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### Program Partners



Articles by Gray Woods and Contributors

## Planted Willows Growing Out and Over The Stream



**Above:** These planted willows on Bighill Creek are now starting to grow out and over the surface of the stream channel. They are already providing habitat for resident trout and at the same time the roots are stabilizing the stream banks. Future shade will help keep the water temperatures cool in the creek as well.

## The Jumpingpound Creek Strain of Rainbow Trout - What Does The Future Hold



For all of the years that I have fished the Bow River between the Ghost Dam and Bearspaw Dam, there have been rainbow trout in the river. In recent years, the population of rainbow trout in this home stretch of the river has declined to the point of collapse. I am confident there are a multitude of reasons for this, but I would be interested in knowing what is on the top of the list.

Some of the primary impacts to this fishery, in my own mind, are whirling disease, Dity Moss outbreak on the river and loss of water in the Jumpingpound Creek, mainly to irrigation withdrawal.

Years of over harvest of this unique wild trout species has also played a role, but now this is just a cause for bickering, not action. It seems to me that the Jumpingpound Creek and its trout fishery has been the helpless victim of a number of man-made dilemmas, with little or no action to remediate the situation.

There have been a few successful spawning events in recent years, for the rainbow trout on the JP Creek, but unfortunately not enough numbers of trout have resulted, to replenish the once thriving population in the Bow River. I am worried about the future of the fishery.

There have been plenty of studies on the watershed of the Jumpingpound Creek, but in recent years, little on the JP strain of the rainbow trout and what the status of the fishery is and what measures should be taken to help this important trout fishery. It is not yet too late to do this, but there first needs to be a little interest from our local fisheries managers.

It would be a shame to lose the JP strain of rainbow trout, after it has survived by natural reproduction on this system for so many years. All this trout needs is a safe disease free habitat and enough water to provide a future.

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## December 2017 Issue



## Lots More Deer - Here

**Right Photo:** This large mule deer buck was hanging around Bighill Creek this past fall. The rut had brought a few different bucks in close to town, during the mating season. It is nice to see more deer, here along the creek, in Cochrane.

This is one of the many perks that you benefit from, with a healthy riparian habitat along the Bighill Creek. The stands of deciduous willows and trees are a perfect habitat for both mule deer and whitetail deer. There is plenty of browse for them to feed on.



## Winter Ducks on Bighill Creek

There are a number of spots on the Bighill Creek where spring water up welling helps keep the stream ice free, thru much of the winter months. The local duck population likes this phenomenon and takes full advantage of it during most of the winter. Ducks don't need much water to provide a place to kill time during the daylight hours, so any open water during the winter is a place where you will find them.

For the common regular visitors to the Bighill Creek during the winter, this added bonus of wildlife viewing is very welcome. The ducks don't seem to mind their photos being taken, as long as you don't get too close. There is also remnant quantities of large sheath pond weed in the stream channel that the ducks can feed on.

**Right Photo:** This mallard drake was on an open piece of water near my home on Bighill Creek.



## Feathered Tent Wing Caddis Flies



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**Above:** The feathered tent wing caddis fly has been around for many years, and it is preferred by some very experienced fly fishers as a perfect adult caddis imitation. The long slender wing profile is a great imitation of a newly emerged adult caddis, as it floats down the surface, drying its wings for flight. Two of the more popular patterns are the Henryville Special and the King's River Caddis.



Millennium Creek Brook Trout

## Great News for Winchell Lake Rainbow Trout



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**Above:** A nice Winchell Lake rainbow trout, caught thru the ice in early December 2013. For a number year's now, local trout anglers have been hoping that some day an aeration system would be installed on the lake, to insure that annually stocked trout would have a chance to survive the winter months, in this small but productive lake. Now their hopes have been fulfilled with the installation of a new aeration system in 2015.

## 2018 Trout Hatch

**Right Photo:** This brook trout was photographed on January 16th on Millennium Creek. The brook trout was the first hatched trout from the 2017 fall spawn that I spotted this winter. A really good site to see for the new season.

I suspect that we will see a good hatch this year, which means more trout for our area streams. The water flowed clear on many of the local streams this fall, which is good for incubation of the trout eggs.



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## Lots of Native Willows and Trees for the 2018 BVRRE Program

Every year it is a guessing game on how much support will come in from the partners in the program. These things take time to organize and in some cases you won't know what the season has in store for you until late March, in some cases. This year, I knew early on in 2018 that it would be another banner year for the riparian planting program.

Things started to happen early on in December of 2017, when Inter Pipeline insured that we would have approximately 4,800 native plants for the 2018 planting project year. Inter Pipeline has been a major partner in Bow Valley Habitat Development's projects for a number of years, so this 2018 contribution was more great news to report.

Early commitments are valuable in organizing an annual program; you can use these contributions as leverage for gaining more partners into the program. This makes the task of organizing a program year a lot easier for BVRHD.



Inter Pipeline started the 2018 season's partnership program off with a contribution of 4,800 native willows and trees. More plants followed when other partners committed to help out in the 2018 Bow Valley Riparian Recovery and Enhancement Program. Another Great Year for creeks.

## 2017 Native Willow and Tree Crop

This past season, we planted over 9,000 native willow and tree plants along the stream banks of and three local trout streams. I am happy to report that the plants are doing well and I expect a good survival rate thru the winter months.

Many of those plants are now locked in the ice of the stream channel and they won't be visible until ice break-up this spring.

I inspected the plants right thru the entire winter and fall months along the stream banks of and they were still growing slightly into the late fall. Both root and stem development continues to grow right until the frost enters the ground.

