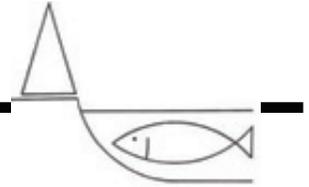


BIGHILL CREEK PROJECT



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Special points of interest:

- Branches and Banks still heavily active on Bighill Creek Programs!
- A Comprehensive Fisheries Study has been completed on the lower reach of the stream!
- Bighill Creek Fishery on the rebound in recent years!



Blue Herron's are often seen along the Bighill Creek these days. The result of a healthy fishery in the creek!

“A CREEK RUNS THROUGH IT!”

Trout streams are a precious natural asset to have running through any community! The fact that the Town of Cochrane has three of them is something we should cherish.

One of them is the Bighill Creek, a small stream that flows through the heart of our community and enters the Bow River just downstream of the Highway 22 Bridge.

Historically, the Bighill Creek was quite a popular little trout fishery in the Cochrane area. It was once stocked with trout annually, to provide plenty of recreation for anyone that had an interest.

The stocking programs ceased in the mid 1960's and from that point in time, the survival of a native trout population was total dependent on natural reproduction, to keep the trout fishery alive.

Years of low precipitation and ground water levels has impacted the stream's health in the past. These conditions result in low flows in the stream and this does influence the health of the fishery.



Fly fisher Mark Bartlett tries to entice a trout out from under some cover.

However, when there is enough water to keep the fish happy, the trout populations will rebound.

Over the last few years, it has been observed that flow levels in Bighill Creek have maintained good volume for trout populations. The result has been an increase in the numbers of trout along the

lower system of the stream.

If these optimal conditions in the Bighill Creek continue, we can look forward to a healthy trout fishery just outside our back door. Wouldn't that be great?

Healthy trout streams also benefit the many species of wildlife that depend on fish for food!

THE PRESENT STATE OF THE BIGHILL CREEK WITHIN THE BOUNDARIES OF THE TOWN.

It's kind of a good news, bad news story. The good news is that due to the streams high flood capacity (1/100 year=22CMS), there is a natural buffer zone bordering the stream, where no permanent development can occur. Kind of a saving grace!

The bad news part is that the creek is a convenient drainage to direct storm drains into. There are presently 7 storm drains entering the Bighill Creek. The surface ground water from storm drains makes the fishery in the creek susceptible to po-

tential contaminants entering the stream.

With this in mind, we have to accept responsibility to do our best to take care of the Bighill Creek with measures that are designed to compensate for the negative impacts!

A FISHERIES STUDY HAS BEEN COMPLETED ON THE LOWER CREEK!

Starting in 2008, a comprehensive fisheries study on the lower reach of Bighill Creek was initiated. Part of the study objectives were to determine whether trout were spawning on the Bighill Creek and if so, was there a successful incubation of eggs, from any spawning activity.

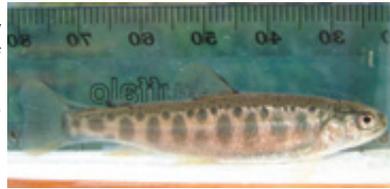
Furthermore, identifying what habitats were young of the year trout utilizing on the stream. This part of the study would determine whether small juvenile trout were moving up into a number of small ground water spring tributaries along the lower section of the creek.

Some of the other areas of the study program concen-

trated on water quality sampling and analyses of ground water springs and the main stem of the Bighill Creek.

The importance of this water quality testing was to collect some baseline data that could be used for future reference. All of the results were compiled and documented in a single final report on the study results.

When the study was finally completed in the fall of 2009, the results revealed a number of important findings. Some of those findings proved that there is presently a healthy trout population in the Bighill Creek and that this population is successfully spawning



A juvenile trout captured in BighillCrK..

and recruiting new fish into the system.

The study also confirmed that juvenile trout are utilizing two other ground water feeder springs as nursery habitats, during the early stages of their lives.

A fish and riparian habitat assessment was also part of the study. This information will be valuable in any future programs that are planned to take place on the creek.

Wild trout are spawning in Bighill Creek and the eggs that they lay in the streams gravel are hatching successfully!



This small trout fry was 22 mm in length and it was captured soon after it came out of the spawning redd (egg nest).

BRANCHES AND BANKS PARTNERS UP FOR WILLOW PLANTING!

Branches and Banks has been active in the community for a number of years and their efforts to green up the creek are well known. In the spring of 2009, the group partnered with Bow Valley Habitat Development, for a willow planting along BHC on the Franciscan Friars property, just east of the Town of Cochrane boundaries.

The planting program was designed to help re-vegetate an old beaver dam site, where the exposed mud flats needed some greening.

In a matter of a few hours, 450 willow cuttings were planted along a 40 metre reach of the stream. Hours of work by volunteers were also spent collecting all of the cuttings used in the planting.



UPDATE—WILLOWS ARE DOING GREAT!

I visited the willow planting site at the old beaver dam a number of times this past summer, to check out the results and survival of our willow plants. I am happy to report that the plants are doing just fine and we can expect a high survival rate by the end of next summer.

Old beaver dam sites with exposed mud flats are an easy place to plant willow

cuttings, early in the season. At that time of the year, there are very few native grasses to compete with the cuttings growth and the willows usually thrive on such a planting site.

