

Stream Tender Magazine



Fall 2019

The Web Magazine is formatted to be viewed on a Computer Screen

Magazine Mission Statement

Publisher/Editor Information

PAGES 2 3 4

[Click Here To See The Previous Issue](#)

In This Issue

Page

Small Stream Riparian Fish Habitat	2
Millennium Creek's Ongoing Benefits To The Fishery	2
Big Pike Lurk In Nose Creek	2
Millennium Creek Spawning Channel Construction	3
Whirling Disease Resistance - Update	4
The Trade Wing Dry Fly - Using Deer Hair	4
Millennium Creek Spawning Records	4
Ranch House Spring Creek's Gloomy Future	4

The Author



Articles and photos by Guy Woods and listed contributors

Remarkable Colors - A Beautiful Brown Trout Is Released



Above: This beautiful brown trout was quickly released back into the water.

Photo by: Evan Martens

Creating Trout Habitat By Planting Native Willows And Trees

Right Photo: The cluster of planted willows hanging out and over the stream channel is actually 5 planted willows, from our 2014 planting program. This grouping of plants now provides great overhead cover. In time, the plants limbs will drupe down below the surface, adding to the habitat available to resident stream trout.

This cluster of willows appear as natural stream habitat, without the tell tale signs of human involvement. We are basically following nature's path, in our riparian restoration program. The plantings are part of the "Bow Valley Riparian Recovery and Enhancement Program". This planting program was initiated in 2014.



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Nice Pike In Nose Creek - Airdrie



Above: Angler Alec Dollimont (shown above) and his buddies Josh Erickson and Darius Roberts, have been catching some nice pike in Nose Creek these days. This may come as a surprise to many, considering how polluted the creek is reputed to be. Pike are one of Canada's premier sport fish and they are present in many Alberta streams. There are also pike downstream in Nose Creek, Calgary. (The photos in this cover shot and article come courtesy of the young anglers.)

Update – On Whirling Disease Resistance

There is hope on the horizon for our cherished rainbow trout populations in Alberta! Whirling disease resistance is the new front on the war against this devastating disease of our freshwater fish.



Native Willow Plants ready to plant

A coral of 7, 2014 Native Willows and trees have been planted so far as part of the "Bow Valley Riparian Recovery and Enhancement Program".

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Above: This beautiful photo was taken by Michael Dow, teacher for CV Perry Middle School. Mike took a small group of his students up to a high mountain lake for some great cutthroat trout fishing. The action was fast and furious and the students have a memory that they will not forget.

High mountain lakes are stocked with the original Spray Lakes strain of cutthroat trout, native to the mountains just west of Canmore, Alberta. The strain was stocked in Marvle Lake, BC and eventually, Job Lake, where the brood stock eggs are collected every few years, for the high mountain lake stocking program. This is a pure strain, east slopes Alberta trout!

Mike and his students have been planting willows, helping out with the Albert trout stocking program in our area, and learning how to fly fish. This quest to help teach young people about the values and rewards of taking care of the environment and sport fish like trout, is a great thing for students that fish or don't fish. Experiencing nature is something that everyone can appreciate.

This was the third year that Mike and CV Perry students have helped plant native willows along Nose Creek, in the City of Airdrie. "Bow Valley Habitat Development" enjoys working with the school group, every spring.

Ten Years Of Spawning – Millennium Creek Spawning Channel



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You can see a male brook trout holding over spawning gravel, in the photo above, just upstream of the male, is a female, ready to lay down her eggs, and let the male fertilize them. Both of these spawning trout are spawning in the channel that was constructed in 2010, by Bow Valley Habitat Development and Inter Pipeline.

This year marks the tenth year since the spawning channel was constructed and thousands of newly hatched trout have migrated out of Millennium Creek in the years that followed its completion in 2010. The channel has been a major success story and it is still providing spawning habitat for brook trout every fall.

Great Brown Trout Lurk In The Turbid Water's of Nose Creek.



Nose Creek may not be as far gone as some would say. There are still some surprises in store for those few that explore its course thru either the City of Airdrie or Calgary. Big Surprises!

Jay Lang has explored some of the same waters that I like to fly fish on, but Nose Creek is one stream I have yet to fish on. I know that there are trout in the stream, because I have been informed of this on a few occasions in the past, but I have not cast a fly on the creek yet.

Jay sent me a photo of a recent catch in September and I just have to share this with you. The brown trout shown above, managed to break Jay's beloved 4 wt. fly rod, in its battle royal with a determined angler. The trout lost, only briefly being held captive for a photo or two, and then it was released back into the creek. Now it can surprise the next lucky and skilled fly fisher that finds it.

This is a great photo and memory for Jay Lang and a reminder that Nose Creek is not as far gone as some people say!



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Click on Page 3 4 Home

Millennium Creek Spawning - Still Hatching Wild Brook Trout

2019 marks the eleventh year of spawning on Millennium Creek. The first year of brook trout spawning took place in the fall of 2008, which was the year of completion for the "Millennium Creek Restoration Program". Since that first year of reproduction, thousands of newly hatched trout have survived their first year and moved onto larger water. The brook trout end up in either the Bighill Creek or the Bow River.

To make the small spring fed stream more productive, a spawning channel was constructed in 2010, by partners: **Bow Valley Habitat Development** and **Inter Pipeline**. This new spawning channel more than doubled the amount of spawning habitat on the creek. This fall will be the eleventh year of brook trout spawning on what can be considered an urban trout hatchery, using natural reproduction to sustain a wild trout fishery in the Town of Cochran's Bighill Creek.