The winter ice will help keep the plants protected during the cold winter months and they will be off to a good start by May of 2018.





## The Tent Wing Caddis Dry Fly

Most fly fishers use the good old elk hair or deer hair caddis dry fly imitation. It usually works great and it is easy to tie. In fact, the hair wing caddis is so popular that it overshadows another great caddis dry fly pattern: the tent wing caddis. The best explanation that I can come up with for this is the durability of the hair wing in comparison to the more fragile feather tent wing patterns. Which is a good reason.

However, there is an important role for the tent wing caddis in every fly fisher's fly box. The tent wing imitates an adult caddis that has just hatched and it is drifting with the current, while it dries its wings enough to take flight. The feather tent wing silhouette is a great imitation of this stage of the hatch.

I have found situations where a low profile tent wing dry fly, drifting amongst other naturals, was the only thing that would bring quill feeders to my hook. Other elk hair or deer hair caddis dry flies would not do the job, but the feathered tent wing would!

The first pattern that I used was the Henryville Special, a great Pocono's dry fly pattern that was first tied by Hiram Brobst of Pennsylvania and later named and made popular by Al Ziegler. The flies original name was the "No Name". It has become legendary for fishing caddis dry fly hatches and is considered a classic for many experienced hatch matchers.

The other feathered tent wing that I first used was the "King River Caddis". This is a simpler fly to tie, when compared to the Henryville Special and it is also very effective on a caddis hatch, for the mottled wing caddis flies. The pattern was first developed by Wayne "Buz" Buszek, of Visalia, California.

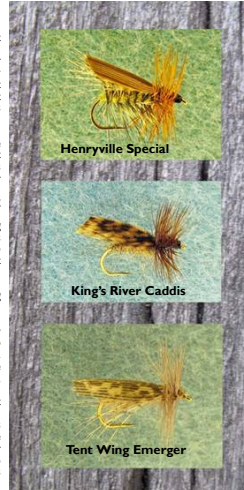
There are a number of other great tent wing dry fly patterns that you can use and one that is on the list is the tent wing emerger caddis dry fly. Basically, it is like a King's River Caddis with some long soft hackle added at the throat of the fly pattern. The long soft hackle imitates the long legs of the caddis nymph, as it emerges from the shuck.

The emerger dry flies are usually lighter in color than the other adult patterns. The reason for this is that when the caddis first emerges, it immediately starts to darken as the wings and body dries. So the emerger wings as often light in color.

By far, the most common tent wing imitation for caddis dry fly is the Henryville Special. I have heard this fly pattern being discussed by other experienced fly fishers over many years. It is a little more difficult to tie, but it is very worth the effort. The most common hook sizes for this pattern are size 14 and 16 dry fly hooks in a 1X long.

One drawback about fishing the tent wing dry flies is that they ride low in the water and can be very difficult to see, especially in the low light evening hours of spring caddis fly hatches. The best thing to do is try and keep your casts fairly short in distance. Also, a shorter leader will help in determining where your dry fly pattern is drifting on the surface, out from you.

There are great videos of how to tie tent wings, on the internet. The only thing that I can add is that I like to coat my wing feathers with a water based polyurethane after the pattern is tied. This will help keep your feather wings in form. It is a great pattern to tie and try. Good quality wing quill feathers are a must for this pattern.



## Tying Smaller Tent Wing Caddis Dry Flies

The vast majority of spring caddis dry fly hatches on the Bow River are small fly size. I have found that a simple dry fly tent wing pattern is best to use for the smaller size of hooks required. I tie a simple tent wing, with a polypropylene underwing to do the job.

The poly underwing helps keep the fly afloat. I only need to apply a small bit of floatant to the hackle and body of the fly to tie for the water. Poly is less dense than water, so it floats good, without a coating of floatant.

The smaller caddis hatches of the Bow River, in the early spring, was what first prompted me to start using a feathered tent wing for a dry fly imitation. Sometimes, the trout would not touch my elk or deer hair caddis patterns with the same interest as they would for the feathered tent wing patterns.

The trout would only take the sleek shape of the tent wing as the adult caddis drifted slowly over flat clear runs and tail-outs. The Bow River is notorious for picky feeders, especially on small flies.

### Right photo:

The small size 18 and 20 caddis dry flies are tied with a simple feathered tent wing design. The underwing of polypropylene is vital to help keep the fly floating at the right level in the surface film.

Good quality wing quill feathers are very important for tying this pattern successfully. Add a little cement to the wing ends.

### Right photo:

Light brown or tan caddis dry flies are common on the water, so be sure to have some imitations on hand. I use a hydrogen peroxide solution to lighten Canada Goose quill feathers for this pattern. You can also use other wing quill for the right color choice. I like the durability of the goose for a sturdy wing material.

### Right photo:

For the mottled wing color on this tent wing pattern, I used turkey quill feather. You can obtain turkey quill feather at any fly shop. It is a very common fly tying material.

I use a water based cement or polyurethane for coating this wing material. It is not as sturdy as duck or goose quill, so it needs some re-enforcement.



Above: This is what a feather tent wing caddis dry fly looks like from the top. This particular fly pattern is the Henryville Special, a very old classic caddis dry fly imitation.



Above: Light color emergers tent wing dry flies are best suited to imitate a newly emerging caddis adult, before it darkens in color, as the wings and body dry.



Above: The tree roots of balsam poplar and aspen create good stream bank stability and they also provide excellent trout habitat, where they grow along the edge of the stream channel. For an experienced fly fisher, just seeing a habitat like the one featured in this photo, makes one confident that there are trout holding just below or along the submerged tree roots.



