



Itasca Water Legacy Partnership (IWLP) Annual Report 2010

Mission and Guiding Principles

The mission of the Itasca Water Legacy Partnership (IWLP) is to work collaboratively on water issues and mobilize on-the-ground actions that encourage diverse sustainable use, protection, recovery and enjoyment of Itasca County's world-class water and shoreland resources that are critical to a strong economy.

Organizational Update

Local water quality advocates came together in late 2006 to identify and implement a set of activities that would ensure clean water resources and quality habitat in the major watersheds of Itasca County. IWLP formalized its operations as a community coalition by establishing a board and executive committee to guide partnership activities. The first election took place in January 2009. In 2010 IWLP has continued to ask representatives from many walks of life and organizations with varying interests in Itasca County's water resources to join the volunteers of IWLP as Board members and to assist with assuring that IWLP is sensitive to the concerns of all Itasca County citizens. IWLP's Certificate of Incorporation and Articles of Incorporation as a nonprofit organization were filed under the laws of the State of Minnesota on December 23, 2010. An EIN number was obtained. A request for a 501 (c) 3 status with the IRS was initiated. In the past, the Grand Rapids Area Community Foundation, SWCD and ICC have served as IWLP's fiscal agents.

Important Events and Accomplishments in 2010 Include:

- Continuing implementation of a **strategic plan** through a subcommittee structure focused on three goals: 1) building local capacity for water quality assessment, 2) encouraging personal practices that sustain high-quality waters, and 3) assessing the full economic value of clean water;
- Continuing a **water quality testing** program in partnership with Itasca Community College (ICC) and the Itasca County Soil and Water Conservation District (SWCD) by collecting and analyzing water samples from lakes and streams in Itasca County;
- Continuing operation of a state certified water testing and assessment **laboratory at ICC**;
- **Received grants sponsored by the MPCA** to complete baseline water quality assessments under a Clean Water Partnership (CWP) grant and a Surface Water Assessment Grant (SWAG);
- Received funds from the Itasca County Environmental Trust Fund to purchase and install equipment at ICC's water testing laboratory that is required for conducting **well water testing**
- **Established a web site** (<http://itascawaterlegacypartnership.org>) with links to other sites that can provide further information;
- **Met with members of the Mississippi Headwaters Board** and toured the ICC Water Testing Laboratory, providing members of the Board with an opportunity to learn about the capabilities of the water testing laboratory and to see first-hand the equipment and operation.

- Received a cash prize (\$800) from the **2010 Reinventing Minnesota – Minnesota Community Pride Competition** at the Minnesota State Fair, August 2010, in recognition of IWLP's achievements in old-fashioned community improvements in two categories, education and natural resources.
- Continued implementing the Natural Shoreland Buffer Incentive (NSBI) project to find suitable incentives that may be used to **encourage adoption of improved shoreland buffer** management practices in Itasca County;
- Participated in the Itasca County SWCD sponsored **Mississippi River Clean-Up**;
- Actively participated in **environmental education celebrations for children** at Robert J. Elkington Middle School and "Children First Fair", both in Spring 2010; and
- Presented **informational material through personal appearances** at the Izaak Walton League, Rotary Clubs of Grand Rapids and lake associations, and submitted information through meetings and the local media to many citizens and landowners in Itasca County.



Dave Lick, IWLP President, speaking at the MN Izaak Walton League fall workshop at the Forest History Center on October 23, 2010.

Education/Outreach

Children's Environmental Education Events

"TEAM UP TO GREEN UP" was the 2nd Annual Environmental Education Celebration at Robert J. Elkington Middle School in April 2010. IWLP had a strong presence at the event with many adult and youth volunteers (including members of IWLP, Izaak Walton League, Girl Scouts, DNR) staffing several informational tables and demonstrations for many students, families, and community members attending.

