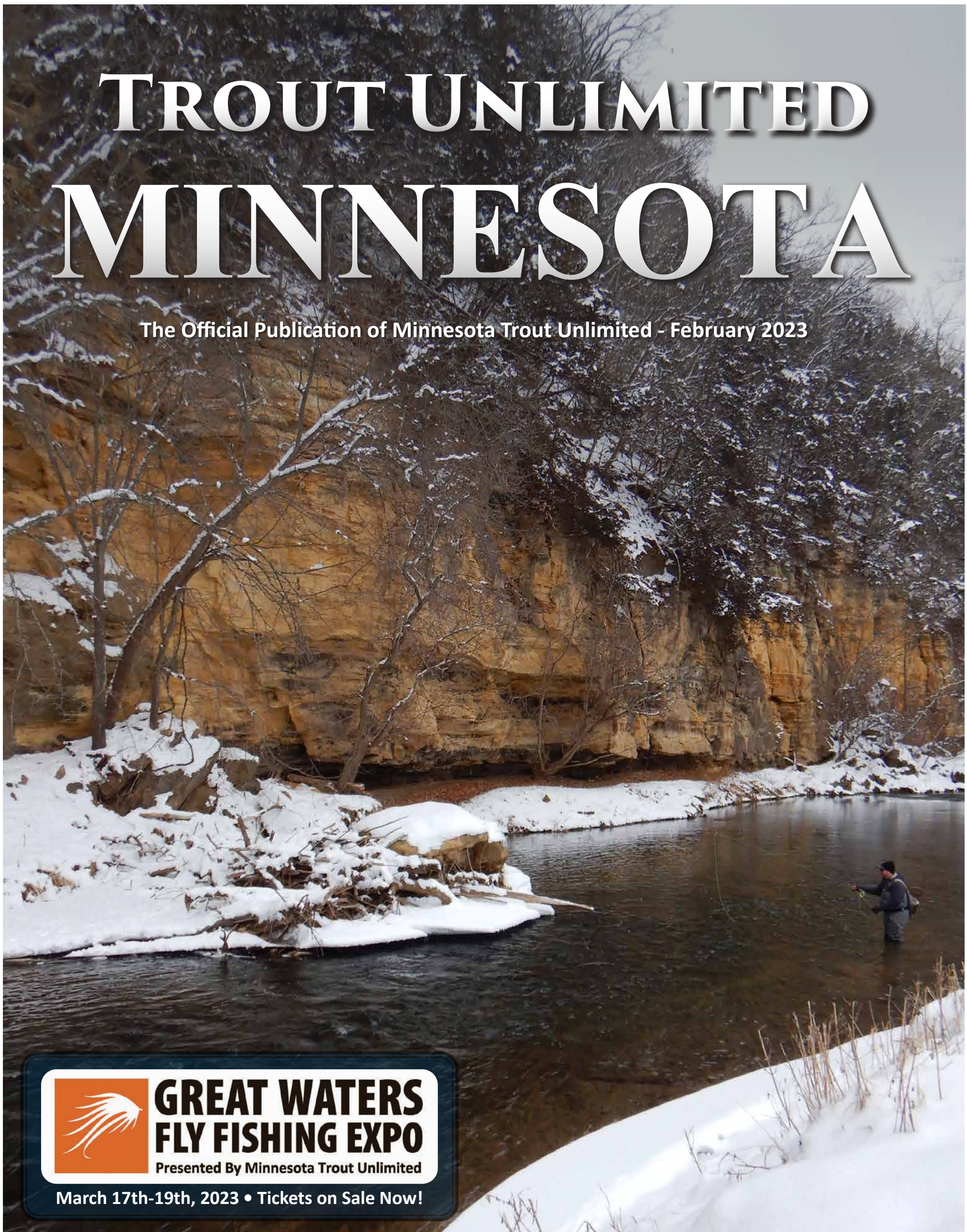


TROUT UNLIMITED MINNESOTA

The Official Publication of Minnesota Trout Unlimited - February 2023



**GREAT WATERS
FLY FISHING EXPO**
Presented By Minnesota Trout Unlimited

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AUTHOR STEVE RAMIREZ
COLD WEATHER FLY FISHING TIPS
YOUTH SERIES: FISH HABITATS
BWCA TROUT FISHING: WINTER
TYING THE TUBE FLY INTRUDER
MINNESOTA TROUT HATCHERIES

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Chanhasseen, MN 55317-0845

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PERMIT NO. 281
ROCHESTER, MN



READ MORE ABOUT FOSTER THE
 OUTDOORS ON PAGE 16.

ON THE COVER

Towering limestone cliffs are a
 hallmark of Driftless streams like the
 South Fork of the Root River.
 Marlene Huston photo.

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 ing correspondence or other inquiries
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EDITOR’S ANGLE
MAJOR BWCAW PROTECTIONS

By Jade Thomason, Editor

In the depths of the Minnesota win-
 ter, we’re fortunate to be able to head
 fishing for trout. From open-water
 fishing in the southeast, to hard-water
 fishing in the north, options abound even
 in the coldest months of the North Star
 State. For many anglers, ice fishing
 means chasing lake trout near the Cana-
 dian border. In this issue of TUMN, we
 lead with Adam Hogquist’s excellent in-
 troduction to ice fishing in the Boundary
 Waters. While preparing to head north
 to find some quality lakers, it’s worth
 reflecting on a current, hard-fought con-
 servation and advocacy victory.

On January 26, the Biden administration
 withdrew 225,504 acres of the Superior
 National Forest from disposition under
 the United States mineral and geother-
 mal leasing laws for a 20-year period.
 This effectively will serve to protect
 the watershed of the BWCAW from the

potential effects of proposed hard-rock
 sulfide ore mining. Every year, more
 than 150,000 visitors from around the
 world visit the 1.1-million-acre Bound-
 ary Waters Canoe Area Wilderness,
 making it the most visited federal wil-
 derness in the country. Many of these
 visitors fish the waters at risk of long-
 term pollution. The next time you con-
 sider heading north to find trout in the
 wilderness, think of the folks at Sports-
 men for the Boundary Waters and other
 non-profits, including MNTU, that came
 together and helped advocate for these
 monumental protections. Without years
 of hard work and leadership, we would
 have not taken these first steps to per-
 manently protect one of the best wilder-
 ness resources in the nation. I’m looking
 forward to my next trip into the wilder-
 ness, knowing that together we have im-
 proved the conservation outlook of such
 a treasured place.



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GUIDE ICING IS A CLASSIC WOE OF WINTER TROUT FISHING. CHECK OUT MICAH CRIDER’S ARTICLE ON
 PAGE 6 FOR TIPS AND TRICKS TO CATCH FISH IN THE COLD MONTHS.

FROM THE EXECUTIVE DIRECTOR

AGENCY FOOT DRAGGING INSTEAD OF ACTION TO PREVENT FISH KILLS

By John Lenczewski, MNTU Executive Director

In the November 2022 issue of this newsletter, I reported on the large fish kill on Rush Creek that occurred in late July. The six month “anniversary” of this fish kill in Winona County has passed, yet the three state agencies investigating the causes of the fish kill have shared no meaningful information with the public. The excessively broad “cone of silence” dropped over staff in these agencies continues to deny the public access to basic information it deserves to know. This long period of silence suggests that the agencies may again be overly focused on finding a “culprit” to prosecute, at the expense of sharing facts that might help citizens and legislators determine which laws, rules and oversight structures governing manure and pesticide applications need changing.

MNTU’s message since we learned of this fish kill in late July has been that we are not interested in retribution against one actor, but want rules and practices changed to prevent more fish kills.

Bills have been introduced in the state House (HF81) and Senate (SF68) that would require the MPCA, MNDNR, Ag Dept. and Health Dept. to collaborate to develop a protocol consisting of steps that state agencies must take when a fish kill is reported to determine the factors contributing to the kill. MNTU supports these good bills, and will work with legislators and partners to strengthen them before passage. One improvement might be to require a separate protocol tailored to the unique geology and geography in southeast MN, in addition to a statewide protocol.

However, more action is needed. The protocols will only identify factors contributing to still more fish kills, not require changes that would prevent them. As detailed in MNTU’s November article, the agencies have repeatedly identified the likely causes (manure and pesticide application practices) and contributing factors from similar fish kills that occurred within a dozen miles of Rush Creek. Yet they miss these key lessons revealed by their investigations:



1. Current rules and practices around the application of manure and pesticides are not working to keep these pollutants out of surface and groundwater.

2. The principles of risk management need to be applied to these land practices.

The tragic series of fish kills in southeast MN have already demonstrated that our current system is not working. A comprehensive reexamination of the rules and regulatory oversight governing manure and pesticide applications is needed now.



MINNESOTA COUNCIL UPDATE

2023: A YEAR OF CHANGE

By Brent Notbohm, Minnesota Council of TU Chair

On January 21, the MNTU State Council’s Board of Directors met for the first time in person since January of 2020. Having been elected chair in April of 2020, it was great to finally meet several board members face-to-face who I had only encountered on Zoom. The meeting itself was very productive, during which we covered a lot of ground. At the center of our work was the 2021-25 strategic plan.

2023 will be a year of change for MNTU—we plan to hire a statewide Habitat Program Director, adopt a revised set of bylaws, and develop a long-term funding strategy for our education program—just to identify a few key initiatives. We also hope to create a new program by women and for women under the banner of MNTU. I personally believe it’s imperative that we expand opportunities for women anglers and conservationists in our organization and transform MNTU into a more inclusive and diverse community of individuals who are passionate about the coldwater fisheries of Minnesota. Please let me know if you would be interested in helping with this important initiative.

Speaking of help, at the January board meeting we affirmed our committee structure and now are looking for “at large” MNTU members not on the State Council to get involved. 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! PLEASE consider contributing your ideas, time, and talent to one of our committees. Again, feel free to contact me directly if you wish to volunteer for a committee.

Those of you that know me know that I’m involved in this organization first and foremost for the fishing, so after the board meeting I was able to sample a few trout streams in southeast Minnesota. As an “up north” resident of Duluth, this is something I don’t get the opportunity to do nearly enough. I was joined by our Executive Director, John Lenczewski, and board members Marlene Huston and Randy Brock. We caught some nice brown trout in rivers that have received



habitat improvement projects by MNTU and cherished the peaceful serenity of the Minnesota Driftless area in January. My thanks to John, Randy, and Marlene for sharing with me some of their home waters. Marlene even snapped a picture of me fishing a particularly lovely stretch of the South Fork of the Root River, which now appears on the cover of this newsletter. I hope you all get the chance to enjoy the benefits of MNTU like I have by fishing the extraordinary waters of Minnesota! I also look forward to fishing more of these special places with more of you in the months and years to come!



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BWCA Trout Fishing: Winter

Brook and Lake Trout in the Frozen North

By Adam Hogquist



AN 18-INCH BROOK TROUT CAUGHT AROUND THE GUNFLINT TRAIL.

The BWCA is one of my favorite places to explore and fish during winter. It is hard to beat the views, isolation, and experience of an ice fishing trip to the wilderness, so I spend most of my weekends exploring the lakes the BWCA offers. While there is the opportunity to ice fish for walleye, northern pike, and crappies within the wilderness, the most exhilarating species to fish for, in my opinion, are trout. These energized fish will give you a fight through the ice unmatched by any species within the state. Two different trout species can be widely found throughout the BWCA: lake trout and brook trout.

Trout fishing is unlike fishing for anything else, which may make it a challenge for beginners to understand the locations and tactics for targeting these fish. This guide will go over the general areas of the lakes, finding a lake best suited for you, and tactics for landing a BWCA trout.

Regulations

The BWCA has some special regulations regarding travel and the use of specific items. The following link details the rules and regulations you need to know before making your trip: www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd611535.pdf

To clarify the prohibited use of gas augers, drills, or electric augers: these are NOT allowed in the BWCA. Many first-time BWCA goers think this rule only applies to fuel-powered augers, but this regulation applies to any mechanized auger.

Areas to Fish

The BWCA has multiple areas to access trout lakes. The most popular of these areas is the Gunflint Trail. This 57-mile paved road accesses most lakes that hold trout close to vehicle parking, which makes day-tripping more manageable for those who would

prefer to stay in local lodging. There is a large moose population in this area, and there's a good chance you will see one if you drive the entire Gunflint Trail.

The Ely area is also a popular destination for many BWCA trout anglers. Except for a few lakes, the trout lakes are generally a longer journey and would require winter camping unless you plan on traveling 3+ hours in each direction. Most of the lakes in this area are accessed from Fernburg Road (County Road 18) at EP 25 or EP 26, which are the gateways to a few of the most renowned trout waters in the wilderness.

Choosing a Lake to Fish

With over 100 lakes containing trout within the BWCA, it can be hard to choose just one lake to try. There are a few factors to consider to help narrow down your decision.

