



**Publisher's Note:** I first met Jake Gotta while I was working on Millennium creek back in 2006. Jake had been trying to coax a trout into taking his fly on the mouth of Bighill Creek that day. Since then, Jake and I have fly fished together on a number of occasions. I ask Jake to write this article.

## Fly Fishing the Bighill Creek - by Jake Gotta - Photos by Clay Woods

I started relatively late in life as a fly fisherman. I was given an old scratched-up Fenwick fiberglass fly rod from my Uncle Joe, when I was 35. I started out on small streams in and around my hometown of Cochrane. Bighill Creek, which is smack dab in the middle of town, is one that often comes to mind.

It is one of those streams I didn't think too much of until I became a fisherman. I grew up here and this stream has been here the whole time. I can't tell you how many hundreds of times I drove over that little bridge that crosses it, and didn't think once about it.

It's a creek that is so narrow in places I could almost jump over it. The water is a tea color, and the banks are overgrown with tall grass and brush. The idea of getting a good cast into it seemed ridiculous. To any angler, it has this feel that it probably just isn't worth fishing. However, I found out that it is.

I fished the Bighill at first, where it spills into the Bow River. Confluences were always a good place to fish. Usually, there is a good pool or flow right there to toss a dry fly or pull a

streamer through.

It was also a plus because you could get a cast into there without getting hung up. I soon made my way up the creek to challenge myself.

Maybe that's what it was, a challenge. The fly casting was going to be tough. Who knew if the fish were going to be there? They were holding in the water at the confluence. Why not here too? No one else is fishing it. Maybe there are some big fish in here after all.

The possibility of catching a big brown trout right in town felt good. Town locals walking the creek pathways looked at me strange. The look on their faces says it all. "Is that guy actually trying to fish that little creek? The Bow is right there, fish that."

I did get hung up - a lot. I hooked trees behind me, trees on the other side, brush, the odd log and even myself. I read about the bow and arrow cast, and that helped me immensely.

Sometimes I would just lazily flip my fly into the water and feed out line until it sunk into a deep corner pool. I

would make small strips on my small streamer and hungry brown trout ate it. It felt good.

I was catching nice trout between 8 and 14 inches. The brown trout in there were clean and healthy.

I figured more browns were going to come from the Bow into Bighill Creek to spawn. I heard from other anglers that they were catching large browns and brook trout in the fall too. I have seen rainbow trout in Bighill too, but I couldn't trick them into taking a fly.

This really is a vibrant trout stream that I believe needs protecting and enhancement. Not just now, but well into the future. These fish need a place to survive and reproduce. I think anglers in general get a certain attachment to their home waters. I think they feel that there is something special going on here, and they want to keep it that way.

You don't have to be an angler to feel this way either. It would be comforting to know that I can come back to Bighill Creek years from now, and hook up a nice trout.



**Above:** Jake employs a "Bow and Arrow" cast to the underside of willow cover on the far side of the stream channel. This cast is often used to place your fly pattern into tight locations on small streams. Especially, if there is lots of heavy cover behind you and you can't get a decent back cast.



**Above:** Heavy brush fly fishing is not an easy game for fly fisher's. You have to approach the stream channel with caution, so that you don't spook the trout. Keeping low and moving slow is the "catch phase" for small stream trout.

**Left:**

A beautiful September brown trout on the Bighill Creek is hard to beat for its color and condition. This brown wasn't that long, but it was a real eye catcher and it deserved a quick photo.



**Above:** Jake Gotta nets a Bighill Creek trout from a likely looking deep haunt.



**Below:** This photo of the stream channel on Bighill Creek was taken on the lower reach on November 13th, 2016. The clear flowing water is a positive sign for the incubating brown trout and brook trout eggs that are now deposited in the gravel at key spawning habitats.



## "Clear Water on Bighill Creek This Fall"

The first signs of stream recovery on the Bighill Creek is the water quality on the lower reach. There are 58 stream bank stabilization sites that have been planted over recent years and the results are now showing with the cleaner water and streambed on the creek.

This fall, there is also less cattle activity on the upper reaches, which helps out in a big way to keep the water flowing clean. The trout eggs that are now in the gravel should be off to a great start for their incubation period over the winter months. If this keeps up, there may be a substantial egg hatch in the new year, but this is a very optimistic forecast to be making this late in the fall.

I have noticed a big change in water quality in the BH Creek over the past few years. One of the best indicators for an improvement, other than the visual aspect, is the increase in invertebrate populations in the streambed on the Bighill. This past year, I conducted some sampling and was surprised at the results.

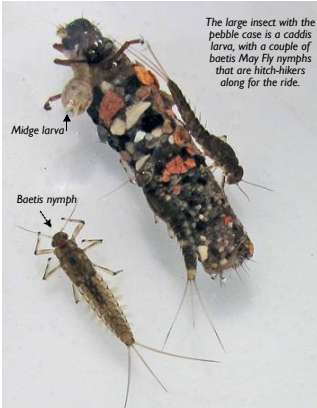
The primary surprise was that May fly baetis nymphs were showing up on the creek. The presence of May flies on a creek is the first good indicator of improving water quality. This member of aquatic insect family is very vulnerable to pollution, so finding them on the BH

Creek is very positive in deed. I managed to take a few photos of the baetis nymphs that I captured, along with a caddis fly larva.

The caddis fly larva was chopping down on a midge larva, when I took the photo to the right. You can also see the crushed red brick that the Town of Cochrane uses on its path systems along the Bighill Creek. This is the red color pebble that the caddis has used in building its protective case. The pebbles help make the caddis larva blend into the streambed, which is another protective measure for this fascinating aquatic insect.

The may fly nymphs have very sensitive gills along their abdomens, which I believe makes them so vulnerable to polluted water conditions. The Baetidae family of invertebrates are swimming nymphs, so they can swim like a small minnow to evade predators. You find them in slow to moderate flow velocities in a creek and they are an important food item for resident trout.

This discovery of may flies on the Bighill Creek is exciting news for dry fly fisher's that like to imitate the adult of the May fly life stage. It would be terrific if we were to see more insect hatches on the Bighill Creek in the future. This may well happen, with this recent find of the May fly nymphs on the Bighill Creek. Only time will tell if this is the case.



The large insect with the pebble case is a caddis larva, with a couple of baetis May Fly nymphs that are hitch-hikers along for the ride.



Adult May fly

## "Trout Unlimited Joins in on West Nose Creek"

Last year, Elliot Lindsay of the Trout Unlimited national office in Calgary, help out on the spawning survey that was completed for 2015, on West Nose Creek. This year, another cooperative spawning survey program was again organized for the West Nose Creek.

Bow Valley Habitat Development would focus on the middle and upper reach of West Nose Creek and TU Canada would cover the lower portion of the stream. The objective was to complete a more comprehensive study than had been done in 2015.

BVHD complete its survey by the end of October and later on in November, TU submitted its findings. Both Elliot Lindsay and Teague Urquhart of the Bow River Chapter were instrumental in completing the survey of the lower reach on West Nose Creek. They both cover a lot of water to complete their spawning survey.

For the BVHD report, 31 brown trout redds were documented and mapped. Later on in November, I was very pleased to see that Trout Unlimited had mapped another 17 redds on the lower end of West Nose Creek. This brought the total to 48 brown trout redds for the fall 2016 spawning season on West Nose Creek.

By working together, we managed to document a very substantial number of mature trout spawning on West Nose. This information will be of great value in establishing the creek as an important fishery and spawning tributary to the Bow River fishery and the West Nose Creek itself.

Furthermore, the study will help in future regulation changes that should help protect the trout fishery. I look forward to future cooperative programs with TU Canada and I will support any stand alone projects that they pursue on the creek.

## "New Year Close - Plans for Area Streams for 2017"

With the New Year close at hand, there are big plans for the 2017 enhancement season on area streams. Already, Bow Valley Habitat Development is working on putting together a riparian planting program for the 2017 season. The plan will still be titled the "Bow Valley Riparian Recovery and Enhancement Program 2017", continuing the work that has been carried out over the past few years.

This time of year, a lot of effort is put into organizing a partnership program to insure that there will be enough native willows and trees available for the next season's planting program. So far, things are looking pretty good. Some of the past partners have already indicated to me that they are keen on supporting another year of sponsorship for the program.

With over 40,000 plants in the ground along Nose Creek, West Nose Creek and Bighill Creek over the past few years, another good season in 2017 may see us break the 55,000 plant marker. This would be a substantial achievement for the ongoing program.

At this point in time, I can guarantee that spawning survey work and stream maintenance programs will continue for sure in 2017. This part of the annual work program is very important in maintaining reproduction on a number of key spawning tributaries every year. The riparian planting will insure that any new generations of trout hatched into the system will have suitable habitat to live out their lives.

