

# STREAMSIDE

VOLUME 26 ISSUE 1

DAME JULIANA LEAGUE

WINTER SPRING 2020



*John Burgos*

## Riffles & Runs

Greetings fellow fly fishers! Reflecting back on our past season of programs, and really looking forward, we've been able to put together a full slate of meetings and activities that we hope you'll find fun and educational. Before I get into that, I just want to remind everyone that we have one major obligation coming up this Summer, in July.

We commit to Kimberton Fire Company to provide volunteers to collect parking donations at the Kimberton Fair. Our commitment dates are Mon-Wed, July 20-22. We need three hours of your time! What do we get? We get free use of KFC facilities to hold all our meetings and activities. Meeting this simple obligation saves our club from a large expense. What do you get? You get to spend an enjoyable summer evening with fellow DJL members helping out the community. Believe me when I say it, this is

a huge help to both DJL and KFC. Please volunteer.

I was happy to see such great attendance at our December meeting this year. We call it our "Fly Tying Roundup." Lots of attendees participated in demonstrating, watching and trying different fly tying techniques. For those of us who rely on YouTube for all our information gathering, this meeting offered a whole new meaning to the "pause" and "replay" buttons. Nothing really beats hands-on experience.

The French Creek Fly Fishing Only section has been fishing very well this spring. Thanks to DJL members for providing PA Fish Commission the volunteer power to float stock our section. Float stocking is a labor intensive operation that effectively

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distributes fish throughout our waters. For too many years in a row now Dick Allebach has been coordinating the PAFBC, and recruiting volunteers. All fishermen benefit from this effort.

We will hold our 28th annual "Learn to Fly Fish Course" again on April 18th. Warwick Park has become our new home for this event. The facilities are top notch with large fields for casting demonstrations and stream front access. The twelve students attending this past year were provided a full day of expert instruction. There are too many club members and beyond to thank for this. But give Skip Krause a pat on the back for carrying the load this past year. From securing the facility to ensuring the donuts showed up on time, Skip led the charge to ensure our course came off as a success.

Our club meetings have benefitted by our association with Project Healing Waters. Many of our members (Ted Nawalinski, Mike Ferraro, Matt Seymour and I) have become regular volunteers at meetings. For me, Coatesville was "too far." In addition to Coatesville, PHW now has meetings in Royersford and West Bradford. There's a place for you to help. Please ask about volunteering at our next meeting.

In closing, as you all head out for the summer, take notes and pictures of your fishing conquests. Come back ready to brag (or, at the very least, to lie). We all want to hear about your fishing experiences, so consider telling your story at a club meeting.

Tight lines,

*John Buegoz*

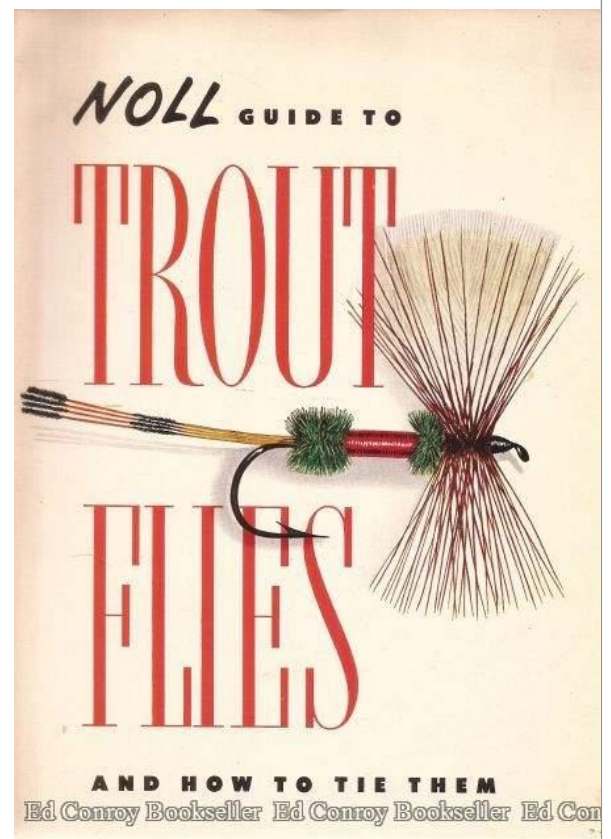


# Roots

By Henry Ramsay

At the ripe age of 11 years old I decided that I wanted to be a fly tier and I still remember the day that the journey began. I came home from a local shop with a bag full of packages of tinsels, yarns, hackles, wing quills, and a copy of “The Noll Guide to Trout Flies.” I thumbed through the book over and over, mesmerized by the variety of patterns and styles on its pages. The only tying instructions in that little book, was the step by step sequence to tie a Royal Coachman wet fly. That became the starting point in a lifetime of tying flies, and I became obsessed with learning how to tie wet flies first. My flies were crude in the beginning and lacked that sleek elegance and flow that a properly tied wet should have; but like all things in life, things find a way to work out if you remain persistent. Other styles of flies would eventually become new challenges but my roots as a fly tier are found in the watercolor paintings of the Noll Guide and wet flies such as the Gold Ribbed Hare’s Ear, Greenwell’s Glory, Royal Coachman, Alder and Lead Wing Coachman. Tying wet flies became my first love. A few years later I began the journey of to learning how to fish them.

In my early teenage years there were trips to the mountains of Potter and Clinton County, the Poconos and Juniata County, but most of my daily fishing was confined to the local farm ponds and visits to French Creek. I remember a spring day on French Creek with a brand new Fenwick fiberglass fly rod I received on my fourteenth Christmas tucked proudly under my arm. I picked a wet Ginger Quill from a fly box, knotted it to the tippet, and began casting it down and across the stream and letting it swing in the currents until it came to a stop downstream. A step downstream and another roll cast put the fly back in the water and swimming its way across the currents when there was a sudden swirl of water and a tug that startled the hell out of



Published in 1965, a beginning!



Henry's wet box.

me. A rainbow trout was firmly hooked and a few minutes later it lay panting in my hand, the little Ginger Quill I had tied seated in the corner of its mouth. The fish had hooked itself on a tight line swing accentuated with an occasional twitch of the rod tip. It was my first fish trout on a fly I had tied and I was hooked for life.

Over the next few years I continued to practice both the art of tying these beautiful flies and the

methods of fishing them as much as I could. I learned that fly fishing is a very old and noble pursuit that ever evolves and re-invents itself, re-discovers its older traditions and refines them in a twisted way that always seems to come back to a conclusion that the good things will always transcend trend and fad, and remain solid in spite of the current level of popularity it enjoys. A solid case in point would be the Yorkshire Spiders that many of us refer to as "soft hackles." After enjoying decades of continuous favor among anglers through the early writings of Pritt, Edmunds and Lee, these sparse and elegant wet flies fell out of popularity until Jim Leisenring breathed new life into them in "The Art of Tying the Wet Fly & Fishing the Flymph" in 1941. In 1975 Sylvester Nemes put another breath of fresh air into wet fly fishing again with the release of "The Soft Hackled Fly" followed by several more books.

