G.R.E.A.T.

Grand River Environmental Action Team

Website: www.great-mi.org 517.416.4234 Volume 24 Number 1 March 2014

Dam Removal Issues and Natural Channel Design

2014 Annual GREAT Dinner Meeting Topic

Ralph Reznick has worked for the State of Michigan DNR/DEQ/DNRE for 34 years in water quality protection. He has a bachelor's degree in Environmental Engineering from Oakland University in Rochester, Michigan. He and his wife Linda live in Dimondale, Michigan where he is a Village Council Trustee. For the last 23 years he has been the senior engineer for the Michigan Nonpoint Source Program. Michigan's Nonpoint Source Program assists local units of government, non-profit entities, and numerous other State, Federal, and local partners to reduce nonpoint source pollution statewide. The basis of the program is watershed management and the program works with stakeholders to develop and implement plans to protect the watersheds of the state.

Ralph's responsibilities have been developing and reviewing best management practice design criteria and river restoration techniques. In short he cares about "dams". He has worked on the removal of the Dimondale dam. Having a dam, keeping a dam, using a dam, removing a dam are all powerful ideas and processes to work with. Dams are expensive to maintain and expensive to remove. Dams can back up a river to form a lake, but when you remove a dam, the lake is gone and then what.

Ralph will be at our annual meeting to give us insight on what it takes to keep a dam or to remove a dam. Lots of thought, time and money go into the decisions on dams. Dams have serious consequences to the river environmentally and for recreational use, thus their controversy.

For answers to these questions and many more, attend GREAT's 2014 Annual Dinner.

For the Fifth year, the "MAKE IT HAPPEN" award will be given out. Previous recipients of the Award have been:

Ralph Reznick, speaker at GREAT's Annual Meeting on March 19th

Indian Village Mobile Home Park, Jackson Elks Club, Career Center Jr. ROTC Unit, Cecilia Govrick, of JCCD Adopt A Stream Project Coordinator, and Greg Moore, Legislative Aide to Sen. Nofs who (achieved) facilitated passage of GREAT's land trade. **This years' recipient will be announced at the dinner. Please join us to help thank those who do so much.**

GREAT will also be holding **board member elections for terms that are expiring.** The board also has nominated Pam Brown for the open board seat and nominations from the floor will also be accepted.

March 19th, the dinner will start at 6:30pm and the meeting will begin promptly at 7:00pm. Location: Steve's Ranch, 311 Louis Glick Hwy., Jackson. I hope to see each of YOU at the meeting.

RSVP for DINNER ONLY: 517-416-4234 or grand@great-mi.org by March 17, 2014. Dinner charge of $13/person payable at the door (beverage & dessert for all at no charge). Kenny Price, President

Asian Carp in the Great Lakes?

By now you've probably heard something about Asian Carp and that they threaten the Great Lakes. So just what are they and what is the doom they might bring on us and, perhaps more importantly, what can be done about them?

Asian Carp have been cultivated in China for 1000 years. At some point in the past century or so they were imported to the United States for various reasons, including cleaning catfish and waste-water ponds. Inevitably, they escaped and have now taken up residence in several areas, most notably the Mississippi River basin.

So what is the problem? Asian Carp can spawn multiple times per year and can produce as many as a million eggs each time. They are also voracious eaters and can eat up to 40% of their body weight per day—and some of them weigh up to 100 pounds. Some species of Asian carp can compete with native fish for food. In the Great Lakes this includes whitefish, walleye and perch—which are a big part of the sport and commercial fishing industry. Some estimates put a loss of $3 billion per year if Asian Carp get into the Great Lakes. And who knows what impact the associated decline the native species might have on the rest of the ecosystem.

Asian Carp, at least the species of greatest concern, have not yet been found alive in the Great Lakes. However, Lake Michigan is connected to the Mississippi River basin through shipping channels and rivers in the Chicago area. An electric barrier has been installed to shock the fish and keep them from moving upstream into Lake Michigan, however a live Asian Carp was found upstream from the barrier in Lake Calumet—nine miles from Lake Michigan. Additionally, Asian Carp DNA have been found in the Great Lakes, but it is not known for sure if breeding pairs have made it into the Lakes.

