



“Chronicles from B.C. Producers”

Canada – British Columbia Environmental Farm Plan Program

Funding provided by *Growing Forward*, a federal-provincial-territorial initiative.

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This publication contains a series of success stories from the Canada – British Columbia Environmental Farm Plan Program



These program Success Stories are intended to highlight producer achievements through the Environmental Farm Plan (EFP) and Beneficial Management Practices (BMP) Programs. The Canada – British Columbia Environmental Farm Plan and Beneficial Management Practices Programs are a joint program funded through the Growing Forward Agreement in cooperation with Agriculture and Agri-Food Canada, B.C. Ministry of Agriculture and ARDCorp. These programs are designed to assist producers in developing an environmental action plan for their farm. This is a plan that enhances our natural resources and reduces the possibility of accidental harm to soil, air, water and biodiversity values. Environmental farm planning is a no charge, confidential, voluntary process available to producers to identify both environmental strengths and potential risks on their farms. As appropriate, it includes a prioritized action plan to reduce the risks.

Completing an EFP will provide farmers and ranchers with an understanding of agriculturally related environmental regulations and of farm management practices that enhance environmental values. In many cases the outcome of improved water and nutrient management will also be profitable. Protecting riparian areas can improve water quality as well as enhancing fish and wildlife habitat. A decision to do an EFP will bring positive recognition to individual producers and the industry.

The BC Agricultural Research & Development Corporation (ARDCorp), in cooperation with federal and provincial governments, encourages all farmers to take the opportunity provided by the BC EFP Program to develop a plan that addresses environmental awareness and concerns on their farms. Doing so demonstrates the continuing commitment of our industry to responsible stewardship of the natural resources essential to a sustainable and economically viable agriculture for many generations to come.

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Environmental Farm Plan Program Pays Off

Zehnder Ranch, located in the East Kootenays, is thrilled with the results that have come with their involvement with the Environmental Farm Plan Program. Owner Dave Zehnder is always looking for ways to ranch in a more sustainable manner, so he is very pleased at how the pieces of this project have come together.

Zehnder Ranch completed an Environmental Farm Plan (EFP), and implemented some improvements with financial support from the program. An area of focus was a riparian edge along a lakeshore on the ranch. Dave had been concerned about this area for a while since the heavy cattle use of the area was having a negative impact. With funding help from the EFP program, he was able to fence the lakeshore, which will allow it to recover.



Dave Zehnder leads the tour with Minister Thompson, the Mayor and a Councillor from the neighbouring town of Invermere.

This work opened the door for a series of interesting opportunities for the ranch. The Windermere District Farmers Institute selected it as a pilot site to demonstrate the concept of Ecological Goods and Services (EG&S) Payments. This three-year project is focused on demonstrating the concept of paying the farmer for the significant

values generated on their land base. The idea of paying farmers for EG&S is not a new one as it has been implemented in Europe, Australia, and the US and, to a limited extent, in Canada. B.C. has had little experience with this concept. The Farmers Institute wanted to try and change that, so with financial support from a local Conservation Fund they established this pilot project.

The EG&S program is paying \$100/acre per year to the farm to support the improving values that come with the fencing and special management of the area. Those values are numerous and diverse, and include a large number of plant and animal species such as deer, elk, moose, and bear. Nesting sites of the endangered painted turtle are also being protected on the shoreline. The water quality that comes out of the lake and flows downstream through the community watershed should also be maintained.

The Province, through the Canada-BC Growing Forward Agreement, is also joining the many partners in this EG&S demonstration project to provide monitoring of the effectiveness of the beneficial management practices (BMPs).

The Zehnder ranch has won in another way: it has just been honoured with the award for private land conservation from the East Kootenay Conservation Program, which consists of over 50 partners dedicated to conserving natural areas for Kootenay communities. The partners include conservation and agricultural organizations, forestry and business, education, First Nations, and all levels of government.

Bakerview EcoDairy Builds Small-Scale On-Farm Anaerobic Digestion System

After two years of hard work, Bill Vanderkooi's vision of building an on-farm anaerobic digestion system at his Bakerview EcoDairy took a giant leap forward this year when he secured the necessary funding to make it a reality.

