MICHIGAN Trout

to conserve, protect & restore Michigan’s coldwater resources

MICHIGAN TROUT UNLIMITED

Winter 2017 www.michigantu.org
Michigan Trout Magazine

Mission
Michigan Trout Magazine is a conservation and fishing publication produced by Michigan Trout Unlimited. In our commitment to conserve and protect Michigan's cold-water resources for the enjoyment of all, we bring our readers articles on Michigan TU's current projects and recent successes, as well as in-depth articles about angling on our state's many premier rivers and streams.

Reader Profile and Numbers
Each issue of Michigan Trout reaches over 8,000 passionate anglers and conservationists across the state. It is mailed to 8,000 members and is emailed in digital form to current Michigan TU members, as well as collaborators and past members on our email list.

Editorial Calendar

SPRING ISSUE:
Deadline for content and ad materials: February, 15th, 2017
Release Date: End of March

SUMMER ISSUE:
Deadline for content and ad materials: June 15th, 2017
Release Date: End of July

FALL ISSUE:
Deadline for content and ad materials: October 15th, 2017
Release Date: End of November

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Contact Info

Tom Quail
(248) 495-2615
tquail@michigantu.org

Send Payment (checks only please, made out to Michigan Trout Unlimited) to:
Robert S. Smith, Treasurer
2114 7th St
Bay City, MI 48708
In the state where Trout Unlimited was founded, Michigan TU will work to ensure clean, healthy streams and rivers supporting thriving populations of wild trout and salmon for future generations to enjoy.

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The election is over. No, not THAT election; the election of new officers and National Leadership Council representative, and approval of the Michigan TU committee chairs. Yours truly is the FY2017 Chair; Greg Walz is Vice-Chair; Robb Smith is our Treasurer & NLC Rep; and Mike Lagowski is Secretary. Our committee chairs are: Ed Roden – Operations & Finance, Al Woody – Conservation, Tom Mundt – Development, Greg Potter – Education, Ron Peckens – Communications (co-chair), Joe Barker – Communications (co-chair) and Editor of Michigan Trout, and Jason Davis – Chapter Development. John Walters is Past Chair, Bryan Burroughs is Executive Director, and Kristin Thomas is Aquatic Ecologist. These people make up the Michigan TU Executive Committee. We also have several others that contribute as program managers, Salmon in the Classroom coordinator, Great Lakes Basin Representative, and Fly Fishing School coordinator. Not to be forgotten are our forty chapter presidents and representatives and our four At-Large Directors. That’s a lot of people helping to continue Making Michigan TU Great!

We want you to have an understanding of who contributes to operating the Michigan TU Council. And, we want it to be of value to all of our 7,700 members, in our twenty chapters, because you are Michigan Trout Unlimited.

All of the Executive Committee members’ contact information is available on the Michigan TU website, www.michigantu.org, under the “Michigan TU Who we are!” tab. If you have a question about anything related to our mission and work on coldwater conservation, or if you’d be interested in possibly serving on one of the committees, please contact us. We can’t emphasize enough how important your feedback is as it helps us to better understand what issues are important to you and what areas possibly need further discussion.

In mid-November, several members of the Executive Committee met in Grayling to map-out and discuss the agenda and direction for the coming year and beyond. It was extremely beneficial as we developed a great agenda for the coming year. First on the list is our upcoming quarterly meeting on Saturday, January 21st at the Wolf Lake DNR Fish Hatchery in Mattawan from 9:00 a.m. to 3:00 p.m. This facility produces a wide range of fish species for both inland and Great Lakes waters. Coldwater species produced for Great Lakes waters include steelhead trout and Chinook salmon. Cool-water species produced at this facility include lake sturgeon (the only facility to rear this species), walleye, northern pike, channel catfish (obtained from other states) and northern muskellunge. Hopefully, by the time you read this we will have arranged to have a private tour of the facility the afternoon of the winter meeting.

Watch for news of our additional quarterly meetings. The dates for the spring, summer, and fall, which is our annual Michigan TU meeting, are: April 8th, June 24th, and September 23rd. Once we have the venues confirmed, we will have further information on the michigantu.org website calendar.

Thank you for all that you do in making Michigan Trout Unlimited such a great coldwater conservation advocate. You are what makes us GREAT!
As December approaches, most fly anglers are cleaning up last season’s fly boxes and determining what patterns will need replenishing over the winter months of tying. And while there are a few adult insects (midges for example) that will hatch during winter, the riverbed is a fertile site of activity. Insect nymph and larval stages are prepping for winter, although their growth is not altogether straightforward. Let’s look at how some Midwest insects develop in winter.

In preparation for winter months, it is important to first back up to October and November. A very important pulse of food enters streams and rivers during these months in the form of dead leaves from surrounding forests. Many immature insects feed on these leaves, shredding them into smaller particulate matter, enabling additional benthic invertebrates to also feed. Additionally, a number of insect life cycles have been synchronized in order to take advantage of this food bank.

Consider three winter stoneflies, *Allocapnia*, *Taeniopteryx*, and *Strophopteryx*. The adults of these genera hatch in January, February, and March, respectively. After several weeks, the eggs hatch and the nymphs begin to grow, feeding on tiny bits of detritus in the stream. Many of the stonefly species in Midwest are univoltine, meaning they take a year to develop from egg to adult. During that time, there are between 10-24 instars, as the nymph gradually grows to the adult stage. In the winter stoneflies, once the nymphs reach the fourth instar, an interesting phenomenon occurs. The nymphs enter diapause with development halting over summer months. Growth resumes in late fall when fallen leaves provide a bounty of food. Winter stoneflies will steadily grow in December and can be easily observed in collected leaf packs displayed in white plastic dish pans. As winter progresses, nymphal growth becomes more rapid until the final adult stage. After hatching, mating, and egg laying, the life cycle is complete.

Certain caddisfly larva also undergo a halt in their development during winter. Many anglers are familiar with the larval stage of *Pycnopsyche*, the Stick Caddis. As the name implies, the larva of this caddis builds a case of sticks, and can be found walking along submerged logs and among leaf packs. Caddisflies undergo just five stages of instars as they develop from egg to adult during their one year life cycle. The Stick Caddis larvae feed on dead leaves all winter and in spring attach themselves to the underside of a log or rock. They then enter into a quiescent stage where their development slows down, presumably in reaction to the lack of food (dead leaves). In July and August, the caddis ‘wakes up’ and becomes active, entering into its pupal stage, metamorphosing over two to three weeks, and transforming into the final adult stage. Adults will mate and lay eggs in early fall, with larval stages now perfectly synced and ready to feed on freshly fallen autumn leaves.