Why do these cycles occur? I like to say that most of us that fly fish spend our years pursuing both the ever elusive trout and the even more elusive silver bullet fly. New fly patterns and styles enjoy their day in the sun, only to fade away in favor of something new, with only a small group that seems to remain relevant and stand the test of time. Wet flies are one of the few fly styles that continue to be recycled over the years because they

work. Anglers that ignore fashion trends know this all too well and fish them quietly and successfully while others ride the wave of the latest fly patterns. Wet flies never stopped working their magic for those that don't follow trends.

Wet flies in my opinion were the first emerger patterns, and the techniques employed to fish them present the fly in the manner of an emergent insect. The traditional down and across swing method, teased with twitches of the rod tip does a great job of imitating a swimming insect. Most takes occur as the fly begins to lift toward the surface near the end of the swing. Jim Leisenring knew this and refined it in his "Leisenring Lift" method using flies with soft hackles that would pulse and move in a lifelike manner to imitate an insect swimming to the surface to hatch. Wet flies are not only effective, but fishing them in a series of swings covers all of the water. Cast down and across the current with the rod tip up at a slight angle, following the drift of the flies. Twitch the flies as they drift and slowly raise the rod as they reach the end of the swing. When fish seem to be keying on emerging caddis pupa this can be wickedly effective. The flies can also be cast upstream to get them deeper before the line bellies and lifts them at the end of the drift. Upstream or downstream mends can be used to speed up or slow down the swing. In years past it was common for an angler to fish a "point" fly and one or two flies tied to droppers placed further up the leader. This technique covers different levels of the water while testing different patterns for effectiveness. Droppers were



Henry Ramsay

constructed by leaving long tags from blood knots along the leader which would often tangle if the droppers were too long or thin. Today I tie droppers from the bend of one fly to the eye of the next in a chain to avoid tangling.

While I truly enjoy the chess-like game of matching hatches on technical waters and casting imitative dry flies and emergers, there's a simple beauty and a relaxing pace to fishing a string of wet flies on the swing. In my own fishing they are not only very effective flies, but a style of fly that takes me back to my roots. As I write this; springtime trout fishing feels further than it really is, and I work on filling the holes in my fly boxes in-between filling fly orders for customers. It's only a matter of

weeks before trees will start to bud, mayflies will begin to hatch, and the trout we love will begin to rise again. There's still plenty of time to spend some time at the vise, and time to add a few wet flies to your fly boxes. You will probably be glad that you did.



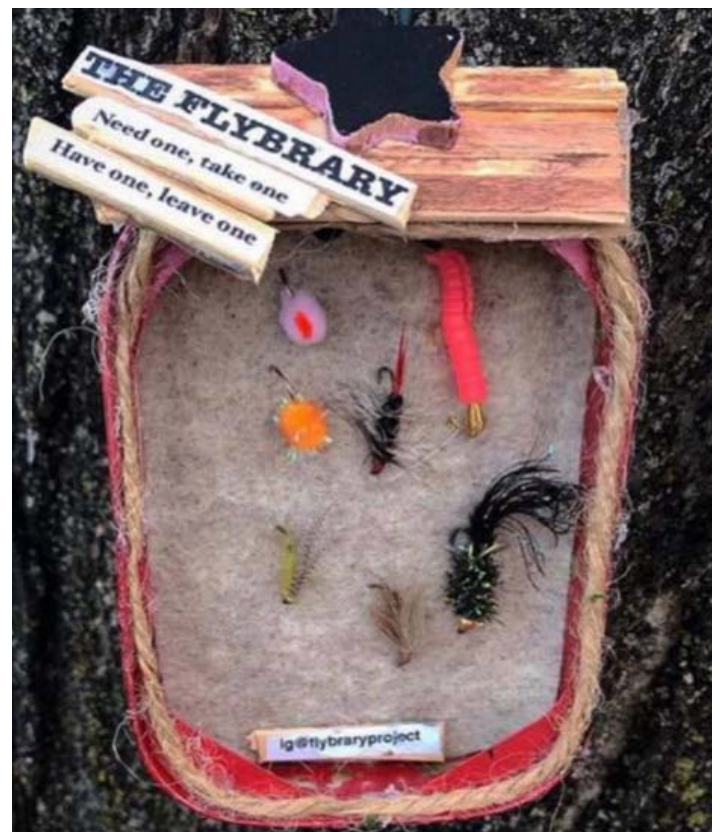
*Henry Ramsay is a fly fishing writer, custom fly tier, presenter and photographer. He is the author of "Matching Major Eastern Hatches, New Patterns for Selective Trout" and co-author of "Keystone Fly Fishing Guide, The Ultimate Guide to Pennsylvania's Best Water." He contributes to "Fly Fisherman" and "Eastern Fly Fishing" magazines and has appeared in a list of other books and publications. His fly fishing career began more than 45 years ago on a stream in central Pennsylvania and his travels have taken him to many of the best streams and rivers across his home state of Pennsylvania, New York, Idaho, Montana, Colorado, Wyoming and Utah.*

## The Flybrarian,

by Brenna Dekorte

Last spring when I began my fly fishing journey, I sought out and consumed every resource available, devouring information like a brown trout inhaling a hapless midge. When I first heard of The Flybrary Project as a way to build community in fly fishing, it resonated with my desire to reach out to other anglers, plus it fired up my fly craft neurons. A flybrary is inspired by those "Need one, Take one. Have one, Leave one" penny dishes at gas stations and the little free book exchange libraries communities build... but for flies!

Enlisting the help of my son, we made it an afternoon activity and constructed a flybrary for my favorite fishing spot. He bravely volunteered to "empty" some sardine tins for us while I scavenged the junk drawer for



Repurposed sardine can!

popsicle sticks, pieces of fabric and shiny things. We hung one on a pole that was already covered with trout club signs and fishing regulations. Soon after, a particularly strong storm came along so I went to check on the flybrary but it was gone with the wind. Luckily we made several and it was easily replaced. Since then we have been making more and putting them up at places special to us.



Available on Flybrary Project website

One day, after a particularly rough week, I went down to the creek to unwind and throw some flies at fish. I was walking back up to my car when the clouds lifted and a beam of sunshine broke through, illuminating a fellow fly fisher who was also coming off of a stream session in conference with a euronymph. He had the warmest smile and we got to chatting about favorite spots. I mentioned being partial to Reeds Road Bridge he lit up telling me about how he was there picking up trash and came across “a little free library like they have for books but this one was for flies.” The little lost fly-away flybrary! It has been sitting on his fly tying

bench for all this time. This gentleman happened to be esteemed Dame Juliana League's membership coordinator, Mike Ferraro! He invited me to join the DJL and also to come out and volunteer for Project Healing Waters Fly Fishing (which is a fantastic program to introduce veterans to the therapeutic benefits of fly tying, rod building and fly fishing). Since then, I've had the honor to participate in both. There is a flybrary for you to visit at the DJL home stream of French Creek lovingly installed by myself and Joe King. The landowner came out while we were hanging it and we explained what it was. He generously gave us his permission to keep it there in the company of the newly installed property signage. Feel free to take one and/or leave one as it will give you good fishing vibes.

