Glenwood Area Fisheries Newsletter

Minnesota Department of Natural Resources

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Zebra mussels and water clarity— is there a connection in the Alexandria Chain of Lakes?

If you happened to get out on the Alexandria Chain of Lakes this past summer, you may have noticed some pretty darned clear water. It had many folks saying things like, "Well, at least the zebra mussels are good for something", or "Boy those zebra mussels sure can clear up a lake". While it is well known that zebra mussels are efficient at filtering phytoplankton from the water, less is known about how abundant zebra mussels have to be before increases in water clarity can be attributed to their presence.

When examining the filtration impacts of zebra mussels, it might be helpful to consider two lakes with densely established populations. Lake Erie and Lake St. Clair are two gigantic lakes where zebra mussels were first found in the late 1980's. Since then, their populations have exploded. Researchers have quantified heavy near-shore zebra mussel population densities ranging from 200,000 to 700,000 per sq meter. Both lakes have seen significant increases in water clarity as a result. In the Netherlands, researchers have documented increases in water clarity on a much smaller scale, reporting that average densities of 600 per sq meter increased water clarity in a 15,000-acre impoundment.

Are population densities in the Alexandria Chain high enough to increase water clarity? Maybe, but at this time, we're not sure. Estimating zebra mussel density is time consuming work and best done using scuba divers monitoring the lake bottom along several transects. Zebra mussel populations are relatively young in the Chain and probably haven't reached maximum densities. It may be possible however to draw comparisons from similar lakes in Minnesota where limited scuba surveys have been conducted. Zebra mussels were first reported in Gull Lake near Nisswa in 2010. A recent scuba survey there counted an average of 1,600 per sq meter. Similarly, Lake Mille Lacs scuba assessments have found average numbers around 13,000 per sq meter. Although Gull and Mille Lacs are larger lakes than those on the Chain, Gull, Carlos and Le Homme Dieu are ecologically classified as the same lake type .

There are many biotic and abiotic factors that can influence the water clarity of a lake in any given year. Perhaps the best way to see if zebra mussels will increase water clarity is to watch secchi disk readings as they are reported in the coming years *http://www.dnr.state.mn.us/lakefind/index.html*. Over the course of time, a trend may or may not become evident. Until then, it's probably premature to attribute recent clear water conditions on the Alex Chain to the zebra mussels.

New regulation includes winter anglers

When fish are consumed on the ice or on a watercraft that is docked or moored to shore, the carcass of a fish with size limits (other than statewide size limits) must be retained in such a way that the carcass may be readily unpacked, unwrapped, and separated so that the carcass may be examined, measured, and counted to ensure compliance with size restrictions for that day. The fish carcasses must be retained with head, dorsal fin, and tail intact, and the carcass will be counted and included in a person's daily possession limit.

Fish population surveys completed for 2012— a few results at a glance

Several area lakes were surveyed in 2012, including:

Andrew	Darling
Cottonwood	Geneva
Goose	Grove
LeHommeDieu	Long
Mill	Perkins
Rachel	Scandinavian
Smith	Victoria

Formal reports will be completed and available to the public by June 2013, however, a few noteworthy observations from field staff may be of interest to our readers: **Cottonwood Lake** in Grant county had exceptional water clarity measuring just over 14 feet. A strong population of 12-inch walleyes was evident from our gillnets. Good fishing in 2013-2014 appears likely.

Douglas county's **Lake Andrew**, as usual, has good numbers of 12-13 inch walleyes— making up half of the entire walleye sample. The big question we're still trying to answer is what happens to these fish 2-3 years from now. It's possible that the same factors causing growth rates to be slow in Andrew are also the ones limiting the recruitment of fish to preferred size categories. **Lake LeHommeDieu's** walleye catch was impressive at nearly 9/gillnet. Even more impressive was the healthy length frequency distribution ranging from 7 to 26-inches. Unfortunately, survey findings indicate the yellow perch population is struggling to support abundant populations of walleye, northern pike and largemouth bass. These popular gamefish are growing slow which indicates densities are at or near carrying capacity. Harvest of small northern pike and largemouth bass would be beneficial in improving predator/prey dynamics. A healthy forage base is essential to sustaining optimal predator densities and their growth potential.

Going south into Pope county, good-sized walleyes on **Lake Scandinavian** seem to be doing well. Over 50-percent of the walleye catch was comprised of fish 17-23 inches in length. Fish were healthy and in good condition. Bluegills on **Grove Lake** also looked very healthy, with many individuals measuring 8-10-inches. **Perkins Lake** in Stevens county has historically supported very good numbers of walleyes, the result of a successful fry stocking program. This past year however, walleye abundance was way down, less than 1 per-gillnet. The high productivity of the Pomme de Terre River flowing into Perkins coupled with continued fry stocking should help the walleye population bounce back in a few short years. Field staff also noted nice-sized panfish in the trapnets.