Most mayflies have a more uniform development, maturing from egg to adult over the course of a year. However, *Siphlonurus*, the Gray Drake, has another life cycle strategy. The adult stage of the mayfly hatches in June and after mating, lays its eggs. Like stoneflies, mayflies have 10-20+ instars as they develop from egg to adult. Normally, mayfly eggs hatch after one to two weeks. But with Gray Drakes, the egg stage undergoes diapause, and remains inactive through the summer and fall months, not hatching until the following February-March. The preferred habitat for these nymphs is slow, still backwaters which typically dry up in late summer–early fall, becoming recharged again through winter and spring. Once the Gray Drake eggs hatch in mid-winter, they steadily grow and migrate to these backwaters. Having an egg diapausal stage enables these mayflies to take advantage of a temporary habitat.

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On behalf of the entire Michigan Trout Unlimited team, we extend our sincere thanks to all of our members for their donations during fiscal year 2016. Combined with support from corporate and foundation donors, this generosity allowed us to fund approximately 90% of our operating budget; giving our team the resources to successfully fund the wide range of in-stream and education initiatives we participated in during the year. These projects included:

- Removing dams on the Pigeon River and Prairie Creek, and beginning the process of replacing road culverts on Schwartz Creek to improve fish passage.
- Assessing the impact on and developing plans to remedy the damage done to the Coldwater River created by excessive tree removal.
- Supporting youth education programs such as Michigan’s Youth Camp and Salmon in the Classroom.
- Assessing the health of trout habitat statewide through fish and insect monitoring programs.

While we made a lot of progress during fiscal year 2016, there is still much more work to do. For fiscal year 2017, your Michigan TU team is already working hard on your behalf, providing technical expertise in support of your chapter’s initiatives while actively engaging in the more wide-reaching environmental, legislative, and regulatory issues which face all of us. These activities range from developing policies to best deal with aquaculture in the Great Lakes region, to creating strategies to mitigate the impact of invasive species and climate change on our local wetlands and trout streams.

Your Michigan TU team works with foundations and other major donors to secure funds to tackle specific, large initiatives. While these grants cover a wide range of associated costs, they don’t cover them all. To that end, we could not tackle these issues successfully without your support.

Therefore, at this time each year, we begin our fundraising activities by asking our members to consider making a donation during our End of Year Appeal program. This appeal is necessary to fund Michigan TU’s annual operational budget, which essentially covers the costs for Executive Director Dr. Bryan Burroughs and Aquatic Ecologist Kristin Thomas, as well as the employment of several seasonal interns and other direct costs associated with getting the job done. It is worth noting that these interns allow Bryan and Kristin to focus on in-depth data analysis and grant and report writing, as
well as freeing up time for them to assist with chapter conservation initiatives all across the state.

For fiscal year 2017, this means generating a total of $225,000 to fully fund our operating budget. We are also pleased to report that, to date, we have already secured $80,000, indicating that we are a third of the way to our goal. It is now time to close the gap.

By the time you read this article, you should have received an End of Year Appeal package from the Michigan Trout Unlimited development team, asking for your financial support. Please take time to carefully review the materials and then make the most generous donation possible, keeping in mind that every dollar will be invested wisely into projects designed to protect, restore, and reconnect Michigan’s streams, ensuring that these precious coldwater resources will be enjoyed for generations to come.

In addition to cash, Michigan TU also gladly accepts shares of stock, with a minimum fair market value of $1,000, as well as planned giving activities as donations. If these forms of giving interest you, please work with your financial/estate planner to structure a gift that meets your needs and advances Michigan TU’s conservation priorities. For more information, on either stock or planned giving donations, visit michigantu.org/plannedgiving or please contact our treasurer, Robb Smith at 989-893-3792 or at rsmith@michigantu.org.

Speaking of planned giving, Michigan TU just received a generous gift from the estate of George A. Lane of Midland. As a member of the Leon P. Martuch Chapter, George was a staunch conservationist whose work and dedication earned him recognition in 1981 from Trout Unlimited National as “Trout Conservationist of the Year.” We are indebted to George for all his efforts to protect and restore Michigan’s coldwater resources and for making this very generous donation to Michigan TU.

You may be asking how your donations to Michigan TU are invested. The answer is simple. Over 83% of the funds raised go directly to conservation and education programs and about 5% is used to support fundraising activities. This leaves roughly 12% to cover all other administrative costs. This performance has resulted in Trout Unlimited earning a four star rating from Charity Navigator.

Key projects for 2017 will include:

- Completing the Schwartz Creek culvert replacement project in the Upper Peninsula.
- Executing the Rice Creek restoration project in the Kalamazoo area.
- Continuing to work with state regulators while conducting a volunteer-driven, base-flow data collection program to ensure we protect our trout fisheries from adverse water withdrawal activities.
- Educating anglers on how to prevent further spread of harmful invasive species, such as the New Zealand mudsnail and *Didymosphenia geminata*, commonly known as didymo or rock snot, which have been found in the Pere Marquette and St. Mary’s Rivers, respectively.
- Working with state agencies, state and federal legislators, and industry leaders to ensure our coldwater resources are protected from aggressive aquaculture programs statewide.
- Supporting youth and adult education projects such as Youth Trout Camp, Salmon in the Classroom, and the Michigan TU Fly Fishing School.

In closing, while our long term goal is to become a self-sustaining organization, we will continue to need the support of our members, chapters, and other significant donors to get this work - our work - done. Michigan TU’s work is continuous, not restricted by the change in calendar year. Please consider donating generously. **Making a Donation Does Make a Difference. We are One TU!!**

Make a Donation today by scanning this image with your smartphone! Or, you can visit michigantu.org/donate.

Please remember, the donations you make to Michigan TU are generally deductible when calculating your federal income taxes. Please check with your tax advisor.
Status Update

In fall 2015, we first learned that New Zealand Mudsnails (NZMS) and Didymo rocksnot had been confirmed in Michigan waters. The first confirmed location for NZMS was the Pere Marquette River. Subsequent surveys by state agency personnel found the snails distributed throughout much of the river between M-37 and Gleason’s Landing, and they were found in lower densities downstream from there.

