PAGES -

Brook Trout Fry

"Local Trout Stream Project News and Information"

Riparian and Fish Habitat Enhancement Fisheries Management Bio-Engineering Stream Reclamation and Restoration Bank Erosion and Sediment Control Water Quality

these erosion sites.

and gravel beds on the streambed.

Many varieties of aquatic

invertebrates depend on clean

flowing water and silt free cobble and gravel habitats

their survival

along the creek's course, for

Magazine Mission Statement



Stream Tender

You can read previous issues by following the links back. Start below.

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Inside This Issue

A Beautiful Member of the Trout Family!







The Bow River "Rocks!"

















Microsoft^{*}



eport that there have been over 18,000 Page Requests since the last issue was released in November 2012!

Publisher/Editor Information

"New Trout Hatch On Millennium Creek"



Above: A small trout fry, from the 2013 hatch on Millennium Creek

The brook trout hatch on the spawning channel, on Millennium Creek, happened a little early this year. Earlier than on previous

I suspected this might be the case, when the brook trout started to spawn earlier in the fall

For some reason, the brook trout began their spawning activity in late September and the first week of October last fall. A few weeks earlier than on previous

With the temperature of the spring water in Millennium Creek being fairly consistent, I expected the incubation of the trout eggs to match up with the time window that it has taken on previous years.

The time of trout egg incubation

In any case, it is good to see

this new generation of trout entering the world and enhancing

our local fishery. This is the third successful hatch of trout eggs on

started to use it only a few weeks

after its construction had been

completed, in the fall of that year.

habitat will benefit the fishery for many years to come. Annually

thousands of new trout will hatch

from the spawning gravel beds.

construction was completed by

project partners Bow Valley Habitat Development and Inter

The spawning channel's

This newly created spawning

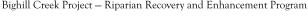
the spawning channel. The spawning channel was constructed in 2010, and the trout

edge, and create a stable habitat that will benefit both in the improvement of water

on Millennium Creek is approximately 130 days; until the trout fry exit the spawning gravel.

: This is a photo of a stonefly nymph on the underside of a flat rock that was taken from the streambed of a health trout

Stoneflies require clean flowing water so that they can breath thru their gills, from clean water flowing under the rocks.



A major part of the Bighill Creek Project's long term goal, is to focus on the recovery and enhancement of the riparian zone along the stream banks of the creek

This recovery and enhancement enhancement work will involve the planting of native willow and tree plants close to the water's edge along the stream banks. By planting close to the water, in a moist environment, the survival of the plants is far more likely. Over time, these plants will

row out from the water's fish and wildlife on the Bighill Creek. Another benefit will be quality in the stream.

Presently, there are a large number of stream bank With high volumes of silt smothering a majority of the erosion sites on the entire rocking streambed's substrate, length of the creek. Each year, the creek cannot support a large volumes of silt are healthy environment aquatic life. washed into the stream at A large part of the riparian

recovery and enhancement program, is to help stabilize The result of the silt loading into the stream channel can be very damaging these eroding stream bank to the survival of aquatic invertebrates and fish that sites, by planting them with willows and trees. Over time, the stability of

inhabit the Bighill Creek. The movement of silt in the stream, will smother cobble well established root systems from the plants, will reduce soil loss through annual erosion and silt loading into the creek. It is a very cost effective method of stabilizing

erosion sites.
This process of using plants to stabilize stream banks is often called "Bio-engineering"!



Above: This outside bend of the stream channel was planted with willow plants to help stabilize the bank

The Gills

This is a drawing of a mayfly nymph that clings to the underside of rocks and cobble on the streambed of large and small flowing

The gills of the mayfly are located along both sides of the abdomen, on their bodies.

"Aquatic Invertebrates Need Clean Water To Breath Through Their Gills!"

Willow Planting Update for the 2012 Programs

I have been monitoring the planting sites on Bighill Creek and Nose Creek over the winter months into 2013. It looks like we have good survival rates for all of the 2012 plantings.

