





**DEPARTMENT OF
NATURAL RESOURCES**

Spring 2017

New office building finished— staff moved in

Those driving by the site of our old office building will notice a brand new structure. What began in September 2015 with the demolition of the old house/office has ended with the completion of a state-of-the-art public building that all can be proud of. It's hard to believe that the old structure, a 1905 farm house served for over 100 years as the Glenwood Area DNR Office; first as a residence for the first hatchery manager and later as office space for 14 DNR employees. The new 9,400 square-foot facility will provide office space for up to 31 employees—not only fish and wildlife staff but also DNR Waters and Minnesota Department of Agriculture employees. The new building utilizes energy neutral technologies including geothermal heating and cooling, LED smart lighting, natural lighting and solar energy (panels to be installed). In addition to a high-quality indoor environment, many natural features to the grounds outside the building were constructed, including native plant landscaping, rain gardens and pervious pavers to control runoff. An open house is being planned for this spring.



Lake surveys scheduled for 2017

The following lakes are scheduled to be surveyed this summer by Glenwood fisheries staff. A standard survey consists of night electrofishing for Largemouth Bass during the month of May followed by gill netting and trap netting completed during the months of June-August.

Lake	County	Date (week of)
Agnes/Henry	Douglas	June 5
Barrett	Grant	July 31
Chippewa (Big)	Douglas	August 7
Gilchrist	Pope	July 10
Grove	Pope	June 5
Hattie	Stevens	June 12
Linka	Pope	July 10
Lobster*	Douglas	July 24
Louise	Douglas	June 29
Mary	Douglas	August 14
Moon	Douglas	June 26
Page	Stevens	July 17
Pelican	Grant	June 19
Perkins	Grant	June 12
Pomme de Terre	Grant	August 21
* Additional muskellunge survey		April

Aquatic Plant Management permit application process sees changes

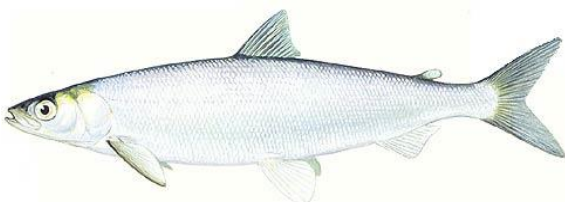
Beginning in March 2017, Aquatic Plant Management (APM) permit applications will be submitted through the online Minnesota DNR Permitting and Reporting System (MPARS). MPARS is designed to benefit permit holders and applicants with a simple, convenient and easy-to-use system. Users will be able create an account; apply for a new or renewal permit; view and request changes to existing permits; pay permit related fees; report compliance data and communicate with DNR staff. Users can access MPARS from any computer or other device that has internet connection using their e-mail address to set up an account at www.mndnr.gov/MPARS.

Due to changes in the application process, Glenwood Area Fisheries office will no longer be able to accept cash payments for application fees. Same day permit issuance for swimmer's itch or floating bogs will also no longer be available. If you have been issued a swimmer's itch permit in the past and are planning to apply again this year, please plan ahead and fill out an APM application prior to your anticipated treatment date.

Applicants are encouraged to use the online system to submit permit applications. Contact Glenwood Area Fisheries office at 320-634-7321 if a paper application is needed.

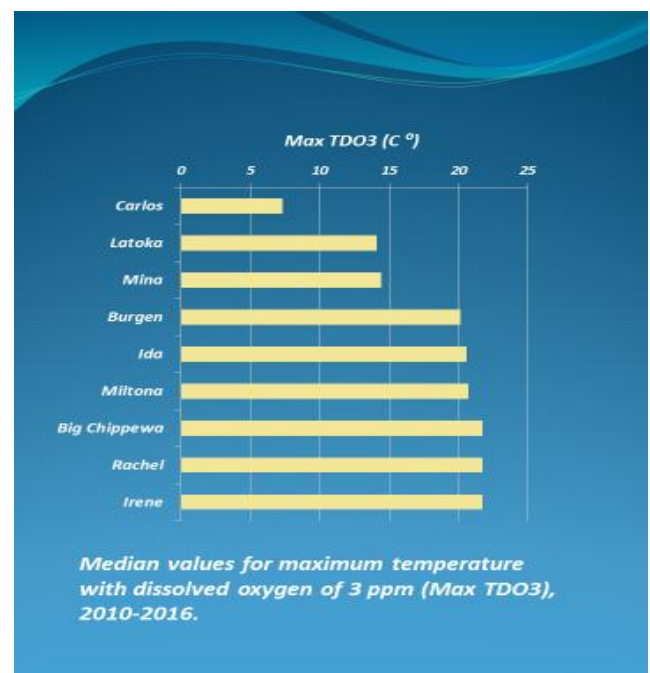
Monitoring Cisco habitat in Area lakes

Cisco or tullibee are coldwater fish that survive best in lakes that maintain mid to late summer water temperatures of less than 70° and dissolved oxygen greater than 3 milligrams per liter (mg/L). Lakes that support Cisco tend to be deeper and cleaner than other



