

# Glenwood Area Fisheries Newsletter

Minnesota Department  
of Natural Resources

Fall/Winter 2009

Season's Greetings!

## Now that zebra mussels are here, what will be the impacts to fisheries?

**B**y now, most people are aware of the problems zebra mussels can cause for folks who live or recreate on lakes that contain them. Their sharp shells can cut your feet or fishing line and their colonizing and eventual clogging of intake pipes for people's lawn sprinklers can be a real nuisance. For wildlife, the unwelcome invaders are problematic for native mussels as they represent unhealthy competition for food.

What might be the potential impacts to a lake's fishery though? How will the presence of zebra mussels impact fishing on the Alexandria Chain of Lakes? The short answer is that we're not really sure. We know that zebra mussels can impact the ecology of a lake, and since fish are obviously part of a lake's ecology, it stands to reason that the fishery could be impacted, but to what extent? Zebra mussels consume phytoplankton (microscopic plants), so water clarity could increase if they become very abundant. Most people see this as a good thing, however, if they become extremely abundant, they could have

what's called a *cascading trophic effect* on the lake. That is, the food chain is disrupted at its most primary level (phytoplankton or algae), and in turn, causes impacts to other trophic levels as a result—a domino effect. It might work something like this: Filter-feeding zebra mussels reduce the abundance of phytoplankton. Fewer phytoplankton translates into less food for zooplankton (microscopic animals such as daphnia and rotifers - pronounced zoe-o-plankton). Zooplankton are important food for all kinds of larval fish, so if the abundance of zooplankton decreases, small fish have less to eat. If this results in fewer small fish, then larger fish have less to eat, and so on—you get the picture. Obviously a cascading trophic effect is serious business and could cause fishing to deteriorate on the Alexandria Chain of Lakes, but what are the chances this might occur? At this time it's an unknown. It is possible though. Proving a cause-and-effect relationship, even with substantial evaluation and research would be difficult however. So many variables make the picture just too complex. What is perhaps more



plausible is that a significant amount of natural walleye spawning habitat could become covered over by zebra mussels. Since walleyes prefer to spawn on rocky cobble shoals and zebra mussels will attach to anything hard, some rocky areas used by walleyes will eventually become colonized by zebra mussels. A 1991 study of the impacts of zebra mussels on walleye spawning habitat in western Lake Erie however, found that there were no adverse impacts on walleye reproduction. Does this mean that the Alexandria Chain is free and clear of such potential adverse impacts? No it does not. The Lake Erie study was but a single study and all lakes are different.

There is no practical way of getting rid of zebra mussels, once they're established. We must all take preventative

measures to stop their further spread to other lakes. Please take the time to inspect and clean your boats carefully and thoroughly before launching and upon leaving lakes and streams. Indifference is not an option.

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## Fall electrofishing for walleyes

Each year, the DNR conducts electrofishing surveys in the fall to estimate the abundance of young-of-year (YOY) walleyes. Several years ago, it was determined that the abundance of young-of-year walleyes (fish that hatched earlier that spring), was a fairly reliable indicator of what the future abundance of walleyes would be 2-3 years later when those fish would be of more interest to anglers. The DNR's Large Lake Program first used fall electrofishing as a future year-class strength predicting tool back in 1986. While the values are more lake-specific than gillnets and trapnets, the thinking was that if it worked on some of Minnesota's largest natural walleye lakes, perhaps it would be useful on the State's many more smaller walleye fisheries. It may come as a surprise to some people, but the vast majority of the State's excellent walleye fishing

comes from natural reproduction, not artificial stocking.

When estimating fish abundance using various gear types such as nets or electrofishing, the DNR uses a measurement called *relative abundance*, that is, number of fish *PER* hour, or fish *PER* net. It can be referenced as "catch-per-unit-of-effort" (CPE). For example, if 15 fish were collected in 20 minutes of electrofishing, the CPE or relative abundance would be 45 fish per hour.



Over time, this method enables biologists to detect abundance trends in fish populations. Below is a quick summary of what's been sampled (YOY walleyes/hour) on some of the Area's more popular walleye lakes:

|                            | 2009 | 2008 | 2007 | 2006 | 2005 |
|----------------------------|------|------|------|------|------|
| <i>Andrew</i>              | 9    | 231  | 12   | 89   | 6    |
| <i>Big Chippewa</i>        | 24   | 110  | 68   | 67   | 7    |
| <i>Big Pelican (Ashby)</i> | 45   | 17   | 33   | 0    | 157  |
| <i>Ida</i>                 | 11   | 28   | 24   | 53   | 17   |
| <i>Mary</i>                | 21   | 98   | 44   | 158  | 5    |
| <i>Miltona</i>             | 125  | 18   | 44   | 84   | 17   |
| <i>Minnewaska</i>          | 7    | 4    | 6    | 27   | 8    |
| <i>Reno</i>                | 53   | 28   | 0    | 3    | 97   |