Recently, I made a trip up to Airdrie to take a few photos of some potential planting sites for the 2013 season. While I was in the city, I drove over to the planting site for this last years

plantings and took a few photos. With snow on the ground, it was easy to distinguish the new plants, with their tops sticking up and out of the few inches of snow

However, on the Bighill Creek, ice build up over the winter months has submerged most of the new willow plants beneath the ice cover. Fortunately, I managed to take a few photos earlier on in the winter months, before the plants were hidden by the ice.

In the winter months, is easy to ick out the tops of the willow plants when there is a little snow cover that has compacted the shoreline grasses, making the willows more visible.



Upcoming Programs for the 2013 Season

Bow Valley Habitat Development is please to announce that there are three new partners joining the team for the 2013 project season. Shell Canada, ATCO Pipelines and the Honda Canada Foundation have both provided financial support for two planting programs.

The funding support will result the successful completion of planting programs on both Bighill Creek, in the town of Cochrane, and Nose Creek, in the city of

Along with the three new partnership projects, Inter Pipeline and the Cochrane Foundation have also provided further funds to do more planting on Bighill Creek and Canadian Pacific, Walmart and Microsoft will invest in the Nose Creek planting program. We appreciate the Cochrane Foundation, Canadian Microsoft, Walmart and Inter Pipeline's ongoing support!

There may be some more partners involved in the 2013 programs and if so, these partners will be announced in the next issue of this magazine.

The following is a break down of how the eight partners will spend their dollars in the 2013 planting

Bighill Creek; Willows and Trees

1000 plants Inter Pibeline Shell Canada Cochrane Foundation— 500 plants ATCO Pipelines — 350 plants

Honda Canada Canadian Pacific 400 plants Walmart / Evergreen 2000 plants Microsoft / Evergreen -500 plants

Bow Valley Habitat Development considers the amount of support committed so far this year, to be a great start for the 2013 season's

program.

This total number of plants is very substantial for both stream systems, and the benefits will be considerable, in the riparian and enhancement

"Look for the next issue of Stream Tender Magazine in June of 2013!"

Updates on Past Fish Habitat Projects, Coming Soon, in Stream Tender Magazine!

During the summer season this year the publisher will be visiting some old project sites to inspect work completed in the past. It will be a good opportunity to take a few photos of how things have changed, since the work was done, years earlier.

Updates on the findings will be published in future issues of Stream Tender Magazine, so that everyone can see the results for themselves! This is the best part of my job!

I always enjoy having a look at old project sites to see how mother nature has put the final brush strokes on the original fish habitat enhancement designs!

Buy a Willow or A Tree Program

Congratulations and thanks go out to Robert Cochrane, for being the first participant in the Buy a Willow or Tree Program!

Robert purchased 4 plants that will be planted on the stream banks of Bighill Creek this spring. Stream Tender Magazine will be

Magazine publishing the names of all of the participants in the fall issue of the magazine.





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Nose Creek 2012 Willow and Tree Planting Update

In February of this year, I visited the Canadian Pacific and Stantec planting site on Nose Creek in Airdrie. The winter inspection revealed some of the willow plant tops sticking up above the cover of snow, along the stream banks of Nose Creek.

It was a perfect winter's day for taking a few photos of the plants that had survived the summer and fall season. The first year's growth of narrow long limbs, was enough to make them standout above the white crust of snow that covered the stream banks.

The first winter provides a good opportunity to assess the willow and tree planting sites, to determine the survival rates for a planting program.

I noticed some areas of the

I noticed some areas or the stream bank where the plant survival was not as significant, but these areas can be enhanced with a few more willow and tree plants during the 2013 planting

The selected planting site is a perfect demonstration site to show the effects of riparian recovery and enhancement



Above: This is a close up photo of some of the willow limbs sticking up above the crust of snow along the stream banks of the creek.



Above: This photo shows a length of the planting site located on Nose Creek in the City of Airdrie, Alberta.