Ranch House Spring Creek is also a spawning tributary, but due to storm drain impacts and water withdrawal upstream, the RHS Creek is very unpredictable when it comes to being fit for spawning activity anymore. The once stable stream channel is now being blown out by excessive flushes of large volumes of flow, primarily from the one storm drain that was constructed along its course. This places RHS Creek in second place, when compared to reproduction numbers of brook trout, annually. This is a real shame, for a spawning tributary that was once supporting over 20 trout redds per season!

Millennium Creek is still on top, for wild brook trout spawning on tributaries to the lower reach of Bighill Creek. The main-stem of the BH Creek still provides spawning habitat for both brown trout and brook trout, but it is very susceptible to turbid, dirty water, on some fall days. Along with low flow levels on some spawning seasons. Overall, the state of our reproductive wild trout is still in recovery mode.

With the high flows this season and a recharged water table and ground springs, the BH Creek and its tributaries should be in great shape for this fall's spawning season. I really look forward to documenting how good it will be this year. The creeks are flowing with large volumes in September, so this should make passage upstream easier, for spawning trout to navigate for their fall spawning.

Millennium Creek will be in great shape for lots of good flows this fall and with some luck, we may see a really good year for more brook trout hatching in 2020. The spawning spring creek has seen years of more than 30 egg nests or redds mapped on this tiny spring fed creek. The results of the incubation and survival are usually very good, because of the stable flows and exceptionally clean, well oxygenated water. The results of this fall's spawning may be posted on this issue, if plans are followed. Every year, BYVHD conducts a spawning survey of Millennium Creek, and documents the results for future comparison and data spread sheet and charts.



Above: The stable, crystal clear water of Millennium Creek, make it ideal for incubating trout eggs over the winter months. This insures a good survival rate of newly hatched brook trout, every year. Without a safe and protected spawning habitat, wild trout don't have a chance in our modern times. All wild trout spawning habitats should be protected during the spawning season, but this is something that our fisheries managers still can't seem to grasp.

How Many Large Brown Trout In This Photo



Above: Train your eyes. — Can you spot the three large brown trout in this photo?



Natural Small Stream Riparian Trout Habitat - The Importance of Suspended Lateral Margin Habitat



A small stream that has no riparian willow and tree growth may still provide some habitat for the resident trout population, but nothing compared to a healthy stream, with lots of shade and cover from willows and trees. Willow branches that hang over the stream and sometimes end up submerged, provide a complex habitat for lots of aquatic invertebrates. Both terrestrial and aquatic food for trout is key to a healthy trout population.

I have watched rising trout hold under the cover of our planted willows, in the stream channel, waiting for a meal to either float by or drop from the branches of the willow plant. These trout feel completely safe in the shade of overhanging branches and leaves. It is good to see that the willows are providing the habitat that they were intended to do.

While fly fishing small heavily willowed small streams, I have lifted the dead branches of willow plants along the water's edge and observed the aquatic invertebrates "clinging" to submerged branches. These densely populated submerged branches hold an incredible amount of food for the resident trout population. Hidge larva, mayfly nymphs, caddis nymphs and larva, and baby leeches, are just some of what can be found on branches below the water's surface.

If the streambed is covered with silt and muck, the suspended invertebrate habitat along the stream banks can still provide good habitat for both trout and aquatic bug life. This adds additional importance to having a healthy riparian habitat, with plenty of native willows and trees. Grasses and sedge that grow along the water's edge also play an important role in providing good habitat for stream aquatic life.

The tall grass and sedge that grows along the stream banks, will provide shade and cover during the growing season and good organics for the soil, once the plants die off in the fall. A good balance of both willows, trees, sedge and aquatic grasses makes a trout stream very productive.

The tall canary grass is especially important for in-stream fish habitat. In the fall, when the tall grass almost entirely covers the small stream channels, it ends up on the surface of the water, where it creates excellent overhead cover, along the water's edge. This thick mat of dead grass is also full of life, when you take a closer look.

The organic compost that the dead grass creates is ideal for enriching the soil and making other plants thrive. Plants like new willows and trees. The root systems of the grasses and sedge plants help keep the rich soil along the water's edge, intact.

once willows are established, the soil is safer from floods and the effects from erosion are reduced. The dense root systems hold the soil together and over time the soil becomes richer and deeper.

The shade created by a thick cover of native willows and trees helps keep the water temperatures cooler. This all starts from planting small diameter native willows and trees, close to the water's edge. After a few years of growth, the plants create a canopy that extends over the surface of the creek. Some willow plants will sucker up, further away from the water's edge, but this is all part of the plan. It only takes a few years for these plants to create suspended lateral margin habitat.



Above: Recently planted willows extend out and over the stream channel, creating great lateral margin habitat.

Below: The canary grass, growing along the water's edge, also provides good suspended habitat for both trout and aquatic invertebrates.

Awesome Pike Catch By Young Airdrie Anglers

CW Perry Middle School's Outdoor Education Class students learn to fly fish as part of their program, instructed by teacher Michael Dow. So when Mike sent me photos of some of the groups pike fishing success on Nose Creek, I was really impressed. In particular, young anglers Alec Dallmourt, Josh Erickson and Darius Roberts having been doing very well as fooling some of the creek's larger pike.

The group has been helping Bow Valley Habitat Development plant native willows and trees along the stream banks of Nose Creek in Airdrie, over the past three years. The conversation often turns to pike fishing, while we are putting plants into the stream banks on the creek.

The news that some students had been doing great while fishing for pike, was especially interesting for me personally. One of the primary goals of our riparian restoration program is to enhance the sport fishery on the creek, by boosting the fish habitat in the stream. Finding out that the creek was already providing great sport for some young fisher's, was important for the creek's reputation.