So what other options are there? One of the most likely to succeed would be to permanently separate the waters of the Great Lakes from the Mississippi River basin. In 2009 the State of Michigan sued in the U.S. Supreme Court to temporarily close these waterways, but the Court, with backing by the White House, sided with commercial interests and the State of Illinois and did not grant an injunction.

Another option might be to try to manage the population by fishing them.

Asian Carp jumping

However, since Asian Carp are filter feeders—meaning they eat by filtering plankton out of the water—they can't be caught by a hook and bait. In areas where Asian Carp have become prevalent, like the Illinois River where an estimate of 60% of all aquatic life is Asian carp, bow fishing has been catching on. Some species of Asian Carp will jump as much as five to ten feet out of the water when startled, at which point the anglers will shoot them with arrows. Regardless of the fishing method, in some areas Asian Carp are now being marketed as food with the name changed to silver fin to be more palatable.

The current state of the Asian Carp problem rests with the U.S. Army Corps of Engineers, which is responsible for the shipping channels in the U.S. They have recently released a report for public comment, with eight options for controlling Asian Carp in the Great Lakes, ranging from doing nothing, up to installing several system of sophisticated dams and locks at a cost of $18 billion.

While the fate of the Great Lakes from Asian Carp remains to be seen, this is a good reminder always to practice good hygiene to prevent the spread of any invasive species. Boats and any equipment that touch the water should always be completely drained of water before transport. All equipment should be cleaned and disinfected before being moved to a different watershed, as it doesn't take much to spread something as small as a zebra mussel from a Great Lake to an inland lake.

Kurt LaFrance

A Trip to the Adirondacks with the Dahlem Center

The Adirondack Park was established in 1892 by a constitutional amendment that declared all state lands within its borders to be "forever wild." Its nearly six-million acres are about 50% private land and 50% public land, making it unique in the world. How big is six million acres? It's bigger than all of New England. You can fit Yellowstone, Yosemite, the Grand Canyon, Glacier and the Great Smoky Mountains National Parks all within its boundaries.

The Adirondack Park has over 3000 lakes and ponds, more than 6000 miles of streams and rivers, and over 2000 miles of hiking trails. You will find boreal habitat, mixed northern forests, amazing wetlands and spectacular mountains throughout the region.

Our group arrives just in time for the Great Adirondack Birding Celebration. We will spend one day at the ABC, where folks can sign up for birding tours in the morning (many highlighting boreal species) and attend presentations in the afternoon. Learning about the Adirondack Park's cultural and natural history is a must, and we will spend a day taking in the Park's two world-class museums: the Adirondack Museum and the Wild Center.

The group will have the opportunity to paddle the headwaters of the Hudson River and/or hike some of the trails of the Central Adirondacks. This is your chance to climb one of the few remaining fire towers and visit the famous Ice Meadows. Many wildflowers will be in bloom, so it's a great time to add a few new plants to your botanical life list.

We will spend one day in Lake Placid and take in the Olympic venues. Another day we will drive one of the many scenic loops, visiting historic locations (an abandoned iron mine, Fort Ticonderoga, and part of one of the Adirondack Great Camps), a bison farm (bring a cooler so you can take some meat home), and Lake Champlain, where we can do some more birding. All the while we will be surrounded by spectacular mountain vistas.

Participants should note that peak bird season coincides with peak bug season, so bring your insect gear. Additionally, the weather can change at any moment, so be prepared.

We hope you will join us for this whirlwind tour of one of the best wilderness areas in the United States. For more information, contact Ellen Rathbone: erathbone@dahlemcenter.org.

Trip Details—June 4-10, 2014

The trip costs $850 for members or $900 for non-members, which covers your lodging, entry fees to museums, the Olympic venues, Fort Ticonderoga, and the ABC, as well as our naturalist services. You will be responsible for your own meals and any incidentals, as well as boat rental if you choose to go on the paddle trip.

Registration deadline: April 28, 2014.

