

Surreal Local Magazine



"Trout Larva and Trout Parr or Fry"



Trout eggs will hatch in the redd or spawning nest of gravel below the surface of the stream bed. After hatching, the larva will feed off of the egg sack for weeks, prior to emerging from the gravel.

After the trout larva have emerged from the gravel and they are free swimmers, they will start to develop the dark parr marks along their sides in the first few days. At this stage in their lives they are very poor swimmers so they seek out the shelter of lateral margin habitats.

Once the trout larva are strong enough to swim against the current, they will disperse to different habitats for the initial few weeks and months of their young lives. By this time the parr marks around it. This extra membrane are very distinctive and this makes them easily identifiable as the juvenile trout.

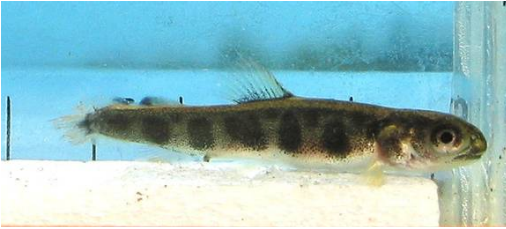
For those first days of free swimming, the trout are very vulnerable and survival rates can be low, due to predation. Once they have developed the strength to swim fast enough to flee predators, they can dart for cover.

During their first week of free swimming, brook trout larva have an adipose membrane that extends from the back of their adipose fins weeks and months of their young lives. This extra membrane are very distinctive and this makes them easily identifiable as the juvenile trout.

The membrane assists the small trout to swim and their emergence from the spawning bed gravel. The fins on trout larva are very delicate at this stage in their lives. Some trout larva will wear out their tail fins while trying to free themselves from the gravel.



Above: This brook trout larva is just developing the black parr marks along its sides. The larva has only emerged from the spawning bed gravel, a few days earlier. You can see a membrane extending back from the adipose fin.



Above: This brook trout fry has developed the black parr marks on its sides. The tail fin was worn down during the struggle to free itself from the spawning bed gravel. This worn tail will be repaired during months of growth.

"Lack of Sufficient Run-off for Two Years Now"

For the last few years there has not been any spring run-off events on a number of local spring fed streams. Bighill Creek, West Nose Creek and Nose Creek are good examples.

Without adequate spring rains or snow melt, plus the timing of weather changes to assist in rapid melts, area streams have missed out on good annual flushing events.

The result has been a slow build up of silt over gravel and cobble streambeds. This will impact both food production

and spawning habitat for trout. Trout streams need these run-off events to maintain a healthy ecosystem.

Unlike mountain streams that can benefit from winter snow accumulation and the spring melts, spring fed creeks need the spring rain or snowfalls to get a good flush. The El Nino has been responsible for the dry winters and lack of moisture in our area and this is hopefully about to change.

This past week of May, as I write this article, the weather

has started to change. With both rain and snow falling over this next week, I am hoping for a rise in the water levels and a good flush.

During such events, trout have an opportunity to migrate up these smaller spring fed streams to spend their summer months and for both brown trout and brook trout, a fall spawning is ensured.

Clean spawning gravel is a must for the annual spawning event, so with a little help from mother nature, this will happen.

"Ghost Village Bay is Being Re-contoured to Protect Fish Populations on Ghost Lake"

On May 20th of this spring I had some business in K-Country so do. As I was driving along the IA Highway, I noticed heavy equipment moving earth on the lake bed of Ghost Village Bay. The normal spring draw-down on the lake was well underway and the lake levels were down low enough that the bay was dry in some areas.

This was the rumoured re-contouring excavation project that had been circulated over the past few years and now it was finally happening. The objective of the project was to save the fish populations that are trapped in pools on the bay in the early spring every year.

When the lake levels are brought down to receive the spring run-off from the mountains, fish are trapped in a number of pools as the water levels recede. There are three large pools and a number of smaller ones that eventually dry up, killing thousands of fish.

It was great to see that the project was finally underway. This will have a huge impact on the fishery in the Ghost Lake. Although most of the fish that die off are forage fish, these are the primary food source for the resident lake trout populations, along with brown trout and lake whitefish.

If the fish can swim out of the bay during the spring draw down, they will enhance the food source of the lake, which is limited in food based biomass. Also, being a reservoir, the constant fluctuations in water levels on the lake impact and destabilize invertebrate populations.

On a normal lake, a stable water level allows for a healthy limnetic or littoral zone where both weeds and aquatic invertebrates flourish. Ghost Lake does not have this, so the food for trout and whitefish in the lake is limited. Many thousands of juvenile forage fish and minnows can sustain a reasonable trout and whitefish fishery.

In 2008, Bow Valley Habitat Development completed a fisheries study on the Ghost Village Bay. The study was funded by TransAlta Corporation. The final report was a tetter; "Spring Draw Down Fish Exclusion and Removal Measures for Ghost Village Bay".

Part of the study was a netting program that used a 400 foot custom built net to capture, process and release fish trapped in the bay pools. Besides both brown trout and lake whitefish that were captured and released, there were thousands of minnows and juvenile fish transferred to the main lake body.

In the final report, BVHD made a recommendation. "The option of re-contouring the upper trap pool by filling with available material from around its perimeter should be considered". It has taken 8 years, but I am very pleased that re-contouring of the Ghost Village Bay is now occurring.

With recent developments in the spring management of the Ghost Reservoir and the generating facility at the main dam, by the province of Alberta, this could not happen at a better time. We can expect that the main body of the Ghost Lake will be maintained at a lower spring level in the future.

The management program is a result of the 2013 flooding in the City of Calgary and the huge costs placed on both the City of Calgary and the province of Alberta. At least consideration for the lake's fishery was part of the final plan for the Ghost Lake.

It will be interesting to see how this excavation project turns out. I will most likely be keeping a close watch on the Ghost Lake fishery in the coming years and you can expect some further reports on how things evolve. Bottom line, it is nice to see that a long term problem for the lake's fishery is finally being resolved.



Above: This photo shows the upper most trap pool at the Ghost Village Bay. This is where most of the fish were found alive.

Right Photo: Bow Valley Habitat Development's crew netted the large trap pool in 2008. The custom built net was 400 feet in length and had a 1/4 inch mesh size. The net was pulled by Quads.



Above: For many years, thousands of fish were stranded in a number of small pools as the water levels in the Ghost Village Bay were brought down for the spring run-off. This loss of forage bio-mass for the resident trout and lake whitefish populations in Ghost Lake had a major negative impact on the sport fishery. With a re-contoured bay, the fish will have a chance of making it back into the main body of the lake. This will be especially important to the resident lake trout and brown trout populations in the Ghost Lake Reservoir.



Above: Fish that were trapped in other pools in the bay, during the spring draw down, would suffer thermal kill, when the water temperatures get too high for them to survive in, or they would just end up tangled in the weeds, like the sucker fish shown above. Over time, the larger three trap pools would also get to warm to support life for sport fish or coarse fish and they would also die off. On the lower and largest trap pool, there would be large lake trout trapped in the spring, during a low draw down. These members of the char family require very cold water to survive.

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Stream Tender Magazine

June Issue 2016



Bow Valley Habitat Development's 30th Year Anniversary Edition

Magazine Mission Statement

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West Nose Creek brown trout

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"Ranch House Spring Creek - Urban Trout Hatchery is Back"



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Above: A brook trout fry takes cover along the bottom of the channel at Ranch House Spring Creek this past April. There was a good hatch of trout eggs from the 2015 fall spawning event on the small feeder spring creek. This was good to see, after the total loss of spawning and reproduction during the 2014 season.