The IWLP theme was "Team Up for Clean Waters!" and showcased the following activities:

- **Groundwater Model**: The "Enviro-Scape" showed a miniature model of a typical neighborhood and how water is used, collected, and moved throughout the system;
- **Rainwater Run-Off**: Students who participated in this groundwater model were able to see how non-point source pollution affects water quality, the efficacy of native buffer strips, and the effects of rainwater run-off in a neighborhood;
- **Water Use Collage**: How do YOU use water in your home, your yard, your school, and at nearby lakes? Children drew or selected a variety of photos from magazines to create a colorful collage of the many ways we all use water in Minnesota;
- **Water Habitat Headbands**: Children learned about a variety of Minnesota wildlife that depend on water for their survival. They selected birds and animals that use water as their homes, for food, or for escaping predators and they made colorful headbands to wear depicting these water critters;
- **Lollipop prizes** with "Clean Water" messages printed on the cards were given to children who participated in these special IWLP activities.

The spring "CHILDREN FIRST FAIR" was an important educational event for over 2000 area families. IWLP garnered attention with the activities outlined above as well as additional exhibits, such as:

- Minn-Aqua, in partnership with IWLP to offer information on clean waters and a "Fish Printing" art activity for children;
- IWLP members donated prizes to winning participants.

Deer and Pokegama Lake Diagnostic Study

An informational meeting was held in May at the Grand Rapids Library to explain IWLP's plans to sponsor a 3-year diagnostic study on Pokegama and Deer Lakes and to seek volunteers who would participate in helping SWCD staff to collect water samples and install sampling equipment in lakebeds and streambeds. **Forty volunteers signed up** to help and leaders at each lake came forward to coordinate sampling. **Grand Rapids and Deer River High School students who were enrolled in industrial arts classes and Minnesota Power and Light volunteers assisted in making sampling devices** using 55 gallon barrels and other materials. This equipment and other samplers, installed at many sites, will be used to sample precipitation and water coming in to the lakes from streams and underground springs.



Grand Rapids High School students and the seepage meters they completed for IWLP.

Jake Anderson, Justin Ballweber, Erik Bjorgen, Dalton Carlson, Andrew Chambers, Jesse Funnell, Drake Gambill, Dustin Perron, Emily Rasmussen, Charles Westberg, and Wesley Worel (Not all students listed are in the photo above)

ICC and Water Testing Successes

Hundreds of lake and stream samples collected by ICC students and technicians over the past two years have been analyzed at the ICC Water Testing Laboratory. Funded by a grant from the MPCA, the Itasca County Environmental Trust Fund, and with additional financial support, technical guidance and/or assistance from Iowa State University, University of Missouri, Itasca Community College, Itasca Soil and Water Conservation District, MN DNR, University of MN Extension, Itasca County and Itasca Water Legacy Partnership, the certified ICC Water Testing Lab is the crux of a much larger initiative to establish baseline data on water quality and subsequently to monitor water quality in Itasca County lakes, streams and groundwater while also providing educational opportunities and experience in water quality testing and analysis for students at ICC and other community colleges and universities.



Cody Kasper collects a two-meter depth integrated water sample at McDonald Lake.

The Water Lab is not limited to lake water testing. In 2010, the lab processed rainwater run-off samples collected by volunteers for shoreland buffer research conducted by the University of MN Extension. The results will enable researchers to determine the levels of pollutants (nutrients and sediment) entering the lake from a wide variety of shoreland landscape practices, ultimately enabling them to fine-tune our landscaping to better protect our lakes. Starting in 2011, the laboratory will also be certified to test well-water samples – a service local homeowners and realtors have requested.

After three years of start-up challenges and successes, students, researchers and the community are excited about the ICC Water Testing Laboratory. Of nearly 1,000 lakes in Itasca County, 230 have been sampled in the past three years. See <http://limnoweb.eeob.iastate.edu/itascalakes/> for results of the analysis. Students have been trained to use cutting-edge field and lab equipment as well as science methodology. The summer internships have been pivotal for these students in making career choices. ICC is developing a 2-year Environmental Science (water emphasis) program at ICC and reports the recent hire of a Water Laboratory Supervisor to guarantee consistency and longevity of the laboratory and new degree program.