## The American Eel – an ecological generalist



The American eel is a fish that is seldom heard about. While their life history is not as well understood as many other species, what is known about them is very interesting indeed. The American eel, like the European and Japanese eel, belong to the Genus *Anguilla*, or true eels, and are not to be confused with the electric eel, which actually is not an eel at all but belongs to a group of fishes called the knifefishes. True eels have unique anatomical features such as a long dorsal fin that is continuous with the tail and anal fin and a slippery skin with tiny, embedded scales. Perhaps more interesting however, has to do with the many different habitat types they can be found in throughout their life cycle. True eels are catadromous. That is, they live

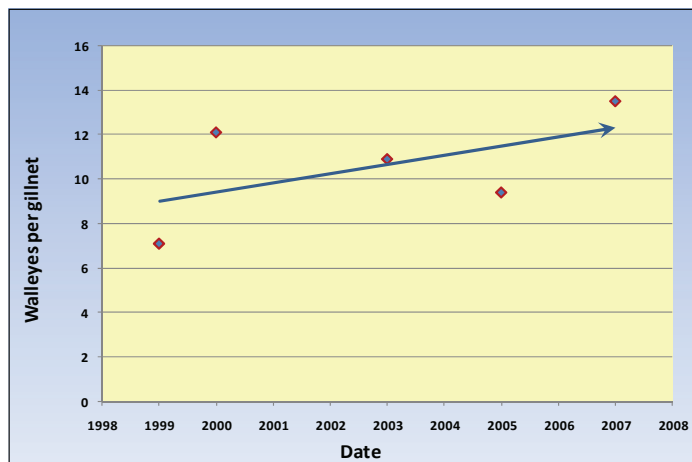
their adult lives in freshwater and swim to the ocean to spawn. The opposite of course is true for salmon, which are anadromous. Adult eels as far up the Mississippi River as St. Paul, migrate downstream to the Gulf of Mexico and then further still to a remote area in the southwestern part of the North Atlantic Ocean called the Sargasso Sea. There, within a million-plus square-mile mat of floating vegetation, they will spawn with other eels from as far away as Europe. Adults die after spawning, but the larval young, called *leptocephali*, will drift in ocean currents over long distances - from as far north as coastal Greenland, to the northern coast of South America. Once they reach the mouths of freshwater rivers, they become juvenile eels called *elvers*, and begin their migration up-

stream where they mature and spend their adult lives. It can take as few as five, or as many as twenty years for female eels to mature. When they are ready to reproduce, it's time to make the long journey back to the Sargasso Sea. What an amazing migrator! Unfortunately, the American eel appears to be in decline. Potential contributing factors include migration barriers (dams), habitat loss and alteration, oceanic conditions, over-fishing and pollution. It is unlikely that we would ever see an eel in this neck of the woods but it's never too late to be an advocate for cleaner water and barrier-free rivers. Such improvements in habitat may help to restore populations of this amazing fish.

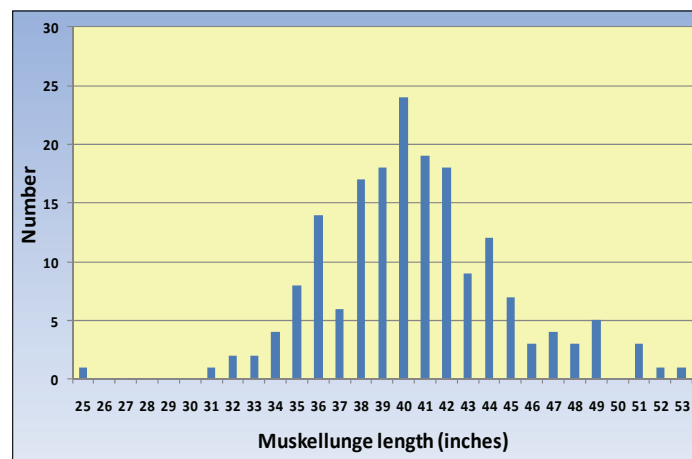
## How are the muskies and walleyes getting along in Lake Miltona?

**A**t 5,838 acres, Lake Miltona is one of the largest lakes in the Glenwood Management Area. The lake's fishery is one of the areas most diverse as well. Anglers can find smallmouth and largemouth bass, bluegill, black crappie, rock bass, tullibee, northern pike, walleyes and muskellunge. Miltona is primarily managed for walleyes and muskellunge. In order to support a highly popular walleye fishery, artificial stockings of walleye fry, fingerlings, yearlings, or adults has occurred almost annually since 1910. Despite this extensive history and consistency of stocking, fishing success has been variable.