If you can convince the general public that the creek is supporting a good population of sport fish, the easier it is to gain support for taking care of the stream. It is surprising how a population of sport fish in a stream, adds a level of protection, into the future.



Thanks to Michael Dow ... Teacher for - CW Perry Middle School

Planting Along The Water's Edge On Creeks



Above: Willow Plants are planted right along the water's edge in some areas and this provides good cover over time. **Below:** As these plants grow, they provide lots of shade and in-stream habitat for trout and other life.



Click on Page 2 4 Home



Millennium Creek Spawning and Egg Hatch

This will be the tenth spawning cycle for brook trout on the spawning channel that we built. That first fall, just after the spawning channel was built, it was very rewarding to find brook trout spawning in their new habitat on Millennium Creek.

There was also spawning occurring on a few sites that we created on the creek further downstream of the channel, during the restoration program on Millennium Creek. The habitat enhancement project, which took four years to complete, was finished in 2008.

The restored creek is still functioning as a prime nursery habitat for juvenile trout and also more importantly, as a spawning tributary to the Bigbill Creek trout fishery. Things are looking pretty good these days, on the creek.

Apart from seeing a few brook trout in the channel, over the years, there is not any evidence that they are spawning on the small spring feeder stream. However, this could change at any time, especially if we get good flows in our area spring creeks. This can happen after a wet summer, like the one we are having right now.

There are enough spawning brook trout on the main stem of the Bigbill Creek to keep the populations growing, so this is not a big deal, to have just brook trout spawning in Millennium Creek.

It was probably around 2010 or 2011 that I first noticed the young hatching brook trout, in the winter months, on the spawning channel. Only a few years ago, I finally confirmed a hatch of brook trout on the lower creek.

So overall, the Millennium Creek has earned its title as one of the more important spring feeder creeks that enter the Bigbill Creek. Ranch House Spring Creek has a storm drain that is causing excessive erosion problems of the once productive spawning habitat, so Millennium Creek's reputation as the most reliable spawning tributary is secure.

The hatch of trout eggs happens sometime in December or late November, but the emergence is consistently in the first few months of the New Year, January or February. Fortunately, there is plenty of small aquatic invertebrates for the newly hatched trout larva to feed on, when they first drift free of their spawning gravel beds. This is important for the young trout's early start in life, over the first few months.



Above: A large brook trout holds over the freshly disturbed spawning gravel, in the spawning channel, just after it was constructed. The spawning channel insures that there will be a higher than normal survival rate for eggs that are laid down and fertilized on Millennium Creek, every year.



Above: The newly hatched brook trout will drift downstream, soon after they have hatched. The tiny brook trout feed on red, soft aquatic invertebrates, after they have they have ingested all of the remains in their egg sacks. They will double in size, over the summer months.



Left: This small brook trout is only a few centimetres in length, so eating one of the small midge flies that lie spent on the surface film, makes for a good sized meal. A good diet of midge larva, pupa and adults will enhance the growth of young trout and get them off to a good start in their aquatic lives.

The surface meals of midge are not as common as the tiny trout's hunt for submerged aquatic invertebrates. The protein rich diet of bugs will allow the trout to grow rapidly over the first months of free swimming.

If there are larger trout present, the small trout will stay concealed in cover and they will not show themselves as much as the trout that have juvenile trout habitat all to themselves. Danger is always present for young trout, including dragonfly nymphs, water beetles and some caddisfly larva.



Left: This beautiful Millennium Creek male brook trout is guarding a nest of redd. The trout has already fertilized some eggs that a female laid down and the trout is hanging around to fertilize more eggs, from another female, when she shows up. Male brook trout are like other trout, they will fertilize multiple female's eggs. The stronger and larger males get priority over the smaller more aggressive male trout.

You will often see larger males chasing other smaller males away, when a receptive female has excavated its egg nest in the gravel. The female fans the gravel to create a depression in the clean gravel, and then she will deposit the eggs, while the male immediately fertilizes the eggs as they are falling into the nest.

The male brook trout are much more colourful than the female. Also, the male jaws are slightly hooked, like a salmon.

Millennium Creek Spawning Channel Construction - 2010

It has been ten years since the Millennium Creek Spawning Channel was constructed. This fall will mark the 10th successful brook trout spawning season in the channel. I don't know how many thousands of newly hatched generations of trout have resulted from spawning on the channel, but it is significant.

The spawning channel was constructed by partners Inter Pipeline and Bow Valley Habitat Development, of Cochrane. It was completed in August of 2010. That same fall, the first spawning occurred on the channel, only weeks after it was completed. The tenth successful hatch should be occurring in the New Year, and I look forward to that, this winter.

The construction of the spawning channel involved a lengthy permitting process, but by the spring of 2010, all permits and permissions were in place. Log retaining walls were pre-fabricated off site, and then the logs were moved to the site and installed at the base of the feeder spring.

This source of clean, clear spring ground water makes the spawning channel a very reliable fall spawning habitat for brook trout. Every year there has been a successful trout hatch. During the winter's cold months, the warmer spring water flows incubate the eggs.

The hatch of brook trout eggs can start in late November and into December, with emergence starting as early as the first week of January. After the hatch, the brook trout will stay in the gravel, living off of the egg sack, until the tiny trout come out of the gravel in the new year.

I sometimes refer to the spawning channel as our own little urban trout hatchery, but everything is completed thru the natural process, so all we have to do is monitor the results and conduct occasional maintenance. Because the ground spring water flow comes directly out of the ground, just above the channel, there are no other outside influences that could threaten the trout spawning or incubation.

