2013 Annual Review

A Fish Habitat Partnership

The Midwest Glacial Lakes Partnership is focused on conserving aquatic habitats in naturally formed Midwestern lakes. With approximately 40,000 lakes, the region is known for its quality and quantity of lakes. The partnership is a forum for communication on important lake issues and aids in communication between the partners. Our partnership has completed a lake-based fish habitat condition assessment. This important geographic information is available for use on the website of the six Midwestern fish habitat partnerships which is www.midwestfishhabitats.org. The assessment will aid us in prioritizing where conservation dollars should be invested and what threats or stressors must be addressed to ensure sustainable aquatic habitats in the future. Dollars have already come through the partnership for on the ground projects and partner organizations have a long track record of lake conservation. This partnership furthers lake conservation by serving to work across jurisdictional lines, sharing successes and learning from the experiences of our partners. Collective learning is important as the field is constantly changing.

The following pages highlight some of the lake conservation accomplishments by the Midwest Glacial Lakes Partnership and its partners in 2013. Sharing this information is one way to learn from each other's strategies to ensure we have sustainable lake habitats in the future.

THE MISSION

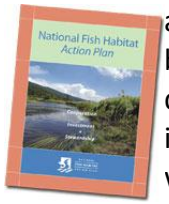
of the Midwest Glacial Lakes Partnership is to work together to protect, rehabilitate, and enhance sustainable fish habitats in glacial lakes of the Midwest for the use and enjoyment of current and future generations.

GUIDING PRINCIPLES

- **Habitat protection is the most cost-effective long-term conservation strategy.** The statement that it is "cheaper to protect than to restore" will guide our partnership to identify high-quality lakes and prioritize them for protection.
- **Healthy watersheds are fundamental to clean water and fish habitat.** Fish are indicators of ecosystem health of the lakes and streams in which they live. Therefore, improving watershed conditions and sustaining ecosystem services improves fish habitat and benefits a multitude of other aquatic and terrestrial organisms.
- **Good investments equal good returns.** Money spent on rehabilitation, if done correctly, is a wise investment that will have a positive return on that investment.
- **Partnerships are critical for improving aquatic habitat.** The experience, knowledge, and skills of all partners are needed to improve aquatic ecosystem management. The Midwest Glacial Lakes Partnership will be an effective partner with federal, tribal and state agencies, local governments, non-governmental organizations, sporting groups, lake associations, and others. These strong partnerships will facilitate the sharing of habitat protection and restoration programs and policies.

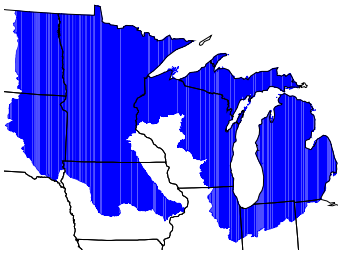
BACKGROUND

The National Fish Habitat Partnership (NFHP) is the result of an unprecedented attempt to address a crisis for fish nationwide: loss and degradation of aquatic habitats, both freshwater and marine. The Partnership was formed in 2001 when an ad-hoc group supported by the Sport Fishing and Boating Partnership Council explored the notion of developing a partnership effort for fish on the scale of what was done for waterfowl in the 1980s through the North American Waterfowl Management Plan. The waterfowl plan has been very successful in boosting waterfowl populations by forming strong local and regional partnerships to protect key habitats. A "National Fish Habitat Action Plan" was published, and recently revised in 2012 and is available: http://www.fishhabitat.org/content/national-fish-habitat-partnership-2012-update-



As part of the Action Plan, Fish Habitat Partnerships (FHPs) are voluntarily forming across the country. Organized around a particular species, geographic area, or aquatic system type, FHPs include a group of partners that coordinate to implement the Action Plan at a regional level. Currently there are 18 approved FHP's. Fish habitat conservation projects sponsored by these FHPs are eligible for funding as NFHP projects.

Recognized as an FHP in 2009, the **Midwest Glacial Lakes Partnership** is working to conserve fish and aquatic habitats in naturally formed lakes found in portions of eight Midwest states. From small lakes that are important for wildlife as well as fish, to large lakes with miles of open water, lakes are a prominent feature on the Midwestern landscape. The partnership's geography includes approximately **1/3 of the nation's lakes and 24 percent of its freshwater anglers**. Recreational opportunities abound- fishing, swimming, boating and other forms of water recreation take place year round. Tourism on many lakes supports local economies. The region's freshwater fishing supports more than **115,000 jobs** and exceeds **$7 billion in retail sales**. It is clear that healthy lakes lead to healthy economies.



A lake is a reflection of its watershed, from its shoreline to those distant points that drain to the lake. Watersheds and lakeshores that remain in a relatively undisturbed state tend to have lakes that support sustainable aquatic communities. Watersheds and lakeshores with altered land use tend to have compromised lakes. In the Midwest, lakes and their corresponding watersheds range from pristine (primarily in the north) to severely compromised (most common in the south). The Midwest Glacial Lakes Partnership is working with partners to **protect**, **restore and enhance fish habitats in lakes**. To do this, we work together to assess the status of lakes in this region and identify and address the root causes of habitat decline. The results are lake habitats that sustain fish and aquatic communities for the use and enjoyment of current and future generations.