"Big Brown Trout Caught On Bighill Creek"



"Park Spring Creek Hatch"

Another important trout hatch has occurred on Park Spring Creek. Having trout reproduction on the upper reaches of Bighill Creek will insure that new generations of trout are recruiting the headwaters area of BH Creek for the future restoration of the trout fishery.

As was the case on the other two important spawning tributaries to the BH Creek this year, the hatch and emergence from the spawning beds came early this spring. On my first trip to inspect the creek for a hatch of brook trout from last fall's spawning, I was very pleased to discover some very small brook trout fry.

The size of the head of these fish was very large when compared to the body length, which indicates a fairly recent emergence from the spawning gravel. After trout hatch from the eyed eggs, they retain the yolk or egg sacks to sustain them for the first weeks of their lives. When the egg sacks are absorbed by their system, they will emerge from the spawning gravel and start on a diet of microbial life and very small aquatic invertebrates.

It was great to witness another successful year of trout production from this important spawning tributary to the Bighill Creek.

Left Photo:

This brown trout larva was photographed and videoed on May 06, 2016, approximately 15 metres downstream of a key spawning habitat that was utilized by mature brown trout in the fall of 2015.

This is an exciting discovery for the stream's riparian and fish habitat restoration program.

Read the article and see the video on the link below:

<http://streamtender.com/vb/index.php>

"Bow Valley Riparian Recovery and Enhancement Program Update"

In early April of this year, many of the native willows and trees from the previous plantings on Bighill, Nose and West Nose Creek started to show opening buds of green much earlier than normal.

This will be a very long growing season on area streams this year. The key to a successful third year of the BVR&E Program, will be some well needed spring rains. This will help maintain water levels in the creeks and provide the necessary moist soil to support new plantings.

Native willow and tree plants from the last two years are starting to show along the stream banks of creeks where plantings have been completed. The additional plantings for the 2016 program will increase the length of stream banks that need the new growth and second plantings on areas that have already been planted will add to the riparian density.

In summary, the results of the past two years of the program are very encouraging, with a promise of good news in future reports. For more information on the program, go to page 8 of this issue for details.



[Read More](#)

"Having three reliable spring creeks for trout to spawn in every fall, is a major asset to the Bighill Creek Trout Fishery"



Above: This tiny brook trout, with the large eyes and head, has just emerged from the spawning bed of gravel on Park Spring Creek. Newly emerged trout take cover in shallow lateral margin habitats along the stream channel, for the first weeks of their lives. The trout pictured above is only approximately 2 cm in length.

"Willows Soon Will Provide Fish Habitat"

Photos Left and Right:

Willows that were planted over the past few years along Bighill Creek, in the Town of Cochrane, Alberta, will soon be providing fish habitat for the resident stream trout.

Another few years and the plants will provide shade along the stream channel and some of the limbs will end up below the water's surface to create fish habitat, especially for juvenile trout.

This planning is part of the "Bow Valley Riparian Recovery and Enhancement





"A Look Back at the-Ranch House Spring Creek Project of 2010"

During the fisheries study of 2009, on Bighill Creek, it was documented that juvenile trout could not pass upstream of a small water fall on the lower reach of Ranch House Spring Creek.

In 2010, Bow Valley Habitat Development obtained all of the permits and authorizations necessary to complete a channel modification project on the creek. To remove the small water fall and create a stepped series of opposing rock deflectors.

The stepping of the stream would allow trout migration upstream over a distance of approximately 15 metres of the stream channel. This was a simple—cost effective fix to improve trout migration.

Fund for the project was provided by the Alberta Conservation Association. The cost was only a few thousand dollars, with some in-kind support from local resources. It took only a few days of work to complete in July of 2010. BVHD provided 2 habitat techs to do the job.



Above: A flow-by-pass pipe was used to isolate the work area on the stream channel. This would insure no silt loading into the creek.

Below: Large rocks were installed on opposing sides of the stream channel, to create a stepping down of the steep gradient. This would allow easy migration of trout into the middle and upper reaches of the stream. There had been no trout found upstream of the waterfall.



Stream Tech Magazine

Volume 2016

"Ranch House Spring Creek Brook Trout Hatch – 2016"

It was great to find a new generation of brook trout hatching on Ranch House Spring Creek this past April. Although the fall spawning event on the creek was relatively small (13 redds or egg nests), when compared to previous successful spawning events, the hatch was a good one.

Last year, in 2015, there was no hatch of trout on the creek. In 2014, a lake draw down program resulted in high volumes of water being pumped into the creek on its upper watershed. The extra flow created a turbid flush of silt laden water that trout would not spawn in.

Since the 2010 Ranch House Spring Creek Project, brook trout started to spawn in the middle to upper reaches of the stream, making the creek of significant importance to the fishery.

However, both storm drain runoff and the lake dewatering program have had a negative impact on the natural fishery of the creek, especially when it comes to trout reproduction. The most important thing to accomplish with this little creek is to educate both developers and Town of Cochrane administrators, about the streams significance to the local fishery.

Trout were first documented using the creek in 2009, during a comprehensive fisheries study completed by Bow Valley Habitat Development. Juvenile trout were trapped on the lower reach of the creek, in a trout trapping program.

After a stream habitat enhancement project was completed in 2010 by BVHD, trout started to spawn in the creek.

The monitoring of both spawning events and trout hatches is part of an ongoing urban fisheries program designed by BVHD. The collection of data and video will be used to help protect the small feeder spring creek, when development issues pose a threat to the creek's fishery.

As a community, we are very lucky to have such a natural treasure within the town limits of Cochrane. However, there is a responsibility to take care of it. So far, the level of cooperation has been good and I hope that this will continue.

Both Millennium Creek and Ranch House Spring Creek are important spawning tributaries to the Bighill Creek. This is vital for the recovery of the fishery in Bighill Creek and the wildlife that depend on this component of the ecosystem.

"New Parking Lot Expansion Planned for Ranch House Spring" "Creek"

Recently, I read that there is a parking lot expansion planned for the main parking lot surrounding a portion of Ranch House Spring Creek. From what I have heard, an area of the creek will be covered over and contained in a culvert.

I know that the Town of Cochrane is aware of the importance of the fishery on Ranch House Spring Creek, so I am hopeful that the final design will meet with fisheries concerns on the creek. Especially, the spawning event that occurs every fall on Ranch House Spring Creek and the hatch which happens in early spring.

The best approach, in my opinion is to use a flanged half culvert, with a natural streambed that will allow fish passage or migration upstream on the system.

Also, it is my hope that construction will not interfere with the critical time window that protects the trout in Ranch House Spring Creek. This would start in October 1st and go thru winter until May 1st of the following year.

Trout eggs, when deposited in spawning beds of gravel, require clean well oxygenated water during their incubation. If any silt loading occurs during the parking lot construction, the result could be a total year loss or generation of trout.

The fact that the Town of Cochrane has yet to contact me about the fishery in the creek, has me a little worried. However, I will be keeping a close watch on the project when it is started. Right thru to the completion date.



Above: This photo shows the existing parking lot where the Ranch House Spring Creek flows right thru the centre. The new parking lot will entirely cover the small creek.

Left Photo:

The small brook trout fry are very hard to spot when they take shelter below the debris covering the bottom of Ranch House Spring Creek.

oto:
The small trout adapt to the colors of the surrounding environment to blend in and hide from predators from above. Their movement often gives away their position.



Left Photo:

This is the small water fall that was blocking trout migration further up the system. A number of juvenile brook trout were captured below this water fall in a 2009 study and trapping program, but no trout were found upstream. Such small spring feeder streams are under estimated for their importance to the fishery.