The biggest factor is the distance to the lake from the closest entry point. Lakes within a few miles will tend to have more visitors, which makes travel much easier due to portages and trails on the frozen lakes already being broken in. However, a lake within close proximity to an entry point doesn't always mean easy traversing. Most notably around the Gunflint Trail, the topography can be extreme, making travel with a full load of gear a bear. If you want to make a trip deep into the wilderness but don't want to put in the work of hiking all the miles, there are guided dog sled trips available that can take you out for the day or over-night camping.

Fishing pressure is another factor to consider. In general, lakes within a couple of miles of travel tend to receive the most fishing pressure and can be relatively crowded on nice weekends. To get away from others, you will need to travel distances exceeding five miles in most cases. If you're willing to put in 10+ miles



MOOSE ARE A RELATIVELY COMMON SIGHT WHEN TRAVERSING THE GUNFLINT TRAIL NEAR GRAND MARAIS.

and break trail into one of the many untouched lakes during the winter, it can lead to the best trout fishing the BWCA has to offer!

The final factor to consider is the size structure of the trout in a specific lake. This can be hard to determine at times, but tools such as the Minnesota DNR

Lakefinder can help anglers determine the average size and abundance of certain fish species in a lake. In general, lakes with a high abundance of trout tend to have a smaller average size, whereas lakes with a lower abundance will have a larger average size.

While Lakefinder is a good tool for find-



A 15-POUND LAKE TROUT CAUGHT ON A BWCA LAKE WITH A LARGE CISCO POPULATION.

ing lakes based on surveys alone, the surveys don’t always reflect a lake’s true potential. Lakes with a good forage base, such as cisco, may also have a healthy trout population, even if the surveys are underwhelming.

Spots and Tactics For Lake Trout

Once you have a lake picked out, you will need to locate and hook up with the trout species you are targeting. Lake trout and brook trout do not behave the same, and require different tactics to catch them successfully and consistently.

Lake trout tend to relate to depths of 30 to 70 feet, but can also be found at depths outside this range. Steep breaks, points, reefs, and flats adjacent to depths near 100 feet are all high-percentage areas that would be worth a try. Make sure to jig the entire water column, as lake trout can come in at any depth, even a foot below the ice. When you start to mark a lake trout on your sonar, make sure to play “keep away” with it, since they naturally want to chase down their prey. Reeling away from a lake trout is a great way to trigger one to chase and attack your lure.

Baits that are effective for jigging include tube jigs, spoons, and rattle baits in ¼ to 1-ounce sizes. Most lake trout lakes in the BWCA allow anglers to have two lines in the water, making tip-ups a great tool for maximizing the potential for getting on fish. Using frozen dead bait and either suspending them in the water column or laying them on the bottom can help to hook up with quality fish.

Spots and Tactics For Brook Trout

Brook trout tend to frequent shorelines in less than 10 feet of water. The structure to look for on these small lakes includes shoreline points, sunken trees, transitions in the bottom substrate, and steeper breaks. Sight fishing is the most common tactic on these lakes because of how shallow and fast these trout move through an area. This requires you to bring an ice shelter to see the whole water column for a longer period of time.

For jigging tactics, try to play cat and



A 10-POUND LAKE TROUT FROM THE BWCA.

mouse with a fish when it comes below your hole. Common baits used for jigging include spoons, small tubes, and panfish jigs tipped with a wax worm or plastic. Remember that brook trout are found in designated trout lakes where only one line per angler is allowed, so set lines will not be necessary.

Get Outside!

Now that you have a basic rundown of the areas, different types of lakes, and

tactics, all you need to do is make your way up to the wilderness and let your adventure begin. The BWCA is a special place to me and many others, and I think you will be blown away by the pure beauty of the area in the snow-covered months and, hopefully, by the fishing too!

Check out www.sportsmenbwca.org for more information on fishing the BWCA.

Adam Hogquist was born and raised in Bemidji, Minnesota and started fishing at an early age. After his first trout fishing trip to Ely in 2016, he became addicted to trout and northeast Minnesota and moved to Duluth in 2017 to be closer to the BWCA and trout fishing. He spends most of his free weekends fishing trout in the BWCA and Canada and is always looking for new waters to explore.



HIKING OUT OF A TROUT LAKE IN THE ELY AREA.

COLD WEATHER FLY FISHING TIPS

THE DRIFTLESS IS OPEN

By Micah Crider

Minnesota winters are long and cold, but that's likely not news to anyone here. To get through the frozen months, many Minnesotans take up an outdoor cold-weather hobby. And if you polled the majority of Minnesotans to see what their winter hobbies are, the top results that would likely come up are cross country or downhill skiing, ice fishing, ice skating, hockey, and snow-shoeing.

Many folks do not expect to see fly fishing make the list. As fall turns to winter, I often find that people are surprised to hear that I don't ice fish, but that I continue to fly fish through the winter months. The conversation inevitably turns into me explaining the Driftless Area and how we are blessed with countless spring-fed streams in our state that rarely freeze, even during our cold Minnesota winters.

In early January, my wife Abigail and I made a trip south to Lanesboro, Minnesota to fish a few streams with our friends Jason and Lance. Lance, who is the owner of Root River Rod Co. in downtown Lanesboro, and Jason, who has resided in southeastern Minnesota most of his life, both know the area streams extremely well. After a quick stop at the fly shop, we headed off to the first stream, and it wasn't long before we started catching fish. The weather was overcast with temps in the mid-twenties. This may not be most folk's idea of ideal fishing weather, but the solitude, silence and cold landscape make for a unique experience. Things that would go unnoticed in other seasons, suddenly become hard to ignore, whether it is a songbird chirping from a bare, snow-covered tree branch or a squirrel rustling through a brush pile.

Fly fishing in the winter can be fickle. Techniques that would almost certainly work during other parts of the year may not be as effective. Throughout the day, we tested different methods and areas of each stream until we found what worked. Despite the cold temps, the four of us enjoyed a full day exploring a handful of streams, catching fish in each one. As we bounced ideas off each other, I decided to take notes and compile a list of "Winter Fly Fishing Tips" from those in the group. Below are a few of the tips I think are key to winter fly fishing success. This list isn't exhaustive, but if considered, will improve your chances of success if you decide to add fly fishing to your winter activity list.

Layer Up – Wearing the right layers while winter fishing is important. Mornings can be bitterly cold, but after hours of hiking and wading around streams, you may find yourself getting warm and needing to ditch a layer. Sweating in the winter will make you even colder after you slow down, so it is important to wear just enough to keep you warm without overdoing it. I also don't recommend wearing too many pairs of socks. It may seem like the best option to layer
6 up multiple pairs to keep your feet warmer, but it can actually



LANCE PRADO AND JASON RIEKE ARE DRIFTLESS LOCALS.

cut off circulation and make your feet even colder.

Fish Flies Low and Slow – As water temps drop during the winter months, fish become more lethargic and are less likely to expend as much energy chasing down a potential meal. It is a good idea to fish flies low and slow in the water column. This gives the fish an opportunity to get an easy meal without needing to move far.

Get Comfortable with Nymphs – Personally, I am more of a streamer guy, but in the winter, I enjoy tossing double nymph rigs for a few reasons.

- Nymphs are a small, easy snack for a trout, and they represent typical winter food.
- You can fish different patterns and sizes simultaneously.
- It is easy to fish nymphs at different depths by adding weight or changing indicator depth.
- The guides on your rod don't require as much de-icing, because you aren't casting and stripping as much line through as you would with streamers.

Opt for Smaller Indicators – Fish tend to be more easily spooked in the winter. If you decide to fish nymphs, consider using the smallest indicator you can to avoid spooking fish during your casts. During our recent trip, I was fishing a spot we were confident held fish, but I wasn't having any success. Lance suggested I downsize my indicator and when I did, I caught fish almost immediately. Using light tippet will also help with a more subtle presentation.

Don't Rule Out Streamers – Although the low and slow nymphing technique that I



THE ROOT RIVER ROD CO. IN LANESBORO IS OPEN YEAR-ROUND AND CAN PROVIDE EVERYTHING YOU NEED FOR WINTER TROUT FISHING IN THE DRIFTLESS.

just mentioned can be very effective in the winter, streamers can still have a spot in your fly box. It is not uncommon for a trout to chase a streamer out of deeper water in the winter. While I was catching fish on the nymph rig, Jason had success using small streamers. We often find that smaller, heavier streamers are more effective and can work well when fished slow or even dead-drifted.

Look for Slower Water – Every trout angler loves a nice riffle section in a stream, which acts as a conveyor belt of food and oxygenated water during warmer months. In the winter, however, trout tend to shift into slower, deeper water that requires less energy. You will usually find these slow, deep spots not far below riffles.

Enjoy the Sunlight – Sections of the stream in direct sunlight can be very productive in the winter. As the sun hits the water, the temps warm up throughout the day, which often results in activating bug activity and energized fish.

Be Stealthy - It is important to approach the water that you’d like to fish quietly

and calmly. This is good practice all year, but in the winter it is even more critical. Fish sitting in calm water can more easily sense you approaching and will take off before you may even see them. It is also important to be aware of your shadow, making sure you’re not casting it across a spot you hope to fish. When possible, I prefer to stay out of the water and approach spots from the bank. If you must fish from the water, wade as cautiously as possible and try making longer casts from a distance.

Focus on High-Probability Spots – Fish don’t spread out as much in the winter months as they do during other times of year, so don’t waste too much time fishing low probability spots. As mentioned above, the high-probability spots that I personally tend to focus on are deep, slow pools. At the first stream we fished in January, we walked past a lot of faster, shallow water without seeing any sign of fish, and instead focused our time on deep pools. Even though this meant we had to walk for a while, it was worth the effort and increased our chances of catching fish during the hours we had.

Fish Spots Well – When you locate a spot with fish, or a spot with a high likelihood of holding fish, spend plenty of time working that area well. It may take several drifts past fish before one eats, so be patient. On our recent outing we nymphed a hole for more than 15 minutes before we caught the first fish, but after that we had about a ten minute window where we caught eight to ten additional fish. Lance and Jason even had a double! Just as quickly as the bite window had turned on for us, it also shut down.

Handle Fish with Care – Trout are sensitive fish and should be handled with care, especially in the freezing cold winter months. We try to keep fish in the water and only take them out for the occasional photo before releasing them.

Watch Your Step – Although spring-fed streams may not totally freeze over, shelf ice on the edges are common. You may be able to walk on some of the shelves but be careful because the ice is often thin and you may find yourself falling through. Also, make sure what you assume is the stream bank, is actu-

ally a bank. Sometimes drifted snow can form what looks like a bank but would send you falling into the stream if you trusted it to hold you. Even though I try to be careful, I always leave a change of clothes in my truck in case I fall into the freezing cold water.

The final piece of advice I would give is to enjoy your time. Whenever I fish, I try to remind myself to take a step back and soak in the experience. I’m often guilty of being so focused on fishing that I don’t really take time to appreciate my surroundings. Winter fly fishing is a super cool experience – wading through open water surrounded by beautiful snow-covered landscapes brings a different kind of peace and calmness that I don’t experience during other seasons of the year. If you haven’t had a winter fly fishing experience, I encourage you to add it to your outdoor winter hobby list.

Micah Crider is a MNTU Board member and avid fly fisherman. While he may have a desk job in corporate finance, he spends the majority of his free time exploring fisheries across the region and documenting his experiences through photography and writing.



THE SOLITUDE, SILENCE AND COLD LANDSCAPE MAKE WINTER TROUT FISHING A UNIQUE FISHING EXPERIENCE.

WHERE I TIE

By Paul Johnson

Over the years, what began as a simple tying desk in the window-less storage room of our basement has evolved into an entire room (with some overflow to the next room, much to my wife’s chagrin) dedicated to the art of fly tying. This little room becomes a cozy sanctuary in our cold Minnesota winters and a cool escape in the humid summers. My morning coffee tastes a little better in this space and the news from my morning newspaper feels a little less discouraging. The conversations with my wife and daughters seem to be filled with a little more laughter. Not only is it a quiet retreat, but it is also filled to the brim with bits and pieces of the people and places that are most important to me.

I tie on a roll top desk that was handed down from my parents. The numerous cubbies and drawers provide a home to my hooks, beads, fur and feathers. On top of my desk is a white top that my friend Garry Moore from our Laughing

Trout Fly Tying Club made for me. This helps to keep eye strain to a minimum. The cabinet across the room holds fly boxes ready to be filled with flies that will be donated to help support the local Trout Unlimited Chapters here in Minnesota and western Wisconsin. The shelves in the room are filled with pictures of some of the most memorable fish my family and I have caught on flies tied on this desk.

It is a room full of memories from the places that I have been and fish that I have caught. It is also a place where dreams are being made. Dreams of places that I want to go. Dreams of trout sipping on mayflies or trout chasing after caddis dancing on the stream.

Editor's Note: Paul Johnson is a long-time contributor to TUMN with his fly tying column. Paul has also donated countless flies to TU chapters for raffle, raising thousands of dollars for MN trout.



BOOK REVIEW

FLY FISHING MINNESOTA

By Perry Palin

FLY FISHING MINNESOTA



Over 125 Waters Covered • 60+ Full Color Maps • Techniques • Flies

CARL HAENSEL

If you fly fish in Minnesota and you know Carl Haensel, you probably already have this book. If you fly fish in Minnesota and you don't have this book, you should buy it.

