

TROUT UNLIMITED MINNESOTA

The Official Publication of Minnesota Trout Unlimited - February 2024



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FLY FISHING EXPO**
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TAKING ACTION ON NITRATES
FISHERIES MANAGEMENT SUCCESSES
READING TROUT WATER
TYING THE PURPLE PRINCE CHARMING
PHOTO CONTEST WINNERS
YOUTH SERIES: INDICATOR SPECIES

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Minnesota Trout Unlimited
P.O. Box 845
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CHECK OUT THE PHOTO CONTEST WINNERS ON PAGE 16. MICAH CRIDER PHOTO.

ON THE COVER

MNTU Photo Contest Honorable Mention: An angler considers options in Whitewater State Park. Wayne Bartz photo.

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Advertising rate sheet available on request. Send all editorial and advertising correspondence or other inquiries to the volunteer editor:

Jade Thomason
 2067 E. Pioneer Rd.
 Duluth, MN 55804
 218-525-2381
 editor@mntu.org

Address change?

Please call 1-800-834-2419 or email trout@tu.org to update your contact information.

EDITOR’S ANGLE
 WEIRD WINTERS AND HOPE FOR THE FUTURE

By Jade Thomason, Editor

Recently, I came across a snowfall graph from the National Weather Service for the Duluth area. It compared last year's and this year's snow totals. The numbers were shocking. Last year at this time we had over 75 inches of snow and this year we're barely topping 16; normal is close to 50. Climate change is proving to come by way of "weird." It's useless to expect exclusively colder, warmer, dryer or wetter weather.

Climate change is a regular writing topic for me. But as time goes on, it's revealed to be the single biggest factor affecting everything I love. Selfishly, I can complain about the poor conditions for the snowsports I enjoy, but my mind mostly falls to fretting about tree, stream and animal health. What will spring runoff season look like for our trout streams? Did the forests receive enough fall moisture to protect them from the dry winter? As I write this, I'm watching a large herd

of deer freely navigating our northern apple orchard and I'm wondering and worrying about the moose.

A bit of solace lies in my hope for the next generation. Read about an experience with MNTU's Foster the Outdoors program on Page 21. Years ago, this mentorship concept was born from Tim Hemstad's mind and has been carefully transferred to Kevin Weir and Rich Femling, former mentors of the program. The idea is to connect kids and a parent with a knowledgeable angler, taking away some of the hurdles for newbies and bringing the pair into the broader fishing community. It's backed in angler recruitment science and is something worth getting excited about.

If you need another balm for the ache of the future, check out the smiling faces across Pages 10 and 11. MNTU's Trout in the Classroom Program continues to boom and provides hands-on trout and



outside experience for budding scientists and advocates across the state.

Check out mntu.org to read more on these programs and find contact information for the leaders.

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VOLUNTEERS WITH THE TWIN CITIES CHAPTER ROUNDED UP 25 BAGS OF TRASH AROUND HAY CREEK NEAR RED WING.

FROM THE EXECUTIVE DIRECTOR

INCREASING ADVOCACY TO PROTECT TROUT WATERS

By John Lenczewski, MNTU Executive Director

MNTU's new assistant director, Kristen Poppleton, started working full time on January 8. Kristen joined our team primarily to help MNTU increase its advocacy work and communications. The goal is not just for the two of us to spend more hours on advocacy work, but to better communicate with you about the threats and how you can help make a difference. Kristen will also help MNTU do a better job of sharing our success stories—whether in watershed protection, habitat restoration, education, or community engagement. Dedicated volunteers, like newsletter editor extraordinaire Jade Thomason, are already doing a fantastic job, and we hope to amplify their work with more social media posts and web content.

Over the past year, a passionate group of volunteers helped MNTU develop an advocacy framework and identify priority issues to focus much of our advocacy work on in 2024. At its January meeting the Board of Directors of MNTU affirmed the following Priority Issues for 2024:

- Public access
- Preventing fish kills
- Feedlot impacts
- Agricultural runoff, including pesticides & fungicides

Sulfide mining and forest management practices on AMAs are issues that are also of high priority for MNTU, but MNTU does not currently have the resources to take the lead on these concerns. MNTU will collaborate with trusted partners who have been leading on these issues and provide timely support to amplify their work.

A short overview of the public access issue can be found on Page 8. Access isn't just a concern for Trout Unlimited members as anglers, it is important to us as conservationists. Reconnecting trout streams to more of their floodplains is a critical strategy to mitigate the impacts of the more frequent and more intense flooding events caused by climate change. We need to get flood energy out of the stream channel and onto the land in the floodplain to prevent in-stream habitat from being destroyed. Trout stream easements are required before we or the DNR can restore habitat and floodplain access.

On January 15, 2024 several state agencies released their Fish Kill Prevention Legislative Report. Last spring MNTU helped draft and successfully lobbied to pass a bill requiring the agencies to identify measures that could be taken to prevent fish kills in southeast Minnesota.



The report is underwhelming. MNTU is working with partners to explore follow up steps that can be taken, including legislative action.

In 2024 we are looking forward to rallying MNTU members behind our priority issues. Banding together and using our varied strengths can help protect, restore and sustain Minnesota's treasured cold-water ecosystems.

MINNESOTA COUNCIL UPDATE

VOLUNTEER RECOGNITION

By Brent Notbohm, Minnesota Council of TU Chair

It's late January and the thermometer on my back porch here in Duluth reads 39 degrees. I have mixed feelings about these "warm" winters. As an angler, it means more days on the water chasing trout with a fly rod during the winter months, but as an environmentalist, I find them troubling. Having lived in the North Country since 2001, I have witnessed the negative impact of climate change: more severe hot or cold temperatures, too much or not enough precipitation for extended periods of time, flooded rivers or water so low that fish struggle to survive. The increased frequency of these extreme environmental conditions serves as a reminder of why the work of Minnesota Trout Unlimited is so important.

Not all change is bad. At the January 2024 Board of Directors meeting, we experienced a welcome organizational change when the new Assistant Director, Kristen Poppleton, and Habitat Program Director, Jenny Biederman, made their reports. Kristen and Jenny bring new ideas, expertise, and capabilities to MNTU. For example, Kristen is developing strategies to move the bar on several issues important to our members, such as increasing public access. Jenny announced at the board meeting that MNTU will be seeking the largest increase in funding for habitat projects in years.

Also at the January meeting, the Board of Directors activated several key initiatives. MNTU's advocacy plan was approved which will guide the policy agenda of our professional staff and passionate volunteers for the next several years. Also passed at the board meeting was a charge to develop a strategic communication plan for MNTU—one that will positively impact several components of our operations from growing membership to fundraising to advocacy. We are also seeking representatives from each chapter to serve on a newly constituted Habitat Advisory Committee. Please contact your chapter president if you're interested in serving on this important committee charged with advising our staff on future habitat projects across the state.

Finally, I'm thrilled to announce that MNTU will be publicly celebrating the excellent work of its volunteers starting at the 2024 Great Waters Fly Fishing Expo with new statewide service awards. The leadership of each chapter has been asked to nominate a special volunteer to receive a MNTU Distinguished Service Award. These extraordinary TUsers will be recognized for their dedication and service at a ceremony each spring at the Expo as well as in the summer newsletter. With the blessing of the Helgeson family, MNTU is also now presenting the Dr. Thomas Waters Award for Min-



nesota Conservation to an individual who has made a significant contribution to environmental conservation in Minnesota as a member of Trout Unlimited. I know I speak for the entire Board of Directors when I say it's time for us to better celebrate some of the terrific people who make MNTU such a successful organization!

Though many changes in our world are challenging, I'm proud to say MNTU is an organization on the rise and committed to facing many of those challenges. With new staff and new initiates, along with better recognition of our outstanding members, MNTU is doing its part to make Minnesota a better place.



MNTU CONNECTIONS

TU MN Editor
Jade Thomason
editor@mntu.org

Executive Director
John Lenczewski
john.lenczewski@mntu.org
612-670-1629
www.mntu.org

MN Council of TU Chair
Brent Notbohm
chair@mntu.org

Assistant Director
Kristen Poppleton
kristen.poppleton@mntu.org

Habitat Program Director
Jennifer Biederman
jennifer.biederman@mntu.org

Education Program Supervisor
Amber Taylor
education@mntu.org

Giving Coordinator
Mark Abner
mark.abner@mntu.org

Gitche Gumee Chapter
Brandon Kime, President
brandon.kime@gmail.com

Headwaters Chapter
Kris Williams, President
topherjoel01@gmail.com

Hiawatha Chapter
Phil Pankow, Past President
pankow.phil0615@gmail.com
www.hiawathatu.org

Twin Cities Chapter
Bob Luck, President
bob.luck@twincitiestu.org
612-564-TCTU
www.twincitiestu.org

Win-Cres Chapter
Chuck Shepard, President
shepard@hbc.com
www.wincrestu.org

FLOWING FREELY

MINNESOTA'S CULVERT COMEBACK FOR RESTORING FISH PASSAGE

By Jennifer Biederman, PhD, MNTU Habitat Program Director

When it comes to the movement of stream-dwelling fish, it's easy to forget that unobstructed pathways are vital for their natural behaviors. Fish need to navigate seamlessly through waterways, reach essential spawning and overwintering areas, and access abundant feeding grounds. The absence of barriers ensures the fluidity of their life cycles, contributing to thriving fish populations and the overall health of aquatic ecosystems.

So what gets in the way?

Barriers to fish movement come in a variety of natural and unnatural forms. Some barriers, like waterfalls, occur naturally because of local geological conditions, whereas others, like dams, road crossings, and culverts, exist to meet human demands for the development of roads and transportation. Many of these structures were put into place during a rapid expansion of infrastructure needs in the last century, and without concern for potential ecological consequences.

Today, removing unnatural fish barriers in northeast Minnesota streams is a critical concern due to the profound impact these structures have on the health of riparian ecosystems. Minnesota streams are home to various fish species, including native brook trout *Salvelinus fontinalis*, and barriers, like poorly designed culverts, impede the natural movement of these populations. This restriction disrupts essential migratory routes, limiting access to spawning, overwintering, and feeding grounds, while diminishing habitat for macroinvertebrates and other nongame organisms.

The concern over poorly designed culverts goes beyond individual fish species; it extends to the overall health of the entire river ecosystem, including connectivity, biology, geomorphology, water quality, and hydrology.

Connectivity

Improperly-sized or sloped culverts have the potential to sever the crucial link between the stream and its floodplain, disrupting the natural flow of the ecosystem, while also acting as barrier to longitudinal fish passage, impeding the migratory routes of aquatic species. This obstruction not only hinders the natural movement of fish but also disrupts the ecological balance within the waterways.

In the diagram of the recent culvert replacement on Tischer Creek, note how a too-narrow culvert can generate a fast-moving current which fish cannot swim against, or a waterfall at the outlet that is too difficult for some fish and invertebrates to jump. A properly-sized culvert has a width and slope that aligns with the upstream and downstream dimensions of the channel, allowing fish and other organisms to pass unrestrictedly. In northeastern Minnesota streams, such passage is crucial for allowing trout to access spawning and seasonal habitat



PERCHED CULVERTS PREVENT BROOK TROUT IN THE BAPTISM RIVER FROM ACCESSING 30 MILES OF QUALITY HABITAT.

(cold water in the summer and open water for overwintering).

Biology

The impact of improperly designed culverts extends to the biology of how streams and fish populations function. Many fish and invertebrate species depend on expansive, connected river habitats to complete their life cycles seamlessly. When culverts disrupt this continuity, it poses a significant threat to the ecological balance. Notably, the reproductive segregation caused by culverts can cause long-term genetic chang-

es in populations by limiting gene flow and potentially leading to genetic divergence.

Beyond genetics, the consequences of culverts extend to increased sedimentation. Altered flow patterns caused by poorly designed culverts contribute to higher sediment loads, posing a risk of burying the gravel riffles that offer critical trout spawning habitat and provide homes for a diversity of macroinvertebrates.

In the diagram, the “before” culvert

lacks the appropriate gravel and cobble substrate to allow for fish and macroinvertebrates to feel “at home” when passing through, while the “after” culvert passes water sediments naturally, while offering substrates that mimic the natural streambed. Addressing the impact of culverts on stream biology is crucial for preserving the intricate web of life that relies on the interconnectedness of river habitats.

Geomorphology

Stream geomorphology is the scientific study of the physical characteristics, for-



THIS CULVERT ON A COLDWATER TRIBUTARY TO THE TWO ISLAND RIVER BLOCKS FISH PASSAGE.

mations, and dynamic processes shaping the channels of streams and rivers, encompassing the interactions between water, sediment, and the surrounding landscape.

The repercussions of poorly designed culverts on the geomorphology of streams delve into critical alterations in the natural landscape. First, culverts disrupt natural sediment flow regimes within streams. This disturbance not only affects the physical structure of the streambed but also has broader ecological consequences by influencing sediment-dependent processes crucial for the health of the aquatic environment. For example, in the diagram, you can see that the narrow culvert constricted stream flow and caused water to pond upstream, causing sedimentation above the culvert.

Second, altered flow patterns created by these poorly designed culverts contribute to increased erosion along the streambanks and bed. This erosion can lead to a loss of soil, vegetation, and overall habitat stability, further exacerbating the environmental impact.

Moreover, the installation of culverts can result in the shortening of rivers and alterations in river slope. These changes, while seemingly localized, can have far-reaching consequences on the entire river network, affecting sediment transport, habitat availability, and the overall geomorphic equilibrium of the stream. Addressing the impact of poorly designed culverts on stream geomorphology is crucial for preserving the integrity of these natural systems.