In response to the initial discovery, a multi-pronged response quickly emerged through coordination between several entities, including the DEQ, DNR, MSU, and MITU. Communications were crafted to get the word out to anglers and other river users about the serious threat NZMS pose, and what is available to help prevent the spread of NZMS. Monitoring plans on the PM and a cadre of other rivers were developed and implemented in 2016 by the DEQ and DNR. Research proposals were developed by professors at MSU, in coordination with the other entities. The research addresses many of the key questions on how to effectively and efficiently monitor NZMS, genetic analysis, modeling spread, and testing of decontamination practices among anglers.

In early June 2016, NZMS were discovered and later confirmed in the East Branch of the Au Sable. This discovery was made by a Grand Valley University professor conducting monitoring for the Anglers of the Au Sable. Expanded searches conducted by the DEQ showed the presence of NZMS in higher density below the Harrietta Hills Fish Farm, presence in low density above the fish farm, and presence of the snails downstream to Stephan Bridge. Urgent efforts to communicate the presence of NZMS in the Au Sable system were made collaboratively by the Mason-Griffith Founders Chapter of TU, the Anglers of the Au Sable, and MITU. Emergency signage was created, printed, and deployed at fishing access sites throughout the system prior to the Brown Drake and Hexagenia hatch.

Shortly thereafter, NZMS were detected and confirmed in the Boardman River at several sites. The detection was made by researchers from the Au Sable Institute, through work funded by the Adams Chapter of TU. Throughout the spring and summer, the DEQ, with support from the DNR, conducted NZMS monitoring at a number of streams and heightened monitoring on the Au Sable and Boardman Rivers. Rivers including the Little Manistee, Big Manistee, Muskegon, White, and Betsie were sampled with no NZMS being detected.

During the summer and fall, other efforts to respond to the threat have been made. Several entities, including universities, have submitted grant proposals to conduct additional research and to aid communications. The DNR has recently finalized and produced new signage for public access sites specifically providing critical attention and information for anglers about NZMS, which will be deployed prior to the next fishing season.

Decontamination Procedures

Our greatest tool against the proliferation of NZMS in our trout streams is prevention through decontamination of gear (waders, boats, anchors, anchor lines, nets, etc.). Towards this, MITU provided information on what anglers need to know to be effective in their efforts to decontaminate their gear in the Winter 2016 issue of this magazine. There is guidance on several basic categories of techniques, including chemical use, freezing, and drying. It is critical in the use of any technique that the specific guidelines be followed exactly. Each technique has been tested and researched to varying degrees, and specific minimum constraints have been found (e.g., length of time freezing or drying, certain chemical strength, and application style and times). If the guidelines for minimal effectiveness are not followed, the techniques are not 100% effective. Since each snail is capable of asexual reproduction, anything less
than 100% effective decontamination is dangerous. It’s critically important that all anglers immediately institute effective decontamination practices. To that end, we have become aware through our members that conflicting information exists concerning effective chemical decontamination practices. The rest of this article is devoted to clearing up these conflicts.

**Rinsing, Scrubbing, and Visual Inspection**

The foundation for decontamination using any technique starts with diligent inspection, scrubbing, and cleaning of all gear surfaces that might be harboring NZMS at any life stage. All surfaces should be thoroughly inspected for the visual presence of adult NZMS, which should be removed. Because some life stages are incredibly small and will evade visual inspection, gear should be thoroughly rinsed and scrubbed with water and a good scrub brush capable of reaching all surfaces. Some entities have restricted their guidance to these practices, possibly because of the nuances or uncertainties with various chemical treatments. However, be certain of this. You will not be able to see all snails present on your gear and rinsing and scrubbing alone will likely miss live and viable snails.

**Chemicals, Chemical Strengths, and Soak vs Spray Application**

Several chemicals have been found to be 100% effective in killing NZMS, if applied correctly. There are several research papers posted on the MITU website covering various studies. In each study, specific groups of chemicals were tested, at certain concentrations, using specific application methods (soak vs spray).

I’ll spare you the details as to why some chemicals work and say one main group of chemicals has been found effective. Within that group of chemicals, there are several different kinds produced by manufacturers. Most of these chemicals fall under the heading of industrial cleaners. They are commonly used to disinfect industrial settings, hospitals, and restaurants. As such, many are difficult to acquire, requiring you to search for a supplier online and perhaps buy a large volume quantity. This is a hurdle that MITU is trying to address. In time, we think suppliers will respond to this new market with appropriate packaging. However, until then you may need to buy a larger volume and split it with your angler friends. Several of our chapters are investigating their ability to do this as well.

There are chemicals proven effective for NZMS that are also highly effective against a variety of other invasive species. For that reason, they are more widely used by state agencies. An example of this is Virkon. It comes in powder form and is mixed with water. Gear is soaked in this solution for a minimum amount of time. A 20g/L solution of Virkon is needed and gear must be soaked in the solution for a minimum of 30 minutes. The solution must not be over-diluted and the minimum soak time must be followed. Weak solutions can cause microscopic juvenile snails to be released, which can survive.

Formula 409 is the most popular chemical because it is easily and cheaply acquired over-the-counter at retail stores. The confusion in using Formula 409 comes from the conflict between two research studies on its use for NZMS decontamination. The original study showed that Formula 409 was effective when used at 50% strength for a minimum of five minutes. The study was cited in a 2007 NZMS Task Force report, which received wide readership. What was not clearly conveyed, however, was that the Formula 409 used in the study was an industrial strength version, which is twice as strong as the Formula 409 available at retail stores for home use. A later research study tested the over-the-counter Formula 409 and found it to be 100% effective in killing NZMS if it was used at full strength and if gear was soaked for a minimum of ten minutes. Many people have erred by using over-the-counter Formula 409, diluting it 50%, and soaking gear for only five minutes – which is not 100% effective.

The second problem with Formula 409 is that users assume that it will be 100% effective if it is simply sprayed onto gear and left to sit for ten minutes. Formula 409 has not been proven to be 100% effective if sprayed onto gear. MITU hopes to see Michigan-based research on this soon, but for now the only method that has been tested and proven effective is to soak gear. While Formula 409 is relatively cheap to acquire at under $4 per bottle, when considering how many bottles is necessary to fill a tub to immerse gear, some of the commercial chemicals may on balance be more economical.