Membership

IWLP's impressive accomplishments for 2010 were made possible, in large part, by generous support from its members and hardworking volunteers. Financial contributions enable IWLP to carry out its mission by providing funds for operational costs not covered by grant monies. Projects could not be completed without the dedicated volunteers who share IWLP's vision for maintaining our quality water resources.

Memberships now total 112, including 99 families and individuals, two benefactors, five lake associations, one watershed association, one environmental group, two resorts, one summer camp, and two local businesses. IWLP thanks all for the support.



embers Members Doug and Barb Veit donated this 4x4 pickup to be used by the water sampling crew

Monitoring and Assessment

Students and staff from ICC worked cooperatively with the Itasca SWCD and Iowa State University on five major projects during 2010. Sampling and analysis were conducted on three Surface Water Assessment Grants (SWAG no. 1, SWCD-SWAG and SWAG no. 2) and a Clean Water Partnership (CWP) funded by grants from the MPCA. Grants from the DNR, Legislative Citizens Commission on Minnesota Resources (LCCMR), and Itasca County Environmental Trust Fund support the Natural Shoreland Buffer Incentive project.

- 1) The initial (SWAG no. 1) project "First water quality inventory of Itasca County's developing lakes" was completed this year. This project established baseline data for 147 lakes; data will be used to detect changes in individual lakes as well as to establish regional patterns.
- 2) ICC and SWCD concluded the second year of sampling on another SWCD-SWAG grant obtained by the SWCD including 41 Bigfork River Watershed lakes.
- 3) A SWAG no. 2 grant titled "Assessing Itasca County's Small-Medium Sized Lakes" began this year; 42 Itasca County lakes were assessed. Sampling was conducted primarily from motorboat, but accessibility to some lakes was very limited; canoe and finally helicopter were used to reach several remote lakes.



Kim Szcodronski, ICC Water Quality Lab Technician, boards a helicopter at Haskell Lake.

ICC lab has analyzed samples of storm water runoff collected by participants of the Natural Shoreland Buffer Incentives (NSBI) program interested in learning what, if any, pollutants (nutrients or soil) from their shoreland property are entering the lake after each rainfall event. This project will provide quantitative information on the water quality benefits of shoreline vegetation.

Diagnostic/Investigative Studies

Work is beginning on an intensive diagnostic study of Deer and Pokegama lakes funded by a CWP grant from the MPCA and designed to quantify the nutrient contribution of atmospheric, surface and groundwater inputs and to measure outputs of nutrients and chlorophyll from each lake. Sampling is being done by the SWCD and a network of volunteers while the water-testing laboratory at ICC is providing chemical analyses.

Grants

IWLP investigators have sought funding for projects that would fit the priorities established by Itasca County's Comprehensive Land Use Plan and the Local Water Management Plan. They accomplished this through partnerships with Itasca County, Itasca County Soil and Water Conservation District (SWCD), Itasca Community College (ICC), Iowa State University, University of Minnesota, MPCA, MN DNR and lake associations. The total grant awards received by IWLP partners as of August, 2010, are over \$1million, the result of an effective collaborative effort of IWLP and its many partners.

ICC Water Testing Laboratory

ICC was awarded \$7,500 from the Itasca County Environmental Trust Fund to purchase equipment needed for the Water Testing laboratory to become certified for well water testing.

Surface Water Assessment Grants (SWAG)

Since 2008, two SWAG grants have been received from MPCA in partnership with SWCD and ICC. SWAG number 1 was for \$327,350 in 2008 – 2009. SWAG number 2 was for \$121,816 in 2010 – 2012. The purpose of these grants was to sample and assess water quality for Itasca County lakes and the Bigfork River Watershed and included lakes that had never been sampled in the past.



Kim Szczodronski, ICC Water Quality Lab Technician, prepares a YSI datasonde.

Natural Shoreland Buffer Incentive (NSBI) Grant

In 2008, grants were received from the Itasca County Environmental Trust Fund (\$10,000) and LCCMR (\$75,000) to pilot an incentive program for maintaining or restoring shoreland buffers, filters of vegetation that reduce runoff of nutrients, eroding soil and other pollutants.