Water Quality

The adverse effects of poorly designed culverts extend to the water quality of streams, introducing challenges that impact the delicate balance of aquatic ecosystems. First, these culverts contribute to increased turbidity (or cloudiness) of the water by altering flow patterns in ways that lead to disturbed sediment. This rise in turbidity has cascading effects, affecting light penetration, and disrupting the ecological processes dependent on clear water, including the photosynthetic activity of algae and aquatic plants.

Second, the phenomenon of “backwatering” behind improperly sized culverts poses a threat to water quality. This process results in an extended residence time of water, allowing it to absorb more solar energy. Consequently, higher water temperatures become a concern, potentially reaching levels detrimental to aquatic life.

Hydrology

The influence of poorly designed culverts on stream hydrology is intricately tied to alterations in both velocity and water depth. Culverts, when inadequately sized or designed, act as bottlenecks in the stream channel, leading to changes in flow regimes. The constriction caused by these suboptimal culverts often results in increased stream velocities as water is forced through a narrower opening, disrupting the natural balance of flow. This elevated velocity can lead to erosion of the streambed and streambanks, causing downstream consequences for sediment transport and habitat stability.

Tischer Creek Hartley Trail Crossing Replacement

Before

At this location on Tischer Creek, the prior culvert was too narrow. As a result, it blocked brook trout from swimming upstream to access healthy habitat & cold water - both are essential for brook trout survival.

The narrow culvert constricted stream flow and caused water to pond upstream.

Trail Surface

Culvert

A lack of substrate (gravels and cobbles) within the culvert prevented fish from having places to rest and made it harder to swim through.

Within the culvert, water flowed too fast for fish to swim against.

The fast-moving water created a waterfall at the culvert outlet that most fish couldn't jump past.

After

This new culvert is the same width as Tischer Creek and allows all fish and insects to pass through. Now, brook trout can access the upstream cold water they need to survive the summer. They also have access to upstream habitat, like gravel spawning beds and deep pools to spend the winter.

Water and sediment pass through naturally.

Trail Surface

Culvert

Flows inside the crossing are not different than the natural stream.

Natural streambed substrate mimics the stream and provides resting places for fish and insects.

Fish and insects do not need to jump past a waterfall to travel upstream.

Funders for this project include: the MN Lake Superior Coastal Program with federal funds through the Office for Coastal Management and National Oceanic and Atmospheric Administration, the State of Minnesota through the Lessard-Sams Outdoor Heritage Council, and MN Trout Unlimited.

Simultaneously, these improperly designed culverts can also impact water depth. The constriction of the channel may lead to fluctuations in water depth, creating uneven conditions along the stream. This variation in water depth can adversely affect aquatic habitats, particularly those species that are sensitive to changes in water levels. The interconnected relationship between stream velocity and water depth underscores the importance of well-designed culverts in maintaining the hydrological integrity of streams and supporting the diverse ecosystems they harbor.

By leading efforts to remove fish barriers in northeast Minnesota, MNTU aims to restore the connectivity of streams, promoting the natural flow of water and facilitating the movement of fish populations. This initiative is essential for preserving the integrity of aquatic ecosystems, supporting diverse fish species, and maintaining the overall ecological balance in the region.

Prioritizing Culvert Replacements Based on Fish Passage

For the past several years MNTU has worked with MNDNR Fisheries, the local Soil & Water Conservation Districts, local highway departments, and other

partners to replace the worst culverts which block brook trout passage. Given the vast number of culverts across the northeast region of the state, selecting which culverts to replace was done using a systematic approach using the MN DNR culvert assessment protocol, which evaluates culverts based on fish passage requirements, including:

- Perch of the outlet
- Size of culvert relative to bankfull width
- Presence of substrate within the culvert
- Alignment of the culvert with natural stream pattern

Once problematic culverts have been identified, MNTU uses stream temperature and fish population data from the MN DNR to select culverts for replacement, prioritizing those with the best potential to expand connectivity of suitable habitat for local brook trout populations.

MNTU Culvert Replacements Completed in 2023

Using Lessard Sams Outdoor Heritage Funds, MNTU replaced three culverts in the Manitou River watershed during the

summer of 2023, including two on Junction Creek and one in a tributary.

The culverts were undersized and perched, and lacked suitable substrate for fish and macroinvertebrates.

MNTU Culvert Replacements in 2024

The MNDNR has identified 55 problem crossings in the Baptism River watershed. Following a comprehensive review of these barriers, MNTU has identified two culvert replacements in the Baptism River watershed to be designed and constructed in 2024.

In addition, a culvert on Keene Creek, located between in-stream habitat projects completed in 2021 and 2022 will be constructed in 2024.

Recent research on North Shore brook trout shows that long range movement is common, and that wild brook trout often move considerable distances in the summer to reach thermal refuges of cold water. As climate change continues to alter stream flows and temperatures, restoring access to suitable habitat is a critical step in protecting and sustaining brook trout populations across northeast Minnesota.

5



FLY TYING

THE PURPLE PRINCE CHARMING

By Paul Johnson



Over the past number of years I have had a column in this newsletter that features the tying instructions for some of my favorite fly patterns. Truth be told, I do not remember if I have done one for my Purple Prince Charming or not. If I have, you should read this again because it is a really good fly pattern!

This is my variation of a fly called the Prince Charming which was featured several years ago in the Fly Tyer Magazine. As with a lot of my flies, I take what someone else has done and make some modifications to it until it looks good to me. I just made some simple material changes with the tail and the body materials. I also simplified the collar/thorax by using three full turns of dry fly hackle. After I finished with those changes, I gave it a really fancy new name, The Purple Prince Charming.

I will fish this fly throughout the year. Purple is my go to color for this fly, but I also will substitute the purple with red, pink, olive, copper and chartreuse. You



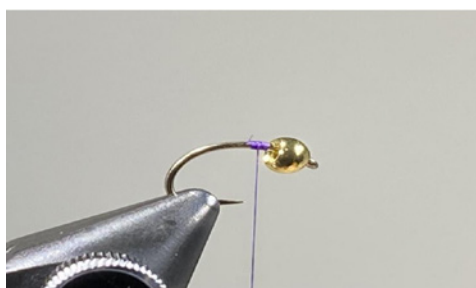
should tie some up and let me know how you do.

Paul Johnson
Waconia, Minnesota
Paulwaconia@gmail.com

As always, if you have any questions, please feel free to contact me.

Materials List

Hook:	Scud Hook Size 14 - 16
Bead:	Gold, brass or tungsten, sized to match hook
Thread:	Purple Uni 8/0 or 6/0
Tail:	Mayfly Brown Zelon
Abdomen:	Purple Montana Fly Co. Sexi Legs, Span Flex, Dubbing or Fly Tyers Dungeon Purple Bug Legs
Ribbing:	Gold wire, brassie
Wing:	White goose biots
Collar:	Brown or grizzly rooster hackle



Step 1.
Insert bead on the hook and place the hook in your vise. Start the tying thread behind the bead.



Step 2.
Tie in the Zelon behind the bead and secure on top of the hook back around the bend of the hook. Clip off excess Zelon to form a shuck about a half hook gap in length.



Step 3.
Tie in a length of wire from the bead back around the bend of the hook.



Step 4.
At the bend of the hook, tie in a length of stretchy floss, securing it with your tying thread from the bend of the hook up to the bead. Be sure to keep your wraps as smooth as possible.



Step 5.
Palmer the stretchy floss in touching turns from the bend of the hook up to the bead. Secure with your tying thread right behind the bead. Clip off excess.



Step 6.
Counter wrap the wire with even spacing from the bend of the hook to the bead. Secure with your tying thread. Clip the excess.



Step 7.
Strip two goose biots, clip the butt ends. Form the two biots into a "V" and tie in on top of the hook, right behind the bead.



Step 8.
Clip off the excess butt ends of the biots and secure with your tying thread. Take care to cover all the white of the biots.



Step 9.
Prepare a rooster hackle by closely trimming a small section of barbs off of the stem. Tie in the hackle where you tied in the goose biots.



Step 10.
Palmer the hackle in three or four touching turns, moving towards the bead. Clip off the excess hackle feather. Whip finish directly behind the bead. Go fish!



MIKE RIEMER PHOTO

EXPLORING WITH A DRY FLY

FINDING MAGIC ON MINNESOTA TROUT STREAMS

By Carl Haensel



MINNESOTA TROUT STREAMS OFFER MANY OPPORTUNITIES TO EXPLORE WITH DRY FLIES. HERE AN ANGLER SITS ON A BANK, CHOOSING HIS NEXT PATTERN.

After a long day of fishing, when I'm drifting off to sleep, I sometimes dream of rising trout. In the half-conscious twilight that my mind occupies for that short time, fish rise willingly, dotting the surface of the water and taking mayflies floating like sailboats. As anglers wandering about the state with a fly rod, there are many of us hoping that this is the scenario we will encounter. From mayflies and caddisflies to hoppers and ants, dry fly fishing in its many forms can be one of the most exciting ways to fish for trout. As I tie flies and prepare for the coming spring, these are some of the hatches that I'm getting ready for and daydreaming of while I wait for warmer weather.

The "Mother's Day" Caddis Bonanza

While there are plenty of excellent hatches in the springtime for trout anglers to chase, it's the early caddis hatches that draw me back to the Driftless every spring. These gray-brown caddis may not look exciting to us, but the trout cer-

tainly find them intriguing. The best action can often be had in the late mornings or early afternoons of warm days in late April. Egg-laying caddis patterns can be the ticket to success; anglers should pay close attention to the live caddis on the water and imitate them. When observing caddisflies in April, you'll often see them dancing across the water, bouncing up and down. This is a great opportunity to move your fly around as you fish it, skittering and skating your dry back and forth across the stream. Trout often will leap out of the water as they chase egg-laying spring caddisflies, and it's common to have them grab your pattern on the jump as well. Try using a caddis emerger trailer to make your fishing and skating easier. Well-hackled flies often stay afloat better in the riffles and runs these caddis frequent.

The Hex Hatch

Darkness is the operative component of the hex hatch, and it overwhelms all other aspects of fishing this iconic sum-

mer-time spectacle. From mid-June in the south to late July in the far northern lakes off the Gunflint Trail, there can be a month or more of hex fishing available for those who wish to brave the night, along with the mosquitoes and other woes that come along with it. But, for the hearty or stubborn, it can offer a chance at some of the largest fish of the year—even if you don't get to see them rise. Some anglers agonize over the exact size of the right hex pattern, and others simply tie on something that they can "splat" down on the water. Either way, it is a great adventure. Plan to bring your stoutest tippet, a head net, plenty of bug spray, and a tolerance for challenges. More fly rods have been broken on hex trips than any other dry fly adventure I know of.

Small Summertime Hoppers

Grasshopper fishing can be one of the most pleasant ways to dry fly fish in Minnesota. Wandering about the pastures of the Driftless pounding a hopper into the bank is a great way to spend a day. Large flies, epic rises, and pleasant walking can make for fun fishing. On more visited streams, it's not uncommon to get plenty of refusals as well, especially later in the season. To get more fish to hand and avoid refusals, try fishing hoppers earlier in the season. Grasshoppers go through incomplete metamorphosis, and start off the season as eggs, progressing into smaller versions of the adults. While the little ones don't have wings or hop as far, this can mean they're more likely to fall into the water, as they can't fly away. Anglers have started to capitalize on these small hoppers using patterns like the Hippie Stomper. Pay attention to the color and size of your own local micro-hoppers and prepare for some fast action on the water.

Tricos in the Morning

If you're a morning angler, the smallest regular mayfly hatch in Minnesota

is tailor-made for you. Our only consistent morning hatch, the tricos start in late summer and can carry into September. The hatch tends to start in the early morning, often just after dawn on the warmest August days. I like to look for clouds of mating tricos hovering above the water as I get to the river. If you're rolling before dawn, fishing trico nymphs can be good as they get active and start to emerge. After they mate and lay eggs, the tricos fall back to the water, spent and still with their wings extended. Most anglers end up fishing the spinner fall for this mayfly. Bring along size 18 and 20 flies to imitate the tricos, and even size 22 if you can tolerate it. I tend to fish them as a trailer behind a larger dry, it's hard to pretend you can see the tiny dry on the water most mornings.

Foggy Fall Day Blue-Winged Olives

When I wake up in the morning in September, and the sky is a dusky gray with a hint of threatening rain, I am optimistic. Small, dark gray mayflies do not hatch well in the sunshine. Even on a cloudy day, they seem to sense the humidity in the air, and if it doesn't quite drop rain, the nymphs will hold tight to their swaying underwater plants and wait. If it starts to mist a bit, then, and for a brief time, a hatch happens. The hatch can start quickly, with dozens, then hundreds of small, size 18 to 20 mayflies popping to the surface. I've seen pools suddenly fill with both mayflies and rising trout in minutes. As the mayflies rush to emerge, and the trout to feed, it can be a glorious melee of activity. I love to use small parachute patterns to imitate the dun mayflies floating gently on the water before alighting into the air.



HEXAGENIA LIMBATA ARE OUR LARGEST MAYFLIES IN MINNESOTA. THE HATCH PROVIDES EXCELLENT FISHING OPPORTUNITIES AROUND THE FOURTH OF JULY.

Carl Haensel is the Northern Minnesota Vice Chair for MNTU and lives in Duluth. He owns the fly fishing guide service Namebini and is the author of *Fly Fishing Minnesota*.

PRESERVING AND EXPANDING PUBLIC ACCESS TO TROUT WATER

TYPES OF ACCESS AND DISTURBING TRENDS

By John Lenczewski, MNTU Executive Director



AN ANGLER FISHES A PUBLIC TROUT STREAM EASEMENT REACH OF THE SOUTH FORK OF THE ROOT RIVER NEAR LANESBORO. EASEMENTS ON PRIVATE LAND ARE ONE OF THE MOST COMMON PUBLIC FISHING OPTIONS IN THE MINNESOTA DRIFTLESS.