MGLP Interim Objectives from our Strategic Plan

- **Identify and protect 10,000 acres of intact and healthy lake habitats and 40,000 acres of intact watersheds by 2012**
- **Restore natural variability in 1000 acres of lakes surface elevations by 2015**
- **Reconnect 10,000 acres of fragmented lake habitats to allow access to historic spawning, nursery and rearing grounds by 2015**
- **Reduce and maintain sedimentation, phosphorus and nitrogen runoff to lake habitats to a level within 25% of the expected natural variance in these factors or above numeric State Water Quality criteria in 1000 acres of affected lakes by 2020.**
- **Implement a Communications Strategy that effectively uses Outreach and Education by 2011**
- **Increase fish habitat in priority lakes where it is lacking**

2013 Partnershp Activities and Accomplishments

- MGLP received $90,000 in 2013 NFHAP funds for habitat projects and funded three projects; a Shoreline habitat improvement on the Sinkhole Lakes in Michigan with Huron Pines Conservation Organization, a shoreline habitat reconstruction/improvement effort in priority Watershed of the Tippecanoe River in Indiana with Tippecanoe Watershed Foundation, and an-house partnership effort to improve/modify our recent lakes assessment to make it more useful for prioritizing our work (MGLP).

- Babe Winkelmann produced a habitat focused short segment about all of the Midwest Fish Habitat partnerships, it can be viewed at www.midwestfishhabitats.org

- MGLP received a 2011-12 Eastern Region Honor award from the US Forest Service, in recognition of "Protecting ecosystems across boundaries, through an aquatic habitat restoration partnership".

- Held 2 Steering Committee meetiings (conference calls) of the Partnership, with good participation from all partners.

- Held 5 meetings of our Work Group (biologists) to share information.

- Held a meeting with the ScienceTechnical Team to plan for our Assessment Phase II Project.

- Coordinator attended training with the other Fish Habitat Partnerhip Coordinators Jan. 28-31 to learn about important expansion techniques such as business plan development

- Coordinator gave presentation on our Partnership at National Fish Habitat Partnership Board Meeting in Washington DC 26-27 February of 2013.

- Three MGLP projects/watersheds were selected by the **National Fish Habitat Partnership** to be included into the 2014 List of "Ten Waters to Watch" released in April. These included: Tippecanoe River Watershed, in N. Indiana, the Millenium Reserve Project (Lake Michigan, Calumet Lake and others, Chicago, Illinois, and the Leech Lake Watershed, Minnesota. The selection of these waterways highlights important fish habitat restoration and protection efforts in their prospective areas. Helped to publicize these waters through media pieces/news releases

- Solicited for Habitat Project Proposals for anticipated 2014 funding and received 11 proposals from across the Midwest.

- The Steering Committee of our Partnership recommende five of these proposals for consideration by the US Fish and Wildlife Service for NFHP funding.

- Coordinator initiated planning group for reinstating MN Lakes and rivers annual conference, and worked with that group to plan a conference called "MN the state of watr" for May 1 and 2, in Brainerd, MN. For more information contact Eleanor Burkett burke044@umn.edu

- New Steering Committee Chair John Lott and Vice-Chair Todd Tisler elected by the steering Committee.

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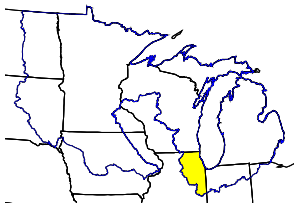
Louise Mauldin, Todd Tisler
Katie Haws

Fish Monitoring

Pigeon River channel Restoration
Chippewa National Forest, MN



Illinois Highlights

Frank Jacubicek, Illinoix DNR District Fisheries Biologist and Steve Pesitelli , llinois DNR Stream Specialist send the following report on Dam removals on Blackberry Creek and Des Planes River in N. Illinois. Improving connectivity is one of the strategies of the MGLP Strategic Plan (see page 3)

Blackberry creek Dam Removal

Blackberry Creek is moderate-size tributary to the Fox River, running through Kane and Kendall Counties in Northeastern, Illinois. The dam, located near the mouth of the creek was in place for over 170 years, and many species were absent from upstream areas. Removal of the dam occurred in March 2013 and fish responded quickly as demonstrated when spawning shorthead redhorse, quillback carpsucker, and smallmouth bass were collected upstream, only weeks after the dam was demolished. The samples conducted this fall revealed additional new migrants, now totaling 17 new species, including channel catfish, flathead catfish, and a couple somewhat surprising finds; mottled sculpin, a sensitive cool-water species, and highfin carpsucker which is typically a riverine species. Young-of-the-year channel catfish and smallmouth bass were found four miles upstream, where neither species were present in pre-project evaluations. The station just above the dam, within a section that was dewatered during construction, was very productive and included 3 species of darters and many native minnows. These smaller fish may take longer to move upstream. Evaluation will continue in the coming years.