In 2008, Bill joined an educational mission organized by the BC Ministry of Agriculture, and the BC Milk Producers Association to visit anaerobic digestion systems in Vermont, US. While on this mission, Bill saw Avatar Energy's anaerobic digestion system. Unlike traditional systems designed for manure from 500 or more dairy cows, Avatar's technology is suitable for dairy farms with much fewer dairy cows. This is important for B.C., as the average dairy herd size is under 200 dairy cows. Avatar's technology also includes a significant focus on nutrient extraction and improved nutrient management.

Bill, with the assistance of the B.C. Ministry of Agriculture, the Anaerobic Digestion Initiative Advisory Committee, and ARDCorp's Renewable Agri-Energy Initiative (RAI) developed an implementation plan for his farm.

"This project is a great example of groups working together to facilitate adoption of a highly desirable renewable energy technology within B.C.'s agricultural sector", said Renewable Agri-Energy Initiative Committee Chair Bert Miles.

"Bakerview Ecodairy, in cooperation with the EFP program and other partners, is demonstrating the entrepreneurial spirit and technological advances taking place in the dairy sector of B.C.", said ARDCorp Board Chair Dick Klein Geltink (pictured above on the left with Bill Vanderkooi).

Bill also received due diligence assistance and funding from the Environmental Farm Plan (EFP) program, the B.C. Bioenergy Network and B.C. Hydro. The EFP program is a voluntary program that farmers can use to identify environmental strengths and potential risks on their farms.



The EFP assists producers in developing an action plan to reduce or eliminate these risks, as well as incorporating innovative technological advances for a wide range of farm management practices.

For more information on the Bakerview EcoDairy, please visit www.ecodairy.ca. ARDCorp is a wholly owned subsidiary of the BC Agriculture Council, which represents B.C. farmers. BCAC's role is to help strengthen the competitiveness and long-term viability of B.C.'s agricultural sector.

Article prepared by Dave Melnychuk, Planning Advisor, with input from Bill Vanderkooi.

Somass River Bank Stabilization Project

Recognizing that the Somass River located in the Port Alberni Valley on Vancouver Island supported a high value fisheries resource of trout and salmon, care was taken by Jan Carter, sheep farmer and owner of Cottonwood Farm, to maintain a riparian buffer along its bank. In January 2010 when higher than normal flows and debris from upstream caused a large portion of the bank to erode from the property, riparian trees and shrubs were lost and those left were severely compromised with their root mats left draped over the undercut bank. David Vincent of DVG Engineering Services was consulted and he determined that tension cracks and the continuing trend of bank loss would eventually result in the loss of the farm home.

To reduce further bank loss in the short term, the trees that were left leaning over the bank were topped to prevent them from falling in. A long term resolution to the bank erosion required a much more complex and costly solution. The engineer developed a plan that met the requirements of the various Somass River stakeholders which included Fisheries and Oceans Canada, the BC Ministry of Environment and the Alberni First Nations.

Cottonwood Farm turned to the BC Environmental Farm Program, utilizing the benefits of having an Environmental Farm Plan (EFP) completed with their Planning Advisor David Tattam, and applied for funding under the EFP Beneficial Management Practices (BMP) Program to assist with the construction of erosion control structures and the re-establishment of riparian vegetation.

“The BC Environmental Farm Plan was a great help in identifying the issues that existed and the solutions available,” says Jan. “With the help of David Tattam I was able to understand, document and correct some things on the farm that I had not realized were a problem.”

Before: the remaining riparian trees and shrubs were severely compromised with their root mats left draped over the undercut bank.



The project was completed in August 2010. An excavator sloped the bank and placed rocks to protect and stabilize the large undercut riparian trees. A terrace was incorporated into the bank protection to provide a space for salvaged riparian vegetation and a place for planting new vegetation.



“With the funding assistance of the Beneficial Management Program, I was able to complete the riparian protection and vegetation in a timely and sustainable manner to ensure the least amount of impact on the fish stocks in the Somass River,” says Jan. “I would like to thank the staff at ARDCorp for their guidance and help.”

After: rocks reinforce the riverbank to protect the remaining trees and the 345 new plants that will help stabilize the land.