For me personally, the past few years I have observed some of the benefits of the riparian planting work and as the plants grow, so does my excitement about future developments in both stream water quality and fish habitat. Willows and trees planted in the first year of the Bow Valley Riparian Recovery and Enhancement Program in 2014 are now starting to really take off in growth.

There are plenty of photos on file that show all of the planting sites, so in the next few years, I will be able to show you some good before and after comparison photos of how our efforts are changing the landscape along all three streams in the program. I really look forward to this.

**HOME**





December 2016 Issue

This Web Magazine is presented to you  
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# Stream Tender Magazine "Happy Holidays"



Magazine Mission Statement

Publisher/Editor Information

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## Why is this West Nose Creek Brown Trout So Important?



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Above: This juvenile brown trout was caught by fly fishing on the West Nose Creek in August of this year. The small trout was a hatchling from the 2015 spawning season on the creek. It is approximately 80 mm in length, which corresponds to the average length of brown trout that have emerged from the gravel spawning beds in the early spring and grown to this size by late August. This small brown is important because it confirms the successful incubation of some of the trout eggs from the 2015 spawning season.



Articles by : Guy Woods and Contributors

## "Last Year's Riparian Plantings - Update"



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Above: This 2016 photo shows native willow plants that were planted in 2015 along West Nose Creek. Many of the willows are reaching out over the water and will soon provide overhead cover for the fish in the stream. The planting continued on the creek in 2016.

## 2016 - Fall Spawning Update For The Bighill Creek System



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Above: This pair of spawning brook trout, hug the stream bank on Millennium Creek, at one of the spawning habitats that were created during the stream restoration program in 2005-2008. Every year brook trout return to this particular site to lay down their eggs and recruit a new generation of brook trout into the Bighill Creek system.

Below: The beautiful color of spawning brook trout on Ranch House Spring Creek this fall was captivating. I could not pass up the opportunity to take some photos and video.



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## The 2016-Bow Valley Riparian Recovery and Enhancement Program-Sets Record

This year's 2016 BVR&E Program sets a new record for the number of native willow and tree plants, with a total planting of 16,425. An accumulated 510 volunteer person hours of hard work resulted in planting along approximately 15 kilometres of stream bank.

Over the past few years, since the program was first started in 2014, a sum total of 41,725 native plants have been put into the ground along the stream banks of Bighill Creek, West Nose Creek and Nose Creek. This partnership program has accomplished a lot in 3 years.

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## 2016 Volunteer Support Was Substantial



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Above: Come rain or shine, volunteers turned out to get the job done. This year's riparian planting volunteer contribution totalled out at 510 volunteer hours. Some of the volunteers showed up for multiple planting events. It was nice to be planting with individuals that share an interest in the riparian restoration program.

## BVR&E Program Growing in Recognition

The Bow Valley Riparian Recovery and Enhancement Program is slowly growing recognition both nationally and internationally. This is great news for a grass roots partnership program in our neck of the woods. The Department of Fisheries and Oceans Canada featured the program's success in an article published on their website this year.

You can review it at: <http://www.dfo-mpo.gc.ca/pnw-ppnc/riepn-pnw-success-riepn-cna.html>. The Society for Ecological Restoration also featured an article on their website, based out of Washington, D.C. at: <http://chapter.ser.org/westerncanada/restoration-showcase-alberta>.

This was great to see and it is also good for our program's future. It is my hope that we can continue to carry on in our efforts to restore the riparian zone on a number of area streams. Being recognized for our efforts helps to boost everyone's hard work.

## Program Partners



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## West Nose Creek Spawning 2016 - More Great News



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Above: This spawning male brown trout was captured on film, while resting over a redd or egg nest, on West Nose Creek this fall. The female was still hiding upstream after I spooked the trout, on my approach. This trout was approximately 22 inches in length.

## "Great Fly Fishing Season on the Bow River"

Below: Fly Fisherman Robert Scollie holds up a beautiful brown, caught on the Bow River.

Photo: Robert Scollie



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## "Yes, Brown Trout Do Successfully Re-produce on West Nose Creek"

In the fall of 2015, Bow Valley Habitat Development documented brown trout spawning on West Nose Creek, in the City of Calgary. This was the big news for the stream's future potential as a spring creek sport fishery.

The next step in BVHD's research on West Nose, was to establish whether any of the trout eggs successfully incubated and hatched from the spawning cycle.

To do this, BVHD obtained a research licence from ASRD Fish & Wildlife, to conduct a trout trapping survey in July of 2016, to hopefully capture at least one brown trout hatching from the 2015 spawning event.

Unfortunately, due to a number of flood events on the creek, in mid to late July, the trapping program was rescheduled for the following year of 2017.

However, there was another option open to answer the question of whether any trout eggs hatched and this would be to conduct an angling survey in late August of 2016, to hopefully capture a juvenile brown trout from the early spring hatch, if there were any to capture. I knew that this would be a daunting task, with little chance of success, but it was worth a try anyway.

To my surprise, after only 6 hours of angling on the West Nose Creek, in late August, I managed to capture a brown trout from the early spring hatch on the creek. By achieving this goal, BVHD saved a lot of time and money that would have been spent on the trapping program planned for the summer of 2017. After all, I only needed to catch one YOY brown trout to confirm that some of the eggs hatched.

## West Nose Creek Angling Survey Continues to Provide Information

In August of this year, BVHD continued to collect information about trout distribution in West Nose Creek by conducting an angling survey. The focus of this year's program, besides the goal of catching a YOY (young of the year) brown trout, was to angle on the lower reach of the creek.

One important discover was that a number of smaller trout were captured near the mouth of Nose Creek. It is believed that these smaller trout may be migrants from the Bow River that have found their way up Nose Creek and entered the West Nose Creek.

Due to a number of beaver dams on the lower end of West Nose, these smaller trout are prevented from reaching areas of the upper stretch of West Nose Creek. However, over time, they will move up the system.



**Above:** This 8 or 9 inch brown trout was captured on the lower end of West Nose Creek. In the next few years, it is speculated that the trout will find its way further up the system. The trout was released, unharmed, back into the creek. The brown trout will most likely live out the rest of its life in the West Nose Creek and eventually spawn on the system.

## The Fly Pattern That I Used To Catch These Small Fish



**Above:** The Brown "Smoothy"

I used two different nymph patterns in my angling survey, to capture a small trout. The pattern that caught the brown trout was one that I have developed and used for catching picky Bow River trout. I call it a brown "Smoothy" and it is tied on size 14 and 16 nymph hooks. The size 16 pattern caught the juvenile trout.

The tail and legs on the nymph pattern are composed of partridge soft hackle and the thorax is lightened Alberta Squirrel fur. The abdomen is created by wrapping small or medium D-ring, in a brown color. A small bead is used and two finish the pattern, a medium mylar tinsel for the back. It is a very effective trout fly pattern.



**Left:** You can see Harvest Hills Boulevard over pass in the background of this photo. Downstream of the overpass is where the small brown trout was captured.

**Above:** In the six hours of angling, 12 Lake Chub, like this one were caught, along with one Long Nose Dace. It was strange to catch minnows like these on a fly rod, but they do eat insects as part of their diet.



**Above:** Streaming Wet Flies, like this "Screamer" pattern, are used to hunt for brown trout in the angling survey. Despite the brilliant colors, brown trout love this pattern.

## City of Calgary Plants 600 Willows and Trees on West Nose Creek

More willows and trees for West Nose Creek this fall. The City of Calgary Parks Department has planted a total of 600 native poplars, aspens and willows close to West Nose Creek, in Creekside this fall. This should help in the restoration of riparian habitat along the creek in the future.

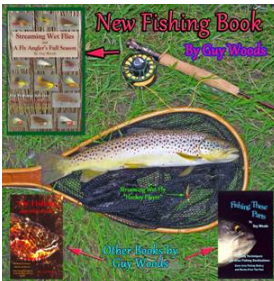
The proposed plantings were brought up in a meeting that I attended this last winter and it was good to see that the plan was seen through to completion this September. Once the poplars and aspens have established a good footing on the creek, future suckers will expand the crop and provide some well needed riparian habitat.



The TD Bank provided the funding to cover the cost of the native plants in this planting program.

**Above:** I took these photos in the last weeks of September and the plants were doing well.

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## Fish Habitat – Planting Along the Water's Edge

Along some streams, on certain areas of stream banks, the only place that I can get decent survival rates of native willows and trees, is by planting very close to the water's edge. However, this is ok by me, because these surviving plants will provide excellent fish habitat over time.

If the soil PH is not conducive to plant growth, by planting the native stock close to the streams water, there is enough nutrient in the water to help sustain the native plants. Constant movement of organic debris in the stream channel will also enhance the plants nutrient intake.

I know that native willows and trees that overhang the surface of a stream, and provide live or dead branches below the surface, create

excellent habitat for resident trout. The growth also constricts the flow in the stream channel, deepening areas that are eventually attractive haunts for trout.

