

**Habitat Conservation and Stewardship Program**  
**Public Relations**  
**Steward News Articles**

Whether it was for marketing, awareness or simply making event announcements, stewards frequently interacted with the general public and the media.

Writing articles in your local newspaper brings public awareness to your issues. The following 50 articles provide a sample of some of the news articles written by HCSP Stewards to raise public awareness about fish and fish habitat over the 4 years of the Program.

Attn: Tim Shafer  
Prince Rupert Daily News

For Community Stewardship News weekly column

By Michele Patterson  
Watershed Stewardship Coordinator  
Prince Rupert and area  
Phone 624-8566 Fax 624-8590 email [michelep@citytel.net](mailto:michelep@citytel.net)

For publication in the Daily News Monday August 14, 2000

## **LIVING BY WATER**

Shorelines are the meeting place between water and land. They have many important uses, depending on the type of habitat, such as acting as filters for chemicals that would otherwise run into the water, and slowing down the passage of water by absorbing rainfall and runoff. Shorelines are also very active areas of the food web hosting a wide variety of interactions between animals, insects and plants.

*The Living by Water Project*, from Salmon Arm, BC is sponsoring 'Splash and Ripple' the theatre presentation for families and children taking place at Mariners Park on Friday night (Aug 18, 7pm). Living by Water's goal is to increase awareness in Canada about the importance of shorelines in our lives. Their motto is "Working toward healthier human and wildlife habitat along the shorelines of Canada." . The Living by Water Project calls shorelines "ribbons of life", rich in biodiversity and also sensitive to damage.

Some of the land uses that affect the quality of shoreline habitat include: overuse, pollution, and erosion. One of our own local 'ribbons of life' is the Hays Creek Estuary and mudflat. Local Prince Rupert algae botanist Larry Golden hosts an excellent website ([www.princerupert.com](http://www.princerupert.com)) on which he posts information about north coast ecological issues and places. Larry has done a lot of first hand research looking at the diversity in this mudflat shoreline habitat. He has found that although the site is affected by pollution concerns from runoff and has been heavily modified by development, a wide variety of plants and creatures use the site to support their lifecycles, including deer and bear which use the sedges for forage. Larry has also noted many clams growing in the

Attn: Tim Shafer  
Prince Rupert Daily News

For Community Stewardship News weekly column

By Michele Patterson  
Watershed Stewardship Coordinator  
Prince Rupert and area  
Phone 624-8566 Fax 624-8590 email [michelep@citytel.net](mailto:michelep@citytel.net)

For publication in the Daily News Monday August 28, 2000

## **THE OTHER SUZUKI FOUNDATION**

The *United Fishermen and Allied Workers Union* (UFAWU) is involved in many issues that have to do with protection of the fishing industry. They also have an active environmental division working to preserve fish and fish habitat. The T. Buck Suzuki Foundation has been doing conservation work since its creation by the UFAWU in 1981. The Union recognized that the future of the fishing industry depended on having a healthy environment for fish, so the foundation was created to act as an advocate for fish protection activities and processes for working people in the fishing community.

Tatsuro “Buck” Suzuki was a Fraser River commercial fisherman and an environmental activist who was a UFAWU leader and an expert on Fraser River pollution. Buck Suzuki was involved in protecting the environment, including fish habitat, through both political action in the Executive of the UFAWU, and through his own individual commitment as an early environmental activist.

Since 1981, the T. Buck Suzuki Foundation and its volunteers in BC have been working actively on a number of campaigns such as sewage pollution, poor logging practices, estuary losses through development, fish farming impacts and pulp mill pollution. They stand up for fish by sitting on many governmental advisory committees, land use planning tables and environmental coalitions, including some in conjunction with labour organizations. They have also done

many on-the-ground projects restoring marshes on the Fraser River by removing garbage and log waste.

One of their major campaigns was providing a leadership role in the defeat of the Kemano Completion Project through their involvement with other environmental and fishing organizations in the Nechako River Alliance during the early 1990's.

'Salmon Watch' is the Foundation's regular publication, and the most recent issue states that they are demanding an environmental review of a new spillway project proposed on the Nechako River to increase waterflows to the Nechako. Waterflows to this major salmon-bearing river were reduced in the late 1970's and the T. Buck Suzuki Foundation is now demanding an analysis of the proposed rehabilitation project before any work is done to increase flows. They are concerned that this project is ill-conceived and that no studies have yet been done to look at the general hydrology of the watershed and what waterflow regime will actually be the best for fish in the watershed.

I was recently asked to sit as a Board Member for the T. Buck Suzuki Foundation, and will be working with Arnie Nagy and other regional board members across BC to preserve fish and fish habitat through education, outreach and advocacy work.

You can pick up a copy of Salmon Watch from my office if you would like to learn more about what T. Buck Suzuki Environmental Foundation is doing in B.C. The office is in Vancouver and the Executive Director is David Lane (255-8819). You can also call Arnie Nagy (624-6048) or myself if you would like to volunteer help with research or to work on local habitat protection campaigns that the foundation is involved in.

mud. The area is actually to some extent a man-made environment as the original mudflat was on the site of the now Allied Pacific cannery.

September has been designated Shoreline Celebration and Restoration month in Canada. There are a number of environmental events happening in September that highlight our relationship with shorelines: the International Coastal Cleanup during the week of September 17 to 24 (including the Great BC Beach Cleanup on the third weekend of September); and BC Rivers Day on Sunday September 24. If you are interested in helping to set up an event or participating in something we are working on at the Community Fisheries Development Centre, please call Corey Martens or myself at 624-8566.

To lead up to this busy month of September, In Mariners Park this Friday evening at 7:00 the Precipice Theatre Company from Banff, Alberta will be presenting a play called 'Splash and Ripple'. The company is travelling all over the north and will head to Masset after their Prince Rupert stop. I hope you will come and enjoy this evening of musical entertainment created especially for families and children.

The programs that Living by Water offers information and assistance to waterfront residents about how to live by water in a way that protects both the natural environment and their property investments. If you would like more information about sustainable practices for waterfront residents call them in Salmon Arm at 250-832-7405 or see their website at: [www.livingbywater.ca](http://www.livingbywater.ca)

Attn: Angela Hall  
Coast Mountain News  
September 6<sup>th</sup>, 2001

### **History of Watershed Management and Community Participation**

A combination of the complex system for water management and a rapidly degrading water resource has initiated an increase in public participation efforts to protect local watersheds. This increasing supply of willing labor, coupled with a loss of government funding for resources management, and an increasing realization that traditional technical and scientific solutions do not work, have led government agencies to begin testing new forms of governance. However, before introducing a new style of watershed governance it is important to examine the historical record to learn from past successes and failures. Community group involvement in watershed conservation efforts is not new to British Columbia. In fact, community groups have been active for close to fifty years. During this period, there have been four main historical trends in water resource management in British Columbia:

- the early conservation movement, in response to pre 1960s economic development;
  - the 1960s to mid- 1970s era of new technology, accompanied by increased public awareness of environmental issues, often attributed to Rachel Carson's book, *Silent Spring*;
  - a re-entrenchment and adaptation period characterized by appropriate technology, litigation and the use of legislation to manage; and
  - the modern era of sustainability, motivated by grassroots mobilization for environmental advocacy and stewardship of water.
1. An example of a government agency testing new forms of governance is the joint Fisheries and Oceans Canada and Fraser River Action Plan's Partners in Protecting Aquatic and Riparian Resources program that helped to fund demonstration watershed projects from 1993-1997.

---

### **Early Conservation Movement**

The initial period of water management, the economic expansion era, was characterized by data recording, lack of management, a strong concentration on water supply, large scale hydro electric projects, flood protection, and water transportation. The economic focus of the province was based on the perception of an inexhaustible land and resource base. Despite increased knowledge of limnology, fisheries, and social sciences, management emphasized economic development, any evaluations were based on cost benefit analyses, which ignored environmental and social impacts. Community

## **ENVIRO NEWS ARTICLE – “Habitat Conservation & Stewardship Program”**

**By: Jennifer Sutherst**  
**SIASS Stewardship Coordinator**

A unique partnership has been formed along our local waterways between community stewardship groups and Fisheries and Oceans Canada. It is called the Habitat Conservation and Stewardship Program (HCSP). Although many people are not yet aware of this program, it represents a fundamental shift in the way Fisheries and Oceans protects fish and fish habitat in our local region. HCSP provides paid staff positions to local environmental groups and municipalities in order to expand their capacity for habitat conservation and stewardship (the careful and responsible management of our natural resources). Through the HCSP Fisheries and Oceans is recognizing that their old reactive methods, such as laying charges after habitat is destroyed, have not worked and that local environmental groups can be more effective advocates for habitat protection.

This new proactive approach has created Stewardship Coordinator and Habitat Steward positions throughout the Pacific Region. These stewards are locally hired, directed and accountable to their local group and their activities are tailored to the particular community's needs.

As a Stewardship Coordinator for the South Islands Aquatic Stewardship Society (SIASS) I form the link in this unique partnership. SIASS is a grassroots, community-based non-profit society. The vision of the society is “a healthy ecosystem, a healthy fishery and a healthy community.” Our board is made up of sports fishing representatives, commercial fishers, professional consultants, academics from educational institutions and environmental organization representatives.

Since starting with the society in November 1999 I have had the opportunity to undertake many watershed management, fish enhancement and habitat protection activities. Some examples of these activities include providing proposal-writing workshops to help non-governmental organizations obtain funding, facilitating access to Streamkeepers and other training, organizing forums on water issues, providing technical support to local groups, helping the formation of new stream stewardship groups and their projects and participating in land use planning processes. We are fortunate to have two additional stewards working in the Capital Regional District (CRD). They are Bob Truelson a Stewardship Coordinator with the Veins of Life Watershed Society and Matthew Tutsch who works as a Habitat Steward with the CRD.