A recent study, also posted on our website, tested a new chemical called Spartan HDQ by Green Solutions, which was discovered to be 100% effective. The researchers found it to be less sensitive to exact dosage than other chemicals tested in the study. They also conducted a secondary trial using a spray technique. Spartan HDQ was found to be 100% effective when the gear surfaces were sprayed liberally and completely. This is the only study showing the effectiveness of a chemical via spray application. The ability to spray gear means greater convenience for anglers. However, the study did not provide exact treatment details for how the gear was sprayed or applied. Consequently, this new method deserves cautious use and MITU is working with Michigan researchers on additional refined... continued on page 21
Just as in humans, Michigan fish species are subject to a variety of fish diseases, sicknesses, skeletal problems, sarcomas, and more. Due to generally low infestation rates, anglers don’t often get to see these anomalies. DNR biologists and technicians see them more frequently while out in the field sampling. One thing that was more noticeable in the summer of 2016 was brook trout gill lice.

It was early summer when I first took a few phone calls from anglers on the upper Black River who noticed small whitish objects partially covering the gills of brook trout. The first thing that came to mind was gill lice, something I had seen on rare occasion. So what are gill lice?

The best known species of gill lice is *Salmincola edwardsii*, which occurs only on brook trout. Another species is specific to lake trout. Brown and rainbow trout are not known to be susceptible. There is one adult and multiple larval stages of the parasite. A free swimming larvae known as a copepodid is released from egg sacs into the water and eventually has to swim freely and find a brook trout host within a day or so. Once attached, they mate, the males die, and females develop into adults after a month or less. The female produces a second pair of egg sacs and then shortly dies. Mature gill lice remain permanently attached to the gill arch of a brook trout, and often can accumulate in large numbers. The complete life cycle may take from one to six months and is influenced by temperature. Gill lice are less than a quarter inch long, and an accumulation of specimens on the gills of a brook trout are definitely noticeable. The larva drill a hole with rasping parts much like that of an adult sea lamprey. Here they anchor in place to fulfill a life cycle.

Does this parasitic condition kill the fish? There is some literature that suggests that this is not completely known or understood. For example, a high level of infestation typically occurs when brook trout densities are higher in a watershed and when water and ambient temperatures are high. High brook trout densities are usually followed by years of lower numbers, or population cycling. To blame an eventual brook trout population reduction on a parasite that has evolved with that trout would likely be a hasty hypothesis. However, high infestation rates on the gill arches can lead to individual brook trout stress through respiratory failure or eventual sickness.

There is some concern among researchers that climate change (warming) could result in increased infestations and lead to lower brook trout densities.
Some studies conducted by the Wisconsin DNR link the biotic interactions of gill lice and brook trout to climate change. These studies suggest that gill lice infestations are increasing with hot periods and that brook trout densities are declining in some streams. It is not known currently if Michigan’s statewide brook trout population is impacted by this parasite, but it is likely that cumulative factors (predation, parasites, disease, temperature, etc.) will better explain long term trends.

After reading a bit more about gill lice, I started thinking about Michigan streams. As mentioned earlier, it was reported to me this summer by some anglers in the Black River. This is reported in a low gradient reach of stream with deep holes and much sluggish water. According to the literature, it was perfect water for the free swimming larvae to disperse and find a host. Secondly, brook trout densities in the Black and its tributaries have been higher this past year, and angler reports for the infested area have been very good. Thus, free swimming larvae had slow sluggish water to disperse through and plenty of choices to call their own host. Lastly, it was a very warm summer which increased water temperatures into a range suitable for the parasite. Put all these conditions together and you had the right environment for gill lice to thrive.

In the meantime, I began to look for the parasite more during my personal fishing and professional survey adventures. I observed the parasite on brook trout in the East Branch Black, South Branch Au Sable, and Fox rivers. Anglers have also mentioned higher numbers of brook trout this year in some of those rivers (suggesting high density and high infestation rate during a warmer summer).

This article was written to make anglers aware of another natural threat to our brook trout communities. The threat is not so much the parasite (gill lice) itself as it is the conditions needed to make this species thrive (warmer water, climate change). This is another reason the DNR monitors trout populations and water temperatures long term.

Keep an eye out for gill lice while angling your favorite brook stream in the future. For populations that appear infested, keep the fight time to a minimum and fish during the cooler periods of the day or summer. Brook trout with gill lice will still feed, but their defense mechanisms against sickness and stress may be lowered.
**Michigan TU Chapter Updates**

by Joe Barker

**Mill Creek Success Story**

The Ann Arbor Chapter was instrumental in getting a dam removed from Mill Creek after recognizing that the now free-flowing stream was cold enough to sustain trout. The Chapter proceeded to successfully introduce brown trout. Electroshocking and angler reports have confirmed that these fish have survived well, despite several hot summers, low water, and high-water events. Trout have been growing three or more inches each summer, and occasionally a fish in the 19-20 inch range has been caught. The Michigan DNR agreed last year to supplement AATU’s stocking with an additional 2,000 five- to seven-inch fish annually for a period of six years. Although spawning redds have been observed, there is yet no conclusive evidence of the survival of eggs and fry. However, there is optimism that some natural reproduction may be occurring.

AATU’s Mill Creek team is receiving good cooperation from the community in its effort to expand public access to this new fishery. The addition of Scio Township’s “Sloan Preserve” now offers three miles of public access to Mill Creek for anglers. Work continues on construction of steps to allow access to sections with steep banks to prevent erosion, on clearance of access trails, and on management of woody debris to facilitate passage of kayaks and to improve safe wading conditions. AATU’s community outreach has been very successful in creating a strong catch-and-release culture along this newly-created brown trout resource.

**Cedar Trees along the Boardman**

In October, a group of Traverse City-based Adams Chapter members planted over 80 cedar seedlings along the banks of the newly-formed channel of the Boardman River which the backwaters of the Brown Bridge dam once occupied. The trees were enclosed in protective cages to reduce browsing from deer. Over 2.5 miles of new river channel emerged after Brown Bridge dam was removed in 2012. Since then, over 6,000 native trees and shrubs have been planted along the river banks by a host of volunteers, including many members from the Adams Chapter. Roots from the trees and shrubs will provide bank stability and eventual shade for the river. The cedars and protective cages were made available at cost to the Chapter through “Cedars for the Au Sable.”