I am filled with delight and wonder to have found a community of people with such a huge capacity for compassion and care for nature and our waters. It's hard to put into words how overflowing with gratitude I am to the creators of The Flybrary Project for giving us such a sweet a way to make these connections on the water.

You may visit the website at <http://flybraryproject.com/> where you can get a flybrary kit or get creative and make your own. You can also find in the wild on instagram [@flybraryproject](https://www.instagram.com/flybraryproject) and get inspired by what others have come up with.

“Founding a location isn’t a destination, it’s a beginning. To see it supported and growth in the community, it has to be tended and nurtured. It’s like a garden, you will harvest more if the plot is tended.” - The Flybrary Project



***Brenna Dekorte** has been flipping rocks since she could crawl. As soon as she could put worm on hook, she was afflicted with the fishing bug. She has since discovered the joys of fly fishing and has fully reformed her worm-dunking ways. Now she only keeps worms as helpful garden friends. A mother and devoted appreciator of nature, you can find her in the woods hunting for slime molds, reading under a tree or wading in the crick trying to trick fish.*

## Editor's Note

We had a real dilemma in this issue of STREAMSIDE. So many compelling articles came in for this Winter/Spring edition, we have an embarrassment of riches. I was tempted to delay some material for our next issue in May. The larder was full.

However, If like me, you're waking from your winter hibernation and need some literary nourishment we've decided to pile your plates high! Dig in, but don't neglect refilling your fly boxes and greasing your reels.

We're creating a newsletter that adds some value to our membership - and a little notoriety. Please feel free to link this edition to your friends with an invitation to join as members.

Back to the desk,



# Lefty & Me

## A Friendship Runs Through It

By Ed Jaworowski

It was a day that changed my life. The time and place: mid 1970's, a spring meeting of The Main Line Fly Tyers at the Schuylkill Valley Nature Center in Philadelphia. The event: a presentation by visiting celebrity Lefty Kreh.

I had been involved with fly fishing for 20 years at the time, but while watching his casting demonstration, I was struck not so much by his remarkable ability, as by his effortless execution and obvious understanding of fly casting mechanics. His message



Ed & Lefty

flew in the face of traditional wisdom, contradicting many ideas I had come to accept as gospel, as unassailable. It wasn't simply that he could do something, a voice within me yelled, "He knows something." At that moment, I became a disciple. Not long after, I found myself in his suburban Baltimore home, where I would visit countless times over the next forty-two years. When I told Lefty that I had received a rejection on my first submission to a national publication, he took

me under his wing, critiqued the piece, and gave me copious suggestions. Because he took that time with me, within days after resubmitting that first effort, I received a reply saying literally, "A check is in the mail." That launched my writing career, which eventually led to several books and hundreds of articles in 20 periodicals in the US and abroad. Several years earlier, a friend had introduced me to serious photography, but Lefty schooled me in the specific needs and techniques of outdoor photography related

to fly fishing. Eventually, I sold and published several thousand photos to magazine editors and book publishers. He criticized and made suggestions regarding my slide talks, which I have now presented to groups in more than half the fifty states. And, he continually suggested travel destinations to expand my horizons. He taught me about fishing for bonefish, tarpon, large pike, redfish, even various jungle species I had never heard of. He even outfitted me with tackle (that I could never afford) for my first tuna trip to Bermuda. As a result of his tutelage, I eventually visited 14 countries and caught more than a hundred fresh and saltwater species on flies. I always thanked him for his giving and sharing, while expecting nothing in return. Lefty coached and directed me, but mostly, at every stage of my career, he inspired me. That's what great teachers do. And over those years, we became very close friends.



Filming *"The Complete Cast"*

More than any single area, he worked on my casting for the next 14 years after that first meeting. I learned about loop control, curve and slack line casts, how to avoid tailing loops, what causes shock waves, how to determine where a kick develops in a rod, and so much more. and so much more. Eventually, a publisher approached me about writing a book on fly casting. Feeling intimidated by the prospect, I initially refused, but Lefty encouraged me, saying, "Show them how much we have learned in the last 20 years." The release of that first book took me to a whole new level in the sport. I began traveling around the country and abroad, demonstrating and sharing with audiences

what he had shared with me. Through him I met countless people in the industry, above all, Rick Pope, the founder of Temple Fork Outfitters, who took me on board as an advisor and rod tester. Through that affiliation I learned even more about rod construction and performance. Lefty's most important piece of advice: "When testing, don't just make good casts, practice how to duplicate any poor cast you see, on cue. That's the only way to be certain that you clearly understand what causes problems." I've done that ever since. So



Stalking .....

chatting. The highpoint for me came toward the end of Lefty's life. We spent three years working on an instructional video, *The Complete Cast*, for TFO. He told me, shortly before he died, "Of all the books and videos I've done, that was the most rewarding and satisfying project of my life."

He died on March 14, 2018, shortly after his 93<sup>rd</sup> birthday. I miss him dearly and think of him often. But rather than dwell on the void, I relish all the incredible memories. Lefty influenced my fly fishing career far more than any other individual. I've been blessed to have been a close friend with the man I consider the most influential the sport has known, and arguably its greatest icon. I'm so glad I attended that meeting some 45 years ago.

*Ed Jaworowski is a writer, photographer and an exceptional caster with a passion and a desire to share his skills with others. In addition to teaching casting and fly fishing for more than 30 years, Ed has authored four books – "The Cast," "Troubleshooting the Cast," "PopFleyes," and "Essential Saltwater Flies." He also served as consultant and contributor to "The Complete Book of Fly Fishing," and his writings have been featured in more than*

*200 publications and more than 20 angling periodicals here and abroad since 1977. Ed was the first recipient of the Izaak Walton Award, presented by the American Museum of Fly Fishing.*

*He has more than 50 years of fly tying experience, has fished and conducted casting clinics around much of the western hemisphere, and is in demand as a speaker. Ed is making significant contributions to the design of TFO rods and related products and is assisting in the development of casting schools and other educational programs. Lefty Kreh has summed it up nicely by saying: "Ed is a well-rounded freshwater and saltwater fly fisherman who understands fly casting techniques and principles better than any man I have ever met."*

*Ed recently retired from Villanova University, where he was on staff for more than 40 years and rose to the position of Department Chair/Classical Studies. He and his wife, Michele, have been married for 23 years and reside in Chester Springs, PA, near Philadelphia. Ed was a bachelor for 51 years, but says, "I have had the unspeakable joy of inheriting Michele's three wonderful children and three beautiful granddaughters."*

*His retirement from academia has allowed him to devote even more time to his special interest in the things of fly fishing, which are on-going at Temple Fork Outfitters.*



## CrimeStopper's Textbook

By Bob Bonney

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Officer Marchese & I had just finished boat patrol on the Schuylkill River in Norristown. While securing our patrol boat onto the boat trailer a jet ski approached our location. Sunset was at 8:05 PM and it was now 8:25. "Dumb Dumb" (DD), was operating a red & white stand-up jet ski and approaching the shoreline in front of us.

