

# Wyoming Bighorn Fisheries Update 2018-2019

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Bighorn Issues Group meeting April 2019

# Overview

- Bighorn System
- Managed fisheries
  - Sauger
    - Monitoring
    - Research
  - Sturgeon
    - Research
- Sturgeon Chub
  - Monitoring

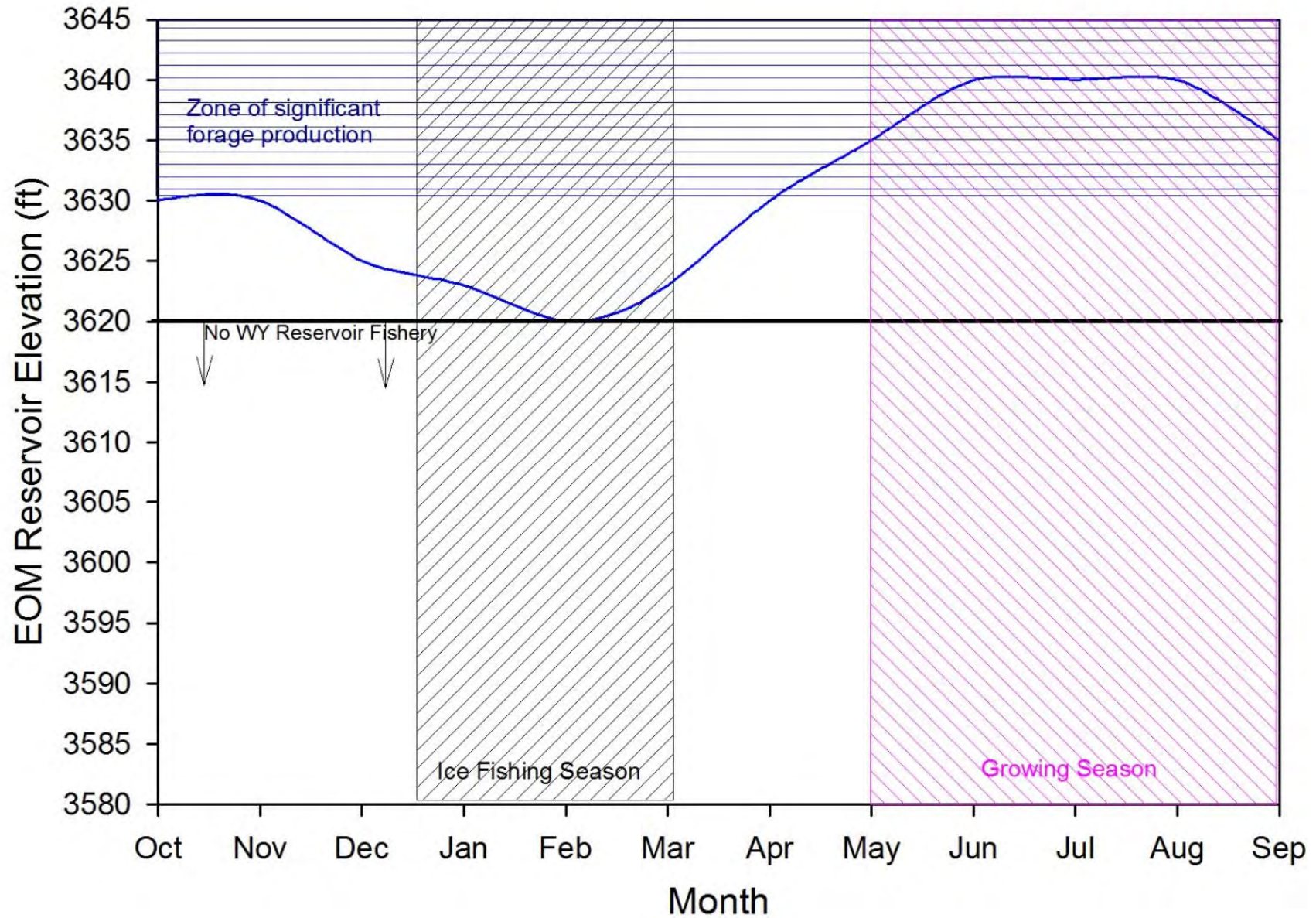


# Bighorn System

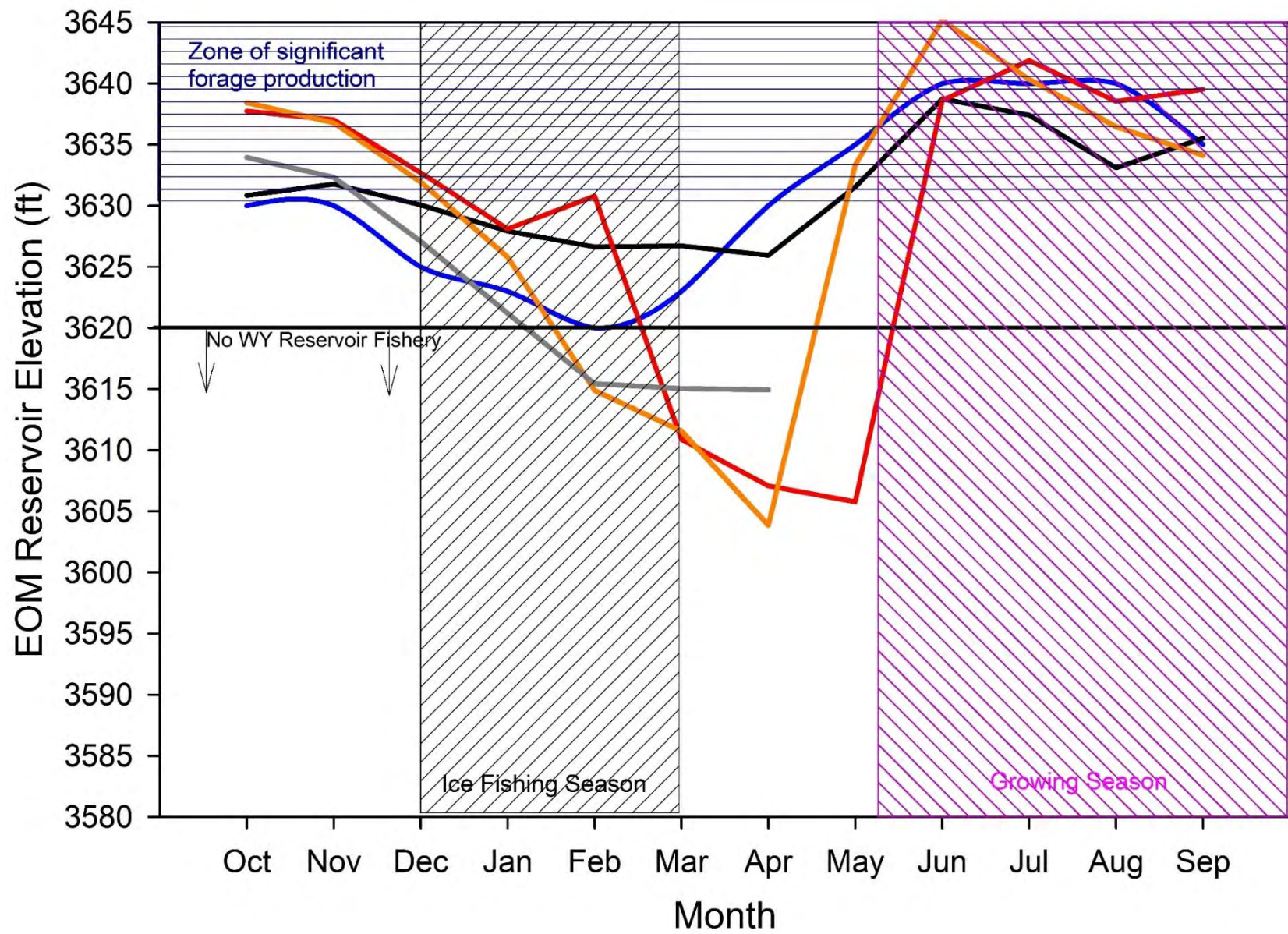
- Lake and River not independent
  - Migratory native species
  - CCF, SAR, SNS, SGC
- Forage production
- Wintering habitat
- YOY sauger
- Recreation
  - 6 months



