2023 July Newsletter

TU Western Driftless Hotline

Editorial by Carl Berberich

Neonics and Stream Ecology

I recently listened to a podcast by Tom Rosenbauer of Orvis. In this podcast called Neonic Pesticides, with Michael Miller , Tom Rosenbauer answers many fly-fishing questions, however at the 36 minute point (you can just go to that point in the podcast), he starts an interview with Michael Miller, a Wisconsin DNR stream ecologist working for the Department of Natural Resource's Water Quality Bureau and who also teaches about aquatic resources at University of Wisconsin, Madison. This is a very interesting and disturbing interview. Miller talks extensively about Neonics, their wide agricultural usage, and how they are affecting our current aquatic insect populations.

One very unique part of this interview is at the 1:14:00 point in the podcast. Miller discusses his new research proposal to identify and count aquatic insect streamside in Wisconsin streams. Currently this is not being done anywhere. They have been using weather radar since the 1950's to identify the very large Hexagenia Limbata mayfly hatch on the upper Mississippi River. Today, this is currently showing a 50% decline in the last few years. Otherwise, there has not been a way to scientifically track any insect numbers. Without science proving it, the seemingly reduction of the aquatic insects could be just considered 'an opinion'.

Miller's research proposal would use a very low-cost camera and an AI device (which would ID the insects and count them from the photos). This would be called an insect trap and would be used at night. His article on this proposal is on Page 10

To me, this sounds like something we could also do here if he has success with his beta testing this coming winter and the further plans for deployment next spring and summer.

A Deadly Plant That Looks Like a Harmless Weed Is Spreading In Minnesota

I just read an online article found here about a new invasive plant in MN called poison hemlock. The state cautions against trying remove it yourself. The MN DNR recommends reporting its presence and contacting a professional to have it eradicated. Poison hemlock tends to grow along wetlands and streams, in ditches, and along fields. All parts of the plant contain neurotoxins that pose a danger to humans and animals and can be fatal if ingested. So, learn to identify, and watch out for this plant.

Hiawatha TU

By John Weiss, HTU Board member

Summertime Fishing Conditions

On June 21, I posted a sunrise picture of the South Branch Whitewater and noted that the water was 62 degrees at that time.

One comment stunned me - the writer said I should have quit fishing at 62 degrees and added a link to a Coastal Angler Magazine article in its Great Smoky Mountains Edition. I read it and sure enough, the writer, Ethan Hollifield, said that summer is a great time to fish trout, but water temperature can rise to "dangerously high levels that can cause trout to become stressed to the point where even catch and release fishing can ensure a fish's demise even after only seconds out the water." Okay, I agree, I've read many articles on that.

Then he added that the problem "normally starts to occur whenever the water temperature reaches above the 60-62 degree mark." Are trout that much different in the east?

I've always read that trout get most active around that temperature, not stressed. Then National Trout Unlimited recently came out with an article that backed up when I've been told all along - 60-62 degrees isn't dangerous. Here's what TU wrote:

- Below 65 degrees, "Trout are happy, hungry and ready for a fight. You can feel confident that the fish will be able to survive after proper catch-and-release."
- Between 65-68, "trout are slowing down and feeling the heat." TU suggests we "rope up with heavier tippets to land fish quicker." Keep trout wet and skip the photos. "Be patient - they may need more time to revive before release."
- Over 68 degrees "HEADS UP: TOO HOT FOR TROUT." In that range, trout are feeling stressed and need a break. Mortality increases even with proper catch-and-release. Try to find other places to fish or try again when it cools down.

I always have a thermometer with me, and I've taken more readings than usual. I've found going out around sunrise gives me good water and sometimes even some hatches. And I found a small spring coming into Middle Branch Whitewater helped cool down the water below it a bit. Where Canfield Creek comes into the South Branch of the Root also really cools down that water.

For the record, the overnight low before I fished June 21 was 61 and the high was 87 so I got into some good conditions, but just needed to get up around 4 a.m.