Evaluation of Hofmann Dam removal

The Hofmann Dam located in the Des Plaines River near Riverside, IL (Cook Co.)was removed in 2012, along with 2 other smaller dams. The larger Hoffman Dam (256 ft. long, 12 ft. high) was re-constructed in 1950 and created a complete barrier to fish migration. Due largely to past water quality problems, many species were absent above the dam, including channel catfish, smallmouth bass, as well as other native, non-game species. Evaluation of the dam removal continued in 2013 and confirmed presence of channel catfish and smallmouth bass upstream of the former dam, as well as newly documented migrants, muskie, white bass, and other native species. Also found were the rosyface shiner, a very intolerant minnow not previously collected is this area of the Des Plaines River.

The stream segment above the dam is much more productive now with fast flowing riffle/run habitat replacing the slow moving impounded pool conditions. Evaluations will continue, combined with pre-project sampling to document effects of the removal of all 7 remaining dams on the Des Plaines, part of IL DNR's Statewide Dam Removal initiative.

For more information contact Stephen Pescitelli: 630-553-0164, Plano, IL 60545

Michael Adams (Lake Conty Health Department reports that Illinois expanded its Harmful Algal Bloom testing in 2013. Lake users suspecting a blue-green algae bloom reported the lake to the Illinois EPA and filed a “Bloom Report”. Staff from IEPA or one of the cooperating local agencies collected samples, which were analyzed using a qualitative test for immediate results on the presence of microcystin. If levels were a concern (> 10 parts per billion) further quantitative analysis was conducted. Lake County

Illinois also conducted routine ambient sampling for microcystin at 30 public swimming beaches. For more information:

http://health.lakecountyil.gov/Population/Pages/Lakes-Management.aspx

The **Millenium Reserve Project** in Chicago, Illinois was selected a a NFHP "10 Waters to Watch" project for 2013. This project is a large-scale effor to create/restore shoreland and willand habitats along Lake Michigan and the Chicago South side.

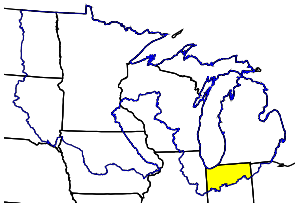
Recent portions of the project portfolio include the creation of Northerly Island. Northerly Island is a 91 acre man-made penninsula o the shores of Lake Michigan. The restoration encompases 40 acres of this island and includes restoration of geomorphic features and native plant communities.

Construction of Northerly Island, Millennium Reserve Project, Chicago, Illinois, 2013

Coastal pond restoration as well as Jackson Park modifications are being started within the project boundaries this year/next year as well. Link to project Fact Sheet:

http://www.lrc.usace.army.mil/Missions/CivilWorksProjects/NortherlyIsland.aspx

For more information contact:
Frank Veraldi PM-P-E
Ecosystem Planner
Frank.M.Veraldi@usace.army.mil

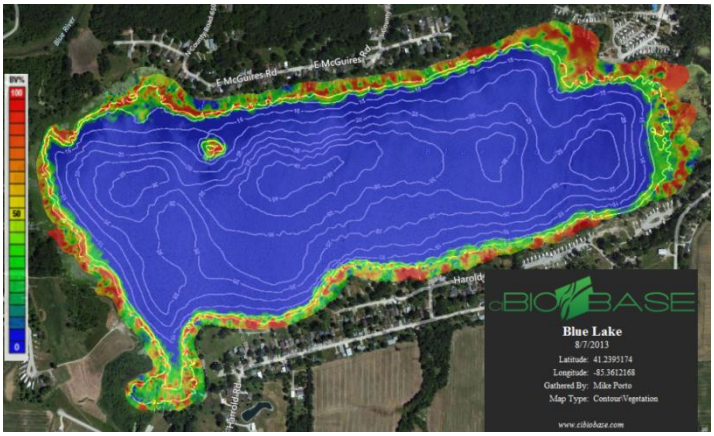


Indiana Highlights

Submitted by Jeremy Price

Glacial Lakes Status &Trends – In 2010, the north region fisheries unit within the Indiana Division of Fish and Wildlife (DFW) began a long term standardized monitoring program to track the health of fish communities and aquatic habitat across the glacial lakes region of Indiana. Under the first five-year iteration of the Glacial Lakes Status & Trends (S&T) program, fisheries biologists survey fish and macrophytes and measure water quality parameters at 55 randomly selected lakes and 5 lakes repeated annually to establish the baseline status of glacial lakes communities and habitat. These surveys will then be repeated in five-year blocks, thus providing valuable information regarding long term trends in glacial lake resources.