# Model







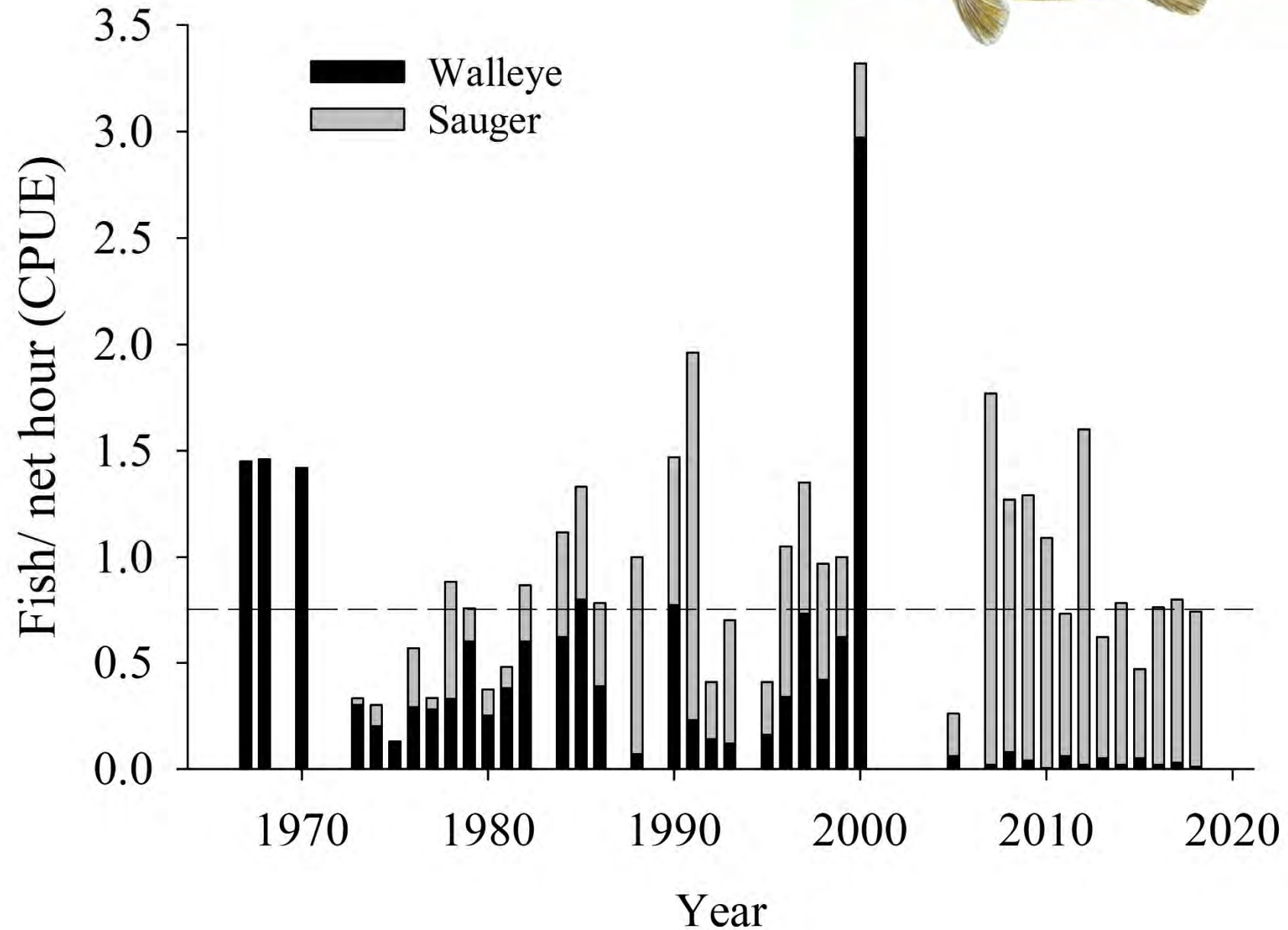


# Sauger & Walleye

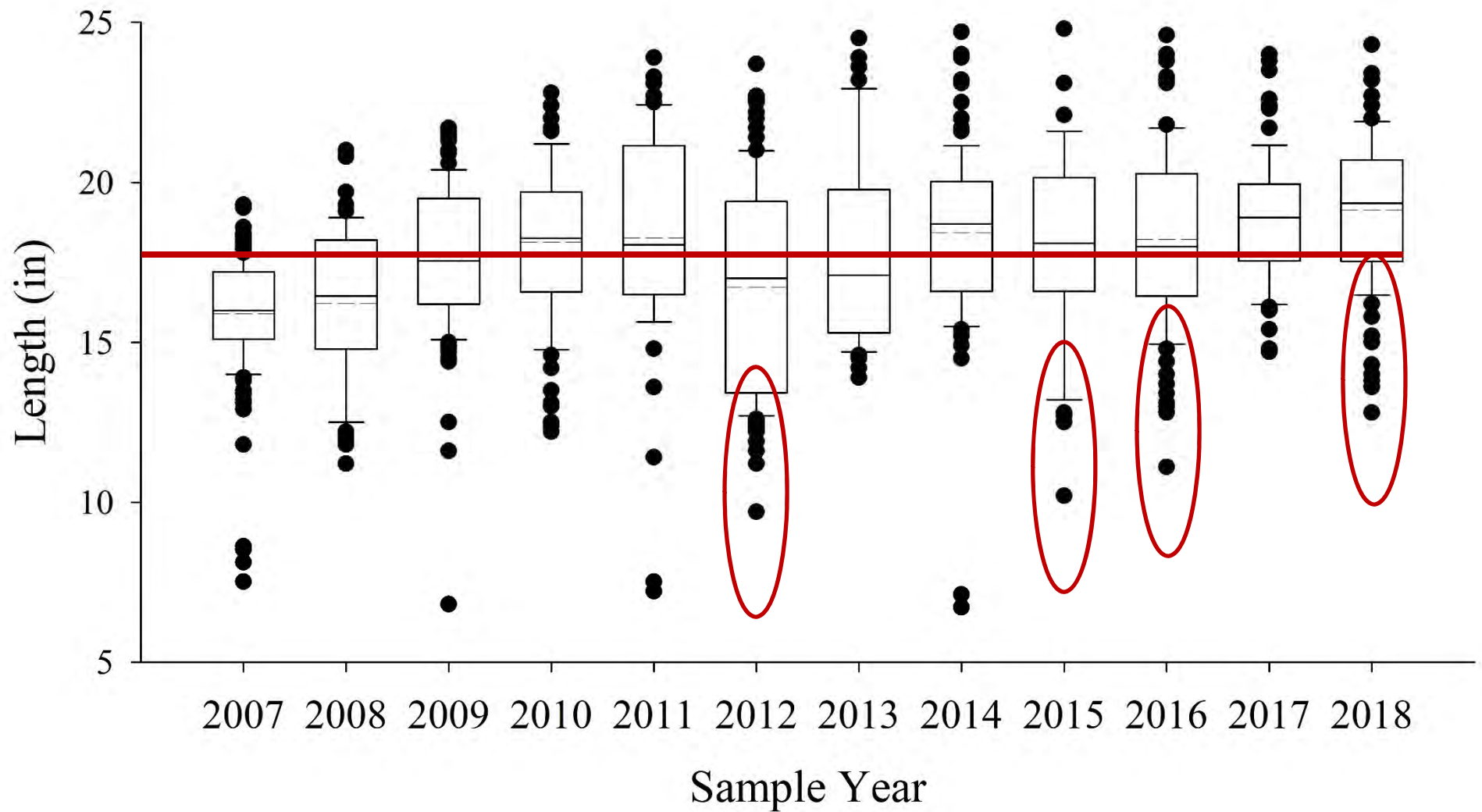
- Objective
  - Maintain sauger CPUE of  $>0.75/h$
- Monitoring
  - Gill Nets
    - Fall