Win-Cres TU May 3 Meeting Notes

By Mark Reisetter Win-Cres Board member

Roger Berg has spearheaded the effort to present TU's mission at the Winona County fair. He showed photos of the booth setup, passed around the staffing schedule and encouraged participation, including for anyone wishing to tie flies as a demonstration. The fair ran through July 16.

A few Win-Cres members have been following the work of the Winona County Clean Water Coalition, which is trying to address nitrate groundwater pollution from manure and other sources. TU has been asked to sign on to the effort and help with the campaign.
Also, Bonita Underbakke, who is organizing a Fillmore County clean water group, asked the chapter to endorse its effort to encourage county well owners to participate in a free testing program in January 2024. The goal is to test private wells for nitrates to inform the well owners as well as to collect data by township showing regions with nitrate problems. She is looking for local groups to endorse the effort. The Win-Cres board voted to endorse the effort in principle, and to authorize the board president to give final approval to using the chapter's name on a letter or other material promoting the effort once he reviews the text.

Mowing: Dave Shaffer reported that a ¾-mile path on S. Fork of the Root was mowed in June, in the Million Dollar bridge area. Garvin Brook, along the US 14 access points, was mowed on July 13. Wild parsnip was the dominant weed. Both the new chainsaw and hand-held brush cutter were used, along with the mower.

Little Pickwick work: A small crew to help landowner Jim Albrecht remove some barbed wire, possibly on an evening next week will be formed. The chapter also has the opportunity to use the brush cutter on another property on the stream to remove willow shoots. The details of that effort are to be worked out.

Knotweed: Dusty Hoffman has continued to map knotweed on Garvin Brook and recently assisted in knotweed spraying on the S. Branch of WW. Chuck Shepard said his injection of knotweed on Garvin has been successful in certain spots but that a broader spraying program by a DNR contractor is planned in September.

Joe Lepley bequest: Chuck showed a draft of a thank you letter to the family for the generous gift that Joe has given the chapter.

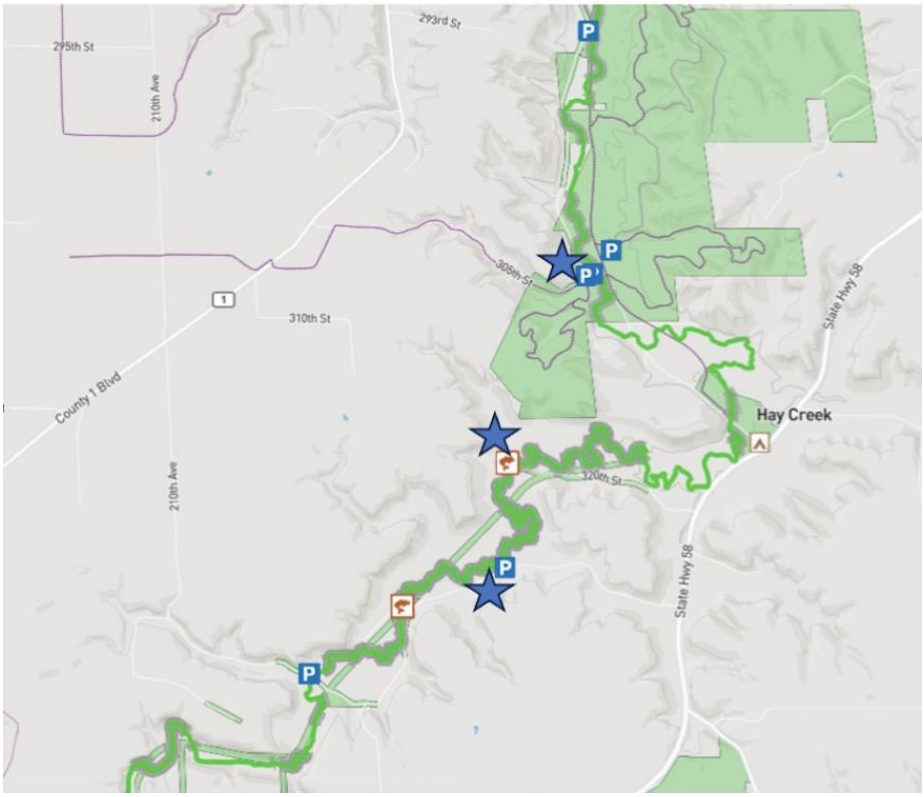
Members continue to tie flies for the Veterans Fly Fishing Retreat at Whitewater State Park on September 16, which is being organized by Naturalist Sara Holger.