“Hunting and fishing and the taking of game and fish are a valued part of our heritage that shall be forever preserved for the people and shall be managed by law and regulation for the public good.” Minnesota Constitution, Article 13, Section 12

In 1998, Minnesotans overwhelmingly voted to preserve the people’s right to fish via an amendment to our state Constitution. And while all of Minnesota’s trout waters are “public waters” held in trust by the State for the benefit of the people, this does not mean that the public automatically has access to them for angling. Lake anglers, fortunately, can access the entire surface area of a lake so long as they can get onto it legally (without trespassing). But trout stream anglers have a harder time.

Much has been written about public access to “navigable waters” and the “public trust doctrine.” But whether or how those doctrines apply to a given small stream in Minnesota is complicated and, in many cases, untested in court. The interpretation of those doctrines varies state by state. Analyzing your chances of beating a trespassing charge is beyond the scope of this article. Instead, this will cover public access where walking on the stream bank is clearly legal.

Public access to trout streams is important for these reasons:

1. It provides access for trout and steelhead fishing. Trout angler numbers have been growing and the need for more places to fish is increasing.
2. Access helps “create” more advocates for streams and their watersheds. MNTU continues to believe that if you know and love a resource, you will be more likely to fight to protect it.

3. Access is a prerequisite for

stream work. Improving habitat mitigates the impacts of climate change on streams.

Minnesota Trout Unlimited’s policy has always been that we will do habitat work only where there is permanent legal access. In addition, habitat restoration funding via the Outdoor Heritage Fund and MN DNR Fisheries funds can only be used where there is “permanent protection” in the form of outright public ownership or a conservation easement such as a DNR trout stream easement. This is good public policy. If public monies are being invested to fix a problem (poor in-stream habitat, disconnected floodplain, severe bank erosion, etc.) those public investments should be protected from reversal by a private landowner.

One devastating consequence of climate change that we are already experiencing is an increased frequency and magnitude of large precipitation and flooding events. These large floods were formerly “100 year events,” but are now occurring every decade or less. The energy packed into these floods tears apart in-stream habitat and often moves channels to new locations. This new poorer habitat frequently causes massive erosion.

Restoring streams’ access to their larger floodplains is an effective strategy to reduce the impact of climate change on our trout streams, as well as surrounding buildings, farms, and infrastructure. This allows the destructive energy of flood waters to quickly get out of the stream channel and onto the surrounding land (floodplain) where it is dispersed. Instead of destroying in-stream habitat

and stream banks, the energy is spread across the floodplain and little damage occurs.

Types of Public Fishing Access

There are a variety of public access types anglers rely on, including:

1. DNR Trout Stream Easements (“TSE”): These are relatively narrow corridors along trout streams where the State owns a few of the property rights (the right to access the stream banks to engage in fishing, the right to exclude anglers from accessing the stream banks to engage in fishing, the right to undertake fish management activities such as habitat improvement, the right to cut trees in the corridor, etc.) and the landowner retains the vast majority of property rights (is the ‘fee title owner’). These easements are also known as “Aquatic Management Areas.”



PUBLIC LANDS, SUCH AS THIS WATERFALL IN CROSBY MANITOU STATE PARK, ARE ONE OF MANY CATEGORIES OF AVAILABLE PUBLIC ACCESS TO TROUT STREAMS IN MINNESOTA.

2. Public ownership: Where a public entity—state, county, municipality, federal government—owns all the property rights (‘fee title owner’). This is the most common means of public access in the northern half of the state. Public land owners and managers include:

- a. State Parks
- b. City and County Parks
- c. State Forest Lands
- d. U.S. Forest Service Lands
- e. State Tax-Forfeited Land Managed by the Counties

3. Permissive access: Where the landowner gives anglers permission to enter their land, walk the streambanks, etc., but can revoke permission at any time. This is not really “public” access at all, but private access by permission only. In rural, nonagricultural areas of the state, anglers often assume unposted forested land is publicly owned—until the “No Trespassing” signs go up.

4. Access to navigable waters under the public trust doctrine: The applicability on any given stream is often unclear and untested in court. When in doubt, ask permission.

Disturbing Trends: Failure of the MN DNR to Increase Acquisitions

In 2006, the DNR convened a planning committee to develop a 25-year acquisition plan for Aquatic Management Areas, covering both lakes and streams. The resulting plan, “Minnesota’s Aquatic Management Area Acquisition Plan 2008–2033,” was praised by DNR Fisheries Chief Ron Payer, who noted that “. . . time is running short to protect remaining critical shoreland habitat and to ensure that access is maximized on

coldwater streams.” The Acquisition Plan calls for accelerated acquisition of new trout stream easements at the rate of 100 miles per year from 2008 to 2017, and a total of 1,500 miles in 25 years. At the time, the DNR was spending roughly \$485,000 per year on average (Fy2002 to Fy2009) to acquire trout stream easements. Sadly, the DNR has failed to follow its plan.

In fact, the DNR has spent less per year to acquire easements to protect our streams and provide access. In the past 15 years the DNR spent just \$360,000 per year on average. And this is despite the passage of the Legacy Amendment in 2008 and the availability of the Outdoor Heritage Fund dedicated to protecting trout stream corridors, among other uses. In the past 20 years only 90 miles have been protected in total (4.5 mi./year versus the 100 mi/year goal).

Failure of the DNR to Retain Existing Public Access

The State of Minnesota owns 2.8 million acres of tax-forfeited land, the bulk of which is located in northern Minnesota. These lands are managed by the counties and often thought of as “county land.” These publicly-owned lands provide angling access to streams and lakes. Before tax-forfeited lands with lakes or streams can be sold, the counties must offer the DNR a permanent public access easement along these public waters. In short, the DNR can preserve existing access to public waters simply by accepting a free easement. A no-brainer.

The law requires that the DNR be offered the opportunity to keep existing public access to public waters at no cost.

WHAT IS ALLOWED ON TROUT STREAM EASEMENTS?

Allowable uses:

- Angling during the open trout season
- Walking to the stream through an easement corridor to fish
- Walking on the streambank
- High fives when you land the big one
- Ribbing when you lose fish

Not allowed on DNR easements:

- Dogs
- Leaving the easement corridor (shortcuts outside of easement)
- Fires
- Picnicking
- Foraging for wild edible plants
- Littering
- Any activity other than angling

But it does not require the DNR to accept these opportunities to preserve existing access for the people. The law, and anglers, assume the DNR will not pass up an opportunity to preserve existing public access. Yet MNTU recently learned that some fisheries managers have declined to protect our streams and fishing opportunities. The fact that no trout stream easements have been placed on tax-forfeited land prior to sale in the past four years also raises flags.

Loss of Permissive Access

Many places in northern Minnesota assumed by anglers to be either public land or protected by easement have been posted “No Trespassing” in recent years. Several factors are likely at play, but the bad behavior of some anglers (and nonanglers) is a major reason for loss of access. And, since neighbors talk, this behavior discourages would-be easement sellers from allowing the DNR to purchase access.

Easement “Rights” and Etiquette

The public has very limited “rights” under typical trout stream easements. DNR easements allow angling only, and only during the open angling season. Dogs are not allowed. Leaving the narrow easement corridor to take a shortcut from or to your car is not allowed. Fire making, picnicking, foraging, littering, and anything other than angling is not allowed. Please see the above box.

Whether on an easement or on private land by permission, remember to treat the land and others with respect. Know the tight restrictions on what you can do and get landowner permission if you want to go beyond them. Use common sense and follow the Golden Rule. If everyone does, we can preserve the access we have and hopefully increase it.

INCLUDING MNTU IN YOUR ESTATE PLANNING

Any loss in a family is challenging. It’s much easier to delay answering uncomfortable questions such as, “What happens to my assets and my loved ones when I or my partner dies?” So it’s no surprise that roughly half of Americans don’t have a will, and even fewer have an estate plan. While it is a hard subject to discuss, an estate plan goes much further than a will. Not only does it deal with the distribution of assets and legacy wishes, but it may help you and your heirs pay substantially less in taxes, fees, and court costs, as well as benefit the people and causes that you care about.

Including MNTU in your estate plans not only helps to provide for future programmatic and organizational security, it can take many different forms to balance your financial and philanthropic goals. Drafting these documents may seem like a daunting task at first, until you realize all the good that comes from having them. A gift in your will or living trust lets you make a meaningful gift to MNTU with ease and be flexible in your commitment. You can give cash, specific property or a percentage of your estate, with restrictions or without. You can also make MNTU a beneficiary of

your 401k, IRA or life insurance policy. Because your gift doesn’t come to MNTU until after your lifetime, you can change your mind at any time. To make sure your will accomplishes your goals according to your wishes, we recommend that you obtain the professional counsel of an attorney who specializes in estate planning. We’ve included specific bequest language below for usage with individual or estate planning.

Bequest Language

The official bequest language for Minnesota Trout Unlimited is:

Unrestricted General Legacy:

“I give Minnesota Trout Unlimited, a Minnesota non-profit corporation, presently at P.O. Box 845, Chanhassen, MN 55317-0845, EIN# 52-1766036, the sum of (dollar amount)/ or percentage of (___%)/ residue of my estate to be used at the discretion of its governing board.”

Specific:

“I give Minnesota Trout Unlimited, a Minnesota non-profit corporation, presently at P.O. Box 845, Chanhassen, MN 55317-0845, EIN# 52-1766036, my (specific personal property item(s) and/or real property located at _____) to be used at the discretion of its governing board.”



Gift of Residuary Estate:

“All the rest, residue and remainder of my estate, both real and personal, and wherever situated, I give, devise and bequeath to Minnesota Trout Unlimited, a Minnesota non-profit corporation, presently at P.O. Box 845, Chanhassen, MN 55317-0845, EIN# 52-1766036, to be used at the discretion of its governing board.”

The information above is not intended as legal or tax advice. For such advice, please consult an attorney or tax advisor. Contact our executive director, John Lenczewski, with any questions, or for assistance with estate planning, using this language or using this process: jlenczewski@comcast.net or at 612-670-1629.



MNTU EDUCATION UPDATE

FEBRUARY 2024

By Amber Taylor, MNTU Education Program Supervisor



LEFT: FIFTH GRADE STUDENTS FROM MEADOW RIDGE ELEMENTARY PRESENTING AT THE SCHOOL BOARD MEETING ABOUT TROUT IN THE CLASSROOM.



RIGHT: A TIC STUDENT AT TWIN CITIES INTERNATIONAL SCHOOL FEEDS THEIR NEWLY SWIMMING TROUT.

In my sixth year of getting thousands of eggs delivered around the state in one day, I have had a variety of issues arise: snow storms, delayed shipments, not enough eggs, way too many eggs, freezing eggs, not enough volunteers, and even too many volunteers. This year I actually had to ask volunteers to step down from the egg delivery team, which is a great problem to have! We have added close to forty schools to the Trout in the Classroom program since 2018 when Evan Griggs and I started with MNTU. Adapting how we measure, sort, package, and quickly transport eggs to schools has been a continual learning process as the program has grown, with volunteers being a major part of making

the day a success! Thank you to everyone who helped ensure the eggs made it safely to their new homes.

After welcoming 300 eyed eggs in early December, seeing them hatch into alevin, and watching as they first swam up to the surface, trout technicians around the state are now caring for tanks full of tiny, swimming, rainbow trout fry. These duties include water changes, pulling dead fish, feeding, maintaining equipment, testing water chemistry, tracking the nitrogen cycle, observing fish behavior, collecting data on growth rates, and more.

The fish and tank provides a platform for

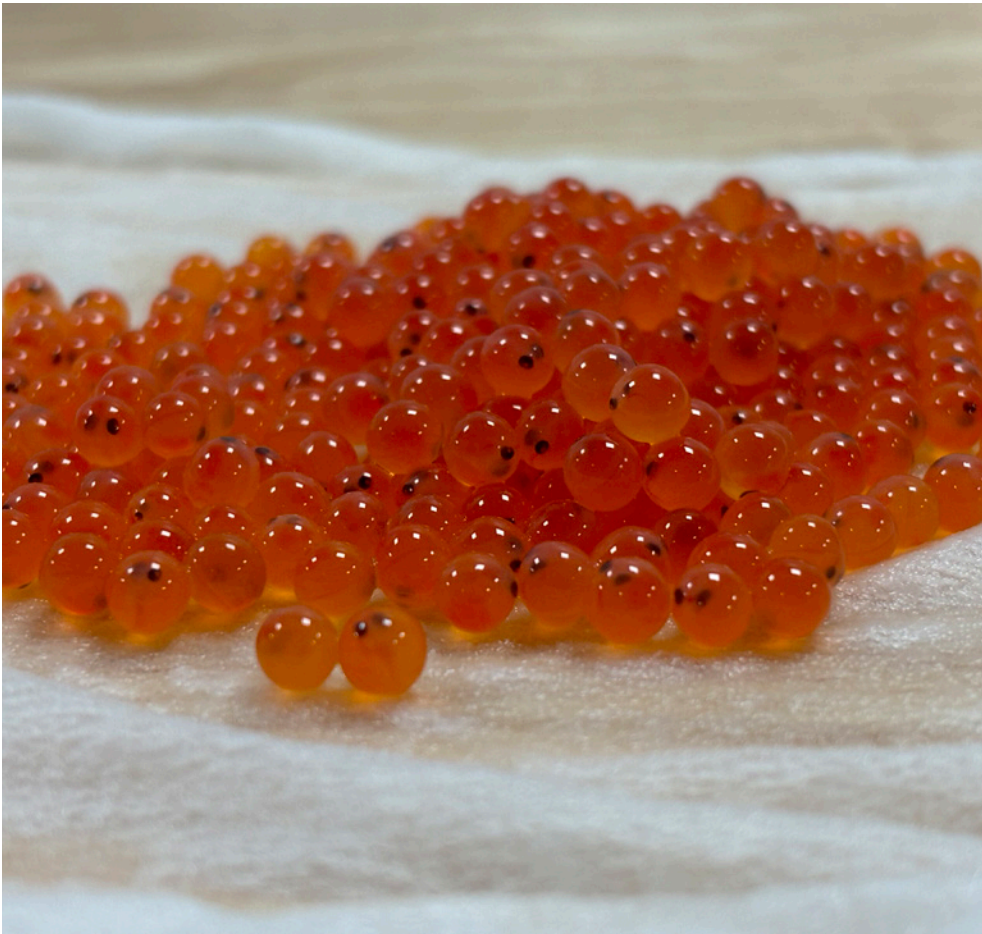
teachers to engage students with TIC lessons both in and outside the classroom. Each year, teachers are required to complete an End of Year report for the MN DNR. Part of that report consists of a write up about the year, how it went, how students were engaged, etc. Following are some excerpts from a few of the 2022-2023 end of year reports to give an idea of what's going on out there in TIC schools, including fishing trips, aquaponics, presenting about TIC to school boards, after school fly fishing programs, and more!

