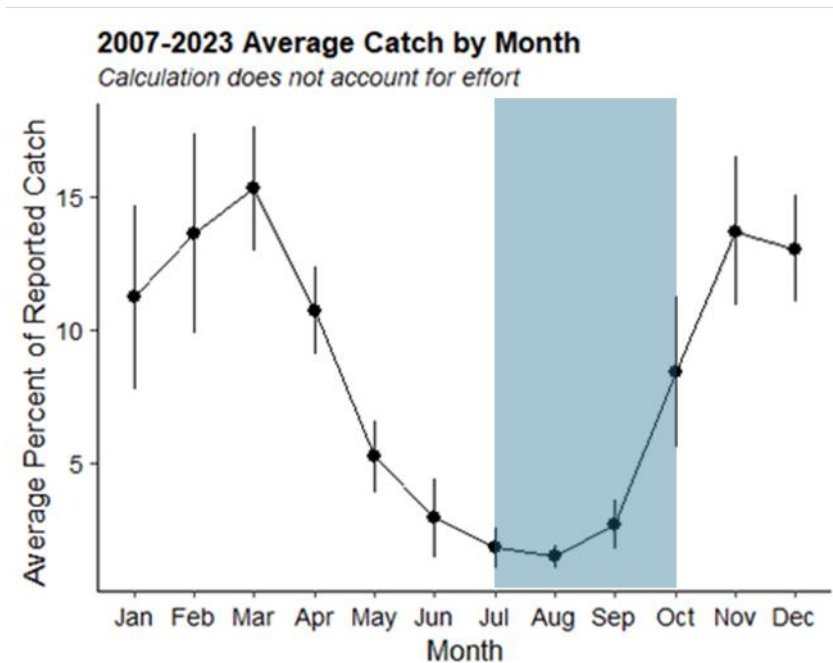
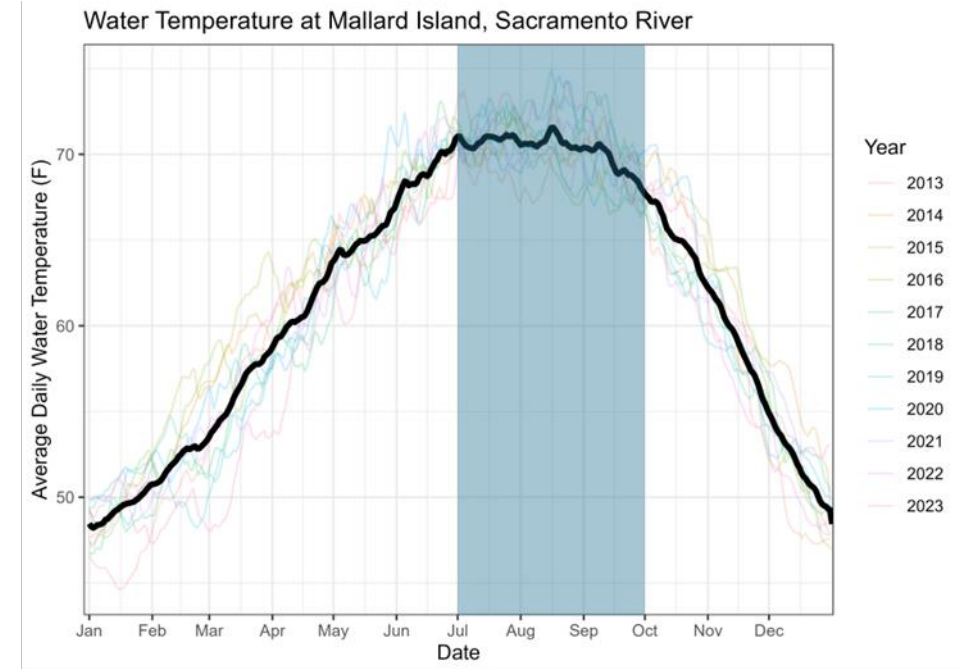
Area	Season
Downstream of the confluence of the Feather/Sacramento rivers & San Joaquin River I-5 Bridge	Open October 1 – June 30
Upstream of the confluence of the Feather/Sacramento rivers & San Joaquin River I-5 Bridge	Open October 1 – December 31
Tributaries of the Sacramento and San Joaquin rivers	Closed





# Season timing

- **Ocean, bay, delta, lower rivers**
  - Closed July through September
  - Warmest months
  - Greatest HAB risk
  - Low levels of fishing interest
- **Mainstem rivers**
  - Closed January through September
  - Migration and spawning
  - Thermal stress
- **Tributaries**
  - Closed all year
  - Spawning habitat
  - Threat to Green Sturgeon



# CDFW recommendation (part 2)

## Handling restrictions

- Sturgeon of any size shall not be held out of water suspended by the gills, gill plates, mouth, or solely by the tail, and shall not be dragged across the ground, boat decks, or piers
- White Sturgeon >60 in. FL may not be removed from the water and must be released immediately
- Angler education and outreach
- Handling Guidelines



Photo: CDFW



# Credits | Questions | Contact



Photo: CDFW

## Contributors:

John Kelly, Lanette Richardson (Fisheries Branch), Dylan Stompe (Marine Region)

[Sturgeon@wildlife.ca.gov](mailto:Sturgeon@wildlife.ca.gov)







VIA ELECTRONIC COPY

June 4, 2024

California Fish and Game Commission  
1416 Ninth Street, Suite 1320  
Sacramento, CA 95814

RE: Section 2084 finding for White Sturgeon recreational fishery in the event of a candidacy listing approval

Dear President Murray, Vice President Zavaleta, and Members of the Fish and Game Commission:

On behalf of the Northern California Guides and Sportsmen's Association (NCGASA) and the Golden Gate Fishermen's Association (GGFA), we are writing to you today to urge your support of a Section 2084 approved fishery for White Sturgeon should you find and forward to the Department the candidacy CESA listing petition that is pending for White Sturgeon (CESA Petition White Sturgeon 2023.11.29).