TCTU fishing Minnesota

By Bob Luck, President of TCTU

There is no map of the Driftless area that includes the Twin Cities, but we aren't far! The closest Driftless stream to my home in downtown Minneapolis is the lower Kinnickinnic in Wisconsin, which I can reach in 45 minutes if I avoid rush hour. If I want to fish the "Western Driftless", the closest stream is Hay Creek, about 70 minutes from my house. Hay Creek is heavily fished in the winter and spring, but once June rolls around, you are likely to have it to yourself.

Normally, I am hesitant to kiss and tell about streams, but there is so much good, easily accessible water on Hay Creek that I can't help myself. I heard a rumor that Hay Creek was the first stream in Minnesota where a habitat project was completed, back in the 1970s. That may or may not be true, but it is beyond question that there is a lot of improved water on Hay Creek. The first section of note is off 325th Avenue. The creek runs through a pasture where cattle are rotationally grazed to keep the summer weeds to a manageable level. I have never seen the water temperature exceed 60 degrees on this stretch, even on the hottest summer afternoon.



Farther downstream, off 320th Avenue is a massive 8000-foot-long stretch of improvement that was just completed in June. The prairie is growing in nicely, and it should be ready to fish starting on August 1st.

If you drive farther downstream, past the campground and saloon, you will come to a final stretch of habitat-improved water off 305th Avenue that was restored last year. This stretch is open, with no trees to snag a backcast, and it is a great place to take beginners. The water here can often be slightly discolored, which reduces the

chance that trout will flee for their lives when an angler approaches.

I hope to see you on Hay Creek sometime this summer, just as long as there aren't too many of you!

Update on Winona County Clean Water Coalition working to decrease Nitrates in Groundwater

By Monta Hayner TCTU member, MCEA member

A board member from Twin Cities Trout Unlimited asked me to present on the economic value of outdoor recreation in the Minnesota Driftless region at the Winona County Clean Water Coalition Forum on May 22, 2023. I've continued to attend meetings with the Coalition. Here is an update and some recommended actions you can take to address the problem of ground water contamination. As stated in the last Winn-Cres TU newsletter, in May the Minnesota Center for Environmental Advocacy (MCEA), on behalf of the Coalition and citizens of the region, petitioned the U.S. Environmental Protection Agency to address the on-going drinking water contamination in SE Minnesota. 5-10-23_EPA_Petition_One-Pager.pdf (mncenter.org).

MCEA hosted a webinar, which I attended, where they explained the ground water crisis in SE Minnesota. It is a great summary of the issue. Click here to view the Webinar: There's something in the water — Green Beagle 2023 CLE | Minnesota Center for Environmental Advocacy (mncenter.org)

If you want to take action, add your name [Join the call for action on SE Minnesota's drinking water crisis | Minnesota Center for Environmental Advocacy (mncenter.org)]

The Coalition continues to meet to organize further action. Members of the Clean Water Coalition planning committee met with Catherine Neuschler and Erik Cedarleaf Dahl of the MN Environmental Quality Board (EQB) on July 6, 2023. We gave them details about our concerns and asked them to take action within their purview. They were shown a road cut that represents the geology of the Karst region: shallow soil on porous limestone on porous sandstone. The Coalition presented the problem from several angles.

1. The local economy greatly benefits from visitors participating in outdoor recreation (fishing, camping, canoeing, inner tubing) attributable to clean streams that are harmed by fish kills and pollution.
2. The state has known of the problem with water quality since at least the early eighties and agencies have been unsuccessful in improving our water quality.
3. The EPA maximum contamination rate for nitrates (10/mg/L) is based on old information. There are new studies that correlate long term lower levels of exposure with certain cancers.
4. Knowledge we already have, should be used in environmental review.
5. A member described what it was like to live with a contaminated well.
6. This was a personal experience of improving water quality by using sustainable agriculture methods. The EQB is made up of many MN State Departments responsible for overseeing this pollution issue. MCEA sent a letter to the EQB and is requesting meetings with the MN State Departments who are responsible for regulating farm pollution and clean drinking water.