Fly Fishing Minnesota, at 350 pages, has what we need for fishing for trout and warmwater fish in streams, rivers, and lakes across the state. Over 125 waters are covered in detail, with access points, fly fishing techniques and recommended

flies and candid evaluations of the fishing. Other nearby places not covered by name are the subject of subtle hints in the text and on the maps.

Carl is an educator, biologist, photographer, writer, and fishing guide. He brings all his fishing knowledge and background to this book. Carl and his talented wife and business partner Jade Thomason own and operate Namebini, a fly fishing guide service on the Lake Su-

perior North Shore northeast of Duluth. Many of us know Carl and Jade as the managers, on behalf of MN Trout Unlimited, of the annual Great Waters Fly Fishing Expo in St. Paul.

Fly Fishing Minnesota brings us the biology, geology, forestry, and history of our state's fly fishing, and the occasional tip of where to buy a fine pie or a great burger. Carl writes to us with anecdotes and stories, supported by outstanding photography and color maps.

I grew up on the North Shore of Lake Superior, fishing for brook trout and steelhead in the streams northeast of Duluth. The streams run for miles between the roads. Carl knows these streams. He gives us accesses, suggests seasons, gear, and techniques, and avoids the impossible promise that you'll catch the big one each time you go out. He is putting you on the water with a good chance to have a good day and a chance to catch some fish. Maybe you will hike through a fragrant birch and maple woods, be chased by ravens when you wander too close to their nest, hear the barred owls calling across the forest, discover a wolf track in the sand on the bank of a stream, and find the shaded water where you will catch your perfect trout.

My favorite books covering the Arrowhead have been *Fly-Fishing the North Country* by Shawn Perich, and the second edition of *Trout Streams of Wisconsin and Minnesota* by Jim Humphrey and Bill Shogren. Now I have a new favorite. The Perich and the Humphrey/Shogren books are good, but they are more than twenty years old. Carl's *Fly Fishing Minnesota* is up-to-date, more detailed, and with better maps than the earlier books. It is the book to have.

The trout fishing in the Driftless is far

different from what we know in northern Minnesota. Carl is right on the mark with the Driftless streams I know. His book gives me the confidence to fish in areas that are new to me.

Carl introduces us to trout lakes in the Arrowhead and north central and central Minnesota, and opportunities across the state for warmwater fish in rivers and lakes. Is your stream trout fishing in the doldrums? Turn to chapters three, four, and five for a change of scenery and a change of pace.

I found a web comment asking Carl to release the book in an electronic format. The commenter saw this beautiful book, at 8 1/2 x 11 inches, with its outstanding full-color photography, as a coffee table book, and he wanted an electronic copy for regular reference. Andy Roth of Gray Goat Fly Fishing, in his Foreword to *Fly Fishing Minnesota*, recommends Carl's book "for both home and traveling anglers." I interpret that as an encouragement to buy more than one copy.

Carl published *Fly Fishing Minnesota* in December 2022. Copies are available through the Namebini.com website, in Minnesota fly shops, and at the Great Waters Expo.

Books can be ordered online at www.namebini.com Free introductory Trout Unlimited membership form included with book purchase.

Perry Palin grew up on the MN North Shore and is currently on the Kiap-TU-Wish board. He is the author of two books: *Fishing Lessons: Stories and Lessons from Midwest Streams*, and *Katz Creek and Other Stories*. Both can be found at www.whitefishpress.com



FLY FISHING MINNESOTA COVERS THE ENTIRE STATE, INCLUDING STREAM TROUT LAKES.

FLY TYING

THE TUBE FLY INTRUDER

By Jade Thomason

When steelhead enter tributaries of Lake Superior, they're transitioning from one world to another. Moving from a lake full of baitfish, migratory steelhead are faced with swift, rocky rivers that hold few prey species with whom they are familiar. While they largely focus on the spawning run, they don't entirely lose their aggressive, baitfish-chasing nature. Anglers have long targeted steelhead while fly fishing with streamers like Woolly Buggers, Deceivers and other patterns that imitate baitfish. The Intruder is a similar pattern that offers a few key benefits and differences to anglers chasing steelhead. First, they are not tied on a long-shank hook. Long hooks allow big fish to leverage their weight when hooked, sometimes leading to these large fish dislodging the hook. Intruders can be tied on either short-shanked shafts with a wire or braid leading to a small hook, or on a tube, with the fishing line running inside of the fly to a plain hook. This hook is then tied directly to the line. Second, Intruders are tied with very light materials, allowing for easy casting. This version highlights the tube fly option, preferred by the fly creator and

Materials List	
Hook:	Octopus Size 6 or 8
Tube:	Plastic Fly Tube
Thread:	6/0
Eyes:	Dumbbell Eyes
Dubbing:	Pink Ice Dub
Tail :	Peacock Herl
Flash:	Flashabou Mirage
Body	Flat Gold Tinsel
Collar:	Saddle Hackle
Marabou:	Pink and Purple

West Coast steelhead veteran Ed Ward. Tubes for the fly can be made of aluminum, copper, plastic and other materials. Weighted tubes sink faster, but are harder to cast. Many steelhead anglers prefer unweighted tube flies fished on a sink-tip line. The colors and materials of Intruder flies can vary considerably. Broadly, they are a style that includes a significant mix of material that moves well in flowing water, and is light in weight to aid in casting.

Fishing the Intruder is often done with



Spey-style fly rods, though any fly rod can work. Cast the fly in a down-and-across direction on your favorite steelhead water, and let the current sweep the fly across the stream. This can work particularly well when the water is up and steelhead are holding in faster riffles

and runs. When a steelhead takes an intruder, hold on tight. Often the take is aggressive and explosive. A tube fly like the Intruder will ride up the leader during the fight, allowing for a greater chance at landing the fish.



Step 1.
Secure a tube attachment or bodkin in the jaws of your fly tying vise. Install a tube, providing a location to tie your fly. Secure your thread on the tube, and attach the dumbbell eyes.



Step 2.
Invert the fly and wrap the thread down the tube to the rear of the fly, covering the shank. Add a ball of dubbing at the rear of the tube.



Step 3.
Tie in the long peacock herl at the rear of the tube, just in front of the dubbing, allowing it to splay out. Follow this by wrapping the saddle hackle in the same location.



Step 4.
Tie in the tinsel as body material and wrap it forward to the eyes.



Step 5.
Add a small ball of dubbing slightly back of the eyes, followed by two turns of saddle hackle.



Step 6.
Add in the flash on the belly of the fly, extending at least to the end of the tail.



Step 7.
Tie in the marabou feathers at their tips and wrap two turns behind the eyes of the fly.



Step 8.
Add a small amount of dubbing over the eyes. Whip finish and glue in front of the eyes. When tying on to fish, feed the line through the tube and tie a plain hook to the line.





MNTU EDUCATION UPDATE

FEBRUARY 2023

By Amber Taylor, MNTU Education Program Supervisor



Eggs found their way safely into trout tanks around Minnesota on December 7 and 8 this year, with only a few kinks in the chain compared to last year’s late shipment and snow storm! This year, the delivery again spanned a few days due to a package meant for our Bemidji area schools winding up in the Twin Cities. Our egg source sent a new batch to Bemidji the following day, teachers around the metro absorbed the excess eggs, and all was well.

While we always have a few tanks that don’t make it past the egg and alevin (sac fry) stage, currently there are still about 60 tanks with happy, healthy, swimming little trout fry. Trout technicians will continue to care for their tanks by regularly testing the water chemistry (ammonia, nitrites, nitrates, and pH), conducting routine water changes, troubleshooting equipment issues, feeding their trout, and observing their behavior for signs of stress or illness. Along the way, they learn about fish biology, watershed ecology, the nitrogen cycle, and more.

Teachers do so many great things with TIC! Below are a few profiles of schools written by teachers about how they are integrating this program into their classrooms and schools!

School: **Jane Goodall Environmental Sciences Academy**
City/town: Maple Lake
Students involved: 8th-12th graders
Topics covered: Physical science, Environmental science, and Life science

How long has TIC been running at your school? This is our 3rd year in TIC.

Where do students release their trout in the spring? Our school is lucky and has access to our own bus to transport students, so we have gotten to release in both Brown’s Creek running through Stillwater, and the Vermillion River in Farmington.

What are students currently learning about related to TIC? This year students are very interested in the growth rate of rainbow trout. They are planning a study and will present their findings at the U of MN Ecology Fair. We have a few “veteran” students that are stepping into leadership roles for new students to the group. This has been helpful in doing water chemistry testing, feeding, observations and overall peer-to-peer learning opportunities.

Do they do any special TIC activities, projects, or field trips during the school year? We are going to work with our TU volunteer, Mike Grengs, to do some fly casting in our gym and incorporate some fly fishing this spring. We are excited to do a field trip (again!) to the MN-DNR Pathology Lab and the Great Waters Fly Fishing Expo. We are also looking into doing some visits to fish hatcheries (a MN DNR hatchery and possibly USFWS Genoa National Fish Hatchery).



ALL SMILES AND CONCENTRATION ON THE FACES OF THESE TWO 5TH GRADE SCHOOL OF ENGINEERING AND ARTS STUDENTS AS THEY WORK ON THEIR WOOLLY BUGGERS. STUDENTS ALSO ROTATED THROUGH STATIONS LEARNING ABOUT AQUATIC INSECTS AND TROUT HABITAT.

What are a few highlights from your time in the program? Having new members who are dedicated and interested in this project has been fun this year. We are excited to have more trout to care for this year (we counted 560 in our initial count!) and to release. Our group’s senior student is taking on more leadership and helping to peer-teach younger new students.

School Name: **Anthony Middle School**
City/town: Minneapolis Public Schools
Students involved: 60 students, 7th graders, Life and physical science

How long has TIC been running at your school? Two years.

Where do students release their trout in the spring? We release our trout in the Vermillion River near Farmington.

What are students currently learning about related to TIC? We have been studying chemistry—acids, bases, pH—great ways to incorporate the trout tank environment and prepare for our upcoming ecosystems unit.

Do they do any special TIC activities, projects, or field trips during the school year? We typically have the aquatic insect presentation come out and students LOVE it! We use that intro as part of our study of ecosystems and food webs. The students then use MNTU resources to redesign a channelized stream that incorporates both abiotic and biotic factors that they’ve learned about during our study of trout habitats and the trout tank. When time allows, we have the students tie flies and learn more about the different life stages of those aquatic insects.

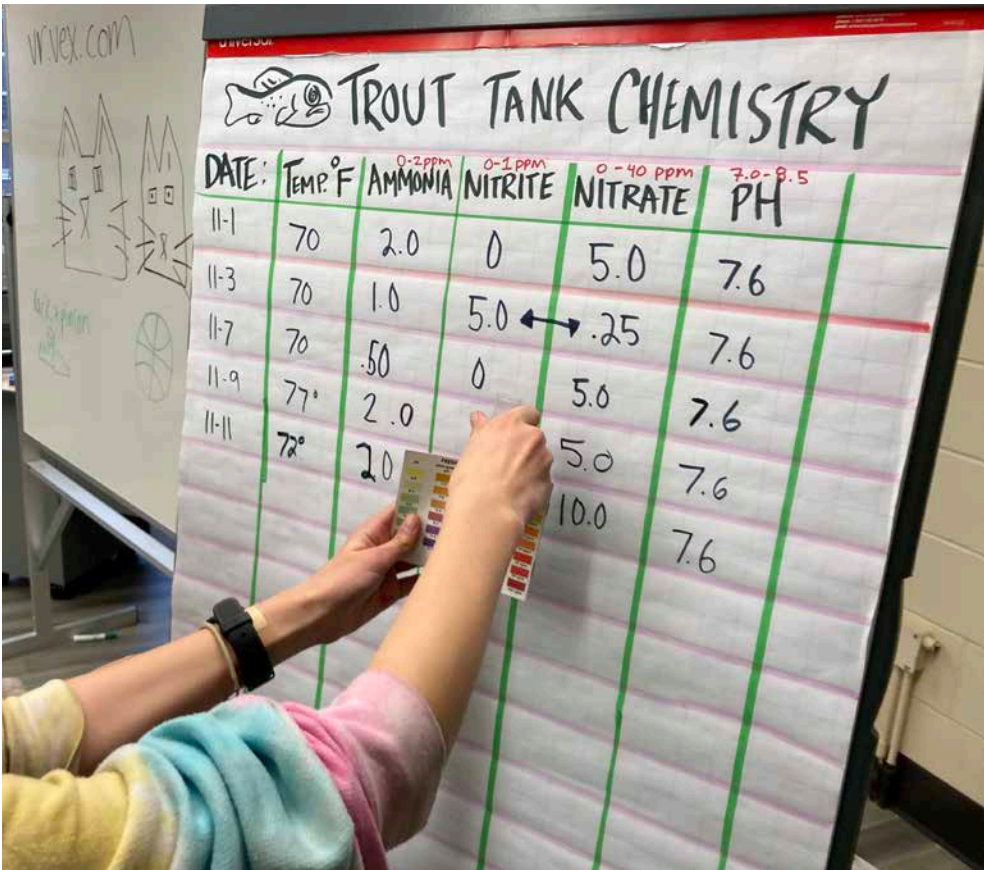
What are a few highlights from your time in the program? I’ve seen some students that are a little hesitant to engage

in chemistry “dive” in when that chemistry involves the trout. There is a certain sense of importance about learning chemistry topics because they directly tie into the fish that students see every day. The students are always fascinated by the aquatic insects, fish, and other organisms that are in the lakes and streams around them. It really does open their eyes to the importance of conserving the aquatic ecosystems we have here in Minnesota. The students really take to heart their role as stewards of our in-class ecosystem and take that with them when they leave.