## Stream Tender Store



## Woody Cover Habitat - Both Above and Below

For many visitors to trout streams, they may not know the importance of woody structure, both above and below the surface of the stream. As an avid fly fisher, I realized a long time ago how important wood is to a resident trout population. Both for food and for cover, trees, willows and root systems are a key part of a healthy trout stream habitat.

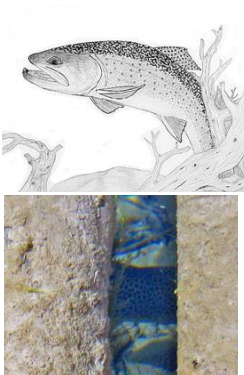
While fly fishing the free stone trout streams to the west of my home town, I would always thoroughly fish any type of woody debris or cover habitats when I came upon them. It was almost always a sure thing to find trout utilizing the cover of a downed tree across or along the stream channel, or a snag of woody debris caught up in the submerged boulders in a stream.

Too me, there is a simple explanation for a trout's attraction to any type of submerged wood or any woody cover just above the water's surface; food. Aquatic invertebrates also utilize any submerged wood in a stream. So if trout can find a habitat that not only provides a place to hide, but also a place to dine, they will make this habitat their home.

If there is a healthy riparian habitat along the stream channel, with a good cover of willows and trees, some of that wood will eventually end up in the creek. So for a fish habitat technologist, the simple solution for providing a healthy habitat for trout is to make sure that there is a good cover of riparian growth along the stream.

This type of fish habitat enhancement has been taking place, in a large scale, on a number of area streams for the past four years. The program is the "Bow Valley Riparian Recovery and Enhancement Program" and the primary focus is to replenish the riparian zone with native trees across or along the stream channel, or willows and trees.

It will take just a few years for the new plants to start to provide overhead cover on the streams and in time, some of them will also end up in the stream channel. As the willows drupe down into the water along the stream bank, this will help to constrict the flow in the channel as well. Flow constriction helps to speed up the velocity of the flow and clean out years of silt that has accumulated on the bottom.



Above: You can see a brown trout's back in this photo. The trout is holding just under a few submerged logs. Trout love log jams for a safe habitat to live in.

## Planting Overhead Cover

Starting from above the water's surface on a stream channel, planting native willows and trees will eventually provide good overhead cover for trout. Some branches will submerge to provide in channel fish and invertebrate habitat. The secret to success is to plant the plants horizontally along the stream bank, so that they grow out and over the surface of the stream. Native willow cuttings that have been grown until both root and top development has occurred, is the best approach to accomplish this.



Below: This timber bundle deflector and cover habitat was constructed on Pokemcan Creek in Camrose in the late 1990's by Bow Valley Habitat Development. The photo was taken four years after construction was completed. There were a series of these built.



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## Rainbow Trout Recovery May Take Years

Whatever has caused the near collapse of the rainbow trout population on the reach of the Bow River between the Ghost Dam and Bearspaw Dam has yet to be fully understood. Being an optimist, I believe that there is a good chance that the Jumpingpound Creek strain of rainbow trout will recover over time.

For a recovery to happen, the JP Creek needs some attention and protection to preserve what is left of the once thriving trout population. The protection of the volume of water that flows down the system is the most important thing to address in the immediate future. No more licenses for withdrawal should be granted by the province. This would be a great start.

Also, existing water withdrawal licenses should be reviewed. I know that some licenses for livestock withdrawal have been sold or misused for other wasteful practices along the creek. There is not enough water flowing down the JP Creek to allow excessive withdrawal and still expect the trout population to survive.

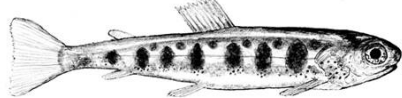
I have fished a number of trout streams in Montana and Wyoming, south of the border, and I have seen what excessive withdrawal of water can do to a trout stream. On some trout streams you need to go upstream to find places where there is enough water to support a resident trout population.

When everyone along a trout stream wants to get their fair share, the stream will usually end up paying the ultimate price. During extremely warm summer, conditions on some trout streams are so poor that trout will die of heat exhaustion. The lack of cold enough water and the volume of flow can have a major impact on a healthy trout stream.

A number of other issues need to be addressed to protect our wild JP trout in the future. If whirling disease is the prime culprit for the collapse of the fishery, measures should be taken to engineer the JP strain so that it is more resistant to the disease. This is already being done on some trout streams in the USA, so I know that it can be successfully done. These are just a few things that need to be looked after.



**Above:** Rainbow trout like this Jumpingpound strain that was caught and released on the Bow River near Cochrane, were once common on the river. Nowadays you would be lucky to find one of this size, during the summer months on the river. The rainbow trout that once thrived on this stretch of the Bow River were very pretty trout, with almost all of them that you were lucky enough to catch, being in perfect condition.



## An Ice Covered Trout Stream's Winter Beauty

Trout streams in the winter months are quiet, peaceful landscapes that hold special beauty to those that enjoy the season. Watching how the winter's ice slowly builds up along the stream banks is part of this beauty. If there is enough water movement, you will see flowing water from time to time throughout the winter months.

As the early winter's cold frigid weather causes the stream's water temperature to drop below freezing or go sub-critical, anchor ice will start to form on shallow riffles in the stream. This causes ice dams to form along the creek at different locations. The result is a number of ice encrusted waterfalls.