Nitrate levels in this region routinely exceed the federal and state safe drinking water standards. These standards may be too high as lower levels of nitrates are correlated in long term studies to certain cancers. Groundwater, where wells get their water, and springs that feed the trout streams are one and the same. Fish kills are evidence of acute pollution incidents. However, there is a constant seepage of excess nitrate application on crops into the ground water as shown by the increase in nitrates in wells. What is this constant exposure to nitrates doing to the fish? Nitrate levels in ground water correspond with pesticides in ground water. As nitrates increase so do pesticides. Pesticides kill the insects that are the food source for trout and other fish species. Stream monitoring is an important tool to keep our streams healthy.

Make this a conservation concern for your Trout Unlimited club. If you own a well, get your water tested. A local accredited laboratory can be found at the MN Dept of Health website: [Search for Accredited Laboratories - Environmental Laboratory Accreditation Program (state.mn.us)]
For more information about private wells [Minnesota Water Well Service - Drink Well! | Minnesota Well Owners Org. (mnwoo.org)]

Nitrates in our ground water is a regional issue encompassing Minnesota, Iowa, and Wisconsin Driftless regions because of its unique geology. All three states are working to stop expansion of CAFO's near sinkholes and streams. We need to make it a national Trout Unlimited conservation issue. Anything put on the land ends up in the water you drink and the fish live in.

Monta Hayner
Longtime Twin Cities Trout Unlimited member and volunteer
Supporter of MCEA for five years
Fly Fishing Guide – Driftless Fly Fishing Company

$1.86 million to address erosion on the North Branch of Root River

Story By Dave Shaffer, Win-Cres Board Member

One of the Driftless area's most ambitious efforts to restore a waterway is about to happen on the North Branch of the Root River. The project, on an oxbow that wraps around the Eagle Bluff Environmental Learning Center near Lanesboro, recently received $1 million in funding from the Minnesota Legislature. The work is expected to begin in 2024.