HCSP is helping local groups to protect habitat. This approach is a step in the right direction, as government has often failed to protect aquatic habitats in the past and, in this era of fiscal restraint; we cannot rely on government to protect these resources in the future. Ultimately whether or not these habitats are

## **Yukon Salmon Committee, the City of Whitehorse and the Yukon Conservation Society articles.**

### **Stewardship – just another buzzword, or is it something that's inside all of us?**

by Jake Duncan, HCSP Habitat Steward

Stewardship is a word we are hearing more and more in reference to our natural resources. It's one of those buzzwords. Ships have stewards. What's a steward ship? Does it have anything to do with being a Stewardess? Planes have those. Who are the stewards doing this stewardship and what makes them stewards?

Simply put, stewardship is caring for something entrusted to you.

What does "caring for something" mean?

Caring is about paying attention. It also means protecting or supervising, and, feeling concern or interest for something. Stewardship is doing something about that concern and interest.

What does "entrusted to you" mean?

Something "entrusted" to you is assigned to your trusted care. Stewardship is assuming the responsibility for that care.

Who or what are Stewards?

"Stewards" are people who are interested and concerned, and who have assumed the responsibility for the care of something. A ship's steward is responsible for the care of passengers and valuables. In the Yukon, Habitat Stewards are responsible for the care of salmon habitat: it's their job. A Habitat Steward can be described as: "someone who works with people or groups on resource-based issues to make things better for the resource, much like the way in which a "community worker" works with people or groups on community-based issues to make things better for the community.

Jake Duncan is one of these Habitat Stewards, working in Dawson City. He's been working since 1999 under a contribution agreement between Fisheries and Oceans Canada and the Yukon Salmon Committee, as part of the Habitat Conservation and Stewardship Program.

Jake explains his role this way: "I'm proud to say that I'm a Habitat Steward. I'm also a salmon fisherman. I was doing stewardship before they hired me. I will still be doing it after this job is over - because I have a "stake" in the goals of stewardship and, more importantly, in having healthy salmon resources. My kids (even though they haven't been spawned yet) will too someday. So, stewardship is important to me."

"People ask me what's so important about the salmon fishery", he continues. "Well, the environment depends on salmon and they depend on the environment. Animals depend on them, big-time. People depend on them and in most cases.... they depend on people. I know this as a fisherman and that's where "management" comes in. To a fisherman, management often brings to mind an "us and them" image. But the fishermen and the fisheries managers both want the same thing: a fish population that survives into the future."



"I've never seen a fish do what the managers told them to do. Its been said that managing fish is like shoveling smoke with a pitch-fork. I have seen fish on average, statistically, once all the numbers are tallied, within confidence levels, do what the fish managers figured they would do. I have also seen them do things quite different from this. We do the best we can. Given the level of expertise and dedication fisheries managers have, the "best we can" is pretty damn good."

For Jake, part of being a Habitat Steward is about making connections between different things that have to do with salmon. Things like people's concerns about the effects they're having on the fish; scientific research, traditional and local knowledge; people who fish, fisheries managers and other industries; education, understanding and awareness; and, between other stewards. The bureaucrats may call this "liaison"; to Jake it's just the nature of the job – it's all about being in the middle, connecting people like scientists with fisher folk.

Recalls Jake: "I'd be standing there trying to get the scientists to describe what the heck it is that they do and helping fishers genuinely understand it. I mean, what does 'the post-season population estimates need to be recalculated to include a 10% tag loss in the re-capture data and the declining CPUE in the last statistical week' mean??? And, I help the fishers describe their issues and concerns to scientists, so they can fully understand what it is that the fishers are trying to say. If I was a scientist and I heard: 'the high water really has the rhubarb and shnarb coming downriver, man... it's a real stick-storm and its up-ing our netchecks to every hour....' from a fisherman, I would need a translator to understand what they were saying."

The "go-between" role is one of the key aspects of the job. "It's a constant battle", says Jake. "The government uses all sorts of phrases to try to explain and justify their programs in techno-speak when it's all just common sense. We're supposed to "build community capacity" – but what the heck does that mean? Well, it just means improving your ability to make a difference, maybe by increasing your knowledge or your skills."

To that end Jake works with a variety of local groups in Dawson City. For example he's been involved with the "Fish First" kids camp that sees kids spend a week at Moosehide learning more about salmon, and the Yukon River Test Fisheries Project that sees commercial fishers, First Nations and the Department of Fisheries and Oceans team up to gather vital fisheries statistics.

In many ways, stewardship is pretty complicated and vague. It's also pretty simple. You care. You do something about it. You connect other people that care and want to do something about it: all for the resource. We can all be stewards to some degree – you don't have to be employed as a Habitat Steward to be a steward of habitat. You just have to care, be interested or have concerns, be ready to DO something about them, and, be willing to take on some responsibility. There are many "stewards" out there and they aren't necessarily "working" as stewards. They might just care, or have a personal interest or stake in something. We all have interests. We all have concerns. We all have a stake in something. Does this have anything to do with you? Really, when you think about it... we could all be stewards.

*Endnote: This is the first of a series of ten articles to explore how things like "stewardship" and "community capacity" are being promoted at the local level through the "Habitat Conservation and Stewardship Program" of Fisheries and Oceans Canada. Through this program a number of "habitat stewards" have been hired in various communities to improve ways of protecting fish habitat. Jake Duncan is the Habitat Steward for the Dawson area.*

[Return to top](#)

---

## **Pine Creek Fish Access Restoration Project**

By Brad Wilson, HCSP Habitat Steward

"There's a bear!" shouts Sean. As the volunteer group is setting up the gear for a weekend of wheel barrels, shovels, and rock, (not to mention the sweltering heat), a young grizzly walks out of the forest on the banks of Pine Creek and greets us with a puzzled look. As quickly as it appears it moves on, letting the volunteer group get back to the task at hand.

It was the beautiful Saturday morning Jean Jang (Fisheries Technician) and myself, Brad Wilson, (Habitat Steward) were hoping for, and more. It was 10:00 in the morning on July 28 2001, and the thermometer was already above 20°C.

Jean and I were confident everything that should have been done prior to the event, was done, however we were still feeling a bit uneasy because we were unsure of the number of volunteers that would participate in this stewardship event. I didn't sleep well the night before, as uncertainty and a to-do list kept running through my head.

My fears proved unfounded. By 10:30 Mitchell and Ron had arrived, and there were enough people at the site to get started. The "site" was on Pine Creek where it flows under the Pine Creek Road, just downstream from Pine Lake.

One last thing to do prior to getting started was to brief the volunteers on the background of the project, and on what we were going to do over the weekend to correct the problem.

I explained to the crew that Pine Lake/ Creek prior to 1970 was known for its healthy Arctic Grayling population but that now only a few smaller fish could be found in the lower end of the creek.

I also explained the things that likely contributed to the decline in this once very productive fishery. This included the presence of ten inactive beaver dams that Jean, myself, and the Y2C2 crew (Yukon Youth Conservation Corps) had breached earlier in the summer. This allowed Arctic Grayling the opportunity to migrate upstream towards the lake again. I also talked about the increase in human activity on and around Pine Lake/Creek in the last thirty years, and how this could effect fish populations. The focus of my discussion was on the three culverts we were standing beside. These particular culverts, along with many others, were improperly placed and are now a barrier to fish migration. Culverts are designed to move water not fish. They are very efficient at that, but there are two problems with the culverts, stemming from that efficiency. For one thing, the water moves through the culverts fairly fast, making them barriers to some fish. The second problem is that these culverts are also hanging; this is when the lower end of the culvert is not submerged in the water, creating a small waterfall. This makes it difficult for fish to move up into and through the culverts. Another related problem is that fish are known to concentrate at the lower end of culverts, where they can be vulnerable to over fishing and predation. All of these issues are likely contributing factors in the declining Arctic Grayling numbers in the Pine Creek system.

"What are the alternatives to culverts?", Mitchell asked.

I responded by saying, "bridges tend to be much more fish friendly", however the financial cost of installing them is often higher.

The focus of our efforts this weekend is to build a pool below the three existing culverts, deep enough to eliminate the hanging culverts, and to slow the water down within the culverts. This pool would act as an intermediate step between Pine Lake and Pine Creek.

The first priority today is to build a temporary silt fence below the proposed pool to hold the silt in place and keep the fish out of the working area. After the silt fence was in place, we spent much of the first day building two arms running downstream to define the sides of the pool; these arms were lined with a geo-textile cloth, which added stability to the arms and allowed the pool to hold water.

Jen, Dave, and Adrian joined us during the day, giving the rest of the volunteers a chance to take a break and enjoy the beautiful summer day.

Leaning out the window of her vehicle, Jean announced to the group that supper would be ready in half an hour. Our first day ended with a great barbeque and refreshments at the Pine Lake Recreation Site; this was also an appropriate time to bandage up our blisters and sunburns and relax after a day that was generally described as "a lot of shovelling".

The hardy volunteers that dared to come out on Sunday were treated to less shovelling and more moving rock. The focus on Sunday was to haul and place large rocks within the pool, to add complexity to the pool (more places for fish to hide), and to help slow the water down as it comes out of the culverts. Mike came out on Sunday and helped us smooth out the remaining piles of rock and pit-run gravel, so the site looked clean and finished. At a later date we would plant some local vegetation around the site to help stabilize the banks and provide shelter from the sun.

Our friend the bear didn't pay us another visit; it must have found some relief from the hot weather under a tree somewhere.

Endnote:

This is one in a series of ten articles to explore the "Habitat Conservation and Stewardship Program" of Fisheries and Oceans Canada. Through this program a number of "habitat stewards" have been hired in various communities to improve ways of protecting fish habitat. Brad Wilson is the Habitat Steward for the Alaska Highway North area.

[Return to top](#)

---

## **Stewards Of The Water**

By Joshua Smith, HCSP Habitat Steward

Yukon First Nations people were once the sole caretakers of the territory's land, water and resources. First Nation people hunted, fished, camped and harvested food all along the many lakes, rivers and respective tributaries.

Kwanlin Dun First Nation (KDFN) is currently working to regain its caretaker role through the Habitat Conservation and Stewardship Program, funded by the Department of Fisheries and Oceans. With the funding, KDFN is working with others towards the restoration and enhancement of Chinook salmon and their much-needed habitat.

KDFN's traditional territory exceeds the city limits of Whitehorse and includes the Yukon River and many of its tributaries. Long before the City of Whitehorse was established, trading furs, cultural gatherings and a great number of other activities took place along the Yukon River. Even today, evidence of seasonal fish camps can still be found near the river. The water provided for First Nations people and in return we respected and took care of our traditional areas and resources.