As our education programs grow, so does the need for volunteer support! MNTU educators will be leading fly ty-

ing and ice fishing programs February through March and can always use some extra hands. There are a variety of ways for you to get involved: be a TIC classroom liaison, help with fall field days and spring releases, assist with fishing skills programs, egg delivery, or become a mentor for “Foster the Outdoors.” Information about what’s happening with MNTU’s education programs can be found on our social media pages, in newsletter updates, through individual chapter communications, and the website.

Contact Amber Taylor, education@mntu.org for more information



TROUT TECHNICIANS AT ANTHONY MIDDLE SCHOOL RECORD THEIR WATER CHEMISTRY FINDINGS. STUDENTS MONITOR AND RECORD THEIR TANK’S AMMONIA, NITRITE, NITRATE, AND PH FOR WEEKS PRIOR TO GETTING EGGS AND WHILE CARING FOR THEIR TROUT UNTIL SPRING.

FISH HABITATS

YOUTH SERIES

By Jim Emery, MNTU Educator • Photos by Jade Thomason



TROUT REQUIRE CLEAN, COLD, AND WELL-OXYGENATED WATER TO THRIVE, LIKE HAY CREEK NEAR RED WING.

If you like to fish, it doesn't take very long to find out that different fish live in different types of water, locations that are well-suited to their needs. Sunfish love to be under a dock in the summer, where they can find protection from larger predator fish. Smallmouth bass like life in streams, where they can suspend their strong bodies in the current, and munch on the crayfish and other animals that share a liking for moving water. Their cousins, the largemouth bass, prefer still, weedy water, the better to munch on an unsuspecting frog that wanders their way. We call the specific environment that provides the things a fish (or any other animal) needs to thrive a "habitat."

When you think about your own habitat, one element that you need, continually,

is air that has enough oxygen for your body. All living things need oxygen, though fish can't get it from open air like you, of course. Fish process oxygen that is dissolved in water through their gills. The water that fish swim and breathe in can have very different levels of oxygen, and fish will live in places where the level of dissolved oxygen fits the needs of their body.

Lots of things can affect how much oxygen is in water. Water can't hold as much oxygen if it contains chemical pollutants, like oil from cars or waste from factories. If too much algae or other plant material is in water, the process of plant decay also takes up oxygen. The temperature of the water also impacts the amount of oxygen it holds—generally, the colder the water, the more dissolved

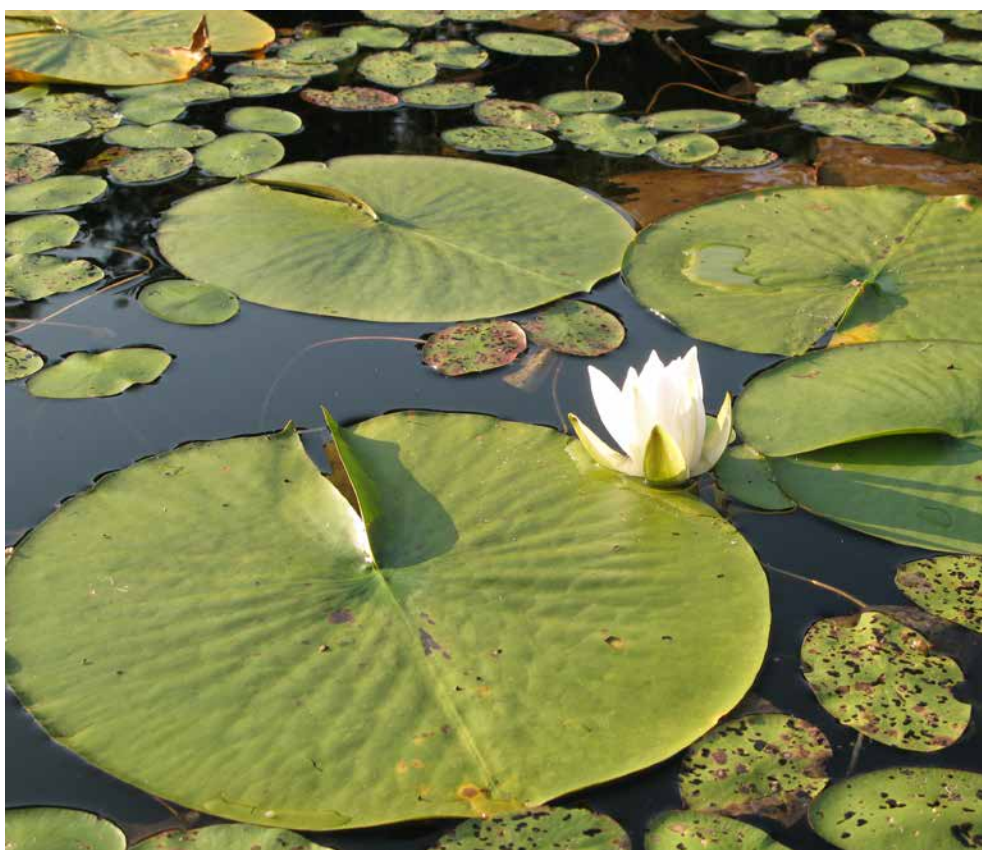
oxygen in it.

Some kinds of fish that are lots of fun to catch have bodies that don't demand a large amount of oxygen in the water where they live. Catfish and carp do perfectly well on the bottoms of warm shallow lakes in the summer, where there may not be so much oxygen, but there are lots of aquatic worms. Largemouth bass do very well along warm, weedy shorelines. Crappies need a little more oxygen, which is why we're able to catch them along the shore in early spring when the water is still cold, but have to search for them in deeper water as the temperature rises.

Trout are a special species of fish, in that they require water with lots of dissolved oxygen to survive. It's a big reason that

we like them so much. Trout need water that is so cold and free of pollutants, that we often call them an "indicator species." If a stream is healthy enough to hold trout, we can take satisfaction in the fact that the water is healthy and clean. It's why Minnesota Trout Unlimited has a mission to "conserve, protect, restore, and sustain Minnesota's cold water fisheries."

It's something to consider when you're casting a line for whatever species you're targeting. Think a little about the fish you're trying to catch. Why is this body of water such a good fit for this fish species? How much oxygen does this water hold? Take a good, deep breath before your next cast, and enjoy the oxygen in the air that is feeding your body, and the oxygen in the water that is feeding the fish.



LEFT: WARM, WEEDY SHORELINES OF LAKES ARE CLASSIC HABITAT FOR LARGEMOUTH BASS.
RIGHT: CRAPPIES MOVE FROM THE SHALLOWS OF LAKES IN SPRING, TO DEEPER AND COOLER WATER IN MID-SUMMER.

AN INTRODUCTION TO AUTHOR STEVE RAMIREZ

2023 EXPO HEADLINER

By Steve Ramirez • Photos by Cari Ray



THE GUADALUPE RIVER HOLDS BEAUTIFUL RAINBOW TROUT AND IS IN THE TEXAS HILL COUNTRY WHERE STEVE CALLS HOME.

My name is Steve Ramirez and among other things, I am an outdoor and conservation author who lives and writes in the Texas Hill Country. After serving for 35 years in defense of my country, state, and community—first as a U.S. Marine and then as a Master Texas Peace Officer and instructor/specialist in counterterrorism, counter-bomb, active shooter response, and disaster preparedness and response, I decided to retire my badge and put that life of dealing with the worst of humanity behind me—with lessons learned and service given to the best of my ability. From that moment onward, I have chosen to surround myself with the rivers and ocean waters I love most, and with some of the best people I’ve ever known.

I am forever grateful to Alice, my wife of 40 years, for giving me the permission to pursue my true life’s path without guilt or regret. As the stress of the life I was living took its toll on my health and intensified my lifelong battle with PTSD, she wrote the following words that set me free: “I believe that the mission of your tomorrow is to do what you have not had the time to do until now. Use your freedom to read, learn, and write. Fighters fight and writers write.” I’ve never looked back.

My first book, *Casting Forward - Fishing Tales from the Texas Hill Country*, was featured in the film *Mending the Line* starring Brian Cox and Sinqua Walls. *Casting Forward* is the true story of a Marine veteran and his daughter seeking solace and guidance through time together in nature. It’s about passing the torch of a love and connection with nature, from generation to generation. *Mending the Line* is the fictitious story of two Marine veterans, one generation helping the other to discover the healing powers of fly fishing and nature. I am honored to share that my book and the screenplay written by Stephen Camelio and directed by Joshua Caldwell have become intertwined.

My second book, *Casting Onward – Fishing Adventures in Search of America’s Native Gamefish* has received critical acclaim as an “important work of outdoor adventure and conservation literature.” I find this to be both humbling and rewarding—not because I care about awards or acclaim, but because I care about these stories and their meaning. Writing is of little value if it isn’t read and appreciated.

It is my hope that I am writing something that can transport my readers with me from river to sea, and then bring them safely home so that they can reflect on that journey and act upon what they may have learned along the way. In *Casting Onward* I will take you from the rips off the coast of Cape Cod to the roaring waters of the Salmon River in Idaho’s “River of No Return Wilderness.” We will seek Gila trout in the desert and brook trout in the Appalachian Mountains. We will catch pike and smallmouth bass on the St. Croix and Guadalupe bass on the San Marcos. Most of all, you will travel with me to beautiful places with wonderful people and in doing so, gain both hope and a call to action.

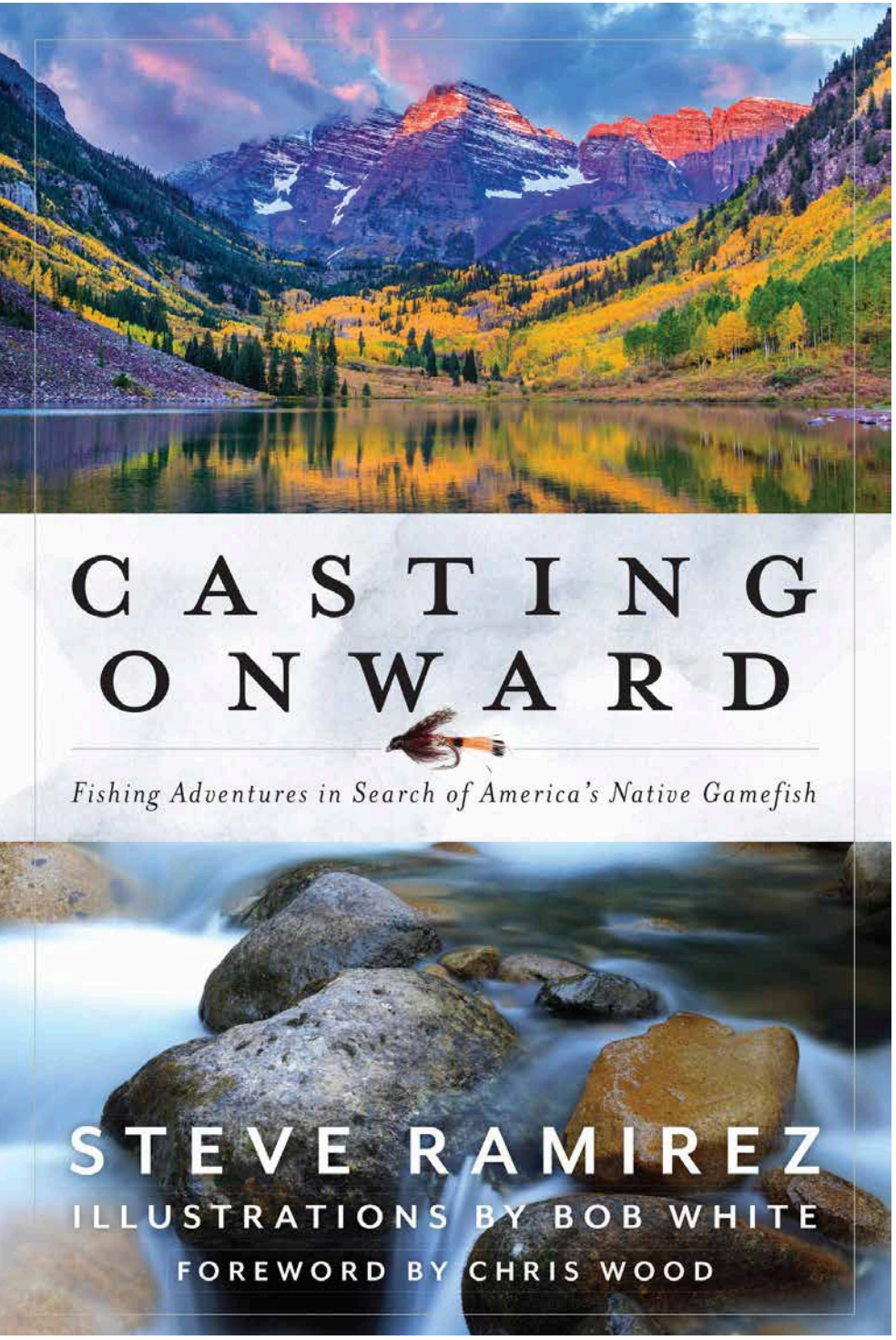
The third book in my Lyons Press “Casting Series” is titled: *Casting Seaward – Fishing Adventures in Search of America’s Saltwater Gamefish*. It will be released on April 1 of 2023 but we hope to have some early release copies at the Great Waters Expo that I will be able to sign along with my dear friend Bob White, who illustrated all three of my books. Bob, Lisa, and I will have adjoining booths and as an added treat, Bob will have some of the original artwork from my second and third books available along with signed copies of the book where the artwork appears.