“We had a wonderful year with the TIC program. There were over 400 students who had direct exposure to the tank in

our classroom and 52 fourth graders got to participate in trout release day. With the help of our Trout Unlimited Chapter 642 we coordinated an after-school Fly Fishing Program, which tied in well with the TIC program. As usual, the highlights surrounded the arrival of the eggs, the hatching of the eggs, the first swim-ups, and of course, the trout release. A benefit to this year's release day was that we connected the release of the trout with the final day of our Fly Fishing Program. Consequently, the Trout Unlimited Chapter 642 members who volunteer for this program also got to experience the trout release first hand, witnessing the excitement of the kids as they released their trout, and even re-



LEFT: TIC STUDENTS READING THE MN TROUT UNLIMITED NEWSLETTER.



RIGHT: THREE-HUNDRED EYED RAINBOW TROUT EGGS, WEIGHING APPROXIMATELY 18 GRAMS, AWAIT PACKAGING DURING THIS YEAR'S EGG DELIVERY DAY.



LEFT: TROUT TECHNICIANS GETTING READY TO LOWER THE BASKET AND RELEASE THEIR TROUT FRY TO SWIM FREELY THROUGHOUT THE TANK.



RIGHT: A GROUP OF STUDENTS WATCH AS THEIR TROUT FRY GRADUALLY START LEAVING THE BASKET FOR THE FIRST TIME.

leasing a couple of their own.

"It is my belief that the more connected these children become to an area stream, the more likely for them to take an active interest in protecting and pursuing the stream. To expose these students to the Clearwater River is a great step in that direction. Secondly, to work alongside our TU volunteers, who provide a wonderful example of stewardship, the students get to observe examples of ways to get involved with organizations that are dedicated to the same objectives we are working to instill with the TIC Program. In conclusion, I would like to thank our MN DNR for helping to make TIC a

possibility. Thanks specifically to Amber Taylor, the overseer of the program and Tony Standera, our area fisheries supervisor. Thank you to Bob Wagner, Kris Williams, and the rest of our Trout Unlimited Chapter 642 for stepping up and supporting this program as well as our Fly Fishing Program. I feel honored to work alongside such amazing individuals who are truly living out the philosophies I work to instill in my students." – Joe Adams, Gene Dillon Elementary, Bemidji

"This was my first year doing this program as an EBD (Emotional or Behavioral Disorders) special education

teacher. This added some challenges to the program, because many of my students struggle with behaviors and regulating themselves both in and out of the classroom. To be honest, I was nervous to take them on a field trip to release the fish. However, the Trout in the Classroom program was one of their favorite parts of being in my room, because they had invested so much time and energy in raising the fish. I am happy to report our field trip to release the trout was a HUGE success. No behavior issues and a lot of smiling faces.

"Since I teach in a kindergarten through sixth grade classroom, lessons were adapted depending on the age. We started a program where students could earn badges for learning about different underwater ecosystems and animals. The Trout Badge taught students about the trout life cycle and, depending on their age, they either made a pamphlet, book, or keynote. Students were responsible for initial set up, water quality monitoring, feeding, and cleaning the tank.

"This not only included students from my current caseload, but also former students, and other students of staff members who became very interested in the trout tank. During the trout release almost half of my students had a parent or guardian join us. The parents were just as excited as the students to be part of releasing the trout. This allowed me to build relationships with my students' parents in a very positive manner." – Branda Thwaits, Winterquist Elementary, Esko

"This concludes our third year as a participant in the Trout in the Classroom program. Overall we had a very successful year.

- We engaged over 100 fifth grade students in the care of the fish and MNTU activities.

- This year we were able to have Amber and Jim visit our campus for macroinvertebrate studies and fly tying, both very engaging activities.

- We partnered with another elementary school as they began the program, year one.

- We grew green beans, mint and basil on the water surface and explored aquaponics.

- Fifth grade students gave presentations to 11 additional classrooms, including an additional 200+ students ages seven to nine.

- We caught the attention of district administration and were asked to present to the school board. Five staff and four students shared about the program.

- We worked with the Parent Teacher Student Association to secure ongoing funds to support the annual costs associated with the program.

- Students engaged in more than a dozen trout-related math, science, reading, writing, art, technology or PE activities.

It was another great year. Next year we look to continue to expand the number of activities we are able to blend into our district curriculum. We also look to expand and better the aquaponics effort." – Dan Huldeen, Sunset Hill Elementary, Plymouth

In addition to what our incredible MN-TIC teachers are doing with this program in their schools and classrooms, our awesome education team works tirelessly to conduct lessons with TIC students around the state each season for fall field days, winter lessons, and spring releases. We cover a lot of ground and work with thousands of students each year. As you read this, winter programs will be underway. Students are learning about biomimicry and tying flies, habitat restoration using some of MNTU's projects around the state, and all about the different fish species in Minnesota. Some of them are even getting out on the ice to learn about life under the water during the winter and try to catch a fish!



AN EXCITED GROUP OF STUDENTS SHOWING OFF THE TROUT HABITATS THEY DESIGNED AFTER LEARNING ABOUT MNTU'S RESTORATION PROJECTS AROUND THE STATE.

READING TROUT WATER

WHERE TO START AND WHAT TO PASS BY

By Jade Thomason

Pulling up to a trout stream, water glistening in the distance, it's not always obvious where to begin fishing. Sometimes there are clear signs—dimples on the water or trout porpoising—but often I need to put real thought into where and how to begin. For new anglers inclined to fish on their own, this is one of the largest hurdles to surmount. Without someone to point at stream sections and explain the habitat, I spent a swath of my early 20s staring at rivers wondering how to approach. Even for experts, when hatches shift, seasons change and trout move through a system, reading the water well can be the difference between a fruitful day of catching fish and only a few strikes. It's important to accept the reality that not all waters will fish well when you get to them. Waiting for the right time to fish a specific reach of water or simply taking a hike to better habitat can be important to success, both during the day you're out fishing and the varied seasons of the year. Here are some Minnesota images that offer a glimpse of what you might find when exploring, and some ideas of how to approach similar situations.

Riffle, Run and Pool

All trout streams flow in a riffle, run and pool progression. From fast shallows to slow deep water, every stream moves through this series as it flows. All of the following types of habitat are components of these hydrological aspects of our waters. In our smallest streams, the progression is fast from riffle, to run and pool and the sections can often be easily discernible. Small stream trout often move up from a deep pool into the riffle areas to feed, especially when there are active insects moving or a mayfly or caddisfly hatch. On larger trout rivers or those with poorer habitat, this law of riffle-run-pool is less obvious. I find standing up on a bridge or high bank can reveal the progression, and give me a clue to where I should focus my fishing.

Weedy Pool Tailouts

Walking along a trout stream in the Driftless, it's common to see a few rising trout in the weedy tail of a pool or run. Featuring deep channels between mats of submerged aquatic vegetation, these spots can be maddeningly difficult to fish. They often have swirling currents that make fly presentations challenging and seemingly magnetic vegetation can capture nymphs. It's challenging to convince a trout to leave their safe retreat. I like to fish these reaches from a downstream angle, and often use a natural trailing emerger behind a dry fly. Waiting for a significant hatch can also help bring some of the larger fish out of these spots. Be sure to have strong enough tippet on the trailing fly to drag the big ones out of the weeds. If they popped out of the vegetation to take a fly, they're often headed right back in.

Deep Habitat Improvement Runs

With miles and miles of successful habitat improvement located throughout the Driftless, it's common to find narrowed, deep runs on many of our trout streams. With ample overhead cover in the form of solid overhanging banks, these spots often contain dozens of nice trout. When reading the water, it's important to consider how deep these spots truly are. Nymphing these runs is usually the most productive way to start fishing them, and getting your flies deep is paramount to success. Regularly, I've begun fishing a run with little to no weight, caught some fish, then the action slowed. Adding additional shot can often be the trigger that these fish need to bite; many fish are unwilling to move far for a fly.

Slow, Deep Pools

You will encounter many slow, deep pools when trout fishing in the Midwest. If there is little activity or it's the middle of a bright day, I often walk right by these spots. The fish can be particularly spooky in the calm water if it is clear.



SMALL DRIFTLESS AREA STREAMS CAN BE USEFUL TO SEE THE CLASSIC RIFFLE-RUN-POOL PROGRESSION. THE RIFFLE IS MARKED BY WHITE, FASTER WATER, MOVING INTO THE DEEPER RUN. THE RUN DIGS INTO THE STREAMBED, CHANNELING WATER FINALLY INTO THE SLOWER, DEEPER POOL. THE ANGLER IN THE PHOTO IS FISHING THE RUN FLOWING INTO THE POOL.



DEEP POOLS CAN BE RELAXING PLACES TO FISH. DISCERNIBLE BY THEIR SMOOTH, PLACID WATERS, POOLS FISH BEST ON OVERCAST DAYS, AT DUSK, DURING A HATCH, OR WHEN THE WATER IS OFF-COLOR.



POCKET WATER IS MOSTLY FOUND ALONG THE HIGHER-GRADIENT STREAMS OF THE NORTH SHORE. LARGE ROCKS CREATE SLOWER WATER POCKETS FOR TROUT TO HIDE. NOTE THE PATCH OF FOAM BEHIND THE BOULDER TO THE ANGLER'S RIGHT. TRY TIGHT CASTS TOUCHING THE DOWNSTREAM BOULDER EDGE.



LEFT: WEEDY POOL TAILOUTS CAN BE FRUSTRATING BUT PRODUCTIVE HABITAT TO FISH. TRY A DOWNSTREAM ANGLE TO AVOID SNAGGING AND TO COAX YOUR FLIES THROUGH WEED-FREE SLOTS. CONSIDER HEAVIER TIPPET FOR SUCCESSFUL FISH LANDING.

RIGHT: RUNS LEADING INTO DEEP, SLOW POOLS ARE A CLASSIC PLACE TO FISH. BE AWARE OF DEPTH CHANGES AND WEIGHT YOUR RIG ACCORDINGLY.

The winter season in the Driftless is notorious for dozens of fish squirrelling about in a deep pool for fear of a shadow. If you're intent on fishing a pool in clear conditions, I suggest keeping a low profile on your knees when you present flies. On overcast days, the trout can be more forgiving, and you may convince some fish to bite by slowly nymphing through the deep water. Small patterns and ditching the indicator can be useful for slower water. When the water is up after a rain and is cloudy, it can be a good opportunity to employ streamers and dredge the depths for large, active fish.

Pocket Water

Sections of pocket water are more common in the freestone streams of the U.S.

West, but also can be found in the higher gradient waters of the MN North Shore. Technically a riffle, pocket water is marked by boulders dotted throughout a faster-moving channel. I find pocket water some of the most enjoyable sections to fish. Tie on a particularly buoyant dry fly and aim casts tight behind, or downstream, of visible rocks. The flowing water creates a slower haven behind the boulders, and often there is a fish or two lying in wait. Living on the North Shore, it's rewarding for me to take newer anglers to pocket water sections to practice casts. The turmoil of faster water is forgiving of errant fly placement and the boulder pockets give a clear casting target. Move quicker through these sections, there won't be the same numbers of fish as are supported by deep runs or

pools. In cooler seasons, the trout often drop out of the fast water and rest in nearby pools.

Shallow Driftless Flats

While most sections of trout streams hold a few fish, it's fairly common in the Driftless region to run into unproductive flats. I'd suggest walking right by shallow water to get to better, more promising locations. If you can see the bottom from bank to bank, there will be relatively few fish in that area. There

still might be some small ones—or something lurking under a bank edge—but fishing shallow flats is best left to low light conditions or even after dark if you want to give it a shot. Passing by areas is one of the most important components of successfully reading water on a trout stream.

Jade Thomason is the editor for this publication and an active member of the Gitchie Gumee Chapter in Duluth.



LEFT: SHALLOW DRIFTLESS FLATS ARE ONE OF THE FEW HABITAT TYPES WORTH PASSING BY. MARKED BY A VISIBLE BOTTOM BANK TO BANK, THERE IS LITTLE SPACE FOR TROUT TO HIDE. IT'S POSSIBLE TO PULL A STRAY FISH OR TWO FROM THESE SECTIONS, BUT THERE WILL NOT BE LARGE NUMBERS.