Right Photo:
This is what the stream channel looked like after the project was completed, from the same perspective as the photo to the left. You can see how the opposing rock deflectors upstream create a drop down step in the stream channel. The 10 deflectors were spread out over a distance of approximately 15 metres of channel.

The sand stone rock in the lower part of the photo was installed as juvenile fish habitat, to further enhance the stream channel's make up.

"It is important to make such enhancement projects as natural in appearance as possible. Using natural materials, emulating what would occur in nature, as a template."

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Above: A fly fisher casts a line in the early morning mist along the Burnt Timber Creek. This tributary to the Red Deer River is a vital recruitment stream for the wild cutthroat trout that would populate the river, if the trees are protected. Mountain streams such as the Burnt Timber cannot reach their full potential with a trout harvest.



Above: A wild Burnt Timber cutthroat trout. It is rare to catch a larger cutthroat trout on the Burnt Timber, because of the existing harvest limit of 2 trout per day. Without the larger mature spawning trout, recruitment levels are not as high as they could be.

“The Upper Red Deer River—A Cutthroat Trout Stream Waiting to Happen”

A fly fisher knows about the quality brown trout fishery on the middle reach of the Red Deer River. However, the upper pristine reach of the Red Deer is not on many fly fisher's destination list.

This is too bad, because the mountain and foothills length of the Red Deer River appears to be perfect trout habitat. There are some nice bull trout that occupy the deeper pools, but much of the habitat is under utilized by a second dominant species of trout.

Mountain whitefish are plentiful, but there is a feeling that something is missing in this great looking freestone stream. In my opinion, cutthroat trout. I believe that the upper Red Deer has huge potential for a thriving cutthroat trout fishery. It is also my opinion that this is not far off, if a management strategy is designed to populate the river with cutthroat trout.

Let me share some of my own ideas for reaching this goal. Right now, there are two prime spawning tributaries, with resident cutthroat trout that are important to recruitment of cutthroat trout. They are the Panther River and the Burnt timber creek. The later could be pumping more cutthroat trout into the Red Deer River.

Presently, there is a 0 catch and keep limit on the Panther River, for cutthroat trout. For the Burnt timber, there is a harvest of 2 trout allowed. This harvest of cutthroat trout from the Burnt timber is unacceptable, in my opinion. After all, the cutthroat trout is on the threatened species list in this province.

With a harvest of trout permitted on the Burnt timber, those anglers that like to keep trout for the dinner plate are prone to target the larger cutthroat trout. This is very unfortunate, because these trout are the mature spawning fish that recruit new generations into the system.

In recent years, I have noticed more small cutthroat trout on the lower reach of the Burnt timber, which means that some of the trout are making it down into the Red Deer River. If all of the cutthroat trout were protected, the number of cutthroat trout entering the Red Deer River would increase substantially.

These Red Deer River cutthroat trout would return to spawn in the Burnt timber when they are mature. Over time, as the populations of cutthroat trout in the Red Deer would spread out and provide a decent sport fishery on the river. It would take time, but it's worth it.

I know that there are plenty of smaller feeder spring creek tributaries that would provide new spawning habitats for a growing cutthroat trout fishery on the Red Deer. However, this will not happen until all cutthroat trout are protected on the upper Red Deer River system.

More trout in the upper Red Deer means more sport fisher's enjoying their recreation. Also important is the benefit to wildlife when there is a healthy trout fishery to enhance the bio-diversity along the river.

In my opinion, the days of trout harvesting on wild trout streams with native strains is a "old school" approach. There are just too many anglers with a fresh trout dinner on their minds and a very limited resource to fill these desires. Enjoying the resource, but not taking from it, is a more conservation minded reality.

I know that it may take years to establish a viable cutthroat trout fishery on the upper Red Deer River, but now is good time to start. The first major move in this direction would be a new regulation to protect the wild Burnt Timber stream of cutthroat trout and go with a 0 catch and keep limit.



Above: A reach of the Upper Red Deer River in early spring, as the snow melts in the mountains. Photo: Courtesy of Andrew Watson

“ Keeping the Bighill Creek Free of Blockages for Trout Migration “

In order to meet the goal of repopulating the Bighill Creek with wild trout, it has been important to keep the stream free from any blockages. Wood debris or old beaver dams that interfere with trout movement both upstream and downstream can easily be notched to allow fish migrations.

This program has been ongoing on Bighill Creek since 2009 and hopefully it will continue. The main component for completing this task is volunteer power. Local fly fisher's have committed many hours of their time to chip in.

All blockages on the creek pose a threat to stream bank erosion. Once free floating woody debris is jammed up on a stream blockage, the flow of the stream channel can erode the outside stream bank, causing tonnes of silt to enter the streambed. With a little help, this can be avoided.

Old beaver dams are notorious for causing the stream channel to cut a new course in overflow side channels at the outside ends of the dam. By notching a small opening in the face of the dam, on the old stream channel, this is avoided. As long as permission from the land owner is in hand and you contact your work program during the in-stream activities period, the project is following the guidelines set by DFO and provincial regulators.

Every trout stream has an in-stream activities time window. This window is set to protect the spawning and recruitment cycle of the trout that occupy the stream. On the Bighill Creek, the in-stream activities period is from April 1st, until September 15th. So any removal of blockages is completed in that time period.

Before any work is done every year, all of the necessary permits and permissions are obtained to complete the project. In the past, there are three land owners that have property on the Bighill Creek's lower reach. All of those land owners have been very cooperative over the past 9 years.

Now that there are spawning and eggs are hatching on the Park Spring Creek, we have reproduction coming down from the top end of the stream. This will definitely help in growing the trout populations in the BH Creek every year. However, the blockages on the lower end will continue to be removed.

Urban trout streams require some annual maintenance to enhance the trout fishery, but it is not a bad job to do, when you have a number of volunteers to help out.



Above: This blockage was causing the stream's flow to start eroding into the far stream bank. It also constricted the flow for trout migrating up the system.

Below: The blockage was removed and the creek is flowing without obstruction. Now trout can easily move up the creek. This small project took only minutes to complete.



Stream Tender Store

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“ That Dirty Little Local Trout Stream “

The topic of Bighill Creek comes up a lot in conversations between local fly fisher's these days. One of the most common comments that I hear is how dirty the water is in the stream.

It is true that the water quality is suffering on Bighill Creek and it has been for many years. Cattle activity upstream is the main source of the problem, but beaver activity also contributes to the water's clarity.

Despite this problem, the creek still maintains a trout population that is growing in size in recent years. The key to this recovery is the three clean flowing spring creek spawning tributaries that insure recruitment of new generations

There is no doubt that if the stream's water quality was better, there would be more aquatic invertebrates that would enhance the stream's capacity to hold more trout.

Fortunately, there is a large enough minnow and coarse fish population in the Bighill Creek to provide a food base for both brown trout and brook trout. If there wasn't so much silt covering the streambed, the aquatic invertebrates would flourish.

Maybe some day in the future, the entire BH Creek valley will be set aside as a park, and the stream will have a chance to recover to a more natural state. Then the trout fishery would be fantastic and

Stream Tending Magazine



"Country Hills Golf Course Stream Banks"

In 2015, Country Hills Golf Course completed 8 stream bank stabilization projects on West Nose Creek, in Calgary. The project was undertaken to reduce stream bank erosion at key sites on the golf course. The eroding stream banks were armoured with Class 2 rip-rap to stop top toe erosion on the outside of the eight sites selected for remediation. This will prevent future erosion.