Storm drains have impacted other small spawning tributaries, on the Bigbill Creek, such as the storm drain on Ranch House Spring Creek, but that is often the case, if the importance of spawning trout is not respected enough by fisheries managers to put special protections in place to protect the habitat.

The Town of Cochrane has been very supportive over the years, which helps.



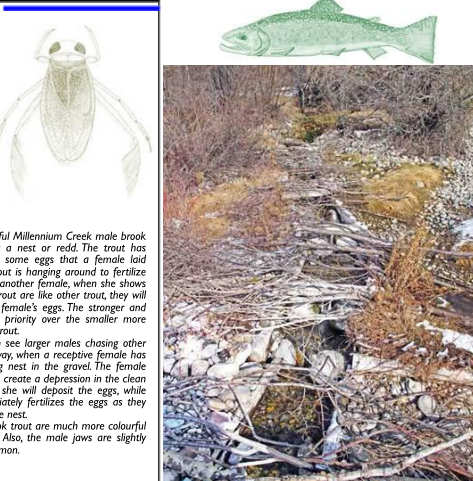
Above: The log retaining walls for the spawning channel were constructed off site and then transported to the spring channel for installation.



Above: This photo shows a section of the spawning channel, just after completion. All of the spawning gravel was screened and installed into the channel, right on site.



Above: This photo shows how the channel looked, just after it was installed in the excavated spring channel. The log retainers kept the channel's loose gravel in place.



Above: This is what the spawning channel site looked like, before the excavation took place. There was plenty of good spawning gravel, but not adequate flow and depth. Much of the main volume of flow was subsurface. By excavating down and concentrating the flow into a narrow channel, the site would be transformed into a spawning channel.

Left: The completed spawning channel, shown a few years later, from the same downstream position. The branches covering the spawning habitat are to help conceal the spawning trout and provide some overhead cover. The gradient has been stepped down to create the right velocity of flow and depth for brook trout spawning.

The cost of the project was approximately \$7,000.00, so we can safely say that that investment has been paid for many times over. A great way to maintain our wild brook trout populations in Bigbill Creek. Over time, the log retainers may bio-degrade, but the channel should stay intact for many years to come. I will be happy to report back to you in the next decade.

Click on Page 2 3 Home

Small Western Green Drake - D. (Flavilinea)

Whirling Disease—New Developments Hold Promise

In the September 2017 issue of "Stream Tender Magazine", I published an article on a disease resistant strain of rainbow trout. There have been a number of developments over the past few years that deserve mention, so this is an update. The original article that I wrote can be viewed at the following link: http://magvol6.streamtender.com/magvol6_files/page0005.htm

The latest development that has the focus of my attention is the breakthrough in genetic science for whirling disease infection and resistance. This has me really excited, and there is real hope that we may be on the verge of some real positive methods of dealing with the recent whirling disease outbreaks.

Using genome mapping, scientists have identified the gene implicated in whirling disease infection and resistance. This was a major step in learning more about the disease and how certain disease resistant strains of rainbow trout can be identified.

In the previous article that was published in September 2017, I wrote that a Kamloops Rainbow Trout strain that had ended up in Germany, on a trout stocking exchange, back in the late 1800's, developed a resistance to whirling disease, over time. A German scientist with the last name "Hofer", identified this resistance and thus the strain was named after him.

The Colorado department of Parks and Wildlife, cross breed the Hofer strain of rainbow trout, with their Gunnison River strain to see if the resistance to whirling disease could be passed on to a new strain of rainbow trout. The result was a disease resistant Gunnison River strain. Now the Parks and Wildlife biologists could use this new strain to restock rivers across their state.

The new disease resistant rainbow trout are now thriving in other rivers, such as the Arkansas River, which was stocked with Gunnison River hybrids in 2016, and other recently stocked streams. This approach to revitalizing decimated rainbow trout populations in whirling disease infected waters, is the best way, in my mind, to deal with the whirling disease problem.

What Does The Future Hold?

Hybridization with whirling disease resistant rainbow trout is definitely a proven method of successfully dealing with infected rivers and streams, but are there other options?

Now that the whirling disease genome in infected trout has been mapped, is there potential in future gene splicing to create a disease resistant in our local known strains of rainbow trout, cutthroat trout, brook trout, bull trout and mountain whitefish?

The simplified definition of gene splicing is as follows:

"Gene splicing is a form of genetic engineering where specific genes or gene sequences are inserted into the genome of a different organism."

Genetically modified fish may be the answer to saving our native and non-native trout, and other native fish. Presently, I have major concerns about our mountain whitefish populations, which seem to be especially vulnerable to the outbreak. There are no disease resistant mountain whitefish strains, so our best hope is in genetically modifying the fish's ability to fight the disease.

It will take some good science to solve this problem, but some great science is happening south of the border right now! I will keep you posted.

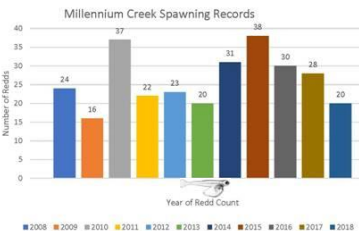
The Millennium Creek Spawning Records

Since the restoration project on Millennium Creek was completed, a record of spawning activity has been documented, starting in 2008. By monitoring spawning activity annually, a indicator of the health of the brook trout populations can be established. This data can also be used in the future, to determine the state of the fishery.

So far, the Millennium Creek spawning events show a consistently healthy fishery, up to 2018. All of the years of spawning have been followed by successful trout egg incubation and hatch, since this part of the reproductive cycle has been monitored, starting in 2014.

There are other spawning tributaries to the Biggill Creek, but the Millennium Creek spawning has been the one event that has received the most attention. This is due to the close proximity of the creek, to where I live. Also, because the entire spring feed creek was restored, over a four year period, starting in 2005 and being completed in 2008.