In *Casting Seaward* you will travel with me from Alaska’s Tongass Wilderness down the Pacific Coast of California and over to the great shallow water bays of my Texas home. We will chase bonefish

in the Caribbean, jacks and snook in Florida, redfish and seatrout in the Carolina Low Country and bass, bluefish, and false albacore off the coast of Montauk. Along the way we will meet some amazing people, encounter wildlife and wilderness, and come to some conclusions about the current nature of our oceans, sea shores, and estuaries. It is my con-

tention that in these times more than ever, every angler must be a naturalist.

I have the honor of writing the Seasonable Angler column for *Fly Fisherman Magazine* where I am doing my best to walk in the waders of the column’s original author, the great Nick Lyons. I am fortunate to have had my work appear



in various outdoor and literary journals including, Fly Fisherman, Trout Magazine, The Flyfish Journal, American Angler, Tail Magazine, Hallowed Waters Journal, Under Wild Skies, Explore magazine, and many more. Wherever I write, I consider it a privilege and a responsibility, all at once. It's a privilege to be writing for such a wonderful publisher of outdoor literature as Lyons Press and the various outstanding publications including Trout Unlimited's own Trout magazine. It's a responsibility because I always want to do my level best to find the right words to convey the sights, sounds, aromas, and feelings of each adventure, while imparting the raw truth of our human impact on this beautiful Blue Marble that we call home.

It is my pleasure to serve as the Ambassador for Texas for the American Museum of Fly-Fishing, and I am a proud Life Member of Trout Unlimited, as well as a contributing member of the Nature Conservancy and Audubon. As a certi-

fied Master Naturalist, I am passionately involved in promoting the restoration and conservation of the watersheds, rivers, wetlands, and shorelines of North America and beyond. As might be expected, I am an avid outdoor adventure traveler who has trekked, fished, hunted and explored four continents, but who always seems to return to my home and the spring-fed Hill Country streams of Texas.

I look forward to meeting many of you at my booth or during one or all of my four presentations at the 2023 Great Waters Fly Fishing Expo! Keep Casting Forward!

Editor's Note: Steve is a headlining presenter at the 2023 Great Waters Fly Fishing Expo. Check out Page 20 for a full program schedule.



SIGHT FISHING

By Bob Luck

Although I'm in that life stage where "middle aged" stops being an insult and starts being a euphemism, I still feel pretty good. My weight and blood pressure haven't changed since I was 30. Apart from some rotary cuff tendonitis, I don't have any chronic aches or pains, and the nearly-full aspirin bottle in our medicine chest is expired. I have yet to notice any effect on my ability to climb banks, cross streams, or fight through brush in a surprisingly physical sport.

My eyesight is another matter. Threading hooks and tying knots on any fly smaller than a size 16 has become an ordeal. My sunglasses come off well before dusk on clear days, and I dispense with them altogether when it is overcast. Navigating dark country roads after the evening hatch is feeling more and more like a good way to bring my fly fishing career to a permanent end. I recently heard that a 60-year-old requires three times more light to read than a 20-year-old. That sounds about right.

One area where I haven't noticed a decline in my visual abilities is seeing fish in the stream. Not that I could ever do it in the first place. I don't know how many times I've stood on bridges with friends saying "Where? Where?" as they pointed out fish below. Or read "how to" articles by angling gurus who recommend taking a few minutes to observe the water during a hatch, to pick out the largest fish to cast to. I'm happy just to see a rise form.

Even a blind trout gets some nymphs, and on rare occasions I have spotted fish before catching them. A couple of years ago I was visiting my college friend Harry Nelson at his family's ranch in Northern Alberta. He dropped me off at a small river and drove off to scout some other water. I was standing beside a deep pool below the bridge when I noticed a splotch of white near the bottom, about thirty feet out. At first, I thought it might be some lichen on a submerged branch, but I looked a little closer and saw that it was part of a pectoral fin at-

tached to an enormous trout, which was holding beside an even larger fish. I took off my strike indicator, figuring that the fly would have a better chance of getting down to the fish without it. I attempted several casts, but despite the crystal-clear water, I could neither see the fly nor tell whether it was close to the fish. I put the indicator, a large Thingamabobber, back on the leader, moved it 6 feet above the fly instead of the usual 3-4 feet, and cast well upstream to give the fly time to sink. As the indicator drifted downstream, it looked like it was right over the fishes' position. The smaller fish made a slight move sideways, and I gently set the hook, telling myself "just in case". Amazingly, the fish had taken the fly. It sulked in place for about 10 minutes until I finally worked up the nerve to put some serious pressure on the tippet, and the trout took off downstream through a set of shallow rapids. Harry had returned from his scouting trip, and I hollered at him to get the net from the truck and follow me as I half-ran, half-stumbled, waderless, in pursuit. The fish started heading towards a treacherous-looking logjam, but Harry waded out in his jeans and coaxed it back into the current. It finally tired, and I beached it on a gravel bar—the little trout net that Harry had pulled out of the truck was useless. It was a 32-inch bull trout decked out for spawning in red and orange. I wonder how big the other fish was.

Last summer I was fishing below a culvert on the Trimbelle with another college buddy, Chris Walker. Most of the current flowed into a narrow, promising looking run, but some of it had been deflected by an island into a still, deep side channel. Walker was working the run and I was standing on the far bank of the channel, gazing aimlessly into the water. Neither of us had caught anything, and I was about to propose trying our luck elsewhere when I noticed a 12-inch trout trying to swim sideways. At first I thought it had gotten tangled up in some monofilament, but a closer look revealed that it was struggling to free itself from the jaws of a northern pike that I'd guesstimate at 30+ inches. The trout



MARISA LUCK GIVING HER DAD A SIGHT FISHING LESSON ON HAY CREEK.

broke free and bolted off, and the northern sank into the depths. I tied on a #2 Woolly Bugger, cast it out in the general direction of the northern, let it sink, and then started twitching it back to shore. It didn't get far before the northern ate it. I yelled to Walker, who came running with a net that would be perfect for a home aquarium. He didn't make it halfway before the northern snipped the 4x tippet with its razor teeth and descended again to the bottom. I have no idea how that northern made it into the Trimbelle. We were a good ten miles from the Mississippi, and it would have had to swim a long way upstream through some fast water. Perhaps fish eggs really can be transmitted on birds' feet. I returned a week later with a spinning rod and a wire leader, determined to make the river safe for trout. I got no interest.

Most of the fish I spot on Driftless streams are fleeing for their lives after I've cast a shadow over the water, stepped off the bank, or breathed too heavily. I read somewhere that trout in

New Zealand are more likely to hold in plain view because there are no natural predators. That is not the situation in the Driftless. Mink, herons, otters, and ospreys (and northerns) all enjoy fresh trout for dinner, and they have weeded out the careless ones. Unless they are rising to a heavy hatch, I generally find it fruitless to cast to trout that I've spotted, because they've spotted me, too, and have raised the alarm level to Defcon 4. Unless, of course, I'm fishing with my daughter. We were standing beside a deep run last May, and she pointed out dozens of fish holding at the bottom. "They can see you, too," I mansplained. "You can give it a try, but I doubt you'll catch any." Whereupon she waded carefully into position and proceeded to catch half a dozen fish. Maybe I can convince her to write a "how to" article.

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

MINNESOTA TROUT HATCHERIES

IMPROVEMENTS AND CHALLENGES

By John Weiss

LANESBORO — Last fall, for the first time, the crew at the Lanesboro State Fish Hatchery used its recently-finished building to hatch and raise brown and rainbow trout. While they used the old raceways to strip eggs and milt from brood stock, the work after is being done inside the building that was part of a \$5-million upgrade.

That work is also part of a wider program that the Department of Natural Resources wants for upgrading its cold-water stocking program, because it's also looking for money for Crystal Springs near Elba and Spire Valley near Remer. Seeking those upgrades, in turn, indicates the DNR sees stocking as necessary well into the future.

Former DNR Commissioner Tom Landwehr toured that hatchery, which is nearly a century old, outside Lanesboro along Duschee Creek several years ago to highlight how badly it needed a new main building. The tour was part of his media campaign to get the Minnesota Legislature to give it more money to upgrade or replace many more aging facilities statewide.

The legislature did come up with some money. "Most of the project cost came from the 2018 state bonding bill," said Paula Phelps, DNR state fish production supervisor. "That paid for the entirety of the construction contract (\$4,598,000). The design cost was covered using an appropriation from a 2014 state bonding bill. Funds for future projects would likely also need to come from future state bonding bills."

Besides the new building, the project also included a degassing tower to take nitrogen and radon out of the water, as well as new electrical and plumbing work. The work vastly improved efficiency and reliability only, not capacity because it's at capacity, said Hatchery Manager Scott Sindelar.

Phelps said the Lanesboro facility still needs some work (Sindelar said the nearly-century-old concrete around the big spring needs to be examined by engineers). Beyond that, "I think in general we need significant upgrades at Spire Valley and Crystal Springs." Crystal Springs would come first because its underground piping is clay and breaks down. The hatchery "could literally fail any day," she said. Then would come Spire Valley. Peterson is the newest of the four and only needs a bit of work, Phelps said.

One thing all need is improved security against pathogens and maybe invasive species, she said. Pathogens are first on her worry list. "It's always been a threat," she said. "Maybe it's something we are more aware of."

Invasives "continue to spread, potential that could be a big threat," she said.

To combat them, they have a biosecurity plan with protocols to stop invasive species either outside



ANNA RAE NELSON CLEANS DEBRIS FROM PANS HOLDING EYE-STAGE TROUT.

or inside the facilities. Some things are built into the system such as disinfecting inflows and outflows. Lanesboro has a public area where anyone can come to see more about the hatchery but when anglers come, they are asked to take off waders or wading boots for fear some pathogens from a stream could infect the hatchery. (A pathogen that forced the DNR to kill all its fish at Crystal Springs several years ago is believed to have come from the Whitewater River that overflowed into Crystal Springs in the massive flood of 2007.)

The four hatcheries produce, on average, 1,443,925 trout per year with everything from fingerlings to full-sized. The total averages 188,319 pounds, according to the DNR. Trout include brook, brown, lake, rainbow and splake (the cross between brook and lake trout).

"Literally, we stock throughout the state," Phelps said. The four hatcheries supply brown, rainbow, brook and lake trout and splake for 200 lakes and 100 streams across the state. Stocking is really spread out from far southwest Minnesota, across the southeast and in many lakes and streams in the central and northeast sectors. Strains are from across the country including Plymouth Rock, Rome, German brown, Arlee from Montana, Kamloops, lake trout only from Mountain Lake on the Minnesota-Canadian border and now, the new Driftless brook trout being developed.

Originally, the DNR had said the new Minnesota Driftless brookies weren't going to be stocked until this summer, but some have already been put into four streams, she said. They were excess brood stock that went into Duschee Creek near Lanesboro, and streams in the Duluth, Little Falls and West Metro areas. Stocking included 60 adults no longer needed for brood stock and 2,100 yearlings.

Driftless strain brook trout replace the Minnesota Wild strain that were included in fish that were euthanized in Crystal Springs. The new strain comes from Minnesota heritage trout found across the southeast. DNR DNA work found most brookies in the blufflands can trace their origins to hatcheries or streams in other states, but three areas had no other known pedigree. No one can say they are indeed native because no native genetics are available, so they are called heritage. They were shocked, had eggs and milt stripped, and the eggs taken to the Peterson Hatchery.

They were a small part of the overall cold water stocking last year, she said.

For browns, about 910 adult Plymouth Rock browns went into nine lakes, and 379,950 fingerlings went into one lake and 17 streams, while 17,252 yearlings went into six lakes and 18 streams.

As for lake trout, 26,274 went into two lakes.