During the winter months along Bighill Creek, you will find all types of wildlife, busy in their winter survival mode. This winter I have had the opportunity to witness mink, squirrels, ducks, woodpeckers and deer along the creek. These encounters add interest to a hikers trek and help make the riparian zone along the stream feel alive with its wild residents.

Like most area streams, the Bighill Creek has deciduous willows and trees along it's course. This makes the habitat very attractive to specific types of wildlife that depend on this type of growth. So far this winter, on two occasions I have seen a pileated woodpecker along the path system. This was a real treat for my morning walks.



**Above:** This ice dam on the Bighill Creek was formed after anchor ice started to form on the washed of the creek. Ice dams can also be formed when chunks of ice break free and are strewn below the ice downstream. The chunks will jam up at the next constriction in the stream channel. Anchor ice will also break free from the rocks in riffle areas and create a damming effect.

## Deciduous Riparian Woodlot - Topics to Area Streams

Area trout streams are bordered by a mix of deciduous trees and willows. This provides a unique habitat that all types of wildlife depend upon for food and nesting habitat. Owls nest in holes bored in old poplar trees, especially cottonwoods. Woodpeckers peck at the bark of poplars looking for insects and song birds nest in thickly growing willow stands.

All types of waterfowl utilized the cover of willow plants for nesting along the streams and even small spring feeders that enter the main-stems of creeks. The old poplar stands eventually fall to high winds or just die of old age and fall to the ground. The dead trees are an important habitat to wildlife even when they are laying on the ground. The dead trees also provide a habitat for insects that birds feed upon.

I love to walk along the streams and have a clear view off into the deciduous habitats when the leaves are gone in the fall, winter and early spring. You can find deer browsing on willow and poplar buds or see mink scurry along the frozen ice covered stream banks. If you are lucky, you may see a rare bird in this habitat.

The resident beaver population depends exclusively on deciduous trees and willow plants for survival. Beavers do not eat spruce or pine trees, but the juvenile beavers will chew on small conifers just to put their growing teeth to work.

These are unique eco-systems that need to be protected. Planting native deciduous trees and willows does help in the cause. This can be done on areas of the creek that have no existing riparian trees or willows.

## The Famous "Tom Thumb" Dry Fly Pattern

It is a simple dry fly pattern in some ways, but in others, it is not. The original "Tom Thumb" consisted of three ingredients: hook, deer hair and thread. However, putting this pattern together is not as easy as it may seem. You need to tie the fly with the right proportions for it to work effectively.

On the ones that I tie, I add a dubbing to the body to finish off the fly and make it look more attractive to fly fishers that buy the pattern. This is important when you tie trout flies commercially. The original looks a little rough, with just the deer hair and thread on the underside of the full back of finished deer hair.

I was first introduced to the Tom Thumb when I lived in Kelowna in the early 1970's. It was a very popular fly pattern for imitating the giant emerging caddis fly hatches on BC lakes and it still is today. I believe that the pattern emulates a caddis fly with its wings in an upright position, drying off the wings before the insect takes flight. The tail is supposedly imitating the shuck.

Another nice feature of this fly pattern is that it floats well and can take the abuse of many trout teeth as it catches trout after trout. The upright deer hair wing is easy to see on those long casts in choppy water. I haven't fished this pattern much on rivers and streams, but there may come a time and place for this in the future.



**Above:** This is one of the Tom Thumb dry flies that I tied up this winter. I dub the body with a dirty olive live dub.

This winter I tied a lot of dry flies and on my list was a good supply of the Tom Thumb. You can use elk hair to tie this fly pattern as well, but my preference is to use deer hair. The elk hair does not float as high in the water, but it is much more durable. You could substitute the shell back with a piece of foam, but I haven't got around to trying this yet. The foam would stand up to the trout teeth that usually shred the deer hair over time.

## 2018 Bow Valley Riparian Recovery and Enhancement Program

The 2018 riparian planting program has already shaped up to be another great year, with plenty of native willows and trees destined to enhance our area streams. This will be the fifth year of the program and we have many thousands of native plants growing on local stream banks as a result. It has all happened thanks to some good sponsorship from a number of partners and the hard work of our volunteer planting force.

Over the past four years, we have planted a total of 92,758 native willows and tree plants on over 30 kilometres of stream bank. Once this year's planting program is completed, the total will exceed 100,000, which is really a good thought for those that participated in the program thus far. The long term benefits of this riparian restoration work are incredible.

Something that I think about is the amount of natural recruitment of native willows and trees that will occur, from the plants that we have already planted. This will happen thru natural seed distribution and growth. I expect to see this result in the next few years along the streams that we planted.

Once you get a good crop of native willows and trees established along the water's edge of a small stream, the plants will spread over time. The soil quality will also improve over the years, with plenty of organic material enriching the earth and microbial life. This is all important to the health of the riparian eco-system along our trout streams. Riparian plantings enhance the plant life and food chain, creating a bio-diverse environment. This will become very apparent over the future years to come on the streams in the program.

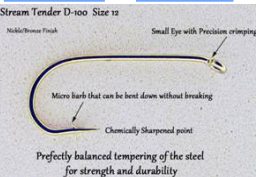
The water quality and the improved streambed substrate on the lower reach of Bighill Creek, in the Town of Cochrane, has already shown improvement. I have been observing this improvement over recent years and this is very encouraging. This improvement can be attributed to the plantings on eroding stream bank sites.

The stabilizing of the eroding stream banks has reduced the amount of silt loading into the creek channel. There is now gravel and cobble showing on areas of the streambed that I have not seen in years past. The creek's lower end is cleaning up.