Bighill Creek 2012 Willow and Tree Planting Update

Fortunately, I managed to get a few good photos of the Bighill Creek 2012 willow and tree crop, before the winter's ice build-up covered them over. I took the photos in December, when the ice was just starting to thicken enough to walk on.

The planting sites were looking very good and on some areas of the Bighill Creek the survival rates were very high. During the 2012 planting season, over 3000 willow and tree plants were planted along selected areas of the stream banks.

The 2012 planting on Bighill Creek was funded by Inter Pipeline, the Cochrane Foundation and the Cochrane Community Grant Program Bow Valley Habitat Development completed the planting of the willows and trees, over the spring, summer and fall months.

A number of the planting sites were located on eroding stream banks, where existing erosion was a problem. Other stream bank where future potential of erosion was evident.



These photos show short lengths of stream bank on the Bighill Creek, where willow and tree plants have been planted close to the water's edge. In another few years, the

In another few years, the willows and trees will become more obvious and their root systems will be well established.





"By planting willows and trees close to the water's edge, the survival rates will be higher in this moist environment. Over time, the plants will develop further away from the edge of the bank to establish a wider riparian zone along the stream channel."



Willows Planted Around Pool Habitats on Millennium Creek in 2007 are Doing Great!

On a bright sunny day in January, I visited Millennium Creek, to see how the pool habitats were doing. The pools were constructed during the restoration program in 2006, 2007 and 2008.

program in 2006, 2007 and 2008.
The pools on the lower reach of the creek were constructed in 2006 and in 2007 willows were planted around the perimeter of the pools. The plants would help to stabilize the banks of the pools and also provide future shade and cover habitat for resident trout.

Left Photo:

This photo shows the willow plants that were planted in 2007, around one of the pools on the lower end of Millennium Creek. This pool was constructed with a rock V-weir to maintain the pools depth, into future

During the summer months, the shade from the willows on the south side of the pool, maintain a dark water habitat in the pool, for most of the daylight hours.

I noticed that these willow

I noticed that these willow plants are now starting to sucker out on both sides of the more mature plants. It is expected that eventually, this small area of the stream will be completely hidden from view, during the summer

On the day that I toured the stream, I spooked a number of small trout in the creek, as I walked the stream banks. Most of them were from last years hatch on the creek.

The creek stays open during the winter months, due to the warm spring water that flow along its course



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Below: Glenbow Elementary School students plant willows and trees along the banks of the Bighill Creek in Cochrane, Alberta. The program was organized by BVHD and Branches and Banks Organization for 2012.



Brook Trout – A Beautiful Member of the Trout Family!

The brook trout was the first non-native trout to be transplanted in the province of Alberta. Just after the railroad was built around the turn of the century, the brook trout was transported from the eastern provinces of Canada to its new home in the Rocky Mountains

Brook trout are native to the Atlantic province's streams, lakes and rivers, where it was, at that time, considered the primary sport trout by many anglers.

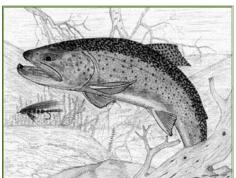
I suspect that when residents of eastern Canada moved out west, they longed for their native trout species. After all, the brook trout is the most beautiful member of all of the trout family.

When the brook trout first arrived in the Banff area, it was transported by milk jugs to many area streams and lakes, where it was released into new waters. Some of these new waters had been previously occupied by native cutthroat trout and bull trout.

In modern times, many fisheries managers hold great contempt for this member of the trout family, because it has displaced most of our native trout on many trout streams.

However, with the impacts of agriculture and development, trout streams degraded to the point that they would not support our native varieties of trout anyway.

For some of our local small streams, the brook trout and brown trout are the only trout can can inhabit these streams.