# Sauger & Walleye



# Sauger





# The Plus Side of Big Water Years

- River flows and temperature patterns more optimal for recruitment

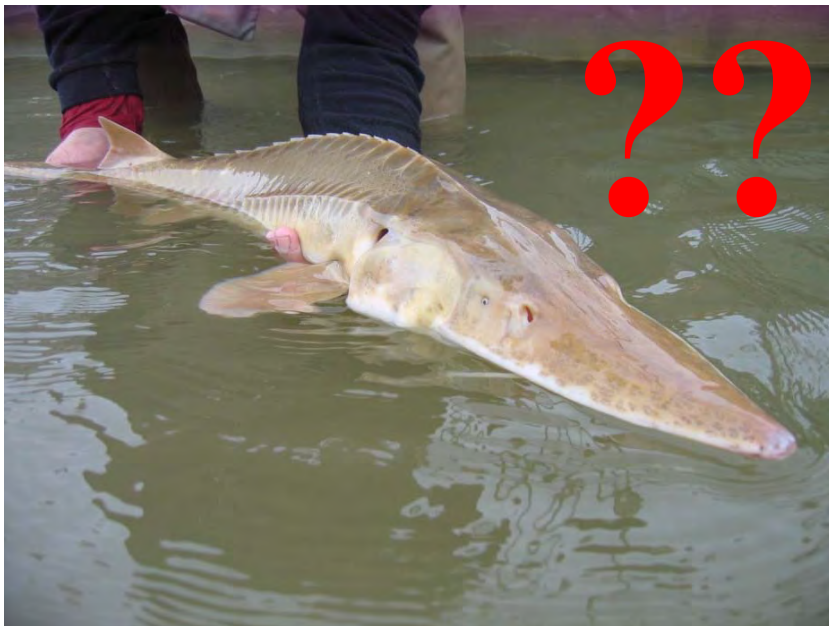
| Year | CPUE  |
|------|-------|
| 2008 | 25.0  |
| 2011 | 22.0  |
| 2012 | 0     |
| 2013 | 0     |
| 2014 | 6.3   |
| 2015 | 0.8   |
| 2016 | 0     |
| 2017 | --    |
| 2018 | 113.0 |



# Sturgeon Reintroduction in the Bighorn River

## Objectives

- 1) Establish a self-sustaining population of sturgeon
- 2) Provide a unique sport fishing opportunity
- 3) Increase biodiversity of Bighorn River



