



**WISCONSIN DNR  
FISHERIES INFORMATION SHEET**

**LAKE:** BIG ARBOR VITAE

**COUNTY:** VILAS

**YEAR:** 2008

The Department of Natural Resources surveyed Big Arbor Vitae Lake, Vilas County, from May 5 through May 10, 2008, to determine the health of its fishery. The primary objective of the survey was to estimate the abundance of the lake's walleye and muskellunge populations. Big Arbor Vitae Lake is a fertile drainage lake with predominantly sand and gravel substrate and a high-density walleye population. It has a surface area of 1,090 acres, 7.8 miles of shoreline and a maximum depth of 41 feet.

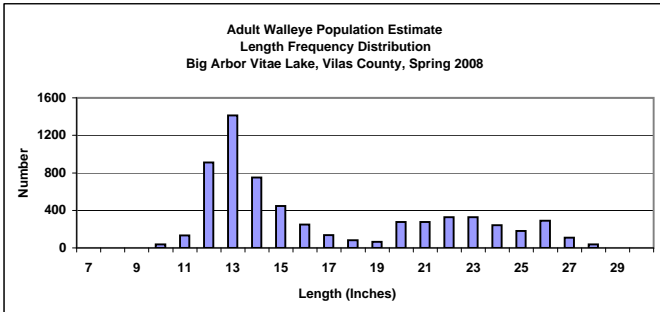


Figure 1. Length frequency distribution of 6,290 adult\* walleye estimated to be in Big Arbor Vitae Lake, Vilas County, based on a spring 2008 survey.

\* Note: Adult walleye are defined as all sexable walleye and walleye of unknown sex  $\geq 15$  inches long.

**Walleye**

We conducted a mark-recapture survey of Big Arbor Vitae Lake's adult\* walleye population from May 5-8, 2008. We captured and marked (fin clipped) 1,626 adult walleye in four days of fyke netting. Two crews sampled Big Arbor Vitae Lake with electro-fishing boats on May 8th and captured 332 adult walleye. Nearly 33% (109 of 332) of those walleye bore the fin clip given during fyke netting.

Based on those results, we estimated that Big Arbor Vitae Lake is home to 6,290 adult walleye (5.8/acre). Approximately 60% (3,794 of 6,290) of adult walleye were 14 inches long or larger. The largest walleye we captured was a 28.2-inch female.

**Smallmouth Bass**

Smallmouth bass were not a primary target of our survey of Big Arbor Vitae Lake. Sampling occurred prior to peak smallmouth spawning. We captured 11 smallmouth bass, 8-inches or larger, during our fyke netting and electro-fishing sampling. Ten of those smallmouth were 14 inches long or larger. The largest smallmouth we captured was 17.3 inches long.

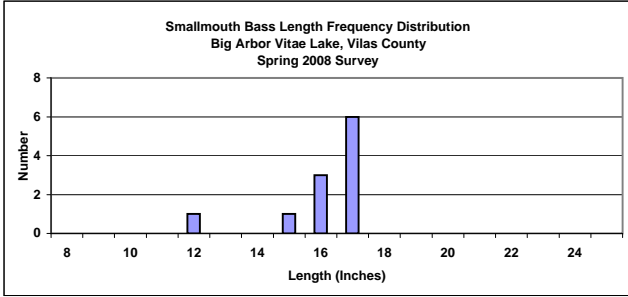


Figure 2. Length frequency distribution of 11 smallmouth bass  $\geq 8$ " captured during a fisheries survey of Big Arbor Vitae Lake, Vilas County, in spring 2008.