NCGASA is an association of over 600 licensed guides and over 4,000 sportsmen and women that work together to protect and increase hunting and fishing opportunities throughout California. NCGASA acts as a voice to represent all people who use California's waterways and lands. We work closely with many other conservation organizations to make sure we leave a legacy for our children and grandchildren; the same access to outdoor recreation and appreciation for abundant wildlife and fisheries that was instilled in so many of us.

GGFA is a coalition of fishing advocates that includes commercial and recreational anglers, businesses, restaurants, tribes, environmentalists, elected officials, families and communities that rely on the fishing industry. GGFA has a board comprised of representatives of this diverse community. GGFA's membership consists of passenger fishing boat owners/operators, fishing-related businesses, marine recreational anglers, and other concerned citizens.

The potential approval by the Fish and Game Commission of the White Sturgeon candidacy listing petition (CESA Petition White Sturgeon 2023.11.29) has the potential to cause irreparable damage the business and recreational anglers who fish for White Sturgeon in California's coastal, Delta, and inland waters.

This includes five Commercial Passenger Fishing Vessels with a combined annual revenue of \$300,000 for sturgeon fishing, 40 captains operating 6 pack vessels (24 of which are full time at \$1.2M and 16 part time at \$300,000 revenue), approximately 45 charter/guide services with

\$1.8M in total revenues, 10-15K recreational boats whose economic impacts are measured in launch fees, gas, bait, tackle, rods, reels, ice and more, and 45,000 individual anglers according to CDFW fisheries data.

Further down the supply chain at bait/suppliers/distributors with an estimated \$1M, including approximately 50 tackle stores. According to surveys from our captains and members of the public, we estimate a closure of the sturgeon fishery would cause 20 bait shops would automatically closed their doors. We have already lost 5 businesses since January 2024 (with an estimated economic loss of nearly \$100,000).

Over the past year and a half the Department has engaged with various stakeholders on outlining a pathway forward to protecting and conserving white sturgeon in California. First, to be crystal clear, recreational angling is not the cause of concern to the health of this fishery. Instead, this fishery is suffering from the mismanagement of our precious and limited water supplies, allocations of which have resulted in less than ideal breeding and spawning habitat and harmful algal blooms which have indiscriminately killed thousands of fish, sturgeon among them.

Further, the Department lacks the funding and organizational structure to have a solid sense of the actual number of sturgeon in the system. In fact current scientific sampling and analysis underway show that the abundance estimates used are perhaps a magnitude of order to low and we are dramatically underestimating the count.

Regardless, the sturgeon working group, with limited data in hand, came to the conclusion that a 4% exploitation rate would be acceptable given the best available scientific understanding of the current state of the fishery. It is from this information at the October 2023 Commission meeting that the Commissioners recognized the importance of keeping the industry viable and directed the Department and the industry to work together on a solution for the 2024 season.

In an effort to aide data collection on this species NCGASA and GGFA members (guides and charter boat captains out on the water every day) have been participating in citizen led FLAME sturgeon data collection over the past 18 months. To date we have submitted raw data to the Department that includes over 1000 caught sturgeon (not all are harvested, this is total catch including a significant number of releases). This data includes geographic location, time, place, pictures of the fish on a certified ruler, and includes biological characteristics and traits of each individual fish including length and estimated weight. This critical data is the freshest and best available science we currently have to analyze this species, and we look forward to continuing to contribute to this effort and study.

Comparing our catch rates utilizing FLAME data from 2024 to 2023 we have seen a reduction in harvest by 93%. If this holds true among the entire recreational community we are on track to fall well below the 4% exploitation agreed to by the Working Group and implemented by the Commission and CDFW.

We are hopeful that you will continue in this pattern, choosing a pathway that maintains the Department's conservation objectives, and allows for continued economic vitality of our hard hit fisheries sector. If you proceed to direct the Department to study the candidacy listing petition

you have the authority to continue to authorize a limited recreational fishery under Section 2084, and we urge you to do so.

In closing, the Department's own data indicates the steep and dramatic decline in license sales, harvest tags, and other recreational activities that a complete closure or a "catch and release only" season would inflict. Please also realize that the economic cost of these actions will come to bear on us, and we are already suffering from the 2<sup>nd</sup> year of a complete salmon season closure that is currently in effect along with the continued decline in the striped bass population.

There is a pathway forward to maintain angler enthusiasm and protect the species and meet the limited harvest objectives defined by the state. We urge you to work with us to find win-win pathways forward for the future of this fishery, anglers, and our industry.

Sincerely,

James Stone  
President, Northern California Guides and Sportsmen's Association

James Smith  
Board Member, Golden Gate Fishermen's Association

Cc: Melissa Miller-Henson, Executive Director, FGC  
Chuck Bonham, Director, CDFW