In 2013, DFW incorporated an additional component into the S&T program to fill critical data gaps and enhance our understanding of what shapes glacial lake communities in Indiana. Biologists used Contour Innovations' ciBioBase to update bathymetry information and measure biovolume of macrophytes at more than forty of the sixty S&T lakes in a two month period from July through August. The remaining lakes are expected to be completed in 2014.



A sample vegetation biovolume map from Blue Lake in Whitley County, Indiana.

The S&T program provides a valuable inventory and evaluation tool for managers. Results from this work will be used to develop measurable objectives in future versions of the glacial lakes portion of DFW's Fisheries Strategic Plan. Furthermore, S&T is expected to influence policy decisions affecting fisheries management, habitat restoration priorities, and environmental regulations directly affecting lakes.

Waters to Watch – The National Fish Habitat Partnership recognized the great work of the Tippecanoe Watershed Foundation (TFW) with a 2013 Waters to Watch designation for the **Upper Tippecanoe Watershed**. In 2011, TWF spearheaded its new Healthy Shorelines Initiative, a program in which TWF provides cost-share funds to landowners for shoreline projects that reduce erosion and nutrient loading

from the shoreline, reduce wave action, and reduce scouring and re-suspension of bottom sediments. Since October 2012, twenty-three shoreline projects have been funded with grant assistance from Indiana DNR's Lake and River Enhancement program. This highly successful program is continuing to see strong demand, and work will continue into 2014 with additional grant money from MGLP. A Midwest Glacial Lake project on Webster and Loon Lakes proposed by WWF has been tentatively selected for funding. For more information see the TWF website (http://www.tippecanoewatershed.org

Lake and River Enhancement (LARE) Program - One of the main goals of the DNR's Lake and River Enhancement program is to protect and enhance aquatic habitat for fish and wildlife. This program is funded through fees paid with Indiana boat registrations and provides cost-share grants for planning, implementation, and monitoring of a wide variety of habitat-related projects. In 2013, LARE funds provided $1.5 million to assist partners in funding critical work benefitting Indiana's glacial lakes that includes: water quality monitoring, invasive species control, wetland restorations, stream stabilizations, sediment removal, and shoreline enhancement and restorations. Some project highlights can be seen below. For more information see www.in.gov/dnr/fishwild/2364.htm.

Dillon Creek Stream Restoration – LARE partnered with the Wawasee Area Conservancy Foundation (WACF) and the Great Lakes Commission's Sediment Reduction Task Force to restore and enhance 2,200 feet of eroding stream bank and bed using natural techniques including 2-stage ditch, weirs, J hooks and root wads.

Dillon Creek

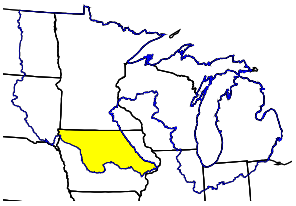
Dillon Creek

Ritter Branch – LARE partnered with WACF on stabilizing 500 feet of stream bank and reconnecting the stream to abandoned flood plain reducing sediment and nutrients from entering Gordy Lake.

Cable Run and Hasse Drain – LARE partnered with the Dewart Lake Association to stabilize areas on streams within the Lake's watershed to reduce stream erosion and reconnect stream access for aquatic species on Cable Run.

Cable Run/Hasse Drain

Powers & Eichler Projects – LARE partnered with the Clear Lake Land Trust Conservancy to stabilize 120 feet of deteriorating streambed reducing sediment into the north side of the lake while restoring 5 acres of wetlands and upland habitat in the south end of the watershed. Both projects were designed to reduce nutrients and sediments from either directly entering the lake or streams.



Iowa Highlights

Iowa DNR has a statewide lakes program that focuses on a prioritized group of lakes for restoration, evaluates type of restoration needed, and implements improvement plans to restore those lakes. The current funding level of $8.6 million per year allows the state to work on a number of multi-year projects.

Lake Restoration Program - Project Goals

The Iowa DNR recommends funding for lake restoration projects that are designed to achieve the following goals:

- Ensure a cost effective, positive return on investment for the citizens of Iowa.
- Ensure local community commitment to lake and watershed protection.
- Ensure significant improvement in water clarity, safety, and quality of Iowa lakes.
- Provide for a sustainable, healthy, functioning lake system.
- Result in the removal of the lake from the impaired waters list.