The completed project will help reduce the amount of silt loading into the stream and improve water quality downstream of the golf course. Prior to the work being completed, tonnes of silt was being deposited into the creek every spring, during run-off events. Small improvements such as this one will help in the long term recovery of the stream.



Above: Rip-Rap rock is commonly used for stabilizing eroding stream banks. The ruff quarry rock is placed on the outside banks of stream channels to prevent toe erosion. This measure greatly reduces the amount of silt loading into the stream channel and this will improve the water quality in the stream and help keep the streambed free from a thick layer of silt. The size of rock used is dependent on the mean average volume of flow in the stream and how high the spring run-off is.

"Great Fly Fishing Results for Bighill Creek in 2016"

Eric Schumann started to fly fish on the Bighill Creek in 2008, as a participant of an angling survey. His efforts were part a fisheries study on the stream. There was a total of 6 local fly fisher's that helped out in the assessment of the fishing opportunities on the creek, for baseline recording.

Since those first outings on the BHC, Eric has become an expert fly fisher on the stream. The technical challenge of fishing the BH Creek with a fly rod is something that takes a lot of practise, but the rewards will come over time.

This spring, Eric has had some great days on the creek and I have received reports of good brown and brook trout catches, along with a really nice cutthroat trout. The highlight was a monster 19 inch brown trout that he caught and photographed. The trout on the cover page is the brown trout.

This was great news for the fishery and for Eric, whom deserves a just reward for all of the time that he has spent volunteering to improve the fishery on the Bighill Creek. Eric has put many hours of his time into the Bighill Creek fisheries enhancement program and the Millennium Creek Restoration Project.

He has also worked to improve the fly fishing on Milford Trout Ponds, by volunteering to do weed removal and other things that help to maintain the fishery on the ponds. The trout ponds are a great venue for young kids to learn how to fish.

I have fished with Eric a number of times and I know that he has become an expert on small stream fly fishing. This can take years of practise. It is good to see that our local trout streams are producing such great catches as those that Eric and other local fly fisher's have enjoyed in recent years.

There is no doubt that the sport fishery in the Bighill Creek is improving over time. Thanks to hours of volunteer time by local anglers, the creek is transforming into a popular trout fishery, once again. There are brown trout, rainbows, cutthroat and brook trout to be caught in the stream.

Normally, the creek's secret fly fishing would be kept quite by those that fish the stream. However, because of the great partnership and volunteer support over the years, it is considered important to share the good news with all of those involved. Besides, when a trout fishery becomes more popular, it gains more friends that will support its protection and further enhancement into the future.

I know of a few friends that the creek has gained. These are fly fisher's that already enjoy the stream, including myself among them.



Above: Eric Schumann presenting a trout fly to a wary trout on the Bighill Creek's hidden waters.



Above: This fat little cutthroat trout was caught and released by Eric on the BH Creek.

Photo: Courtesy of Eric Schumann

"Fly Tying and Tending Trout Streams"

When the open water season comes to an end and the ice builds and snow flies, I like to resume my fly tying hobby. It is nice to have an indoor past time to enjoy while the really cold days encourage you to keep inside a warm house.

This past winter, I decided to tie up an old friend (trout fly) called the Quill Gordon. In the past, I have used a striped grizzly quill for the abdomen part of the body of the dry fly, but I thought I might try something different this time.

There is a relatively new material available that is called D-Rib, which is a silicone based, stretchable plastic that is really great for midge pupa bodies and San Juan Worm patterns. I decided to try it out as a Quill body for one of my dry fly patterns. It is an easy material to tie with.

The D-Rib worked out just fine, so the next step is fishing it this year. Hopefully, I will find a good hatch of mayflies that will provide the opportunity to use the pattern.

Tying flies provides me with plenty of time to think about other things, such as some good projects for the upcoming season. While I build a trout fly, my thoughts are either about trout fishing or tending trout streams. It kind of gets you in the mood for such things.

It is funny that one would think of catching a trout, while at the same time also think of taking care of them. I sometimes wonder if it is only my line of thinking, or if other fly fisher's have similar ambitions. What ever the case may be, fly tying and tending trout streams all seem linked in some way.

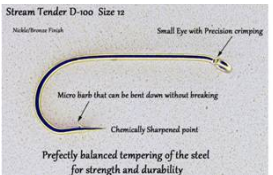


Above: This version of the Quill Gordon is tied with a stretching D-Rib material for the abdomen of the pattern. This material comes in a variety of colors and it is easy to tie with. The Quill Gordon was first tied by Theodore Gordon, whom is considered the "Father of American dry fly fishing".

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"Willow Planting Update"

The "Bow Valley Riparian Recovery and Enhancement Program" was actually started 3 year earlier than the official name of the project was given. In 2013, a substantial number of native willow and tree plants were planted on both Bighill Creek and Nose Creek. The total number of plants for that year was 6,435.

Bow Valley Habitat Development and its partners had also been planting on Bighill Creek earlier than 2013. Plantings on Millennium Creek began in 2007 and on Bighill Creek's main channel in 2009. However, the major planting program did not really happen until the 2013 planting season.

To summarize the last three years the following break down is revealed:

2013 season involved planting 2,961 plants on Bighill Creek and 3,474 on Nose Creek. 2014 season: 3,246 plants on Bighill Creek; 5,423 on West Nose Creek and 1,855 on Nose Creek. 2015 season: 2,517 plants on Bighill Creek; 9,878 on West Nose Creek and 2,500 plants on Nose Creek.

The total number of native plants for the last three years is 31,852 native willows and trees.

I look forward to reporting the results after this planting season has been completed. Presently, I know that we can add another 8,500 plants at least, which

"Nose Creek's Future Potential Fishery"

For some people, the present state of Nose Creek's water quality and its fishery is beyond restoration. However, I believe that there is hope for the future.

Right now, there is a small pike population in and around the City of Calgary, with a few trout surviving on the lower reaches in the City of Calgary. So with a major effort to clean up the stream, these sport fish populations could improve.

There are two major problems with the water quality in the stream: both pollution and summer water temperatures. Impacts on treated waste water upstream of Airdrie and stagnation in the Airdrie contribute to poor

Further up the Nose Creek watershed, the Town of Crossfield supports a population of approximately 3,000 residents. Waste water from the community is treated in an antiquated system of settling ponds, before it enters the Nose Creek stream channel.

During low flow periods in the stream, the treated effluent is not diluted enough in the water of the creek, so the result is a high level of contaminants in the creek further down the system.

In the City of Airdrie, areas of the stream channel and feeder tributaries have been channelled to a wider than normal width, allowing stagnation to occur in the creek. Low oxygen levels and

It is my opinion that once Crossfield grows in size, a more modern waste water treatment plant will be constructed and water entering Airdrie will be of a high quality than present day conditions.

If the City of Airdrie were to aerate the low gradient, wide sections of the creek, the water quality would also improve. Shade from the riparian plantings that are presently happening on Nose Creek in Airdrie will also help to keep the water temperatures cooler in the summer.

It is an optimistic opinion, but well within the realm of possibility. The riparian work that Bow Valley Habitat Development and its

"Nose Creek's restoration program is a work in progress. Riparian plantings in the City of Airdrie and Calgary will help out in the long term"

HOME





London Magazine

"Opening Day on Bighill Creek"

Opening day of the fishing season on Bighill Creek happens to fall on April Fool's Day. So if you expect anyone to believe your fishing stories, you have to wait a day or so to tell them.

There were two options open to me for opening day. I could Creek the spring run of rainbow trout on the nearby Bow River, or I could tackle the heavy cover along Bighill Creek. I had to fish for some early season brook trout and brown trout.