Aquatic Management Areas (AMA's)— ensuring habitat conservation along critical shorelines

The DNR's Aquatic Management Area Program is intended to conserve important habitat for fish, reptile and amphibians as well as provide angler access. In most cases, these healthy shoreline habitats serve as examples of how best to leave your shoreline and/or how to restore disturbed shoreland. The Glenwood Fisheries Office oversees the protection of 12 AMA's that are available for public use with restrictions. Permitted uses for all AMA's include: **Angling, non-motorized travel and wildlife observation**. Not all AMA's have public access from land, some are only accessible from the water. Please go to http://www.dnr.state.mn.us/fisheries/ama.html for a more detailed description of the Aquatic Management Area Program and other information on additional permitted uses such as hunting and trapping in certain cases. The following is a list of local AMA's with brief descriptions:

AMA's, cont'd

AMA Name	Size (acres)	Location/Access
West Rachel Shores	3.9	West side of Lake Rachel off W Rachel Drive
Pearson Cove	1.8	Lake Latoka - Knights Bay. **Water access only**
Meathole	14.5	Lake Ida, access at the dead end of Betsy Ross Road
Maple Lake	3.9	Access from State Hwy 29 or South Maple Lake Drive
Little Latoka	2.4	Lake Latoka, access off Vanderheid Road
Mary Lake	35.9	East side of Lake Mary. **Water access only**
Jessie Lake	3.3	Lake Jessie channel, access from CR 81 or W Lake Jessie Drive
Jensen	3.4	NW side of Lake Osakis. **Water access only**
Gehrke's Point	3.5	North side of Lake Ida, access off Gerke's Point Road
Dissell	11.5	NE corner of Lake Miltona -Tamarac Bay. Access from N Lake Miltona Drive
Crestwood Hills	16.3	Lake LeHommeDieu, north side of Crestwood Drive across road from Crestwood Bay
Benewitz	26.3	West side of Benewitz Pond next to Lobster Lake, access off Golden Pond Road

DNR's walleye stocking 2012

Lake	Fry (Number) stocked	Pounds of fgl, yrl or adl stocked	Number of fgl, yrl or adl stocked
Agnes		118	2,083
Amelia		742	12,399
Andrew	500,000		
Barrett	705,900		
Brophy		300	6,702
Burgen		115	1,833
Carlos		910	14,105
Charlotte	430,800		
Big Chippewa	1,178,200		
Cowdry		186	747
Darling		477	2,221
Devils		300	1,068
Elk		194	3,393
Emily	2,314,900		
Geneva		275	4,683
Henry		196	3,502
Ida	2,486,800	1,601	16,014
Johanna	1,400,000		
Latoka		315	1,882
LeHommeDieu		767	2,147

Lake	Fry (Number) stocked	Pounds of fgl, yrl or adl stocked	Number of fgl, yrl or adl stocked
Leven		322	1,702
Lightning	540,000		
Little Chippewa		255	2,585
Maple		774	11,912
Mary	2,400,700		
Mill		483	2,689
Miltona	2,802,200		
Mina		394	2,612
Minnewaska	6,445,300		
Moses		399	6,432
Osakis	6,832,000		
Oscar		841	2,900
Page	355,000		
Pocket		281	2,087
Stowe		758	5,680
Vermont		414	3,674
Victoria		125	1,875
Villard		976	5,034
Westport	207,600		
Whiskey		204	1,020

Employee Spotlight— Jeff Reed

The DNR Section of Fisheries is essentially comprised of two units: Management and Research. The Management unit employs over 200 field biologists and managers statewide. The Research unit is much smaller and is comprised of around 20 research biologists who study specific issues that affect the state's fisheries resources and stakeholders.

Not every Area Office has a fisheries research biologist. Here in Glenwood, we're fortunate to have 2 research biologists who specialize in bass and panfish biology. Jeff Reed hails from Green Bay Packer-land but calls Alexandria his home now.

Jeff's research focuses on crappie, bluegill, largemouth bass and walleye biology, as well as fish stocking and shallow lake ecology. "Currently I'm coordinating the Department's LCCMR funded Sentinel Lakes Program which monitors a wide range of factors that can affect lake habitats and fish populations". Over the years, Jeff has served on many committees including Chair of the American Fisheries Society's Midwest Technical Group on muskellunge, pike and walleyes. Most recently, he co-chaired the Department's Black Bass Work Group which aims to standardize our black bass regulations, evaluate our sampling efforts and examine range expansion by largemouth and smallmouth bass, as well as competition between bass and other species.

Jeff earned a B.S. in Ecology from the University of Wisconsin-Oshkosh and started working for the Wisconsin DNR in 1986. After a couple years there he headed back to school and earned an M.S. in Fishery Biology from Auburn University. After graduate school he worked a brief stint with the Alabama Department of Conservation and Natural Resources developing sampling protocols for large reservoirs. Jeff started working for the MN DNR in September of 1990 at the Windom Area Office before being promoted to the Glenwood Office as a research biologist the following spring.

"Growing up in Wisconsin, I was greatly influenced by Aldo Leopold's *A Sand County Almanac",* says Jeff. "My parents were both teachers and we would take great vacations to Wisconsin's lake country during the summer. These were the things that really shaped my love for the outdoors and probably influenced my eventual career choice as a fisheries biologist".

One of the things Jeff enjoys about the Alexandria area is the number of small, quiet lakes that are easily explored with a canoe or kayak. "They have excellent fish populations and they're peaceful, especially during the week".

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