DD had grey hair, was wearing a bright blue t-shirt w/dark shorts and wasn't wearing a Personal Flotation Device (PFD). 15'-20' from the shore the DD knelt down on the ski. When I shouted, he attempted to stand, turn the ski and

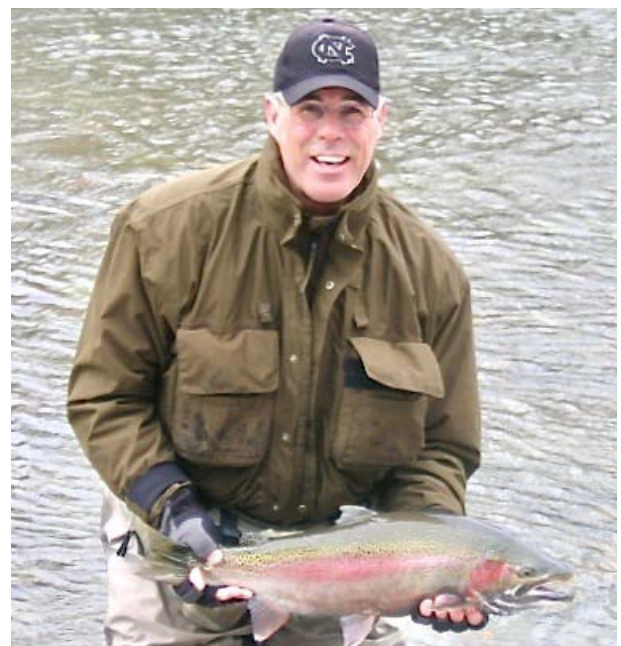
accelerate at the same time. DD fell, his legs hanging off the rear of the ski as he hung onto the handle bar while the ski dragged him up river.

DD headed to a house that was hosting a party all day. Ofc. Marchese & I crashed the party. There was a group of 15-20 people in the back near the river bank.

I scanned the crowd for DD when I noticed a couple sitting alone on concrete step with their back to everyone (Not conspicuous at all). The male had gray hair, bright blue T-shirt and dark shorts. I walked over to DD and stated, "You're the guy who ran from me on the jet ski." DD replied, "No, it wasn't me." I said, "Yes you're the one. I can see that you're wet from the waist down. He said, "I'm not wet I'm dry." When I made him stand there was a large wet spot on the concrete where he had been sitting. Thirty yards down river from the party, I observed the red & white ski approximately 15' from the bank. However, the ski wasn't secured, and was drifting down river. I was approached by a man asking what was going on. I asked if he knew who owned the red & white ski in the water in front of us. He stated "It's mine." I asked who rode it last, (I love this part) he stated, "DD." I asked if he realized his ski was drifting away? He said: "No" and went swimming to retrieve his ski.

I just love it when helpful idiots insert themselves into an investigation. DD took a hearing. Didn't go well for him. \$700 in fines and court costs plus I'm afraid he'll be losing his boating privileges for a year.

**Bob Bonney** is Chester County's Waterways Conservation Office and valued member of The Dame Juliana League, Valley Forge Trout Unlimited and Project Healing Waters. Beside being a gifted nature photographer, he may be a poacher's worst nightmare.



Bob in Four Mile Creek

# Bringing Brookies Back to Chester County

By Al Renzi

*[This Story also appears in the Valley Forge Trout Unlimited newsletter "Bank Notes", Spring 2020 edition]*

The origins of this project started about a year ago when an article was published in Trout Magazine regarding the use of Whitlock-Vibert Boxes to raise trout from eggs. These egg boxes have been around for decades and were used by Valley Forge Trout Unlimited Chapter members Jim Clark and Joe Armstrong from the late 70s to the early 90s in the West Valley Creek area. At the time, they raised browns, rainbows and to some extent brook trout using this methodology. Back in the day, they were planting



Al Renzi showing the volunteers what the box looks like and how it works.

40,000 eggs at a time, which at 500 eggs per box is 80 boxes. That was a lot of work! It is great that we have two very experienced individuals with established success in using this technique.

This year, as we look to revitalize this program, Jim and Joe have been instrumental in sharing their experiences of what to do and what not to do. We will be using the same

egg boxes that they used decades ago, so it is nice to make this transition with the history and experiences from the people and egg boxes that had success then. This hopefully is a good omen for our current day project.



Bedding down 5,000 brook trout eggs at the right temperature.

With the deteriorating native brook trout population in Chester County that has come with increased development, population density, loss of habitat, suburban runoff from increased impervious surfaces and increasing stream temperatures, stopping the deterioration of our brook trout population has been very difficult. There are electrofishing

reports produced by the PA Fish and Boat commission of a number of tributaries in Chester County that contain brook trout. Also, local anglers know where other brook trout populations still thrive. The key is having good habitat that will support brook trout. It does exist, but it is just harder to find.

So we asked ourselves whether there are existing micro-climates that could support more brook trout habitats? I remember Joe Armstrong saying to me, "Go find a cold spring and then you may have a shot at making this work." Well, I live in Chester Springs and as the name implies, there are many cold springs in the area. I happen to live on an 1850s property that has a spring house that is still running at 55 degrees, year around. When I started looking around for other cold springs, I realized that Historic Yellow Springs, right down the road from me, has 3 springhouses and multiple other underground seeps that are spilling into a tributary to Pickering Creek. The Crystal Springhouse, in particular, had a very good flow, and a nice rivulet that could potentially serve as a home for brook trout eggs. It also had a steady temperature flow of about 55 degrees, even in the heat of



Placing a loaded Vibert box in the stream.



The Vibert box, loaded with eggs, and protected by a pile of clean gravel.

summer.

Jim Clark who has lived in the West Valley Creek area all of his life and has fished this area for decades came across a very active spring that feeds a tributary to West Valley. As I mentioned previously, a number of tributaries to West Valley were the focus of the trout raising back in the 70s to the 90s, so with this history in mind, Jim feels that given the great cold spring flow, 56 degree temperature and length of this tributary, that brook trout have a good chance of succeeding. With this information in hand, we received grant funding from PA Council of Trout Unlimited for temperature loggers for Pickering and we also received loaner temperature loggers from Valley Forge National Historic Park for West Valley.



These temperature loggers will enable us to monitor the cold spring and surrounding area to see if the springs provide a temperature buffer that would help support a year-round brook trout population.

Also, before purchasing the eggs, Pete Goodman was in touch with PA Fish and



After a few weeks, this is what we pray for!