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## Another Year of Trout in The Urban Hatchery

This year marks another year of new brook trout and brown trout hatching in the Bighill Creek system. There are many tributaries to the BH Creek in the Town of Cochrane that trout spawn in.

Both brook and brown's also spawn in the main stem of the stream, in Cochrane in the micro fishery is heavily maintained to serve this purpose and hopefully, this will continue into the future. It doesn't cost much.



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## The Werner Shrimp

In my early years of fly fishing, the Werner Shrimp was a hot pattern for the local Bow River. I would fish the pattern in a stripping motion, just below the surface and this produced great results. It took me years to find out what the name of this fly pattern was. Early on, I would pick thru the fly shop display boxes and when I spotted something that looked like it might catch fish, I would buy it. Over time, I started to read the name of the fly patterns, if it was marked on the boxes that held the flies.

Years past, I began tying my own flies and the full black pattern that I had used years before was not shown in any of the books that I had in my library. Then I bought the book the "Gilly", compiled and edited by Alfred G. Davy. The BC publication had contributions from a number of top BC fly fishers and one of the fly patterns in the book was the Werner Shrimp. It had its origins as a very popular BC trout lake fly pattern.

The Werner Shrimp is a full black fly pattern, with deer hair for the tail and back, covering a black dubbed body and brown hackle wrapped palmer over the length. When I tie this pattern for those interested, I usually tie it in a size 10—IX dry fly or nymph hook. The deer hair may get mangled after a few trout have chewed on it, but it still works great, regardless.

With all of the deer hair, the fly is rather buoyant, but once it is wet and you are stripping it in on a cast, the fly will swim just beneath the surface. The trout will take this pattern aggressively, so be prepared. I always thought that the fly might represent a beetle of some kind. Due to the color being black, I find it difficult to relate it to a shrimp pattern, but that is what it is named.

There is something very attractive to trout in this fly pattern and I suspect it is the combination of the brown hackle and black body of the fly. This color combo is also great for woolly bugger patterns. I also tie a bullet dry fly pattern with the brown and black, which works great on some trout streams that I have fished. Give this fly a try.

## The "Bill Griffiths Special" Nymph

When it comes to tying nymphs that consistently catch trout, a simple design is sometimes the best approach. The first trout nymph that I tied, trying to imitate mayfly nymphs and caddis pupa, were just that. Those simple fuzzy trout flies, tied using mostly animal fur, caught trout and remain today some of my first picks from the fly box.

My early fly tying involved a lot of experimenting, just like most fly tiers do. So the fly boxes back then were cluttered with different looking nymph and streamer fly patterns, waiting for their first dip in the river or stream. The "Bill Griffiths Special" was one of those untested trout flies and I remember very clearly the first time I tried it out on the Bow River.

The late Bill Griffiths had talked me into trying some winter fly fishing on the lower Bow River. Bill had introduced me to some of the best fly fishing opportunities on the lower Bow River back in the day, so when he suggested we do a winter trip, I was easy to convince. The location was Policeman's Flats and the month was February.

The trout at that time of the winter

## Thick Growth of Native Plants is Stabilizing Steep Stream Banks

It is very gratifying to see how the native willow and tree plants that have been planted in the past are now doing. They are now growing thick along reaches of BigHill Creek and other streams, where they weren't in the past. This transformation is slow but it is becoming more apparent as the plants become larger in size.

Mixed in with the newly planted native plants is a carpet of native grasses. The native grasses are taking root in the stable soil as being good gradients of the stream bank. This stability is a result of the willow and tree roots.

At one of the many planting sites along BigHill Creek there is now a beaver dam. The dam has flooded the stream banks right up to where our plants are from past plantings. This is good, because the plants are hanging over the surface of the water and providing good cover for resident trout.

I didn't get a photo of the particular site this year, but next year I will take a few photos to show you this. The willows at the site have been growing very slowly every year, but now that the water is right up to the base of the plants, they are growing rapidly.

expect the same will happen at many of the other planting sites over time, so this is all good from a fish habitat perspective. If beaver dams are constructed and flood large areas of the stream channel, we will be doing some plantings further away from the old existing stream channel.

Riparian recovery plantings require a lot of native plants and considerable time in the investment. For some areas along the creeks where natural riparian forest has not occurred over decades, it could be due to the quality of the soil along the stream. I have found that you can establish native willows and trees on these stretches of stream bank, but the growth will be slow.

After a native crop of plants is established, the new plants which enrich the soil over time. Dead leaves and branches create an organic richness and a stable root system will also add nutrient to the soil over time. The fine root mat that willows and trees grow every season adds organics to the soil when some of this mass dies off at the end of the growing season.

Willows and trees also collect organics that blow in the wind and are collected at the base of the plants. Things like dead grass, fall leaves and plant seeds are all caught in a dense willow and tree buffer, growing along the streams. This organic material biodegrades and adds nutrients to the soil. The organics also create a microbial rich environment.



## Trout In Plain Sight - How Well Do Brook Trout Blend Into The Bottom?

If there is one trout that seems to be the best at hiding from view in shallow water, I would have to say that trout would be the brook trout. The combination of their olive color, worm-like vermiculations and multi-color spotted sides, they blend into even the most unusual streambed environments.

Trout are great at resting motionless in shallow water habitats. They will rest right on the bottom using their tail, pectoral and caudal fins to keep upright. I usually look for a shadow on the bottom to find the trout. The eyes are the revealing characteristic that will confirm that they are trout, when you think that you have spotted one.