This live and dead organic debris provided by willows and trees growing along the edge of a stream will also boost the invertebrate populations in the stream. More invertebrates means more food for more trout. I know that dead leaves in the fall enrich the streambed for invertebrates such as the caddis larva, which grazes on submerged vegetation.

In the photo below, you can see how recently planted willows are catching large sheathed pond weed and dead leaves, in the stream channel. This debris is also creating over head cover for trout.



## The 2016 Bow Valley Riparian R &amp; E Program Update

The Bow Valley Riparian Recovery and Enhancement Program's objective is to restore riparian habitat on three area streams that are lacking a natural riparian eco-system. Those streams are the Bighill Creek, West Nose Creek and Nose Creek. The approach to achieve this goal is to form partnerships with local business, municipal government and NGO's to tackle the challenge on a major scale.

This year, a total of 11 partners participated in the program. They are as follows:

Partner	Plants provided
DFO Canada	8,300
Inter Pipeline	2,400
Shell Canada	1,200
City of Calgary	1,200
City of Alberta	1,100
Cochrane Foundation	900
Town of Cochrane	400
Evergreen/HSBC	300
ATCO	200
Aldrie Ventures	200
Bow Valley Habitat Dev.	25 LD

This total of 16,425 sets a record for the number of plants in this third year of the program. In 2014, a total of 10,500 plants and in 2015, a total of 14,800 plants set the stage for the growth of the riparian planting endeavour. The 2016 BVRR&E program has made this riparian recovery program one of the largest in North America. It feels great to be involved in a project that is bound to make a major positive impact on the health of our local waters.

Presently, Bow Valley Habitat Development is working towards another program for the 2017 planting season. Already, this fall, there are commitments for next year's planting and it is hopeful that we can meet or exceed the number of plants planted in 2017. The plantings are carried out, close to the water's edge, so fish habitat will be enhanced over time. The amount of native wildlife that will also benefit is huge.



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



## The Fly Pattern That I Used To Catch The Brown Trout



This Streamer Wet Fly Pattern is called the "Streamster" and it has produced many a good catch, while fly fishing my favourite brown trout and brook trout streams. It is tied most often on a size 8–3X streamer hook and I always use the barrel eyes for the well needed weight, to get the fly down deep.

The bouquet of peacock herl for the tail is a common ingredient on many of my streamer wet fly patterns. The call tail wing is the best choice that I have found for most of my stream wet flies. There is a bit of a crinkle in the hair that adds body to the wing pattern and makes it undulate with a superb action, when stripped through the water.

I like to use the streamer wet flies when I am hunting for large trout. They just can't seem to resist the color combinations that make the fly a great attractor pattern. Years of good success have proven this, for my own personal angling experience.



## "Mystery Solved on West Nose Creek"

During the fall 2015 spawning survey redd count, I was puzzled by the number of smaller sized trout redds or egg nests that I identified on West Nose Creek. There was speculation that they may be brook trout redds which are typically smaller in size than brown trout redds.

Trout Unlimited had electro fished a brook trout on the lower reach of the West Nose Creek in 2010, so the possibility of them being brook trout redds was definitely under consideration. I was hoping to find out during the 2016 angling survey, if there were any brook trout still present on the lower end of the creek. I found none.

Finally, this mystery was solved while conducting the August angling survey on the lower reach of the stream. I caught a smaller sized mature brown trout hen or female, that was laden with eggs for the upcoming fall spawning period.

The female brown trout was only approximately 13 inches in length and it was showing the typical bulge of an egg laden female trout. The fish had a thickness back between the ventral fins that convince me that it was full of eggs for the upcoming fall spawn.

It was also speculated that this trout may have been a generation reproduced on the West Nose

Creek, which may result in a smaller maturity size. A female brown trout is normally ready to produce eggs by year four, so the 13 inch female may be of that age.

The next step is confirming this theory would be to actually observe the smaller trout spawning on the creek. This may happen this fall, but it would be a matter of timing and a little good luck to find out.

It is surprising how much you can learn from an angling survey, which is a valuable tool in the study of a stream's trout population. My preference is for a fly rod when conducting such a survey, the trout are returned back to the stream in good shape.



**Above:** This is a photo of one of the smaller sized trout redds observed and photographed in the 2015 fall spawning survey on West Nose Creek.

## "Future Overhead Cover for Resident Trout"

The title "Bio-engineering trout habitat" is sometimes used to describe the creation of trout habitat by the use of native natural plants as a building material. In our riparian programs, native willows and trees are used to create long term natural habitat for trout.

Both willows and trees growing along the water's edge of a flowing stream will create fish habitat above and below the water's surface. Over time, the woody debris created in a stream channel will help to constrict the flow and increase velocity as well.

It is common knowledge to fish habitat professionals that woody debris in a stream channel also creates spawning habitats. This is achieved by causing the collection of spawning gravel at key locations, where the gradient and depth are ideal collection sites. This will happen if there is already suitable gravel present in the stream channel.

On areas where there is adequate velocity and depth, willow and tree roots will provide good undercut banks and the overhead cover will provide shade and security for resident trout in the stream. After planting and at some point in the future, the willow and tree branches will end up in the water, further enhancing fish habitat in the stream.

Any submerged woody debris creates invertebrate habitat, which increases the food supply for resident trout. The constriction of flow will also clean the silt from the bottom and reveal a gravel, cobble and boulder habitat underneath. This is also vital for various invertebrate habitats.

Areas of stream channel that are exposed to sunlight, can develop thick weed growth that can smother the stream channel. When shade is created, the amount of weed growth is reduced and a more health habitat for trout is created.



**Above:** This is the photo that I took of the mature female brown trout that I suspect was full of eggs for the fall 2016 spawning period on West Nose Creek. The trout was 13 inches long.

## West Nose Creek Fisheries Recovery Program

Presently, there are pockets of brown trout on West Nose Creek as far as 9 kilometres upstream of the mouth, on Nose Creek. Few in numbers, but there is real promise that someday the population will increase substantially. At this time, there are water quality issues and most importantly lack of habitat on the stream.

The Bow Valley Riparian Recovery and Enhancement Program has been planting native willows and trees on West Nose Creek for the past three years now. The total number of plants planted on West Nose Creek thus far is 25,401 native stock and there are many more plants yet to be planted in future years.

This riparian restoration program has the potential of making a huge difference in water quality, water temperate and fish habitat, both in the stream channel and draped above the surface of the creek. I am especially excited about the benefits of stream bank stabilization sites on the creek. As of this year, there are 97 stream bank stabilization sites that have been planted on along the stream.

Stream bank stabilization sites are the outside bend in the stream channel that is vulnerable to erosion or is presently being eroded. By planting on these sites, the amount of silt loading into the stream channel is greatly reduced over time. The reduction in annual silt loading will have a huge positive impact on the long term health of the stream's fishery.

This will help clean up the streambed and also increase invertebrate populations in the creek, which are vital to the food chain for trout. Many areas of the stream's bottom will be scoured down to gravel, cobble and boulder habitat.

This will all take years to happen, but the initial steps in that direction have already been made. On Bighill Creek, in the Town of Cochrane, riparian plantings have been underway for a number of years now. Already, improvements to the streambed have been noted. Visually, I personally have noticed a huge difference in both water quality and streambed rock and organic aggregate that has been exposed.

Brown trout are known to thrive in streams where both water quality and silt loading are problems, when compared to habitat that is more suitable for both rainbow and cutthroat trout. This makes the West Nose Creek brown trout population the best suited for a stream's recovery or transformation into a sport fishery.

Having a small brown trout population already established in the West Nose Creek, is a major bonus, so any improvements to water and habitat issues will see an increase in the number of trout.

### Above right:

This photo shows one of the stream bank stabilization sites on West Nose Creek, which was planted in 2015. The willow plants in the photo are growing well and established a network of root mass.

### Right:

This photo shows a typical reach of the West Nose Creek, in the City of Calgary.



**Above:** This photo shows a future habitat for resident trout, with the newly planted native willows along the stream bank.

## "More Rock Dams Removed on the JP Creek"

This fall, in September, an inspection of the lower end of the Jumpingpound Creek revealed only a few rock dams in the Town of Cochrane. In the spring there had been four, which had been opened up to allow fish passage upstream.

On my tour of the lower end, I only had to open up a few, after the summer activities in the stream. When I say summer activities, I mean kids playing in the stream channel and building rock dams to entertain themselves.

It appeared that someone else had opened up a few over the course of the late summer, which is very helpful.

My trip to the stream was to make sure that the fall spawn of mountain whitefish and the spring run of spawning rainbows was not interrupted by any blockages on the lower end of the creek.

This past spring was a dry one, with low water conditions in the JP Creek. When this happens, it is important to make sure that all obstructions are cleared, so that fish can move up the system.

With the lower reach cleared this fall, the early spring migration of rainbow trout can get underway, when the trout move in from the Bow River. It is nice to have a few helping hands involved in this program, to keep the creek navigable for fish.