Boat Commission to outline our goals for the project. We did receive approval from them to proceed with purchasing and planting the brook trout eggs in the specified locations outlined above. On December 7th, I picked up 5000 brook trout eggs from Michelfelder Hatchery in Boyertown, PA. I have to admit that I did not get much sleep that night, since I was serving as a parent to 5000 eggs that were depending on me to keep them alive for the next 24hrs. The eggs came from the hatchery springs at about 52 degrees, so I did my best to keep them in the 45-50 degree range

overnight so that they could make a reasonable temperature transition to the boxes and eventually to the cold springs where we were going to plant the eggs the next day.

On December 8th, a group of 20 volunteers helped to dig holes and plant ten Whitlock-Vibert boxes in both the Pickering and West Valley Springs. As of early January, the good news is that we did spot brook trout fry at Historic Yellow Springs, so we will continue to monitor these sites throughout the winter and spring timeframes. As expected we did experience some silt accumulation in the lower chamber of some of the Vibert boxes, which may or may not have affected the viability of the eggs. All-in-all, this experience will serve to inform our efforts for next December in further optimizing our site selection and planting process. Reestablishing brook trout in more headwater streams is a tall order, especially when having to deal with runoff, silt, predation and increasing environmental temperatures, but that is the reason why we need to pay more attention to our native brook trout. When brook trout are present, the habitat is there and our surrounding ecosystem is balanced. When the brook trout are not there and/or they cannot thrive or survive, that is an indication of lack of habitat and balance.

We are realistic in that we know that this pilot project will be a stepping stone and that we will need to build an integrated approach to creating stream

habitat and protecting what habitat that we have. We also have measured expectations in the sense that we know that the main Pickering and West Valley Streams are likely too warm in the summer to support brook trout. However, the tributaries of both Pickering and West Valley could contain micro-climates or micro-habitats that potentially will support a healthy population of brook trout. In the Pickering Creek watershed, we are fortunate to have much preserved land and those preserved lands contain cold springs that feed multiple tributaries that eventually end up in the Pickering. Our next step as we plan for the coming year is to determine if these preserved lands and headwater streams offer potential for our native brook trout beyond the cold springs that served as our pilot study this past season. So we will carry on with the hope that we will at least learn a lot about our watersheds, make a few mistakes along the way, and somehow find a path forward together as we pursue our mission of conserving, protecting and restoring our cold-water streams and tributaries.

Links for learning about Whitlock-Vibert boxes and how-to's:

- <https://flyfishersinternational.org/Conservation/Projects-Programs/Whitlock-Vibert-Box>

*Al Renzi has been an extraordinarily active member of Valley Forge Trout Unlimited where he currently serves as Vice President for External Affairs. When Al isn't spending hours at Trout Unlimited or planting trout eggs he works on Yellow Springs farm in Chester Springs. He and his wife Catherine raise goats, are cheese artisans and own a thriving native plant nursery.*

Their enterprise is Yellow Springs Farm in Chester Springs.

<https://www.yellowspringsfarm.com/>



Surrounded by Nubian Goats at Yellow Springs Farm



# How to See a Stream

By David Bressler

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The intention of the following two-part article is to provide a brief overview of stream ecology and monitoring, summarize some of the threats to stream health in southeastern Pennsylvania, and provide guidance on how anglers (and others) can become guardians of and advocates for their local streams. It should be understood that streams and the valleys they drain are complex environments with many exceptions to standard rules. This one fact is what makes regulating, restoring, and protecting aquatic systems such a complicated process. And it is why there is such a



The Atikonak River. Labrador, Newfoundland

need for motivated people who can dedicate time and energy to understanding and defending their local watershed.

## Part One: Stream Health Dynamics

Unlike what many people believe, streams and rivers are not simply channels in the earth that carry water. They are complex living systems defined by the surrounding watershed's geology, topography, vegetation, and climate and are often highly influenced by what humans are doing nearby. River water is a diverse mixture of dissolved and suspended organic and inorganic material that reflects the conditions of the watershed as a whole. The local geology and soil impart characteristics to the water and its bed, banks, and channel that are unique to the local landscape. The underlying geology and soil along with plant material from the surrounding landscape define the substrate in a stream, which is foundational to a stream's biological community.

All of the materials making up this substrate, rocks, sand, silt, sticks, logs, and leaves, are colonized by a vast array of bacterial, algal, and fungal communities, making up the "biofilm" – millions of species, many yet to be classified, that set the biological foundation of the stream ecosystem. The biofilm community also processes organic material, like leaves and aquatic vegetation, making it edible for both "macroinvertebrates" (invertebrates visible to the human eye) and some species of herbivorous and omnivorous fish. Natural chemical conditions, toxic inputs, nutrients (e.g., nitrogen and phosphorus), and hydrology (water levels, flow velocity, flooding) all impact and define this microbial foundation within a stream. The overall character of the stream and watershed, as defined by both the natural setting and human influences, also determines the types of habitat, shelter, feeding and reproductive opportunities available to stream biota. Animals with diverse life histories and feeding habits take shelter, build homes, and harvest, collect, and catch food in nearly every part of the stream (it is not uncommon for macroinvertebrate densities to range up to several thousand individuals per square foot). Some types of caddisfly larvae collect food by spinning nets that filter algae and other organic material from flowing water that they then gather and eat. Other filterers such as Isonychia mayflies collect food from the water with long hairs on their forelegs. Crane fly and some stonefly larvae shred and consume leaves from streamside trees and shrubs after these plant materials have been softened and made more palatable by stream microbes. Other species like hellgrammites, some types of stoneflies, and dragonflies are predators, feeding on other invertebrates. Many macroinvertebrate species take shelter and do their feeding on the stream bottom under and between rocks, where they scrape the biofilm off these substrates and shrubs after these plant materials have been softened and made more palatable by stream microbes using

specialized mouthparts (e.g., Heptageniid mayflies). Other macroinvertebrates like the Ephemerid mayflies, many midge species, and worms prefer to burrow into finer sediment where they filter and collect organic particles. Other macroinvertebrates like Baetid mayfly larvae, scuds, cress bugs, and sow bugs can often be found living in and feeding on aquatic vegetation and being preyed upon by species like damselflies.

The fish and other vertebrate species found in a stream also have specific requirements for shelter and conditions for feeding and growth. The surrounding landscape and underlying geology are key to providing water cold enough to support trout physiological needs for high levels of oxygen (colder water holds more oxygen). Trout living in streams and rivers take shelter from strong currents behind boulders, in deep pools, under banks, and amongst tree roots and stumps. Both live trees rooted in stream banks and dead trees that have fallen into the stream are beneficial to trout providing shade, structure, and protection. But trout are resourceful and as long as food is available and water temperature and chemical conditions are right they can make use of many different habitats. In fast flowing streams they will feed in areas where stream flow naturally funnels food past habitat refuges. In slower river systems and lakes trout will more frequently seek out food. Large trout are known to patrol the downstream ends of pools at night hunting smaller fish, crayfish, amphibians, and even birds or mice that fall into the water. In many of the slow flowing limestone springs of central and southern Pennsylvania trout will rip and tear at aquatic vegetation dislodging and eating scuds, cress bugs, and other macroinvertebrates. The physical conditions of a stream are also extremely important with regard to spawning grounds for fish. Spawning trout need clean porous gravel (i.e., not clogged with silt and sand) with swift flow, while other fish species such as bass or sunfish, may need slower silty and sandy conditions more characteristic of larger warm water rivers and smaller streams degraded from human activity.