Eagle Bluff Environmental Learning Center

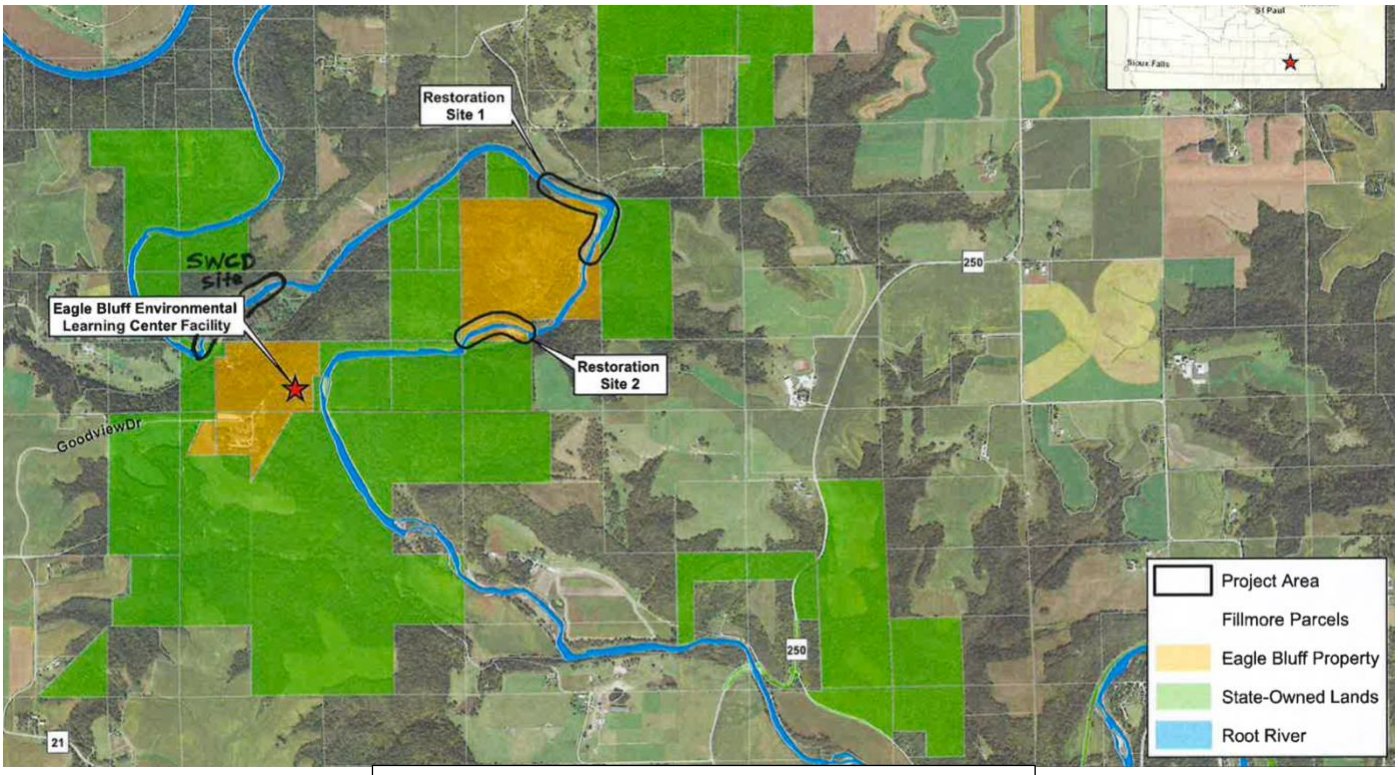
The goal is to "re-meander" the river closer to its natural channel to address decades of erosion. The river at the project site now runs hundreds of yards off course — a legacy of engineers who built a dam and 1/3-mile-long tunnel through limestone bluffs 108 years ago to electrify Preston and other towns. The Root River Power & Light Co. hydropower plant ceased generation decades ago, and the dam was removed in 2003. Yet the environmental effects linger. Hundreds of tons of sediment wash downstream from the site annually, said Jeff Weiss, a hydrologist with the Minnesota Depart of Natural Resources.

Historic channel location prior to the construction of the hydroelectric dam

Riverbanks on both sides below the former Brightsdale Dam also are being eaten away. Eagle Bluff, a nonprofit educational institution, has seen banks erode 10-20 feet inland in the past seven years, said Executive Director Colleen Foehrenbacher. As sediment washes downstream, it layers muck at river bends. “If you tip a canoe, you just fall into sludge,” Foehrenbacher said.

To address those problems, the Legislature approved an additional $866,000 to restore banks and river habitat at Eagle Bluff. The work is expected to be done at roughly the same time as the channel restoration just upstream.

“There is going to be a lot less erosion,” the DNR’s Weiss said of the project. “The whole system is going to be a lot healthier.”



Root River - Habitat Restoration Concept Plan

No remnants of the dam are visible today. But the river at the old dam site takes an unnatural turn of more than 90 degrees. Weiss suspects that tailings from tunnel excavation were dumped in the old riverbed, contributing to the eroding conditions today. Part of the old hydro plant still exists further down the oxbow. There are no plans to remove the old concrete generation house and tunnel outlet that looms over the river. The empty tunnel under Eagle Bluff also will remain, sealed to human visitors but home to bats.

The North Branch of the Root is mainly a warm water fishery, known for smallmouth bass, but has several tributary trout streams and anglers occasionally catch browns near mouths. Sturgeon also live in the river.

The restoration work will be done by private contractors after a bidding process. The $1 million grant is to the Fillmore Soil and Water Conservation District. That agency is working closely with Eagle Bluff, which received the other grant, and DNR. Trout Unlimited is not involved in the project, but the Nature Conservancy and other groups played a supporting role.
The money is from Environmental and Natural Resources Trust Fund, and projects are reviewed by the Legislative-Citizen Commission on Minnesota Resources. The trust fund gets money from Minnesota State Lottery proceeds.