Books bu **Guy Woods**





HOME



Presently there are many to look after this new member streams in our area where the of our trout family, out west cutthroat trout and bull trout here, in its new home. They may be considered a nonare in recovery, due to improved resident, non-native management invasive trout species, but they However, in the foothills where are definitely here to stay. There would be no way to get conditions are different, there are good populations of both

trout and brown trout are a perfect mix for streams that not support other native varieties, under the present conditions of those

brown trout and brook trout.

streams to the north of Cochrane, Alberta, hold good numbers of reproducing brown trout and brook trout. These fisheries trout and brook trout. These trout provide good angling opportunities and they also support a variety of other wildlife that depend on them for programs. stream a food source. With the main focus of fisheries managers in our area, concentrating on the bull trout and cutthroat trout recovery

> In Cochrane, the focus of the Millennium Creek and Bighill Creek projects has been on maintaining and enhancing both brown trout and brook trout populations. Bow Valley Habitat Development will continue to do

program, I hope that our non-

Right now, many of the

. I believe that there is plenty of potential in improving the fishery in this area, if we take care of these two fine sport fish!

Coarse Fish are an Important Resident of our Trout Streams!

When the term "trout stream" is spoken, ones attention may focus solely on the sport fish that live in

that flowing water. After all the sport fish are usually of primary interest to those who fish someone else who likes to

However, trout are not the only residents in all of our streams and rivers. There is a wide variety of other members of the fish family that occupy these stream systems.

These other fish are often referred to as coarse fish, which is not a very respectful title for any member of the fish

Coarse fish are actually a very important part of food chain. Feeding both trout and insects.

Fish such as minnows and small suckers provide an important food source for hungry feeding trout, especially medium to large sized trout that depend on a larger portion of protein in their diet.

Below and to the right: These are photos of some of the coarse fish that occupy many of our area trout streams.

When forage fish die in the stream channel, their bodies nourish types of aquatic invertebrates, living enhancing other things that reside in trout

The eggs that minnows and suckers deposit in the rocky bottom of a stream will also be consumed by both trout and stream insects

If there are numerous coarse fish in a trout stream, the trout can grow much larger in size!



About This is a white sucker. Other mountain and longnose suckers



Above: This is a longnose dace Other common members of the dace family are the finescale and



About This is a five spine stickleback minnow. The spines are located on the dorsal fin of this fish



closely resembles the lake chub in



Above: This is a Lake chub. Although it is called a lake chub, it is a very common resident of our trout streams.

"Large Trout Still Linger in Jumpingpound Creek!"

I am occasionally asked about the fly fishing in Jumpingpound Creek. My answer is usually "pretty good", without too much for details. However, I do point out that the stream is an important spawning tributary to

This fine little trout stream enters the Bow River in the Town of Cochrane, with bridge crossing that provides a good view of the stream. For anyone that drives or walks over the bridge, they will first notice that it is a pretty little

The result of this first encounter with the Jumpingpound Creek, usually arouses the curiosity of many new comers to the area Especially if they are fly fishers.

With the new regulations restricting the harvest of restricting the harvest of rainbow trout, it is a catch and release fishery for this variety of the trout family. Protecting these rainbows in the creek will insure that we have a relatively good population in this reach of the Bow River.

Fortunately, and after a lot of hard work by fisheries managers, landowners and other stakeholders over the years, the stream has received the protection that it so rightly

The fact that the IP is a otected stream, makes it a little easier to answer questions about the sport hery in the creek.

No need to treat the topic like a well kept secret anymore, when compared to years earlier, when it was important not to advertise the potential of good fishing on the stream.

I may not fly fish on the npingpound Creek as much as I use to, but when I do get out on the water of this beautiful freestone trout stream, I enjoy it immensely!

developments on the JP Creek that will benefit the overall trout fishery, is the partnership between many of the landowners on the stream and the "Cows and Fish Program". As a result of this partnership, large areas of the

One of the most recent

stream are being protected from the impacts of livestock. With this program in the works, the riparian zone has started its recovery.
In recent years I have noticed

quit a difference in the amount new growth along the stream!