This method of planting willows and trees from a single cuttings is a type of cloning and the methods are defined as a form of bio-engineering.

The technology has been used extensively in recent years on areas of ground where the objective is to re-vegetate the soil with a native strain of willow or tree stock.

Native plants that are indigenous to a natural area are important in maintaining the biodiversity of the environment in which they grow.



BRANCHES AND BANKS ARE HELPING STREAM!

A few years ago, I chipped in on a bio-engineering project on the Bighill Creek. Branches and Banks had already completed a successful willow planting on the site during the previous spring, but they planned on adding more plants to the site in a fall or late season planting.

This type of project was undertaken to help stabilize a small section of stream bank on the Bighill Creek that had been eroded by high flows during the spring of the year.

By planting willows thick in density, the root systems help stabilize the bank and will also provide good shade and cover for resident trout in the stream.

In the spring of 2009, I met with Tim Giese, of Branches

and Banks, to show him a site on the Bighill Creek, near one of the primary trout spawning areas. I had mapped the location during the previous fall spawning period on the creek.

The idea behind the meeting was to show Tim some good willow planting areas that would help shelter the spawning habitats that trout had been utilizing on the stream. By creating more of a natural buffer away from pedestrian traffic, the trout would be less stressed during the spawning season.

Tim's group planted approximately 1000 plants in the area that spring. I look forward to watching the plants develop over the following years; further protecting the spawning trout in the fall!



Above: Branches and Banks volunteers complete a fall willow planting on a bank stabilization project that they had started a year earlier.

THE ALBERTA CONSERVATION ASSOCIATION CHIPS IN FOR THE BIGHILL CREEK STUDY!

Every time an angler purchases a fishing license, a portion of that money ends up in the accounts of the Alberta Conservation Association.

For years now, the ACA has played a major role in a number of fisheries related programs in the Cochrane area.

A few that come to my mind

are: The 1987 and 1996 Bow River Boulder Fish Habitat Enhancement Projects; The 1993, Jumpingpound Chapter of Trout Unlimited, Trout Trapping program on the Jumpingpound Creek; and the list goes on.

The ACA, along with the Town of Cochrane, Opera-

tional Services Department, both played a role in the successful completion of the Fisheries Study Program, completed on the Bighill Creek in 2009. The ACA contributed \$10,000.00 to the study.

An on going fair return for our fishing license dollars!



*The Town of Cochrane,
Parks and Facilities
Department collected and
tested water samples
from two ground water
spring tributaries to the
Bighill Creek this year!*

LANDOWNERS ON THE LOWER REACH OF BIGHILL CREEK ARE ONBOARD FOR FUTURE ENHANCEMENT WORK!

Prior to the Comprehensive Fisheries Study of the Lower Reach of Bighill Creek, it was necessary for BVHD to obtain permission for access. Fortunately, the land owners on the lower section of the creek were very supportive and allowed me to conduct my study program.

The Town of Cochrane, the MD of Rockyview 44 and the Franciscan Friars were all on board with any program that would benefit the long term

health of the creek and its fishery.

The Franciscan Friars are willing to allow Branches and Banks and BVHD to complete a riparian enhancement, bank stabilization project, on a portion of their land bordering the stream, this next spring.

The project will involve the planting of approximately 600 willow and tree plants along an unstable section of stream bank bordering the creek on their property.



Bow Valley Habitat
Development

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Google the “Bighill
Creek Project” for a
website review.

*This newsletter is published to
inform the citizens of Cochrane
about what plans and activities are
taking place on Bighill Creek!*



This is what it is all about! Bighill Creek brown trout are some of the prettiest that you'll find on any area streams!



This Bighill Creek brown trout is not the largest brown that I have caught in the Bighill Creek, but it is certainly one of the most colorful!

FISHING SURVEY PROVES INTERESTING RESULTS ABOUT THE FISHERY ON BHC!

As a young boy and a confirmed fishing nut, my boyhood friends and I would spend many spring and summer hours fishing the Bighill Creek. It was a great trout fishery back then!

We would tie our rods to the handle bars of our bikes and peddle up the valley bottom, on the road that traveled along the entire length of the stream, right up to the Provincial Park.

There were few times that we came back with empty creels in those days. Plenty of fond memories go along with that era!

In 2008 and 2009, as part of the fisheries study on BHC, a volunteer angling survey was completed to assess the present day quality of the



Phil Sheepy casts a fly rod on a section of the BHC.

find some keen participants for the survey program!

Records of the number and species of trout caught were kept, with a semi-accurate estimation of their length. Some of the larger trout receive a little more attention and were measured with a tape, more so for bragging rights!

Bighill Creek, as an angling destination.

For the survey, I recruited the help of some of the best fly fishermen that I know. The plan was to use artificial barbless trout flies in the survey, to be able to release our catch with minimal damage to the trout. I must say that it was certainly not difficult to

The largest brown trout caught and released was measured in at 19 inches. The largest brook trout was an astounding 15 inches in length (caught by Eric Schumann). The largest rainbow trout was caught by Mark Bartlett and the trout was estimated to be 14 inches.

Over all, the quality of the fishing on BHC was considered to be moderately good these days! (oops—the secret is out)