Recent highlighted lakes included the following:

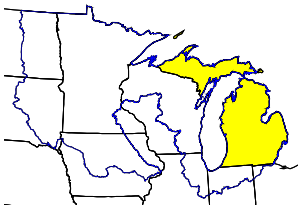
- Blackhawk Lake: Fishery renovation and outlet modification/fish barriers to prevent rough fish infiltration into adjacent marsh and lake
- Clear Lake: Lake dredging and restoration of Ventura Marsh
- Easter Lake: Urban BMP's on a high use lake in the City of Des Moines
- Prairie Rose Lake: Spillway modification, shoreline stabilization, fish habitat, wetland creation and dredging
- Rathbun Reservoir: shoreline restoration and stabilization
- Carter Lake: Partnership includes the States of Iowa and Nebraska and the cities of Omaha and Carter Lake; watershed improvement projects, lake alum treatment, fish renovation dredging, shoreline improvements and wetland enhancement
- Swan Lake: project to re-establish emergent vegetation through lake draw down and fish management

Since expanded funding in 2007, Iowa has completed14 lake restoration projects, with 25 underway and 14 in the planning stages

The 2012 Lake Restoration Report is available through the following link:
http://www.iowadnr.gov/Portals/idnr/uploads/water/lakerestoration/12report.pdf

For more information contact Mike McGhee at Mike.Mcghee@dnr.iowa.gov

Ventura Marsh, Clear Lake, Iowa



Michigan Highlights

Agencies and organizations in Michigan have developed a unique public/private partnership approach to lake shoreline stewardship. This effort is called the Michigan Natural Shoreline Partnership (MNSP). Objectives of the MNSP are to:

- Train waterfront contractors and landscape professionals on natural shoreline technologies and bioengineered erosion control.
- Educate property owners about natural shorelines and technologies that benefit lake ecosystems.

To accomplish this, the MNSP trains natural resource professionals around the state to conduct special half-day workshops for lakefront property owners.

- Research, demonstrate and develop natural shoreline technologies that benefit lake ecosystems.
- Encourage local and state policies that promote natural shoreline management

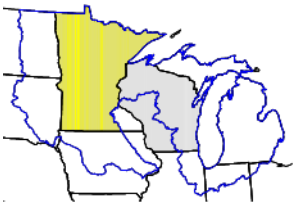
Two *Certified Natural Shoreline Professional* trainings were offered in 2013. One is planned for 2014. Each training includes three days of classroom instruction and one day of field practicum resulting in a natural shoreline demonstration site on public park property. To date, 178 professional contractors have successfully completed course work and certification exam to become Certified Natural Shoreline Professionals. This number includes one person from Indiana and two from Wisconsin.

For more information on the MNSP please contact Jane Herbert, Senior Water Resource Educator, Michigan State University Extension. Phone: 269-383-8852 or Email jherbert@anr.msu.edu

-Tip of the Mitt Watershed Council in the N. Lower Peninsula of Michigan received MGLP habitat funds to complete two workshops for shoreland owners; Mullett Lake (Cheboygan County), and Three Lakes Association (Lake Bellaire, Antrim County). The workshops included greenbelt demonstration site installations on the two lakes using native plant materials. For information contact Jennifer Gelb, Tip of the Mitt Watershed Council, jen@watershedcouncil.org

-A statewide Lakes Conference similar to that held annually in Wisconsin is planned for May 1-3 2014 to be held at Boyne Mtn. Resort, Boyne Falls, Michigan For more information:
http://michiganlakes.msue.msu.edu/

Greenbelt Demonstration Site; Gull Lake, Kalamazoo County. Contact Jane Herbert for more information jherbert@anr.msu.edu



Minnesota Highlights

The MNDNR Section of Fisheries Aquatic Habitat Program (AHP) had a busy 2013. Types of projects completed in 2013 ranged from coarse woody habitat installation, invasive species control with native plant reestablishment, and riparian shoreline restorations and erosion control using bioengineering. A total of 82 projects were completed in 22 counties on both private and public lands. Over 15,000 linear feet of shoreline was restored along with nearly 80 acres of adjacent upland. In July of 2013, over $500,000 in grants, to complete aquatic habitat restoration projects, were awarded by the AHP to 14 groups ranging from local government units such as Soil Water Conservation and Watershed Districts, non-government organizations and lake and conservation associations. These projects are primarily focused on restoring native riparian vegetation on lakes and streams and grantees have up to three years to complete their proposed projects. A new grant announcement was made in August of 2013 for habitat restoration projects and these funds will be awarded in 2014.

The Section of Fisheries owns a significant amount of riparian land through its Aquatic Management Area (AMA) Program. AMA's are established to protect, develop, and manage lakes, rivers, streams, and adjacent wetlands and lands that are critical for fish and other aquatic life, for water quality, and for their intrinsic biological value, public fishing, or other compatible outdoor recreational uses. In 2013, $419,000 was received from the Lessard-Sams Outdoor Heritage Fund to work on AMA's. These funds will be used to complete habitat restoration projects on AMA's throughout the State of Minnesota. Two crew leaders have been hired to conduct management and planning on AMA's.