Mowing and Toxic Invasive Weeds

Story and Photos By Dave Shaffer, Win-Cres Board Member

Garvin Brook is getting overgrown by toxic, invasive weeds.

Trout Unlimited volunteers recently mowed an angler path along the Minnesota 14 stretch near Stockton – and they were stunned by the expanse of wild parsnip, a tall, yellow-topped weed whose sap can burn the skin in the presence of sunlight.

Amid an expanse of colorful-but-toxic wild parsnip, Trout Unlimited's mowing crew takes a break from path cutting. From left, Michael Tanguay of the Twin Cities Chapter, Neal Mundahl, Mike Jeresek and John Weaver of the Win-Cres Chapter

The mowing crew led by the Win-Cres chapter on July 13 cleared more than a mile of path along banks of this trout stream using a walk-behind brush-cutting mower. Volunteers encountered weeds more than 7 feet tall that twice stalled the machine. The crew also spotted – and avoided – several Japanese knotweed plants. These invading weeds can create nearly impassible thickets.

Win-Cres has spearheaded efforts over several years to kill Garvin Brook knotweed, but it has stubbornly held on. The Minnesota DNR is planning additional spraying this fall.

If you see knotweed, don't cut or pull it because that will help it spread.

Win-Cres's mowing program also has cut an angler path on the South Fork of the Root River above and below the Hwy 12 bridge and plans to mow a long stretch of Rush Creek north of Rushford. If you are interested in this important work or have suggestions for other places to mow angler paths, please contact mowing crew coordinator Dave Shaffer at dshaffer1000@gmail.com.

Win-Cres Chapter volunteer and board member Neal Mundahl uses a brush cutting tool to clear a path at a Trout Unlimited stream access off US 14. In April, Stihl donated the brush cutter to the chapter, and awarded a $1,500 gift certificate to purchase other Stihl equipment. The chapter used some of the donation to purchase a battery-powered chain saw also used by the mowing crew.

Assessing Stream and Aquatic Insect Health

By Michael A Miller WI - DNR

UW-Madison Engineering Students are Advancing Technologies to Assess Stream Health

A team of UW Madison engineering students have begun development of a digital insect light trap that will use low-cost cameras and micro-computers to assess insect populations, cheaper, faster, and better, than current methods. Dubbed the *Wisconsin Night Life*, this device will be used to measure the health of trout streams and other aquatic and terrestrial ecosystems, by monitoring the insect life found in these different environments.

Aquatic insects and other invertebrates are key links in food webs and sensitive indicators of environmental health. Both angler observations and scientific studies indicate insect species diversity and populations are declining worldwide. While there's debate among scientists regarding the magnitude and rate of these declines and what factors may be most responsible, there is little dispute that the amount of monitoring data currently available is woefully inadequate to document insect populations and how they may vary geographically or over time.

The Wisconsin Department of Natural Resources collects about 400 aquatic invertebrate samples annually, that equates to about 1 sample for every 100 miles of streams in the state. These samples are processed at 2 state university labs, costing hundreds of dollars per sample and with a 6 – 8 month turn-around for the resulting data.

Aquatic insect data lacking

While some adult insect species such as emerald ash borers and gypsy moths are tracked by state and federal agencies, there are no systematic efforts to track adult aquatic insects in Wisconsin. Better monitoring data are fundamentally important to improve our understanding of insect diversity and population trends in both aquatic and terrestrial environments.

For over 100 years lighted insect traps have been used to assess insect populations. Traps are often comprised of white bedsheets suspended by a rope and illuminated with gas lanterns or electric lamps. During the night, entomologists either pluck the specimens of interest off the sheet, or the sheet is draped in a tub of alcohol to trap the insects drawn to the light. After the night's trapping, entomologists then sieve the drowned insects out of the tub and begin the laborious task of sorting and identifying the specimens collected.