**Above:** Small blockages like the one shown above, prevent both trout and mountain whitefish from migrating upstream to spawn.



**Above:** After the small rock and stick blockage is removed, there is a clear route for fish migration up the Jumpingpound Creek.

**Below:** These electro fished JP rainbow trout are a first and second year class fish, which is typical for rainbows that use the creek as a nursery habitat, after they hatch in the stream. Both trout in this photo have been anthesised for collecting data and where release unharmed.





### "The BVRRE Program Showing Results"

This is the third year of the "Bow Valley Riparian Recovery and Enhancement Program". All three streams in the riparian planting program are starting to show some very positive results.

Over the past three years, a total of 41,500 native willow and tree plants have been planted along approximately 20 kilometres of stream bank. This makes the program one of the largest riparian recovery projects in the country (Canada). The plantings will also create a huge amount of fish habitat over time, so we can also say with confidence that this program is one of the largest fish habitat enhancement projects as well.

In the first year of the program, I predicted that it would take approximately 5 or 6 years to be able to recognize the full impact of restoring riparian growth along the streams in the program, so it will be a few more years before I can produce the before and after photographs that I am looking forward to publishing.

For the time being, I will share some smaller close-ups of native willows and trees as they grow along the streams. Over the next few years, plants from the 2014 planting will start to sore above the shoreline grasses and stand out in the landscape.

It is great to witness the transformation along the stream banks.



Above: This is a photo of a Stage Two native willow plant before it was planted along the stream banks of West Nose Creek. A large number of Stage Two plants were planted this season, along with the Stage One.



Above: These willows that were planted in 2015, along the stream banks of West Nose Creek, in the City of Calgary, are already growing over the stream channel on the creek.

Below: One of this year's plants that had been planted two months earlier on WN Creek and it is showing very good growth for this season.



### Nymph Fishing The Bow River For Fall Trout

If there are no active hatches on the Bow River, during the fall day that I am on the water, there are two options open for catching trout. Either Streamer fishing or Nymph fishing can produce results for the keen fly fisher.

Many fly fishers opt for stripping a streamer pattern which can be a great idea, but for consistent results, a nymph set up will catch fish. Both trout and mountain whitefish. The mountain whitefish are a welcome reward on some days when the trout are not as responsive.

I have fished nymph patterns while stripping in a dry fly line or a sinking fly line

on some outings, but for the major part of my time on the water, I prefer a dead drift presentation.

There are two options open for drifting a nymph set up, with or without a strike indicator. For longer casts, the strike indicator is a handy tool. For close in nymph fishing, casting without an indicator is an option.

Since fluorocarbon leader material was introduced, I use it for both streamer and nymph fishing. It is more dense than nylon tippet or mono leaders, so it sinks faster. It is also less visible to trout, when submerged. This makes it a perfect choice for

fly fishing below the surface.

On the Bow River, a 6 lb fluorocarbon is used and on smaller cutthroat waters that run crystal clear, a 4 lb. test is a good choice for nymph patterns that are under a size 12 hook choice.

My strike indicators are all home made from high density foam and they are either fugia or chartreuse in color. A tooth pick is used to jam the indicator on the leader.

The chartreuse are good on overcast days and the fugia and chartreuse will both stand out good on sunny days, depending on the light and reflection on the surface of the river or stream.



Above: The strike indicator shown is home made of high density foam and I call it chartreuse, but it is more accurately described as fluorescent yellow. A wooden tooth pick is used to jam the indicator on the leader. The depth of the nymphs on the leader can be adjusted to suit the depth of the water.

### Setting Up a Nymph Fishing Line

When you set up a nymph fishing rig on a dry fly line, you can go with either a single nymph set up or a double tandem set up. The single nymph rig is far easier to cast with and there is less problems with tangles, especially on a windy day.

For me, I prefer a tandem set up, with two nymphs. If you are fishing head beat patterns, this two nymph presentation will get your nymphs down deeper, faster. Smooth casts are required to reduce tangling and wind knots.

The choice of leader can be a 7.5 foot or 9 foot standard tapered leader. On the leader, you can add a fluorocarbon tippet of 6 lb test for the Bow River and lighter for smaller streams.

I usually tip a 7.5 foot 1X leader with both 8 lb and then 6 lb fluorocarbon to insure that my nymphs sink faster and that the low visibility of fluorocarbon improves my chances of hook ups. This combination is used for nymph fishing on the Bow River. Sometimes a 9 foot leader is the best choice.

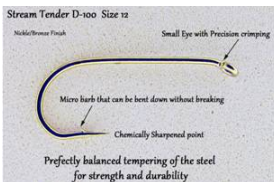
When I tie on the 6 lb fluorocarbon, I use a blood knot and leave a long tag for tying on a nymph. The spacing can vary, but it is usually approximately two feet up from the bottom nymph. This will allow you to effectively fish in a variety of depths without changing the position of your strike indicator.

It will take constant adjustments the position of the strike indicator to find the right depth, especially when you are fishing over a distance of the river channel. This method works good for me.

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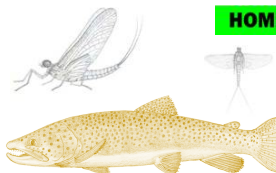
Stream Tender Fly Hooks are premium quality made from high tensile steel with a corrosion resistant finish!

They are sold in packages of 25 - 50 or 100 pieces

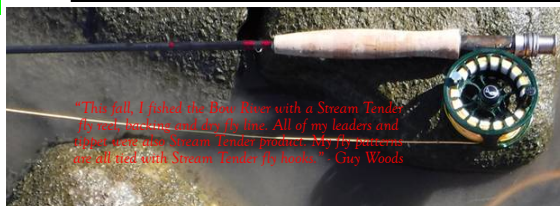
### Stream Tender Tapered Leaders

These quality tapered leaders come in both 9 foot and 7.5 foot lengths for big and small waters! We carry 1X to 5X in the 9 foot lengths and 1X to 4X in the 7.5 foot lengths. Read the package to the left to get an idea of line diameters and tip line test in pounds!

9' Price - \$2.45 and 7.5' - \$2.35



HOME



"This fall, I fished the Bow River with a Stream Tender fly and hooked and kept my line. All of my leaders and nymphs were Stream Tender products. My fly patterns are all tied with Stream Tender fly hooks." Gary Woods



## "Lower Bow River Trout Fishery – Three Years After the Flood"

### The Copper John

One of my favourite nymph fly patterns for fishing the Bow River in the fall, is the "Copper John". The distinguishing factor on this fly pattern is the copper wire abdomen and the peacock herl thorax.

I like the pattern mainly because it sinks fast and it makes a good point fly, when nymph fishing a tandem setup, of two fly patterns on a leader. I fish both a size 14 and 16.



Using a heavier gauge copper wire enhances the segmented appearance of the abdomen, which may be a little more enticing to a feeding trout. Also, the color of copper and gold seem to be very attractive to hungry trout, for some reason.

In the fall, on the lower Bow River, there are important Baetis mayfly hatches that make smaller nymph choices the general rule. Smaller hook sizes can also be used for fooling well educated trout.



**Above:** There were lots of fat 12 to 14 inch rainbow trout available in the lower Bow River this last fall.

## This Year's Volunteer Support Accomplishments

This year's largest donation of volunteer time was contributed to the "Bow Valley Riparian Recovery and Enhancement Program 2016", with a total of 510 hours. Planting 16,425 native willow and tree plants takes a lot of work, but there were no complaints.

If people know that their time and effort is being spent on something that will improve the natural environment, they roll up their sleeves and get the job done. I like to point out at volunteer events that the crew members will be able to return to the site, years down the road, to see what their plantings have accomplished.

Streams such as Nose Creek and West Nose Creek are pretty much void of any willow and tree riparian growth, so working on a blank canvas will show dramatic results over time. A complete transformation of the planting sites will be easy to recognize.

I have an extensive library of photos and video of the planting sites in their present condition, so in 5 or 6 years, I can create some great before and after comparisons in any future articles in this magazine and other publications.

Besides the riparian plantings, Bow Valley Habitat Development had some help in major stream maintenance work on the Big Hill Creek and West Nose Creek system this year. Mainly on the Big Hill Creek and two tributaries: Ranch House Spring Creek and Millennium Creek. The maintenance work involved clean up and removal of blockages that would prevent fish migration both upstream and downstream.

This work paid off during the spawning season this fall, especially on Millennium Creek, which needed extra attention. Another excellent spawning season on Millennium was the result. An ongoing stream maintenance program is very beneficial to the local fishery and volunteers that fish the area enjoy helping out, to take care and enhance their sport fishery resource.

Another 55 hours of volunteer time was contributed to stream maintenance this year. You can also add 36 hours of spawning survey work to this total and 6 hours of angling survey effort, which isn't really considered work. So it has been another successful year of both protecting and enhancing the local fishery. I look forward to 2017.