Although KDFN has many historical ties to the waterfront, two special areas stand out in the minds of our elders. At one time the waters between Whitehorse and Marsh Lake was riddled with the red colour of Chinook salmon on their way to the spawning grounds of the McLintock drainage. Because of this, there were many fish camps in the area. The foot trails that exist today were more than likely made long ago by our people. Some families even buried their loved ones on hilltops, overlooking the river. But the building of the Marsh Lake Dam in 1924 and the Whitehorse Dam in 1956-57 changed all that. The salmon disappeared, gravesites were displaced, fish camps were destroyed and culturally significant areas were flooded. All that remains are the bittersweet memories of the way life was once lived.

It's been about 50 years since the KDFN people were moved away from the downtown waterfront, but in our hearts we never left. The waterfront has always been our home and has a special place in the hearts and minds of our people.

It is our hope to once again become caretakers of the water. The Habitat Conservation and Stewardship Program is one avenue that is helping us to fulfill that goal. KDFN has hired me as a Habitat Steward to oversee the development of a watershed management plan for some of our traditional areas such as the McLintock River and its tributaries. The McLintock River watershed includes Michie and Byng Creeks, and it flows into Marsh Lake near Swan Haven, before the lake flows into the Yukon River. This drainage is the farthest spawning ground for Chinook salmon up the Yukon River and is very important to the survival of the species. Aside from that, as the KDFN habitat steward I am working on building community capacity and increasing awareness in regard to renewable resource management. KDFN is using valuable traditional knowledge from our elders, combined with scientific data and ongoing work, to carry out the many tasks facing me as a habitat steward.

Since the program's inception last year, curiosity and interest in conservation and salmon management has increased tremendously among KDFN members. From all indications, the habitat steward position and the projects alike have proved to be a valuable tool to the KDFN community.

Over the past few years, Kwanlin Dun has received funding to conduct various salmon management projects, particularly around the McLintock River. Some of the studies have involved monitoring the timing and extent that juvenile Chinook spend in the system before their migration to the ocean. Also, two annual duties are the removal of any obstructions that would otherwise restrict salmon from reaching their spawning grounds and the continued monitoring of water quality. There have been many other projects and components that have helped the First Nation, as well as others, in developing a better understanding of the salmon and their habitat needs.

The completion of these projects will one day contribute to the development of a watershed management plan for the McLintock River drainage as a means to protect the Chinook salmon and their habitat for our future generations' survival and enjoyment.

Endnote:

This is one in a series of ten articles to explore the "Habitat Conservation and Stewardship Program" of Fisheries and Oceans Canada. Through this program a number of "habitat stewards" have been hired by the Yukon Salmon Committee, the City of Whitehorse and the Yukon Conservation Society in various communities to improve ways of protecting fish habitat. Joshua Smith is the Habitat Steward for the Kwanlin Dun First Nation.

[Return to top](#)

---

## **The First Salmon**

By Isaac Anderton, HCSP Habitat Steward

Late morning, July 23<sup>rd</sup>, 2001. I stood up past my waist in the swift clear cold water of the Miner River, about 60 kilometres south of the Arctic Circle. I pulled up a minnow-trap containing a 4-inch burbot (loche). As I steadied myself in the powerful current, holding onto the exposed roots of an old grey stump embedded in the steep gravel bank, I heard Charles ask, "What kind of fish is this?" I felt excited as I manoeuvred my way back towards our big red inflatable boat. When I looked into his minnow trap, there was a beautiful, blue-green and silvery, 3-inch long juvenile Chinook (King) salmon. After seven days in the field, it boosted our spirits to finally catch this little salmon -- the ultimate object of our fieldwork. Later that day on our boats, we made the first sighting of a big red adult Chinook, which had returned through an epic journey from the Bering Sea to spawn in that cold clear water.

It was last summer and I was working with a team of four other people from Old Crow trying to find out more about where Porcupine River Chinook salmon go to spawn. We traveled by boat down the lower 60 kilometres of both the Whitestone and Miner Rivers, setting minnow traps as we went, catching all kinds of little fish. The Whitestone and Miner Rivers are two large tributaries which form the headwaters of the Porcupine River near the Arctic Circle, about 200 kilometres upstream from Old Crow, and about 450 kilometres upstream from the Yukon River at Fort Yukon, Alaska. The minnow traps we used are known as "G" type traps. They look roughly like an 8" cylinder of wire mesh with inverted conical ends, the tips of which have little openings in them. Small fish swim in the little openings to get the salmon roe (eggs) that we use as bait. It was hoped that the results of our work would indicate what areas Chinook and/or Coho salmon use for rearing and spawning.

"You mean you don't know where they spawn?" you ask? Well, with the exception of the large Chum (Dog) salmon run that is known to utilize the Fishing Branch River, that's right. But now we are learning more.

In the Porcupine River drainage basin, as far as we know, salmon spawn in some of the larger tributaries forming the headwaters. These areas are very remote and distant from Old Crow or any settlement. There are no roads, distances are huge, and the country is very rugged. Therefore obtaining scientific information on what spawning and rearing habitats are used by Porcupine River Chinook and Coho has been very difficult. The population of Coho salmon in the Porcupine River is of particular interest, as it is the only known run of Coho in the Yukon River drainage basin within Canada. However, conducting research on these salmon is made even more complicated by the fact that they don't migrate upstream to spawn until the river is frozen over. The general theory to explain Coho not being present in the Canadian portion of the Yukon River main-stem is that the large populations of predatory fish, such as Pike and Inconnu, limit success of the long juvenile-rearing stage of these salmon. More southern Coho populations rear as juveniles in backwaters and sloughs for a year or more, exactly the kinds of habitats that Pike like to hang out in. However, considering the stocks of Coho salmon that migrate past Old Crow every year, this theory obviously does not apply. And this makes the Porcupine River Coho all the more intriguing.

Since late 2000, I have been initiating work to fill such information gaps about Chinook and Coho populations in the Porcupine River. This work results not only in new information, but also ensures that fish habitat and aquatic values are considered in planning and development related processes occurring in the watershed. Another key component to this research is that through providing opportunities for training, employment, and great experiences on the rivers, I hope that involved residents of Old Crow can come to share my scientific interest in fish and their habitats --

the rivers, creeks, and lakes upon which all life in the north depends. As a Habitat Steward, my work is done in and with the community, which is also hoped to be the main beneficiary.

By August 2001, our fieldwork was completed. Gerald Nukon, from our Old Crow team, and Gerry Couture, with the Yukon Salmon Committee, then headed out on an aerial survey of the Whitestone and Miner Rivers. This survey confirmed that Chinook salmon spawn in both rivers, with the Miner River providing their main spawning grounds. It is hoped that our work will help ensure that fish habitats are given the protection needed to keep sustaining the Vuntut Gwitchin people and others in the ways that they do now and have done in the past.

*Endnote: This is one in a series of ten articles to explore the "Habitat Conservation and Stewardship Program" funded by Fisheries and Oceans Canada. Through this program a number of "Habitat Stewards" have been hired by the Yukon Salmon Committee, the City of Whitehorse and the Yukon Conservation Society in various communities to improve protection of fish habitat. Isaac Anderton is employed by the Yukon Salmon Committee as the Habitat Steward for the Porcupine River Sub-Basin. He is based in Old Crow.*

[Return to top](#)

---

### **Stream Restoration in Klusha Creek**

By Beverley Brown, HCSP Habitat Steward

Driving north past Twin Lakes towards Carmacks, the land opens up into the beautiful Nordenskiöld River Valley. In this valley, one of the Yukon's most successful stream restoration projects lies hidden among the trees and willows. Klusha Creek, a tributary to the Nordenskiöld River, meanders throughout the valley sometimes flowing beside the highway, sometimes disappearing into a profusion of wetlands.

Last fall, excitement ran high throughout the community of Carmacks as the rumour of returning salmon in Klusha Creek proved to be true. The story of Chinook salmon in Klusha Creek goes back a long time. Clyde Blackjack, a respected Elder from Little Salmon Carmacks First Nation sits on the Yukon Salmon Committee. He talks about his people catching salmon in Klusha Creek. " We had different management of salmon back then. We didn't use nets in the Yukon River like today. Long time ago, we put fish traps in the creek at nighttime and in early morning we would take them out. Lots of salmon back then."

In the days of the gold rush, a bridge was built over the outlet of Braeburn Lake where it flows into Klusha Creek. From there you could see the salmon spawning downstream in the creek. In the forties, the Mayo Road was built. It ran right beside Klusha Creek and smack in between Twin Lakes. For the next twenty years, ore trucks from Keno ran back and forth. In those days, the containers of zinc/silver/lead-rich ore were open to the elements. "I always wonder about all that dust from those trucks," says Johnny Sam, from the Lands and Resources Department in Little Salmon Carmacks First Nation. "The dust settle on the road and the rain and snow would wash it all into Klusha Creek." High levels of zinc are especially toxic to fish but the creek water was never tested to monitor toxic metal levels.

Then, another major incident changed everything. In the late 50's the Braeburn fire seriously altered the ecosystem. Gone was an essential component to salmon habitat, streamside cover that comes with old growth forests. Klusha Creek was choked with burnt log jams, ash and soil. The water became stagnant and the salmon disappeared!

But forest fires are recognized as a normal part of the natural ecosystem cycle. When you drive by today, you can see the forest along the creek has progressed through the initial stages of poplars and willows to mature spruce trees. This dense vegetation along a creek is critical for maintaining healthy fish habitat. It shades the water, filters sediment and protects against erosion. Vegetation also contributes to the aquatic food chain and gives fish protection when trees and other large debris fall into the water. Small fish such as juvenile salmon love to hide under logs and submerged brush.

So why didn't the salmon return?