Minnesota DNR Fisheries Section completed their Habitat Plan
http://files.dnr.state.mn.us/fish_wildlife/fisheries/habitat/2013_fishhabitatplan.pdf

Martin Jennings was hired as Habitat Program Manager, and will be in charge of the various habitat initiatives including Index of Biotic Diversity (IBI surveys) and other efforts

Kristen Blann, The Nature Conservancy submits two items of interest here:

- **Scientists using social media vacation photos to help estimate economic value of lake-based recreation and water quality**: Scientist , including water quality valuation researcher Bonnie Keeler at the University of Minnesota's Institute on the Environment , are analyzing Flickr vacation photos to develop indices of how people use natural areas (including Minnesota lakes) for tourism and recreation: http://news.stanford.edu/news/2013/october/natural-capital-photos-101813.html

- **Are We Thinking About Invasives All Wrong?** Gretchen Hansen, 608.221.6330, Gretchen.Hansen@wisconsin.gov

  Zebra mussels. Asian carp. Kudzu. Chances are you recognize these names as belonging to invasive species — plants or animals that are relocated from their native habitat to a foreign land, only to prove so prolific that they take over their new home. Except that's not how the story usually goes, according to a new study. (Link to PLOS One article) This story challenges previously held beliefs about some aquatic invasives.

This story is more common than you think – invasives and natives all growing together at low abundance. Photo: Frank Koshere

http://limnology.wisc.edu/blog/tag/gretchen-hansen/

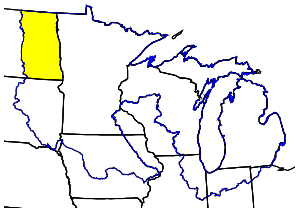
Chippewa National Forest:
A MGLP funded project in the Chippewa National Forest; the removal of a dam on Portage creek, a tributary of the Leech River, and ultimately the Mississippi River was scheduled for fall 2013, but had to be postponed due to the federal shut-down. The US Forest Service is now planning this project for the fall of 2014.

(The following is adapted from and with courtesy from the Leech Lake Area Watershed Foundation)

The Leech Lake Area Watershed Foundation (LLWAF, a MGLP partner) http://leechlakewatershed.org/ has been hard at work securing funding for some important habitat preservation projects (**Objective 1 of of MGLPr Strategic Plan)**. If approved by the 2014 legislature, LLAWF will acquire 105 acres and over one mile of shoreline in Woods Bay of Roosevelt Lake in Crow Wing County starting in mid-2014. The property will have final ownership with the MN DNR as a new Aquatic Management Area, fully open to the public for hunting, fishing, and other recreational pursuits. Roosevelt Lake is one of 38 lakes in North Central Minnesota called "tullibee refuge lakes." These lakes are deep, cold water lakes, with good water quality that support high populations of tullibee (cisco), the forage fish for walleye, muskie, pike, and lake trout. The acquisition will protect a highly desired spawning area for newly stocked Muskie and other fish on Roosevelt Lake and help insure continued high quality waters for a sustained fishery. Additionally with the funding, LLAWF, in partnership with the Minnesota Land Trust, will acquire conservation easements on over 400 acres and 3+ miles of critical shorelands on privately owned parcels of other priority "tullibee refuge" lakes in North Central Minnesota. In perpetuity, the conservation easements will help protect the near-shore physical fish habitat and the water quality habitat in light of shoreland development and looming climate change. The landowner still owns the property, but the easement restricts further subdivision and places protections on the shoreland. The property can be sold or conveyed to heirs, but the restrictions are permanent. "Conservations easements, though the land is still privately owned, provide tremendous public benefit in the protection of fish and wildlife habitat" said, Paula West, LLAWF Executive Director. As a pilot, the project will acquire conservation easements on several large forested parcels in the watershed of select lakes. The easement will keep the land permanently forested to provide cover on the land that reduces potentially pollutant-laden runoff from getting to the lake and impairing habitat and water quality.

This project is Phase II of the initial $ 1.098 million OHF-funded project "Protecting Priority Shorelands in North Central Minnesota." The initial funding is being used by LLAWF and its partner, the Minnesota Land Trust, to place conservation easements on sensitive shorelands in Cass, Crow Wing, and Aitkin Counties. The landowner donates the conservation easement and is eligible to take an IRS charitable deduction for its value; the project pays for the landowner's out-of-pocket costs to establish the easement. This project will be completed in June 2014 with the establishment of conservation easements on over 600 acres and 3-4 miles of critical shorelands for fish and wildlife habitat protection.

MGLP provided start-up funds for this innovative Habitat Conservation approach, and our funds were used to purchase a Conservation easement on Child Lake in Cass County.



North Dakota Highlights

Submitted by Scott Elstad

Three projects were completed in the MGLP area of North Dakota.

Mooreton Pond – Access was extremely limited before construction as the weed growth eliminated fishing after July 1 due to the shallow slope of the pond. Piers that were constructed decades ago had eroded to a point that they were no longer useful. Six piers were rebuilt using larger 6-12 inch rock for the base with smaller 2-3 inch rock on top. Anglers now have access to fish in an area with limited access before construction.