The spawning on the creek started just after the stream restoration work was completed, in the summer of 2008. It is my hope that this reproductive trend will continue on the Millennium Creek into the future. It will be interesting to see how things develop over time.

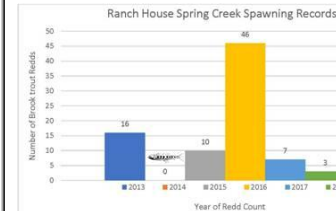


Ranch House Spring Creek Spawning Records

A spawning survey was also documented by Bow Valley Habitat Development for the Ranch House Spring Creek, starting in 2013. This small spring things started to look pretty good. The creek had the greatest potential for spawning season in 2017 and 2018 was providing excellent spawning habitat, until just terrible, with only 10 pairs of trout a storm drain inflow was constructed on spawning over the two year period on the Ranch House Creek.

The large storm drain was from a In 2014, when the Cochrane Lake was nearby development, and it totally being pumped down, in level, the water disrupted the creek's ability to support a juvenile brook trout population. This was creek and it totally disrupted the entire event when large volumes of flow 2014 spawning season. So no redds were started to erode the stream banks on mapped during that season.

I have no idea what the future holds. The frequent high flows started to flush for this small, but important, spring its juvenile brook trout downstream into creek. At this point in time, it doesn't the Biggill Creek, where other hungry look good for the creek or the trout that mouths were waiting for the YOY brook depend on it for reproduction. The stream bank erosion continues.



The photo to the right shows an average storm drain inflow volume for a rain event, on Ranch House Creek. This volume of flow entering Ranch House Spring Creek, is more volume than the existing natural stream channel can withstand.

The long-term result of excessive volume of flow will destroy the natural stream channel and disrupt the historic spawning of wild trout that occurred annually.

Bow Valley Habitat Development has been monitoring the erosion effects of flooding, since the storm drain was first installed on Ranch House Spring Creek.



These photos show a typical length of channel on Ranch House Spring Creek, prior to the installation of the storm drain, in to the creek channel.

The photo on the right shows what the Ranch House Spring Creek channel looks like, up close. This was a section of channel that was restored in 2010, by a Bow Valley Habitat Development work crew.



The Trude Wing Dry Fly - Tied With Deer Hair

For years, tying a Mitch's Sedge was normal practise for tying a Traveler's Sedge pattern. The fly could also be used as a hopper and stonerfly imitation. The pattern, originally conceived by Anthony Mikulak of Calgary, for fly fishing BC lakes during the sedge hatches, has since become famous. I found a simple single wing pattern, rather than multiple wings of deer hair, could also catch trout and it was a lot faster to tie.

The trick to making this pattern work for you, is the collar and hackle tied over the wing, to help form the perfect trout, tent wing design. By lightly wrapping a dubbed collar and hackle over the wing you can form a wing with less flare than a standard deer hair wing.

Elk hair can also be used, but it won't be quite as buoyant as the deer hair. The copper wire that I use, helps minimize the shredding of your dubbing, which results from catching a lot of trout, with sharp teeth. Sometimes I will use silver wire instead, but this is entirely up to the tier and availability of fly tying materials.

To reduce the twisting of the wing on the body, a figure eight loop is used on the initial wrap of the wing onto the body. This should help reduce the problem of a loose wing that constantly needs to be adjusted back to normal.

I have caught a lot of trout on this fly and other fly fishers that I have tied for, love the pattern as well.

Left: This Trude wing deer hair dry fly pattern is the one that I like to tie and fish with. The copper wire is optional, but it does increase the mileage of the fly, if you are catching plenty of trout.

The coachman brown hackle is a favourite color, but you can also use grizzly dun, ginger or variant. My favourite hook size is 8 with size 10 coming in a close second.

You can use Elk hair for a more durable tail and wing, but it doesn't float as well as the deer hair. A 3X hook shank works good for the length and a lighter wire hook is optional. With the copper wire rib, a lighter wire hook is the best.

I have fished a single pattern for a full day, catching lots of trout in the process, without having to change flies.



Above: This Millennium Creek brook trout was one of the first trout identified and photographed.

More Volume of Flow Than The Stream Channel Can Handle

The photos below show how during a rain event on Ranch House Spring Creek can produce more water than the natural stream channel can handle. This is just an average rainfall run-off from a storm drain, just upstream. Over time, this consistent flooding will erode the stream banks. This will destroy the stream, as a spawning tributary, for brook trout.

The storm drain that could have been installed further to the east, where a natural wetland already exists. There was never any stream habitat or fisheries assessment work completed prior to the construction of the storm drain on Ranch House Spring Creek. This is unacceptable in modern times. Creeks should always receive consideration!



2020 Riparian Planting Program – In the Works

The seventh year of riparian planting is now being planned out and by March of 2020 we will have another spring planting program ready to start. The "Bow Valley Riparian Recovery and Enhancement Program" is still going strong with a total of 71,914 native willows and trees.

It is my hope that we break the 80,000 mark for our planting of native willows and trees this next season. So far things are looking pretty good, with some commitments already made for next seasons program.

The plan is to continue planting on sites to be added in 2020. On the previously planted sites, we will be adding extra plants to fill in some of the areas where plant growth is poor. This is due to poor soil conditions, but it is just part of the planting process.

Two school groups are already committed to help out again this next spring. I am hoping to add on to the student planting program by

approaching some more schools. The goal for this next year is 10,000 new plants for all three streams.