Fly fishers develop trout spotting skills from their many years of hunting trout. On some fisheries, the total game is sight fishing. Waiting until you spot a trout before you make your cast. In most situations, the trout are on the move and you have to cast way out in front of the trout, with light presentations, so you do not spook them. If you have read the trout's travel route correctly, you may get lucky and end up casting the fly in exactly the right spot.

Many years of this type of fishing will help to develop your trout spotting abilities. If you like to photograph trout, like I do, you will find this experience very rewarding.



Above: A small brook trout lays stationary in just inches of water, using the debris on the bottom as a backdrop for the trout's perfect camouflage. Reflections on the surface help to distract any predators sight of the fish. The shallow leaf cover on the bottom of this backdrop, is a perfect habitat for a hungry trout to ambush small insects that use the leaves as cover.

## Stream Maintenance Program - Ongoing Grassroots Effort

Your local trout stream needs your help! It may not appear so, but lots of small and some large impacts caused by human development on a number of other streams and on the river for the trout and the environment that they live in to survive, we must chip in with some volunteer time and effort, to insure we can make a difference in protecting and enhancing our local waters.

It may be something as simple as garbage clean-up or a more complex fish and riparian habitat program that will help create a natural eco-system over time. All of this will also help draw attention to important things like water quality and the volume of flow in the stream channel. The latter is defined as in-stream flow needs to support aquatic life.

This stewardship of a local trout stream or two is what is required to make sure that we don't completely destroy our local natural assets. It has to be done on a volunteer basis, because government agencies are not large enough to handle micro-management issues. Both provincial and federal agencies just don't have the time or resources to take care of or invest the time in a local trout stream.

Fortunately, there are watershed groups popping up all over the place in our province of Alberta. This shows that people do care about what is happening to small and large flowing streams and the complex and integrated eco-system that the streams support along their banks.

## The Importance of Beaver Dams to A Resident Trout Population

When it comes to beavers and healthy trout streams, it is all about balance. You need to have beavers and dams on a stream system to help maintain a healthy trout population. Beavers create an environment that enriches the nutrient and the food supply on a creek. The dams also create a wintering habitat for trout to retreat to during the cold winter months.

On area trout streams, which are small in size and fed by spring water throughout the year that needs to have a healthy riparian zone or buffer along the stream, with plenty of willow and deciduous trees to enrich the ecosystem, including the resident trout population. The willows and trees provide habitat for trout and enrich the food supply.

If there is a healthy riparian zone along the trout stream, there will also be a resident beaver population. The beavers play an important role in maintaining the health of the eco-system, which is an ongoing process.

The word balance comes into play when you consider that if there are too many beaver dams on a creek, the water will be totally flooded along its length and the willows and trees will eventually disappear. If humans live in the area, they will be land owners responsible for maintaining the land. Land managers need to maintain the valley bottoms so that flooding does not get out of hand.

This interaction between humans and beavers happens on trout streams that occur in human populated areas. When beaver management comes into play, the populations of beavers are kept under control. This does not mean that they are totally extirpated from a stream, but rather their numbers are kept in balance. On the BigHill Creek in the Town of Cochrane, there are beavers migrating into the BH Creek system annually from the Bow River. This is just the way it is with beavers. They are constantly migrating to find new habitats. Some of the migrating beavers have eaten their food supply at other sites and now need to move to new territory.

For the last thirty years, the Town of Cochrane has had some type of beaver management program on the BH Creek. The landowners' part of the town have been managing beavers for over 100 years. Despite this management approach, there are beavers on the BigHill Creek every year.



There are a number of different types of aquatic invertebrates that are attracted to still water, such as that which is found on beaver dams. Different types of water beetles, mayflies and caddis flies can only thrive where there is minimal current or flow velocity. This is where beaver dams are important to trout. The beaver dam is especially important during the winter months, when stream trout need a deep, slow water refuge to conserve their energy throughout the winter months.

When beavers construct a dam, they have food caches that they build up for the winter months. This woody debris and that of the main dam and their lodge, add nutrient to a trout stream, enhancing the food supply. Beaver dams are also great nursery habitats for minnows and juvenile trout. The large surface area of a beaver dam is usually skirted by a perimeter of shallow water, where small fish can live in safety.



Above: Water boatman, like these mating water beetles shown here, are a common resident of the beaver dams. They crawl out of the water or fly to new locations to mate and lay their eggs along the shoreline grasses of the stream.

## First Trout Emerges From Spawning Beds On Millennium Creek

There were a few things that happened in the fall of 2017 that led me to believe that there may be an early emergence of hatching brook trout on Millennium Creek. After the first taste of winter in the early part of November, the weather changed and we experienced some warm wind Chinooks. Up until November the weather had been pretty warm, so the trout eggs were probably incubating.

Also, there hadn't been any sign of early anchor ice, which I believe is always hard on trout eggs in the late fall. I think that anchor ice can cut off the circulation of well oxygenated water over the trout eggs and lead to possible loss. With good weather flow in the fall of 2017, and with warmer water this was probably why we had an early trout egg hatch in the winter months.

I had been inspecting the spawning beds on a few occasions before I noticed the first newly hatched trout. It was laying motionless on the bottom and I had to wait for a long time before it felt safe enough to pick me up to the surface and feed. There were a few very small midges floating on the water, so the tiny trout knew that food was available on the top of the water column.

After a while, I watch the brook trout that was only a few centimetres in length, take a few very small bits of something that I could not identify, off the surface of the water. These new trout have big eyes and they can see microscopic food items that we can see. It could be that they do take some items that are not edible, so they are probably in the early stages of learning what they can and cannot eat.