After deciding on the latter, I set out for the creek with my short fly rod and some first day enthusiasm. It never fails, I always seem to be a victim of line tangles, while trying to get thru the heavy brush along the creek, on the first trip of the season.

My 7 foot six inch fly rod is a great fishing tool when it comes to finding a path thru heavy cover, by on this first trip I was definitely out of practice. In any case, I finally found my way to the creek and found it running high and turbid. Not great for fishing, but still worth the effort.

I was kind of expecting this, so there was no major surprise in store. Recent warm weather meant that melting ice and remnant snow would be running off into the creek. Typical for early season fly fishing on the local brown and brook trout streams.

The rod and reel that I was using still had the last fly that I had used, from the year before. So after inspecting the leader for nicks, I decided to give the pattern a decent try before I would change patterns.

The fly was a "Streaming Wet Fly" pattern, with the given name of "Mellow Yellow". I believe that famous folk singer — Donovan, had released a hit song with the same title, back in the late 1960's. So this is how the name came about.

The first trout came to my fly within only minutes of my first cast. It was a beautiful 17 inch brown trout that looked a little lean from the harsh winter months below the ice. It looked pretty hungry to me.

This turned out to be very fortunate for my angling effort that day. Early spring is always a great time of the year to catch those larger, hard to get, brown trout. I think that besides being hungry and sometimes half famished, the trout are still a little dopey from their lethargic winter survival mode.

My second trout came to the net an hour or so later. I had to work hard to catch the second brown trout. However, when I caught this fish I was pleasantly surprised to find it was a

very rare catch for the Bow River watershed. The second brown trout was a Scottish brown or Lochleven trout.

The Lochleven is distinguished from the German brown trout by the lack of red spots along its sides. The trout was approximately 14 inches in length and also very thin from the winter. I can't remember the last time that I caught a Lochleven on the Bighill Creek, because I didn't know the difference between the German and Scottish version until I was older in life.



Above: This brown trout is a Lochleven variety, or Scottish brown trout. The trout was originally introduced to Alberta waters, in the early 1920's. You can tell it is not a German brown trout by the lack of red spots along its sides. This strain of brown trout is extremely rare on the Bow River watershed.

I have seen these trout on a Barrier Reservoir, the Bow River and now on Bighill Creek. This proves the gene pool for Scottish brown trout still exists in our local waters.

"Willows Along The Water's Edge and Fish Habitat"

The majority of native willows and trees that are planted in the "Bow Valley Riparian Recovery and Enhancement Program" are planted along the water's edge. There are a number of reasons for this approach, but the primary one from my perspective is to create fish habitat.

Woody debris has been proven to be the most effective fish habitat enhancement biomass and it is all natural. With willow and tree planting right next to the flowing water on streams, a cost effective and natural fish habitat is created over time.

Once the native plants are established tight to the stream channel, the branches and root systems form both over head cover and a perfect habitat for both fish

and aquatic invertebrates, a great combination for any trout stream.

Furthermore, the habitat is natural and when the plants mature, there is no trace of human intervention, it is all a natural looking eco-system. A perfect fish and invertebrate habitat can be created after an initial investment of only a few dollars.

The base of a mature willow or tree plant works as a debris catcher, during high flow events. This adds to the structures effectiveness to provide habitat. The constriction of flow created by the growth of willows and trees along the water's edge, on opposing sides of the stream channel, also scours silt from a stream bed. This is an added bonus, especially for silty streams.

It may take approximately 7 years before the newly planted willows and trees start to produce a positive benefit, but this is a long term program and investment. However, for the costs involved, it is my opinion that the amount of habitat created by this approach makes the plan a good one.

Another added bonus to riparian plantings is the new recruitment of willows and trees from seeds. Once a crop of native willows and trees are planted directly along the water's edge, seed distribution downstream will be optimal. This will lead to new growth further back on the water's edge, over time.

High flow events on a stream result in new growth from seeds being flushed down the system.

"Planting Willows on the Capillary Fringe"

One of the big advantages of planting along the edge of the stream channel is the presence of moist soil. This eliminates the need to water newly planted native willows and trees.

A portion of the moisture along the stream bank is the result of "Capillary Reaction". This is when the water of the stream channel wicks up above the water level in the stream, creating a permanently wetted area of soil close to the water's edge.

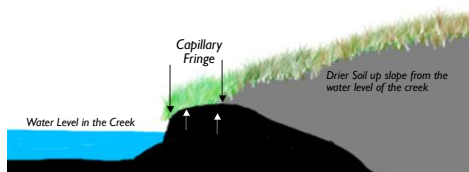
Depending on the soil make up and stream bank elevation, this wetted area can extend some distance from the edge of the stream. By planting willows, which need a lot of moisture to grow, in the capillary fringe, survival rates are higher than when planting further back from the stream channel.

The native willows and tree plants that are planted in the "Bow Valley Riparian Recovery and Enhancement Program" are planted deep into the soil along the edge of the stream. If the water level drops in the creek, during dry spells, the root systems on the plants still are in contact with good moist soil.

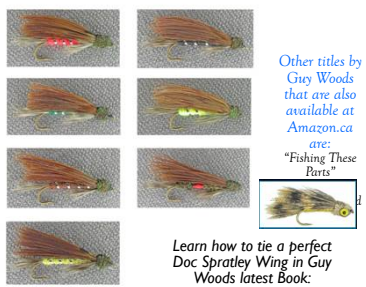
The distance that moisture will wick up from the water level in the creek, depends on the density of the soil. With high clay content, the moisture will travel up the stream bank further than coarse soil.

There is a lot more clay along streams in the Bow Valley Riparian Planting Program's area, so there is a larger capillary fringe to plant in. However, clay is not a good growing medium for plants, so willow growth can be slow.

"The capillary fringe is the subsurface layer in which the ground water seeps up from a water table by capillary reaction to fill in the pours"



HOME



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

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



Left Photo: You can see from this photo, how willow plants on Bighill Creek create perfect fish and invertebrate habitat, once the plants reach maturity. In this reach of stream channel, there is good overhead cover and flow constriction in the stream channel.

Right Photo: This is a photo of a section of stream channel on West Nose Creek, on the Country Hills Golf Course. You can see the contrast between the far channel, which is covered with Sandbar Willow and the near side is part of the grass fairway on the golf course. Note how the willows provide good overhead cover for trout.



"An Unsightly Scar on Jumpingpound Creek"

During the flood of 2005 and 2013 on Jumpingpound Creek, a stream bank located just downstream of the bridge in Cochrane was severely damaged. The result was some stream bank armoring that was completed in 2008 and recently, further reclamation of the site has been completed.

Prior to the two flood events on the creek, there was a stand of mature cottonwoods that existed as a natural riparian buffer along the stream. However, most of these trees disappeared in 2005 and a few more were gone in the 2013 flood.

This loss had a very negative impact on the appearance of the stream's natural make up, leaving the creek channel void of any cover and growth on the east side of the creek. A real eye-sorer.

Since the damage was done, contractors have been completing reclamation of the stream bank to eventually give it a more eco-friendly appearance and long term stability. This is not an easy task.

Once a stream's natural riparian buffer is lost, man-made remediation efforts appear as just that.

It may take 10 years before the plants that were part of the project to grow tall enough to help hide some of the ugly rip-rap, but eventually this will happen. Native cottonwoods are very hard to replace and the creek will never look the same.

If a large enough natural buffer of riparian growth is allowed along such streams, the costly investment of stream bank remediation would never be necessary and the creek would stay a natural environmental zone. However, this is often wishful thinking nowadays.