The Chapter is also involved in an in-stream habitat project spearheaded by the Grand Traverse Band of Ottawa & Chippewa Indians and numerous other partners to install habitat wood in the new river channel at Brown Bridge. That project is expected to begin after the New Year. Downstream of the site, the Boardman and Sabin dams are scheduled for removal from the Boardman River in 2017 and 2018.
Busy Year of Education and Outreach

During 2016, the Miller-Van Winkle Chapter conducted several youth and adult education and outreach projects, beginning in May with their second Annual Fly Fishing Clinic. The clinic was held at the Oden State Fish Hatchery and was supported by the Michigan DNR. The Chapter hosted both adults and youth in a full day of activities, including instruction in fly casting, knot tying and fly tying, fish and insect identification, fishing ethics and the Trout Unlimited mission of cold water conservation. Each participant was able to cast flies for some of the large brown and rainbow trout in the hatchery’s pond.

Chapter volunteers conducted fly casting and fishing instruction for a number of kids as part of a Little Traverse Conservancy program at the Andreae Preserve on the Pigeon River. They also offered fly casting instruction and coldwater conservation information at the Waganakising Bay Day event held on the Petoskey waterfront in June, and again at a Tip of the Mitt Watershed Council/Walloon Lake Conservancy event in July. Fly tying instruction was shared by Chapter members at Camp Daggett’s Annual Father and Kids Weekend. Charlevoix Rod & Gun Club held their annual Youth Day where Chapter members provided fly tying and casting instruction.

Coaster Brook Trout Tagging

The Copper Country Chapter has provided $1,000 in financial assistance to support Chris Adams, a PhD student in Biological Sciences at Michigan Technological University. Chris is conducting a multi-year fish tagging and tracking study on the Pilgrim River in cooperation with the U.S. Fish and Wildlife Service and the Michigan DNR. The Chapter has and continues to implement a number of habitat restoration projects in the Pilgrim River, one of eight Lake Superior tributaries in Michigan that have special harvest regulations in an effort to restore coaster brook trout populations (the daily limit has been lowered to one brook trout per day of at least 20 inches in length).

Passive Integrated Transponder tags measuring a little less than an inch long are implanted surgically into the body cavity and last the entire life of the fish. Three stationary antenna stations have been installed at key locations in the river and at its mouth to passively detect tagged fish when they swim by. Several hundred trout have been tagged in the watershed thus far, including brook, rainbow, and brown trout. Seasonal movements of trout in over four miles of river (both into and out of the special regulation reach) have been observed. Researchers are working to expand this study into other tributaries that are suspected to have remnant coaster brook trout populations so that this Michigan legacy species may be effectively managed and restored.

Veterans Float Muskegon River

In September, volunteers from the Kalamazoo Valley Chapter and the Battle Creek Veterans Administration Medical Center conducted a successful fishing trip on the Muskegon River as part of Project Healing Waters Fly Fishing. The trip consisted of 18 veterans from the Medical Center and 13 volunteers from the Chapter. This year marked the second annual Tim May Salmon Slam. The veterans shared the day with professional fishing guides and volunteer boat rowers. Lunches were provided in part by Schlotzsky’s. The weather was fabulous all day with plenty of fish, but the salmon really hadn’t shown up.

Project Healing Waters Fly Fishing is dedicated to the physical and emotional rehabilitation of disabled active military personnel and disabled veterans through fly fishing and associated activities, including education and outings. The Battle Creek Medical Center’s Project Healing Waters Fly Fishing program meets on the first and third Monday of every month. The Chapter conducts two major outings every year with the program; one in the spring and one in the fall. If you are interested in starting up a program near you or are interested in volunteering with the program, please contact Adam Beam, Program Lead at beamer.0311@gmail.com or Rob Beam, Assistant Program Lead at randjbeam@comcast.net.
During the succeeding Woodland Period, divided into the Early (2,500-2,000 B.P.[before present]), Middle (2,000-1,500 B.P.) and Late (1,500-900 B.P.) sub-periods, Native American populations in the Upper Great Lakes region are exemplified by growing populations, which exhibit increasing social and ceremonial complexity. Native Americans were experimenting with cultivation of a number of native plants for their edible seeds (chenopod, maygrass, native squash) and psychoactive properties (tobacco), as well as with the adaptation of tropical plants such as maize (corn), which broadened the dietary base and both promoted and required a less mobile and more settled lifeway.

In the Upper Great Lakes, fishing technologies, social organization, and settlement strategies also evolved as fish continued to expand within the subsistence base. Here, the growing reliance on fish may have lessened the need to depend on horticulture for some populations--an important variable given the long harsh winters and often poor soils, which characterize the region. In the Early Woodland Period, stone net weights are known from one site in Ontario County, New York in the Lower Great Lakes region where they occur with bone from the brown bullhead, suggesting that shallow waters of inland lakes were being exploited with seine nets. By the Middle Woodland Period, net weights appear in a number of sites in the Lake Michigan drainage, including on the Door Peninsula in Wisconsin and on Summer Island, located between the Door and Garden Peninsulas in northern Lake Michigan, as well as on an island located off the Bruce Peninsula in Georgian Bay. While the appearance of net weights is a new development, many of these sites also have produced bone and copper harpoons--some multi-pronged and some with socketed heads capable of being attached to a line, as well as copper fish hooks and gorges.

The co-occurrence of these artifacts indicates that the adoption of netting as a means of capturing fish was grafted onto the existing fishing technology rather than having replaced it. In Middle Woodland sites where fish bones have been preserved, species such as large pike, sturgeon, suckers, bass, walleye, and drum occur. Most of these species spawn during the spring, while drum spawn somewhat later in warmer water temperatures. All could have been readily taken in the shallows with spears, harpoons, and seine-type nets as they aggregated for the spawn. The Middle Woodland Period occupation at Summer Island has been characterized as one where the occupants were engaged in targeting sturgeon during the spring spawning season into the summer within an economy which was dependent upon fish for a larger portion of the diet than in earlier periods. The size of many of the lakeshore sites also increases over those known from the Archaic period, as does the length of the occupation, implying that these fishing-oriented sites were involving a greater proportion of the population for more extended periods. Interestingly, while the size and number of Great Lakes shoreline sites increases between the Archaic and Woodland Periods, and inland lake sites are utilized during both the Archaic and Woodland Periods, Archaic sites located on inland rivers and streams are both larger and more numerous than those of succeeding periods--an indication of the growing pull of, and adaptation to, the Great Lakes fishery through time.