The DNR put 547 Arlee rainbows into 14 lakes, 52,325 Arlee fingerlings into nine lakes and three streams, and 258,852 yearlings went into 57 lakes and



BLAISE HAGER CLEANS EGGS AFTER THEY WERE FERTILIZED.

29 streams.

Kamloops rainbows saw 265 adults go into six lakes, 25,214 fingerlings into seven lakes and 36,748 yearlings into 14 lakes and two streams.

Three management units of Lake Superior got 1,668 yearling Superior steelhead rainbows and 60,601 younger, smaller yearlings were put into two streams. Finally, 3,448 older, larger, yearling splake went into three lakes and 83,184 fingerlings went into 25 lakes.

Another strain of brookies (Rome X Soda), 7,469 yearlings in all, went into 10 lakes and three streams while about 200 yearling Rome strain went into five lakes and 130 adults were put into one lake. About 130 adults were stocked in one lake.

Stocking has decreased in many streams In the past few decades because self-perpetuating trout has increased dramatically but still, Phelps said the DNR needs to keep stocking.

“I think we’re stocking for several different reasons,” she said.

The DNR could be stocking to supplement a population in a stream or lake that has good habitat but still needs a little help with numbers; when they have done enough and the trout are doing fine on their own, they can stop.

In some cases, a body of water that historically had trout but they were extirpated, needs new fish, she said.

Finally, they create a put-and-take fishery for recreational opportunities, such as in ponds in Lanesboro, Rochester and St. Peter where fish are stocked so they can be caught or in the Whitewater River in Whitewater State Park that gets heavy fishing pressure.

There’s yet another reason to keep the hatcheries running and improved, she said. “You also have to factor in climate change, that is going to affect what is able to survive,” she said. If a stream or lake loses its fish because it gets too warm at times, it might need some stocking because there is demand for that species in that area.

Some more facts about hatcheries and stocking:

The hatchery gets stocking requests from area offices a few years in advance so that they can plan for egg takes and production, but they are at carrying capacity based on their facility water source and current rearing program. One of the first places annually that get fish reared in Lanesboro is the southwest. Yes, the southwest. “There are several bodies of water with trout in this part of the state,” said Region 4 fisheries supervisor Ryan Doorenbos. All are for put-and-take fishing. One place that gets fish is a pond in St. Peter, he said. Then Sheldorf Creek in Cottonwood County and the Redwood River in Camden State Park also get fish. The two bodies of water are fed by groundwater that moves laterally in the clay-like veins of soil so it’s cooler but it’s not the same kind of water flowing out of Driftless springs. Still, they can hold trout, at least for a few months. Most are caught or die by mid-summer,

he said. “I don’t plan on them having carryover fish into the middle of summer,” he said. There was once talk of discontinuing stocking but area anglers told the DNR in no uncertain terms that they still wanted it. Camden is open because it’s in a park while Sheldorf has easements, he said. The DNR stocks browns because they are more temperature tolerant and are harder to catch than rainbows.

In Lanesboro, which produces those fish for the southwest, Sindelar said that hatchery fish actually have more genetic variety than wild fish. In nature, he said, there is less selection because only about 5 percent survive and when they spawn, only those genes get passed on. Eventually, that can lower genetic variability in small streams, he said. When they strip females, they have about 50 fertilized eggs from each for future brood stock. “We don’t grab the biggest, we grab some from every fish,” he said. Each female rainbow produces about 5,000 eggs per fish while browns only about 3,000 eggs.

Uneaten feed and waste is cleaned daily and waste is filtered through a linear clarifier and put into settling ponds. Clean water flows into Duschee while waste is collected and given to farmers for fertilizer.

The precursor of the DNR bought the land because the big spring constantly produced good water. Later, some debris was found in the water and dye tracing found two sinkholes a few miles away were the problem. The landowners cooperated to either fill in the sinkhole or steer water away from it.

“The new building houses the egg isolation room, incubation room, nursery, feed room, visitor lobby, conference room, and offices,” Sindelar said. “The egg isolation room is where fertilized



CAM MITCHELL HOLDS A PAN OF FERTILIZED TROUT EGGS.

eggs come into the building and are disinfected before being transferred to the incubators. After disinfection, the eggs are transferred through an indoor pass-through window to our incubation room, where eggs are enumerated (counted), and placed into vertical incubation trays for incubating the sensitive developing eggs. When the eggs have reached the eye-up stage (eye spots are visible in the embryo), the eggs are transferred to the nursery. The nursery is used for hatching eyed-eggs, first-feeding, and to grow fish up to the fingerling stage. The new degassing tower provides improved water quality to the new incubation and nursery facilities for healthier fish development in their early life stages. The new building also has in-line flow meters for controlling and monitoring flow rates to all of the tanks, and LED lighting with

adjustable color spectrum, intensity, and photoperiod for the developing trout.”

All browns are stocked as fingerlings while rainbows are stocked at catchable size. It’s hard to tell a hatchery brown from a wild one because they grow up in the stream.

They get close to a pound of fish per pound of special food. They are fed high-protein prepared feeds that are designed to meet the nutritional needs for each life stage of the trout.

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.

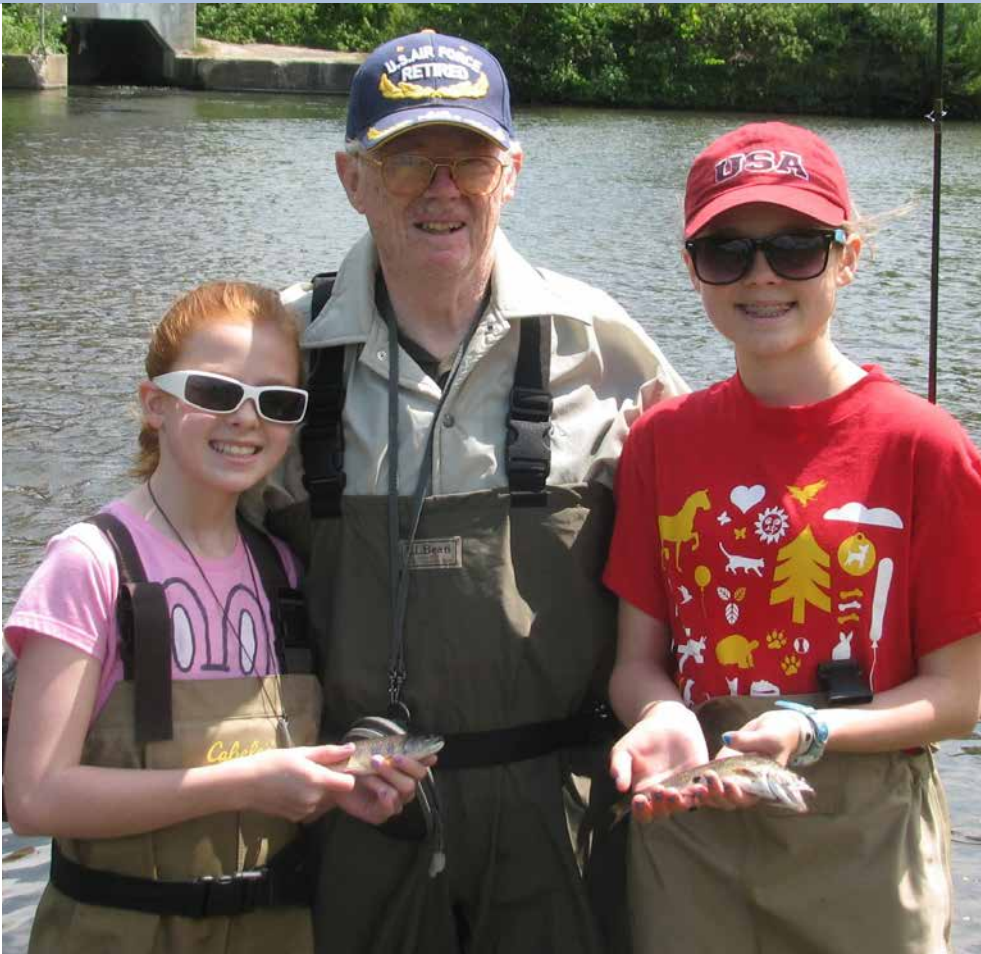


SCOTT SINDELAR STANDS IN THE NEW BUILDING FINISHED LAST YEAR AT THE STATE FISH HATCHERY IN LANESBORO.

FOSTER THE OUTDOORS

2023 MENTORS NEEDED

By Kevin Wier



LEFT: 2018 MAX AND XAU IN THE KINNI.
RIGHT: DAUGHTERS MERRYNN AND MOLLY WITH GRANDPA AND TROUT.

Like many of you, some of my favorite moments in fly fishing haven't involved me catching a fish, but rather helping family and friends to catch a fish on a fly rod. One of my finest moments in a life spent fishing is the day I helped both of my daughters get their first trout on a fly rod. However, a close second has been getting other young people their first fish on a fly through my involvement with the Foster the Outdoors Mentor Program with Minnesota Trout Unlimited. There's an undeniable thrill and sense of accomplishment here that you can't really get anywhere else.

My first year with the program was 2018 and I had the privilege of mentoring a young man named Max and his adult

Big Brother Xau from Big Brothers Big Sisters of the Twin Cities. Max already had a great sense of natural curiosity and was a joy to be with. On our outings that summer, we would take turns pointing out turtles, muskrats and eagles to each other. Of course there were also fish. He lived on the east side of St. Paul, so we focused on lakes in that area. The first fish that Max caught on a fly was a sunfish on a popper and he loved it. We later took him to a trout stream where he hooked his first trout but didn't quite get it in. The thrill on Max's face when he hooked that trout, even though we didn't land it, was unmistakable.

The FTO program came back in 2022 after a two-year hiatus during the pandemic and helped nine youth and their adult

guardians discover fly fishing. The program is the brainchild of Tim Hemstad who founded the program back in 2017. Learn more here mntu.org/mentoring. The concept is very simple, pair up a youth and their adult guardian with a volunteer mentor, who introduces them to the world of fly fishing and the outdoors. Fellow TU members, this is where you come in! We need mentors for the 2023 program. I can guarantee you that you won't regret it or be overwhelmed by the level of commitment, which is only a few hours every few months. All that's really required is just a little knowledge of fly fishing and a desire to help a young person grow in their own knowledge and outdoor experiences. You don't need to be an "expert" at all. This isn't rocket science, but it can be magical.

The program kicks off every year with a mentor match up event. The 2023 mentor match up event is scheduled for Saturday May 20, 2023 10AM-2:00PM. Even if you can't commit to being a mentor for the year, we can always use help at this event and you'll get to see first-hand the impact of this program. Please reach out to myself or Rich Femling via the contact information below with any questions and to sign up to help.

Thanks in advance for helping introduce a young person to fly fishing and the outdoors!

Foster the Outdoors Co-Coordinator
Kevin Wier 612-867-5768
Rich Femling 763-807-5878
fostertheoutdoors@hotmail.com

ADOPT A STORM DRAIN

By Doug Moran

Want to make water cleaner for fishing and other outdoor activities?

Don't just expect others (cities, farmers, governments) to take action. YOU can take direct action and have an impact.

Don't just complain. Do something. Adopt A Drain is an easy and valuable thing you can do.

Adopt-a-Drain asks residents to adopt a storm drain in their neighborhood and keep it clear of leaves, trash, and other debris to reduce water pollution. Volunteer fifteen minutes, twice a month, for cleaner waterways and healthier communities. Storm drains flow directly to local lakes, riv-

ers, and wetlands, acting as a conduit for trash and organic pollutants.