Actions completed in 2010 include the following:

- A “quick” boat-by assessment of properties on Johnson Lake (north);
- Created the “Itasca County Lake Challenge” – an educational shoreland property assessment tool (now in worksheet form);
- Trained eight students/citizens to conduct peer-to-peer site visits (i.e., shoreland ecology, peer-to-peer protocol, and use of the Itasca County Lake Challenge worksheet);
- Created support materials for the Itasca County Lake Challenge;

- Contacted 58 shoreland property owners regarding Itasca County Lake Challenge, resulting in 16 site visits, 9 participants requesting buffer installations, 7 wanting to participate in rain run-off citizen research, 5 wanting to participate in frog and/or fish monitoring (citizen research), and 3 “not interested” replies;
- Designed and tested rain run-off collectors and protocol on two properties, one on Johnson Lake (north) and one on Turtle Lake (5 total collectors on the two properties plus 5 additional control collectors monitored by researchers);
- Trained eleven Master Gardeners on shoreland restoration design. Part 1 of 3 trainings that would enable them to design shoreland buffers for shoreland property owners participating in NSBI program; and
- A media plan to promote NSBI program was designed by Action Media.

What did we learn?

Boat-by Assessments

- None of the boat-by assessment protocols tested (Score Your Shore, 2 NSBI score sheets, “quick” boat-by) will continue to be used in this research due to either the large time/resource commitment for data collection and/or the information collected is not detailed enough to detect change.

Peer-peer Itasca County Lake Challenge

- Scheduling peer-peer site visits proved to be challenging with the seasonal/weekend owners.
- A web-forum created by one of the trained site visit team members was essential to site visit coordination, reporting and team communication.
- The “Itasca County Lake Challenge” tool was well received by property owners. Other agencies and organizations from MN and WI have requested permission to adapt the tool for local use.
- Neighbor-neighbor interactions resulted in two additional site visits.

Rain Run-off Research

- Rain run-off collectors must be emptied within 36 hrs of rainfall event for lab analysis of total nitrogen and total phosphorus concentrations, limiting its use to year-round or all-season shoreland owners. All shoreland owners visiting their property regularly over the summer can install collectors for volume and sediment analysis, but not for total nitrogen and total phosphorus.
- Communicate protocol with water lab prior to analysis. The protocol used for lake water testing needs to be altered for rain run-off (e.g., need total sediment – not just suspended sediment mass).

Shoreland Buffer Installations

- Itasca Master Gardeners (MGs) and other citizens are very eager to assist in NSBI program.
- The Master Gardener Program does not encourage MGs to do shoreland design work that could be done by private landscapers and that could involve liability issues. It does approve of pairs of MGs conducting Itasca County Lake Challenge site visits, considered to be an educational activity.

Sensitive Lakeshore Identification in Itasca County

In collaboration with the DNR and SWCD and with support from the Itasca County Board of Commissioners, IWLP is a partner in submitting a grant request to the LCCMR review committee for a project titled “Sensitive Lakeshore Identification in Itasca County.” The LCCMR review committee approved a grant of \$160,000 to be awarded to Itasca SWCD with Paul Radomski (DNR) and other DNR technical staff providing guidance and teams to search for environmentally sensitive shoreland sites that may need special protection because of rare, threatened or

endangered species. Minnesota legislative review of this grant is expected in January to May, 2011 and, if approved by the house and senate in an appropriations bill and the bill is signed by the Governor, funding will be available in July, 2011, for expenditure and the project can begin.

Pokegama-Deer Lake Diagnostic Study

In 2010, a 3-year (2010 – 2013) Clean Water Partnership (CWP) grant (\$249,986) was received from the MPCA. This innovative study will analyze “nutrient input-output” samples from lakes and streams, precipitation and groundwater associated with Pokegama and Deer Lakes and is a collaborative effort of Itasca SWCD, ICC, IWLP, lake associations, and citizen volunteers.

H. Dziuk, 1-17-11