One more player has a large part in this story and that is the beaver. After the fire, beavers multiplied rapidly in the Klusha Creek valley. Long ago, people used to maintain the salmon habitat by harvesting the beavers. Clyde Blackjack says, "Every year we would pull a small part of the dams out. Not the whole thing because behind the dam is good place for moose calving, ducks and fish." With this knowledge, a plan was developed within the community to try to restore Klusha Creek to a salmon bearing stream. For three years, field crews walked the creek and breached obstructions in the stagnant waters. Soon, water was flowing again, revealing the cobbles and rocks on the creek bottom that for years were covered in heavy sediments. Water flow is very important for the gravel beds that salmon need for spawning. All streams naturally carry silt and other sediments, but too much can cover up this important habitat for salmon eggs.

In the fall of 2001, Al von Finster walked along the banks of Klusha Creek just below Twin Lakes. Von Finster works for Habitat and Enhancement Branch of Fisheries and Oceans Canada. "I couldn't believe what I saw," he remarked, "Not only did the creek bottom look like perfect habitat for spawning salmon for the first time in years, but there were the distinct redd formations where salmon have buried their eggs. The salmon have returned!"

The success of this stream restoration project has helped many people see how important small creeks can be in protecting salmon and their habitat. Little Salmon Carmacks First Nation has continued their restoration plans with the addition of a biophysical survey of the Creek in partnership with the Yukon Conservation Society. Today the work includes a monitoring program with the support of the Yukon River Restoration and Enhancement Fund and help from the Yukon Salmon Committee's local Habitat Steward. Klusha Creek is an important creek that has been returned to a salmon spawning area by Little Salmon Carmacks First Nation for the benefit of all of us and our children.

*Endnote: This is one in a series of ten articles to explore the "Habitat Conservation and Stewardship Program" of Fisheries and Oceans Canada. Through this program a number of "habitat stewards" have been hired by the Yukon Salmon Committee, the City of Whitehorse and the Yukon Conservation Society in various communities to improve ways of protecting fish habitat. Beverley Brown is the Habitat Steward for the Yukon Salmon Committee in the Pelly/Carmacks Region.*

[Return to top](#)

---

## **Starving Streams**

By David Loewen, HCSP Habitat Steward

On any day, in any month of the year, there is a salmon migrating up a stream somewhere between Inuvik and Los Angeles. It is a migration that has been occurring for at least 10,000 years – and maybe as long as 100,000 years. This migration was, and still is, the foundation of entire cultures around the North Pacific. A growing body of scientific evidence is suggesting that

salmon are also the foundation of the very ecosystems they inhabit and that continued declines may push salmon recovery beyond reach – despite any human efforts.

Using a process called isotope analysis; scientists can trace individual isotopes of carbon, nitrogen, and phosphorous back to their source, for example the ocean. The specific ocean-derived isotopes of carbon, nitrogen, and phosphorous found in salmon are called marine derived nutrients. The only way these marine derived nutrients get into freshwater ecosystems is through salmon feeding in the ocean, swimming upstream, spawning, and decomposing.

Through isotope analysis, scientists have found various levels of marine derived nutrients in every plant and animal that lives in or beside salmon streams. This does not mean that a stream that has no salmon is unhealthy; it means that salmon streams are generally better fertilized than non-salmon streams. Just like a farmer's field, better fertilized fields will generally yield better crops.

Studies in BC and Alaska have found the key interaction in salmon fertilizing the forest is between bears and salmon. In a 45 day study conducted on Haida Gwaii (the Queen Charlotte Islands off the BC coast), along a stream where approximately 5800 chum salmon return; each bear on the stream moved close to 700 salmon (approx. 1600 kg) from the stream to the forest. Within two metres of the stream, over 4000 kg of salmon per hectare (100m x 100m) was identified. This does not include the amount of nitrogen and phosphorous transferred by bears peeing in the forest after eating salmon.

In the same study, nitrogen isotopes were analyzed in ferns, salmon berry bushes, hemlock needles, and growth rings from trees along the banks. Every plant had varying levels of marine derived nutrients. Analysis of tree growth near specific spawning grounds showed a direct correlation with years of increased spawners. For example, in years of large chum returns, many trees had a distinct growth spurt.

Other studies have looked at marine derived nutrients within the stream itself, as opposed to around the stream. In baby salmon (known as fry), marine-derived nitrogen and carbon made up 40% – 60% of the stomach contents and tissues. This is a result of feeding on their parents' carcasses and eggs, and from eating aquatic bugs that also fed on carcasses (ever seen those maggot infested carcasses? They're very important.).

Analysis of salmon fry growth and abundance in streams with carcasses present, and streams without, shows that fry in streams with carcasses show dramatic increases in density, size, and fat content – all vital factors for survival. The streams without carcasses show no increases.

What happens: when large commercial fisheries wipe out salmon runs in a stream? Or, when a large portion of the forest surrounding a stream is logged and the following fall a mudslide wipes out the salmon habitat? Or, when climate change lowers salmon survival in the ocean and fewer adults return to spawn?

In essence, streams and the surrounding critters starve. How bad is the current starvation?

Scientists in the Pacific Northwest have analyzed spawner records (called escapement), and fishing and salmon cannery records for the last century in an effort to estimate historic salmon populations. For Washington, Oregon, Idaho, and California the historic biomass of salmon returning to spawn was between 160 – 226 million kilograms.

Salmon now returning to the same rivers contribute only 11 – 14 million kilograms. This suggests a 95% decline in marine nutrients reaching these streams.



So this is probably where a good Yukoner says, "well that's down south, what about up here in the Yukon."

Unfortunately, the same level of records for the Yukon River do not exist. However, one only needs to compare the Yukon salmon fisheries now to those of ten or twenty years ago.

For example, the total Alaskan and Canadian catch of Yukon River chinook, chum and coho salmon from 1973 to 1997 (when conservation and salmon declines became a major issue) – was 1,559,342 salmon per year. That includes a high of 2,514,977 salmon in 1988.

In 2000, the total catch was 183,000 salmon, and yet only 12,000 chinook salmon made it to the spawning grounds. The Yukon River is starving as much as any stream down south.

In the last one hundred years, humans have interrupted processes that are over 10,000 years old. Overfishing, logging, mining, urban development, climate change, lower ocean productivity all impact salmon. We all play a role in salmon declines, and we all must take responsibility for salmon stewardship rather than pointing fingers or leaving it up to someone else (i.e. government).

Yes, those smelly, stinky, maggot infested carcasses, that dog's love to roll in, are absolutely essential to salmon recovery. As fewer and fewer salmon return to spawn, fewer rotting carcasses are available for all critters. We now have a self-perpetuating cycle of lower and lower productivity in an ecosystem that includes, lest we forget; us.

*Endnote:*

*This is one in a series of ten articles to explore the "Habitat Conservation and Stewardship Program" of Fisheries and Oceans Canada. Through this program a number of "habitat stewards" have been hired by the Yukon Salmon Committee, the City of Whitehorse and the Yukon Conservation Society in various communities to improve ways of protecting fish habitat. David Loewen is the Salmon Habitat Steward for the Nacho Nyak Dun First Nation in Mayo. He is currently on a two-month leave to complete the last 7600 km of his bicycle expedition - the Wild Salmon Cycle.*

Visit [www.wildsalmoncycle.org](http://www.wildsalmoncycle.org) to find out more about the expedition or to find out how you can help wild salmon.

[Return to top](#)

---

## **Their First Fish**

By Jake Duncan

As we sat on the riverbank waiting for the last few kids to arrive, one child was skipping rocks, one was fingering a pocket-sized video game, and another was pouring the last sip of Coke overboard. It was a sunny morning just before Music Fest weekend and the parents had turned up with their kids and camping gear. Some of the kids hadn't spent much time away from their homes before, not anything like this anyway. It was day one of the seven-day "First Fish" camp and the king salmon migration was peaking through the Dawson City area. Freda Roberts, James MacDonald, Gerry Couture and myself had already spent quite a few days preparing for the camp, and the wall tents at Moosehide Village were set up, the fishing gear ready to go.

With loving parents waving goodbye, we made our way down to Moosehide Village. The ten to fourteen year-olds were very excited, they had been promised a date with destiny -- their first fish. And, they had heard the tall stories: "...over 70lbs was the biggest one that year!" Gulp. Some of the kids didn't weigh much more than that! I took my own "gulp" as organizing a camp with kids (river, nets and sharp knives) was a humongous responsibility.

Day one was filled with setting up, learning to tie nets and fishing gear, and thoroughly going over boat safety and the rules in general. Respected Elder Percy Henry came down to the camp later that day to talk about the importance of salmon to the Tr'ondek Hwech'in people. The kids also talked with DFO biologists, managers and fisheries officers. Day two started late, I suspect, because the kids didn't get much sleep that first night.

The group split up and the first boat headed onto the Yukon River with long-time fisher Gerry Couture, a helper, and a crew of "green" fish-hands. With all those lifejackets, the boat looked like a giant box of oranges. They went to set the first net while the other group hiked up Moosehide Creek to set minnow traps and scraped rocks in the river to collect bugs.

After lunch we headed back out on to the river to find that the floats on the net were bouncing -- salmon! The kids had already drawn straws and the first fish was going to young David Gammie. He was hesitant as everyone helped raise the net from the silty Yukon because he knew the jaws on the 25-pound salmon could swallow his hand, hell...his whole arm! He didn't ask for help though and he wrestled the fish into the tote like a seasoned fish-hand.

The group, which set the minnow traps, headed back to check them with two master's degree students who were studying locally and had volunteered their time to the camp. Low and behold, in four hours they had caught over forty salmon fry! And after sampling them for weight and length and filling out all the necessary forms the students brought, they reluctantly let the fish go. The group spent the rest of the afternoon checking out bugs under the microscope.

On subsequent days and aside from catching, cleaning and smoking fish, the kids spent time learning about resource management, salmon lifecycles, salmon habitat, and First Nations culture. The children "connected" with the resource and left looking at the river in a whole new way. At the end of the seven days, the kids took the fish that they had respectfully caught, cleaned, and smoked to the Moosehide Gathering where they customarily gave their first fish away to Elders. And, as the custom goes, once the kids gave their first fish away, they returned to town as young adults.

[Many thanks to the Tr'ondek Hwech'in and the Yukon River Commercial Fishing Association, in partnership, and YTG's Environmental Awareness Fund for providing funding to this valuable project. For more information about the camp, contact Jake Duncan at 993-6210.]