**Above:** This rainbow had a size 4 bait hook in its mouth. I removed the bait hook before releasing the trout.

Another thing that I noticed this September on the Bow River, was the number of anglers, mostly fly fishers, that get out on the water to enjoy this great fishery. Besides the many drift boats, full of fly fishing guides, clients and those that use them for recreational fishing, there were also plenty of walk and wade fly fisher's like myself.

The Bow River has maintained a world class trout fishery for many years now, and more and more people are partaking in this wonderful sport fishing resource. I like to get on the water to fly fish, early in the morning, to insure a good spot and less company on weekends.

I may not fly fish on the Bow River as much as some other fly fisher's do, or as I did many years ago, but it is always nice to know that it is there when I feel the urge to catch monster trout, or try to. There are many threats, such as different diseases that threaten this famous trout fishery these days. It is my hope that we can maintain a healthy population of trout in this river, so all future anglers can continue to enjoy this fantastic resource.

### Right Photo:

The large female rainbow trout in this photo took an interest in one of my nymph patterns this fall. It was too big for my net, so I removed the hook in the shallow water before releasing the trout.

All of the larger trout that I caught this fall on the Bow River were fat and healthy fish, which is a good sign of things to come. Hopefully, next year I can return to fish the lower Bow River in the fall of the year, when trout are fattening up for the winter months.



### Right Photo:

The Loch Leven strain of brown trout in this photo also liked my fly pattern, which resulted in a brief photo session, before I release the trout. I caught this fine looking brown trout on a Copper John nymph, in late September this year.

It was such a good example of a Scottish brown trout, so I decided to take its picture. The inside of my net hoop is 16 inches in length, so you can estimate the size of this fish. A great catch on that sunny fall day on the river.



## "The Loch Leven Brown Trout – A Gift From Scotland Still Resides in the Bow River Watershed Today"

The Loch Leven Scottish brown trout was the first strain of brown trout introduced into the Bow River in the 1920's. Later on in the 1930's, the German brown trout became the preferred strain for the Banff Hatchery. Today, genetic remnants of the Loch Leven are still residing in the Bow River watershed.

Scottish brown trout don't have the red or orange spots that are found on German brown trout. This makes it easy to recognize a Loch Leven strain of Bow River watershed brown trout. In the photo to the right, a close up of the side of this brown trout shows that there are no red or orange spots on this Bow River brown trout.



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**Below:** This photo shows the red spots on a German brown.



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4 lb. 6 lb. &  
8 lb. Test



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## "Micro Management of Our Urban Fisheries"

Trout streams that flow thru our communities are under threat from a number of influences that can have a negative impact on the survival of the species. Storm drains, surface water runoff, loss of habitat and so on.

This makes it necessary to intervene on behalf of the trout that populate those streams. Not only water quality and habitat issues need to be addressed and measures taken, but specialized fisheries management regulations need to be put in place. This is all falls under the category or the title - Fisheries Micro-management.

I know from experience how a lot of small negative impacts to a trout stream's health and wellbeing can add up over time. Slowly, a once healthy trout fishery can collapse, without some well needed attention.

Too often, I have been informed by fisheries managers that blanket regulations on a watershed is the preferred approach, but I personally feel that trout streams located in a densely populated communities need special attention.

With all of the problems relating to the environment and survival of fish and wildlife in this world today,

I think it is important that we start working on some issues in our own backyard. By taking care of the natural environment of a flowing trout stream located within a town or city, we can demonstrate that some positive accomplishments can be made. All on grass roots approach. Rather than just writing off a trout stream as a loss and one less thing to worry about.

By doing so, we can all send an important message to the next generation that really does care about the life of a trout stream, which is an important natural resource in our community.

## A Look Back at the Millennium Creek Restoration Program

It has been 8 years now, since the Millennium Creek restoration program was completed. This small spring fed creek, located in the Town of Cochrane, was nothing more than a wetted mat of grass, before the restoration project was started. The stream channel had flowing water to keep the grass green throughout the summer months, but that was about it.

Over a period of four years, the small spring creek was brought back to life and it now has a resident trout population. Not only that, but the stream is an important spawning tributary now. In the fall of the year, brook trout return to the creek to spawn their eggs.

Every year, a new generation of young trout migrate into the Bigbill Creek and replenish the stocks. Since the completion of the project, thousands of trout have hatched on the creek over the last 8 years. As part of the restoration work, spawning habitat was created on Millennium Creek, and the trout started to spawn on that first year after the project was completed.

The restoration project was a partnership program organized by Bow Valley Habitat Development. The primary partners involved in bringing the creek back to life were as follows:

- TransAlta
- The Alberta Conservation Association
- The Town of Cochrane
- Inter Pipeline
- Shell Canada
- The Cochrane Foundation
- Plus support from volunteers of Cochrane and small business.

In 2010, an additional spawning channel was constructed by BVHD and Inter Pipeline, to further enhance trout reproduction on the creek. It is estimated that thousands of new brook trout hatch on the creek annually, which is a major contribution to the Bigbill Creek trout fishery.

In total, 5 years of work went into this program, but the results over the past 8 years have made the investment well worth it. There are many years of new generations of trout yet to hatch on this small spring fed stream. An annual BVHD maintenance program insures the future health of the stream.



Above: This photo shows a length of channel before the program was started.



Above: This is a photo of the same length of channel a few years later. As of 2016, most of the stream channel is now hidden by willows and trees.

## Millennium Creek Project Volunteers

The restoration of Millennium Creek, over the four year period in the mid to late 2000's, involved a lot of volunteer support.

Bow Valley Habitat Development thought that it was important to give the community an opportunity to take part in the rebuilding of the stream, from the beginning. Young people played a major role in this part of the program. Both the Cochrane Scout Troop and other youth groups, helped in on some simple, yet important, work projects.

Other participants consisted mainly of fly fishers that foresaw the importance of the restoration work, from a sport fishing perspective.



Above: A summer youth group gets dirty, helping out on the Millennium Creek restoration project. Kids did some cleanup work in the mud, while doing something of interest. On this project they were helping out on some riparian landscaping on the creek.

## Silt Containment During the Restoration Program

Below: A 10 inch corrugated plastic flow by-pass system was used during the construction of pool habitats and other instream activities.



Above: A number of silt fences and silt trap pools were in place along the stream channel, during the restoration program. This was carried out to reduce the amount of silt loading into the Bigbill Creek and Bow River, downstream. These pools and fences were maintained daily.

Below: Brook trout spawning in Millennium Creek during the 2016 fall spawning season.



Above: Local boaters and fly fishermen Terry and Phil Sheehy help me out on the installation of a log V-weir built on the stream channel.



Above: Brook trout spawning in Millennium Creek during the 2016 fall spawning season.

## Bigbill Creek Regulation Change Proposal-Update

In 2015, Bow Valley Habitat Development submitted a proposal for a fishing regulation change to ASRD Fish & Wildlife. The proposal was supported by a letter from the mayor of Cochrane, after review by town council. The response that I received back from the regional biologist, earlier this year, was that the proposal was sent in too late in the year of 2015, to see any consideration on the request.

BVHD has re-submitted the request on October 8th of this fall. In the proposal, a request for year round closure for three important spawning tributaries to the Bigbill Creek system, was made. Also, included in the proposal was a modification to the seasonal closures on the BH Creek, to protect fall spawning trout.

In recent years, a small tributary to the Elbow River was closed all year, to protect the native cutthroat trout population, so I know that such closures are very possible by fisheries managers. All it takes is a little interest to protect our area trout populations during their vulnerable spawning events. After all, reproduction of new generations of trout does maintain the area's sport fishery and it also enhances biodiversity in the eco system.

We will see what happens this year, with my proposal. I will let you know in a future issue of this magazine. I am not about to give up on this very important matter.

## "The Grass Roots Approach"

There is an assumption by many that our municipal or federal government has both the resources and inclination to look after every trout fishery in a given area. Including home waters both in and near a community. This assumption is false. There are just too many flowing trout waters for managers to spend much time focusing on.

With this in mind, the best approach is for local stake holders to get involved. When I say stake holders, I am not just talking about sport fishers, but also those that feel it is important to protect and conserve our natural ecosystems. Because all flowing streams are crown land, they are essentially public property and there is a responsibility to take care of them.

However, with local streams flowing thru private property, it is necessary to have those land owners interested in getting involved. Once this first hurdle is crossed, grass roots organizations can take measures to benefit the trout fishery or riparian habitat along those streams.

Grass roots endeavours to enhance and protect trout streams is the best approach. By organizing local involvement, there is potential to make a real difference in maintaining and improving the health of a trout stream into the future. I know this, because I have witnessed it happen over the years.

It is always nice to have the support of your local government agencies when taking on such programs, but this can be challenging at times. There can be a lot of red tape nightmare involved in organizing any projects that you feel may benefit an area stream, but this is typical these days. If you're lucky, a regional biologist may be enthusiastic enough to help you out.