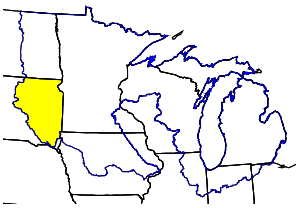
Mooringstone Pond – Steep banks were present along the shores of Mooringstone Pond limiting access to young, old and handicapped. These banks were “flattened” and now have a gradual slope from the parking area down to the water’s edge. A few large boulders found during excavation were left in place to provide a place for anglers to sit or put their equipment on. This small pond is the only fishable pond in that area of the county. It also is located on a Wildlife Management Area next to a state park and now is much more likely to draw outdoor enthusiasts to the area for fishing, hiking, and viewing wildlife

Before project installation

After project installation

Valley City NFH Pond – The pond at VCNFH over the years had been filled in with sediment and excrement from the brood rearing ponds. Maximum depth of pond was 3 feet. A cooperative effort between the Barnes County Wildlife Club, USFWS and the NDGF deepened the pond to a maximum depth of 15 feet. A shallow area was left in one area as students from the local high school and college use the pond for coursework and they wishes to have varying depths and habitats present. A gravel bed was installed to facilitate spawning along with a gravel ramp for individuals to load and unload canoes and kayaks. This ramp also will facilitate the stocking of fish into the pond as muddy and vehicles were prone to getting stuck when stocking fish. A new fishing pier will be built to replace the old wooden structure that had seen better times.

For more information on these projects contact Scott Elstad; selstad@nd.gov



South Dakota Highlights

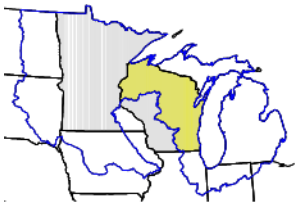
Work continues on establishing shoreline demonstration sites for the NE Cotteau lakes area of South Dakota. **MGLP** funded this project as it got off the ground several years ago. Steve LaBay, former Biologist with South Dakota Game Fish and Parks has moved on to pursue other endeavors. His work was instrumental in establishing demonstration sites on Pelican, and Kampeska Lakes. Thanks Steve! According to Regional Fisheries Biologist Mark Ermer, Rhett Russell is the new Biologist hired to work on habitat and access. He will be stationed in the Watertown Regional Office and will cover all of eastern South Dakota for habitat and access issues as well as lakeshore permitting.

Fisheries Chief John Lott has now taken the reins of Steering Committee Chair for **MGLP**. Congratulations John!

Shoreline Habitat Restoration sign on Pelican Lake.

Mark Ermer, Steve LaBay

Mark Ermer, Steve LaBay and property owner M. Schultz



Wisconsin Highlights

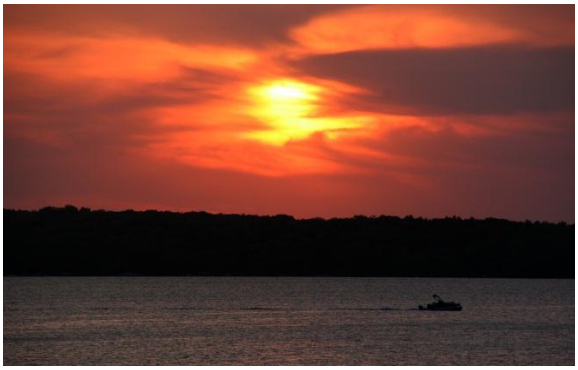
Carrol Schaal reports on lake projects from DNR:

East Alaska Lake Restoration Working in Kewaunee County. Monitoring continues to show substantial water quality improvement on this 53-acre deep drainage lake from the 2011 October alum treatment which followed after many years of studying, planning, and installation of best management practices. Data from 2012 showed that the lake's average summer secchi depth increased from 8 to 9.45 feet. The average summer chlorophyll level decreased from 12 to 7.5 ug/l and total phosphorus decreased from 37 to 14.5 ug/l. A local resident reported that she observed people swimming in the lake for the first time in many years. The project was featured in the winter 2012 edition of *Lake Lines,* the magazine of the North American Lake Management Society which also featured "Lakes of the Great Lake States".

East Alaska Lake summer before alum treatment

Watershed Improvements for Big Green Lake; WI's Deepest Glacial Lake. The Green Lake Sanitary District along with the Green Lake Association and Green Lake County received a State Lake Protection Grant for $200,000 matched with $400,000 in federal EQUIP funds to install 17 agricultural BMPs on two impaired tributaries. The projects are expected to prevent over 1,000 pounds of phosphorus from entering the 7,000 acre, 297 foot deep lake which supports a two-story lake trout and cisco fishery. This sub-watershed will have evaluation monitoring through the NRCS National Water Quality Initiative. The lake is also part of the Upper Fox River TMDL project and plans are underway to better model the Green Lake sub-watershed for fine tuning the lake's nutrient budget. Invasive carp will also be controlled in the County K estuary, a large shallow embayment that is the initial receiving water for these tributaries.