*Endnote:*

*This is one in a series of ten articles to explore the "Habitat Conservation and Stewardship Program" of Fisheries and Oceans Canada. Through this program a number of "habitat stewards" have been hired in various communities by the Yukon Salmon Committee, the City of Whitehorse and the Yukon Conservation Society to improve ways of protecting fish habitat. Jake Duncan is the Habitat Steward for the Yukon Salmon Committee in the Klondike Region.*

[Return to top](#)

---

## **Whitehorse – A City of Fish**

By Ross Burnett

A lot of people call Whitehorse their home – but so do a lot of fish! Have you ever wondered where salmon go once they get past the fish ladder? Or for that matter where the ones that don't travel above the fish ladder go? We tend to regard the chinook as seasonal visitors, perhaps only thinking of them when they return (we hope!) each August to spawn. But salmon, and many other types of fish live in Whitehorse year-round – in the Yukon River itself, in many of the smaller streams, and in ponds and lakes. Fish make use of these different "neighbourhoods" for different reasons and at different stages in their life – for spawning and egg incubation, rearing, feeding, travelling around, and dying. Some habitats are used by many species; other habitats are used by only one or two types of fish. And some areas are only used at certain times of the year, or only by fish of certain ages.

To start with, the list of fish that live in (or travel through) Whitehorse is longer than you might expect. It includes chinook salmon, Arctic grayling, longnose sucker, northern pike, burbot, three types of whitefish - round, broad and lake (also called humpback), lake chub, inconnu, rainbow trout, lake trout, least cisco and slimy sculpin.

In the Yukon River itself, fish use many different types of habitat. Creek mouths, (and there are about a dozen in Whitehorse) are important for feeding and rearing. Rearing is really just another word for feeding, but is usually used when talking about juvenile (young) fish. Creek mouths are important because they provide a source of oxygen, clear, cold water, nutrients and food. Creek mouths are also important because they usually have complex shapes with many different habitats in a small area. This allows fish of different sizes and species to be able to live in these important areas.

Gravel bars and shallow island channels, such as those adjacent to the Kishwoot Islands and Quartz Road, are important spawning and rearing areas for numerous species. They are also very significant because of seasonal changes in the water level that affect how fish use such areas. In the winter the water level is low and channels between the islands and bars are dry. As the water level rises in the spring and early summer, fish use the habitats that become available – larger fish in the deeper areas, smaller fish in amongst the grasses closer to shore. Here the smaller fish are more protected and can feed on small insects and other invertebrates. In the autumn, as the water level drops again, the fish must move out into the main channel. The Quartz Road wetlands are important rearing or spawning grounds for many species, including longnose sucker, all species of whitefish, northern pike, chinook salmon, and Arctic grayling. In the case of chinook salmon, the wetlands could be considered "dieing grounds", since the pike are voracious predators on the chinook fry in these areas.

The Yukon River itself is the big spawning area in Whitehorse, used by a number of fish, including chinook salmon, Arctic grayling, and northern pike. Some of the tributaries are also important spawning habitat. For example, Wolf Creek provides very important spawning habitat for chinook salmon, and the nature trail alongside it provides a great opportunity to view returning spawners in August and September. Salmon travel upstream west of the Alaska Highway, but exactly how far is not known. Salmon management efforts in Wolf Creek include counting the number of returning salmon, occasionally breaking up logjams, and releasing chinook fry each spring, using fry raised at the Whitehorse Rapids Fish Hatchery.

Speaking of spawning, there is usually some spawning occurring somewhere in the City at most times of the year. For example pike in April and May, rainbow trout and grayling in May and June, whitefish from late August to December, and burbot in late winter. Not all fish spawn in clear water streams and rivers. The least cisco spawns in the turbid waters of the Takhini River and the Yukon River downstream of the Takhini.

The stream in which a salmon is hatched is called its' "natal" stream. In some cases, a salmon will travel down its natal stream then swim up or down the Yukon River (perhaps considerable distances) to a different stream and then do its rearing there, in what is called a "non-natal" stream. So some streams in Whitehorse may be natal streams to some fish, and non-natal streams to others!

Juvenile salmon spend up to two years in fresh water, in either their "natal" stream or a "non-natal" stream before they head to the sea, normally in the second summer after hatching. But little is known about which streams in Whitehorse are used for "overwintering" by young salmon or other fish. The smallest streams are likely used by only slimy sculpin and juvenile chinook, while the larger streams may support more species. It is known that Croucher Creek, which flows into the Yukon River north of Long Lake, is used for overwintering by juvenile salmon. Despite the surface appearance of such small creeks as frozen and lifeless, the water still flows and provides an extremely important habitat for the salmon.

Anglers will know that a number of the 'pothole' lakes in Whitehorse are also home to a number of fish species. Pothole lakes such as Long, Hidden and Chadden sit in self-enclosed depressions that have no surface connection to the Yukon River. All three have been stocked with rainbow trout over the years. However, since the stocked fish seldom reproduce restocking is required every few years. Long Lake has also been stocked with Arctic char (1991), chinook salmon (1996), and kokanee salmon (2000). The rainbow trout is not native to the Yukon River system. Besides being stocked in the pothole lakes, trout were introduced to McIntyre Creek and McLean Lake in the 1940's and 50's. McLean Lake and Creek is a "closed system" because there is no surface connection to the Yukon River. The creek seeps into the ground east of the Alaska Highway and the water travels through the gravels to the river. Royal watchers may be interested in knowing that in July 1959, His Royal Highness Prince Phillip enjoyed himself fishing for rainbow trout at McLean Lake.

We have mentioned some streams by name. Fish use most of the others too - including Little Takhini Creek, McRae Creek and Cowley Creek. We know a little bit about what fish use which creeks in Whitehorse, but we would like to know more. The City of Whitehorse is coordinating a research and field program to increase our knowledge of this use. This information can then be used for public education and awareness, and can lead to better decision-making and planning that takes into account the significance of the water bodies as important fish habitat. For more information on this project, contact Ross Burnett, the City of Whitehorse Habitat Coordinator, at 668-8347.

Endnote:

*This is one in a series of ten articles to explore the "Habitat Conservation and Stewardship Program" of Fisheries and Oceans Canada. Through this program a number of "habitat stewards" have been hired by the Yukon Salmon Committee, the City of Whitehorse and the Yukon Conservation Society in various communities to improve ways of protecting fish habitat. Ross Burnett is the Habitat Coordinator for the City of Whitehorse.*

[Return to top](#)

---

## **On the Ground and in the Water**

By Ross Burnett

The grins on the faces tell the story as the kids gingerly make their way to the stream, a zip-loc bag bulging with water and fish carefully held in their hot little hands. The excitement of letting the

tiny fish go into the streams... checking to see if they can see "their" fish swimming once it is free.... it's a beautiful afternoon in early June at the annual Wolf Creek chinook salmon fry release. As a low-key example of educational stewardship in practice, this one is a classic - a simple, fun exercise for the kids, with a very brief explanation of its purpose. No need to hit them over the head with it – these kids understand the concept pretty well.

Education is a key building block of community stewardship. We can find all sorts of 'real-life' examples of education in support of stewardship. In Yukon we are blessed with the educational and stewardship opportunities afforded by having the wilderness on our doorstep.

School kids learn about a great variety of environmental and stewardship issues through school visits by Conservation Officers and educators with Fisheries and Oceans Canada and Yukon's Environment Department. Extended field trips and whole programs such as the experiential education curriculum and various summer work and camp opportunities teach young adults about stewardship and environmental responsibility. A recent exercise was a simple project to plant dormant willow cuttings in a disturbed area adjacent to Croucher Creek. A natural resource consultant (Environmental Dynamics Inc.) worked with grade 9 students in the Outdoor Pursuits & Experiential Science ("OPES") program to try to re-establish native vegetation and at the same time determine what methods of planting work best.

A similar project was undertaken last year by the Yukon Conservation Society to help revegetate an area of mine tailings adjacent to Wolf Creek. Using funding from the Yukon River Salmon Restoration and Enhancement Fund, a variety of planting methods were tested on a slope of coarse waste rock along a 300-metre section of the creek.

Another project in 'education towards stewardship' has been the series of interpretive panels installed last year at a number of the more significant natural areas in the city, such as the Quartz Road wetlands and Wolf Creek. Through these panels, residents and visitors alike learn something about the area and are perhaps intrigued to find out a little bit more, or spend a bit more time exploring the area. The City of Whitehorse is working with Yukon Environment this year to produce some more panels to highlight other themes such as the geology of the Hidden Lakes area, unique grasses on some of the south-facing slopes, and chinook salmon migration.

In a perfect world, education leads to better understanding and appreciation of such areas, but that is not always the case. Earlier this spring three of these interpretive panels were stolen from the Miles Canyon area. They will cost about \$850 each to replace. Crime Stoppers Yukon is offering a reward of \$500 for information leading to the arrest of the person(s) responsible for the theft and/or recovery of the signs. Anyone having information with respect to the theft of these signs can contact 1-800-222-TIPS.

Besides replacing these panels, Two larger 'orientation panels' are planned for the north and south highway rest areas to point out for visitors some of the top natural attractions of the City (such as the Fish Ladder, Kishwoot Island and Chadburn Lake), and to invite our guests to visit them.

Speaking of signs, George Sidney, the Habitat Steward in Teslin is coordinating a sign project to identify important fish tributaries in the Teslin Tlingit Traditional Territory. These signs will help protect the habitat for salmon and other species.

With stewardship in mind, the benefit of the above projects is not so much the actual product (such as a revegetated stream side) but the increase in education, awareness and understanding that goes with it, and the partnerships that are established. All of these things contribute to "capacity building" which is really just a fancy way of saying that the community is more informed

and better able to take on stewardship projects. Ideally, this all leads towards the wise management of natural resources – in some cases responsible use; in other cases protection.

Partnerships are key to stewardship because in most cases one person or group cannot tackle a project single-handedly. But numerous groups working together, each contributing their own knowledge, money or equipment can see a project through to completion. Examples of this include the annual Yukon River clean-up, and the various neighbourhood, street and highway litter clean-up programs held each spring. These programs meet stewardship goals by educating people and building a sense of civic pride in relation to the environment.