RIGHT: HABITAT-IMPROVED SECTIONS CAN BE PLAYGROUNDS FOR ANGLERS. RUNS LIKE THIS ARE OFTEN DEEPER THAN YOU THINK. IF YOU AREN'T OCCASIONALLY SNAGGING BOTTOM, YOU ARE LIKELY NOT REACHING ALL OF THE FISH.

MNTU IS TAKING ACTION ON NITRATE CONTAMINATION

2024 WORK PLAN REPORT

By Kristen Poppleton, MNTU Assistant Director

In April of 2023, Minnesota Trout Unlimited and ten partner organizations, including the Minnesota Center for Environmental Advocacy (MCEA), submitted a petition to the Environmental Protection Agency (EPA). The petition requested the EPA use its emergency powers, through the Safe Drinking Water Act, to demand that the Minnesota Departments of Health (MDH) and Agriculture (MDA), and the Minnesota Pollution Control Agency (MPCA) address the worsening groundwater nitrate contamination in the eight-county Karst Region of southeast Minnesota. The EPA responded to the petition in November, demanding a work plan from the state agencies describing how they would take “timely actions to address the nitrate contamination, especially with respect to providing public notice and alternate water.” (Shore, 2023)

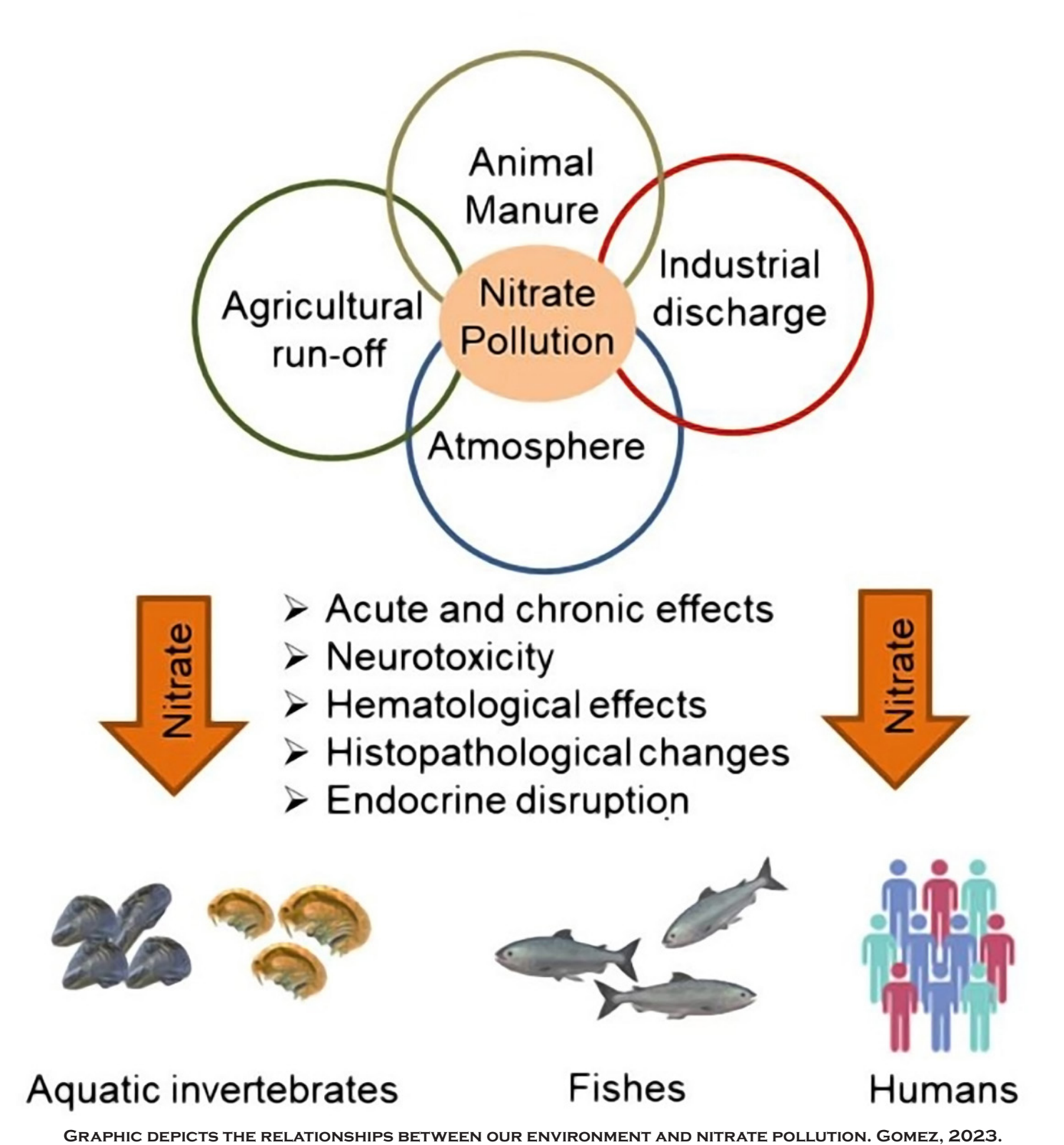
What’s wrong with nitrates?

Nitrates reduce the size and potentially survival of trout populations. Because MNTU’s mission is to protect, restore and sustain coldwater fisheries and watersheds, we are very concerned about the impacts of nitrate contamination on coldwater ecosystems. Nitrates act as nutrient enrichment which can lead to algal blooms, oxygen depletion, and a general deterioration of trout habitat. Increased nitrates in streams can lead to decreased suitability of habitat, especially for spawning and nursery areas, stress on adult fish which can make them more susceptible to disease and impact their reproductive success, and have been shown to decrease the number of aquatic insects available as a trout food. (Gomez, 2020; Banerhee, 2023)

We are, of course, concerned about the human health impacts as well, since our members and supporters, as well as the other quarter million Minnesotans in the SE, drink the water. Nitrate-contaminated water causes infant methemoglobinemia, or “blue baby syndrome,” a serious health hazard for young children. Additionally, nitrate-contaminated water has been connected to other diseases, including diabetes and colorectal cancer. (MCEA, 2023)

Where do nitrates come from?

Nitrates come from a variety of sources, both natural and human based, but we know agricultural runoff and livestock manure are the primary sources. In fact, 90% of nitrate in southeastern Minnesota’s waters comes from fertilized croplands. (MPCA, 2013) Southeastern Minnesota, often called the Driftless or Karst Region, is a unique landscape dominated by porous limestone that makes it especially susceptible to groundwater contamination. Water can move rapidly from the surface to groundwater through fractures and conduits in the limestone rock. Groundwater emerges from the springs common in this landscape. They are the source for the coldwater streams anglers look for, but also provide a direct conduit from the surface to groundwater aquifers for pollutants like nitrates.



How can we prevent nitrate pollution?

Nitrate pollution can be prevented in several different ways. Minnesota’s Groundwater Protection Rule restricts the application of nitrogen fertilizer in the fall and on frozen soils. Additionally, encouraging farmers to grow cover crops in fall means that excess nitrogen can be retained. Restricting the number of animals in a feedlot is important for manure management, another major source of nitrates. In addition to sustainable agriculture and feedlot practices, wetlands can play a role in filtering nitrates. Minnesota’s Buffer Law requires that landowners maintain perennial vegetation within 50 feet of waterways on average, and 35 feet at a minimum. The habitat work that Minnesota Trout Unlimited does along streams, creating wide, vegetated benches, not only re-connects the floodplain, but is a critical contribution to preventing nitrates from entering streams.

Education and outreach, collaboration and open communication between farmers, agencies, and organizations, and long-term monitoring of the surface and groundwater is important. Additionally, we need to continue to develop policies that provide incentives to manage and

use land with a focus on water quality and codify regulations that prevent nitrate pollution.

The EPA Response

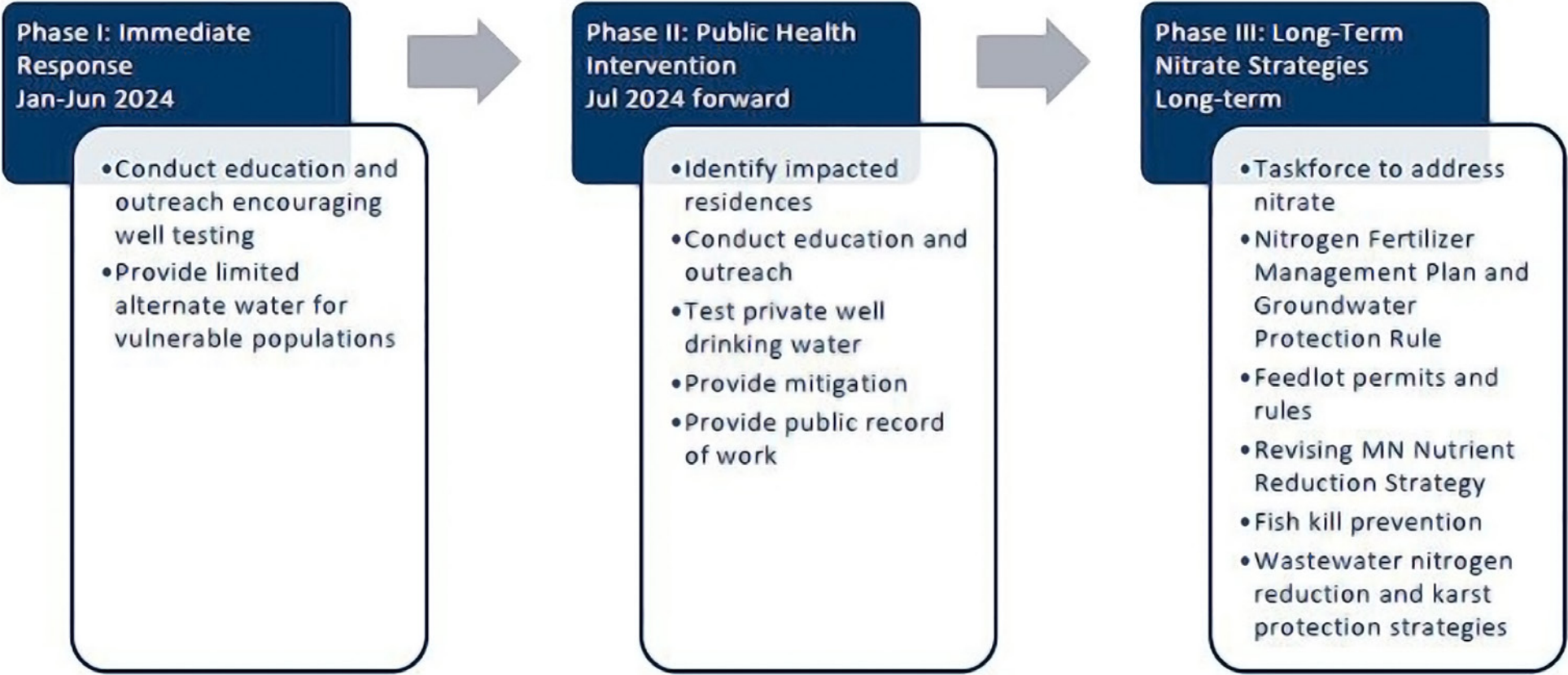
On January 12, 2024, the MDH, MDA and MPCA responded to the EPA request with a work plan that includes the

three phases shown in the graphic.

As this newsletter goes to press, both the EPA and MNTU are reviewing the work plan. Early assessment by MCEA, MNTU’s partner and the lead petitioner, is that the plan does not demonstrate that the state is using “all available tools to



NITRATE POLLUTION CAN CAUSE PROBLEMATIC NUTRIENT ENRICHMENT IN TROUT STREAMS, LEADING TO DEGRADATION OF QUALITY HABITAT.



WORK PLAN: ADDRESSING NITRATE IN SOUTHEAST MINNESOTA, JANUARY 12, 2024.

hold the sources of nitrate pollution accountable.” Representative Rick Hansen, Chair of the House Environment and Natural Resources Finance and Policy Committee, called it “embarrassing” and not the response that is needed to respond to the “public health crisis” we are currently in. (Stanley, 2024)

Nitrates are not the only thing that is contaminating our streams. Insecticides, including neonicotinoids, and fungicides are other major chemicals to mention. Their application on fields, as well as inadequate manure management from feedlots, compounded by the increased heavy rainfall events we are seeing because of climate change, create extra challenges. A recent legislative report, "Preventing fish kills in Minnesota's driftless region." (2024), promotes some of the critical action we need now, and underscores the EPA's demand that our agencies do better.

What's next?
Minnesota Trout Unlimited is currently reviewing the work plan and report. We

will be meeting with partners to develop strategies to respond and hold agencies accountable. We encourage you to continue to follow this issue by visiting the MNTU website mntu.org or follow us on Instagram or Facebook for up-to-date information on our advocacy work, as well as the opportunity to sign up to receive action alerts on how you can advocate for protecting and sustaining coldwater fisheries.

For More Information
Banerjee, Priyajit, et al. “A critical review on the effect of nitrate pollution in aquatic invertebrates and fish.” *Water, Air, & Soil Pollution*, vol. 234, no. 6, 17 May 2023, <https://doi.org/10.1007/s11270-023-06260-5>.

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Environmental Protection Agency Response to petition that the U. S. Environmental Protection Agency exercise its emergency powers under Section 1431 of the Safe Drinking Water Act (SDWA) to address groundwater nitrate contamination that presents a risk to the health of the residents in eight counties of the Southeast Karst Region2



NITRATE POLLUTION HAS BEEN SHOWN TO DECREASE THE NUMBER OF AQUATIC INSECTS AVAILABLE FOR TROUT FOOD.