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This fine 23 inch rainbow trout was caught and released after the photo, by the publisher, in late July, on the Jumpingpound Creek. Fish of this size are rare in the stream, but over the years I have managed to hook into a few of

They are full bodied trout that seem to find plenty of food in the JP, to grow to this size, if they are protected by







There is potential for a well balanced approach in how we manage both native and nonnative trout species, without going to far on either side of

resident varieties are not

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A Growing Trend in Conservation Minded Anglers!

From what I have observed while fly fishing on my favourite trout streams, and during conversations with other anglers, there seems to be a trend of growing interest towards preserving our trout waters.

This interest is directed at both the trout and the habitats in which they live. Especially on streams that flow through private lands, in the foothills area of the province.

I believe that this is a sign of

the times! With many streams being threatened by development of some sort, encroaching along the stream banks of their favourite trout stream, anglers are starting to take notice.

These anglers realize that now is the time to become better advocates on behalf of the resource and habitats that they have a common interest in.

In my opinion, this is a very wise choice. Especially if they expect to continue to enjoy

My interest in conservation started many years ago, and in my own experience, after seeing enough stream bank damage and other negative impacts on streams that I fished, the evidence for action was quite obvious. These observations seem to fortify ones interest in conservation measures and a strong dose of

There are three basic approaches to making a change for the better. The top two are fisheries management and habitat protection, with the third being habitat enhancement.

Habitat enhancement can involve such basic strategies as fencing off trout streams or restricting livestock access to the stream banks. Much of this is beyond the control of the average angler, but at least if the interest is there, they can be advocates of this approach.

There are some pretty simple things that the average First off, reading and abiding by the fishing regulations every year, is a good start. Also, avoid the use of treble hooks for angling on catch and release waters

Even if the treble hooks are barbless, they will do major damage to the mouths of sport

I have talked to many spin fishermen that replace the treble hooks with barbless single hooks, and they state that it doesn't lessen their "hook ups" when they are catching fish. I think that this is a great conservation measure!

measure:

One thing that I notice quit regularly, when I am fishing the lower Bow River, and that is the number of maimed mouths on the trout that I catch. It is evidence of damage that they received as young fish, while hooks were removed without care and attention by the anglers.

It is a small step that an angler can take to make a very large difference!





Above: The mouth on this rainbow trout has been damaged by a poorly removed hook, when the trout was young in life!





"The Backswimmer nymph is a common site on many area trout streams"

Trout Need a Clean Gravel Streambed to Spawn Their Eggs On!



About: This photo shous a pair of spauning trout, trying to fun a nest through the silt covered gravel, to lay their eggs. This struggle to clean the silt from the gravel shous how damaging silt loading in trout streams can be. The incubating trout eggs are most likely doomed to die over the next few months, from further silt movement over the nests!

I had watched trout spawn over a clean gravel area on the Fallentimber River for a number of years. Then one fall, while I was visiting the same spawning area, during the trout's fall spawning. I noticed that the gravel beds were smothered in silt.

The vacuum of the properties o

The following year, while fly fishing on the same reach of the Fallentimber, I traveled up the stream to a location that I believed had caused the silt loading over the spawning beds.

It turned out to be an eroding stream bank, on a farmer's cultivated field, where the plough had removed all of the riparian cover, right up to the top of the stream bank. The site was on the outside of a bend on the stream.

There were no root systems from willows or trees to keep the outside of the bend stable, or to prevent erosion. All of this was done, just for a few more dollars of crop and a few metres of extra crop land. It was very disappointing to find such neglect and disregard for the stream environment.



The fly fisherman in the photo below uses his old creel for collecting garbage, not for holding trout. It's a neat idea for an old fishing accessory from years past!



Abone: This is a photo of the crosion site that I discovered upstream of the spauning area. The crop land is just to the left of the fly fisherman in this photo. Directly beyond him is a ford across the creek, for farm equipment. You can see that once the crosion starts, just upstream, the entire stream bank soon is being washed into the creek. I would like to return to this site some day and complete a bank stabilization project, using bio-engineering techniques!