Millennium Creek is always the first spawning habitat on the BigHill Creek system, that hatches early trout every year. The other spawning habitats on other streams that feed the BigHill Creek and in the main channel itself, the trout come out of the spawning ground, later on in the



This winter, there were more stickleback minnows present in the spawning beds, so the tiny trout were a little more spooky about showing themselves. I suspect that larger stickleback minnows will eat newly emerged trout, just after they come out of the gravel. Some of the stickleback minnows that I spotted, had very big bellies, which could indicate that they had been either feeding on a good supply of trout or midges. Maybe both.

The best place to find the new hatch of brook trout is in the spawning channel that both Inter Pipeline and Bow Valley Habitat Development built in 2010. This spawning habitat has been providing new generations of trout since the first fall after it was built. This year will be the 8th year of a successful brook trout hatch on the channel. I like to hunt the quite water habitats downstream of the channel for newly hatched trout. The brook trout tend to find quite water lateral margin habitat, a safe place to stay relatively safe.

It takes a trained eye to find newly hatched trout. Fortunately, over the years, I have developed a pretty good eye for spotting these small residents of a trout stream. Sometimes I will take a few photos, but getting



## New Aeration System for Winchell Lake Trout

Winchell Lake is one of the area's few rainbow trout lakes. It isn't that big, but we are not exactly in lake country around these parts. It is approximately 29 acres in size and each spring the province stocks about 140 trout per surface acre in the lake.

One of the big problems with the lake is that it winter kills often. The lake is located in a valley bottom that doesn't get much sun in the winter, so it is vulnerable to low oxygen fish kills usually in January or February.

Fortunately, the Alberta Conservation Association has installed an aeration system on the lake in 2017. Hopefully, this

will help maintain good oxygen levels throughout the winter months and allow a good survival rate of the stocked trout population.

The lake has an average depth of approximately 15 feet or so, with a deep section that reaches 20 feet. This is good depth for a trout lake, but the high level of organics on the bottom, uses a lot of oxygen in the winter months, during the night time hours.

If there was better exposure to sunlight during the winter, there would be more photosynthesis during the daylight hours, which produces

oxygen in lakes. But the lake lies at the bottom of a valley with a steep south facing valley slope to hide the sunlight mid-winter.

It is a real waste to have a winter kill on a healthy trout population. This is wasteful and it is also costly for a lake that receives a stocking every spring, with approximately 4,000 rainbow trout. I have fished the lake for many years, and there has been much talk about an aeration system for the lake, and how it would greatly improve the sport fishery.

It will be very interesting to see how the fishery develops over time, now that the trout can live a full life in the small productive lake.

*"Winchell Lake is not a safe lake to drive on. There are springs that feed the lake and create thin ice at certain locations on the lake."*

*In the late 1980's a small grader went thru the ice while cleaning off the snow for skating. The grader was never recovered.*

*With the aeration system now operating, it would be wise to be careful when accessing the lake for ice fishing.*

## Spending Too Much Time Underwater? - Try A Dry Fly!



When I fish the crystal clear waters of a mountain stream, I usually start with a dry fly pattern. Mountain trout feed heavily off of the surface, because most mountain streams are low in nutrient and the food supply can be very limited under the water's surface. Trout in these streams depend on a good supply of terrestrial insects that end up on the surface of the water, drifting down to hungry trout.

With extremely clear water, a feeding trout can see a surface meal from a considerable distance, so having a fly pattern on the surface is the best presentation for a feeding trout. That is looking up at all times. If there is nothing hatching on the water or you can't see any terrestrials, just tie on an attractor dry fly pattern.

Terrestrial insect dry flies are also good dry fly patterns to start with. Ants, beetles and hoppers work good. If stone flies are present on the stream, a stone fly dry pattern is always a great choice. Even crane flies can bring trout torpedoing to the surface, which is what all of us love to see.

I have met fly fishers that fish exclusively with dry flies. This is understandable, considering how much fun it is to catch trout off of the surface of the water. It seems that for many of these true disciples of the dry fly, there is always a pattern that will catch trout off of the surface. At least you can have fun trying.

This winter, I spent a lot of my time at the fly tying station, tying up dry fly patterns for next year's sales and my own personal use. Probably 80% of my time was dedicated to making dry flies. I haven't done this for a number of years, but I really enjoyed the work. For some reason, I just had the urge to create surface fly patterns this tying season.

It takes a bit of skill to tie a really well balanced dry fly. More skill than many fly tiers think, until they try their own patterns on the water. A good dry fly must hit the water in the right position, with wings up and the bottom of the hook bend either on or just below the surface of the water. This takes practice.



Above: Winchell Lake is ice fished by a few local anglers.



Above: Small trout like this rainbow can now winter over in Winchell Lake and possibly grow to a large size. This will make fishing the lake a lot more interesting.



Above: This aerial photo of Winchell Lake, shows how the small lake is surrounded by muskeg, in the valley bottom.

## Key Habitats are Crucial for Trout Survival

Trout require a good volume of clean, cold water and a healthy riparian zone for their survival. For a trout's reproduction, part of the necessary fish habitat is small gravel of the right size for spawning. Spawning gravel on areas of a small stream that have the right depth and gradient, helps contribute to an overall healthy trout stream environment.

Sometimes, human intervention may be required to create or bring back a healthy trout stream. If this is the case and after all of the ingredients are in place to support a natural reproductive trout stream, there needs to be some protection in place. This protection is to insure that the environment stays healthy for a resident trout population into the future.