I really enjoy planting with young students, because they are really keen on helping out with some local environmental projects. While streamside, the kids learn a little about the aquatic life in the creeks and how a healthy riparian zone is an important link in the cycle of life in the streams. The fact that there are sport fish in the streams, always helps out with the projects interest.





2017 Fall Trout Spawning Season on Bighill Creek Spawning Habitats - Closely Monitored



Above: A pair of mature brook trout are ready to deposit eggs into a redd on Millennium Creek this fall. I watched this pair for some time, and took a few photos.



Above: This large male brook trout ignored the abundant stream of midge larva that was floating over its head. The trout was too focused on spawning.

Another fall season of spawning is now complete on the Bighill Creek system. The trout eggs deposited in the gravel will now incubate into the winter months, with some hatching starting in January of 2018. Most of the trout eggs were deposited in the gravel of small feeder spring creeks, so the consistent flow of clean water will result in a higher hatch rate than the main stem spawning on the creek.

The spawning habitats on three different spring feeders for the Bighill Creek have been vital in the trout recovery program. For the past decade, consistent trout hatches on some of the feeder springs has helped maintain a growing trout population. Primarily for brook trout. This confirms the importance of small feeder spring creeks on any stream system. Even if they are producing a minimal volume of flow.

The benefits of small feeder springs for spawning brook trout can be attributed to the quality and temperature range of the ground fed water in the channel. With quality gravel available, this is all that brook trout require for reproduction. With spring feeder creeks of short distance, there is less chance of human impact, such as storm drain inflow or other silt loading from development that can destroy a spawning habitat.

For the two spring feeders that are within the town limits of Cochrane, there are annual maintenance requirements to keep the spring creeks accessible and in working condition for spawning brook trout. Carrying out an annual maintenance program is a small price to pay for a yearly productive trout hatch on the system. For volunteers conducting annual maintenance, the reward is in seeing another successful hatch of trout every year.

There are some that suggest turning the annual spawning event into a public spectacle, but this would surely lead to the destruction of it. Also, trout need to be left alone during their reproductive process. Having a crowd of onlookers would disrupt the spawning cycle. The ongoing reporting by Stream Tender Magazine helps keep the people that are interested, informed of how things are developing over time. This should be enough.

Bow Valley Habitat: Development also has produced video footage of spawning on all the streams in the program, so you can check this out on the video link on the cover page.



Above: A colourful brook trout holds in the spawning channel on Millennium Creek, while its mate has already fled to cover.



Above: A pair of brook trout spawn in a habitat that was constructed on Millennium Creek. The spring water is clean and well oxygenated for trout eggs.

Fall Planting Fun on West Nose Creek, Calgary



Above: Taylor (front left), Emma (front right), and father John Schmidt are dressed for the weather of planting on a very cold fall day on West Nose Creek. The team was part of the Evergreen/HSCB planting event on October 14th of this year. In a matter of a few hours, over 700 native willows and trees were planted, as part of the "Uncover Your Creeks" program, organized by Evergreen. Despite the cold weather we all had fun keeping warm by working hard.

Salamanders - In Local Creeks and Lakes



Above: I am not an expert in salamanders, but I think that this one is a Tiger Salamander Larva. The creature was photographed in nearby Harmony Lake. I encountered Long Toed Salamanders on Camrose Creek in 1997 and 1998, during a stream restoration program. It is always nice to see these unique members of the Amphibian Family. You can see a small shrimp in the bottom left corner of the photo. This is most likely what the salamander was feeding on, while searching around in the large gravel shallows of Harmony Lake.

Local Streams Like Bighill Creek are Wildlife Corridors

As is usually the case, I spend a lot of my spare time these days, walking the banks of local streams. Especially Bighill Creek, just a short distance from my house. This fall, there was a nice four point mule deer buck that moved into the area along the creek during the rut or mating season. The buck let me take a few photos while it was in the neighbourhood.

With the abundance of poplar trees and willows along the stream, there is enough wildlife habitat to support a small resident deer population, along with other native wildlife. This is nice, because residents of the community that utilize the path system are greeted on their walks through this habitat by both birds, fur-bearing animals and ungulates, such as mule deer. I have even encountered a few moose right in the Town of Cochrane.

What I like about having a healthy riparian habitat, besides the benefits to the local trout fishery, it also provides an ideal nesting habitat for song birds that are once abundant along the local streams. In the early spring, before the leaves cover the willows, I always find small nests constructed by song birds later on in the spring. This was once quite common to see.

There presently is a pretty big gap in riparian habitat through part of the Town of Cochrane. It will eventually be filled with the native willows and tree plants that Bow Valley Habitat Development and other volunteer groups are now planting. Once this is accomplished, wildlife will easily move along the entire system, using the Bighill Creek as a completed wildlife corridor.

The section of riparian zone through the Town of Cochrane may not be very wide at first, but over time, I expect, this will widen. It will continue to need the community and partnership support required to plant and protect the natural eco-system that a riparian zone provides.

This past fall, I really enjoyed seeing a large mule deer buck, mating right in the Town of Cochrane. It was the first time that I have ever experienced this sight. As did many whom walked the path system in the same area. The experience was a real treat.

I suspect that the buck was probably reared in its first year along the creek, because it didn't seem as afraid of humans as other wild mule deer are. Hopefully, the big deer will be around next year.

Classic Wet Flies - Memorable Patterns

When I was a kid, before I was gifted my first fly rod, I would still buy wet fly patterns from the local hardware store. These cherished gems were fished on a spin cast reel and rod, using monofilament line. The flies came with a snelled leader already attached, so a simple loop to loop hook was how you could attach the fly hooks to your line.

