Flannelmouth sucker Movement: Glen Canyon Dam to Lake Mead, Colorado River

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Objectives

Flannelmouth sucker:

• Distribution
• Movement
• Growth
• Survival
Introduction

- Flannelmouth sucker (*Catostomus latipinnis*) is a native species endemic to the Colorado River basin.
- Migration within tributaries occurs during spawning (Paria River, Little Colorado River, Havasu creek, others).
- Live >15 years, can exceed 600 mm total length.
- Highly fecund (15,000 eggs/year) and may spawn for more than 2 decades.
Study Area
Methods

• Electrofishing, hoop nets, trammel nets, seining throughout Colorado River by various agencies (AGFD, USFWS, GCMRC, NPS)

• PIT tag flannelmouth sucker (FMS) ≥ 150 mm total length (TL)

• Filtered data for FMS ≥ 150 mm TL that have been recaptured at least once (4,087 records)

• Randomized PIT tag numbers, sub-sampled 212 unique FMS

• Measures:
  • Average distance moved (miles) between encounters over time (1 week)
  • Growth (mm)/year for 168 fish (adjusted for errors)
  • Apparent yearly survival between years using program Mark
FMS Catch-per-unit-effort (CPUE; fish/hr.) by Reach 2000-2014 (Preliminary data)
Results (Preliminary data)

Individual FMS Movement per Week
N = 212

Average Distance (miles/week)

Count

Average Distance (miles/week)
Results (Preliminary data)

43% of FMS visited the Little Colorado River!
## Results

(Preliminary data)

<table>
<thead>
<tr>
<th>Size class (mm; TL)</th>
<th>N</th>
<th>Average growth mm/year</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>All FMS</td>
<td>168</td>
<td>47</td>
<td>[41.84, 52.23]</td>
</tr>
<tr>
<td>150-350</td>
<td>111</td>
<td>59.7</td>
<td>[53.41, 66.00]</td>
</tr>
<tr>
<td>&gt;350</td>
<td>57</td>
<td>22.4</td>
<td>[17.64, 27.09]</td>
</tr>
</tbody>
</table>
FMS Apparent Yearly Survival (Preliminary data)

Average: 0.421
95% CI: [0.348, 0.495]
Conclusions

Flannelmouth sucker

• Movement:
  – Have high site fidelity, moving very little between recaptures (~10 miles/week)
  – Can move great distances (140+ miles/week)
  – Frequently found within the LCR (43%)

• Growth:
  – Overall average 47 mm/year
  – Younger fish (150-350 mm TL) grow more than fish >350 mm TL (59 mm/year vs. 22 mm/year)

• Survival:
  – 42% over 12 years with some variation
Future Work

• Evaluate more tagged fish
• How does FMS movement relate to environmental factors (flow and water temperature)?
Acknowledgements
FMS Length Frequency of Captured Fish
(Preliminary data)
FMS Yearly Capture Probability
(Preliminary data)