With global concerns of declining wildlife populations, new camera trap technologies are being developed to improve assessment of animal species worldwide. Like trail cams, camera traps collect imagery data, but with the addition of microcomputers and artificial intelligence technologies, the images gathered can be processed automatically in the field to identify and count the animals of interest. Some of these devices transmit sampling data collected at remote field locations to researcher's office computers via cellular links.

Wisconsin Night Life

At night the autonomous Wisconsin Night Life will power-up, insects attracted to a stage lit by LEDs will be photographed, and the imagery data will be captured on an onboard computer. A primary goal of the project is to ultimately use Artificial Intelligence to automatically identify

and quantify the flying insects drawn to the trap. Insect population data collected by these field devices will then be transmitted to a computer server via a cellular link.
The major task in this effort will be the collection of the hundreds of photographs necessary to develop the computer algorithms used to identify and count the insects. Images of individual adult aquatic insects will be identified and labeled, and this information is then fed into a computer Deep Learning program to train a computer to identify and count specimens. The resulting algorithms will then be used to identify and count the insects captured in subsequent photographs.

The plan is to design a low-cost, open-source, relatively easy to build device, to help develop a consortium of state and federal agencies, and organizations like Trout Unlimited, to work on the project. Collaboration on crowdsourcing of the annotated images will help expedite the Deep Learning process. Initially the insect taxonomic identifications will be relatively coarse.

Distinguishing for example: mayflies, from caddisflies, from midges, etc. Knowing the numbers and proportions of each of these insect groups, and how these populations differ over time and among locations can provide powerful information on the conditions of streams and other aquatic and terrestrial environments. Imagery data collected at stream sites will be compared to what immature aquatic insects are found at these same locations using traditional aquatic kick net methods, to assess how representative the light trap samples are of what is found in the streams.

The UW Madison student engineering design team includes (left to right in photograph): Vinay Deshmukh, Dara Safe, Mason Morrow, and Surya Anumolu; project support will be provided by engineering professor Michael Cheadle, entomology professor James Crall, and stream ecologist Mike Miller of the Wisconsin Department of Natural Resources. Once the prototypes are working well (bugs worked in), we hope there will be interest among Trout Unlimited chapters both in Wisconsin and elsewhere to deploy some of these traps to assist in device testing and image collection.

Driftless After Dark

By Jason Rieke

Headed into the night on a driftless fishing escapade.

Someone told you that big brown trout turn into nocturnal predators. You tie up a strange looking fly that is supposed to mimic a mouse and you leave the house as the skies turn dark. You drive to a stream that has a few deeper holes and enter the darkness for a couple hours of swinging a fly around. Navigating by the light from stars and lightning bugs, you hike through a dewy field of shoulder high grass until you finally make your way to the stream. While the rest of the world sleeps, you grind away, casting more by feel and sound than by sight. You quickly come to find out that landing the fly in the water on this little driftless stream is often a small victory in itself. Occasionally, the sound of owl hoots and coyote yips echo through the misty valley. Closer to you, a startled deer kicks the ground and hisses, and then, when it is dead silent, a beaver slaps 10' from you with the sound of someone throwing a bowling ball into the water.

This was how the first few night fishing trips went for my friends and I back in our college days at Winona State University. We had a lot of fun learning how to fish in the dark and though it could be hit or miss, we always came back with a story to tell and usually landed a fish or two. Night fishing is a great challenge to try out, and when the stars align, big fish can hit the net.

The adipose fin of a large, nocturnal, mouse eating brown

10pm streamer eater

Flies and Gear:

Though nymphs and dry flies work (especially during a hex hatch), throwing bigger flies like mouse patterns and various streamers is a great way to target brown trout after dark. A couple of mouse patterns that have worked well for me have been the Ichabod Artimouse and the classic Morrish Mouse. For streamers, I like flies that push water and can be fished both closer to the surface and swung down into deeper holes. Two similar patterns that I have had success with over the years have been the Circus Peanut and Gallops Dungeon. I am not convinced that color makes a huge difference after dark but my confidence mouse colors have been tan, brown and black, and my confidence streamer colors have been black/chartreuse and black/purple.