"Park Spring Creek—Successful Trout Hatch for 2016"

On April 13th, this spring, I found that brook trout fry were already starting to emerge from their spawning gravel beds on Park Spring Creek.

This is the third year in a row that there has been a successful egg incubation on the creek. Because the creek is fed by ground water springs, it provides consistent flow of clean, silt free water. This is a bonus for brook trout egg incubation.

There was a total of 21 brook trout redds or egg nests mapped on the Park Spring Creek in the fall of 2015, so this year's successful hatch of those eggs will give the Bighill Creek fishery a major boost from the upper part of the system.

Having recruitment of trout on the upper reach of a creek is the best thing that you can have to maintain a healthy fishery along the entire system length.

Over the years, volunteers have been opening up old beaver dams along the lower reach of the Bighill Creek to allow trout migration upstream. In 2013, the first documented spawning was recorded on the Park Spring Creek, since the mid 1980's.

This recent development of having spawning in the Park Spring Creek is a major achievement in the recovery of the sport fishery on Bighill Creek.



Above: This juvenile brook trout fry was found hiding in the shallow waters of lateral margin habitat along the shoreline of Park Spring Creek. It had only emerged from the gravel a few days earlier.

"Three Reliable Spawning Tributaries"

There is spawning that occurs in the main-stem of Bighill Creek every year. However, the success of the egg incubation is thought to be considerably low. Especially when you consider the number of trout redds or egg nests that are common on the creek every fall.

Brook trout and brown trout spawn on the BH Creek starting in the last week of September and they usually wrap up by late October. There are a number of key spawning habitats that are monitored every fall by Bow Valley Habitat Development.

The last accurate spawning survey completed on the lower reach of the BH Creek was done in the fall of 2009. It takes a lot of time to do an accurate spawning survey on a stream of that size.

On the other hand, there are three small feeder tributaries to the BH Creek that are surveyed every fall. The results are documented by BVHD.

These three streams are the Millennium Creek, Ranch House Spring Creek and the Park Spring Creek. The small spring creeks provide a reliable spawning habitat for brook trout every fall.



Above: This is a photo of the stream channel on Jumpingpound Creek, below the bridge, taken in 1999, before the flood damage. It looks pretty good to me.



Above: These willow plants were cut short after they were planted. There was a total of 2,700 planted on three different sites on the lower JP Creek.



Above: This is a photo of the 2005 flood, directly below the JP Creek Bridge, in the Town of Cochrane.



Above: This is a recent photo of the same length of channel on the JP Creek, after the remediation work was completed. You can see the contrast between both sides of the stream channel, downstream of the bridge.

"If a housing development is built too close to the edge of a trout stream, the natural beauty of the stream is lost forever. In many cases the tax payer ends up spending a lot of money armoring the stream banks to protect those nearby houses from flood events. This is not an environmentally friendly approach for a beautiful Trout Stream."

"Bank Stabilization Sites on West Nose Creek"

As of 2015, there are 64 stream bank stabilization sites on West Nose Creek, in the City of Calgary. These sites have been planted with native willow and tree plants to stabilize the eroding stream banks and to prevent erosion on those that will become de-stabilized.

The network of root systems provided by the plants will help to hold the stream banks from loading soil into the stream channel. This will ultimately improve the streambed substrate and reduce silt loading in the creek.

This is the most cost effective method of stabilizing stream banks and the long term benefits will improve the in-stream habitat for both aquatic invertebrates and trout. Eventually, the mature willows will provide overhead cover and shade to the stream channel as well.

This technique was first applied to eroding stream banks on Bighill Creek in 2013 and the results have proven to be very promising so far. Multiple plantings will continue until the exposed soil on the stream banks is fully stable and covered.

Below: This April 2016 photo shows one of the stabilization sites on West Nose Creek. The native willow plants that were planted in 2015 are marked with arrows to pin point them.



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"Using Photography as a Fisheries Research Tool"

Starting in 1992, I have been using photography to record spawning events on various area streams. It is the perfect tool for documenting significant fisheries discoveries in a simple form.

Later on, I found that a camera and video were perfect for capturing trout hatches after the small trout emerged from the spawning gravel. It was just a matter of knowing where and when to capture such events.

There are other methods of recording and documenting the success of trout reproduction. However, these other methods would require a fisheries research

consultants and fisheries managers use electro fishing and trapping to complete their research, but this adds a lot of costs into the equation. All of the data collected needs to be properly documented and prepared on an excel spread sheet.

This is all fine and well if you are getting paid for your time and effort, but if you are not, just taking a few photographs is usually good enough to confirm the successful reproduction of trout on a stream.

The evidence that I have collected over the years using

Stream Ten Magazine

January 2016

“What We Know About Jumpingpound Creek Trout”

The Jumpingpound Creek strain of rainbow trout have been studied extensively over the years. The trout have been tagged, implanted with radio transmitters and their spawning habits have been documented.

The first real effort to study the spawning migration of Jumpingpound Creek rainbow trout happened in 1993. A trout trapping and tagging program was completed by

D.A. Westworth and Associates, a consulting firm.

The study was done for the JP Chapter of Trout Unlimited, based in Cochrane, Alberta, at that time. Volunteers from the chapter completed the processing and tagging program on the lower end of the JP Creek, in the spring of that year.

A total of 1,137 mature rainbow trout were captured at a trapping fence

that was constructed across the Jumpingpound Creek starting in April 17th of 1993.

Immediately after the trapping program, the JP Chapter started to campaign ASRD Fish & Wildlife to implement new fishing regulations that would protect this important run of spawning rainbow trout.

It took a number of years before this goal was accomplished.



bove: This photo shows a number of captured JP strain rainbow trout ready for processing, after being captured in the trout trap fence.



bove: A small numbered tag was implanted in the adipose membrane rectly behind the eye of each trout.



bove: In 1994, a number of radio transmitters were surgically implanted in mature rainbow trout in the Bow River and Bearsaw Reservoir prior to the spring spawning migration. The trout were then tracked from an airplane when they migrated up the Jumpingpound Creek to spawn, later on that spring. One trout migrated 35 km up from the Bearsaw Dam.



Above: Members of the Jumpingpound Creek Chapter of Trout Unlimited help D.A. Westworth managers construct the trapping fence across the JP Creek, in the early spring of 1993. The trap was later removed from the creek in June of that year. The importance of this trapping study was soon realized when a large run of rainbow trout were discovered to be utilizing the JP Creek for spawning in the early spring of every year. This knowledge would later be used to protect the trout.



A Jumpingpound Creek Strain of Rainbow Trout was caught and released on the Bow River in the Town of Cochrane, Alberta.

“The Importance of the Jumpingpound Creek to the Bow River Fishery”

The Jumpingpound Creek is the only rainbow trout spawning tributary to the Bow River, between the Ghost Dam and the Bearsaw Reservoir. This makes the stream very important to the rainbow trout fishery on this reach of the Bow. Not only does the stream provide ideal spawning conditions and habitat for rainbows, but it also is a perfect nursery habitat for juvenile rainbow trout.

The major problem with having only one spawning tributary for rainbow trout, on this section of the Bow River, is that if the spawning event is wiped out by flood or extremely low water, the entire year class of a new generation of rainbow trout is lost.

A result of this loss is very poor trout fishing on some years in the Bow River. If there was another spawning tributary, this would be less likely to happen on some years. Unfortunately, streams like the Big Hill Creek do not provide ideal spawning conditions for a spring spawning strain of trout, such as rainbow or

Below: These juvenile trout were electro fished during an October fisheries study conducted on the JP Creek.