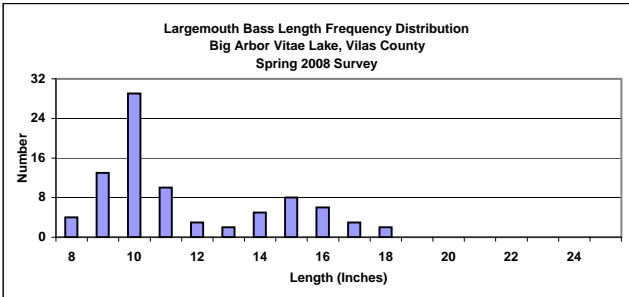


Figure 3. Length frequency distribution of 85 largemouth bass  $\geq 8$ " captured during a fisheries survey of Big Arbor Vitae Lake, Vilas County, in spring 2008.

**Largemouth Bass**

Largemouth bass were also an incidental catch in our survey of Big Arbor Vitae Lake. However, we did capture 85 largemouth bass, 8 inches or larger, during our fyke netting and electro-fishing sampling. Approximately 28% (24 of 85) of those largemouth were over 14 inches long. The biggest largemouth bass we captured was 18.7 inches long.

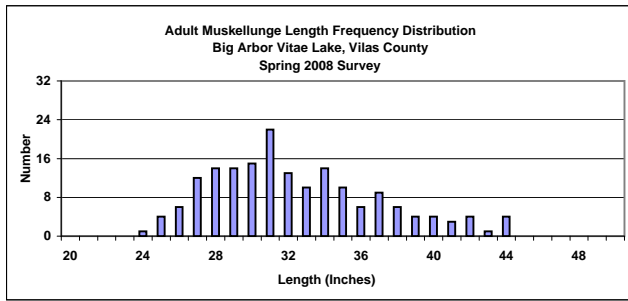


Figure 4. Length frequency distribution of 176 adult\* muskellunge captured during a fisheries survey of Big Arbor Vitae Lake, Vilas County, in spring 2008.

### Muskellunge

We captured 176 adult\* muskellunge during our fyke netting and electro-fishing sampling of Big Arbor Vitae Lake. Nearly 37% of the adult muskellunge (65 of 176) we captured were 34 inches long or larger. Roughly one in 11 muskellunge (16 of 176) were 40 inches long or larger. The largest muskellunge we captured was a 44.2-inch female.

\* Note: Adult muskellunge are defined as all sexable muskellunge and muskellunge of unknown sex  $\geq$  20 inches long.

### Other Species

We captured 11 species of fish in our fyke netting and electro-fishing sampling of Big Arbor Vitae Lake in addition to the game fish mentioned above. Yellow perch were by far the most abundant fish captured during the survey. Black crappie, bluegill, pumpkinseed, rock bass and white sucker were common in our fyke net catches. We also caught moderate numbers of bowfin, burbot, creek chub, golden shiner and yellow bullhead. In-water sampling will conclude with a survey of young-of-year walleye in fall 2008.

We are also conducting a creel (angler harvest) survey on Big Arbor Vitae Lake this year. Creel clerk Dean Johnson will count and interview anglers and examine their catch throughout the 2008 open-water fishing season.

**Table 1. General Fishing Regulations for Big Arbor Vitae Lake, Vilas County, 2008**

| FISH SPECIES                   | OPEN SEASON  | DAILY LIMIT        | MINIMUM LENGTH                |
|--------------------------------|--|--------------------|-------------------------------|
| Walleye                        | May 3 - March 1                                      | 3                  | No minimum, only one over 14" |
| Largemouth and Smallmouth Bass | May 3 - June 20 (C&R)<br>June 21 - March 1 (Harvest) | None<br>5 in total | 14 inches                     |
| Muskellunge                    | May 24 - Nov. 30                                     | 1                  | 34 inches                     |
| Northern Pike                  | May 3 - March 1                                      | 5                  | None                          |

A brief summary of selected fishing regulations for Big Arbor Vitae 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://www.dnr.wi.gov/fish/regulations/>

This report is interim only; data and findings should not be considered final. Results of creel surveys should be available by June 2009. If you are interested in a summary of the creel survey or want an update on this year's fyke netting and electro-fishing survey results, contact:

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

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