Go to the website below, sign-up and adopt the drain or drains by your home. You can track how much debris you keep OUT of the storm sewer system, and therefore out of our waters. And it's great because you are doing something to protect our water resources.

www.adopt-a-drain.org

Doug Moran recently joined Twin Cities TU. He credits his father with teaching him two important life lessons:
1. Acting beats complaining
2. If you enjoy the great outdoor resources in Minnesota, then do some volunteer work to protect them

ADOPT A STORM DRAIN



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MARCH 17-19, 2023



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STEVE RAMIREZ



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:

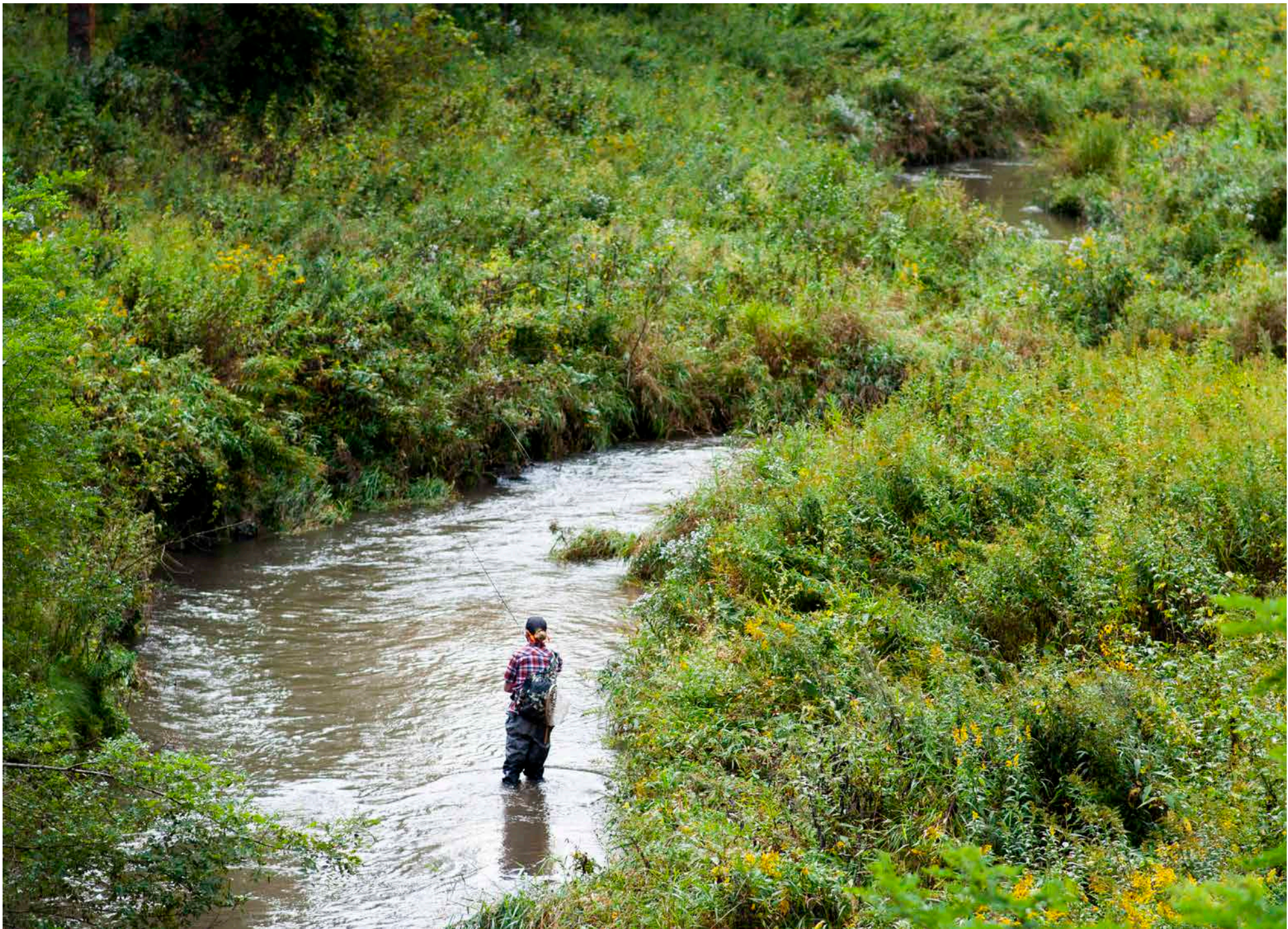
"I give Minnesota Trout Unlimited, a Minnesota non-profit corporation, presently at P.O. Box 845, Chanhassen, MN 55317-0845, EIN# 52-1766036, my (specific personal property item(s) and/or real property located at _____) to be used at the discretion of its governing board."



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.



A STUNNING DAY ON HAY CREEK. MIKE RIEMER PHOTO.

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Welcome to Minnesota's
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Branch of The Root River.



Photo Credit Brian Schumacher

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**HABITAT HELPERS
NEEDED**

We need volunteers to assist with statewide 2023 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.

2023 MNTU FLY FISHING FILM AND VIDEO SHOWCASE



SATURDAY, MARCH 18TH, 2023 HAMLINE UNIVERSITY - ST PAUL, MN

DOORS: 5:45PM FILMS: 7PM • BEER • PRIZES • APPETIZERS

TICKETS: WWW.GREATWATERSFLYEXPO.COM

GREAT WATERS FLY FISHING EXPO

2023 PROGRAMMING SCHEDULE

FRIDAY, MARCH 17TH 1 PM - 7 PM


TIME	ROOM A - EXPO LEVEL	ROOM B - 2ND FLOOR USE ELEVATOR	HUTTON ARENA	FLY CASTING AREA EXPO LEVEL	CASTING POOL LOBBY LEVEL
1:30PM			MISSISSIPPI AND ST. CROIX RIVER SMALLMOUTH BASS FISHING EVAN GRIGGS	FREE CASTING INSTRUCTION WITH FLY FISHERS INTERNATIONAL	OPEN CASTING WHEN ACCOMPANIED BY AN INSTRUCTOR OR EXHIBITOR
2:30PM	BREAK	BREAK	BREAK		
2:45PM	FLY TYING DEMO	FLY FISHING FOR BEGINNERS EVAN GRIGGS	TECHNIQUES FOR CATCHING LARGE TROUT ALL YEAR LANDON MAYER		
3:45PM	BREAK	BREAK	BREAK		
4:00PM	TIGHT LINE NYMPHING ROB KIMM	CENTRAL WI TROUT FISHING OPPORTUNITIES CRAIG COOK	FLY FISHING FOR ARGENTINIAN DORADO GUSTAVO HEIBAUM	FLY CASTING DEMO LANDON MAYER	SPEY CASTING ON THE WATER PAUL SANDSTROM
5:00PM	BREAK	BREAK	BREAK		
5:15PM	FLY TYING DEMO	TIPS AND GEAR FITTING FOR WOMEN'S FLY FISHING GERI MEYER	FLY FISHING THE TEXAS HILL COUNTRY STEVE RAMIREZ		


SATURDAY, MARCH 18TH 9 AM - 6 PM

TIME	ROOM A - EXPO LEVEL	ROOM B - 2ND FLOOR USE ELEVATOR	HUTTON ARENA	FLY CASTING AREA EXPO LEVEL	CASTING POOL LOBBY LEVEL
9:30AM	FLY TYING DEMO	FLY FISHING FOR BEGINNERS EVAN GRIGGS	FISHING WI DRIFTLESS TROUT STREAMS MAT WAGNER	FREE CASTING INSTRUCTION WITH FLY FISHERS INTERNATIONAL	OPEN CASTING WHEN ACCOMPANIED BY AN INSTRUCTOR OR EXHIBITOR
10:30AM	BREAK	BREAK	BREAK		
10:45AM	YOUTH FLY FISHING PROGRAM WITH FFI MONTA HAYNER & PETER GARRETSON	SW WI BASS AND TROUT FISHING OPPORTUNITIES KYLE ZEMPEL	TACTICS FOR FISHING DRIES, NYMPHS AND STREAMERS LANDON MAYER		
11:45AM	BREAK	BREAK	BREAK		
12:00PM	DRIFTING THE DRIFTLESS JASON RIEKE	FISHING ADVENTURES IN SEARCH OF AMERICA'S SALTWATER GAMEFISH STEVE RAMIREZ	FISHING ALASKA'S KENAI PENINSULA GRANT ANDERSON	CASTING DEMONSTRATION LANDON MAYER	SPEY CASTING ON THE WATER PAUL SANDSTROM
1:00PM	BREAK	BREAK	BREAK		OPEN CASTING WHEN ACCOMPANIED BY AN INSTRUCTOR OR EXHIBITOR
1:15PM	TYING GUIDE FLIES LANDON MAYER	NW WISCONSIN MUSKY FISHING & HANDLING STU NEVILLE	FLY FISHING NORTHERN MINNESOTA CARL HAENSEL		
2:15PM	BREAK	BREAK	BREAK		
2:30PM	FLY FISHING FOR CARP IN SW WISCONSIN LUKE ANNEAR	FLY FISHING THE BWCA AND QUETICO BRENT NOTBOHM	FISHING ADVENTURES IN SEARCH OF AMERICA'S NATIVE GAMEFISH STEVE RAMIREZ		FLY CASTING FOR MUSKIES DAVID HOLMES
3:30PM	BREAK	BREAK	BREAK		
3:45PM	FLY TYING COMPETITION BOB MITCHELL'S FLY SHOP	PATEGONIAN TROUT FISHING IN ARGENTINA GUSTAVO HIEBAUM	SIGHT FISHING SECRETS FOR GIANT TROUT LANDON MAYER		

SUNDAY, MARCH 19TH 10 AM - 4 PM

TIME	ROOM A - EXPO LEVEL	ROOM B - 2ND FLOOR USE ELEVATOR	HUTTON ARENA	FLY CASTING AREA EXPO LEVEL	CASTING POOL LOBBY LEVEL
10:30AM	FLY TYING DEMO	INTRODUCTION TO FLY FISHING EVAN GRIGGS	FLY FISHING FOR YUCATAN BABY TARPON KYLE ZEMPEL	FREE CASTING INSTRUCTION WITH FLY FISHERS INTERNATIONAL	SPEY CASTING ON THE WATER PAUL SANDSTROM
11:30AM	BREAK	BREAK	BREAK		BREAK
11:45AM	THE FULL STORY OF THE PEBBLE MINE IN BRISTOL BAY, AK MICHAEL MELFORD	FLY FISHING THE DRIFTLESS THROUGH THE SEASONS MEL HAYNER	LEARN HOW TO FISH SIMPLE PATTERNS FOR TOUGH TROUT LANDON MAYER		ROLL CASTING DEMO EVAN GRIGGS
12:45PM	BREAK	BREAK	BREAK		OPEN CASTING WHEN ACCOMPANIED BY AN INSTRUCTOR OR EXHIBITOR
1:00PM	FISHING THE UPPER MISSOURI AND BLACKFOOT RIVERS RICK KNIGHT	FLY FISHING FOR CARP DAN FRASIER	CASTING FORWARD: FISHING TALES AND VIDEO FROM THE TEXAS HILL COUNTRY STEVE RAMIREZ	FLY CASTING DEMONSTRATION LANDON MAYER	
2:00PM	BREAK		BREAK	FREE CASTING INSTRUCTION WITH FLY FISHERS INTERNATIONAL	
2:15PM	URBAN FLY FISHING THE TWIN CITIES EVAN GRIGGS		TACTICS FOR FISHING DRIES, NYMPHS AND STREAMERS LANDON MAYER		





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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.





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JOHN FEHNEL OF THE GREAT LAKES FLY SHOP TEACHES GITCHE GUMEE CHAPTER MEMBERS HOW TO TIE FLIES.

Gitche Gume Chapter

Happy New Year!

I can't believe it's already February! Where did January go? I'm sure many of you are like me and are just fine that we are past some of the coldest months of the year. Soon we will be wading in the rivers chasing steelhead with hopes of tight lines. Until then, we have much to do!

The last few weeks of 2022 brought plenty of snow and event cancellations across the Northland. We moved our holiday fly tying event to early January. Thank you to John Fehnel, owner of Great Lakes Fly Shop for hosting this event. We had a good number of folks show up to watch John tie one of his signature steelhead patterns. It was great to see familiar faces and share fishing stories from last year.

Then just a few weeks later we partnered with Arrowhead Fly Fishers and held our annual DNR update meeting. It had been two years since we held this meeting in person. It was great to finally see many familiar faces in person. DNR representatives from northern Minnesota and northwestern Wisconsin showcased stream restoration projects that stretched from Finland, MN to Lake Nebagamon, WI. Many of our area's streams hinder fish movement due to faulty or degraded culverts. Three great presentations highlighted some wonderful projects that will help fish passage across our area fisheries.

And to save the best for last, we will be holding a film festival in 2023! We are partnering with Arrowhead Fly Fishers to bring the IF4 Film Festival to Duluth February, 26. IF4 Film Festival showcases the very best in today's fly fishing films. The event will be held at Clyde Iron Works in West Duluth. Up to date information regarding the event and offered prizes can be found on the chapter's Facebook page. You can purchase tickets online at www.showclix.com/

event/if42023duluthmn. Tickets can also be purchased at Great Lakes Fly Shop (Duluth) or Superior Fly Anglers (Superior, WI). Tickets will also be available at the door on the day of the event. Join us for a night of fly fishing adventures!

I hope all of you are able to attend the film festival. Have a great rest of the winter! If you'd like to receive our e-newsletter and stay up to date with our chapter news, send me an email at brandon.kime@gmail.com and we'll get you added to the list!

Brandon Kime

Headwaters Chapter

Our local Trout Unlimited chapter is proud to celebrate its 30th year of promoting conservation and preserving coldwater fisheries in our community. Throughout the years, we have implemented several programs and initiatives to achieve our mission.

First, we would like to highlight our continuous 22-year youth fly fishing program. This program is designed to introduce young people to the sport of fly fishing. The program includes fly fishing lessons, fly tying, and knot tying. These activities allow participants to understand the importance of preserving our coldwater fisheries. Last year was our biggest ever class with 71 fourth-grade students participating. This amount was a little more than we would normally handle, but we had so many students who were looking for something to do after COVID impacted the school's ability to offer after-school programs that we couldn't say no.

Next, we would like to share information about our 15-year continuous Trout in the Classroom program. Bemidji TIC is off to another great start this year. Since the egg delivery in December, all six tanks have experienced a very good hatch with very few losses. Tony Standera from the Bemidji Area DNR Fisheries has been visiting classrooms to discuss topics, from fish biology to watersheds. Arrangements are also being made for a field trip to the Spire Valley Trout Hatchery this coming spring. This program not only provides students with an understanding of the importance of conservation but also provides them with an opportunity to learn about the science behind the sport of fly fishing.