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## Biologic Stream Health Indicators

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In fly fishing the angler often focuses on the insects, crustaceans, and smaller fish that trout and other sportfish eat. Trout are relatively sensitive to pollution and so are many of the macroinvertebrate and vertebrate species that the fly angler imitates. In fact, plenty of them are actually much more sensitive than trout. In the realm of freshwater ecology, these types of pollution sensitive animals are considered to be “indicators” of aquatic health. If they are found in a stream, that stream is considered healthy, if they are absent, it’s likely that the stream is degraded.

## Biologic Stream Health Indicators

So what are these pollution-intolerant species of macroinvertebrates and small fish? As one might expect, they are the same bug and fish imitations that the trout angler ties and casts. Mayflies (taxonomic Order Ephemeroptera), Stoneflies (Plecoptera), and Caddisflies (Trichoptera)(Figure 1) are the three main groups of macroinvertebrates that

are used by aquatic ecologists to evaluate stream health. Generally, the greater the abundance and diversity of these “EPT” taxa, the greater the stream health. Brook trout, brown trout, and rainbow trout, plus lots of non-sport fish like sculpins, darters, certain types of suckers and dace, and many others are the fish species that ecologists use as indicators of stream health (Figure 2).

However, for those who want to think more deeply about the complexities of stream health and ecology in relation to trout, keep in mind that brown trout and rainbow trout are resilient to some types of pollution and are indeed found in many streams that are not of the highest quality, especially if water temperature remains suitable (i.e., below 70 °F). Similarly, there are types of both caddisflies (e.g., Hydropsychidae net-spinners) and mayflies (e.g., Baetidae swimmers) that are somewhat resilient to disturbance. It is extremely rare, however, to find stoneflies anywhere but the healthiest watersheds.



Figure 1a. EPT taxa - Mayfly (Order - Ephemeroptera; Genus - Ephemerella),



Figure 1b. Stonefly (Order -Plecoptera; Genus - *Acroneuria*),



Figure 1c Caddisfly (Order – Trichoptera; Genus - *Brachycentrus*) larvae. Photos credit Macroinvertebrates.org.



**Figure 2a. Example fish species with moderate to high sensitivity to pollution: Brook Trout (*Salvelinus fontinalis*),**



**Figure 2b. Example fish species with moderate to high sensitivity to pollution: Brown Trout (*Salmo trutta*),**



**Figure 2c: Example fish species with moderate to high sensitivity to pollution: Rainbow Trout (*Oncorhynchus mykiss*),**



**Figure 2d. Example fish species with moderate to high sensitivity to pollution: Brook Lamprey (*Lethenteron appendix*),**



**Figure 2e. Example fish species with moderate to high sensitivity to pollution: Longnose Dace (*Rhinichthys cataractae*),**



**Figure 2f. Example fish species with moderate to high sensitivity to pollution: Shield Darter (*Percina peltata*). Photo credits for Figures 2 Stroud Water Research Center.**



## Stream Stress

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Water temperature is a critical component for trout, especially Brook trout, the only native non-migratory trout species in eastern North America. These sensitive Salmonids need colder water than both the Brown Trout (native to Europe) and the Rainbow Trout (native to the pacific coast of North America). Sadly, in southeastern PA many of the streams can no longer hold trout because they get too warm in the summer. Even if many of these streams were cold enough they would likely still have too many acute and chronic stressors to support trout, especially brook trout. And, as mentioned, many of the EPT macroinvertebrates are just as pollution sensitive if not more so than trout, so many of these are no longer present either. Pesticides, fertilizer, road de-icers and heavy metals, industrial and household waste, petroleum products, and many other contaminants form a “chemical cocktail” that is yet to be fully understood in terms of cumulative toxicity to stream biota. Physical, hydrological, and biological stressors such as silt and sediment, habitat and substrate-altering storm flows, and non-native species of plants and animals can all be equally detrimental to stream health.

What do all of these stressors have in common? Their source is human activity – roads and parking lots, residential developments, waste water treatment plants, agricultural areas, commercial zones, industrial facilities, abandoned and active mines and quarries, oil and gas wells, and many other types of human activity produce a



Accidental fracking fluid escapes.

wide variety of potentially harmful materials that end up in streams and rivers. These pollutants are usually conveyed to nearby waterways via runoff (i.e., “non-point source pollution”) or piped discharges (i.e., “point source pollution”). When rain falls or snow melts the water flows across these landscapes and washes pollutants into the nearest stream, storm drain, culvert, or ditch, ultimately ending up in our largest rivers like the Delaware or Susquehanna. Some of this runoff may be absorbed by the ground where some pollutants may be degraded by soil microbes, but many others will not, and instead will later enter the nearest stream via groundwater seeps and springs. Commercial facilities, industrial sites, and waste water treatment plants

discharge a wide variety of substances that may be within the range of permitted

levels, but nonetheless can cause significant loss of ecological integrity of receiving water bodies. In severe cases illicit, unpermitted, or accidental point source discharges, spills, and other accidents can cause massive die-offs of fish and many other animals, plants, and microbes.

Human activity is also the cause of most biological stressors, like non-native species. Many different non-native species have been introduced in our region and across the world both purposefully (e.g., population control of nuisance species, sport fish stocking, ornamental plants) and accidentally (e.g., transfer by boats, vehicles and foot travel, exotic pet store plants and animals). A wide array of plant, algal, fungal,



Road salt pouring into storm sewer will eventually find a river.

invertebrate, and vertebrate invasive species now compete with and influence indigenous fauna of our region in southeastern PA and cause complex cascading effects on the established biological communities. Some of the more prominent current invasive aquatic animals include the Rusty and Virile Crayfish, Zebra Mussel, and Asian Clam, but there are many others. Invasive terrestrial plants like Phragmites (*Phragmites australis*), Japanese Stiltgrass, Japanese Knotweed, and Multiflora Rose crowd and compete with native species causing degradation of riparian forest health. Furthermore, some of these invasive plants like the Multiflora Rose

are known to have lower nutritional value to aquatic macroinvertebrate shredder species.