MNTU PHOTO CONTEST WINNERS



FIRST PLACE: CANFIELD CREEK, FORESTVILLE STATE PARK. JASON RIEKE PHOTO.



SECOND PLACE: SOUTH BRANCH OF THE ROOT RIVER BROWN TROUT. MICHAEL MELFORD PHOTO.



THIRD PLACE: MINNESOTA BRULE RIVER. MARIA MANION PHOTO.



HONORABLE MENTIONS

LEFT: SPLIT ROCK RIVER. CHERI HENDERSON PHOTO.
RIGHT: CARIBOU RIVER. JASON SWINGEN PHOTO.

FISHERIES MANAGEMENT SUCCESSES

HOPEFUL RESULTS FROM THE SOUTHEAST

By John Weiss

Reading a major study assessing how SE Minnesota’s trout streams and numbers have changed over the past 40 to 50 years left me almost euphoric. All the gains over the past 40 to 50 years were there in print: more biomass, more fish, and better water. Wise land use and habitat improvement do make a difference.

“Increasing abundance trends represent a fisheries management success and suggest that these populations were largely regulated by a coupling of abiotic factors managed at two spatial scales: watershed (improved land use practices facilitating greater water infiltration) and in-stream (habitat improvement projects),” the study states.

I was also surprised to learn the report came out about four years ago and seemed to get little or no fanfare, no publicity. When I first read it, I kept finding more and more gems of data, corroborating things I’ve noticed but, even more interesting, giving me insights to things I had never thought about.

My euphoria, however, was tempered when I spoke with two of the main authors, Doug Dieterman, a Department of Natural Resources fisheries researcher out of the Lake City office, and Jason Roloff, a fisheries biologist out of the Lanesboro office. Being scientists, therefore sticklers for accuracy and context, they pointed out that, yes, the study gives us a lot to cheer about but it also has its limitations. And we still have a lot more to learn.

The study, entitled “Use of long-term (40+ year) trend data to evaluate management actions on brown trout, *Salmo trutta*, populations in groundwater-fed streams,” finished about four years ago and had three goals:

1. Finding if the number of brown trout was going up or down. Because of climate change, temperatures and overall precipitation are expected to increase. Higher temperatures could mean fewer

coldwater fish; more precipitation, on the other hand, could mean more water, and good water temperatures and, therefore, more fish. Furthermore, better land use, a trend that has been going on for decades, should mean fewer nasty floods and less sediment in streams and again, more trout.

2. Finding if in-stream habitat work and new regulations affected the overall fishery. Between 2000 and 2018, more than \$8 million was spent in the Southeast on in-stream habitat work; since then, several million more dollars have been spent or are being planned for this year and next. More than a decade ago, the DNR changed regulation on many streams, turning some into all catch-and-release, some with slot limits where all trout between 12 and 16 inches had to be returned and some with restrictions on tackle. “Fisheries managers also implemented management actions to increase brown trout abundance during the 40+ year time period. To improve in-stream habitat for trout, managers constructed and placed artificial overhead cover structures, in-stream rocks, large woody cover and streambank rip rap in stream channels,” it states. “To ensure public funds are spent wisely, it is critical to identify correctly the most important factors driving stream fish populations,” it adds.

3. Was change synchronous across the region or just in a few streams? “The presence of such synchrony would suggest presence of regional-scale abiotic drivers, such as better hydrology. How important are biotic factors?”

In the results section, the study said firmly that brown trout numbers are indeed rising very nicely. Overall, in-stream habitat projects and some regulations work and changes were found across the region.

A selection of results that answered the three main goals, as well as some other data:



ELECTROFISHING IS THE KEY WAY INFORMATION WAS GATHERED OVER THE PAST FIVE DECADES TO WRITE A MAJOR REPORT ON TROUT NUMBERS IN SE MINNESOTA.

Total biomass averaged 5 percent improvement annually from 1970 to 2018. That included 7 percent more juveniles, 7 percent more adults overall and 3 percent more adults 12 inches and longer. “Brown trout biomass and abundance of all but the two largest size groups (14 and 16 inches) significantly increased between 1970 and 2018,” it states.

Sites improved with in-stream habitat projects had an additional 30 percent greater number of browns 12 inches and longer and 57 percent more for trout 14 inches or longer.

Those managed for catch-and-release had 130 percent greater number of trout 12 inches or longer and 100 percent more for those 14 inches plus. The one that was disappointing, and a bit puzzling, was that in streams with 12- to 16-inch slots these size classes did not significantly increase or decrease.

“These larger-sized brown trout are known to use other key habitat features in Driftless Area streams, such as undercut banks, in-stream rocks and large woody debris piles, habitat features enhanced in in-stream habitat projects. These larger size groups are also more preferred by anglers. Thus, the results are also evidence for the importance of more proximate management actions, in the form of in-stream habitat improvement and catch-and-release regulations, for regulating abundance of these larger

brown trout sizes.”

“The long-term trends observed in this study suggest that watershed improvements were effective at increasing total trout biomass and adult abundance, but with the added benefit of being more widespread (i.e. benefitted more streams).”

“...sudden decreases in adult abundance due to episodic pulse events do not necessarily require an immediate management response. Following an episodic pulse disturbance, such as a partial fish kill or extreme flood, fisheries managers may stock trout to supplement the remaining population due to socio-political pressure.”

“To me, the moral of this paper is what a conservation success story,” Dieterman said. “I think we have phenomenal trout fisheries.”

Roloff added: “Overall trend in brown (trout) is a direct result of what we have been doing at the watershed level all these years...Our trout abundance regionally is increasing. I think that’s a great thing. I don’t think we are done increasing.”

Data came from electroshocking around 700 times on 25 streams throughout the region from the 1970s to around 2018,



A MAJOR STUDY FOUND CATCH-AND-RELEASE STRETCHES OF TROUT STREAMS GREATLY INCREASED NUMBER OF LARGER FISH.

Roloff said. Around 1970, the DNR began to study how streams were faring using electroshocking but only got to streams once every several years or longer. This sporadic data doesn't clearly show overall stream and trout health because Southeast streams often have dramatic boom-and-bust years. For example, Gribben Creek near Lanesboro had four young-of-year show up per acre in fall of 2013 but about 12,000 in 2014, Roloff said. This cycle of highs and lows is dependent on weather and other factors so one year's sampling isn't enough.

Currently, around 13 streams are annually sampled. With consistent study of streams spread across the region, the DNR could tell how well trout were doing in the broader area. Samples include some small streams such as Ferguson Creek and bigger ones such as the South Branch Root River.

The work was part of the much larger Long Term Monitoring program the DNR has for the streams. According to a brochure on LTM, its goals are to "Determine how temporal changes in land-use practices, climate change, and invasive species affect stream hydrology, geomorphology, water quality and biology; which in turn determine sustainability of associated fisheries resources and ultimately angler satisfaction."

Objectives include defining baseline and existing temporal variables, finding out what is driving trends, predicting future trends, figuring out remedial management actions and evaluating how past management actions such as stocking, habitat work and regulations have affected streams.

A lot of the long-term monitoring program is context, Dieterman said. It's hard to manage if you don't know what's driving change and the 40-plus year study looked at that.

"With the data that we used we had specific results under certain conditions," Roloff said. "But these are extremely complex systems, both biologically and socially, and our study was not perfect. In no way was this study saying, 'this

specific regulation will always work or not work'. This study was more about asking 'what can we learn with these data'. More work is going to be needed so that we can better tease apart these complex questions."

Here are some of the study-related caveats the two pointed out:

The study deals with fish only, not changes in the landscape, and they don't have data on stream discharges that would help explain why some streams had better trout numbers.

Data on more big fish from catch-and-release streams is from three streams only and they were chosen to get that regulation in the first place because managers believed they would respond best. Two of the three catch-and-release sections were among those trimmed because of lower budget.

- The biomass increase is impressive but if you take the first decade or so (the 1970s and 1980s) out of it, the upward curve isn't as dramatic.

They briefly looked at stocking to see if it had an impact but gave up because information from the past might fail to say how many fish were stocked or where in the stream. Trout tend to be homebodies, so none of those stocked a few miles away might ever swim to the monitored stretch.

It didn't find a lot of big fish (those in mid-teens or longer) because they really weren't looking specifically for them, nor did they select stream sections to be shocked because they might have a larger chance of having big fish. They might shock one or two at most in studied stretches; bigger fish actually shock easier than smaller ones because of more body mass. In the results section, it states: "The largest size group, brown trout (16 inches or longer) was extremely rare, absent from over half the collections."

Once they made sure people knew about the limitations of the study, the two still found a lot to like about it. Overall in-



DUSTY HOFFMAN, DEPARTMENT OF NATURAL RESOURCES STREAM HABITAT SPECIALIST, NETS A SHOCKED TROUT IN THE SOUTH BRANCH WHITEWATER RIVER.

creases in biomass and effectiveness of in-stream habitat were exciting finds.

One interesting thing is that a great year class of young-of-year doesn't mean the stream is going to be loaded with catchable browns in a few years. In fact, the opposite might be true, Dieterman said. Too many young fish could mean too many mouths to feed for too few bugs or plankton. The biggest fish tend to be from streams with lower densities and a good food base.

Another false equation is that more females equals more young. "They (the public) think it's a one-to-one relation-

ship," he said. Again, the study found it's not true. In fact, another study found that at a certain point of abundance, more females meant fewer young, he said. All but one stream in this study found that there were more than enough females. And streams don't need a lot of males. In fact, most young are offspring of only a few males.

What, then, determines things like the giant swings at Gribben? It's mostly abiotic factors such as spring rains or flooding. "That is why juvenile abundance is bouncing all over the place," he said. The study did find that such swings were relatively common across the region, indicating that it wasn't just the stream that was the driver but some outside source.

Another interesting thing was that biomass took a big swing up in the 1990s, dropped noticeably from 2000 to 2015 and is now again on its way up. Roloff said he suspects that the dramatic improvements in land use beginning in the 1970s, as well as the federal Clean Water Act, passed in 1972, improved the ability of the land to take in the greater rainfall of the 1990s. He isn't sure why things dropped around 2000 and increased now.

In fact, Roloff said he's really curious about a lot of things. "There is tons more to do, it's endless," he said. "If I want, this could fill up the rest of my career answering all these questions ... I'll never get to the point where I say 'Oh, I finally finished.' That kind of intrigues me."

John Weiss was a reporter/photographer for the Rochester Post/Bulletin for 41 years and still does freelance. He has been an outdoors writer in the Driftless nearly 46 years. He is secretary for Hiawatha TU and loves fly fishing small streams.



JASON ROLOFF WAS ONE OF THE MAJOR AUTHORS OF A STUDY LOOKING AT HOW TROUT HAVE RESPONDED TO BETTER LAND USE AND NEW REGULATIONS.

FOOD

LOCAL DRIFTLESS DELECTABLES

By Bob Luck

For eighty years after Michelin began publishing its famous restaurant guides, the city with the most stars was Paris. Not surprising: Paris has great food and Michelin is a French company. Things changed in 2007 when Michelin published its first Tokyo guide and awarded its restaurants twice as many stars as Paris. Since then, the gap has only widened. Having spent twenty-five years living in Tokyo, I may be biased in thinking that Tokyo is the world's greatest place to eat, challenged only by Osaka, but I have the folks at Michelin to back me up. And I can state categorically that the Japanese are obsessed with food. A typical supermarket carries twenty or thirty varieties of salt. Pop idols host cooking shows on TV—and not just for ratings—they can actually cook. Every town in Japan seems to boast of a different vegetable specialty from scallions to cabbage to eggplants to carrots. When I first came to Japan in the 1980s, I had little interest in food, but things are different now.

I used to stuff down a protein bar or skip lunch altogether on a fishing trip, I now head back to the car at midday, pull out the cooler, and enjoy some artisanal cheese and sausage with a slice of fresh bread, broccoli florets dressed with Ponzu vinegar, a tomato-and-avocado salad, and whatever fruit is in season. I doubt this cuts into my fishing productivity—things are slower when the sun is high, and a break helps me to reset. If half-time is good enough for the NFL, it's good enough for me. Sometimes I even recline the seat and catch a short nap before heading back out to the stream. It's true: I'm turning into my dad.

On the occasional rainy or hot day I might even pull off my waders and drive into town for lunch. I rarely have to drive more than 15 minutes—the Driftless is dotted with towns just big enough to support a couple of restaurants, and I know a few places close enough to reach the stream with a good double haul cast—that is if the trees weren't in the way and I knew how to double haul. As long as you stay off the few super-highways, the restaurants will be local places serving honest, homemade food: bacon and eggs for breakfast, tuna melt or burgers for lunch, fried chicken or pork chops for dinner. The last time I checked, the Driftless had exactly zero Michelin stars, but there are some surprisingly good restaurants here, even for a Tokyo-trained palate. I have had memorable meals at the Chef Shack in Bay City, the Pedal Pushers Cafe in Lanesboro, and the Driftless Cafe in Viroqua, a James Beard semifinalist where you can pair your Papardelle with a bottle of Domaine LaFage for \$50, or a can of PBR for 2 bucks. Try matching that in Paris or Tokyo. And the fishing is a lot better here, too.

Just like a meal, no discussion of food in the Driftless is complete without ice cream. The one exception to the aforementioned absence of chain restaurants in small Driftless towns is Dairy
20 Queen, which should be given



GRILLED TROUT, STINGING NETTLES, COUSCOUS AND GARDEN VEGETABLES PREPARED BY FLORENCE.

honorary local status given how embedded it is in Midwestern small town culture and the fact that all of its stores are franchisee-owned. I have a personal tradition of stopping at a DQ for a caramel shake whenever I've been skunked. It takes the sting away on the drive home.