The flies were sometimes dressed with bait or they could be fished just as they looked. Trout and mountain whitefish were the target for a young angler, intent on providing a fish dinner. Those were care free days of great fun on the water. Either fishing solo or with a buddy.

I still get sentimental when I see some of those old style trout flies on display, in a book, magazine or hanging on my wall at home. For a few years ago, I had a small exhibition wet flies, some of the old classics, just for display purposes. This is something that I am glad I did, when pause to look at them from time to time. There are some fly fishers that still fish some of the old classics in modern times. Keeping the tradition alive.



Above: A few old classics that I tied years ago.

Remember The Black Knot ?

Above: The Black Knot Classic Wet Fly patterns like the Royal Coachman and the Black Knot were very popular in the 1950's and 1960's on the Bow River. Especially in the fall, during the mountain whitefish run in Cochrane.

The Yellowstone Cutthroat Trout - In The Yellowstone River



One of the prettiest cutthroat trout that I have ever caught was hooked on the Yellowstone River, back in the early 1990s. On that very memorable day, I hooked into 7 very large trout on a section of the river below the falls. It was early fall and the trout were just incredibly beautiful, at that time of the year. The red slash below the jaw was a bright fuchsia red and the sides of the trout was a golden olive color, similar to a brown trout.

This turned out to be an afternoon of trout fishing that I will never forget. Fortunately, I did manage to take a number of photos. One of the photos was used on the cover page of my second book titled "Fly Fishing and Other Stuff". I took just the head section of the fish in that photo. There is something special about a Yellowstone cutthroat trout, and it was a real privilege to have the opportunity to catch this Rocky Mountain native.



The Famous Frank Sawyer's Pheasant Tail Nymph

Recently, I watched some achieve film of things the pheasant tail nymph has been the original pheasant tail nymph fly pattern. I had years.

Right: This is what an original Sawyer's pheasant tail nymph looks like. Nowadays, many fly tiers will add a bead to the fly pattern, which works just fine when trout are in the mood. Other colors of dubbing is also used as a substitute on the thorax of the fly, in place of the original pheasant tail. This fly pattern is a must for your fly box, in a selection of different hook sizes.

The original pattern was tied with just male pheasant tail fibres, along with copper wire to help hold things together. This was something that both of us had in common. Of course there was also the fly fishing side.





Photo by [Cynthia Soren](#) in the riparian stream at the [Bighill Creek](#) in [Calgary](#).

Can You Find The Brook Trout in this Photo?



Brook trout have the ability to utilize any available cover to hide under. Even when the water is only inches deep. You need a "trained eye" to find them on small clear water spring creeks where they thrive. Keen observation is required.

Local Brook Trout Population – Still Holding On

For years now, there has been a local brook trout population that has struggled to survive. In a time of habitat loss, an dependable supply of cold, clean quality water, it is a dangerous time for wild trout. Yet, the area brook trout always manages to find a small length of stream with all that they need to exist.

The streams that you find the brook trout in are usually quite small, with a cold and clean spring ground water supply that flows with consistency. This ability to survive in small water is a well known trait of the Eastern brook trout. Larger streams, like the Bow River, are usually occupied by either brown trout, bull trout or rainbow trout.

Brook trout seem to prefer living on the fringe, in habitats that no other variety of trout would endure. I have seen them occupy the smallest of spring creeks, sometimes only a trickle of flow.

Once, while riding a horse in the foothills, I spotted movement in a puddle of water where the trail crossed a drainage. Upon closer inspection, I noticed a small brook trout that was trapped in the small pool. I know that there was a brook trout stream a ways down slope, so this explain where the brook trout came from.

During a rain, when there was water flowing down the drainage, the brook trout had migrated up the drainage and then been stranded when the flow subsided. This demonstrated to me how brook trout tend to explore new habitats when the urge prompts them to swim into the unknown.

There are a few small spring creeks that enter the Bow River in our area, which contain brook trout. Hopefully, these trout will survive the encroachment of human development in the area. Especially the impacts to the water and natural habitat that they need to survive.



Above: Brook trout, even at an early age, blend into the bottom cover of a small stream. Sometimes, only the eyes will give away their position, as they hold motionless on the bottom.

Left: The Hares Ear Wet Fly

The late Bill Griffiths and I watched fellow fly fisher, Dave Christianson, catch a few nice rainbow trout, while fishing a size 16 Hare's Ear wet fly, on the Bow River. Both Bill and I agreed that the Hare's ear most likely represented a diving caddis adult, laying its eggs after diving to the bottom of the river channel. This is just one of the occasions when a wet fly pattern can still be a deadly choice for the fly fisher. The wing on this pattern is tied with secondary pleasant tail wing sections and the hackle is Gray partridge.



Riparian Stream Bank Planting and Water Quality

This fall, on one of my daily walks along the Bighill Creek, I stopped to look at the water from one of the path bridges on the creek. As I gazed down onto the flowing water, I noticed a movement that stood out from the waving flow of pond weed on the creek's streambed. It was a large fish.

The big trout was feeding on something behind a large boulder in the stream and by chance I happen to catch it's movement from directly above. It turned out to be a huge brown trout that was moving around feeding in only a foot of water amongst the large sheath pond weed on the creek bed.

After fumbling to get my camera out of it's case, I did manage to get a few photos of the trout before it moved upstream and out of sight. Because it was spawning time for brown trout on the Bighill creek, I suspect the trout was on the move that morning and I just happen to be lucky enough to spot it below the path bridge.

The brown trout was approximately 17 or 18 inches in length and it had a very large head for its size. Probably a male I thought. The fact that the water in the Bighill Creek was running so clear that morning, it was easy to see this trout and I wondered where it had made it's home for the summer months.

