



Millstone River Side-Channel

"The Power of Community Partnerships"



Submission for:

**2008 UBCM Community Excellence Awards
Leadership & Innovation, Large Community**



Summary

This Millstone River Side-Channel project demonstrates how the power of community partnerships can be used to overcome difficult and persistent challenges. Using innovative ideas, dozens of partners from government, community groups, industry, and individuals came together to overcome cost, funding and technical issues helping the Millstone River to become a self-sustaining Coho salmon run. Recreational, educational and economic benefits were also realized adding to the success of this project. This project is a model for any community facing difficult and challenging problems.



Introduction

The Millstone is a 14 km river that runs from Brannen Lake into the City of Nanaimo's Inner Harbour. The watershed encompasses an area of about 100 square kilometres consisting of 26 streams, 16 tributaries, and 8 lakes. The river runs through the City of Nanaimo's 36 hectare Bowen Park.

For over 35 years, local stewardship groups have been working to make the Millstone River accessible to salmon. In 1971 the Millstone River Enhancement Project was initiated to assist salmon in negotiating the fast flowing river.

Smolt (migrating juvenile salmon heading to the ocean) enumeration studies began in 1981. These studies determined that for every female salmon that spawned in the system, about 200 smolts were produced. Based on this very high production rate, it was strongly believed that the Millstone could become a self-sustaining salmon run.

Coho salmon were first introduced into the Millstone River in the early 1980's, but a series of waterfalls and long solid rock faces created a barrier that the salmon could not pass. Much work was done to create stepping pools and fishways for the salmon to get up as far as the falls, but the Coho were not able to get over the falls. By 2001, returning adult Coho salmon had to be trapped and trucked above the falls.

Prior to construction of the Side-Channel, it had been more than 25 years since the last significant work was done on the River. Previous plans to build additional fishways, estimated at more than \$750,000, were abandoned as being too costly.

In 2004, unwilling to give up in the face of critically declining Coho stocks, local stewardship groups took another look at the Millstone River. Very much thinking outside the box, the idea of creating a side-channel through Bowen Park was considered. It was believed that the side-channel could be built for less than half the original cost estimate.

With a rejuvenated zeal for the project, funding was secured in early 2007 and the Millstone River Side-Channel was completed in the fall of 2007. The project cost approximately \$350,000. Over \$200,000 of additional support was contributed through in-kind donations of material and labour, including over 3400 volunteer hours contributed by enthusiastic community members.

The day after water was released into the new Millstone Side-Channel, Coho had begun using it. During the first year, 300-500 Coho salmon were observed migrating through or spawning in the Channel which indicates a wonderful success.

Community Consultation and Input

In June 2006, the City of Nanaimo's Parks, Recreation and Culture Commission, along with the Department of Fisheries and Oceans and other interested organizations, hosted a public open house at Bowen Park to review the concept of the channel. Between 150 and



200 people attended indicating their support for the project and confirming that this was an important priority for the community.

The Project

The construction of the Side-Channel began in the summer of 2007. Most of the channel was on conglomerate or sandstone that had to be blasted and jack hammered to reach required depths.

Large gravel and cobble was added to the bottom of the channel to increase roughness and improve fish migration allowing salmon to make their way up to the rich watershed. Large stumps and woody debris were added to low gradient areas and pools to create new spawning areas and habitat with sufficient cover favoured by juvenile Coho.

It took about 4, months to complete the 800 meter Channel. Meandering through the canopy of trees, the Side-Channel looks so natural that in just a few years it will appear that the Channel has always been there.

An interpretive trail was constructed adjacent to the Side-Channel. The trail, bridges and a concrete fishway create areas where visitors can safely view salmon travelling upstream to spawn. Eight interpretive signs have been placed along the trail. Ten additional signs and a kiosk are expected to be installed in 2008.

Environmental Benefits

It is estimated that construction of the Millstone River Side-Channel will support over 30,000 Coho smolts. This would be similar to the production of other successful river systems such as the Englishman River.

The Channel also creates habitat for cutthroat trout, steelhead trout and aquatic insects which are the primary food source for salmon and other fish and wildlife.

The Channel provides an opportunity for the Department of Fisheries and Oceans to establish an accurate Coho counter in Georgia Basin. The Nanaimo Hatchery will supplement the program by transplanting tagged adults salmon from Nanaimo River into the Millstone River.

The Millstone River Side-Channel and interpretive trail create public awareness about salmon and salmon habitat. This promotes local stewardship, sustainable resource use, and habitat conservation and protection.