We are fortunate to have so many groups in Yukon contributing to stewardship (and some of them probably don't even think of it as "stewardship!") – the list includes the Yukon Fish and Game Association, the Fish and Wildlife Management Board, the Yukon Salmon Committee, the Yukon Bird Club, the Yukon Outdoors Club, the Trans Canada Trail Foundation, Girl Guides, Scouts and the Yukon Conservation Society, to name a few. The projects, programs, outings and guided walks these groups organize are real-life examples of stewardship and capacity building in action.

Endnote:

*This is one in a series of ten articles to explore the "Habitat Conservation and Stewardship Program" of Fisheries and Oceans Canada. Through this program a number of "habitat stewards" have been hired by the Yukon Salmon Committee, the City of Whitehorse and the Yukon Conservation Society in various communities to improve ways of protecting fish habitat. Ross Burnett is the Habitat Coordinator for the City of Whitehorse.*

[Return to top](#)

---

## **Stewardship – A call to action.**

By Ross Burnett

Fish have scales. We use scales to weigh or balance things. Is there a connection? As a society we are regularly being told that we must "balance the economy with the environment". But what does that really mean in terms of the decisions we make in our day-to-day lives? And how does the idea of 'stewardship' fit in?

The concept of stewardship is pretty straightforward. The key to making progress is for each of us to adopt the principle and apply it on a personal day-to-day basis, as well as on a longer-term basis as we (collectively) make decisions on issues affecting the air, land and water. This recent series of articles has presented examples of stewardship in action – people taking on the responsibility for caring for their local environment.

Let's consider some of the basic ideas about stewardship and sustainability. For one thing they both have something to do with the future -- what will happen in 5 years, or 10, or 20.....? What will the land be like, the water, the people, the fish? What can be done to ensure that future generations will be able to enjoy – and benefit from - the land, the water and all the other animals that use the land and the water as we do? And will a child, a youth, an adult, an elder, be able to continue to feel ownership, and invest his or her energy into maintaining - being a steward of - this wonderful land and water as we have?

Another part of stewardship is respect. Respect for the environment. This can also be called having an "environmental ethic". A lot of people like to hike and bike and camp in the Yukon's

wonderful wilderness. And a lot of people like to enjoy a can of pop or a beer as they contemplate life at a beautiful spot. But why do some people feel the urge to throw that can over the cliff or into the lake, while others carefully put it in their pack and carry it back to be recycled? I'll never understand that.

I guess there will always be some people who really just don't give a damn. One of the things that can contribute to inertia or lack of action is the sense of helplessness that many people feel. It is hard not to be jaded or cynical. We are bombarded daily with stories of species going extinct, global corporations getting away without paying taxes while we slave away, environmental horror stories from the third world (and our own back yard). We seem to be unable to do anything about such issues. And we hear so very little about environmental success stories.

I would like to think that these stewardship projects and programs can help to change people's attitudes -- by giving them a sense of empowerment. By this I mean providing concrete examples of how they can actually make a real difference. Of course we cannot change (or clean up) the whole world in a day. But by fixing up the pool below some culverts we can improve things for a population of Arctic Grayling. By breaching some beaver dams we can improve a Chinook run in a creek. By understanding where Coho go to spawn we can make better management decisions so that they can continue to spawn there. By installing interpretive panels or signs identifying fish habitat we can increase peoples understanding of (and, hopefully, respect for) the natural environment. Taking pride in such specific, local project leads to a sense of stewardship and responsibility when the bigger issues come up. And there are examples of environmental success stories that started off small but continue to get bigger and better – two examples in Whitehorse are the recycling program and the expansion of the Waste Watch program City-wide.

"Think globally, act locally" is such an overused catchphrase it is almost meaningless. But it really does mean something, and if individuals adopt it as a philosophy it will indeed lead to very real, positive changes, starting with one's own community and spreading from there. We are fortunate in Whitehorse and in Yukon in that we can take pride in having a very real "sense of community" – something that many southerners are envious of. We actually know who our neighbours are. We care about them. We do not share the sense of helplessness some of our friends in the south feel - we are a small enough community that we can and do contribute to change in a very real sense. Sure, people lament "government bureaucracy and red-tape" but compared to the government institutions down south we have it made – where else can you bump in to a Minister on the ski trails and give him a piece of your mind if you want to?

Stewardship also includes an education component – educating others and ourselves. We are so very fortunate in the Yukon – we actually live in the wilderness. Think about it. In our communities we can actually see salmon spawning, coyotes scavenging, deer browsing. Our kids and students can see for themselves the benefits of maintaining vegetation along side of a stream.

Responsibility, concern about the future, respect, education... - throw in a little care, pride and local action and you have stewardship. And stewardship on the personal level leads to stewardship and caring on a bigger scale and into the future (that "balance the economy with the environment" thing). Maybe stewardship has a chance here.

*Endnote:*

*This is the last in a series of ten articles to explore the "Habitat Conservation and Stewardship Program" of Fisheries and Oceans Canada. Through this program a number of "habitat stewards" have been hired by the Yukon Salmon Committee, the City of Whitehorse and the Yukon Conservation Society in various communities to improve ways of protecting fish habitat. Ross Burnett is the Habitat Coordinator for the City of Whitehorse.*





protected and valued will be the responsibility of the people that live, work and recreate in our local waterways.

For more information on the HCSP program or SIASS contact:

Jennifer Sutherst  
SIASS Stewardship Coordinator  
715 Powderly Ave.  
Victoria, BC  
V9A 2Z3  
Phone: 250-386-5110  
Fax: 250-386-5160  
E-mail: [jsutherst@telus.net](mailto:jsutherst@telus.net)

participation efforts involving the public generally took the form of closed consultations with selected interest groups that required an invitation by government.

---

### **Era of New Technology**

The second stage in the history of water management was characterized by an increased attention to the environmental and social costs of development, an increased demand for public involvement and participatory decision-making, new modeling techniques, quantitative analysis, a recognition of non-economic values (linked to an increase in tourism and outdoor recreation), and the development of advocacy groups that provided an organized voice for a range of interests that the public did not deem adequately considered by government. Accompanying the change in attitude, was a rise in new techniques for assessing environmental and social costs. However, government and corporations, not citizens, generally led the direction of public participation initiatives.

---

### **Re-entrenchment and Adaptation**

The 1980s were a time of re-entrenchment. Despite the Ministry of Forests' recognition of the need to plan for values other than timber production, and coining the phrase "integrated resource management", this era in the history of water management did not experience extreme changes to either policy or attitudes. A weakening Canadian economy and the previous generation's disenchantment with scientific and technological innovations of the previous era influenced water management; these factors led to cutbacks in government funding and limitations to the scope of water research projects. Downsizing in government was attributed to: massive loss of government revenue from natural resources industries, a belief that the government's role in the state had to be changed, and a change in government thinking to Neoconservatism. Neoconservatism led to the creation of a new relationship between the provincial government and the voluntary sector, whereby community groups acquired "purchase of service" contracts from the government to execute functions and activities not necessarily appropriate to government. The private sector, the community, and the family assumed more responsibility for the social well being of society and themselves. The availability of funding through these contracts encouraged an increase in the number and size of non-profit social agencies and businesses. Despite these advances in public involvement with resource management decisions, public participation in British Columbia still typically meant that government showed the public what it was going to do, permitted people to comment, then either proceeded with what it planned or proceeded with some token modifications. The few projects that were locally initiated during this era in water management were generally single-issue problems operating outside the influence of government, and in an undefined role.

1. Neoconservatism is generally considered to be a moderate form of traditional conservatism (the so-called Right). Most Neoconservatives accept the existence of the welfare state, but denounce the idea and practice of "big government".
- 

The next article will look at where we are today and how the new era initiatives can be involved in community designs.

**For Further Information**

For more information about WFSP or about how to become involved in the WFSP process, please visit [www.bcfisheries.gov.bc.ca](http://www.bcfisheries.gov.bc.ca)  
Feel free to contact Russ Hilland at 250-982-2522 or drop him a line at his email at: [hillandr@dfo-mpo.gc.ca](mailto:hillandr@dfo-mpo.gc.ca)

Bob Tritschler  
Watershed Stewardship Coordinator  
Bella Coola, BC  
Phone 250-799-5763  
fax 250-799-5748  
email [bestfishes@belco.bc.ca](mailto:bestfishes@belco.bc.ca)

Attn: Angela Hall  
Coast Mountain News  
October 14<sup>th</sup> for the October 26/00 edition

## **Position Paper: Protection of Riparian Fish Habitats.**

### **Background:**

The word ‘riparian’ comes from the Latin ripa meaning bank or shore. The riparian area or zone is the ecozone between the aquatic and the terrestrial ecosystems. Physical and biological processes that take place in the riparian area result from interactions and associations between the component parts of the aquatic and terrestrial ecosystems. Ecologically, the riparian zone refers to the land area adjacent to streams, rivers, lakes, wetlands, estuaries and the ocean that is characterized by moist soils often due to frequent inundation. It has developed and supports natural vegetative cover distinct from the vegetation in adjacent freely drained upland terrestrial sites. The boundary of the riparian zone extends outwards from the stream to the limits of the floodplain and vertically into the canopy of the streamside vegetation.

A healthy riparian zone is essential to allow a stream to normally function and achieve a high level of production. It is one of our most productive and diverse ecosystem areas. In addition to its biological attributes, it also serves a valuable function in providing shade, it contributes particulate organic material and large organic debris, chemical and sediment retention, streambank stability, and serves as an important buffer from human activity that can harm the waterbody. It is an essential part of fish habitat and contributes significantly to wildlife and human social needs. Harm to the riparian zone is most often associated with degradation of instream habitat.

Human activities have had a significant negative impact on riparian habitats in most developed areas of Canada. This results from road construction, logging, agriculture, and urban/industrial development and even recreational activities. Most often the integrity of the riparian zone is harmed by the removal of woody vegetation. The land is often then converted to agricultural use and in more severe cases, the land is eventually urbanized and built upon.