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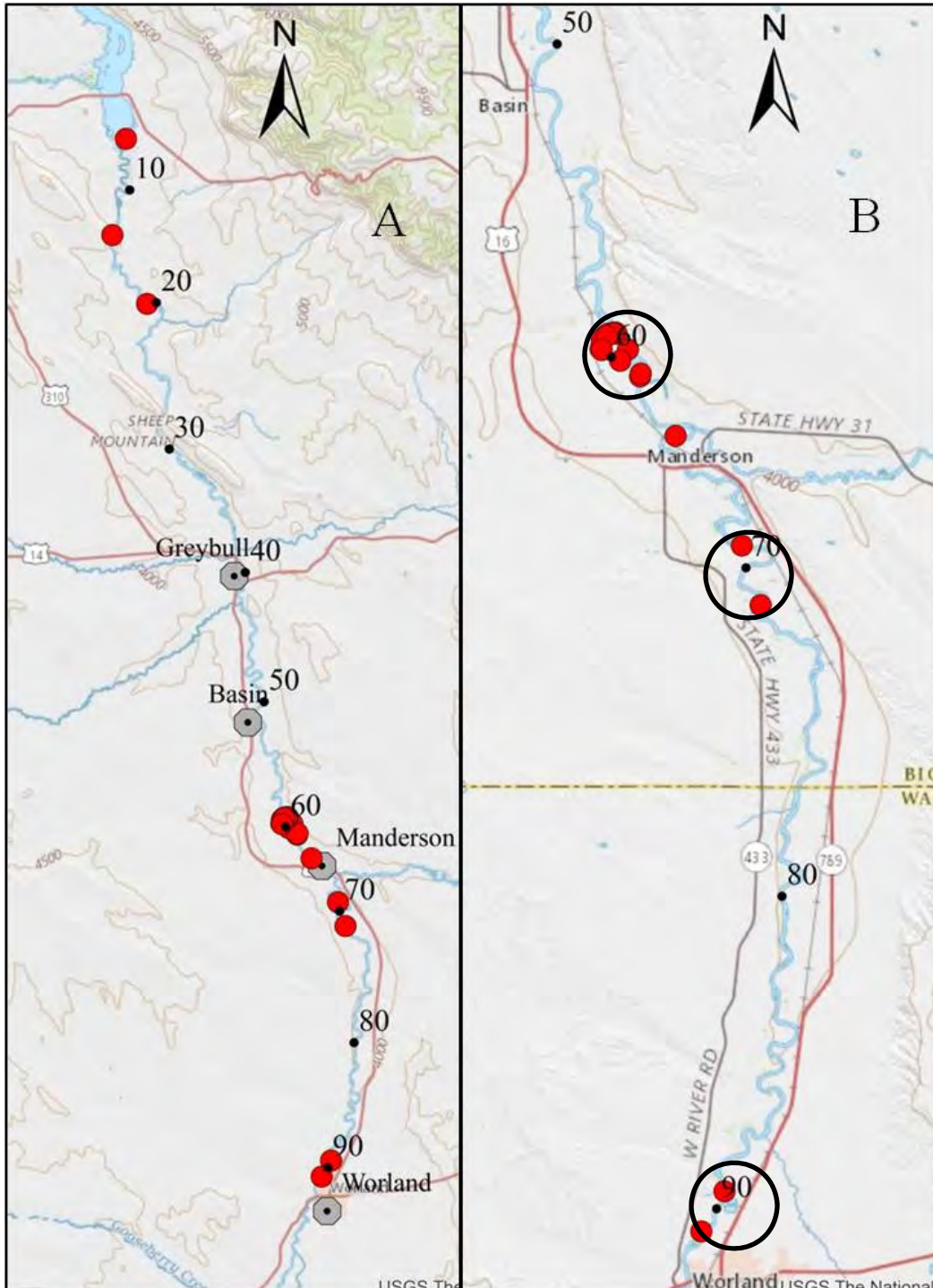


# Research Project

## Objectives:

- 1) Identify spawning sites
- 2) Model embryo drift distances
- 3) Validate drift distance estimates with larval drift sampling





## Objectives:

- 1) Identify spawning sites
  - 3 confirmed spawning sites
- 2) Model embryo drift distances
  - Being completed
- 3) Validate drift distance estimates with larval drift sampling
  - No captured larvae



# Expected Outcome

- Self-sustaining population?
- 2019 final year
  - Validate drift distances
    - Drift netting



