



Crystal Loon Mills CWP

Project Staff: Sarah Duda, WRC Coordinator
Matt Ribikawskis, Graduate Asst.
Paul Davis, MPCA Project Manager

Volume 1, Issue 2
April 2009

Fish & Water Quality: Guest Q & A w/Marc Bacigalupi, Part 1

Crystal Loon Mills Clean Water Partnership

Upcoming Events

- **Minnesota Waters Lakes & Rivers Conference, May 7-8th, Mayo Civic Center, Rochester.** “Learn how to make your volunteer group more effective, hear about advances in managing invasive species, find out what climate change could mean to your lake or river, hear the latest on the state funding process; & discover new products & services for surface water management.”
- **Take a Kid Fishing Festival, June 6th 10am-3pm, Robinson Park, Lake Crystal.** Join us for a morning of fun-filled educational events, door prizes, & fishing in the afternoon. Bag lunch provided!

Q: How does water quality affect fish populations in Lake Crystal? Fish are very much dependent on the environment they live in. Water! Water quality affects their ability to see (food or predators), and hide. It also is a large factor in determining the actual amount of habitat available like aquatic plants. Sunlight penetrating deep into clear water makes plants grow. A lack of sunlight penetration due to turbid or green water, disallows plant growth. Fish also need oxygen dissolved in water. Plants create oxygen through photosynthesis and poor water quality is a drain on dissolved oxygen. This becomes a critical balancing act in the winter when atmospheric oxygen is blocked from dissolving in the lake

by ice cover.

Q: What fish species are native to Crystal Lake & what fish are stocked by DNR? Largemouth bass, northern pike, yellow perch, bluegills, crappies, bullheads and white sucker are among the native fishes of Lake Crystal. Walleyes, and channel catfish are stocked in the lake. Carp are non-native, but have been there for a long time. They contribute to poor water quality by stirring up bottom sediments, which leads us to the next question...

Q: Do fish have an impact on water quality? Yes, they are a key part in the interconnected food chain or lake ecology feedback loop. I mentioned before that fish are dependent on the water they live in. But the fish

species assemblage actually affects the water they live in too! Fish can be divided into groups according to how they feed. Bottom-feeders, open-water-feeders and fish-eaters. Bottom-feeders such as carp, bullheads and white sucker and open-water feeders such as minnows decrease water clarity. They do this by rapidly expanding their numbers and overwhelming the ecosystem, eating all the zooplankton (little critters that eat green algae) and stirring up phosphorus and sediment from the lake bottom--creating green or brown water. Remember how this feeds into the plant-light-oxygen loop. A strong presence of fish-eaters can keep the numbers of bottom-feeders and open-water feeders in-check, promoting better water-quality. (Part 2 in May)

What's the buzz about: MinnAqua & Take a Kid Fishing?

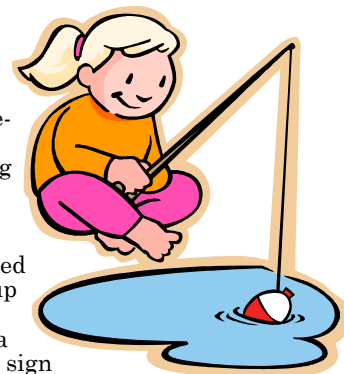
“Do you remember the first fish you ever caught? Or who you were with when you caught it? Few experiences match the excitement of a first fishing trip.”

MinnAqua is a statewide DNR education program designed to encourage angling recreation & stewardship, and conservation of aquatic ecology & habitats. MinnAqua provides training opportunities for educators, mentors, community & youth groups — including how to plan & host their own fishing & aquatic recreation programs. They also offer education

“traveling trunks” on aquatic exotics & fishing, that can be checked out & come complete with prepared activities & supplies.

When was the last time you took a kid fishing? Minnesota has 2 free fishing weekends a year, in February & June, when Minnesota residents (18+) can fish free with children (16 & younger). This year, Take a Kid Fishing weekend is June 5-7. The DNR, Crystal Loon Mills CWP & local partners will host Take a Kid Fishing Festival at Rob-

inson Park in Lake Crystal. Come join us at 10am for fun activities & games and register for awesome door prizes. Then stay for fishing after lunch. Pre-registration not required but a bag lunch will be provided for those who sign up before June 1st. Contact Sarah Duda at 507-389- 5492 to sign up. Open to everyone!



Crystal Loon Mills Clean Water

Water Resources Center
Minnesota State University Mankato
184 Trafton Science Center, South
Mankato, MN 56001



*Your partners for clean water in
the Crystal Loon Mills Watershed*

*Check out our NEW
website for more info &
upcoming community
events!*

[http://
mrbcd.mnsu.edu/org/
lakecrystal/index.html](http://mrbcd.mnsu.edu/org/lakecrystal/index.html)

Water Quality Monitoring Update

Water quality samples are meant to quantify the concentration of nutrients and sediment entering Crystal Lake via CD 56.

The Clean Water Partnership (CWP) has two monitoring sites along CD 56. The sites are located where CD 56 crosses CR 9 and CR 20.

County Road 9 station is where the CWP takes the water samples and takes a turbidity tube reading to see how transparent the water is. Water samples are analyzed for nitrates, total phosphorus, ortho-phosphorus (i.e. readily available phosphorus), turbidity, and total suspended solids.

At the CR 20 station, an ultrasonic transducer and a data collection system are in place. The ultrasonic transducer creates a radio wave and

'bounces' it off the water below, then reads the time it takes the wave to bounce back from the water's surface. This provides the level of the water flowing through CD 56. Knowing the water level, velocity, and nutrient composition the CWP is able to calculate the concentration of nutrients and sediment entering Crystal Lake. The finalized loading data has not been calculated yet.

On lakes Crystal, Loon, and Mills, water quality sampling was completed 11 times throughout the 2008 summer and 1 sample was taken

during the winter. During the summer, 64% of samples taken exceeded the MN Pollution Control Agency's standard level for total phosphorus, and the highest concentration was more than double the standard!!