Another benefit to any enhancement program that you may decide to take on, is to have one or more professional people involved in your project. For fish habitat enhancement or riparian plantings, this can narrow the field to those that have both the experience and knowledge of how to go about things. This can be a major benefit.

Sometimes, when the challenge of getting the ball rolling on a worthwhile project gets me down, I think of the old adage, "Where There's a Will - There's a Way". In my own experience this is very true and it has helped keep me going over the years.

## TU Conducting Spawning Survey on West Nose Creek

Over the past few years, Bow Valley Habitat Development has been collaborating with the head office of Trout Unlimited and the Bow River Chapter of TU. The cooperation is directed towards organizing a joint effort at planning some worthwhile projects for West Nose Creek.

Information sharing is a large part of this partnership. I was really please to hear that this fall, Elliot Lindsay and

volunteers from the Bow River Chapter are conducting a spawning survey on West Nose Creek, in the City of Calgary.

Last year, I sent a report on the findings of BVHD's spawning survey on to both the head office and the Calgary Chapter for review. Elliot Lindsay shared some of his survey work with BVHD. Since that first cooperative effort, more information on the West Nose Creek has

exchanged hands.

This information sharing is the first step in growing the scope of the West Nose Creek trout fishery restoration program. The more people and groups involved, the faster the creek will see some real change.

It is my hope that the findings from the Trout Unlimited survey will be ready by the end of November, so I can include this information in the December magazine.



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## "A Great Spawning Season on Ranch House Spring Creek"

In 2012, a storm drain outflow was constructed on the mid-point of Ranch House Spring Creek. This created major problems for the small spring creek, which is a vital spawning and nursery habitat for juvenile brook trout. The problem was magnified in 2015 when a new housing development was tied into the existing discharge in to Ranch House Spring Creek.

Every time we get a significant rain or hail event, large volumes of water are flushed down the creek channel, causing debris blockages and eroding the existing natural channel width. With this happening annually, BVHD has struggled to keep the channel navigable for spawning trout and juvenile trout that either hatch in the creek or migrate up from the Bighill Creek.

This year's maintenance program involved a lot of work to keep the channel passage open for migration. Well, it has all paid off, with good numbers of trout spawning in the creek this fall. However, most of this happened with the help of a few rain and snow melt events that brought the water levels up enough for trout to migrate upstream.

Due to the erosion, with the channel and streambed wider now, it results in more shallow riffle areas, which are too void of depth for mature brook trout to pass up thru. The shallow riffles also are prone to collecting dead leaves in the fall and willow and tree branches that are flushed down the system every time the storm drains are discharging.

However, with all of this said, I observed and documented a really good spawning event this fall. There was much more spawning on the lower reach of Ranch House Spring Creek, when compared to previous years. This can be attributed to the difficulty that some trout had, while trying to swim up the system, during low flow periods in the creek.

This year's total redd or egg nest count came to 32, which is a record number of brook trout redds for Ranch House Spring Creek. Thanks to a lot of time spent by volunteers insuring that some trout did have the opportunity to migrate upstream, past a number of blockages that blocked their way during low flow periods on the creek. This made a big difference in this year's spawning on the creek.



## This Year's BVRR & E Program Sign in Place

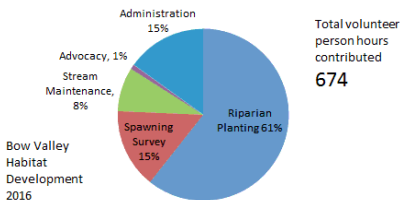


**Above:** This year's "Bow Valley Riparian Recovery and Enhancement Program" sign was installed along the West Nose Creek, in the City of Calgary, in October. The sign gives a concise description of what the program is all about and shows the partner's involved in the 2016 program. This is the third year of the program and three signs are now in place in three different communities along the 3 streams that are being restored. There are signs in the Town of Cochrane, the City of Airdrie and the City of Calgary now. You can zoom in on this photo to read the wording, logos and view the art work.

## A Record Number of Volunteer Hours This Season

This year's volunteer contribution is up, as a matter of fact it is record setting for overall contribution in person hours. The chart below shows how the time was spent on the various programs that Bow Valley Habitat Development was involved in. A great year for the cause.

## Volunteer Contribution for 2016



Bow Valley  
Habitat  
Development  
2016



**Above:** A number of mature brook trout spawning on the upper key habitats on Ranch House Spring Creek. This much spawning this year will result in a major boost to brook trout numbers on Bighill Creek over the following few years. The incubation success is much higher than any eggs laid down in the main channel of Bighill Creek, during the spawn.

## Volunteer Contribution Break Down

The volunteer contribution of 674 VPH's for this year's programs is as follows:

**Riparian Planting—409 hours**  
**Administration—101 hours**  
**Stream Maintenance—56 hours**  
**Advocacy—6 hours**  
**Spawning Survey—102 hours**

The "Advocacy" contribution was made to deal with two main issues: The proposed parking lot over Ranch House Spring Creek, for the Town of Cochrane main office building. BVHD provided spawning data to show the importance of the small spring creek as a trout spawning habitat. The second matter that BVHD was involved in, was the lack of rock rip-rap along the stream banks of West Nose Creek, on the Stony Trail crossing, in the City of Calgary.

The "Stream Maintenance" contribution was directed primarily at removing blockages on streams that would prevent spawning trout from reaching their spawning habitats, on four streams in the program. Those streams were Ranch House Spring Creek, Millennium Creek, Bighill Creek and West Nose Creek. The maintenance program proved to be very successful this year, with record numbers of trout spawning on Ranch House and West Nose Creeks.

The "Administration" contribution was for organizing partnerships, meetings, report writing and project supervision. The publishing of Stream Tender Magazine was not included in the contribution list.

## Bighill Creek Spawning 2016

The 2016 spawning season on Bighill Creek got off to a rather slow start this year. As a matter of fact, I was a little concerned earlier in the fall that we wouldn't have many trout spawning this year. However, things worked out ok later on in the fall, with enough spawning in the creek to cheer me up a bit.

Presently, the only place that the brown trout spawn is on the main-stem of the Bighill Creek. Water conditions on the Bighill Creek are very poor for a successful incubation, but some brown trout eggs do hatch.

It is my hope that eventually, the brown trout will make it upstream to the upper spring feeder creek, where brook trout are now spawning. Once they make it up the system that far, and start to spawn in the clear waters of the upper spring, the survival numbers of eggs hatching will be substantial and we can look forward to increased numbers of brook trout in the entire system.

This may take a few years to happen, but I am confident that it will.



**Above:** This photo shows a Bighill Creek male brown trout laying over a freshly excavated redd or egg nest, in the gravel. The larger stones under its head is where the female will lay her eggs and the male brown trout will fertilize them at the same time. When I approach with my camera ready, the female went darting for cover, while the male stayed around for it's photo to be taken.

## Park Spring Creek Spawning is Up This Year

It was only a few years ago that brook trout were observed spawning in the Park Spring. In 2013, to be exact. This was the first time since the early 1980's that trout had been observed spawning in this crystal clear spring creek. This was big news for the fisheries restoration program on the Bighill Creek.

Having recruitment of new generations of trout happening on the upper reach of Bighill Creek was a big deal. By far, reproduction on the top end of a stream system is the best way to re-populate the creek's trout numbers.

It took a bit of work to get those brook trout on the upper reach. Besides natural migration over time, volunteers have been opening up old beaver dams on the Bighill Creek since the early 2000's. The Town of Cochrane Parks Department played a major role in this program.

Now, we have a record number of brook trout spawning in the Park Spring and it may be only a matter of time before brown trout are spotted spawning on the spring creek. This may take a little longer to happen, because brown trout are not as ambitious as brook trout, when it comes to migration up a stream system.

The 2016 total redd count came to 46 egg nests. I expect a substantial increase in brook trout numbers migrating down from the Park Spring over the next few years. This should greatly improve the fly fishing opportunities on the lower reach of the Bighill Creek. I look forward to experiencing this myself.



**Above:** These brook trout were capture by camera and video, spawning in the crystal clear water's of the Park Spring Creek this fall of 2016.

## Heavy Spawning on Park Spring - Enriches the Creek

The Park Spring Creek is very short in length, from where it comes out of the ground to where it enters the Bighill Creek. The stream also is high in calcium and carbonate, which forms "Tufa" deposits on the rocks. This deposit limits invertebrate development, so there is less food for newly hatched trout. This can be problematic for sustaining a large number of hatched trout during emergence.

With such a nutrient poor stream being used for reproduction, any new nutrient injected into the stream can be beneficial. When trout spawn, only a small percentage of the eggs will hatch, the other eggs that die off are utilized by invertebrate populations. The same holds true for many streams where salmon spawn. The dead salmon and eggs provide needed nutrient to sustain newly hatched salmon fry.