Other Benefits

Although the Millstone Side-Channel was initiated to address salmon habitat and sustainability issues, other recreational, educational, economic and community benefits were also realized.



Recreational Benefits

The interpretive trail provides access to a portion of Bowen Park that hadn't been utilised before providing new recreational routes for walking and running.

Educational Benefits

Vancouver Island University (formerly Malaspina University College) will be using the Millstone River Side-Channel as an educational tool. Used as an outdoor classroom, the University will use the Channel to undertake field projects in conjunction with Fisheries and Oceans Canada. A channel maintenance plan will be developed and students from VIU will be counting fish in the Channel and River throughout the fall and winter months. Radio-telemetry studies will also be undertaken to track Coho migration into the upper watershed. As well as fish studies, studies will include water quality monitoring, algae monitoring, and colonization of invertebrates.

School District 68 classrooms are also using the Millstone River Side-Channel as an outdoor classroom. Currently the classrooms receive Coho eggs from the Department of Fisheries and Oceans. The eggs are raised in the classrooms during the winter. In the spring the fry are released into the wild. This past spring, 210 children released over 800 Coho salmon fry into the Side-Channel. Future tours will also be made available to enhance educational opportunities for the classrooms.

Interpretive signs on the trail describe the project and provide information on salmon and wildlife history in the Park.

Economic Benefits

The trail provides easily accessible, safe areas where the public can view salmon returning to spawn. The salmon viewing is expected to be on par with places like Goldstream River near Victoria and is expected to increase tourism to Nanaimo.

Eventually, increasing Coho runs are also expected to enhance the sports fishery drawing more tourists to the region.

Community Benefits

The Millstone River Side-Channel project has forged new community relationships and partnerships that will enhance Nanaimo's ability to address future challenges.

Partners

Projects like this are very difficult to do without partnerships. Not just funding partnerships, but also stewardship partnerships. Without having a group take ownership of these types of projects, these projects frequently fail.

Building the Side-Channel through the 36 hectare City Park was only possible because of the cooperative efforts of governments, community groups, industry and individuals. The list of partners involved in this project is truly impressive and is a testament to how



diverse community groups can come together to achieve otherwise seemingly insurmountable obstacles. A list of the major partners is listed below, but much thanks is also owed to dozens of individuals not mentioned who put in thousands of volunteers hours to make the project a success.

Funding Partners

BC Hydro
 Christopher Van Twest
 City of Nanaimo, Parks Recreation and Culture
 Georgia Basin/Vancouver Island Living Rivers
 Ministry of Transportation Environmental Stewardship
 Nanaimo Fish and Game Protective Society
 Habitat Conservation Trust Fund
 Timber west Forest Corp.
 Pacific Salmon Commission Southern Endowment Fund
 Pacific Salmon Foundation

Stewardship Partners

Island Water Fly Fishers
 Vancouver Island University (Malaspina University College)
 Nanaimo Fish and Game
 Nanaimo Hatchery
 Nanaimo Stewardship Society

Inkind Partners

A-1 Portable Toilets	J. Barr
Allen Windecker Construction	KML Contracting
City of Nanaimo	Mayco
Copcan/Gregson	Millstone Cedar
Davey Tree	Nanaimo Fish and Game
Department of Fisheries and Oceans	Northwest Hydraulic Consultants
Fish Tech	Ocean Cement
Graf Excavating	Roc-tech Contracting Ltd.
Hub City Paving	United Rentals
Island Pumping	W.R. Addison Loading Hauling
Island Fly Fishers	Westguard

Conclusion

This Millstone River Side-Channel project is deserving of the 2008 UBCM Community Excellence Awards. This project exemplifies how diverse community groups can work together to overcome environmental challenges.



Lower falls (above) and upper falls (below) prevent migration of Coho salmon into the rich watershed.





The new Side-Channel begins at the lower falls and meanders through Bowen Park allowing Coho salmon to reach the watershed.

A concrete fishway allows safe public viewing of Coho travelling upstream.





(Above) Large stumps and woody debris were added to low gradient areas and pools to create new spawning areas and habitat with sufficient cover favoured by juvenile Coho.



(Left) Large gravel and cobble was added to the bottom of the channel to increase roughness and improve fish migration allowing salmon to make their way up to the rich watershed. Adjacent trails, allow easy, safe, public viewing.



Trails following the side-channel further enhance Bowen Park for recreational users.

Interpretive signs along the trail provide educational information on salmon and other wildlife.