Partially separated from the main lake by a county highway, the setting is ideal for strategic rough fish removal. For more on Green Lake see http://www.greenlakeassociation.com/glaw/



Green Lake, Wisconsin

35th Annual WI Lakes Convention held in Green Bay. Workshops on shoreland assessment, basic limnology, aquatic plant management and dam inspection and maintenance were part of 35 concurrent sessions offered at this year's convention. The theme was "We're All in This Together: Celebrating Diversity". We explored the many different aspects of our wonderfully varied lakes - our diverse flora and fauna, the diverse people who love them, and the many ways we recreate in and around Wisconsin's waters. 488 folks came from 9 different states and 59 Wisconsin counties to participate. To view the complete archives see: http://www4.uwsp.edu/cnr/uwexlakes/conventions/2013/archive.asp.

Teaching and Learning about Shoreland Restoration. Plans are underway at UW Extension Lakes to develop a lakeshore habitat restoration education partnership modeled after Michigan's successful Natural Shoreland Partnership. The goal is to educate and tune-in landscapers, consultants, planners, conservation staff, and others to restoration principles, state standards, permits, and best management practices for shoreland restoration and management. Extension staff also successfully collaborated with faculty from UW Madison to receive a two-year grant (2013-2014) that will leverage existing data on buffer health in three central Wisconsin counties. Surveys, focus groups and other techniques will be used to better understand how to communicate the options landowners have for restoring buffers and encourage greater participation in lake health activities.

Kristen Blann reports on Wisconsin happenings:

The Nature Conservancy is well into a project to synthesize Wisconsin lake data into a statewide lake classification and conservation portfolio similar to the MN Portfolio, and product expected in 2014. TNC is also focusing on developing implementation strategies for protecting watershed health and water quality in the Mississippi headwaters and St. Croix, which includes MGLP priority lakes. Strategies are currently focused on protecting watershed forest and wetland cover, especially in the active riparian area, connectivity and in stream habitat, improving implementation of integrated land and water planning via local, county, regional and state planning authorities, and expanding innovative watershed financing from water users and the private sector.

A recent climate Change/Fish workshop held Nov 6-7th in Middleton, Wisconsin show cased some important projects;

- "Regional Decision Support – Identifying Vulnerabilities of Riverine Habitat and Fishes to Climate Change" funded by Upper Midwest & Great Lakes Landscape Conservation Cooperative. This effort grew out of opportunistic collaborations between the Great Lakes Aquatic GAP project, the National Fish Habitat Partnership Assessment, and various projects funded exploring land use, fish habitat and climate change. Organized by Jana Stewart, Dana Infante, Jim McKenna, and others, the meeting was designed to introduce stakeholders to a new decision support tool called "FishVis" designed to help users visualize the potential implications of climate change for fish communities. An explicit purpose of the meeting was to get input and feedback on the pilot tool and web site, as well as to identify potential related collaborations that might be able to feed data into the tool to create a "One-Stop Shop" decision feed data into the tool to create a "One-Stop Shop" decision support tool for fish management. Link to the prototype tool: http://wimcloud.usgs.gov/apps/FishVisDev/FishVis.html#

- John Lyons, Wisconsin DNR on an application of FishVis for fisheries management to help identify which streams are candidates for protection vs. restoration vs. "adjusted expectations".

- Paul Cunningham, Wisconsin DNR and DARE Fish Habitat partnership, on how they used the data underlying FishVis models to conduct a vulnerability assessment and strategic plan for Driftless Area trout stream management http://news.wpr.org/post/dnr-looks-climate-changes-effects-fishing

- Tom Neeson and Matthew Diebel on a tool for Prioritizing Fish Passage Barrier Removal in Great Lakes Tributaries http://scholarworks.umass.edu/fishpassage_conference/2013/June26/64/ . Also see this link to their journal article in Frontiers in Ecology and Environment: Restoring aquatic ecosystem connectivity requires expanding inventories of both dams and road crossings. *Frontiers in Ecology and the Environment* 11: 211–217. http://dx.doi.org/10.1890/120168

- Gretchen Hansen (WI DNR), Jordan Read (USGS) and Dave Lorenz on Wisconsin Lake Monitoring Aggregation, an initiative that is modeling lake temperatures and analyzing implications of climate change for lake aquatic communities, using downscaled climate data.

What's next for 2014?

ASSESSMENT REFINEMENTS

In the coming year, the Midwest Glacial Lakes Partnership refine/improve the Assessments completed in 2013. The new information will help focus conservation activities in areas most likely to be successful. We received a NFHP multi-state grant for this as well as a MGL-NFHP grant totaling $23,000.

PROJECTS FOR 2014 AND BEYOND

Our partnership selected several high-priority projects to fund in 2014 with NFHAP dollars. Once finalized by USFWS, we will work with partners to complete those projects and seek additional project proposals for 2015 and beyond. We will continue to seek additional resources for projects that meet the goals and objectives of the National Fish Habitat Action Plan, as well as the MGLP Strategic Plan.

www.MidwestGlacialLakes.org

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