If there is some development taking place along the trout stream's course, there will be impacts that can have a negative influence on the survival of trout. Things like storm drain construction, water withdrawal and pollution are ongoing threats. These threats need to be identified early on.

*Below: Newly hatched trout fry larva need habitat to take cover in, feed and stay safe. Gravel and small cobble, boulder habitat is perfect for juvenile trout. They prefer these habitats in both still and flowing water. The still water habitats are used when the trout are just emerging out of the spawning gravel and for those first critical months. Late on, the flowing water habitats become more attractive to feeding young trout parr. There needs to be plenty of food to sustain young trout.*



It is very important that the public is aware or educated to how stream ecosystems work and the life that is present in our flowing waters. Things like trout reproduction need to be documented so that managers can insure there are protective measures in place to preserve what we are responsible for.

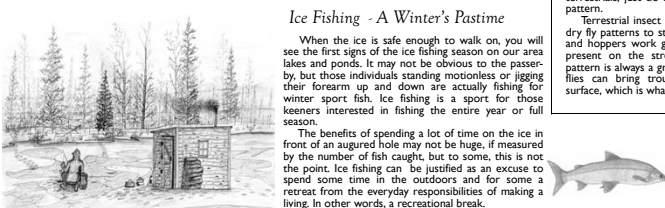
On Bighill Creek, in the Town of Cochrane and on West Nose Creek, in the City of Calgary, spawning trout and key spawning habitats have been mapped and documented. Now we can concentrate on protecting this unique natural asset. I have also observed key spawning on Nose Creek in the City of Airdrie. These are just a few streams in our area that have been identified as important to our sport fishery and natural environment.

The City of Calgary has more streams and spawning habitats that also have been documented, so there is presently a lot of natural resources to be looked after. This is all important to us now and future generations to come. It is a huge responsibility for us to take on in modern times.

## Ice Fishing - A Winter's Pastime

When the ice is safe enough to walk on, you will see the first signs of the ice fishing season on our area lakes and ponds. It may not be obvious to the passer-by, but those individuals standing motionless or jigging their forearm up and down are actually fishing for winter sport fish. Ice fishing is a sport for those keepers interested in fishing the entire year or full season.

The benefits of spending a lot of time on the ice in front of an augured hole may not be huge, if measured by the number of fish caught, but to some, this is not the point. Ice fishing can be justified as an excuse to spend some time in the outdoors and for some a retreat from the everyday responsibilities of making a living. In other words, a recreational break.



## Good Winter Snowfall is Beneficial to Trout Streams

Most people will see the major winter snow storms as a real, or daily life. Having a huge dump of snow means tough commuting issues, a burden on the tax dollars for snow removal and so on. However, for farmers, skiers and those interested in seeing healthy trout streams, there is good that comes from lots of snow in the late winter months.

We get a fair number of Chinooks in this country that will melt snow before it has a chance to soak into the ground in the spring. If the Chinooks are short and not too warm, a good volume of snow will holdout in the timber and willow stands until the spring thaws. Much of the snow gets converted to ice, which will last longer, hidden beneath a cover of grass and shrubs until May sees the frost disappear from the ground.

If the snow and ice makes it thru until spring, it will result in a good run-off on our area streams. This is well needed to help maintain healthy trout streams. The high flow will scour out new pool habitats and create undercut, deep runs and lots of new, clean gravel in the streambed. All of this means more habitat and food for the resident trout population.

It is close to mid February when I write this and so far we have been getting plenty of snow. I haven't seen it piled up on my front lawn, this high, in a number of years, just down over the hill from my house is the Bighill Creek. The snow will stay in the willows and trees for a long time, if we don't get a really warm Chinook in the next few months. If some of the snow does melt, it will collect in the low lying depressions and freeze during the night and colder days, insuring that some moisture will be around to seep into the ground when the frost is gone.

Like many of the other area trout streams, the Bighill Creek is due for a good run-off and cleaning out. This past year the water levels were very low in the creek and this is hard on the trout population. Some pool habitats have been silted in over the recent years, so a good flush will benefit the stream. I look forward to seeing how things develop over the next few months. We are probably in for more snow this next week, which will add to the already substantial amount that has been falling. At least this is what is forecast on the weather report today.

The trout hatch has already started on Millennium Creek, which was very exciting to see this winter. By the time the spring run-off begins, these new trout will be ready to move up the Bighill Creek and the high flows will help them make passage up the system. Juvenile trout are very good at migrating up small side channels created when high flowing streams flood their banks, if they are strong enough swimmers when the high flows happen.

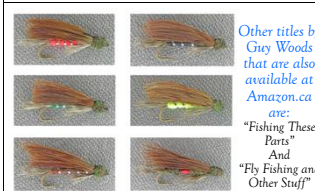
Because the brook trout hatch starts in January on Millennium Creek, the small trout are approximately 4 cm in length by the time the April run-off starts or it is well underway. Brook trout are especially adept at migrating upstream during high flow events. The high water triggers a migratory instinct in these young and old trout. Having a good pile of snow and ice in the late winter will insure that there is a good run-off for brook trout by the time spring is upon us.



*Below: I was sorting thru some old slide photos that I have compiled over the years and found a few that bring back some good memories of spending time on the water. I do take a lot of photos when I fish, it is a hobby of mine. The one below was taken from the author by Barry Bryant many years ago, when I was a younger man.*



*Below: There was plenty of snow on Millennium Creek this winter. This photo was taken in February.*



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:

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