Below:

Brook trout are spawning on Bighill Creek. They have managed to fan the spawning gravel beds clean, but whether any of the eggs will survive is left to speculation. At this site, there is plenty of silt on the streambed, just upstream!













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Ghost Lake Fisheries Management

Ghost Lake Reservoir is a large body of water created by a dam across the Bow River, west of Calgary, Alberta. Because of the lake's close proximity to the large population centres of Calgary and Cochrane, the Ghost Dam receives a considerable amount of fishing pressure.

It can be a very frustrating lake to fish, due mainly to the limited fish populations that inhabit its waters. Presently, the primary sport fish that are targeted by anglers on the lake are mountain whitefish, brown trout, Lake whitefish and lake trout. There are also large numbers of burbot, which are a primarily target for a few the resultars on the lake.

the regulars on the lake. In 2008, Bow Valley Habitat Development was contracted by Trans Alta Corporation, to complete a fisheries study on a large bay on the lake. While netting the bay some very large Lake whitefish and brown trout were captured in the net.

With a crew of eleven works now being aware of the presence of these large fish in the bay, it didn't take long for word to spread. Soon after the study was competed, anglers converged on the bay in the winter months to catch some of the large fish that were present in the bay.

The winter ice made the bay easily accessible for fishing enthusiasts that don't own a boat for the open water fishing season. I also joined in on the winter ice fishing action on the bay, the first winter after the netting

For the first few years of fishing the bay, it was not uncommon to catch and release four or five 2 to 4 pound. Lake whitefish, during a mornings fish on the lake. However, I knew that the quality of fishing was destine to change after a few years of heavy angling pressure on the Lake whitefish populations in the bay area.

There is a very generous catch limit on this fish, under the present day fishing regulations. I expected the bay to be fished out in only a few years. The daily catch limit for Lake whitefish is 10 fish, which I consider ridiculous!

These expectations were based on

my own personal experience and knowledge of the Gull Lake whitefish fishery that I had enjoyed back in the early 1990's. At that time, I would fish Gull Lake and do fairly well, during the winter months. However, soon after I started to fish the lake, the angling pressure and over harvest, collapsed the Lake whitefish populations.

In the peak years of the Gull Lake fishery, there was approximately 100 ice fishing shacks on the bay that I fished on. So it was quite evident that with all of the fishing pressure from that many ice fishers, the Lake whitefish populations could not withstand the heavy annual harvest.

I stopped ice fishing the bay, on the Ghost Lake, a few years ago. The quality of the Lake whitefish fishing had declined considerably, and I didn't like to witness the harvest of some of the few remaining fish in the bay

When I was catching Lake whitefish in the bay, they were large fish of approximately 3 pounds average.



Above: This is a map of the Ghost Lake Reservoir, located west of the City of Calgary, Alberta.



The important thing here, is that we About This is a photo of an average sized Ghost Lake – Lake whitefish. This fish was released after the spirits in a fishery that is available to all

The idea that you might

hook into something very



Above: This is a photo of the Bow Valley Habitat crew, netting a large bay on the Ghost Lake, in 2008. A custom made net was used for part of the study. The net was 400 feet in length. The Quad's were used to pull the net up the length of the bay, on both sides of the shoreline.

It is very hard to sustain a decent port fishery in a lake, if the management regulations are designed to promote over harvest designed to promote over harvest collapse of the plot in the sport fish. We witnessed the collapse of the pike and walleye fishery on many lakes in this province, back in the late 1990s and certain Lake whitefish populations may be headed in the same direction!

There is no need for this! There has been far too many case studies in the past, of how over harvest can ruin a lake's fishery. It is time for a little proactive management for certain area lakes! I believe that micro-management is necessary, especially on lakes that are located close to major population centres, where angling pressure is very high.