The primary method the DNR uses to assess adult walleye populations is by the use of gillnets. Even though the actual numbers of fish per net may vary from survey to survey, trends in abundance are often evident and can be helpful in describing the status of fish populations. As you can see from the upper graph in this article, a trendline fitted to the data indicate that walleye abundance has been increasing in Lake Miltona. The average individual size of walleyes has been increasing too. Over the past 10 years, an average of 50 percent



of the population measures between 15 and 20 inches in length, and the percentage of fish between 20 and 25 inches has essentially tripled. This is good news for walleye anglers, whether you're after a meal of keepers or prefer that large, memorable fish.



Meanwhile, muskie anglers will be pleased to know that their fish are doing quite well in Lake Miltona, with a very healthy distribution of adult fish ranging from 25 to 53 inches in length (lower graph). The data are from trapping surveys conducted in 1996, 2000, 2004 and 2008.

The minimum length limit for muskellunge in Miltona is 48 inches, which means if you catch a muskie, it has to be 48 inches or

larger to legally keep. Provided the abundance of important forage species such as tullibee and white sucker remain healthy, muskie anglers can expect more fish approaching trophy status in the coming years.

## Fisheries education important for Area youth

Beginning in 2007, the Glenwood Fisheries Office has ramped up efforts to reach young people through its educational outreach program. So far, presentations designed to spark kids' interest in shoreline habitat conservation, fish biology and identification, and land and water stewardship have been carried out with school groups, lake associations, State Park visitors and even local resorts. The objective is to establish a better connection with youngsters to help them realize the value of our fisheries resources and the future choices they may have to consider if the quality of those resources is to be maintained. If you would like to arrange an educational field trip, fish presentation, or would just like more information about the educational outreach program, please contact Al Schmidt at the Glenwood Area Office.



Students from Brandon Elementary School on the shores of Little Chippewa Lake.

**Trivia question:** What native Minnesota fish spawns beneath the ice in the middle of the winter?

**Answer:** The burbot or eelpout

## The extent of shoreline alteration in Douglas County

During 2008 and early 2009, the amount and type of shoreline alterations due to residential development on lakes in Douglas County was inventoried. With the amount of developed lakeshore property seemingly endless, it was felt that a quantification of the remaining *natural* shoreline and the amount of altered shoreline should be documented for future reference. Field data have been compiled and a report will be completed and available to the public in the spring or early summer of 2010.

## DNR fall 2009 walleye stocking effort

| <u>Lake</u>              | <u>Pounds stocked</u> | <u>Type<sup>1</sup></u> |
|--------------------------|-----------------------|-------------------------|
| Aaron                    | 834                   | Fgl/Yrl                 |
| Carlos <sup>2</sup>      | 910                   | Fgl                     |
| Darling                  | 479                   | Fgl/Yrl                 |
| Geneva <sup>2</sup>      | 531                   | Fgl/Yrl                 |
| Gilchrist                | 413                   | Fgl/Yrl/Adl             |
| Grove                    | 537                   | Fgl/Yrl/Adl             |
| Indian                   | 93                    | Fgl/Yrl                 |
| Irene <sup>2</sup>       | 448                   | Fgl                     |
| LeHommeDieu <sup>2</sup> | 765                   | Fgl                     |
| Linka                    | 156                   | Fgl                     |
| Lobster <sup>2</sup>     | 1334                  | Fgl                     |
| Moses                    | 418                   | Fgl                     |
| Oscar <sup>2</sup>       | 800                   | Fgl                     |
| Pelican (Glenwood)       | 844                   | Fgl/Yrl/Adl             |
| Pocket                   | 209                   | Fgl/Yrl/Adl             |
| Rachel                   | 248                   | Fgl                     |
| Scandinavian             | 474                   | Fgl                     |
| Signalness               | 85                    | Fgl/Yrl/Adl             |
| Smith                    | 13                    | Frl                     |
| Thompson                 | 142                   | Fgl/Yrl                 |
| Turtle                   | 328                   | Fgl/Yrl                 |
| Victoria                 | 122                   | Fgl                     |

<sup>1</sup> Fgl=fingerling, Yrl=yearling, Adl=adult, Frl=fryling

<sup>2</sup> Includes fish stocked by DNR and private sector under contract

## The DNR's Aquatic Plant Management Program (APM) —What's it all about?

**A**quatic plants growing in public waters are owned by the State of Minnesota. The Aquatic Plant Management Program's primary responsibility is to protect native vegetation and the aquatic environment from unnecessary harm while allowing lakeshore homeowners to control some aquatic vegetation for water access.