The Bighill Creek is flowing a lot clearer these days, when compared to a decade or so in the past. I suspect that part of the reason for this has to do with the riparian planting that has been completed on the creek in recent years. Especially on eroding stream banks that were allowing large volumes of soil to be washed into the creek channel annually.

When you see a large trout in clear water on Bighill Creek, you can definitely consider the stream to be on the healthy side of its overall recovery from year's past. Hopefully, this trend will continue into the future.



Above: This is the photo of the large brown trout that I saw from the path bridge that morning this past fall. You can see how large the head is on this fish. The trout could easily disappear into pockets of the large sheath pond weed that covered the bottom of the creek bed. It is very important that the water flows clear during the fall spawning period on the creek, to help in a successful egg hatch over the winter months.

Off Season Memories - A Fly Fisher's Winter Thoughts

We got an early taste of winter this fall, when the first weeks of November dropped well below freezing and the ice started to skirt the stream banks. I didn't get out to fly fish that much this spring – summer or fall, but that is just the way it goes these days. Having the opportunity to carry out riparian plantings along some area streams was enough to keep me content.

With the recent news of the whirling disease outbreak still on my mind, I had had plenty of time to think about how good the trout fishery has been to me and others over the years. Thoughts about where this latest threat to our sport fishery is going and what may be the end result are also repetitive in my mind.

Now that the snow and ice have locked in our local trout streams, some of my spare time will be directed at some fly tying and other indoor hobbies that are related to fly fishing. Just to keep the interest up and start to build up some excitement about next year's possibilities.

Sorting thru some old fly fishing photos always brings back some pleasant memories of great fishing on local waters. I have a pretty extensive library of slide photos that I rarely go through anymore, so this is a good way to fill in some free time. I can scan some of these pictures to a digital file, so that they are easily accessible for future use.

Today, I found some old photos of rainbow trout that I had caught and released on the Bow River, during the spring spawning run, up from the Bearsaw Dam. Memories of beautiful clean rainbow trout that averaged anywhere from 17 inches up to 23 inches were the norm back then. I wonder if or when the fishery will ever be the same as it was up until the millennium. Hopefully, someone else can enjoy the great spring fly fishing that a number of us had and did back then.

I have always tried to be optimistic and look at the promise that future fly fishing holds for us, but these days, this is difficult.



Left: This old slide photo shows a nice clean spring caught rainbow trout. The trout was caught and released in the town of Cochrane back in the late 1990s.

Trout catches like this one are rare these days, now that the Jumpingbush strain has declined in numbers. Not a great thought for an old local fly fisher.

Right Photo:

This photo shows a mature brown trout lying in a freshly excavated redd or egg nest. Its mate is probably in the some nearby cover, out of sight. When they are not disturbed by observer's like me, they will lay the fertilized eggs in the depression of gravel and fan fresh gravel over top of the eggs.

I suspect that the trout in this photo is a large male, due to its color and the shape of its head. Males have a hooked lower jaw which is easy to spot on these large trout.



West Nose Creek Water Quality is an Issue - But There is Hope

Right Photo:

West Nose Creek flows pretty dirty during the spring and summer months. Similar to what you can see in this photo. The willows in the photo are from our riparian planting program and this may be the key to improving water quality on the stream.

The dirty water is caused by cattle grazing upstream, stream bank erosion and storm drain inflow. Recent construction, from new housing development, creates a problem with what ends up in the storm drains and then the creek.

The riparian planting will help improve the water quality in the stream, but other issues should also be addressed to improve the water quality that enters West Nose Creek.



Above you can see the new willow plants along the stream bank on West Nose Creek, in Calgary. On some days the creek looks like a mud puddle.

Bighill Creek's Winter Flows - Running Clear and Clean

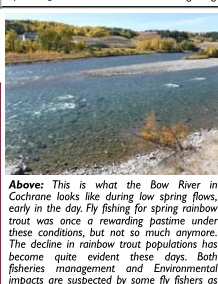
We didn't get as much fall rain and early snow as I was hoping for, but we did get enough to insure decent flows in the Bighill Creek this fall. This past year has been a dry one and the creek was flowing really low at times. This can make life a little difficult for the trout population.

Trout need cover and depth to hold in and the later is in short supply when the water levels are low. Fortunately, there were a number of beaver dams on the creek where trout could retreat to. Beaver dams insure good depth for pool habitats.

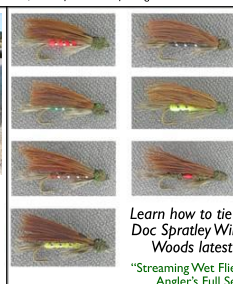
Finding deep water habitats is especially important for trout when the water is flowing clear and clean for extended periods of the open water season. The clean water in Bighill Creek will be very beneficial during the fall and winter months, when there are trout eggs incubating in the spawning redds or nests.



Above: Just before the ice covered the Bighill Creek this late fall, the stream was running clear and clean. This riffle shows how the stream looks on a stretch of good gradient, with a fast current flowing over boulders on the stream bed.



Above: This is what the Bow River in Cochrane looks like during low spring flows, early in the day. Fly fishing for spring rainbow trout was once a rewarding pastime under these conditions, but not so much anymore. The decline in rainbow trout populations has become quite evident these days. Both fisheries management and Environmental impacts are suspected by some fly fishers as the bottom root cause.



Other titles by Guy Woods that are also available at Amazon.ca are:
"Fishing These Parts"
And
"Fly Fishing and Other Stuff"

Learn how to tie a perfect Doc Spratley Wing in Guy Woods latest book:
"Streaming Wet Flies and a Fly Angler's Full Season"

Available at Amazon.ca