Isaac Meadow - A Chilcotin Success

Located in a remote area in the Chilcotin region west of Williams Lake are the wetlands of Isaac Meadow which were restored with assistance from the Canada- British Columbia Environmental Farm Plan Program.

Historically, ranch pioneers had cut hay on Isaac Meadow and installed improvements to assist with crude irrigation and drainage. Over the years the works had become inoperable, and uncontrolled flows caused erosion of the natural outlet, resulting in a reduction of the flooded area and wetland plants. This led to less water on the landscape, decreased forage productivity and deterioration of the former 150 ha wetland as waterfowl and wildlife habitat. The wetland's lower water levels during the spring increased predators' access to bird nests and eggs and led to increased disturbances by grazing animals.

To restore the natural features and functions of the wetland, Ducks Unlimited Canada (DUC) partnered with Alexis Creek Ranch Inc, the EFP Program and Wildlife Habitat Canada to install a dam and weir with water controls on Isaac Meadow. The project qualified as a Beneficial Management Practice under the Environmental Farm Plan (EFP) Program as the new weir will prevent the downstream erosion risks associated with the potential failure of the aging infrastructure. The B.C. Ministry of Forests and Range was also supportive of the project as the water control will also enhance the Crown land adjacent to the deeded property.

“This project has been a gratifying experience, a win for both wildlife and ranching. King Campbell with DUC and the EFP Program has shown admirable dedication in bringing this difficult and complex project to completion.” says Bruce Blakey of Alexis Creek Ranch Inc.



“Isaac Meadow represents a typical DUC project where waterfowl and wildlife benefit from more water on the landscape; and ranch productivity and efficiency were enhanced, while implementing a project to address an environmental concern.” says Campbell.

The remnant open water area of the meadow prior to restoration - looking northward.

Increased spring water levels will encourage the return of wetland plants and invertebrate communities across the full area of the basin, which will restore nesting and foraging values for waterfowl species such as mallard, northern shoveler, American wigeon, green-winged teal and Canada goose. The project is situated among regionally-significant wetland habitats, in a location which serves as a major breeding area for waterfowl in B.C.

Furthermore, livestock grazing opportunities will ultimately be enhanced by returning the site to more productive wetland plants. The project also included improvements to perimeter fencing to control cattle access and the implementation of planned grazing to encourage more vigorous and sustainable plant growth.



Isaac Meadow serves as an example of the beneficial projects supported by the EFP Program and how partnerships with organizations like DUC can assist producers with the affordability of projects like this.

Original log infrastructure used to flood the meadow; having a high potential for failure and causing harmful impacts downstream.

DUCS has invested more than \$500 K with producers into on-farm projects as a partner in the EFP Program since 2005. Producers are welcome to contact ARDCorp or DUC directly, if they require assistance with their EFP or they have a wetland project they would like to discuss.

For more information on Ducks Unlimited Canada or project opportunities, please call (250) 374-8307.



New weir installed at Isaac Meadow complete with stop log bay.

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A Success Story from the Slocan Valley

The following is a story of three successful projects on separate farms that are part of an ongoing effort to enhance fish habitat, improve riparian condition, and protect valuable farm land through the Environmental Farm Plan Program in the Slocan Valley. Similar conditions existed on all three sites; they all needed bank stabilization, fencing for livestock and wildlife, and riparian plantings. The story behind the story is that a tremendous amount of effort by the people on the ground is necessary to get ideas to become reality, but with a little help it can be done.

The Slocan River is a 5th order stream that is located in the West Kootenays. Most of the riverside land is privately owned and, over the years, human activities including rail line installation, roads, land clearing and agriculture have resulted in impacts to the river. Seven years ago a group of locals stood with a landowner on a stretch of severely eroding bank north of Perry's Bridge. The possibility of a project was discussed, one that would serve two purposes – protect the land from further erosion and provide a high quality aquatic habitat. That group became the Slocan River Streamkeepers and, in partnership with Columbia Power Corporation and Department of Fisheries and Oceans, the Slocan River Riparian Restoration Program was established.



Before: The land had been actively eroding - releasing sediment into the water and filling in the channel for many years. The new landowner agreed something needed to be done.



After: The project, completed in 2009 included both in-stream work – logs, trees and rocks woven into the bank and trees planted beside the bank.

