



WISCONSIN DNR
FISHERIES INFORMATION SHEET

LAKE: BIG ARBOR VITAE

COUNTY: VILAS

YEAR: 2011

The Department of Natural Resources surveyed Big Arbor Vitae Lake, Vilas County, from April 29 through June 2, 2011, 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.

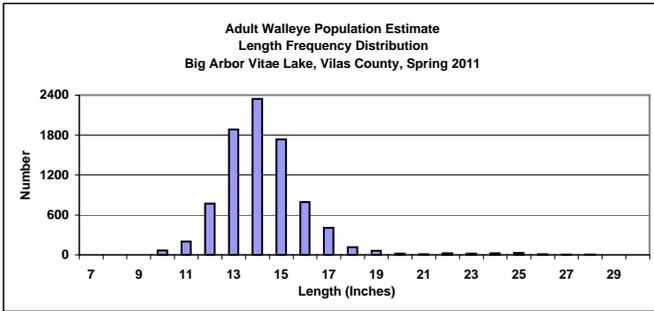


Figure 1. Length frequency distribution of 8515 adult* walleye estimated to be in Big Arbor Vitae Lake, Vilas County, based on a spring 2011 survey.

* Note: Adult walleye are defined as all sexable walleye and walleye of unknown sex >= 15 inches long.

Walleye

We conducted a mark-recapture survey of Big Arbor Vitae Lake's adult* walleye population from April 29 through May 2, 2011. We captured and marked (fin clipped) 1,813 adult walleye in four days of fyke netting. Two crews sampled Big Arbor Vitae Lake with electro-fishing boats on May 2nd and captured 594 adult walleye. Nearly 21% (122 of 594) of those walleye had been marked during fyke netting.

Based on those results, we estimated that Big Arbor Vitae Lake is inhabited by 8,515 adult walleye (7.8/acre). Nearly 66% (5,598 of 8,515) of adult walleye were 14 inches long or larger. The largest walleye we captured were three 28.7-inch females.

Smallmouth Bass

We captured 11 smallmouth bass, 8 inches or larger, during our fyke netting and electro-fishing sampling of Big Arbor Vitae Lake. Six of those smallmouth were 14 inches long or larger. The largest smallmouth bass we captured was 18.9 inches long.

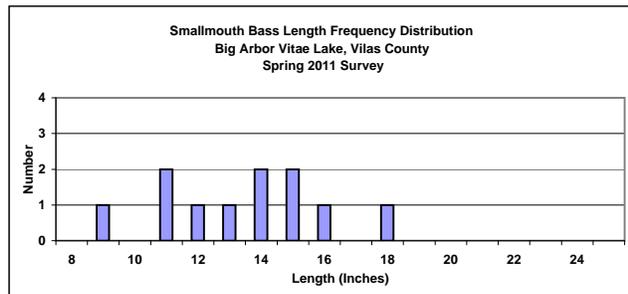


Figure 2. Length frequency distribution of 11 smallmouth bass >= 8" captured during a fisheries survey of Big Arbor Vitae Lake, Vilas County, in spring 2011.

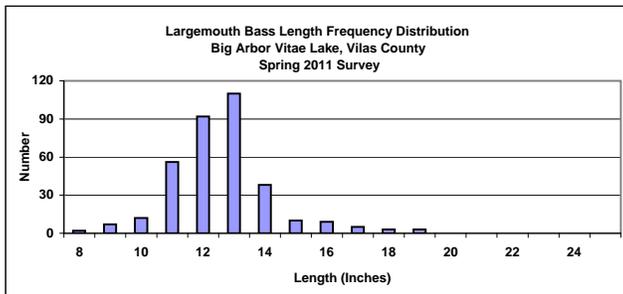


Figure 3. Length frequency distribution of 347 largemouth bass >= 8" captured during a fisheries survey of Big Arbor Vitae Lake, Vilas County, in spring 2011.