# Future Management

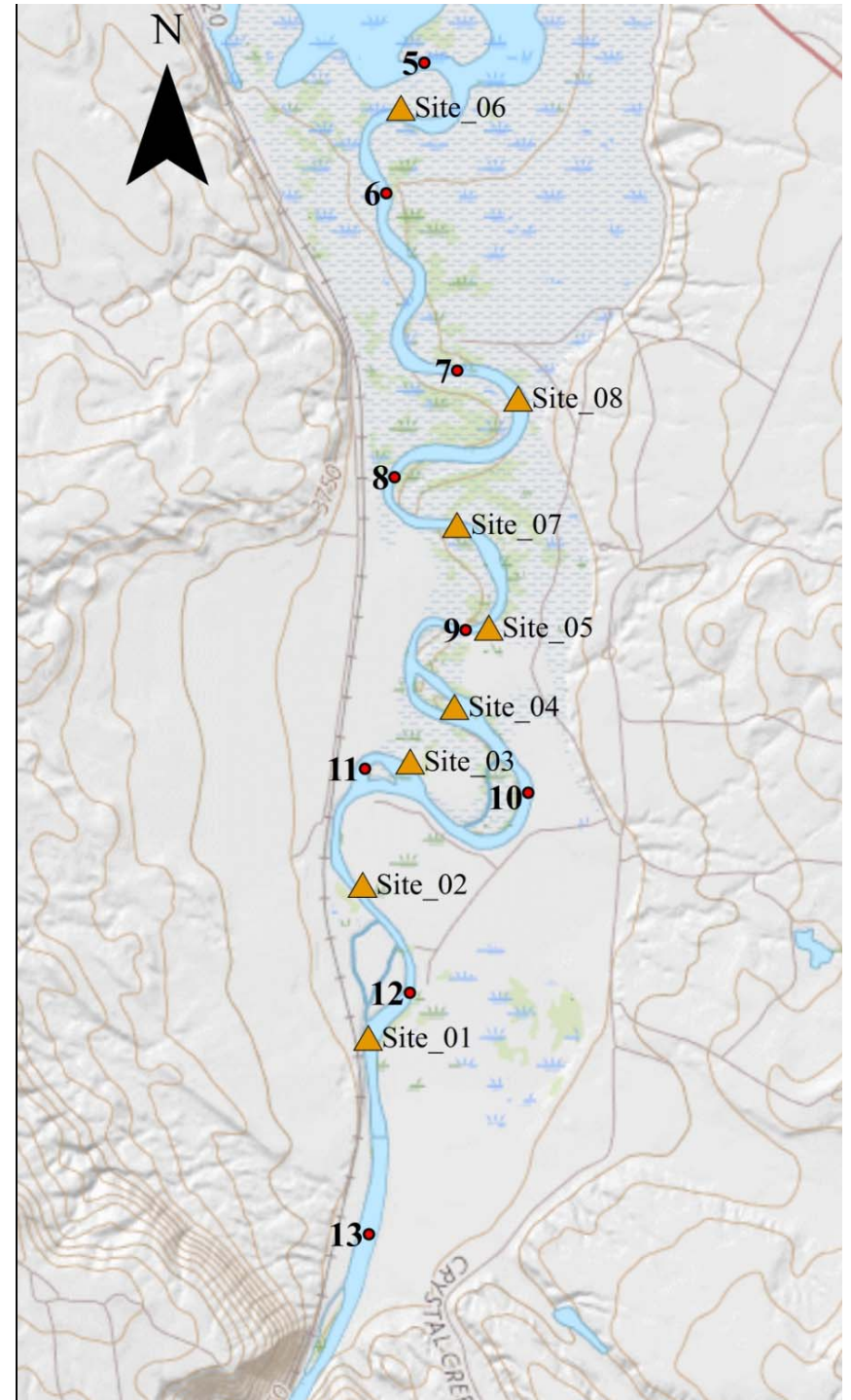
- Continue tagging all age classes
  - Long-term monitoring
- Continue stocking through 2020
  - Scute removal on 5 cohorts
- Trawling for YOY