For the walleye fishery, we went from generous harvest limits, to a special harvest permit after the collapse. Which means that due to poor management, the managers can now benefit from charging a few extra dollars to harvest a walleye. I have a better idea, let's just be a little less generous with the fish harvest limits on lakes, before reactive management strategies are required. If you catch one large Lake whitefish, of about 3 pounds, you can feed a family of four for one meal. How about reducing the harvest numbers significantly, on lakes where the angling pressure is high.

high.

For the Ghost Lake, if it was up to me to determine the harvest limits for various species, I would make the following proposal:

Species	Slot size	DailyLimi
Lake trout	Over 70cm	1
Lake whitefish	None	1
Brown trout	None	2

The important thing here, is that we maintain a fishery that is available to all recreased and anglers, without extra costs for permits to harvest. If managers make it too expensive to fish, the number of anglers buying licences in this province will be impacted. We are living in modern times, when our fishing regulation's harvest limits seem a bit off dashion.

With the ever growing numbers of sport fisher's on local waters, I think that it is very important that these anglers have the opportunity to catch a fish or two, even if they are required to release a few of their catch. It can be a very boring day on the water or ice, if you don't get a bite!

I have had, and continue to have, opportunities to discuss some of these issues and ideas with many local anglers. Most of them are very conservation minded individuals, with a love of the sport of angling. The majority agree that there needs to be some positive change in our area's fisheries management! Especially on the Ghost Jake.

Ghost Lake - Lake Trout

I have watched ice fishers catch and keep many small lake trout, on the Ghost Lake, over the years. These small, young lake trout varied in size from 12 to 15 inches in length.

The fish were large enough for the frying pan, but nothing like the trophy fish that the lake has been known to produce. It seem like a shame to me, to kill these small trout, before they had the opportunity to at least spawn for once in their life times.

If the young trout had reached their full potential in size, they could be over 30 inches and 20 pounds.

Like many other anglers othat visit the lake, I prefer to spawn fish for the larger lake trout.

large, keeps your interest at a peak, while fishing the lake. If lake trout are taken from the lake, before they reach maturity, there will be few large fish left, to recruit onew generations of lake trout for future angling be

opportunities.
Presently, nothing is known about the spawning habitats on the Ghost Lake. I think that the lake deserves a little more attention from our area biologists, to answer questions such as:

Where do the lake trout spawn on the Ghost Lake.

When do they spawn in the fall. Is there potential to enhance existing

Some of the same questions for Lake whitefish could also be included in comprehensive fisheries study on the Ghost Lake. I believe that there is some real potential to improve the fishery on the Ghost, learning more about its

Changing the management policy and regulations could be the simple part of the equation!



Above: The Ghost Lake is known to have produced some very large lake trout for winter ice fishers, in the past! This lake trout weighed in at 20. lbs. We called this fish the inleadable!



Abote: This large lake trout was caught by the publisher in 1984, on the Ghost Lake. The trout measured 39 inches in length and it weighed in at 28 lbs. The trout was the largest freshwater fish that I have ever caught. Reports of larger trout taken on the Ghost are heard of from time to time, but you know fishermen!

HOME





The Bow River Between Ghost Dam and Bearspaw Reservoir

The "Not so Famous" reach of the Bow River, is located between the Ghost and Bearspaw Reservoirs, west of the City of Calgary.

The river flows through the Town of Cochrane along its course, so the volume of flow in the river, can be observed during the entire year, by town residents that frequent the path systems along the river.
Once you have watched

this section of the Bow River long enough, you will soon discover that the water levels in this reach of the river can fluctuate dramatically.

During non-peak po demand, at the Ghost Dam power generating plant, the water is held back by the replenish reservoir.

These low water periods in the Bow River usually occur in mid to late summer and over the winter months. At this part of the annual flow cycle, the volume of flow can be cut down to approximately 6 to 8 cubic metres of flow per second.

It is during these low flow periods of time on the river, when trout have difficulty in finding suitable habitat to retreat to. As the water levels recede, the fish have to find a place to hide and rest. The fish can become

relatively stressed, during the low water conditions in the river. On certain areas of the river, there are deep water pool habitats that the fish can move to. However, on other areas of the Bow, the riverbed is too shallow.