There are plenty of animals that are able to live in streams degraded by the aforementioned abiotic and biotic stressors; however, trout and especially EPT macroinvertebrate species are not usually among these. True, there are limestone streams that hang on, buffering pollution with cold alkaline spring water and continuing to harbor wild reproducing trout populations and a few of the more resilient EPT species. Yes, there are some relatively undeveloped watersheds in southeastern PA with well-established riparian forest buffers that stay cold enough to support reproducing populations of browns and rainbows. And yes, there are still even a few tiny isolated headwater streams tucked away in some of the preserved forested land in our region that still hold brook trout. But today's landscape in southeastern PA and the streams that drain that landscape have been hammered by

human activity for hundreds of years. Native hemlock forests that covered the state before European arrival have long been cut down and the Woolly Adelgid, an invasive terrestrial insect, is threatening to eliminate the few hemlocks that still remain. Roads, housing and commercial developments, agriculture, and industrial facilities now cover much of the southeastern PA landscape and because of this most watersheds are no longer able to support trout and many species of aquatic insects, other crustaceans, and bivalves, as well as a wide variety of amphibians, reptiles, and mammals.

***Stay tuned for part two of this article in the Spring/Summer issue of STREAMSIDE which will discuss stream impairment and monitoring and how local anglers can make steps to become stream guardians and advocates.***



*Dave Bressler has been with Stroud Water Research Center for four years. The Stroud Center's mission is to conduct high quality freshwater ecology research, provide support and guidance for watershed restoration, and educate students and adults on stream and river ecology (see [StroudCenter.org](http://StroudCenter.org) for events, workshops, and opportunities). Dave has an undergraduate degree in biology and anthropology and masters degrees in water resources and science education.*



Dave Bressler

*Prior to the Stroud Center, he worked at Tetra Tech's Center for Ecological Sciences for 17 years, supporting federal, state, and county environmental agencies in rating stream health and understanding why and how things happen as they do in freshwater environments. He has collected and analyzed data from streams and rivers, lakes, and wetlands across the country. Dave grew up in central PA and started fly fishing in his early teens on the Little Juniata, Spruce Creek, and Spring Creek. Since then he has tied flies and fished them on streams and rivers in most parts of the country that have trout. He did a bit of guiding in Montana and central PA in the mid-1990s, but it was a lot of pressure and science was a better fit!*

# THE KNOT TO BE OR NOT TO BE

By Skip Krause

There are thousands of knots known and illustrated. But which knot to use, when and how? A charter captain I know in Cape Hatteras will chuckle and tell you, "If you do not know what knot to tie.... tie a lot of them!"

So which came first, the knot or the knotter? Was the first knotter human?...or evolving towards it? A weaver bird can tie sixteen separate knots – and it can do it in midair, upside down. Knots and tying knots are truly very old school. Knots were a sailor's wampum and were exchanged for profit or favor.

Seventy five years ago, Clifford Ashley wrote about and illustrated nearly 4000 knots in his classic Ashley Book of Knots. In this knotters' bible he cautions, "A knot is never nearly right; it is either exactly right or hopelessly wrong, one or the other; there is nothing in between." In the seventeenth century, Isaac Walton wrote about joining two lines together with a "water knot." A thousand years from now we might expect to hear about some fly fishing Yoda teaching a youngling how to tie a Skywalker loop: "Right tie it, or tie it not – fail it will."

Knots are timeless. Ashley tells us that "...sailors have been given credit for inventing 90 percent of known knots. But there were fishermen on foot seeking food before there were sailors. And fishermen went to sea, first along the coast, then afar, using their knots to capture their prey.

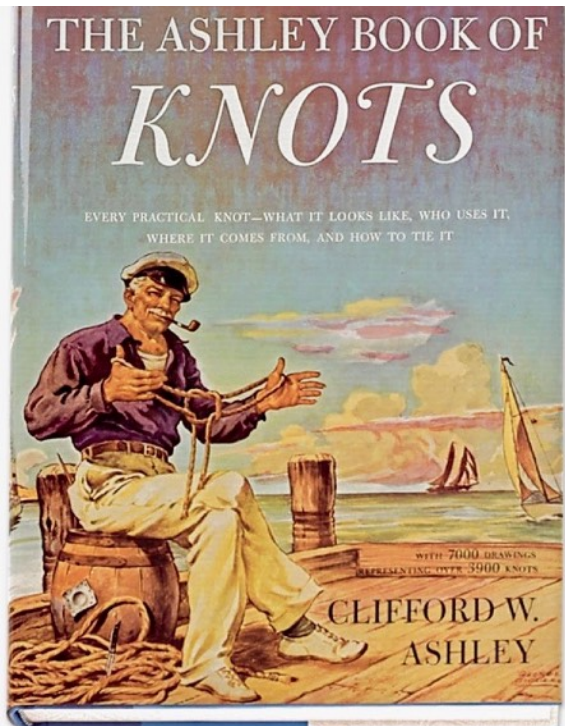
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The Ashley Book of Knots; originally published in 1944.

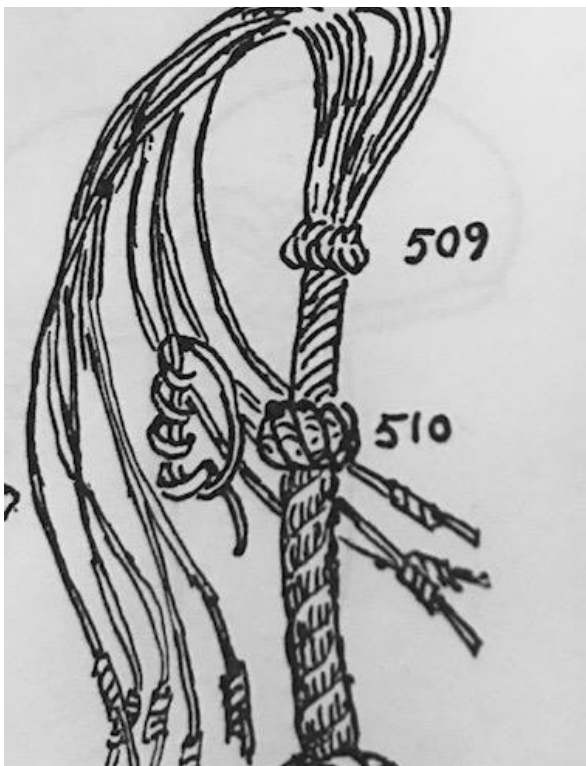
Predating fishermen, hunters used an overhand slip knot in a snare - an arbor knot before there were arbors, imagine.

We fly fishers, though, only need a few knots, tied and true, to catch the fish of our dreams. Looking at a sequence familiar to us fly fishers, we find a knot connecting backing to the reel, a knot connecting the backing to the fly line, a knot connecting the fly line to the leader and a knot connecting the leader to the fly. Three or four knots, is it that simple? And, if so, what are their names? Of course, that depends on whether you are a practitioner or a knot historian, traditional or contemporary.

A traditional practitioner might start with an arbor knot, and then nail knots, a blood knot or two, and finally a Lefty's loop, a Turtle/Turle or an improved clinch at the fly.