The Driftless sits smack in the middle of one of the world's great food producing regions. According to the USDA, all four states that enclose the Driftless Area are in the top ten in agricultural receipts with Iowa at number two, Minnesota at number five, Illinois at number six, and Wisconsin at number eight. Most of that income is earned from chemically dependent monocultures of corn and soybeans grown on the broad plains of deep loess soil lying outside the confines of the Driftless, or from the cattle and hogs they fatten. The steep coulees of the Driftless are poorly suited to such standardized agribusiness, and the land has been colonized by a more diverse set of farmers. Dairy farms are the most prevalent, but an increasing number of farmers are trying to make a living from apple orchards, vineyards, vegetable farms, goats, sheep or poultry. Much of this food is sold locally, at farm markets, organic food stores, and through CSA (community supported agriculture) programs. Or you can go straight to the source: a good number of farms display hand-lettered signs for eggs, sweet corn, maple syrup, and, in Amish country, baked goods. Most of these places are self-service, cash, on the honor system.

From April through October, I make a weekly stop at a farmhouse on the edge

of the Driftless to pick up fresh eggs from Robin. She has been raising chickens for years, and she treats them like members of her family. She has names for all of them and knows exactly where they hide their eggs. Everybody likes a chicken dinner, so she sets traps for marauding raccoons and foxes, and keeps a watchful eye out for hawks and eagles. She still loses some of her flock to predators, and it took her a month to get over it when her favorite rooster made the ultimate sacrifice defending the henhouse from an invading fox. But she is determined to let them live like chickens should, strutting around in the fresh air, scratching for worms and bugs. The eggs are gathered fresh every morning, and the orange yolks practically stand at attention and salute. A dozen will cost you three bucks, two for the smaller pullet eggs, young hens that, according to Robin, just got their learners' permit.

I am not much of a forager, although I do have a couple of streamside raspberry patches marked on my map and will stop fishing for an hour to gather a quart when they ripen in early July. These are the small, wild, black ones that my mother called black caps. When picked before they dry out they are juicy and bursting with flavor, although a bit seedy. My friend Florence who grew up in Hong Kong, forages for mushrooms. When we fish together, she picks oyster mushrooms off old trees, depositing them in her vest. Once, returning to her farm from Cold Spring Creek, she suddenly shouted "stop the car!" I screeched to a halt, wondering what I had hit, as she ran out to retrieve a giant puffball.

"Won't you die if you eat that?" I asked. "No way. Don't be such a wimp," she responded. She was right—I'm still here. It was delicious, cooked on the grill with some butter and garlic. Two springs ago she found the mother lode of morels on her farm. There were too many to eat fresh, so she dried most of them, and they lasted until the following spring. The same day she discovered a clutch of wild turkey eggs. She was getting ready to prepare a turkey egg-and-morel omelette when her husband Jeff spoiled the fun with dark warnings of a fine and possible jail sentence for poaching. I rarely keep trout when fishing on my own. This is not due to some misguided notion of sportsmanship, but just because of the hassle to clean them, carry them around and make sure there is enough ice in the cooler to get them back to Minneapolis in an edible state. When I fish with Florence, though, we keep everything we are legally entitled to. She prefers to catch them in early fall, when the fish have had all summer to fatten up, and the females are bursting with roe, which she carefully cleans and salts to make a golden caviar that we spread on crackers and chase down with white wine. She grills the fish on charcoal, or, rather, supervises Jeff while she prepares the side dishes. Occasionally she will steam them Hong Kong style. Served with steamed rice and a side of tofu stir fried with bok choy, it is pure bliss. Did I mention that Hong Kong is the world's greatest place to eat?

Bob Luck is the current Twin Cities Chapter president and an avid angler.

FOSTER THE OUTDOORS

MY EXPERIENCE AS A MENTOR

By Lee Stoe

I was a kid who started fishing with a bobber, bare hook and a stiff cane pole maybe five feet long. I graduated to spinners and an open face reel at age 15, eventually playing with bait casters well into adulthood. As a teen, I discovered those water-filled plastic “bubbles” and found I loved delivering a fly with my spinning rod and half-full bubble. I never thought I’d take up fly fishing. It seemed like a sport for the rich and it looked complicated.

The fly fishing bug bit me hard one early morning on Hay Creek about 30 years ago. I was sitting in twilight waiting anxiously for the half-hour-before-sunrise moment when I could legally start fishing my favorite spot—with garden hackle and a spinning outfit. A stranger eventually sat across the stream from me and kindly told me “Ya know, you can’t use worms here.” I could hardly believe what I’d just heard. Needless to say, I dejectedly hiked back out and drove home. That’s when I decided to take up fly fishing.

I read all sorts of books and other material on fly fishing. Fortunately, my coworker Steve was kind enough to give me a few quick casting lessons over lunch at the sunfish-filled pond by our workplace. Even so, it took years to become even slightly proficient at the whole deal. Looking back, I sure could have used a mentor.

I refined my nymphing technique by spending evenings on the Vermillion catching stocked rainbows near the ice arena. Still, it wasn’t until I hired a guide out west a few years later that I learned to effectively present a dry fly. My guide taught me about drag, applying floatant, strategies, basic trout behavior, likely holds, “nervous water,” reach casts and more. I gained more knowledge in one day with my guide than the sum total of all my self-study.

I tell you this to get your mind thinking back on your own fishing progression and what it could mean to teach a budding fly fisherperson under TU’s Foster-The-Outdoors (FTO) mentorship program. Take my word for it, the rewards are immense, both to the men-

tor and mentee. Please consider becoming a mentor as you read on to hear my experience with the program.

In 2023, I had the pleasure of mentoring Peter and Cleo, father and daughter. After being matched in May, we arranged a meetup at Lake Nokomis where we practiced fly casting and went over the basic physics of fly fishing on the grass. Cleo used a TU-supplied fly rod, while Peter and I used our own. It didn’t take long for them to cast well enough to present a #6 Mickey Finn while wading slightly into Nokomis. We spent the following couple of joyful hours catching many sunnies, crappies, pumpkinseeds and small bass. I helped cast as needed, which wasn’t all that often. Mostly, I coached the line stripping cadence and presentation, and happily netted fish. At one point, Peter boldly said that he and Cleo should “get doubles,” which happened on the next cast. I was between them, so I netted fish #1 by reaching left and fish #2 by reaching right. What a moment!

We repeated this on another day with similar success, then decided we’d meet next time at Trout Run, off Hardwood Road by those culverts. It was a roller coaster of a day. At dawn it was calm, fish rising all over. By 8 a.m., it was hailing and down pouring. By 9 a.m., when Cleo and Peter arrived, the stream was clearing and the rain was moving out.

Fishing heated up as the day progressed. I eventually tied a #18 Elk Hair Caddis on Cleo’s line, while Peter continued to work his #18 Dark Hendrickson Beadhead nymph. For a period, I was searching by casting Cleo’s Elk Hair. In that moment, she smiled and said, “You know I’m screaming on the inside.” I sensed that and appreciated her honest humor. Right about then, we approached the 90-degree bend downstream from the snowmobile bridge. At high noon, without any help, she made a few perfect presentations up and across the bend. She fooled a 12-inch brown and quickly brought it to my net. Her proud smile was my reward. We shared a well-earned moment of celebration.

Along with the fly fishing itself, the FTO mentoring calendar includes a fly shop visit, fly tying with Laughing Trout and



CLEO AND HER FATHER HAD WILD SUCCESS ON THEIR FIRST FLY FISHING OUTING ALONG THE SHORES OF LAKE NOKOMIS.

attendance at the Great Waters Fly Fishing Expo. None of these is time consuming. This program helps budding fisherfolk be successful while transforming you. All it takes is your desire to share your knowledge. Please use the following contact information for further information or to get involved:

Kevin Wier 612-867-5768
Rich Femling 763-807-5878
fostertheoutdoors@hotmail.com

Lee Stoe retired in 2020 and loves spending time in nature. He often says “It’s not the fish,” meaning fish are just a beautiful excuse to get out and make memories with friends and family.



TOP RIGHT: PAUL JOHNSON OF LAUGHING TROUT DEMONSTRATES FLY TYING TO MENTEE CLEO.

BOTTOM: PANFISH ARE AN EXCELLENT FIRST FLY FISHING TARGET AND PLENTY WERE CAUGHT ON CLEO’S FIRST FOSTER THE OUTDOORS OUTING.

INDICATOR SPECIES

YOUTH SERIES

By Jim Emery, MNTU Educator



TROUT ARE INDICATOR SPECIES AND ONLY THRIVE IN HEALTHY STREAMS, RIVERS AND LAKES. PHOTOS BY JADE THOMASON.

There are over 100 species of fish that live in Minnesota, but only one raised in classrooms all over our state. That species is, of course, trout. It is no accident that trout are the species your class is raising. Those trout are really special fish, and they can teach you important lessons about the water around us.

The eggs that, by now, have become a tankful of small fish were provided by Minnesota Trout Unlimited. Besides the fish, we'll provide your class with educators, committed volunteers, and lessons to help you care for your fish. More importantly, we'll help you learn what trout can teach us about our environment.

Minnesota Trout Unlimited has a mission to "conserve, protect, restore, and

sustain Minnesota's coldwater fisheries and their watersheds." It's kind of funny that an organization named after a species of fish doesn't mention trout in its mission, don't you think? Of course the people involved with Trout Unlimited love trout and enjoy fishing for them. However, as beautiful as trout are (as you page through this newsletter, you'll likely see photographs of some lovely fish) there is a bigger reason that we care so much about them: To care about trout is to care about the water.

Trout are what's called an "indicator species." This means trout indicate, or show us, that a body of water is healthy, just because they are found living there. Trout need more dissolved oxygen than most of the other fish in Minnesota, so they can only survive in water that is

cold and very clean. You know something about that already, as you've been carefully monitoring the conditions in your tank.

You're not raising crappies, bass, or catfish in your classroom. Those Minnesota species are beautiful in their own ways and lots of anglers enjoy targeting them. However, those fish are also tougher and can survive in lots of different water conditions and temperatures. It is trout that need just the right balance of elements and very healthy water. The trout in your tank can teach us special lessons about caring for the world around us.

This spring, you'll be releasing your trout into a lake, river, or stream that is healthy for trout. Your trout indicate good news about that body of water. Be-

cause it can support trout, we can conclude that the water is cold, clean, and that the land around it is probably also doing well.

Another indicator species in trout habitat are stoneflies, an aquatic macroinvertebrate that trout love to eat. These stoneflies give us clues about the waters in which we find them. Did your group find any stoneflies this fall when looking for insects in the water? If so, that's great news. Stoneflies, like our trout, love cold, clean water and breathe through gills! Their gills are found on their stomachs and look like little tufts of fur.

The volunteers and staff at Minnesota Trout Unlimited are looking forward to meeting your fish and exploring the water with you and your friends this year.



A FAMILIAR QUOTE PASSED AROUND AMONG ANGLERS IS "TROUT DON'T LIVE IN UGLY PLACES." WHETHER IT BE PRISTINE TROUT LAKES IN THE BOUNDARY WATERS, CLEAR BUBBLING STREAMS IN THE DRIFTLESS, OR WILD NORTH SHORE RIVERS, TROUT RELY ON COLD, CLEAN WATER.

LEFT PHOTO BY JADE THOMASON. RIGHT PHOTO BY CHERI HENDERSON.

GREAT WATERS FLY FISHING EXPO

MARCH 15-17, 2024



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FILM SHOWCASE & PREMIERE SATURDAY, MARCH 16TH





FRIDAY NIGHT SOCIAL
FRIDAY, MARCH 15, 2024. 6:00-9PM
DREW FINE ARTS CENTER

You are invited to attend the Friday Night Social & Happy Hour event,
hosted by Fly Fishing Women of MN and presented by Minnesota Trout Unlimited!
All are welcome, as we gather to celebrate our fly fishing community across the Midwest.



Join us for:
Appetizers & cash bar
Games
Silent auction
Prize drawings



TICKETS: \$5 online in advance or at the door.

Any tickets for this event purchased online will be eligible for a special prize drawing.

Register online at: <https://greatwatersflyexpo.com/>

Proceeds from this event support the women's fly fishing
community through beginner clinics, social events, fly tying and
entomology clinics, mentorship, and organized fishing outings.



***We are here to help women unravel
the mysteries of fly fishing.***

COMMITTEE MEMBERS NEEDED

If you have an interest in the areas of advocacy, communication, education, fundraising, habitat, or inclusivity/diversity, please consider joining one of our committees. A key component of the strategic plan is to foster member involvement more directly with the work of MNTU. Your voice matters! Contact chair@mntu.org with your committee interest.

HABITAT HELPERS NEEDED

We need volunteers to assist with statewide 2024 habitat projects. To volunteer or receive information on opportunities to help with inspections and/or hands-on work, send an email to: monitor@mntu.org List "inspection" or "habitat help" in the subject line and tell us what type of things or specific streams you might want to help with. Please provide a phone number; we will not use your information for other purposes.

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Welcome to Minnesota's Trout Capital on the South Branch of The Root River.







Photo Credit Brian Schumacher



MNTU CHAPTER NEWS

Gitche Gumee Chapter

Happy New Year from GGTU! Hopefully everyone had a happy and healthy holiday season. Now that the holidays are over, I am sure that each of you are anticipating our warm MN summer months. I know I am itching to be back out in nature's beauty enjoying time on the water.