While many of the Great Lakes shoreline sites attributed to the Middle Woodland Period in the Upper Great Lakes region are occupied during the spring and summer and focused on species which spawn during this time, several sites also contain remains identified as coming from lake trout and lake whitefish—both of which are fall spawning species. There is clear evidence in accounts of the native fisheries reported by Europeans in the 18th century of Native Americans taking large lake trout by spearing in both open water and, as noted in the Dablon account in Part I, through the ice in the
...continued on page 20
It’s a controversial issue and hot topic across the
Midwest right now. Nothing new for me really. I
received a call from a potential client the other day. I
was just getting done washing off the mud and cedar
debris from the Adipose in the drive-thru car wash, so
I decided to take the call. The kind lady first asked if
I was catch and release.

“Well, of course I am ma’am.”

“But we want to fish up there next week when we
are up for vacation. Can’t we keep the fish we catch?”
replied the lady.

I had to take the opportunity to explain myself.
I am an advocate for C&R, but also believe there
is a time and place for selective harvest—meaning
taking out certain size fish in a population that is
self-sustaining in order to ensure future healthy size
class, whether warm water or cold water species.

“I would gladly take you fishing, but if I let you
keep fish, that would not only deter the quality
goal of guide trips next week, month, and next year,
but also, if the word got out that True North Trout
catches and kills trout, I could quickly gain a negative
reputation and lose potential clients. It works like
this, if you popped a basketball every time you make
a basket, you might be missing the point. The relaxation, the art of tying
and fooling a fish on a fly, therein lays
the reward and why we chase eight-inch
brook trout with a three-weight rod. Fly
fishing is about the peace, the serenity,
and the enjoyment of seeing the beauty
in nature around us.”

“But what if we let the females go?”
she retorted. “My husband and I would
like to learn to fly fish.”

She was relentless. I felt backed
in the corner. How can I turn around
a possible learning situation for these
anglers and for myself?

“I would be more than happy to take and show
you how beautiful the river is and some fly fishing
techniques, but I won’t purposely kill or take a fish
take him out of the ecosystem, there is zero percent
chance of catching him again or that he will be a two
foot streamer crashing trophy next season.” The best
I could come up with.

“Well, maybe. Let me talk with my husband, we
would like to learn how to fly fish. Do you know any
other guides that will let us keep our catch?” She is
not giving up easily.

“I am sorry, I do not, sounds like you are look
more for a charter boat captain and would enjoy
a trip on Lake Michigan trolling for salmon or lake
trout.”

“Thank you. We will get back with you. Goodbye.”

“That you. I am sorry. I hope you understand.
If we as guides killed every fish we catch, we
wouldn’t have a job in a few short years, similar to a
Scenario phone calls like this seem to pop up every other week or so. Kind of crazy when I think about it. What is driving this customer my way? Google Search shows True North Trout at top ten? Most of these anglers are from out-of-state. I understand the need to bring a fish home, a bit of a keepsake from Michigan, and understandable with out-of-state license fees. But these fees are exactly what help keep Michigan an often sought fishing destination. What about where they are from? I see a trend in Ohio, Indiana, Illinois, and even Georgia residents seeking a piece of our Northern Michigan heaven. So I looked into these states and why the popularity.

First, The PURE MICHIGAN campaign. Laugh a little; I did. But a considerable quantity of out-of-staters have said they were influenced by the Pure Michigan campaign, either on TV, billboard, or on social media. It does get the word out on what a wonderful water wonderland we live in. It is much appreciated. Maybe we could focus these ads to incorporate a “Leave It as You Found It” mantra.

As I dug deeper, and asked other guides from around the state, I found stocking practices in other states to be very instrumental in the anglers’ outlook on the fishery. It seems many states to the south are mostly put and take fisheries. There is nothing wrong with that. Michigan used to be fairly seated at the helm of the same practice. In the seventies and eighties, if a fair number of anglers complained about the same fish to be caught more than once on many rivers in our neck of the woods. Pictures have proven the same fish to be caught more often than once on many rivers in our neck of the woods. We are advocates of our resources. I believe we need to teach and share responsible catch and release practices with as many people as we come in contact with. It is simple. I realize I am preaching to the choir, but it amazes me how many people still feel the need to fill a freezer with fish that they never end up eating before it is freezer burnt.

Later, with coordinated efforts of concerned non-profit groups like Trout Unlimited and Anglers of the Au Sable, we realized that these practices were short term answers. It was only in recent decades that DNR biologists have shifted focus on rehabilitating the resource instead of just throwing more fish at it. This allows for better and more natural reproduction. And it also provides a wild fishery, not hatchery stockers that will readily accept any food-like particle that floats near them.

Most of the stocking done by the DNR is fingerlings or just below keepable size limit fish with hopes that they will establish themselves and become a more viable adversary within a season or two, IF we allow them to grow. Some states are raising their hatchery stockers to a much larger release size. This is due to the fact that many of the fisheries don’t often see holdover fish from previous seasons. The water either gets too warm, there is dissolved oxygen depletion, or too much competition from other cool-warm water transition species. Often it is all three factors that play a part. So these states actually expect you to keep your catch. They will often start the season with a “flies-only” regulation for the first month and transition to allowing any type of gear/tackle when anglers head out to stock up the freezer.

This reminded me of my childhood. I vividly recollect many ice fishing trips with dad, filling our five-gallon buckets with perch, bluegill, and crappie, bringing them home, reviving them in a sink of cold water, and cleaning a mess of panfish. Without consideration, we would clean out the freezer of Ziploc bags of perch and bass caught in the previous year’s outings. They became fertilizer for our rose bushes.

Our fathers’ and grandfathers’ generations were survivors; they kept and saved everything from rubber bands to Cool Whip containers, simply because you never knew when they were going to need them. Fishing was very much a machismo sport, and you had to bring home your kill. Otherwise, what proof would you have? They didn’t have cell phones with cameras.

There was a time when I would have to wait until all my photos were used up on my Kodak Instamatic 110 and drop the roll off at Meijer and wait a week longer to show others the bounty of our day on the water. I am certainly glad times have evolved, some for better, some for worse. Sure, we see more postings on our Facebook feed from the great hatch last night, or someone who hooked into a monster across the country. More often they are released and pictures have proven the same fish to be caught more than once on many rivers in our neck of the woods.