Tan Ichabod Artimouse

Black/Chartreuse Circus Peanut

When fishing these bigger flies, it is a good idea to pair them with a 6-8wt rod, floating line, and a short/stout leader. My rod of choice is a 9' 7wt set up with floating line and a 6' leader tapering down to 12-15lb tippet. This helps with casting bigger flies, ensuring that streamside brush doesn't take all of your flies, and helps you land a beefy brown.

Landowner Appreciation in SE MN

Story and Photos By Dave Shaffer, Win-Cres Board Member

To maintain good relations with a generous landowner, the Win-Cres Chapter has upgraded and consolidated signage on a popular stretch of the South Fork of the Root River southeast of Lanesboro.

A new sign encourages anglers to pack out trash and pick up litter. It replaces a similar, damaged sign that was nearby.

The landowner has long allowed anglers to park on private property outside the public fishing easement. The site, known as the Apple Orchard stretch, is downstream of Hwy 12. TU volunteers recently mowed an angler path through emerging weeds on the same property.

Fly of The Month: Elkhair Caddis

By Lance Prado, HTU Board member

The Fly of The Month is an awesome Elk Hair Caddis fly pattern we like to tie at Root River Rod Co here in Lanesboro. This Elk Hair Caddis pattern separates itself from other Caddis patterns simply because we like to use a material called Dirty Bug Yarn from Semperfli. This material is excellent for dry flies because it floats like a cork, and it makes for a very fast tie. Click the Link below to watch how this fly is created and try it out for yourself.
https://www.youtube.com/watch?v=nW6sf95_y74&t=94s

Monthly Fishing Reports

Lanesboro MN: Root River Rod Co

Streams in SE MN are getting extremely low and clear. That being said, the fishing has been excellent. Tricos are just getting going in the morning between 6am and 9am. After the Tricos are done we have had luck switching to a streamer for the rest of the morning until the sun is high in the sky. In the afternoon a Hopper Dropper rig has been working well. We like to use hoppers such as the Hippie Stomper, Daves Hopper and Madam X. For droppers anything small seems to work fine but our favorite is the Blow Torch. Now for the Evening bite this is when you want to put on an Elk Hair Caddis and cast until you can't see your fly anymore.

Post morning Trico Brown Trout using a articulated Dungeon caught by Lance Prado

Decorah IA: Bear Creek Anglers

Water levels in NEIA continue to get lower with lack of rain. Air temps have been good and mild, so water temps are staying solid most of the day, but upcoming forecasts are showing extreme heat which will change that. Fish at safe water temps and keep a thermometer on you. We've started to see some good trico activity and it has been good throughout the late morning, but as temps rise start to look for them to quit earlier. Caddis and terrestrial dries still are catching good amounts of fish and especially in late evenings. Hot flies have been orange elk hair caddis in size 16 and any beetle or hopper patterns sizes 10-16. Fishing soft hackle behind dries or even behind nymphs is still good, especially around spots with underwater vegetation. Nymph patterns most effective lately are copper johns, especially red in size 16-18, caddis larva and emerger patterns, rainbow warrior, size 16-18, but anything size 16-18 with similar profiles should produce fish in the right spots.

Resources:

SE Stream Conditions (MN DNR)
State Map Trout Streams (MN DNR)
Southeast Streams (MN DNR)
AMA (MN DNR Aquatic Management Areas)
WMA (MN DNR Wildlife Management Areas)
SNA (MN DNR Scientific and Natural Areas)
State Forest (MN lands)
Driftless Hatch Chart (Driftless Region)
MN DNR Fish Kills Reporting (or call 651-649-5451 or 800-422-0798)
Trout-In-the-Classroom Map (School Locations in MN)
Wisconsin DNR Trout Streams
Iowa DNR Driftless Trout Stream Maps
IA WMA (IA DNR Wildlife Management Areas)
HTU's Iowa Driftless Stream Map
HTU Website: https://hiawatha-tu.org
TCTU Website: https://www.twincitiestu.org/
TCTU Events: https://www.twincitiestu.org/events.html
2023 MN DNR Driftless Stream Projects Map