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

EOM Reservoir Elevation (ft)

Zone of significant forage production

No WY Reservoir Fishery

Ice Fishing Season

Growing Season

Month

Oct  Nov  Dec  Jan  Feb  Mar  Apr  May  Jun  Jul  Aug  Sep
Sauger & Walleye

• Objective
  – Maintain sauger CPUE of >0.75/h

• Monitoring
  – Gill Nets
    • Fall
Sauger & Walleye

**Fish/net hour (CPUE)**

- **Walleye**
- **Sauger**

Year

The Plus Side of Big Water Years

- River flows and temperature patterns more optimal for recruitment

<table>
<thead>
<tr>
<th>Year</th>
<th>CPUE</th>
</tr>
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<tbody>
<tr>
<td>2008</td>
<td>25.0</td>
</tr>
<tr>
<td>2011</td>
<td>22.0</td>
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<tr>
<td>2012</td>
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<td>2013</td>
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<td>2014</td>
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</tr>
<tr>
<td>2015</td>
<td>0.8</td>
</tr>
<tr>
<td>2016</td>
<td>0</td>
</tr>
<tr>
<td>2017</td>
<td>--</td>
</tr>
<tr>
<td>2018</td>
<td>113.0</td>
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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
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

The bar chart illustrates the percent dominance of different habitat types for Sturgeon Chub. The habitats include Shoreline, Riffle, and Pool/Run. The chart uses color coding to represent different species or groups: CCF, LND, STC, SGC, NRH, and FHC.
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