Our community fly tying sessions are in full swing. We continue to attract new people from the area. So far we are averaging a dozen people per session. What is even better news is we have had at least six new people this year. This is great for us as we continue to ask for more volunteers from our chapter to help with education and restoration work.

Finally, we are once again hosting our Frozen Fly Film Festival. The FFFF is a TU642 fundraiser and fun evening of fly fishing films, raffle drawings, and silent auctions. The money generated from this event goes to support our youth education and restoration projects. This year we are having it at Ruttger's Birchmont Lodge in Bemidji on March 7, 2023.

Check our website, tu642.org, for the latest information. Tickets will be available soon.

Kris Williams

Hiawatha Chapter

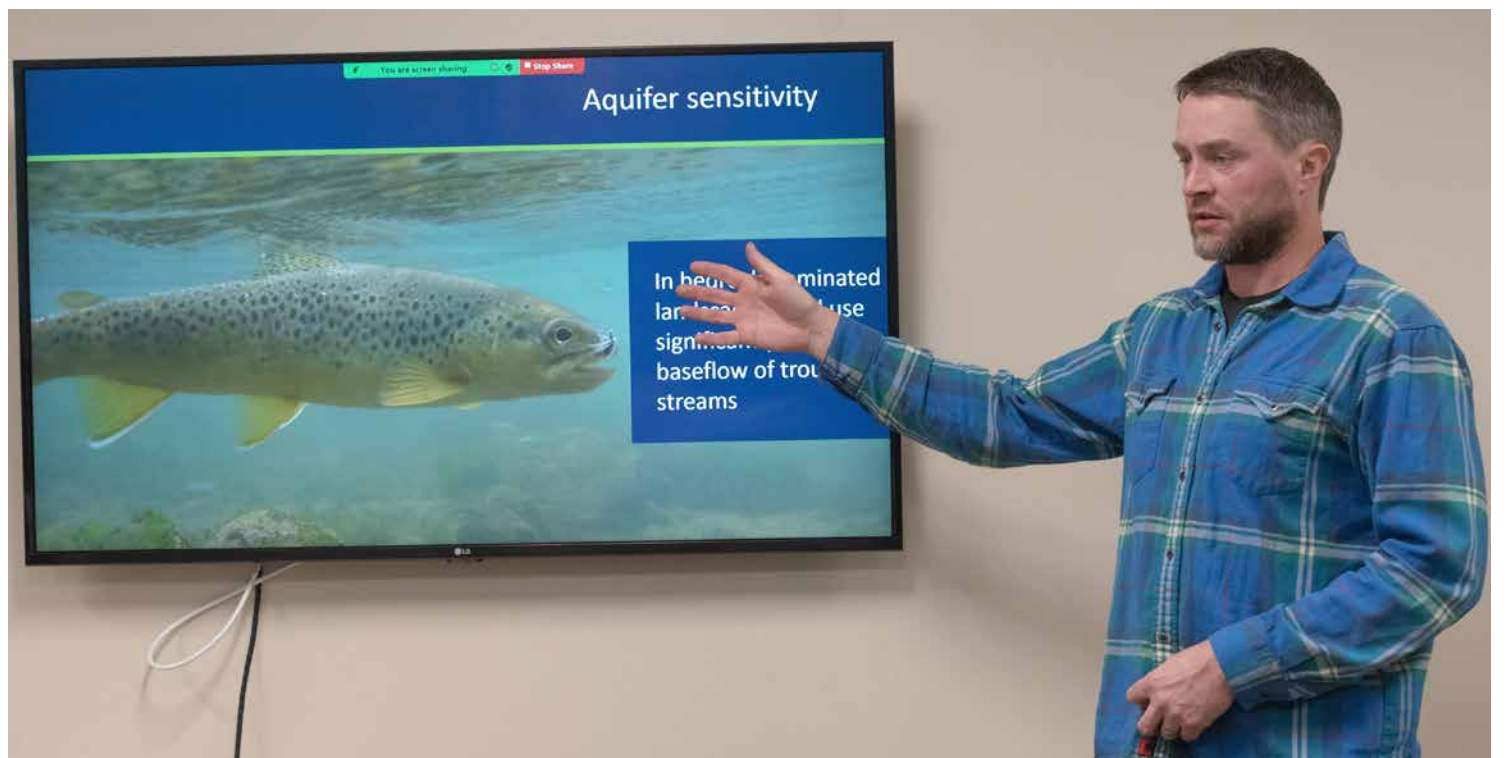
We were lucky to have Justin Watkins, a watershed unit supervisor for the MPCA in Rochester, talk to us Jan. 9 about nitrates, a continuing chemical of concern for this region. He concentrated on where it's coming from. He followed Jason Rieke who talked about trout fishing in winter, his favorite time. When he was done Watkins took center stage. "There is not as much fun stuff in this one," he said.

In Minnesota, five agencies—MPCA, Ag, Health, BWSR and DNR—all play a part in regulating and monitoring the chemicals. His agency monitors many rivers and trout streams in the region, looking for stressors. Nitrates affect local people by contaminating groundwater that we drink, the trout streams that we fish, as well as flowing into the Mississippi River that flows into the Gulf of Mexico and leads to a slump in dissolved oxygen that greatly harms all kinds of aquatic life. The agency gets water samples from across the state and many of the worst ones are in the karst region of SE Minnesota.

Unlike erosion, which is easy to see with gullies, nitrates are basically invisible.

The source of nitrates can be lawns, septic systems, the atmosphere, animal waste and crop fertilizer. Levels tend to be lower after storms but that only means dilution. The state hasn't reduced nitrates leaving its borders but there is a third to half reduction in phosphorus. "That is a real success story," he said.

Not that every trout stream is bad. For example, Money Creek is about 1 part per million (the federal limit is 10 ppm) but less than 10 percent of its watershed



JUSTIN WATKINS DISCUSSES NITRATES IN GROUND AND SURFACE WATER AT A HIAWATHA CHAPTER MEETING.

MNTU CHAPTER NEWS



is cultivated. On average, the more land cultivated in a watershed, the higher the nitrate level. The highest levels are around 140 ppm in land continuously in corn. “Not every one of them is bad,” Watkins said. “Fields are very different, management is very different.”

While some believe urban lawns are a major contributor, studies show that’s not true. For example, a cultivated field near Rochester had a well on it showing about 20 ppm nitrates. When the field was sold and the land turned into homes with lawns, levels plummeted to around 1 ppm. CRP grasslands are also very low.

Nitrates can also be an indicator chemical that hints that many others are there.

Experiments are going on now to determine what level of nitrates would be chronically bad for water in the long run and what level would be acute in the short term.

Some questions:

- Would it be possible to require retention systems for water trying to leave farms?
- Watkins: There is nothing in the law about that now.

How many dead fish are needed to trigger an investigation?
“There is no number like that written down anywhere.” If they see a number of dead trout, they will investigate.

At our next meeting at 7PM. Feb. 6 at 125 Live, former National Geographic Photographer Michael Melford will share some of his knowledge about outdoors photography. He previously talked about Bristol Bay.

John Weiss

Twin Cities Chapter

Heavy snow in December and January put a damper on some of our habitat activities, but after a second dry summer in a row, we are happy to see more precipitation and hope that it replenishes our soil moisture and groundwater reserves! Our habitat team will swing back into action in early February with a project to stabilize banks on Mall of America Creek. This is a tiny spring-fed creek whose source is kitty-corner from the LL Bean Store in the Mall. It flows through a ravine into the Minnesota River, and it hosts a population of wild brook trout! The stream is not fishable, but it is a point of pride for our chapter to have a trout stream so close to downtown, and we have a passionate crew of volunteers who work on protecting and restoring it. We are planning invasive species removal projects on Eagle Creek and the South Branch of the Vermillion in March and April, plus a big cleanup on Eagle Creek on Earth Day.

We have had enough pleasant winter

days for our more intrepid anglers to venture out on Hay Creek, and they have been catching some fish, including on the new habitat improvement section near the DNR Day Use Area.

TCTU will be offering a scholarship for a youth between 8th and 11th grade to attend the TU Teen Summit in Montana next summer. If you are interested, or know somebody who may be, please visit our website at twincitiestu.org, or email Gary Wittrock at gary.wittrock@twincitiestu.org.

TCTU held its annual meeting and board elections on January 25, followed by an Education update by Amber Taylor. A warm welcome to new board members Brian Bredenberg, Caitlin Collins, Doug Moran and Rick Phetsavong! Our next chapter meeting will be on February 22, featuring Kasey Yallaly of the Wisconsin DNR.

The best way to stay up to date on chapter meetings, habitat projects, educational events and other TCTU activities is to subscribe to our email newsletter. You can sign up at twincitiestu.org/newsletter-sign-up.html

Bob Luck

Win-Cres Chapter

Win-Cres members gathered for food, fellowship, and interesting programs in both October and November. In October, Chris and Patti Wigg, the owners of the Root River Hackle Company gave a fascinating presentation about the commercial hackle business. They breed their own roosters and sell necks around the world. When 3,000 male chicks hit puberty, they get pretty aggressive and will peck the hand that feeds them. When entering the roosterhouse to feed adults, the crowing is deafening.

Caroline van Schalk, from the Isaac Walton League, gave a presentation in November about the Ike’s Save Our Streams initiative. They recruit and train citizen scientists who gather information about water quality and invertebrates; the information is uploaded to a database that is available to others. It has been helpful bringing water quality issues to the attention of county and state officials, sometimes leading to action. Two of our members were already collecting data. Out of the audience, two others volunteered to monitor the Rush and Pine Creeks, filling a big gap in the database on streams that have experienced fish kills.

Speaking of which, we are still awaiting the final report on last summer’s Rush Creek fish kill. A local reporter has filed an information request under the Freedom of Information Act.

Win-Cres has been gifted massive amounts of fly tying material. Most of



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- Tickets \$10 each / only 500 tickets available
- Available at Great Waters, Root River Rod Co. or from HTU Board Members
- To purchase by mail - send a check along with a self-addressed stamped envelope to:
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PO BOX 7064
Rochester MN 55903-7064

it came after the closing of the National Trout Center in Preston, a victim of the pandemic. Glen Creuziger was helpful in facilitating the transfer. We have received another large box of materials from a Pennsylvania TU member and supporter, Lee Schuman, who had accumulated so many materials that he was passing some on to TU chapters around the country. We spent an evening sorting (our second) and we keep making discoveries. Among our discoveries: Herter’s hooks, a jungle cock neck, half a caribou hide, and fur from a monkey butt. Anyone who needs monkey butt fur for that special pattern can give me a call.

Late winter and spring bring a number of outreach activities: fly tying lessons

for Winona Middle School students, the home-and-home series with the Goodhue Fishing Club, and several days supporting the Whitewater State Park Veterans fly tying retreat in early April. Our fly tying materials will be used, along with decades of accumulated on-stream knowledge.

This will be our third year of working with the Vets. We have provided each veteran with a box of flies, distributing over 600 flies last September. If any of you want to contribute flies, please send them to me at 600 Washington St, Winona, MN 55987. Tie 25 of your favorite pattern and send them my way.

Chuck Shepard



VOLUNTEER CHUCK SCHLEGEL ASSISTS STUDENTS AT EAGLE RIDGE MIDDLE SCHOOL AS THEY TEMPER THEIR NEW TROUT EGGS IN PREPARATION FOR PUTTING THEM IN THE TANK.

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SELECT POETRY

By Larry Gavin

Root River

We live on the shore, light
upstream and down, nearly lost
in early morning fog.
Now is the time to talk
of the magic of moving water
a foreign language, that even
after all these years, is sometimes
misunderstood.
Like life, there are choices,
the biggest? To go forward or back.
Embrace this moment
and the time here looking
and thinking. A caddis
from last night tumbles by,
a crow caws
in the distance. The sun works
it's magic creating a space
for light. The water presses
against legs, the first cast
as perfect as imagined.

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



A TROUT IN THE CLASSROOM STUDENT FOCUSING HARD ON WRAPPING THE MARABOU ONTO HIS HOOK. MNTU'S EDUCATION TEAM TEACHES HUNDREDS OF STUDENTS HOW TO TIE SAN JUAN WORMS AND WOOLLY BUGGERS EACH YEAR.

Donate to MNTU!

Minnesota TU is the leading voice, your voice, advocating for coldwater fisheries and watersheds in Minnesota and the region. Our effective advocacy work, and the work necessary to obtain grants to fund our stream restoration and environmental education programs, **cannot continue without your direct financial support of Minnesota TU.** We receive none of the donations raised from TU's direct mail and other fundraising efforts, and the small portion of your membership dues we receive is less than the cost to print and mail this newsletter. We need direct support from you - members and non-members alike - to keep us working effectively for you, your family and your friends. Every dollar of your donation will be used here in Minnesota.

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