The Department of Natural Resources surveyed Big Muskellunge Lake, Vilas County, from April 19th through June 13th, in order to assess the status of the walleye, muskellunge, and smallmouth bass populations. Big Muskellunge Lake is a seepage lake with predominantly sand substrates along with some rock and muck. It has a surface area of 930 acres, 10.2 miles of shoreline, and a maximum depth of 70 feet. Big Muskellunge Lake's walleye and smallmouth bass populations are sustained solely through natural reproduction, while the muskellunge population is maintained by natural reproduction and supplemental stocking.

**Walleye**

During five days of fyke netting, 909 adult walleye were captured and marked with a fin clip. Two crews then sampled with electrofishing boats and captured 469 adult walleye. During electrofishing 25% (115 of 469) of captured walleye bore the fin clip given during fyke netting. The largest walleye captured was a 29.2-inch female.

Based on those results, Big Muskellunge Lake was estimated to contain 3,634 adult walleye (3.9/acre). An estimated 29% of adult walleye were 15 inches long or larger.

**Smallmouth Bass**

Survey crews were able to capture and mark a sufficient number of smallmouth bass from Big Muskellunge Lake to estimate the population size. During sampling conducted through June 13th, 197 smallmouth bass eight inches or larger were captured. Of those smallmouth captured, 92% were 14 inches long or larger, with the largest measuring 22.8 inches. The smallmouth bass population in Big Muskellunge Lake (eight inches or larger) was estimated to be 286 fish (0.3/acre). Only two largemouth bass (12.2 and 20.9 inches) were captured during the survey.

**Northern Pike**

408 adult northern pike were captured during our surveys prior to the May 7th fishing opener. Of those pike captured, 99% were less than 26 inches long. The largest northern pike captured was 27.2-inches long.

*Note: Adult northern pike are defined as all sexable northern pike and those of unknown sex ≥ 12 inches in length.*
Muskellunge

During our fyke netting and electrofishing sampling of Big Muskellunge Lake, 17 adult muskellunge were captured. Of the muskellunge captured, 59% (10 of 17) were 40 inches long or larger, with the largest being a 49.7-inch female. Additionally, five juvenile muskellunge (12.0 - 17.3 inches) were also captured.

*Note: Adult muskellunge are defined as all sexable muskellunge and those of unknown sex > 30 inches in length.

Other Species

In addition to the game fish mentioned above, eight species of fish were captured during fyke netting and electrofishing sampling of Big Muskellunge Lake. Rock bass, white sucker, and yellow perch were common in our surveys. Other species sampled in lower numbers included bluegill, pumpkinseed, black crappie, burbot, and mimic shiner.

A creel survey will be conducted on Big Muskellunge Lake throughout the 2016-17 fishing season. Creel clerk Doug Day will count and interview anglers and examine their catch. The information gathered will be used to estimate fishing effort in addition to angler catch and harvest.

Table 1. General Fishing Regulations for Big Muskellunge Lake, Vilas County, 2016

<table>
<thead>
<tr>
<th>FISH SPECIES</th>
<th>OPEN SEASON</th>
<th>DAILY LIMIT</th>
<th>MINIMUM LENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walleye</td>
<td>May 7 - March 5</td>
<td>3</td>
<td>No minimum length, 1 fish over 14&quot;</td>
</tr>
<tr>
<td>Largemouth Bass</td>
<td>May 7 - March 5</td>
<td>1 in total with SMB</td>
<td>18 inches</td>
</tr>
<tr>
<td>Smallmouth Bass</td>
<td>May 7 - June 17 (C&amp;R)</td>
<td>1 in total with LMB; harvest season only</td>
<td>18 inches</td>
</tr>
<tr>
<td></td>
<td>June 18 - March 5 (Harvest)</td>
<td></td>
<td>18 inches</td>
</tr>
<tr>
<td>Muskellunge</td>
<td>May 28 - Nov. 30</td>
<td>1</td>
<td>40 inches</td>
</tr>
<tr>
<td>Northern Pike</td>
<td>May 7 - March 5</td>
<td>5</td>
<td>None</td>
</tr>
</tbody>
</table>

A brief summary of selected fishing regulations for Big Muskellunge Lake is included above (Table 1). While the regulatory information provided was current at the time the surveys were conducted, it is not comprehensive and should not be used as a substitute for the current fishing regulation pamphlet. You may obtain a copy of current fishing regulations when you purchase your fishing license, or download a copy from our web site at:

http://dnr.wi.gov/topic/fishing/regulations/

This report is interim only; Watch for finalized summaries at: http://dnr.wi.gov/topic/fishing/north/trtrysprngsvys.html. Creel survey results should be available by June 2017 at: http://dnr.wi.gov/topic/fishing/north/trtycrlsrvys.html. For questions, contact:

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For answers to questions about fisheries management activities and plans for Big Muskellunge Lake, Vilas County, contact:

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