We enjoyed a great fresh caught walleye and morel meal the other night; one of the rewards of fishing with Chef from Sante’ and being on Lake Charlevoix in the spring. I love fish. The best tasting fish is brookie, fried streamside while camping with nothing but butter, lemon, and some fresh cracked pepper. I only do this on occasion, which is why it is special. Otherwise, it would be as ordinary as a PB&J sandwich.

We are advocates of our resources. I believe we need to teach and share responsible catch and release practices with as many people as we come in contact with. It is simple. I realize I am preaching to the choir, but it amazes me how many people still feel the need to fill a freezer with fish that they never end up eating before it is freezer burnt.
Late one night last July, I broke my two-piece custom, seven-foot Fenwick HMG four-weight rod. The 1970s vintage rod was an extension of my body and had taken many nice fish. How it happened isn’t clear and it’s still hard to accept. Today, most four-weight rods have four sections, fast actions, and are over seven and a half feet long. A fast action, eight-to nine-foot rod capable of launching a fly ninety feet is overkill where I fish. The river is narrow and lined with cedar sweeps and brush. Most fish are close, and going through swamps and thick brush at night favors shorter rods. I was looking for a seven-foot, two-piece moderate action, four-weight blank to build a replacement. With a five-weight line it would cast a short line nicely with enough power to handle big flies and large fish.

I selected a two piece, four-weight Thomas and Thomas LST blank. The seven and a half foot blank and components were over $500 compared to the HMG second that cost $15. After consulting with the maker, the rod was shortened three inches and the guide spacing was set. The rod has moderate action with plenty of power in the butt to handle bigger flies and a soft touch for delicate presentations. It loads smoothly and casts accurately in close and out to seventy-five feet. Whether the tip was quick and stiff enough to hook a big fish remained to be seen.

Early season on the mainstream and South Branch of the Au Sable was challenging. Brown trout in the fourteen to eighteen inch class were virtually absent in historically productive areas, but there were more and bigger brook trout than previous years. Maybe the five-year class browns had lived a normal life span and the hard winter two years ago killed fish that would be their successors. Was the absence of bigger browns why the brookies were doing so well? Maybe it had something to do with the Walt’s Crawlers boxes below Chase Bridge or the monofilament line at Daisy Bend.

The Brown Drake hatch on the South Branch can be fickle. This year it was delayed and spotty. Evenings when bugs came off and mating swarms danced above the water, there were few big fish to greet them. Many evenings got cold and things shut down when the big browns would normally begin feeding. Low water conditions exposed many “wiggler” beds and there were fewer Drakes than normal. Weekdays were wet and cool, while warmer weekends brought an emergence of another kind. Drakes were on the wane and the T&T had still not been tested.

My best friend and fishing companion arrived with the Hex on the Mason Tract. Quiet, peaceful nights on the river became crowded with anglers from as far away as Connecticut, New York, Massachusetts, and Colorado. If you weren’t there early, you were out of luck and had to stay in one place because there were fishermen upstream and down. I wonder if fish think people eat mayflies too since both arrive at the same time. One thing is certain; the river can only take so much pressure and still sustain a naturally reproducing population of wild trout. Kirk and I got to the river at 7:30 p.m. and were lucky to find a place to park. Fishing spots nearby had already been staked out. After walking a half mile, Kirk came to his favorite bend. It was taken as well as the stretch below. I waited upstream at a log jam that has produced in years past. Kirk joined me and by 9:00 p.m. there were fishermen at every bend and logjam up and down the river.

We had the logjam to ourselves and two nice fish were rising. A large fish was feeding consistently and aggressively tight to the logjam across and downstream from me. I made a couple casts but could not get a natural drift and the fish refused my offerings. As I thought about how to best approach the fish, it began to move into a feeding lane above and away from the logjam. This was the moment of opportunity. I made a perfect presentation and the fly drifted over the fish; no response. Several more
casts gave the same result, so I tried a different pattern to no avail. This wary fish had played this game before. It moved closer to the logjam and I wondered if I had spooked it. I took a timeout, settled down, and tied on a deer hair emerger. As I did, the fish returned to the feeding lane and began slurping away. The first cast met with a large heavy splash.

The fish bore down and shook its head violently. It thrashed in the current and headed for the same logjam that cost me a nice fish earlier in the week. I crossed the river and moved upstream to slower water away from the logs. The rod was parabolic, but kept the fish from making runs downstream. Ten minutes later it was time to end the battle. I moved to the bank, knelt down, and gently removed the hook. This was a beautifully colored brown. I watched it recover and then slide it back into the river. The question had been answered - the T&T could set the hook and bring a large fish to hand! Fish were still rising, but I sat down on the bank grateful for the gift the river had just given me.

Moonlight danced off the water and silhouetted the sentinel pines. Sounds of the night became still. It was a special moment. I realized how fortunate I am to fish for wild trout and experience the wilderness remaining in remote areas of the river. I remembered the late Ann and Jack Schweigert of Roscommon who taught me to respect the river and the trout. Ann was an extremely gifted tier and created several Au Sable patterns. Jack formulated his own dry fly floatant, processed monofilament, and hand-tied the best leaders of the day. Before Jack joined those who went before him on the river, I purchased a lifetime supply of his leaders and remaining leader material. The fish I just released was caught on his 2x leader and a deer hair emerger Ann taught me to tie. I gave thanks to George Mason who dedicated this stretch of the river to future generations and to Rusty Gates, who fought tirelessly to protect our priceless rivers.

All this is seriously threatened by the issuance of a Department of Natural Resources permit on the East Branch of the Au Sable River. The fish hatchery that historically stocked local waters and was an educational tourist attraction is now a commercial fish farm capable of producing fifteen times more fish, up to 300,000 pounds annually. The inevitable escape of fish, genetically engineered for fast growth and treated with antibiotics, will weaken the genetics and viability of the wild trout. The untreated outflow of nutrient laden water from excess fish food and excrement will depress oxygen levels, which at times are already below standards. It is a potential source of disease and invasive species that can irreparably destroy the entire ecosystem.

The future of the river and the wild trout that live there is in our hands. Donations to contest the fish farm permit and support programs to protect the river can be made by going to the Mason Griffith Founders Chapter of Trout Unlimited and the Anglers of the Au Sable websites.