HOME

The Trouble With Rock Dams

On hot summer days, many kids, teens and adults will visit the local or nearby freestone trout stream, to retreat from the heat and cool down. Some just like to be close to the water on a hot day or some like to be in it.

For the ambitious, an in-stream project is undertaken. Usually, this comes in the form of a rock dam. The dams are built to deepen a swimming hole or just for the mere pleasure of constructing something in the creek channel. Little thought is given to the consequences of their actions, especially for the resident trout populations.

Trout are dependant on migratory movement throughout the open water season. In the early spring they move up small streams to spawn or just to find summer habitat. In the fall, they need to migrate to wintering areas either upstream or down. Also, during hot summer weather, trout will need access to cooler water habitat in headwater areas of a stream or deep cold mountain river habitat downstream.

Rock dams are like block nets strung across a stream. Water is allowed to percolate through the dam, but there is no passage for trout. This is especially detrimental to trout migration during low water periods during the heat of the summer.

By opening a small notch in a rock dam, trout will be able to pass either upstream or downstream when they are on the move. The same holds true for beaver dams on small to large streams. However, beaver dams require more effort to open up. Rock dams take only a few minutes to modify for fish passage.

As an angler, fishing a number of freestone trout streams, the job of opening a rock dam is a small task. I would encourage all anglers to put down their fly rod and take a few minutes of their time to open up a rock dam when you come across one. Your efforts will ensure that your favourite trout streams stay healthy and productive.

“ Trout Stream Stewardship “

Having worked on trout streams for over 30 years now, I know first hand that many anglers are good stewards of our trout streams. It has been a pleasure to volunteer with individuals that also realize that it is important to take care of the resource that we all enjoy so much.

I have heard countless stories of how many volunteers that are fly fisher's like to put something back. These anglers make a point of leaving their trout streams with a little garbage that they have picked up on their trip. This may seem like a small contribution towards the improvement of the ecology of a trout stream, but it all adds up.

If there is a small project that needs to be completed, to improve or help the local fishery, there is always a few regulars that I know that are usually up to the task. It only takes a phone call or email and the help is there, ready to chip in.

Simple projects can make a huge difference on how healthy a trout stream is. For spawning trout, any efforts to facilitate their reproductive migrations are especially important. The results of a successful spawning season can show very positive rewards if there is a good trout egg hatch. A few years later, the number of mature trout available for the fly fisher is evident.

Maintaining a healthy natural environment on a trout stream that is close to population centres is a lot of work, but working together as trout stream stewards, we can get the job done.



Photo Courtesy of Andrew Watson

Above: This large rock dam on the lower reach of the Jumpingpound Creek was opened up by a local angler that enjoys fishing the creek. You can see the small opening where trout are free to pass upstream during the spring spawning migration. The success of the rainbow trout spawning event on the JP Creek is vital to the sport fishery of the Bow River, between Ghost Reservoir and Bearsaw Dam.



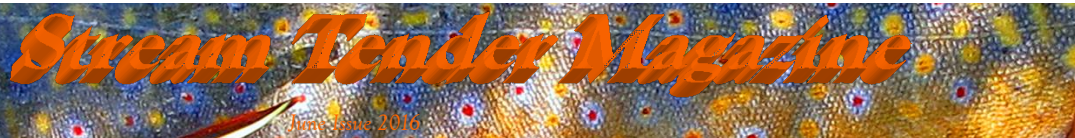
Above: This small rock dam on the lower end of the JP Creek was blocking fish migration upstream. The dam was built by kids playing in the creek during the hot summer months. It only took a minute to open up this dam to allow trout migration upstream.

Below: This is what the dam looked like, after the middle of the dam was opened up. The water level in the creek at the time of the notching of the dam, was very low seasonal flow.





"Stream bank stabilization is one of the primary goals in the Bow Valley Riparian Recovery and Enhancement Program. So far, there are a total of 58 sites on Bighill Creek and 64 sites on West Nose Creek that have been planted. Further plantings on these sites will insure that future stability is achieved. The number of sites will also be increased during the 2016 program. This effort will help to clean up the stream's water quality in the long term and improve the habitat for sport fish on the creeks."



"Riparian Willow and Tree Plants are Growing Well"

Now that we have over two years of planting completed in the "Bow Valley Riparian Recovery and Enhancement Program" it is nice to see some of the results taking root. Willows and trees planted along the stream banks of Bighill Creek, West Nose Creek, Nose Creek and a few tributaries are starting to stand out in the landscape. However, you still need to be close enough to recognize the transformation.

Bow Valley Habitat Development is keeping an eye on how things are going in the program and future reports will help to show our progress. This winter and early spring, a number of trips were made to the planting sites to inspect the plants and take a few photos.

Despite a dry winter and early spring, the new native willows and tree plants are holding their own and new buds of growth started as early as mid-April this year.

The results of the past few years helps to build enthusiasm for this year's program. The support that has come in thus far is also a bonus for the ongoing efforts on these area streams. It looks as though we will have a few new partners join in over the next few years.

The success of the program to date has played a major role in growing interest in this riparian restoration project. As long as things keep going well and growing well, we will continue.



"Rapid Growth for Millennium Creek Brook Trout"

In the March issue of Stream Tender Magazine, there was an article on the early hatch of brook trout on Millennium Creek. Brook trout fry started to emerge from the spawning beds in the last week of January this year.

Previous trout hatches have been documented in this publication, but follow-up articles on how they progress in growth have not been revealed. With this in mind, I decided to take a few photos of what the trout look like, a few months after they emerge on the creek.

Due to the abundant cover habitat and a fantastic invertebrate population in the pond, directly below the spawning channel, the small trout grow very fast.

With a primary diet of midge larva, pupa and adult stage in the pond, the brook trout thrive during the early stages of growth. Their bodies are deep and thick after only 70 days of feeding on the small aquatic insects. They are off to a good start in their first year.



Above: This brook trout fry has been feeding on pond invertebrates for approximately 70 days after it emerged from the spawning habitat—gravel beds. You can see the trout is full bodied and appears to be in good health.



Above: This bank stabilization planting is off to a great start, with first year growth taking root and helping to stabilize the eroding stream bank on Bighill Creek. There are a total of 58 stream bank stabilization sites on the BH Creek. The results of this work will greatly reduce the amount of silt loading into the stream channel every year. This will help to clean up the streambed downstream and improve spawning habitat and food production for trout. Aquatic invertebrates (trout food) need clean stream bottom substrate to thrive.



"Lots of Plants So Far"

Prior to the official naming of the "Bow Valley Riparian Recovery and Enhancement Program" in 2014, Bow Valley Habitat Development had already completed some major riparian planting programs.

In 2013, a total of 2,961 plants were planted along the stream banks of Bighill Creek in Cochrane. Another 3,474 plants were planted on Nose Creek in the City of Airdrie. It wasn't until 2014 that a serious effort was started on West Nose Creek.

Over the past three years, the following totals were planted on all three streams in the program:

Bighill Creek—8,724 plants
West Nose Creek—15,301 plants
Nose Creek—7,829 plants

This brings the total over the past three years to **31,854** native willow and tree plants. The 2016 program is starting to take shape, so I will be very pleased to report the grand total for this year, by the late fall of this year.

As of this past April, a few other area organizations have expressed an interest in our program. This is very good news for both our teams and the streams that we have been working on. Whether these organizations partner up in our program or they work on a "Stand Alone" effort, it will be of major benefit to the riparian recovery on all three creeks.

I look forward to reporting back to you on any developments in this new interest and I expect it will be good news as well. The more people or volunteers involved, the better.