Cancellation Policy: Full refund will be given to cancellations prior to 4/28/14. Partial refunds will be given 4/28 - 5/20. No refunds will be given after 5/20/14.

Transportation

Participants are responsible for your own transportation to the site - we will meet you at the motel in Tupper Lake on the evening of June 4th. If folks would like to follow us, we will be leaving from the Waterloo Area by 7:30 AM on the 4th, and driving over via Canada.

Your Guides:

Ellen Rathbone, Education Director - Ellen grew up outside the Adirondacks and spent many summers there before becoming a naturalist for over ten years with the Adirondack Park Agency.

Gary Siegrist, Stewardship Coordinator and naturalist - Gary is well-known for his birding expertise.

Ellen Rathbone

What is *E. coli* and What is it Doing in Our River?

The goal of the Clean Water Act is to make our rivers and lakes "fishable and swimmable." Unfortunately portions of the Upper Grand and Portage rivers are not safe for swimming because bacteria concentrations are too high. They fail to meet state water quality standards for "total body contact."

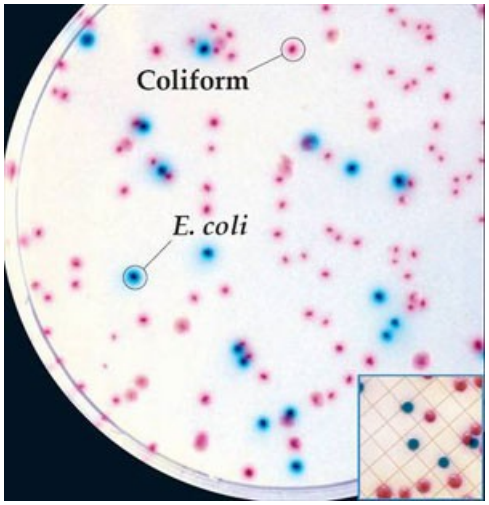
What is E. coli?

E. coli is short for *Escherichia coli*, the scientific name for a particular species of bacteria. Bacteria are single-celled organisms found throughout the world; in soil, water, and inside of us. *E. coli* are some of the most common bacteria living in the intestinal tracts of humans and other warm-blooded animals. Some strains of this bacterium can be harmful and cause a variety of intestinal illnesses. However, most strains are harmless - even helpful - as they aid in breaking down and digesting food. Because they can be readily detected in the laboratory, *E. coli* is used as a marker for indicating that other harmful pathogens may be present.

If conditions are right for *E. coli* to grow and thrive, then there is the potential for other bacteria and viruses that may cause be people to become ill. *E. coli* is a fecal coliform bacteria, which means it lives in the intestinal tracts of humans and other animals. It's presence in lakes and streams indicates contamination from feces...from livestock, from pets, or from failing septic or sewer systems.

Michigan's water quality standards require less than 130 *E. coli* colonies per 100 ml of water as an average or less than 300 *E. coli* colonies/100 ml in any one sample. Concentrations in the Grand River typically exceed these values. Single day geometric mean values in the Upper Grand River have been recorded as high as 19,000 colonies/100 ml.

E. Coli Bacterium magnified



What is a TMDL?

These high values prompted the Michigan Department of Environmental Quality (MDEQ) to establish a Total Maximum Daily Load (TMDL) allocation for portions of the Upper Grand River and Portage Rivers in 2003; from upstream of the City of Jackson to Tompkins Road in Tompkins Township. A TMDL is a pollution reduction target, put in place to guide efforts to restore a lake or a river so that it once again meets water quality standards.