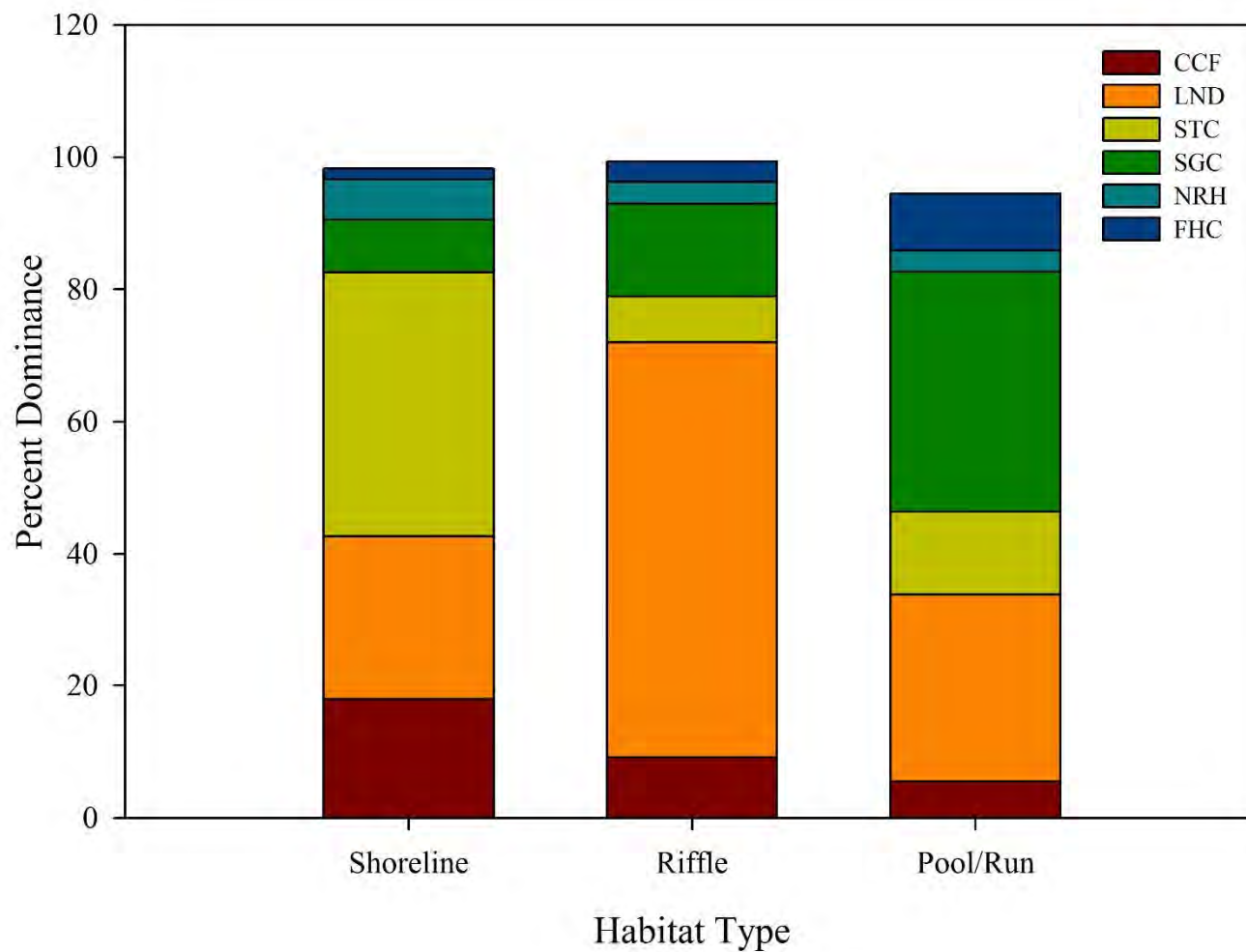


# Sturgeon Chub

- Petitioned for listing
  - 2016
  - Warranted
  - 12 month review
- Objective
  - Present in Bighorn?
  - Where?
- eDNA
- Trawl sampling



# Sturgeon Chub





# Future Work

- Channel Catfish aging
  - Inform us on population in bighorn system
    - Age structure
    - Inform year-class strength
    - Recruitment consistency
    - Annual mortality



# Conclusions

- Interconnected Bighorn system
- Native fishes: Sport and small-bodied
  - CCF, SAR, SNS, SGC
- Forage production
- Wintering habitat
- YOY sauger
- Recreational opportunities
  - 6 months



# Questions?