The higher the spawning activity on a trout stream, the more nutrient there is for trout fry, when they hatch. Another important factor in the Park Spring Creek is its length. When many of the juvenile brook trout emerge from the gravel, it is only a short drift downstream to the main-stem of the Bighill Creek, where there is plenty of invertebrates to feed on.

With a record setting spawning event on the Park Spring Creek this fall, I am confident that there will be a significant survival rate on newly hatched trout. Maybe not as high as if the stream had more nutrient and food for the new generations, but good enough to dramatically increase the brook trout populations on the upper reach of the Bighill Creek.

For the past few years, I have been monitoring the hatch on the Park Spring Creek. So far, I haven't had any difficulty in finding newly hatched trout. This fall, while conducting my spawning survey on the stream, I noticed a lot of juvenile brook trout present, from the previous year's hatch. So this bit of evidence has convinced me that survival is not too bad for a spring creek that is less than ideal for spawning and incubation.

Over the past few years, it has been noted that a new crop of willow growth is starting to take root along the middle to lower end of Park Spring Creek. Probably due to the high levels of precipitation in recent years. This growth should also factor in to the enrich on the stream, by providing more organic bio-mass into the channel, which means more invertebrates.

## HOME

"A trout hatchery was built on Park Spring Creek in the early 1900's, but it most likely failed to be a productive hatchery due to the high concentrations of calcium in the spring water."

A Newly Hatched Brook Trout on Park Spring Creek 2016





## West Nose Creek Spawning Brown Trout 2016

It has been an eventful year for the West Nose Creek Urban Fisheries Program. The first big thing to happen was the documenting of a successful incubation of brown trout eggs from last year's spawning event. This occurred when an 80 mm juvenile brown trout was captured in August of this year.

The second big discovery happened this fall, when another key spawning habitat was mapped and documented approximately 10 kilometres upstream of the confluence with Nose Creek. The result was a record breaking number of brown trout redds or egg nests mapped this fall. The total came to 31 brown trout redds.

The higher number of trout redds further up the creek may have been the result of a blockage clearing program that BVHD completed over the summer on West Nose Creek. A few rock dams were opened up to allow fish migration upstream and one rather large, old beaver dam was notched down to streambed level.

What ever the case may be, there were a lot more spawning trout than last year. I also suspect that a few flood events in July of this year, may have helped some new arrivals of large brown trout to make it upstream from the Bow

River this year. However, this is just a suspicion of mine.

With growing numbers of brown trout spawning and the discovery of a new generation of hatched trout, the West Nose Creek has once again surprised us all. This has re-enforced our own determination to see the creek develop into a spring creek fishery in the future.

This season, over 10,000 native plants were planted along the stream bank's of the West Nose, which will provide future habitat for resident trout. So in years to come, we should see some major changes in the brown trout fishery. Habitat is key in supporting a thriving trout fishery and we are well on our way to making this happen.

The spawning survey and angling survey results will provide good documented baseline for monitoring how the fishery improves. The results are posted on to the City of Calgary, Trout Unlimited and SRO Fish and Wildlife. This information is also a useful tool for Bow Valley Habitat Development in gaining support for future programs on the creek.

This year I captured some great video and photos of large brown trout spawning on the stream.

"It is nice to be able to provide some good photos of the actual spawning that took place on West Nose Creek this fall. Hopefully, this will help stir up some interest in the fisheries restoration program on the creek."

"This year's spawning survey on the West Nose Creek, documented a total of 31 brown trout redds or egg nests. This count is up considerably from the 2015 spawning survey on the creek, showing real promise of a trout fishery recovery."

## West Nose Creek - The New Primary Challenge

With the Bighill Creek fisheries restoration program being close to completed, Bow Valley Habitat Development and partners can now focus their attention on the next major challenge for the future. This new challenge is the West Nose Creek system.

West Nose Creek, in scope, is a far larger project to tackle than Bighill Creek was at the beginning. There are many more kilometres of stream to deal with and the present day condition of the stream's fish habitat is very poor. However, this makes the challenge that much more exciting.

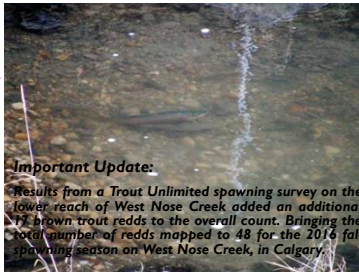
Over the past three years, the Bow Valley Riparian Recovery and Enhancement Program has planted over 20,000 native willow and tree plants along the stream banks of the West Nose. There is a total of 97 stream bank stability sites that have been planted on and this will continue. So we are off to a great start.

The new riparian growth will transform the stream, from a channel that is void of willows and trees on most of its course, to a more natural habitat and ecosystem. The new plants will provide future habitat for the resident brown trout populations and help to improve and create spawning habitats.

BVHD and partners are already working on a another major planning program for this next season, in 2017, so I am excited about this. This ongoing program has the potential to provide the greatest returns in stream restoration.



**Above:** Bow Valley Habitat Development volunteers modified this rock dam that had been constructed by kids, underneath an overpass, using rock that was intended to armour the bridge. The modifications allowed brown trout to migrate up the stream to spawn this year. The modifications only took minutes to complete, yet the result produced a total of 11 trout redds further upstream. Not a bad return for a few minutes of work.



**Above:** This pair of West Nose Creek brown trout were spawning on some large gravel, which makes the size of the trout appear small, but they are not small trout by any means. The female is almost underneath the male.

## Important Update:

Results from a Trout Unlimited spawning survey on the lower reach of West Nose Creek added an additional 17 brown trout redds to the overall count. Bringing the total number of redds mapped to 48 for the 2016 fall spawning season on West Nose Creek, in Calgary.

## Male Brown Trout Fertilize Multiple Eggs During the Spawn

This fall I had the opportunity to watch a single male brown trout spawn with a number of different females during the spawning season. I knew the male trout was the same one, because it had an old scar just below its dorsal fin. The scar was pretty prominent.

This is typical for dominant male brown trout, which are preferred by the females, due mainly to their size. It insures that the eggs are fertilized by the largest and strongest trout. A very common occurrence with all fish and wildlife. Thus the old adage "Survival of the Strongest".

It is rare to have the opportunity to distinguish between large male brown trout, because they all are pretty close in appearance, but the scar on the male that I observed was one of a kind. Fortunately, I managed to get both video and photos of the trout with multiple partners. Check out the photos below.

Watch the video — <https://youtu.be/8mJlscRYvWp>



**Above and Below:** You can see the scar on the male brown trout in these two photos. It is located just below the dorsal fin. I watched this male brown trout spawn with multiple female brown trout on the same spawning habitat over the fall season.



Scar



**Above:** This series of two brown trout redds are easily identified by the clean gravel mound below a deep depression on the upstream side. The two redds are side by side which makes the combination stand out in the streambed. Female brown trout will wear out part of their tails fanning the gravel when construction and covering an egg nest. They can move some rather large gravel, but in this photo, the gravel is on the small side.

I prefer to do my spawning surveys during the spawning period, just after the redds are constructed. You can see the trout spawning and also the fresh gravel stands out on the streambed, making it easier to identify. In only a few weeks, the gravel will develop an algae coating that makes the redds harder to spot.

## West Nose Creek - Future Objectives

The riparian restoration program on West Nose Creek is of high priority in the fisheries recovery objective. If you want to have a healthy population of brown trout in the creek, you need to make sure that there is adequate habitat to support a population. It is a simple approach for enhancing and creating fish habitat, just by planting native willows and trees along the water's edge on the creek.

Having native willows and trees right at the edge of the stream bank can meet all of the requirements for providing excellent trout habitat both above and below the water level in the stream. The cover will also increase the habitat for aquatic invertebrates, a trout's required diet to sustain life. Forage fish, other than trout will also thrive in the stream.

The root systems will stabilize stream banks and the branches from the willow and tree plants will constrict the flow in the channel and speed up the streams flow velocity. This will scour thru the silt accumulated on the bottom, to gravel and boulders. Resulting in more invertebrate habitat.

Exposed cobble and boulders also provide great cover habitat for juvenile trout, during their initial years of life. If there is no gravel then a hard clay may be the end result of a stream cleaning itself out. In either case, the removal of silt loads in the channel will help to improve the water quality in the stream.

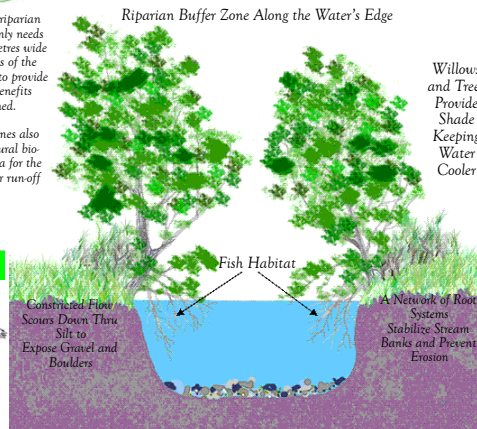
Healthy riparian zones also provide good bio-filtration of surface water run-off, from things like fertilizer.