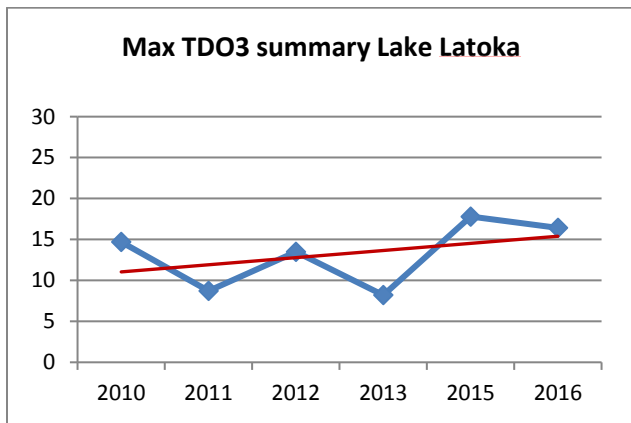
lakes so the presence of Cisco is a good indicator of overall lake health. In Minnesota, the Alexandria – Glenwood Area is considered to be near the southern edge of this species' range which makes their habitat important in determining the extent to which climate change and watershed disturbances may be having on the water quality of our lakes. Beginning in 2010, annual monitoring of Cisco habitat was completed during the last week of August into the first week of September, the time of year when Cisco habitat is reduced to its minimum. Adequate habitat maintained during this extreme time of year indicates the lake is healthy and should continue to support Cisco. The measurement involves the use of a probe attached to a long cable that's lowered from the surface to the bottom over the deepest part of the lake. Dissolved oxygen and temperature are recorded at 1-meter intervals.

Cisco habitat quality is defined by a metric called *TDO3* which represents the lowest temperature in a lake that still maintains dissolved oxygen of 3 mg/L. Late in the summer, such habitat can become limited due to prolonged heat and algae die-off, which consumes oxygen as it decomposes near the lake bottom. More of either of these parameters can really put the squeeze on deepwater Cisco habitat. This is why climate change and nutrient runoff are such important concerns. The illustration below indicates the current status of Area Cisco lakes. The lower the *TDO3*, the better the habitat:



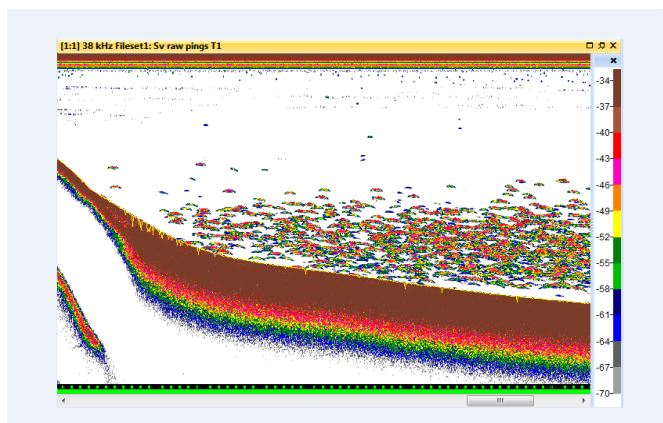
Cisco, cont'd

Comparative data indicate that some lakes in the area have better Cisco habitat than others. However, individual lake data from this monitoring have not yet indicated any long-term increasing or decreasing trends in habitat quality. A graphical illustration for Lake Latoka offers a glimpse of how oxygen/temperature data may be used to describe Cisco habitat from year to year.



The above data (trend line in red and temperature along the left in Celsius), show Cisco habitat quality data since 2010. With high shoreline development and limited water inflow or outflow, Cisco habitat sensitivity may be higher in Lake Latoka than other Area lakes. Continued monitoring will help to identify trends which could lead to management strategies to protect this important resource.

At this time Lake Carlos provides the best habitat for Cisco in the area. The image below shows a large school of Cisco during a hydroacoustic survey in 2016.



Glenwood DNR's Walleye stocking 2016

The following is a summary of Walleye stocked in 2016. Abbreviations include fry (just hatched), fingerling (fgl, age-0, 3-8" long), yearling (yrl) and adult (adl, >1 yr old).