Largemouth Bass

We were unable to capture a sufficient number of largemouth bass from Big Arbor Vitae Lake to estimate their abundance. We did capture 347 largemouth bass, 8 inches or larger, during our fyke netting and electro-fishing sampling. Nearly 20% (68 of 347) of those largemouth were over 14 inches long. The biggest largemouth bass we captured was 19.5 inches long.

Northern Pike

We captured three adult* northern pike in fyke nets fished in Big Arbor Vitae Lake from April 29 through May 2, 2011. The largest northern pike we captured was a 29.1-inch female.

* Note: Adult northern pike are defined as all sexable northern pike and northern pike of unknown sex ≥ 12 inches long.

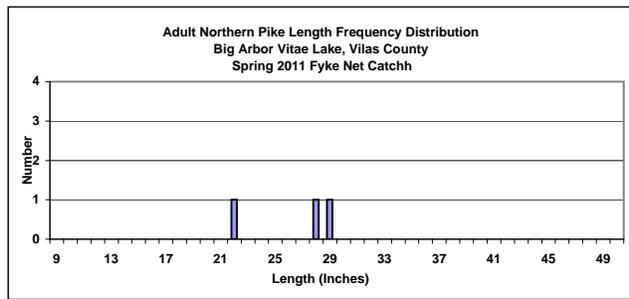


Figure 4. Length frequency distribution of three adult* northern pike captured in fyke nets during a fisheries survey of Big Arbor Vitae Lake, Vilas County, in spring 2011.

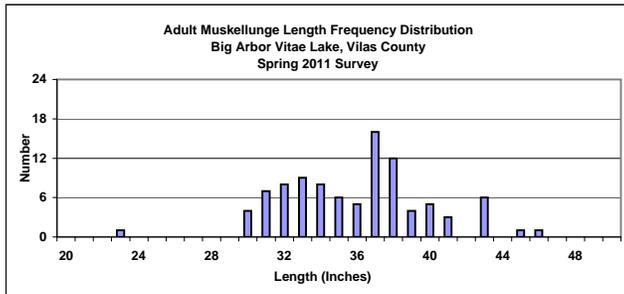


Figure 5. Length frequency distribution of 96 adult* muskellunge captured during a fisheries survey of Big Arbor Vitae Lake, Vilas County, in spring 2011.

Muskellunge

We captured 96 adult* muskellunge during our fyke netting and electro-fishing sampling of Big Arbor Vitae Lake. Nearly 70% of the adult muskellunge (67 of 96) we captured were 34 inches long or larger. Approximately 17% of muskellunge (16 of 96) were 40 inches long or larger. The largest muskellunge we captured was a 46.5-inch female.

* Note: Adult muskellunge are defined using PSD stock size as all sexable muskellunge and muskellunge of unknown sex ≥ 20 inches.

Other Species

We captured ten 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 the most abundant species in our fyke net catches. We caught moderate numbers of black crappie, bluegill and pumpkinseed. We also caught bowfin, creek chub, golden shiner, rock bass, white sucker and yellow bullhead. In-water sampling will conclude with a survey of young-of-year walleye in fall 2011.

We are also conducting a creel (angler harvest) survey on Big Arbor Vitae Lake this year. Creel clerk Scott Yonker will count and interview anglers and examine their catch throughout the 2011 open-water fishing season.

Table 1. General Fishing Regulations for Big Arbor Vitae Lake, Vilas County, 2011

FISH SPECIES	OPEN SEASON	DAILY LIMIT	MINIMUM LENGTH
Walleye	May 7 - March 4	3	No minimum, only one over 14"
Largemouth and Smallmouth Bass	May 3 - June 17 (C&R) June 18 - March 4 (Harvest)	None 5 in total	14 inches
Muskellunge	May 28 - Nov. 30	1	34 inches
Northern Pike	May 7 - March 4	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 2012. Watch for survey summaries at: <http://dnr.wi.gov/fish/nor/northern.html> or 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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