With this in mind, Bow Valley Habitat Development set out to create some low water habitats on this part of the Bow River. Starting in 1989, a series of boulder gardens and pocket pool habitats were created within the Town of Cochrane.

The largest project took place in 1996, when BVHD partnered with TransAlta Corporation, the ACA, Nova Gas Pipelines (which is now Atco Pipelines) and the Jumpingpound Chapter of Trout Unlimited Canada.

Over a length approximately 5 kilometres of the river, a series of boulder habitats were created at 5 different sites within the town. A total of 133 large 4 to 5 tonne rocks were placed in the riverbed at these sites.



Since the project was completed, the large boulders have held their position in the riverbed and the pocket pools have maintained their depth. In the past 16 years, despite flood events and major ice build-up on the Bow River, these man made habitats are still providing low water habitat for sport fish

About Winter ice build-up on this damaging to the riverbed. Especially when the water levels in the river are at a daily low point. When the water low, the ice settles on the bottom of the river. As the water levels come uti cours the riverbed.

Bow River Boulder Habitats - The Bow River "Rocks!"



Above: In this photo you can see a triple rock placement with a pocket pool directly downstream. The boulder habitats consisted of double and triple rock placements, with pocket pool habitats around the large rocks and directly below them. The natural scouring of high flow will keep the pocket pools deep and effective for creating trout habitat at the 5 sites. You can see that surrounding streambed is very shallow in this photo.



Above: Large 4 to 5 tonne boulders were used in the boulder habitat project on the Bow River. Most of the rocks were seated into the riverbed to maintain stability over the years



Above: This is what the River Avenue Bridge site looks like, under lou flow conditions in the river. When the water levels come up in the late morning hours, the boulders are totally submerged





"Underwater Video Assessment of the Boulder Sites was Completed in 1998 and 2000'

River Boulder Project was completed, was necessary to conduct an assessment study at the sites. This was done to evaluate the effectiveness of the habitats for fisheries

enhancement purposes. It was important to see just how many sport fish were utilizing the new habitats, during low water conditions on the

Prior to the assessment work completed by Bow Valley Habitat Development, an electro fishing survey outside consulting firm.

The results of the electro fishing survey were very positive, but this survey was completed under high wat conditions on the river.

This was necessary, because the jet boat that was used for the electro fishing, needed enough water to operate at slow speeds. However, the best survey assessment for this project would need to be completed under low flow conditions on the river.

After all, the boulder habitats were built to provide low water habitat. on the Bow River. So completing an assessment under those conditions was the best approach.

In 1998, two years after the construction project was completed, BVHD determined underwater video survey would be the most cost method of assessing the sites.

Using an underwater video camera housing, BVHD collected footage in the late summer of 1998, at the River Avenue Bridge site. The survey was completed in the morning hours on a bright sunny day, for the best results in video recording.

The results of the video program were very good, with plenty of fish being recorded at the site and around the structures.

Large numbers of both mountain whitefish and rainbow trout were video recorded around double & triple rock placements at the site. Some of the rainbows were large in size, but the majority were smaller fish.

Again, in 2000, BVHD BVHD conducted another survey of the River Ave. Bridge site, around the same time in the summer months.

The results for the 2000 survey were also very positive, with plenty of sport fish being captured by the camera. The fish were holding in the same habitats around the rocks, as they were in

You can see footage of both the 1998 and 2000 video assessment survey results below.

See the Video

Above: 1998

See the Video

Above: 2000

HOME

Boulders Stay In Position After Major Bow River Flood Event In 2005



Above: In 2005, there was a major flood event on the Bow River in the Town of Cochrane, After the flood event was over and the water levels receded and became clear, the boulders were all still seated in their original positions on the riverbed. The photo above shows how high the water levels were, at the Highway 22 Bridge