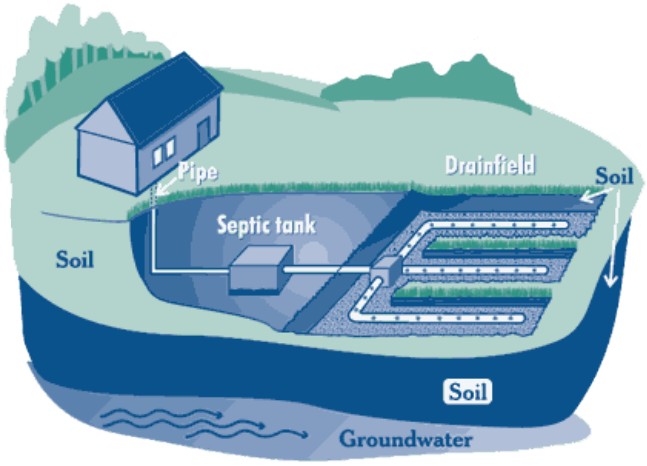
So, how are we doing? Well, in 2012, 9 years after the original TMDL was put in place, sampling conducted by the Ingham County Health Department and the MDEQ determined that any even longer stretch of the river fails to meet water quality standards. The TMDL now stretches from near Jackson, downstream to Lansing and beyond, and includes portions of the Portage and Red Cedar Rivers and Albrow, Doan, Squaw, Sullivan, and Sycamore Creeks in Jackson, Ingham, Livingston, Eaton, and Clinton Counties.

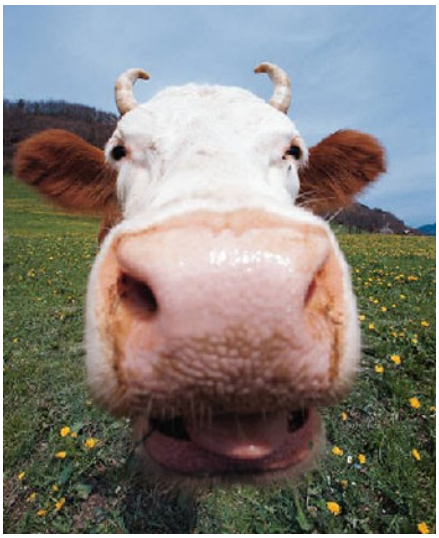
So How Do We Get Out of This Mess?

In the Upper Grand and Portage River portions of the TMDL zone, the Jackson and Ingham Conservation Districts are working to identify the sources and work with landowners to change polluting practices. Conservation District Staff have been walking creeks to find suspicious pipes and illicit discharges. Sampling conducted by the Districts in 2012 and 2013 found that Huntoon Creek, which flows through the Village of Leslie also exhibits high *E. coli* concentrations. This coming summer they'll conduct additional sampling to identify other stream hotspots and to determine the source(s) of the contamination.

The sources vary from watershed to watershed. In Chesapeake Bay, *E. coli* bacteria DNA analysis found that pet waste from dogs was a primary source. A similar study on the Huron River in Ann Arbor, found that cats, believed to be largely feral cat populations, and raccoons, were the primary sources. In other areas, *E. coli* contamination may be from failing septic systems. Nearly one quarter of the households in the U.S. rely on septic tanks to dispose of their household wastewater. It is estimated that 5-40% of septic systems are failing at any one time (failure estimates vary regionally but average 10%).

In the Upper Grand and Albrow Creek, DNA source-tracking conducted by the MDEQ has found cattle and humans (failing septic systems or direct discharges of waste) to be sources for *E. coli* contamination. Small horse farms are also suspected to be part of the mix. The Conservation Districts will employ both DNA analysis and specially trained, *E. coli* sniffing dogs to identify hot-spots and sources. Once found, District and Natural Resource Conservation Service staff will work with land-owners to halt the runoff or fix failing septic systems.





Cow, up close and personal!

Additional information regarding *E. coli*, TMDLs, pet waste, and proper septic tank maintenance is available at **uppergrandriver.org/about-watershed.php** or by contacting the Jackson County Conservation District: **www.jacksoncd.org**

Paul Rentschler

Upcoming Events

March 19—Annual Meeting and Dinner
Please RSVP for DINNER ONLY at 517 416-4234 or grand@great-mi.org by March 17th
6:30 pm—Dinner cost $13/person (payable at the door) Note: Beverage & dessert for all at no charge.
7:00 pm—Meeting
Steve's Ranch, 311 Louis Glick Hwy., Jackson

April 13—First Paddle of the Year
North Branch of the Kalamazoo River
Cross Rd. Bridge to Falling Waters Trail

April 26 JAOC—Earth Day
Sparks Foundation Park (Cascades Park)
Enjoy booths and activities including paddling GREAT's boats in the park's lagoon.