After many decades of little riparian protection most governments have acted to protect the riparian zone to some degree. Most regulations relate to crown lands that are subjected to forest harvesting. The protection of the riparian zone on municipal and on private property (urban, agricultural and forestry) has yet to progress to an acceptable level. The Fisheries Act was amended in 1977 to allow for the protection of fish habitat – that of course includes the riparian zone. DFOs efforts at implementing riparian protection under the Fisheries Act have been slow.

Achieving riparian protection is a complex issue in that the constitutional jurisdiction of land and water management rests with the provinces. In most urban areas the provinces have delegated land development authority to local government. Accordingly, the proactive protection of riparian habitat can only be successful if the land manager ensures that any development of the land respects the riparian zone. DFO must therefore work in a proactive manner with each

province and in many cases with each local government and landowner to protect and where possible restore degraded riparian areas.

Our best understanding of the relationships of the riparian area and fish and fish habitat occurs in stream habitats. The value of the riparian zone to larger rivers, lakes and estuaries is less understood. The relationship between the ocean riparian zone and marine life is least understood.

**Key Issues:**

1. Riparian habitat is not being consistently or adequately protected. In many areas it is still being degraded at an alarming rate. DFO has developed significant case law as a result of riparian HADD cases but the Fisheries Act is largely reactive legislation. DFO does not have the resources to adequately educate landowners, monitor land use and act on most unauthorized riparian destruction incidents. Provincial action is essential to proactively protect riparian habitat on crown and private land.
2. Jurisdictions relating to the management of riparian areas are very fragmented and the legal and financial tools available to protect the riparian zone are poorly developed. DFO is responsible for fish and fish habitat protection. The provinces are responsible for the management of land and water. Local government is responsible for management of its land base and has limited powers and often exhibits a low will to protect fish habitat. The private landowners and developers believe they have the right to develop their land as they see fit. If they cannot develop their land, they demand compensation. Until a strong link is made between the management of land and the protection of riparian zones, fish habitat will continue to be degraded.
3. Our understanding of relationships between the riparian zone and fish and fish habitat is not adequately developed. We have a reasonable good understanding of the values of the riparian zone to streams and smaller rivers. We must improve our understanding of large river and estuarine riparian zones. Our knowledge of the value of the ocean riparian zone is very inadequate.
4. Many approaches have been taken to riparian protection in North America. Often riparian protection boundaries are driven by a social economic agenda and not by a biologically sound scientific rationale. What is an adequate riparian zone along the various types of fish habitat? Generally 0-8m. are of little value. Those of 8 – 17m. are of some value. Those of 17-30m. are of significant value and those over 30m. begin to achieve the values associated with an intact riparian - terrestrial zone.
5. One must appreciate that the simple protection of a riparian zone while allowing the rest of a watershed to be developed may accomplish little. One must insure that a riparian initiative is related to an overall watershed management plan.
6. In that DFO has no direct authority over land development, DFO must develop effective ways to work with other levels of government and countless private land owners to insure that the riparian zone along fishery waters are protected adequately.

7. DFO is committed to implementation of the Oceans Act. This legislation allows for Integrated Coastal Zone Management and the inclusion of an oceans riparian zone as strategies for protecting the high biological values in the inter-tidal and near-shore marine ecosystem. This creates new challenges in terms of data needs and land use jurisdictions.

### **Opportunities:**

During the past several years there has been a growing public awareness for the better protection of streams, rivers, and lakes. In areas of Canada, such as in British Columbia, the environmental and stewardship groups have developed a high level of sophistication and have lobbied for better stream protection. One project, 'Living By Water' has indeed become a national initiative. Public pressure has greatly assisted habitat managers in negotiating better riparian protection from other levels of government and private landowners. Unfortunately, the concern over the riparian zone in lakes and ocean is not as great.

Land and coastal zone planning in BC has given DFO the opportunity to better define its riparian needs on many streams and in the coastal zone. The BC Forest Practices Code specifies riparian protection on Crown Lands for streams wider than 1.5m. A less effective approach has been taken to protect the riparian zone on private forestlands. In urban areas, British Columbia is proposing 15 to 30m. setbacks to protect riparian values. Riparian protection in agricultural areas is a special challenge and BC is advocating a volunteer riparian audit to encourage farmers to protect that ecosystem. DFO feels a prescriptive accompanied by performance based standards and good stewardship initiatives are required to achieve the needs of fish and fish habitat and meet the intent of the habitat provisions of the Fisheries Act.

Case law and ICZM initiatives in BC have better defined where we legally stand on riparian protection issues and has made it clear what new scientific data we need to better define fish habitat needs. A convincing scientific rationale is essential in education and in our negotiations to improve upon the status quo. Presently more data is being generated on riparian issues in United States. Much of it is applicable to Canada but local information is essential and carries a greater impact with those that have to be made aware of fish habitat needs.

### **Breakout Questions:**

1. How can DFO most effectively achieve the protection of riparian habitats? Can we mount a more effective monitoring and enforcement program with existing resources? Should we pilot a direct Fisheries Act regulatory approach or do we work through Provincial and local jurisdictions and educate private landowners of riparian protection needs through stewardship programs?
2. We must compare the effectiveness of achieving our riparian objectives across Canada. Can volunteer riparian protection be as effective as regulated setbacks? What approach do we take to Crown Land versus private property?

3. What are the costs of protecting riparian areas? Who evaluates and maps riparian protection zones and who pays to maintain them? What financial incentives are available to assure protection of riparian areas? Should we purchase key privately owned riparian areas?
4. How do we prioritize our research and monitoring efforts so as to better understand riparian zone and fish/fish habitat relationships and evaluate the status of riparian zones along fish frequented waterways?
5. What approach do we take to determine adequate riparian zones along streams, rivers, wetlands, lakes, and the ocean environment? What are the minimum effective widths of riparian zones in such habitat areas?
6. As part of our Oceans Act implementation, should we not insist that a protected ocean riparian zone be part of an ICZM strategy?
7. How do we strike a balance between fish habitat riparian needs and the conflicting social and economic interests of other governments, the logger, farmer, urban developer or private landowner?

For Community Stewardship News bi-weekly column

By Bob Tritschler

Watershed Stewardship Coordinator

Bella Coola, BC

Phone 250-799-5763

fax 250-799-5748

email [bestfishes@belco.bc.ca](mailto:bestfishes@belco.bc.ca)

Attn: Angela Hall  
Coast Mountain News  
October 16<sup>th</sup>, 2000

### **The “Role of Individuals and Community Groups in Stewardship”**

“When all is said and done, the fate of sustainable management of a watershed rests in the hands of the grass roots residents as they go about their day to day business. It is the citizens of the watershed, who may generate the interest and enthusiasm to create, continue and expand local projects, which lead to positive actions and results.

Technical expertise, funding and other assistance from outside the area can be of tremendous help, but it is the local citizenry which must create the technical, social and managerial innovations within their watershed that lead to sustainable living”. That may sound like a mouthful of something you wouldn’t normally put in your mouth, but let us check it out.

Past experience has shown that the “top down” approach to certain issues just doesn’t work. Mandates structured by governments and government agencies hundreds, sometimes thousands, of kilometers away have been ineffectual in areas where small areas of uniqueness are governed by one rigid statute. One must, however, remember that in the world of things you get nothing for nothing unless you are a Dire Straits fan. With the opportunity to have impact locally in your area one then must be prepared to spend time and effort to ensure doing what is best for that area. Find out what is important to the residents, and you had better include all residents, including the crawling, flying, and swimming types, and see how you can support them. It is very easy to get caught up in the social-economic spin of community development and lose sight of the essentials of life like air and water quality. Remember that without clean air and water you have the makings of a very bad movie and as we compromise our ecosystem we are threatening our very existence.

Although restoration works have played a major role in the last few years repairing past damage it is time to start to think about avoidance. Avoidance comes in many forms from preservation of existing important ecosystems to finding ways to co-exist within our miniature world with minimum impact. Everyone has different short term tolerance levels, but if we are truly striving to attain some sense of sustainability we must look at eternity when evaluating impacts, not a term in office or the next quarterly bottom line.

“Eternity, you might say, isn’t that forever?” Hard to fully understand the



responsibility when you put it in those terms eh? We have been sold a bill of goods about sustainable growth for a long time and for many reasons.

Sustainable growth is an oxymoron, sort of like military intelligence. In the truest sense one should not use both words in the same sentence.

With increased populations and movement of peoples from one area to another it is important to understand the effects of increased population densities living in an area. Long range planning is a good tool to foresee potential problems and find ways to either avoid or mitigate them. Our local Official Community Plan is such a tool. It will be up for review in few years so now is the time to think about what is important for your area. Take some time and talk to your neighbors, see how they feel about issues dear to your heart and get involved in the future, because what you do or don't do will affect the future. As Dennis Miller would say, "of course this is only my opinion and I could be wrong".

For Community Stewardship News bi-weekly column

By Bob Tritschler

Watershed Stewardship Coordinator

Bella Coola, BC

Phone 250-799-5763

fax 250-799-5748

email [bestfishes@belco.bc.ca](mailto:bestfishes@belco.bc.ca)

Attn: Angela Hall  
Coast Mountain News

For Community Stewardship News bi-weekly column

By Bob Tritschler  
Watershed Stewardship Coordinator  
Bella Coola, BC  
Phone 250-799-5763, fax 250-799-5748, email [bestfishes@belco.bc.ca](mailto:bestfishes@belco.bc.ca)

## **The Land Ethic**

Every story has a beginning; it usually is where one becomes aware that there is a story. My name is Bob Tritschler and I'm your Watershed Stewardship Coordinator. My involvement is from lobbying government agencies for more riparian zones on waterways that require it, to facilitating meeting for the Central Coast Partnering Group and insuring projects that are funded by Fish Renewal through this group are completed on time and within budget.

As we all know times are a changing. Don't get me wrong, I'm not saying change is bad or good, but I am saying change is inevitable. What we do today affects tomorrow so be aware of what you do today. The following will give you something to think about before the next edition, so do read on as we begin our saga together.

Aldo Leopold first published his book *A Sand County Almanac* in 1940 and it has since become a standard in environmental literature. This week, I would like to share with you just a tiny bit of the writings of Aldo Leopold in the chapter titled The Land Ethic from this famous volume.