All four DNR regions are staffed by Aquatic Plant Management Specialists. Leslie George is the Aquatic Plant Management Specialist out of the Glenwood Fisheries Office. Her work area extends from the Glenwood area to just north of Detroit Lakes and westward to the border with the Dakotas. Over the past 3 years, Leslie has inspected several hundred lakeshore property sites to determine the need and appropriateness of plant removal application requests as well as to check on compliance of permits already issued. "Obviously native aquatic plants provide fish and wildlife habitat as well as help to maintain good water quality", says George. "However, when site conditions are appropriate, people should be able to enjoy a swim within a reasonably-sized area as well. What we try to do is balance the needs of shore-

land property owners with the need to protect aquatic plants. When it comes to lakeshore activity, excessiveness is rarely good thing".

Aquatic plant management activities are dictated by MN Rule 6280. The use of aquatic pesticides, automated plant control devices (such as Weed-Rollers), or the destruction of emergent vegetation by any means, require DNR permits. Permits are issued by Regional Fisheries Managers. While regional aquatic plant specialists are part of the DNR's Section of Fisheries, overall program coordination, is managed by Ecological Resources staff in St. Paul. These staff are responsible for developing and providing educational and informational materials for

permit applicants, providing technical advice to the general public, coordinating with the Department of Agriculture on herbicide regulations, updating and revising the aquatic plant management rules, working with commercial aquatic plant harvesters, and coordinating statewide efforts with the regional aquatic plant specialists.

The program also includes a full-time aquatic plant botanist responsible for focusing research on native aquatic plant communities.

Over the years, Ms. George has come across her share of outrageous situations while visiting lakeshore properties by land or water. "People can be quite creative in their attempts to control aquatic vegetation", says George, "but, most often that creativity earns them a visit from their local conservation officer".

George urges anyone with aquatic plant management /removal questions to contact her at the Glenwood Fisheries Office before commencing work.

### **Don't forget!**

- **Anglers must remain within 200 feet of their tip-up**
- **The dark house spearing season begins November 15th**
- **A fish shelter may not be left unattended between midnight and one hour prior to sunrise unless the shelter is licensed**
- **Beginning July 1, 2009, you can fish without a license in most State Parks**

## Employee Spotlight—Bill McKibbin



For a number of years now, the DNR has been directed to increase the number of walleye fingerlings it produces. In the late 1990's, new biologist positions were created that would specifically focus on the operation of walleye production. Bill McKibbin was the specialist hired to fill that position at the Glenwood Area Office. It's a job that, 15 years ago, he never would have thought he'd be doing. "Back then, I was just having fun fishing Kansas reservoirs and farm ponds with my grandfather and friends", says McKibbin. "Looking back, it was fishing the crappie spawn during spring and those hot summer days spent trot-lining for catfish or chasing largemouth bass in ponds that shaped my interest in the out-

doors, eventually leading to the pursuit of a career as a fisheries biologist".

Bill grew up in Manhattan, Kansas and attended Kansas State University. He graduated in 1999 with a B.S. degree in fisheries biology and a secondary major in natural resources and environmental sciences. During his undergraduate studies he worked temporarily as an assistant biologist for the Kansas Department of Wildlife and Parks and assisted a graduate student on a research project studying habitat preferences of spotted bass in Kansas streams. He attended graduate school at South Dakota State University, where he earned a M.S. degree (2002) in wildlife and fisheries science (fisheries option). His thesis research focused on the structure and dynamics of largemouth bass populations in eastern South Dakota glacial lakes and large impoundments.

Bill was hired as a fisheries specialist by the DNR Section of Fisheries in 2002. His work location thus far has been the Glenwood Area. From December through August, his job duties are similar to his office colleagues: data analyses and report writing during winter, walleye egg-take and hatchery work

during spring and lake survey during summer. In the fall however, he is responsible for the coordination of Area walleye fingerling harvest and stocking activities. He also oversees fall electrofishing for young-of-year walleyes. It's a busy time and the days go by fast. When it's all over, approximately 10,000-15,000 pounds of walleye fingerlings may have been distributed out of this office.

When asked if a career as a fisheries biologist was all that he thought it would be, he replied "I thoroughly enjoy my job and can't imagine doing anything else. However, things aren't exactly what I envisioned they'd be while in school. I spent a lot of time learning the scientific principles of fisheries management and always thought science should and would drive management decisions. After almost eight years in this profession I've learned that isn't always the case. One has to balance the biology with social and political realities. Trying to find common ground in managing fishery resources so that everyone is happy can definitely be a challenge".

The Glenwood Area Fisheries Newsletter is published twice a year by the DNR Area Fisheries Office located at:

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