See the GREAT website for maps to these and other events.
http://www.great-mi.org/calendar2.htm

Remember to join or renew your GREAT Membership so you don't miss out!
Go to www.great-mi.org

Carnivorous Plants of Michigan

Most every grade school child knows a Venus Fly Trap (*Dionaea muscipul)* is a meat eating, or carnivorous plant. I remember being intrigued as a child, imagining hot tropical jungles of strange and exotic meat eating plants and animals, but only recently did I discover that Michigan has native carnivorous plants (CP).

While volunteering with the Michigan Nature Association I discovered that our state has three types of carnivorous plants, Pitcher plants (*Sarracenia purpurea*), Sundew, (*Drosera rotundifolia*), and Bladderworts (*Utricularia cornuta*), and all three are found in Jackson County.

While not exactly the "Little Shop of Horrors" variety, each has its own unique method for attracting and trapping animals. The trio share three basic needs; abundant sunlight, abundant water and nutrient-poor soil. Poor soil eliminates much of the competition from other plants which depend on nutrition from the usual suspects: nitrogen, phosphorus, potassium. Conditions for CP exist in two types of environments, peat bogs (acidic from decaying matter) and lowland areas which flood and wash away nutrients, land often seen on our paddle trips.

I have mistakenly believed for years that the flood plains we often paddle are very rich in nutrients, since ferns and orchids thrive there - yes, Michigan also has beautiful exotic looking native orchids. In reality, the black soil we see is mostly a mix of carbon and sand. The net result is nutrient-poor soil in which our three native carnivorous plants thrive.

Pitcher Plants - Have tube shaped leaves which collect water attracting insects who venture down for a sip, but are prevented from climbing back out due to downward facing hairs on the inside of the pitcher.

Carnivorous plant habitat

Prey are trapped in the water containing digestive enzymes which slowly digest the insect, spider or even an occasional frog, providing all the nutrients for the plant to flourish.

Pitcher Plant

Sundew - The 'leaves' are more like shoots. The plant looks like a colorful pin cushion with the heads of the pin containing a "glutinous secretion" (sticky stuff), a natural glue at the tip. The unfortunate insect that lands upon these shoots stick to the tips, unable to escape as the leaf slowly closes around the insect, a deceitfully attractive, yet deadly plant for mosquitoes, flies and other insects.

Bladderwort

Sundew

Bladderworts - Have no roots and float in slow moving waters of the bog or fen with small carnivorous bladders. The 'bladders' are underwater traps with a 'door' which shuts incredibly fast, about 100 times faster than the Venus Fly Trap. According to the Encyclopedia Britannica, closing the 'door' in $^{1}/_{35}$th of a second, and digests the small prey in about 15 to 30 minutes when the trap opens again for another meal. While this carnivore eats very small creatures, (nothing larger than a tadpole), in warmer climates it can grow to several feet in length and depth and is so prolific that it has become an invasive species in some areas. This is the less photogenic and more problematic then its CP relatives.

You can see carnivorous plants in action on YouTube.

Bon appétit!

John Minar

The Cooper's Hawk

In the state of Michigan there are 10 different hawks. One I recently viewed is the Cooper's Hawk or was it a Sharp-shinned Hawk? Until I get another look at it I won't know for sure.

The Cooper's Hawk has a variety of knick names such as: Chicken Hawk, Big Blue Darter or Swift Hawk to name a few. It was first identified in 1828 by a French Naturalist and then named after William Cooper, one of the founders of the New York Academy of Sciences. Cooper's Hawks can be found from Southern Canada to Northern Mexico and as far south as Panama. Here in Lower Michigan it can be spotted year round. They have previously been thought to be birds of forests and woodlands, but as with most wildlife, they have adapted to cities and urban areas. Their nest is usually 25–50 feet up in deciduous trees most often on flat ground, not hillside. The nest is built in a "V" of the tree with sticks to the dimension of 27 inches in diameter and 17 inches high with a cup like depression to hold the chicks. Both male and female participate in the nest building.