Lake	Number of fry stocked	Pounds of fgl, yrl or adl stocked	Number of fgl, yrl or adl stocked
Aaron		184	720
Agnes		61	1,164
Amelia		388	6,340
Andrew	700,000		
Brophy		164	2,558
Burgen		110	1,871
Carlos*		1,436	19,569
Charlotte	473,000		
Chippewa (Big)	1,294,000		
Darling		581	9,586
Devils		340	4,912
Elk (Upper)		234	2,850
Emily	1,180,000		
Geneva		295	396
Grants	64,000		
Henry		92	1,766
Ida*	3,073,000	833	12,495
Irene*		300	6,000
Jessie*		115	3,450
Johanna	750,000		
Latoka		807	1,033
LeHommeDieu		905	13,688
Lightning	540,000		
Lobster		552	2,022
Maple		421	6,330
Mary	2,200,000		
Mill		428	6,510
Miltona	2,760,000	1,913	11,366
Mina		330	1,668
Minnewaska	3,467,000	2,578	50,406
Mustinka Flwg*	91,000	50	1,000
Nelson	270,000		

Walleye stocking, cont'd

Lake	Number of fry stocked	Pounds of fgl, yrl or adl stocked	Number of fgl, yrl or adl stocked
Osakis*	3,389,000	2,112	19,787
Oscar		848	1,142
Page	345,000		
Pocket		220	440
Stowe		789	847
Victoria*		198	1,358
Villard	600,000		
Westport	203,000		

**Assistance from private sector*

Muskellunge population assessment to be completed on Lobster Lake, spring 2017

Soon after ice out, large frame trap nets will be deployed for a period of ten days to assess the status of adult Muskellunge in Lobster Lake. The last time Muskies were surveyed in Lobster was spring of 2013. The Glenwood Area manages three lakes for Muskellunge— Lobster, Oscar and Lake Milona. Muskie population abundance and size structure are evaluated on these lakes every three years as work priorities allow.



***** **Reminder** *****

Statewide special zone regulations for Northern Pike have been postponed until 2018. The current 3 fish bag limit with 1 over 30" allowed is in effect for 2017.

Walleye rearing ponds— warmer climate making fingerling production difficult

Minnesota’s state fish, the Walleye, exists naturally in many lakes, especially our big waters across the northern third of the state. However, many smaller water bodies are stocked with Walleyes in order to provide fishing opportunities in areas where they may otherwise be limited. The process of Walleye stocking goes something like this: Eggs are harvested from adult fish in the spring using large traps placed across known spawning migrations; eggs are fertilized, then incubated in coolwater hatcheries for a period of about three weeks; newly hatched fry are transported in jugs to area lakes where they are stocked, or they are stocked into small ponds and allowed to grow over the summer where they are harvested in the fall as 4-7 inch fingerlings and transported to lakes to provide future angling opportunities. These methods have proven successful on a variety of lakes over the years. However, times are changing.

Because stocking Walleye fingerlings is expensive, DNR staff have worked to increase efficiencies so that anglers get the most bang for their buck when it comes to stocking. It’s become evident that stocking medium-sized fingerlings (5-7 inches) produces the best return to the angler in terms of total pounds and numbers of fish stocked. The problem is that fingerlings are becoming harder to come by due to Minnesota’s changing climate. Years ago, ponds would “freeze out”, or winterkill. Decomposing organic matter would consume all the pond’s oxygen beneath deep snow following long, cold winters. In the spring, stocked Walleye fry could enjoy an environment that was largely free of predators, allowing excellent growth and survival.

Today, because of less winterkill, most rearing ponds provide year-round conditions in which bullheads thrive. They prey heavily on newly stocked Walleyes when stocked as fry. Additionally, annual use of ponds usually results in the production of “carry-over” Walleyes— those fish that avoid capture during fall harvest and survive or carry over to the next year as adults. Similar to bullheads, these adult Walleyes prey upon newly stocked fry, decreasing survival and limiting the quantity of harvestable fingerlings. Adapting to a changing climate poses challenges for resource managers. This is one example that hits close to home for Minnesota anglers.

Glenwood Fisheries Newsletter

Spring 2017



In January 2015, Michelle Krecklau was hired as a Fisheries Technician at the Glenwood Office. Michelle grew up in Pine River, MN about a half-hour north of Brainerd. She graduated from Pine River-Backus High School in 2009 and attended Central Lakes College in Brainerd where she received an A.A.S. Degree in Natural Resources and a Wildlife

Tourism Certificate. Michelle continued her education at the University of Minnesota – Crookston where she graduated in 2013 with a Bachelor's of Science degree in Natural Resources – Water Resource Management. While in college, she completed an internship with the Minnesota Dep-

artment of Natural Resources – Ecological and Water Resources in Brainerd conducting aquatic plant surveys across the state. Michelle also interned at the DNR Fisheries Office in Walker and Camp Ripley where she conducted lake and stream surveys. Her work experience ranges from tagging Lake Sturgeon to trapping fisher to fighting wild fires.

In the spring of 2014, Michelle was hired as a full time Hydrology Technician with the MNDNR Division of Ecological and Water Resources in St. Paul where she assisted in conducting field surveys of surface water flows, ground water wells, and ground/surface water interactions in trout streams and other high water usage areas around the state. Michelle enjoys deer hunting, fishing, kayaking, camping and spending time with friends and family.

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