Each year in January we hold a joint meeting with the Arrowhead Fly Fishers and invite both the Minnesota and Wisconsin Departments of Natural Resources to present on projects happening in our region. This year's meeting did not disappoint. We heard updates on many projects happening across NW Wisconsin, Lake Superior, and NE Minnesota.

In mid-January, I had the opportunity to attend a MNTU Board of Directors meeting in Minneapolis. The Board of Directors highlighted the work being done throughout the state. Some larger projects discussed included streamside habitat projects across SE Minnesota and culvert replacement with river connectivity that is occurring in both NE Minnesota and the Bemidji area. There is lots of interesting work happening in advocacy, habitat plan development and implementation. The Trout in the Classroom program was talked about at the meeting as well. The TIC program allows children to discover the importance of our trout fisheries and offers early exposure to conservation. All these are just a few of the goals and objectives of the MNTU 2021-2025 Strategic Plan.

With all the information shared in both of these events, there is a lot to get excited about within MNTU for 2024 and beyond! In order for all of these goals and objectives to move forward we need you to get involved. Volunteers are essential at both the local and state level to support and sustain our coldwater fisheries. We need volunteers to step in and be leaders within our various chapters to help MNTU move our state forward in both conservation and education. Want to make a difference at the local level? Great! The Gitche Gumee Board is looking to help provide exposure to the different volunteer roles needed to move our chapter goals forward. Want to make a difference at the state level? Even better! MNTU has opportunities available to help move the state goals forward. We appreciate all the volunteers that have helped in the past, but now more than ever, help is needed to conserve, protect, restore, and sustain Minnesota's coldwater fisheries and their watersheds. I'd love to talk volunteer opportunities over a cup of coffee with you. Feel free to contact me directly at brandon.kime@gmail.com.

Brandon Kime

Headwaters Chapter

It's January first, and I'm doing something I've never done before...fly fishing on the Mississippi River in northern Minnesota. Normally this time of year the river is mostly frozen over and temps are well below freezing. But on this day it's a balmy 33 degrees and a clear blue sky. It was the first day of the new year, my first day fishing...and my first lost fly. I'll have to come back to get this one in the spring.

I realize while writing this that the last few months have been, well, normal. The weather may not be typical, but we are making the best of it. This also means that our chapter is back in line with our typical winter events and everything is moving along smoothly.

We have had a successful egg hatching and all tanks are doing well. We have two new schools this year, Schoolcraft and Cass Lake. Our Community Fly Tying classes are off to another great season, and our beginner nights are back again this year. Soon we will start our Youth Fly Fishing program, now in its 24th year. Hundreds of fourth and fifth-grade students have learned the basics of fly fishing from our volunteers. It's through programs like this and the Trout in the Classroom program that we are raising the next generation of Trout Unlimited leaders.

Kris Williams

Hiawatha Chapter

Hiawatha TU chapter had a mixed bag for events in the past few months, ranging from a few anglers meeting to tie flies, three attending an anti-pollution meeting in Winona to more than 20 meeting for a holiday get together.

Here are a few happenings:

Carl Berberich had an audience of three Dec. 9 when demonstrating how to tie an Elk Hair Caddis dry fly—his style.

Watching were Dave Hass and Tom Tye of Chatfield and Dan Olson of Rochester; Ray Ricketts sat tying midges across from Berberich and his audience.

The occasion was the weekly Hiawatha TU fly tying morning at 125 Live at 125 Elton Hills Dr. NW., Rochester (it's the northwest corner of North Broadway and Elton Hills Drive). Tying will be held weekly, from 9 a.m. to 11 a.m. through March 9.

It's meant to be informal and it was, with watchers getting close-up looks and Berberich going over finer points. The next week, he tied a wet fly—the Partridge Orange, another classic fly. This time, there



FLY TYERS GATHER AT THE GREAT LAKES FLY SHOP FOR A GGTU MEETING.

were more onlookers and more people tying flies. Again, anyone could ask questions and they did. All who came took home a Partridge Orange.

One of the key things he uses for the body is the cul-de-canard, soft fluffy feathers from a duck's butt around a preening gland they use to waterproof their feathers, he said. He always ties on a #16 hook. And he uses them year-round, not just when there's some kind of hatch. He uses them in a more traditional way, casting upstream but also casts them across or even down and skates them back.

The fly itself is very easy, and can be tied in five minutes. Always use 6/0 thread because lighter thread will break when trying to flare the deer hair; his flies tend to be darker. His hook is a scud hook because the eye faces down; an upward eye will interfere with the deer hair.

He also leaves a long tag of thread that he wraps around for a rib to strengthen the fly. That keeps the CDC in place and gives him many more fish.

One key is never use wet floatant like Gink on them. Instead, it must be dry floatant only. He can catch a few dozen fish on the same fly but likes to clean it off with a shirt now and then, then puts on floatant. He wants the fly to ride lower in the water. "It will bring fish up—SERIOUSLY," he said.

Winter is Jason Rieke's favorite time to fish trout. Few others out on the bluf-land streams, air is crisp, water is clear. It's a good time to catch some big fish, which he loves to do.

"It's a great time to not have any pressure out there," he said. "Everything is so much more intense." Winter is also a great time to explore new places be-

cause there's less vegetation to impede you and you might get into places that are hard to reach in summer.

There is, however, that one little, tiny thing to also consider—it's winter which means it's often cold.

So one of the first things he talked about at the Jan. 2, 2024 meeting of Hiawatha Trout Unlimited was how to dress. Not the right fly, not the proper presentation, just how to dress.

The basics are dressing in layers, he said. He likes neoprene waders but doesn't try to put too many pairs of socks on his feet because that actually makes them colder. Tight socks restrict blood getting to the feet and it's the blood that makes you warm, good clothing just keeps you warm. Wool socks are much, much better than cotton because wool breathes and wicks away moisture while cotton absorbs it.

Oh yes, avoid felt-bottomed boots because they quickly ice up and make it hard to walk, and they get slippery.

He avoids one big bulky parka and dresses on top in layers with a breathable layer next to the skin. He carries a backpack so he can add or take off layers as conditions dictate. A good windbreaker for the final layer really helps.

And a hat, of course.

Ah, gloves, a real conundrum for winter trout fishing. It's hard to fish with them, it's hard to fish without them. But Rieke said he's more and more using nitrile gloves. Others prefer wool gloves but he said take them off before touching fish. He also has a handwarmer pouch around his waist so he can put in his hands quickly to keep them warm.

If he gets cold, he just runs around a bit, swinging his hands below his waist. "It

MNTU CHAPTER NEWS



looks a little silly but it works,” Rieke said.

For a rod, he likes 9-foot 3- to 5-weights, but likes the 5-weight better. Don’t bring your best rod because there’s a better chance of breaking it. Avoid sticking your reel in the water, it will ice up. Iced-up guides are a real problem when it’s below freezing, he said. Some try spraying them with Pam or lip balm but he said they don’t last very long.

For flies, he likes bigger ones, especially the black or olive wooly buggers or Frick’s Fix streamers. If he nymphs, he casts size 14 to 18 nymphs like a Beadhead Hare’s Ear. If you want to go even smaller, try a size 18 to 22 Zebra Midge or Pink Squirrel or Beadhead Pheasant Tail. “If you’re going for numbers of fish, that is probably the best fly,” he said about nymphs.

There are times for a dry fly and he likes the Griffith’s Gnat or Parachute Adams.

How to fish was next up and he said he likes to go low and slow, essentially dredging the fly with a slow twitch. But now and then, he tries zipping it along. High sticking for nymphs often works, using an indicator.

As for the right stream, he likes small to medium ones but not the headwaters because they are often very low.

Speaking of low, keep your expectations low. “You are going to see a lot of fish in different areas,” he said. But catching them is another matter. “Low and slow is where they are this time of year,” he said.

Finally, Rieke said keep fish wet and keep them in the water.

Three Hiawatha TU members—Carl Berberich, Don Parsons and John Weiss—on Oct. 30 demonstrated WiseH2O water monitoring several members do, as well as passed out cards we had printed with information about what to do if you see a fish kill or a fishing violation.

The event was the second clean water forum held in Winona County to get out the word that there are too many nitrates in our drinking water and streams. The first was held in Lewiston several months ago. A third forum, this one in Fillmore County, will be Nov. 16, beginning at 7 p.m. at Eagle Bluff Environmental Learning Center south of Lanesboro. At least two members will be there.

It was part of our effort to try to coordinate with others who also want cleaner water. We want it for better trout streams, but also because we all need clean drinking water. We have members on committees for both counties.

John Weiss

Twin Cities Chapter

The closest trout waters to the Twin Cities big enough for the mapmakers to call “rivers” are the Kinnickinnic and the Vermillion.

The Kinni, just over the Wisconsin border, is a 45-minute drive from my home in downtown Minneapolis. The entire river is a Class I trout stream, except for a stretch in River Falls where two dams have created shallow, sediment-filled impoundments that are ideal habitat if you happen to be a carp. We are working on that!

Together with our sister chapter Kiap-TU-Wish and the other organizations that comprise the Kinni Corridor Collaborative (KinniCC), we successfully advocated for a feasibility study by the US Army Corps of Engineers to remove the dams. One key reason we were successful is that KinniCC agreed to pay half of the City of River Falls’ share of the study’s cost. Money talks. TCTU members contributed a large share of this funding, over \$60,000. Provided that the Corps’ plan is accepted by the River Falls City Council, up to \$10 million of federal funding will be made available for the removal of the two dams and restoration of the riparian corridor. The feasibility study kicked off in May 2023.

In December, we reached an important milestone: The Corps presented seven alternatives to the City Council, which ranged from Option 1 “(Do Nothing) to Option 7 (removal of both dams, plus the restoration of the riparian corridor and two adjoining spring ponds). The Council picked Option 7! The Corps will now proceed with a detailed project plan, with a goal of signing a contract with the City in June 2024.

The Vermillion is even closer than the Kinni, only 35 minutes from my home, and you don’t need an out-of-state license to fish it. The Vermillion and its tributaries are not classic riffle-and-run trout waters, flowing smooth and stately through rich Dakota County farmland. Many of our chapter members, including me, encounter the Vermillion most often when driving over it on the way to the Root, Whitewater, Trout Run and other streams in the Southeast. But the Vermillion is worth a closer look: there is a healthy population of wild browns in the South Branch, and some monsters in the main stem.

TCTU has a long history with the Vermillion, with most of our recent work focused on habitat improvement projects on the South Branch. But there is much more that we can do and given its location in a heavily farmed area right next to a large city, the Vermillion needs all the help it can get! The TCTU Board has designated 2024 as “The Year of the Vermillion.” We have put together a task force, led by board member Doug Moran, to determine where TCTU can have the most impact, and to develop partnerships with other organizations who seek

to protect and restore this outstanding resource. If you are interested in helping, get in touch with Doug at doug.moran@twincitiestu.org.

You don’t have to wait for Spring to fish the Vermillion! On January 1, 2024, the Vermillion and its tributaries opened to catch-and-release winter fishing, just like the streams in southeastern Minnesota. I recommend fishing the South Branch, which has more spring flow and warmer water temperatures than the main stem, but now I’m sure somebody will go out to the main stem and prove me wrong by hauling in a 27-incher. If that happens to be you, send me a photo!

Bob Luck

Win-Cres Chapter

Win-Cres will be part of the April 27, 2024 Gamehaven Scout Camp as part of their support for community outreach opportunities; and will provide fly tying, casting, stream craft safety, and other information regarding trout fishing.

In addition, Win-Cres will continue to work with the Goodhue Fishing Club. The two-part Goodhue events will be held April 6 at Goodhue Schools and April 26 at Rushford, MN.

A motion was passed to reimburse Mark Schwanbeck \$100 for his streamside

mowing along Rush Creek between the two County #25 road bridges.

Garvin Brook has not seen any beaver activity lately; thus no trapping will be needed.

Dusty Hoffman, DNR, has three sites for willow whacking in 2024. Dusty will get the possible dates for Win-Cres to assist in the whacking and application of a herbicide to prevent regrowth.

A plaque honoring Joe Lepley, that will be placed with the Lake Park Bench that Win-Cres had the city install, is in the works.

We received an update on MNTU’s future plans to create a Sustaining Fund for Trout in the Classroom, an annual Volunteer Recognition Awards Program, and the formation of an Advisory Council that will have representatives from every chapter in the state.

Programs for future membership meeting are as follows:

- January 24 - Vaughn Snook, DNR’s Assistant Supervisor of Fisheries, Lanesboro
- February 28 – Klaus Friedli

These meetings will be held at Sobieski Lodge, East 7th St., Winona. Social hour is at 6:00 p.m. and presentations at 7:00 p.m. The public is welcome and encouraged to attend.

Mark Reisetter



CARL BERBERICH OF THE HIAWATHA CHAPTER DEMONSTRATES HOW TO TIE AN ELK HAIR CADDIS.

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SELECT POETRY

By Larry Gavin

Meeting Mr. Adams

In March the fishing vest rests,
and the insects pause waiting
for spring. Behind the barn
on Pine Creek trout wait in lies
that break the current, waiting
almost like holding in a breath.
Look into the mirror that is water.
See the world reflected in light
the blue sky, the fluffy light clouds.
The mirror of the water telling us
about us.
So what of Mr. Adams? What
does he think? Waiting in that vest
to go to work, to float, to deceive
and inspire. Never mind old stories
it's time for new ones. Make them.
Let them hang up as memory
floating on the surface
like the old red barn will float
above a corn field in late June,
and turkey vultures float in circles
below clouds as weightless
as another illusion.

Larry Gavin is a poet from Faribault, Minnesota. He is the author of five books of poetry. His newest, A Fragile Shelter: New and Selected Poems, is available from Red Dragonfly Press. www.reddragonflypress.org



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