While they don't mate for life, they are monogamous for each season with a courting flight pattern. Once the 3-5 eggs are laid, incubation takes 30–36 days. The male does all of the foraging for two weeks while the chicks are brooded. They are fledglings 25–34 days, but continue to return to the nest for feedings up to 8 weeks.

Cooper's Hawk in flight.

So, why the nicknames? It is a hawk with a gliding, swift flight pattern after only a few quick, stiff wing beats. They are known to fly through trees and even bushes in pursuit of their prey. It will target typically the American Robins, other thrushes, jays, woodpeckers, quail, pigeons, and doves. In addition to their attacks in flight, they have also been known to rob nests. With their changing environment, they will also stalk your birdfeeders for prey.

They are a little different than other hawks in that they hold their prey tight in their claws until they quit moving, squeezing them, or even on occasion, putting them in water until they are dead. They have also been seen to run along the ground, half running/flying to chase their target. Other prey consists of chipmunks, hares, mice and squirrels and bats. At one time, they were hunted due to their perceived preying on poultry.

The male is 14–17 inches in length, while the female is upwards of 20 inches in length. Their head seems to be larger than other hawks in comparison to the rest of their body. Their other name, the Big Blue Darter; their color is a steely blue-gray color with white underpinnings and a darker grey stripe on the tail that can be up to 8 inches in length with a rounded end. Adults have red eyes and a black cap, while immature birds have yellow eyes and a brown cap.

So how do you tell a Coopers Hawk from a Sharp-shinned Hawk? The best side-by-side comparison is on the "feederwatch.org" website (http://feederwatch.org/learn/tricky-bird-ids/coopers-hawk-and-sharp-shinned-hawk/). In brief, the Sharp-shinned Hawk is smaller, its tail is squared with a white tip and in flight it soars in a manner where you barely see its head. Sharp-shinned Hawks are broad shouldered with narrow hips. The Cooper's Hawk is larger like a crow, has a rounded tail with a clear appearing tip. In flight, its head pulls forward with a near 'cross-like' appearance. Cooper's Hawks have a more tubular shape with a lower center of gravity. Practice makes perfect.

Helen Burnett

Cooper's Hawk, tail more rounded.

Sharp-Shinned Hawk, tail more square.

Everything You Could Want for Quiet Water Fun

Winter has been long and hard here in southern Michigan this year and many paddlers are thinking about warm water, sunshine and fresh outdoor air, perhaps even planning outings, trips or expeditions. The **Quiet Water Symposium** is held annually, just on the brink of spring and is a terrific way for paddlers and outdoor folk of all ilk to break out of the cabin fever and into the coming wondrous seasons.

Saturday, March 1, 2014 marks the nineteenth year of the symposium, which hosts many exhibitors and presenters, such as wooden boat and paddle builders, kayak and canoe retailers, outdoor clubs and organizations, outfitters and guides, and is the biggest gathering of its type in Michigan. It is held at the Pavilion for Livestock and Agriculture Education on Farm Lane, south of Mt. Hope - on the campus of MSU and runs from 9:00 am to 5:30 pm. Admission is $10, $5 student, under 12 free. See their website for details at http://www.quietwatersymposium.org/ .

Come catch up with your friends and learn some new stuff. It is a wonderful way to enjoy a Saturday.

Kat Kulchinski

Welcome New Members!

Steven Duke

Great Lakes Paddlers (GLP)

Susan Harper

Jim Justin

Susan Lackey

Lynn McLean

Board Meetings

The GREAT board meets on the second Wednesday of each month, with the exception of December, at 7:00 PM at the Summit Township Hall, 2121 Ferguson Road (across from Knights Restaurant, near the Intersection of South Jackson and Horton Roads).

Meetings are open and visitors are welcome. To be on the agenda, please contact us prior to the meeting.

GREAT Newsletter

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GREAT

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