"Stagnant Water on Nose Creek in the City of Airdrie"

On the north side of the City of Airdrie, the stream channel on Nose Creek has been widened over an area of approximately 800 metres in different types of algae length. The width is approximately 20 metres.

With minimal flows in the main stream channel this spring, the still waters of the widened area has gone stagnant and a heavy algae bloom was evident in the last part of April and the first week of May.

It was a pretty disgusting sight for anyone walking the pathway along the stream. There appeared to be two different types of algae present and the water quality and clarity was a milky olive color.

I stopped to take a few photos at the outflow area, where the creek passes underneath the 1st. Ave. bridge.

There are fish in this area of the stream and it is beyond

me how they can cope in such a terrible soup.

This is not the first time that I have seen the creek in such a state. Last year during a similar algae bloom, I contacted the City to report the event. Apparently they have grown accustomed to seeing this happen on Nose Creek in the past as well.

It is my opinion that areas of a stream that have a very low turn over with very poor water quality should be aerated to help to clean up the water. There are micro organisms that feed on algae, but they need plenty of oxygen to thrive.

Aeration is a common tool in the treatment of wastewater. Bubbler aeration systems are used to help purify harmful organisms. Oxygen enhanced bio-organisms are used to remove the harmful part of liquid waste water.

This aeration can be expensive, but the stream's water quality is at stake. Maybe someday this will happen on Nose Creek in Airdrie.

"Bubbler aeration systems are very popular for cleaning up stagnant water on streams and rivers across North America. The aeration enhances microbial life that eats algae and provides cleaner oxygen rich water habitat for fish."

Below: This is a photo of what the Nose Creek looked like that day in May. The bridge in the background is the 1st. Ave. Bridge over Nose Creek. What a mess this is on any creek.



Birch Lake Brook Trout Infested with Black Spot Parasite

HOME

On the weekend of May 7th, 2016, Eric Schumann of Cochrane, was fishing Birch Lake near Caroline, Alberta. One of the brook trout that he caught that day had black spots all over its body.

After talking a photo of the brook trout, he sent a copy to me. It turns out that the trout had the Black Spot Neospora infection. This spotting is caused by the larva trematode parasite —Apophyllus brevis.

The parasite is transferred to the trout in one of its seven life stages, when they feed on the snails in the lake. The final host is the common loon, which will transfer the parasite from lake to lake.

There is no threat to humans by this infection, but the idea of catching a trout that is infested is very disturbing. The parasitical yellow group of A. brevis life stage can live in a trout for up to 4 years.

The very popular Beaver Lake is located just a short bird's flight from Birch Lake, but the Black Spot parasite is more commonly found in both brook trout and brown trout. I have not read any reports of it being found in rainbow trout, which is the variety of trout stocked in Beaver Lake.

Eric also caught a rainbow trout that day on Birch Lake and there was no sign of black spot on the rainbow trout. Presently, there is no way of controlling this parasitic outbreak, at least in a reasonable manner or approach. The extent of the infestation is unknown at this point in time.

Below: Photo of a brook trout with Black Spot. Photo Taken by Eric Schumann





Summit Tender Magazine

April 2016



"Spring Foliage on Three Area Streams"

In the early spring, when the shoreline grasses and sedges are still void of any green, it is nice to see the new foliage on our native willows and trees. This is the time of year when the plants really stand out along the water's edge.

Plants that have been planted over the last few years are taking root and competing with both Western Water Sedge and Canary Grass on Bighill, Nose and West Nose Creeks. The early spring is the best time for the willows and trees to get a head start on the growing season.

Despite the early dry start to the growing season, the moisture from the creeks is sustaining the new plants. As of May 3rd, we have received little precipitation this late winter and early spring. A few of the plants that were planted further back from the water's edge have suffered from this lack of moisture.

Planting was started in the last week of April this year, on the 25th. This year's crop will be planted right along the edge of the streams, until we see adequate rain over the coming weeks. I am looking forward to some rain in both May and June this year, to get off to a good start for 2016, but so far it doesn't look good on the long range forecast.

Surprisingly, the water levels in the streams have been fairly good so far this early spring. However, if no rain is on the way, things could change in a hurry.



Above: One of last year's plants on West Nose Creek, in April 2016. The plants along West Nose Creek are doing very well so far.



Above: Willows from the 2014 planting on Nose Creek in Airdrie, in April 2016.



Above: These willow plants along the Bighill Creek are growing well in April of 2016.

"May 15th Group Planting Event Starts The 2016 Season"



The Bow Valley Riparian Recovery and Enhancement Program

Left Photo:

A small group of 9 planting volunteers got the group event season off to a good start in May of this year. As was hoped for, the weather was great and a sunny day made the small planting event go very smooth. The plants were planted along the stream banks of West Nose Creek on May 15th, which is a very early start to this growing season. The plants were provided by Shell Canada.

"Stream Bank Stabilization on Severe Eroding Slopes"

During the 2013 Riparian Planting Program on Bighill Creek, a number of eroding stream banks were planted with native willow and tree plants to help stabilize the slopes and prevent silt loading into the stream channel.

Some of the project sites were experiencing mild stream bank erosion, while others were quite severe and required extensive planting treatments. These steep slopes with exposed soil and clay received the first treatment in 2013 and the following two years.

The first planting was completed right at the base of the slope, near to where there was toe erosion occurring. In the following years, plants were planted further up the slope to compliment the existing crop of plants.

I am very pleased to report that the results so far are very encouraging, and three years of planting has started to stabilize the eroding banks, which will over time, will stabilize and provide a healthy crop of native riparian growth. Further down the road, the steep banks will continue to slide, but the toe erosion will be stopped.

After 10 or more years, the steep eroding banks, which are near vertical, will end up with a slope of near 45 degrees, with a good covering of vegetation. This will prevent many tonnes of future silt loading into the stream channel and over time, the streambed will flush clean down to cobble and gravel that now is part of the stream substrate.

Left Photo:

This stream bank one year after the 2013 planting. As is the eroding you can see the cuttings that have survived the first year on the eroding slope. Some of the plants are submerged in the high flows in the creek.

Right Photo:

This photo was taken in mid May of 2016, and it shows how the willows are still in place along the bottom part of the steep slope. Future plantings will be done further up the slope in the early spring.



"2016 Willow and Tree Crop Off to a Good Start"



Above: The 2016 native willow and tree crop was ready for planting earlier than normal this season, with the warm early spring weather making record breaking early start up time. The majority of frost was out of the ground along the streams in the last week of April this spring, so planting was immediately started on the 26th day of the month. All of the plants that were ready for planting were healthy and ready to go into the ground. This will mean a longer than normal growing season for 2016 and hopefully a higher than normal survival rate for the first winter.

"Outfitted for Stream Willow & Tree Planting"

HOME



Above:

Sometimes a willow and tree planter needs to dress according to the weather. A rainy or snowy day calls for appropriate rain gear to stay as warm and comfortable as possible. Here, planter Andrew Watson is all geared up with chest high waders and rain coat to deal with the wet snow and rain on this day. The planting occurred on West Nose Creek, in the City of Calgary, on May 22nd. It was nice to see the moisture, so nobody was complaining. Wet days such as this are ideal for willow and tree planting. The moist ground gets the new plants off to a great start.

The soft ground also makes the job of planting as easy as it gets. On this morning planting, volunteers Andrew and I planted a few hundred plants along a few hundred metres of stream bank on West Nose Creek. The rain and snow during the last week of May ended a prolonged dry spell with little precipitation. With the start of the growing season well underway, we can expect good results from this crop of native willow and tree plants.