An effective riparian buffer zone only needs to be a few metres wide on both sides of the stream banks to provide all of the benefits mentioned.

Riparian Zones also create a natural bio-filtration area for the surface water run-off

HOME



Willows and Trees Provide Shade Keeping Water Cooler

Riparian Buffer Zone Along the Water's Edge

Fish Habitat

Constricted Flow Scours Down Thru Silt to Expose Gravel and Boulders

A Network of Root Systems Stabilize Stream Banks and Prevent Erosion



**Publisher's Note:** I thought that it was important to get some local fly fisher's to share some of their thoughts on the Bighill Creek trout fishery. Joe Thompson is an English teacher and an avid fly fisher that fishes the creek. On occasion, we have also fished some other area streams.

### Bighill Creek - By Joe Thompson

Before moving to Cochrane in 2012, I would usually pass right on through town and head north to the streams around Botrel and Cremona. I had never even really noticed the tiny meandering spring creek that flowed through the Ranch. In fact, if you fish the water in the heart of the town of Cochrane, you will certainly run into people who can't help but ask: "Are there any fish in there?" It is partly due to the fact that others do not consider it "fishable" that I myself find enjoyment in fishing it. That being said, it is certainly no secret, and this quickly becomes obvious as you walk along its banks and notice the trampled grass in close proximity to the prime lies.

For me, one the biggest attractions of Bighill Creek are the good-sized brown trout residing in the lower reaches. Like all spring creeks, the vegetation grows right up to edge of the water with canary grass, willows, and other obstacles to frustrate the fisherman. Although it is not easy to fish, bow and arrow casts and strategic downstream presentations are good ways to avoid hanging up.

It is pretty cool to witness a nice brown slip out from under a cut-bank to inhale your dry fly, then explode at the surface in a

fit of rage as it tries to figure out where to go. It brings to mind the saying "lighting a fish in a phone booth."

I prefer to fish fiberglass rods on small creeks, and on Bighill Creek I usually carry my 7'6" 4 weight. Fiberglass' full flex action allows the rod to load with only a few feet of line, as well as deliver a fly with deadly accuracy. Short leaders of heavy tippet (these fish aren't very line shy) are ideal when you hook an 18" brown with nowhere to go but back into their cover. I often fish streamers, but my favorite method has been to fish small hoppers and beetles on windy days.

As you move up the valley from town, the brown population wanes and you are more likely to catch brook trout. Not surprisingly, the number of rainbow trout increases as you move down towards the confluence with the Bow River, although I was lucky one day to catch a decent rainbow while fishing in the valley above Cochrane Ranch with Guy Woods.

I have had the pleasure of helping out Guy Woods from Bow Valley Habitat Development on a few projects in town, both on Bighill Creek and on a couple feeder spring creeks. These projects involved removing an obstruction to trout

migration, some maintenance on a Millennium Creek spawning channel, as well as some willow planting to increase cover for the fish.

It is encouraging to see the town and local landowners support the efforts of various organizations to improve riparian habitat, stabilize stream banks, and monitor the water quality of Bighill. The past few years have seen good water levels, and aside from some concerns over high water temperatures last summer, the creek seems to be a healthy environment for trout. It should be a great fall for spawning brookies and browns.

I am optimistic that the future will bring continued support Bighill Creek watershed, especially if we educate our young people on its importance to the community, and wildlife. My long-term wish is to see Cochrane Ranch expanded and access to the upper reaches made more accessible. Besides fishing, I enjoy running and mountain biking along the strip of green space that goes right through town and past the Ranch. It is my hope that this beautiful and historic valley continues to offer great recreational opportunities in an ecologically healthy environment.



**Above:** Joe Thompson battling a nice brook trout on the Bighill Creek, using his short Orvis fiberglass rod. He landed the fish.



**Above:** A nice healthy rainbow trout brought a smile to Joe's face, while we were fishing a great section of the Bighill Creek one day.

### Bighill Creek - Getting Close To The Goal

The Bighill Creek Project, which started in 2004, is getting close to achieving the primary objectives in the program. Those objectives were as follows:

- Complete a comprehensive fisheries study on the lower reach of the Bighill Creek.
- Identify specific goals to restore the trout fishery.
- Restore and enhance spawning habitats on the system's tributaries and main stem of the creek.
- Restore native riparian habitat and enhance fish habitat on areas of the lower reach of the stream.
- Complete an annual stream maintenance program.
- Monitor annual spawning activity on the system.
- Advocate for protection of the sport fishery thru regulation change and the protection of sensitive spawning habitats.
- Educate the public about the importance of the stream's trout fishery.

After 13 years of volunteer work and community support, I am pleased to report that we are close to achieving our goals. There are only a few years more of riparian planting projects left to tackle and the major part of the overall program will be completed.

However, there will still be annual programs to protect and maintain the stream's habitat and fishery, so the job will really never be done. Monitoring things like annual spawning on the system is still important for the stream's future. Also, I am confident that public awareness of the importance of the stream's entire ecosystem will grow over time.

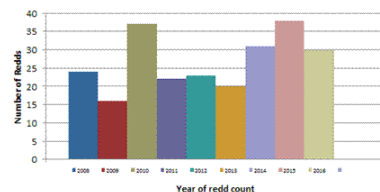
I personally hope, that the creek's sport fishery will help to maintain this interest in the creek. After all, trout fishers are the best friends that trout stream's could have. Especially those that are conservation minded fly fisher's.

### "Bighill Creek Spawning Tributaries Yield High Numbers of Spawning Brook Trout This Year"

It has been a banner year for brook trout spawning on the three key spawning tributaries to the Bighill Creek this fall. Millennium, Ranch House Spring, and Park Spring Creek had lots of spawning activity. Numbers were substantially over past years, and this holds promise of a major boost to the trout populations in the BH Creek in the future years. This is great news.

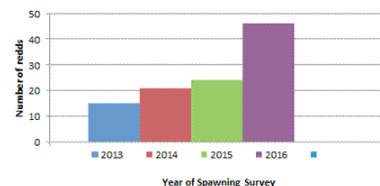
The biggest surprise was the numbers of brook trout spawning on the Ranch House Spring Creek. Both redd or egg nest counts were recorded. Especially significant was the high numbers of spawning brook trout on the Park Spring Creek. A total of 46 brook trout redds were mapped on the PS Creek, which will produce huge numbers of brook trout. Along with Millennium and Ranch House Spring Creeks numbers, we will see lots of brook trout for fly fisher's in the next few years. Spawning surveys are a great way of monitoring the health of a trout fishery.

### Millennium Creek Brook Trout



**Above:** This chart shows the results of spawning on Millennium Creek since the stream's restoration was completed in 2008. There was no documented spawning activity prior to rebuilding the spring creek. The last three years have seen solid numbers of brook trout spawning on Millennium Creek. A reliable spawning destination.

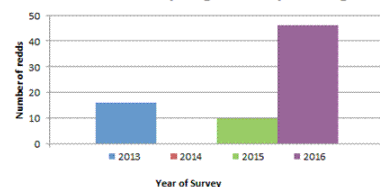
### Park Spring Spawning Survey



**Above:** Brook trout were first observed spawning in 2013, on the upper Park Spring Creek. This was the first time since the mid-1980s that trout had spawned in the tributary. Since 2013, there has been remarkable growth in the numbers of spawning brook trout on this spring creek. The Park Spring is destined to become the most important spawning tributary to the Bighill Creek system.

**Below:** As you can see, 2016 was a great year for spawning on RH5 Creek. The 2014 year was a loss, due to the Cochrane Lake Dewatering Program that pumped water into the creek that was too dirty and contaminated to support a spawning event that fall.

### Ranch House Spring Creek Spawning



The Trude Wing dry fly has been a popular choice among fly fisher's since it was first tied on the A.E. Trude Ranch in 1903, by Carter H. Harrison. I tied up the fly patterns on the right to show you some of the more famous designs which use a wing material of white goat tail. The white makes your fly easy to see.



### "Late Season Visit Shows Encouraging Results"

Late in the fall, I usually have more time to tour some of the willow and tree planting sites from year's past. Because Bighill Creek is only a short walk from my home, it always gets a little more attention. While I am touring the stream banks in the late fall, I will sometimes find a few new brown trout redds or egg nests, from late spawning trout on the creek. So this always adds a little more excitement to my walks.

In early November, I visited a few of the stream bank stabilization sites only minutes upstream of my house. It was great to see how willow and tree plants that had been planted on the bank years earlier, were now showing substantial growth. These plants had almost completely stabilized the eroding stream banks with their network of root systems.

From the top of the stream bank, which in some cases was over 7 feet in height, the willows and trees were thick along the water's edge. These were major erosion sites at one time. The branches, which were now void of any leaves, stood out over the stream channel, so I managed to take a few photos to share with you.



HOME