David is a member Mason Griffith Chapter and Anglers of the Au Sable. He is retired from a career in environmental protection doing limnological research on the Great Lakes and served as a Senior Policy Advisor at the U.S. Environmental Protection Agency’s Office of Water. The path took him from doing water quality field work, to working on toxic materials control, to unit chief of enforcement in the Air Quality Division.

Lovells Township Historical Society
8405 Twin Bridge Rd Lovells, Mi
2017 Fishing Museum Exhibit is Art Neumann
See us on Facebook or www.lovellsmuseum.com
Come and Visit
April 30 – October 1
Friday & Saturday
11am - 5 pm
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Diapause is a strategy for insects to survive less than ideal conditions. Certain species of caddisflies and stoneflies use both the egg and nymph stages to suspend development, while only a few species of mayflies undergo diapause and only during the egg stage. The eggs in all three orders are often quite tolerant to desiccation, temperature extremes, and even to being eaten and passing through fish gut systems unharmed! In winters of extreme cold and freezing, there can be anchor ice in the stream. While many eggs can survive short bouts of freezing, nymphs and larvae can be adversely impacted, often migrating away or out of areas of ice formation. During extreme winters, there can be winter kill of benthic invertebrates, largely due to ice. As always, there is plenty to ponder when gazing at your favorite stream. Enjoy!


Fishing for Five Millenia...

The Ann Arbor Chapter mourns Daniel R. Zywocki, age 66, who passed away July 19, 2016. Dan became involved in AATU in the 1990s and was one of our most active members until he became ill late this spring. He served our organization in a variety of ways. In addition to always attending our banquets and member meetings as a lifetime TU member and helping the chapter whenever something needed to get done, Dan was a member of the AATU board during most of the last two decades and represented us on the Michigan TU Council for nearly sixteen years. He was a skilled fly caster and was an instructor at the Michigan TU School for eighteen years. Moreover, he shared his casting knowledge and skills as a “River Helper” at retreats held by Casting for Recovery, and was one of the casting demonstrators at the AATU Dexter Trout Fest in 2015. He was a volunteer worker in several river restoration projects, notably those that were undertaken on the Rifle River in collaboration with Huron Pines and the Mershon Chapter from Saginaw.

Dan hailed from the Toledo area, and the late Carlos Fetterolf, one of AATU’s most prominent members, counted him as a special friend and referred to him as “The Toledo Flash.” He never failed to invite Dan to the numerous events that he hosted at his Up North cabin, “The Remedy.” Given his Polish heritage, another of our members, all in good-natured fun, dubbed him “The Fishing Pole.”

Dan’s energy and readiness to be an active participant in angling organizations were not confined to AATU. He was a member and officer of the Merickel-Farley Trout Club near Toledo and for a number of years hosted AATU outings to that venue. He was also active in a Toledo-based organization named the North Branch Boys and recruited several AATU members, who discovered that there are some outstanding trout streams in Ohio.

Dan was a special guy who was always quick to welcome and engage new attendees at chapter meetings, and was well known for lending a helping hand or giving away some of his flies to anglers he encountered on the river. He was a significant asset to AATU and his friendship and contributions will be missed in many ways.
Decontamination of... continued from page 9
testing.

Summary

Currently, Virkon is accepted by most fisheries agencies and is promoted for use in decontamination. It can be acquired with little effort, is effective at killing several other nuisance species, and is an excellent chemical option for angler use. Formula 409, over-the-counter, has been proven to be 100% effective, if used at full strength, and if gear is soaked for a minimum of ten minutes. Its availability will lead most anglers to select it as the chemical of choice, but it must be used as directed and not diluted or simply sprayed. Spartan HDQ appears to be a new promising candidate and proven to be 100% effective as a soak. Although shown to work via spraying, caution should still be exercised given the limited amount of testing.

The NZMS threat is here and real. For the rivers that have become infected—the Pere Marquette, Boardman, and Au Sable—only time will tell what impact these snails will have. In some rivers, these snails can become incredibly abundant and can impact the abundance of other aquatic invertebrates, effecting the growth and survival of trout. In other rivers, NZMS populations seem to stay at lower levels. The difference is not clearly understood. The fate of three of our best fisheries is now playing out. Control measures for NZMS are not at the ready so anglers need do their best to prevent the spread of these snails to other parts of the rivers, and to all our other incredible fisheries.
Buy Your Groceries, Save a Trout Stream

If you do your grocery shopping at Kroger or its affiliate stores in the state, your grocery purchases will earn cash for Michigan TU through the company’s Kroger Community Rewards Program. With a simple one-time registration into the program, Kroger will donate 5% of your grocery purchases each and every time you do your shopping. That's right...your grocery shopping generates a cash donation to TU from Kroger! That's right...no cost to you!

This program is a ridiculously easy way to donate a few bucks a week to coldwater conservation every time you do your grocery shopping. Kroger’s program uses your existing Kroger Plus customer card...there is no separate card, matching payment, or minimum purchase requirement.

Visit our website to sign up! michigantu.org/kroger

The Legacy of a River is an amazing gift...

Please consider including Michigan Trout Unlimited in your estate plans, trust or will. The legacy you leave will help ensure Michigan’s cold waters and trout live on. MITU has a helpful guide to planned giving options that can both benefit you as well as providing a legacy to coldwater protection. To view this brochure, visit michigantu.org/plannedgiving, or request a paper copy from Bryan Burroughs, Executive Director bryanburroughs@michigantu.org

Find what you're looking for yourself or great gifts for your friends. You'll find unique Michigan TU merchandise with our logo on t-shirts, sweatshirts, mugs, stickers, and more.

Visit our Store Today! michigantu.org/merchandise

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Saturday, April 15th, 2017
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Table rental is only $20 per table
2 PM Distance Casting Competition - Win $50 Cash!

Birch Run Expo Center
Exit # 136, I-75 - Birch Run, MI
$20 to rent a table or bring your own table at $10 a table.
If you are looking to buy or sell fly fishing equipment,
fly rods, flies, waders, drift boats, kayaks or canoes… then this is
the place to be! Plan to bring CASH as most people will not
be set up to do credit card sales.

To reserve a table, please contact
Jeff Johnson by phone at: 313-510-0928
or by email at jeffjohnsonriverguide@yahoo.com
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