Introduction and Survey Objectives

In 2014, the Department of Natural Resources conducted a one night boomshocking survey of Hatch Lake in order to provide insight and direction for the future fisheries management of this water body. Primary sampling objectives of this survey are to characterize species composition, relative abundance, and size structure. The following report is a brief summary of all activities conducted, general status of fish populations and future management options.

Survey Information

<table>
<thead>
<tr>
<th>Site location</th>
<th>Survey Date</th>
<th>Water Temp. (F)</th>
<th>Target Species</th>
<th>Total Miles Shocked</th>
<th>No. of Stations</th>
<th>Gear</th>
<th>Dippers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hatch Lake</td>
<td>6/4/14</td>
<td>75.0</td>
<td>All</td>
<td>2.23</td>
<td>5</td>
<td>Boomshocker</td>
<td>2</td>
</tr>
</tbody>
</table>

Survey Method

- Hatch Lake was sampled according to spring electrofishing (SEII) protocols as outlined in the statewide lake assessment plan. The primary objective for this sampling period is to count and measure adult bass and panfish. Other gamefish may be sampled but are considered by-catch as part of this survey.

- The entire shoreline was sampled with a boomshocker. All fish captured were identified to species and measured for length. A subsample of fish were weighed with age structures (otoliths) collected for age and growth analysis.

- Fish metrics used to describe fish populations include catch per unit effort, proportional stock density, length frequency distribution, and mean age at length.

Fish Metric Descriptions

- CPUE, PSD, LFD and Growth

<table>
<thead>
<tr>
<th>Species</th>
<th>Total CPUE (no per mile)</th>
<th>Percentile Rank</th>
<th>Overall Abundance Rating</th>
<th>Length Index (inches)</th>
<th>Length Index CPUE (no per mile)</th>
<th>Percentile Rank</th>
<th>Abundance Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLUEGILL</td>
<td>124.2</td>
<td>57th</td>
<td>Moderate</td>
<td>≥ 7.0</td>
<td>9</td>
<td>55th</td>
<td>Moderate</td>
</tr>
<tr>
<td>LARGEMOUTH BASS</td>
<td>8.1</td>
<td>26th</td>
<td>Low</td>
<td>≥ 14.0</td>
<td>1.3</td>
<td>24th</td>
<td>Low</td>
</tr>
<tr>
<td>PUMPKINSEED</td>
<td>20.2</td>
<td>71st</td>
<td>Moderate - High</td>
<td>≥ 7.0</td>
<td>3.6</td>
<td>83rd</td>
<td>Moderate - High</td>
</tr>
<tr>
<td>YELLOW PERCH</td>
<td>11.7</td>
<td>53rd</td>
<td>Moderate</td>
<td>≥ 8.0</td>
<td>0</td>
<td>0</td>
<td>Low</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Species</th>
<th>Total</th>
<th>Average Length and (Range)</th>
<th>Stock and Quality Size (inches)</th>
<th>Stock No.</th>
<th>Quality No.</th>
<th>PSD</th>
<th>Percentile Rank</th>
<th>Size Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLUEGILL</td>
<td>277</td>
<td>4.6 (2.5-7.7)</td>
<td>3.0 and 6.0</td>
<td>257</td>
<td>58</td>
<td>23%</td>
<td>32nd</td>
<td>Low</td>
</tr>
<tr>
<td>LARGEMOUTH BASS</td>
<td>18</td>
<td>12.4 (10.0-14.3)</td>
<td>8.0 and 12.0</td>
<td>18</td>
<td>13</td>
<td>72%</td>
<td>69th</td>
<td>Moderate - High</td>
</tr>
<tr>
<td>PUMPKINSEED</td>
<td>45</td>
<td>5.2 (2.9 - 7.9)</td>
<td>3.0 and 6.0</td>
<td>43</td>
<td>17</td>
<td>40%</td>
<td>52nd</td>
<td>Moderate</td>
</tr>
<tr>
<td>YELLOW PERCH</td>
<td>26</td>
<td>4.9 (3.0 - 5.7)</td>
<td>5.0 and 8.0</td>
<td>15</td>
<td>0</td>
<td>0%</td>
<td>-</td>
<td>Low</td>
</tr>
</tbody>
</table>

Regulations:  Statewide Default Regulations

Acres: 112.3
Lake Type: Seepage
Regulations: Statewide Default Regulations

Survey Date

6/4/14

Maximum Depth (feet): 13

Survey Information

Water Temp. 75.0

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Summary

- Largemouth bass populations were at low density but showed above average size structure with proportions of 12.0+ inch bass at 72%. Growth metrics indicated slow growth with bass reaching legal size in about 10 years.
- Bluegill and pumpkinseed relative abundance was at moderate levels but the proportion of 6.0+ inch fish was low when compared to other lakes statewide. Growth metrics for bluegill indicated very slow growth.
- Other species sampled in low abundance included northern pike (1), walleye (1), yellow bullhead (4), black bullhead (1), rockbass (5), and black crappie (4).
- Walleye and northern pike were sampled in low number, however, our gear and sampling timeframe are not suitable to target these species.

Management Options

Management options for Hatch Lake should focus on preservation of habitat and water quality. The aerator operated by the lake association is an important management tool to minimize winterkill and should be maintained. Panfish (prey) populations are slow growing and management of predators may be the best option to improve size structure. Stocking predator gamefish and/or higher minimum length limits to increase predator population density would likely be the best option to improve size structure. Regulatory options would need to be vetted through a public input process. Tentative objectives are as follows:

- Increase bluegill PSD to 30-40%.
- Increase largemouth CPUE to 15-20 bass per mile.
- Initiate stocking quota of northern pike and/or largemouth bass and explore feasibility of increasing gamefish minimum length limits.
- Continue fisheries assessments on 8 year rotation (next survey in 2022).