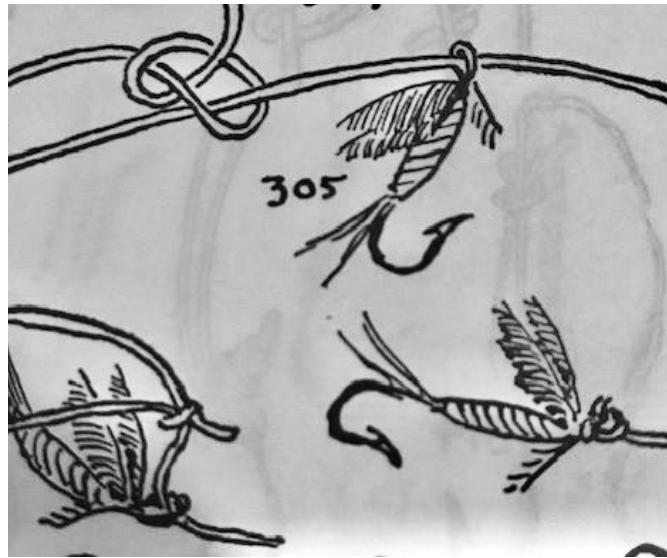
Ashley, a knot historian, would tell you "...any sliding loop that attaches a line to a reel is an arbor knot, and that a blood knot is a two turn overhand knot, or more depending on how much blood you want to draw, that is used in the cat-o-nine-tails to acclimate wayward sailors to shipboard discipline". He would quickly identify what we call a blood knot as a barrel knot and a Lefty's loop as simply a non-slip loop knot used as an alternate to the bowline. Of course, Major William Greer Turle, may he rest in peace, would shutter at the mispronunciation of the knot he made so popular in nineteenth century England.

But as contemporaries, we have the learnings of the past to help us make the best choices. We can use an arbor knot or uni knot to attach our backing to the spool, a nail knot or FG (finger grip) to connect our backing to our fly line, a nail knot or loop to loop connections to secure our leader to



Blood knots and cat-o-nine-tails - who knew?

our fly line, barrel knots (aka blood knots), double overhand knot (aka surgeon's join knot/double surgeon's knot), uni to uni knots (aka Grinner knot/Duncan knot) and nail to nail knots to make or extend our leaders.



"Turtle" knot illustrated in Ashley's book.

Knot choices, however, are more challenging when attaching the tippet to fly or when targeting a specific gamefish. You would not want to use a double surgeon's knot to attach an eighty pound fluorocarbon shock tippet to a twenty pound leader when fishing for tarpon or sailfish. Use a Slim Beauty or Huffnagle knot which are less apt to slip and are stronger when connecting class and bite tippets. The improved Albright or Australian worm knot is preferred when connecting to a Bimini Twist or attaching a wire leader to pursue any of the toothies, fresh or salt. A uni to uni connection is excellent where the

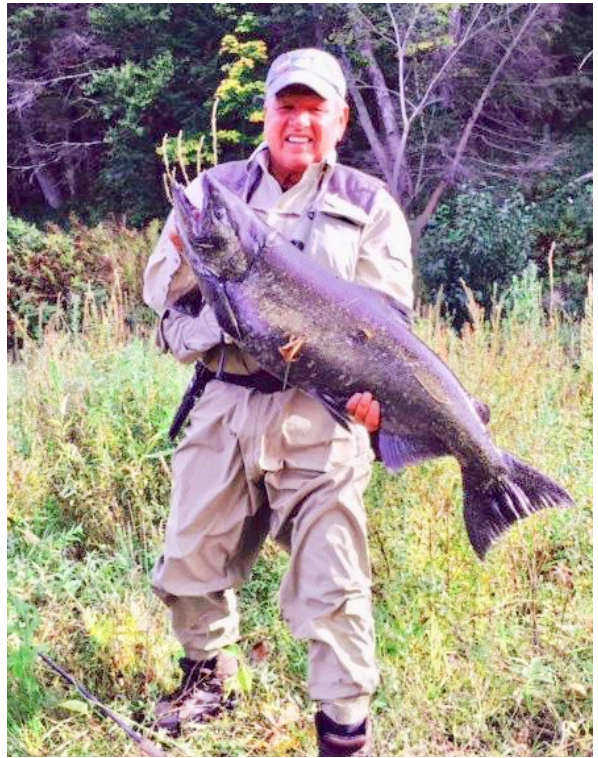
connecting lines are of similar diameter.

Using a streamer? Nothing better than Lefty's Loop (non-slip mono loop/skywalker hehe). A Turle (turtle) is great for a small dry fly and a Fish-N-Fool (two turns thru eye with uni) is reputed to be stronger and more reliable than the improved clinch in all applications. Of the many loops, the perfection loop (aka Captain's knot/Baja knot when attaching a fly), the surgeon's loop, the spider hitch and my favorite, the bimini twist, all have preferred uses. And as favorites come and go, I now attach my flies with a Fish-N-Fool (we have to find a new name for that – maybe a DJL knot) instead of an improved clinch, because I find it easier to tie while shivering, it cinches up smoothly. "Leave the tag end of the uni long to connect a dropper to your primary fly."

Have a favorite knot for attaching a fly? Is it a Baja Knot, Captain's Knot, Davy, Fisherman's, Fish-N-Fool, Improved Clinch, Lefty's Loop or Lefty's In Line, Orvis, Palomar, Perfection, Pitzen, Rapala, Seagaur, Surgeon's, Tenkara, Trilene, Turle, Uni, or a Wire Crimp? Share your favorite knot with a friend. Not for profit or favor, though, we are fly fishers, share is what we do.

So what is the knot to be or not to be? As you seek the fish of your dreams, remember, the only magic knot, like it or knot, is the one you can tie properly...every time...on a snowy/windy day...while shivering.

**Skip Krause** is an accomplished boater, fisherman and fly fisherman. He is a member of the American Professional Captain's Association, the International Game Fish Association, Federation Fly Fishers International, Trout Unlimited, and Dame Juliana League. He coordinates DJL's Learn to Fly Fish Course. See Skip's full bio and learn more about the course at [djlflyfishers.org/learn to fly fish](http://djlflyfishers.org/learn-to-fly-fish).



## Last Casts

By John Burgos

Oh, man! As we approach this summer, I can only tell you how excited I am to visit some of my favorite haunts. Unencumbered by the cold, I revert back to my youthful pursuits. Wet wading for trout and bass is one of my favorite ways to spend the summer months around here. Go light. A fly box and tippet is all I usually carry.

Get out there and enjoy the sport and resources we hold dear. Explore new water. If you're heading off to somewhere exotic (by this, I mean anywhere!), take some pictures! Come back ready to brag (or, at the very least, lie). We all want to hear about it. Consider telling your story at a club meeting.

A closing call out to Emerson Cannon for setting up a great lineup for this Fall. We'll be ready when the curtains go up in September. Until then, I'll see you on the stream.

*John Burgos*

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