The three projects that now enhance our river provide habitat for fish and reduce erosion would not have happened without the guidance and financial help of the Canada – British Columbia Environmental Farm Plan Program delivered by ARDCorp, and the B.C. Cattlemens Association FRISP program. Specifically, we are grateful to Clay Campbell, Pete Spencer and the technical expertise of Lee Hesketh and Tom Minor.

An important component of the program is learning if the projects are being utilised by fish. This means rainbow trout. However, the Slocan River Streamkeepers are pleased to see all our local fish in the water using the wood, trees & rocks. Each year, we ask local professionals to count and note the size of trout that use the projects. Last year the results were impressive with increased usage from 6 to 27 trout (fish that are greater than 20 centimetres in length) at one site and an increase from 3 to 12 fish at a second site. We will continue to monitor every year.

The below pictures show some of the planting activity during project construction. Planting occurred after the sites were stabilized. Livestock fences had not been installed at the time of the pictures. Protection is in place to protect the new plantings from beaver, voles, and other wildlife.

Approximately 1500 metres of stream bank where restored.



The Slocan River Streamkeepers contributed financially to these and other projects through funding from Columbia Power Corporation and The Columbia Basin Trust. These non-government funding agencies were essential to these projects and to future projects that might be proposed in the Kootenays.

Article prepared by Pete Spencer, Planning Advisor, and Jennifer Yeow, Slocan River Streamkeepers

Restoration of a wetland in South Okanagan

When Ranbir and Shinder Kambo purchased a mixed tree fruit orchard near Osoyoos in the South Okanagan, the entire property was fully developed, with no natural areas remaining. One area of the farm was a low lying pocket where frost regularly settled. The settling of the cold air in the area resulted in poor fruit production due to frost damage to fruit buds and flowers.

Ranbir Kambo discovered that the low lying area was once a natural pond that had been filled in by a previous land owner some 20 years ago. Then in 2008 when the Kambo's decided to replant 3 acres of fruit trees, they thought this would be a good opportunity to re-establish the pond to help mitigate the effects of frost. The pond would also have the benefit of improving biodiversity on the farm. The pond and riparian buffer area would provide habitat not only for insects and organisms beneficial to the orchard management, but also for wildlife, including species at risk such as the tiger salamander and the spadefoot (a small specialized toad that can dig itself into the ground!).



With many ponds and wetlands in the area having been lost to development pressures, a new pond could be a big help to these and other species. So Ranbir contacted two local conservation groups who share an interest in the important wildlife habitats of wetlands and small ponds, the Puddles Project and The Land Conservancy – South Okanagan Stewardship Program (TLC-SOSP).

Both of these groups had worked before with the local Environmental Farm Plan Advisor, Joe Lariviere, so they contacted him to also become involved with the project.

The Kambo's completed an Environmental Farm Plan with Joe, which then allowed them to access Beneficial Management Practice (BMP) funding to help with the pond restoration. The restoration of riparian and wetland areas are projects that the EFP program endorses and supports.

Puddles Project and TLC- SOSP provided the expertise on the pond design and rehabilitation work around the pond. With joint funding from TLC-SOSP and the Environmental Farm Plan program, plus a financial commitment from the Kambo's, the work began. The land was re-contoured in the fall of 2008, with the pond excavation occurring that winter. The pond was created with the features needed to create desirable breeding habitat for amphibians like spadefoots. Then in the spring of 2009, volunteers with TLC-SOSP, alongside the Kambo's, planted and seeded the area around the pond with native shrubs and grasses.

Future site of pond being re-contoured



The Kambo's are glad they undertook this project. By converting the unproductive area of the orchard back to a more natural state, they have achieved their goals of frost damage mitigation in the surrounding area, they have improved the biodiversity within the landscape of the farm and they are excited that by restoring this critical wildlife habitat that endangered spadefoots are now using the pond.

As an EFP advisor, Joe found it a satisfying project. Important environmental goals have been realized through networking and cooperation between the Kambo family, the Environmental Farm Plan and local stewardship organizations, the Puddles Project and The Land Conservancy – South Okanagan Stewardship Program.

Pond in July 2010: photo TLC-SOSP

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Article prepared by Joe Lariviere, Planning Advisor.



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