“An ethic, ecologically, is a limitation on freedom of action in the struggle for existence.” Leopold says that ethics traditionally exist in the context of relationships between people. In order to begin to also have an ethical relationship with nature we must stop thinking of the land as only property to be owned and consumed, and as a resource from which we derive benefits. Having a conservation ethic means that we include nature as part of the community in which we live, and which we have obligations to. “...A land ethic changes the role of *Homo sapiens* from conqueror of the land community to plain member and citizen of it.”

One of Leopold's ideas in this chapter is that we must not limit our conservation ethic to parts of nature that have economic value. For example, we work very hard to preserve the habitat of salmon because salmon are so economically valuable to us. However, there are millions of other species of animals, plants and insects that have no economic value to people but are worth protecting for their intrinsic value, simply because they are part of our earth community.

One of the beautiful things about thinking with this frame of reference is that it fits in so perfectly with ecosystem based science and management, which involves managing our use of natural resources by looking at intact systems such as watersheds instead of at only individual species.

The other key concept in this chapter of Leopold's book is about the land pyramid. Humans are among the top carnivores at the very top of a layered pyramid and the creatures in each layer depend on the layers below them for food. At the bottom of the pyramid are countless insects, then a layer of millions of plants, moving higher through layers of other animal groups. We at the top are dependent for food on all the layers in the pyramid below us.

However, Leopold also says that the land pyramid is actually more like a web, with multiple connections and links. The role of human beings in changing the environment in which we live to suit our needs affects these

interdependencies. Having an ethical relationship with the land is crucial to sustaining this complex web of life in which we exist.

For example, Steven Watkinson from the community of Kitkatla, who is a student at the UBC Fisheries Center in Vancouver, is doing his Masters thesis on the movement of nitrogen through riverine systems to the marine environment. He believes there is a direct relationship between the nitrogen provided by decomposing salmon carcasses brought up to the forest floor by bears and the health of the estuarine and marine environments. Steven is using the Ecopath model developed at UBC to test this theory of interdependent systems. I encourage you to read 'A Sand County Almanac'. It will challenge you and give you a better understanding of the concept of conservation. Until we meet again, keep your eyes open and be aware of your environment and the results of your actions on future ecosystems.

Attn: Angela Hall  
Coast Mountain News  
Eco donations?

## **CANADA'S ECOLOGICAL GIFTS PROGRAM**

Here is something for all you land barons out there. Have you got a parcel of land that is too wet to farm, some piece you would like to leave for posterity, looking for a tax deduction? Maybe this is for you.

Since 1995, landowners across Canada have been able to receive federal and provincial tax assistance for protecting ecologically sensitive lands. These ecological gifts ("EcoGifts") include many habitat types such as tidal wetlands, rocky cliffs, rolling prairie grasslands and boreal woodlands. Over one-third of the gifts contain nationally or provincially significant areas, and many contain rare or threatened habitats that are home to species at risk. The protection of Canada's environmental heritage is a critical component of the Government of Canada's approach to environmental conservation. As a result, the federal 1995, 1997 and 2000 Budgets have significantly improved the tax assistance for donations of ecologically sensitive land and easements. By removing tax-related barriers governments are helping landowners and conservation groups in their efforts to preserve Canada's environmental heritage.

### **What are "EcoGifts"?**

EcoGifts are gifts of the full title to a property, or of the value of a conservation "easement," "covenant" or "servitude" attached to that title as defined under the legislation of your province or territory. You may donate such land outright or choose to keep it, but with restricted long-term use or perhaps restricted access.

### **What are conservation easements, covenants, and servitudes?**

Conservation easements, covenants, and servitudes are legal agreements in which a landowner retains ownership of his/her property but conveys certain specifically identified rights to a land conservation organization or a public body. The interests relinquished are generally those that would allow the owners, or future owners, to make changes to the property that would detrimentally affect the natural features of the site, e.g. in-filling wetlands. These instruments place restrictions on the lands that are attached to the deed for the property. The organization holding the conservation easement or covenant/servitude is responsible for monitoring compliance with the terms of the agreement, and has the right to enforce the restrictions under provincial or territorial laws and to require restoration should the terms be broken.

EcoGifts may include lands that:

- are identified, designated or protected for environmental conservation;
- are locally important natural areas;
- are close to environmentally significant properties;
- buffer environmentally sensitive areas such as water bodies, streams or wetlands; or

- support the conservation of biodiversity or Canada's environmental heritage.

**What do donors receive as benefits?**

Individuals or corporations who donate private land to the federal, provincial or territorial governments, Canadian municipalities, or one of about 125 approved charities receive a federal tax deduction against up to 100 percent of their annual income. Unused portions of the tax deduction can be carried forward for up to five years. The February 2000 Federal Budget introduced further changes to the Income Tax Act that reduced by 50%, the tax payable on the deemed capital gains associated with EcoGifts.

**How does the EcoGifts program work?**

A three-step certification process has been established for the program:

1. On behalf of the Minister of the Environment, a designate must certify that the land is ecologically significant. These designated 'Certification Authorities' will issue a "Certificate for Donation of Ecologically Sensitive Land", which is submitted with the donor's income tax return.
2. The Certification Authority certifies that the recipient of the gift is a qualified registered charity, an incorporated Canadian municipality, or a Crown agency.
3. Under the changes announced in the February 2000 Budget, Environment Canada must also certify the appraised dollar value of ecological gifts.

For more information, please visit Environment Canada's Green Lane at <http://www.ec.gc.ca> .or <http://www.cws-scf.ec.gc.ca/ecogifts>

For Community Stewardship News bi-weekly column

By Bob Tritschler

Watershed Stewardship Coordinator

Bella Coola, BC

Phone 250-799-5763

fax 250-799-5748

email [bestfishes@belco.bc.ca](mailto:bestfishes@belco.bc.ca)

Attn: Angela Hall  
Coast Mountain News

For Community Stewardship News bi-weekly column  
For May25th edition

### **Watershed Planning Tools for Communities**

The BC Watershed Stewardship Alliance (BCWSA) has been in BC since 1997, assisting groups in different parts of the province by providing tools for watershed use planning. They provide educational assistance to government, community groups and other organizations. The group has evolved into a network of Regional Directors who are involved in community roundtables and coordinate stewardship activities in their watersheds. The organization also has a general membership of individuals and organizations who are concerned with improving the long-term health of their local communities.

BCWSA has released final copies of some documents that you may be interested in reading. In their most recent newsletter they describe two new publications that are tools toward effective watershed management planning. The first document is called ‘A Discussion Paper on Ethics.’ Working together in community roundtables in order to make decisions about uses of resources is a challenging task that requires infinite patience and compromise. This document can also be used to provide guidelines on good behavior for any board or committee looking at cooperating on a local or regional basis. The principals in the document are also great tools for living life as individuals. The ethics paper begins with the following credo:

“In my life I desire to:

- Be honest.
- Avoid and declare conflicts of interest.
- Work on behalf of my entire organization, not just for a few others or myself.
- Always be loyal to those not present.
- Honor all my commitments.
- Work collaboratively with others.
- Create mutually beneficial partnerships.”

The second paper is called “An Assessment of Barriers and Proposed Actions to Advance Watershed Management in British Columbia – A Report on Community Workshops”. As Mike Romaine, the Executive Director of BCWSA states: “The workshops strengthened greater public awareness that sustainable communities require a holistic and integrated approach to resource management, economic development and social health, and this is a collaborative responsibility. Insight into key barriers and their solutions is the start to building a common understanding between previously isolated and frequently polarized

groups and government agencies. This hopefully will lead to joint cooperation between all, in planning, management and governance of our watersheds.”

Watershed Planning is an enormous task, and depending on the location of the watershed, can vary from maintaining the status quo, allowing urban growth while minimizing the impact, to trying to figure out means of restoring streams that are now the bottom half of a concrete culvert. Locally, we have an Official Community Plan (OCP) that was passed in October 13, 1999. Get a copy, if you haven't read it, and see how you would like it changed when it comes up for review. Remember that there is no one that knows your backyard like you do, play a constructive role in designing how it should look. Have you ever walked down a road and observed small fish swimming in the ditch? They were probably juvenile coho, cutthroat or steelhead and sometimes it is quite a mystery how they got there. With a little sleuthing one can usually find the way they arrived and how they must get out when it's time to go on their ocean journey. Sometimes it is truly the little things that are important. Sometimes simply watching, without any preconceived ideas, can be the best teacher. Observe your backyard and make notes for future reference on how things are or are not working. Talk to your neighbors about your observations and what they saw. It is amazing how much we see and how differently we see the same picture. Collectively, a kaleidoscope of observations and thoughts can produce wonderful results. Give it a try.

Congratulations to Sandie MacLaurin, Gloria Vallencourt, Russ Hilland and all the staff support on another great day of celebration of the “Coho Salmon “ If you missed it this years event at the Snootli Hatchery make note for next year as it was great!

Should you have any questions or require information on fish habitat or want to talk about how to improve habitat in your backyard give me a call and I'll connect you with the experts.

Bestfishes

Bob Tritschler  
Watershed Stewardship Coordinator  
Box 621  
Bella Coola, BC  
VOT 1C0  
Tel. 250-799-5763  
Fax. 250-799-5748  
[Bestfishes@belco.bc.ca](mailto:Bestfishes@belco.bc.ca)





Attn: Angela Hall  
Coast Mountain News  
For Community Stewardship News bi-weekly column

### **Habitat Conservation and Stewardship Program**

Over the last year we have looked at how the system has worked and what is happening from volunteerism within the community to discretionary powers from our ministers. The reason we are even discussing these issues indicates that there have been some problems. The question then is what about answers and solutions. Some of the problems are global, national, and regional and we shall look at what we can have the most impact on, namely regional. The vision of the HCSP is to establish partnerships and expand communities' ability to better protect and steward fish habitat. What this means is for communities to play a greater role in the decision making of what happens in their area. The guiding principles are:

- Strengthen community stewardship
- Design and deliver a flexible program
- Adapt to local opportunities
- Develop clear linkages with existing habitat protection programs
- Work in partnership with communities, First Nations and the private sector.

The objectives of the program are as follows:

- Increase community involvement in watershed management
- Increase awareness of fish habitat requirements
- Protect habitat in local land and water use plans

Now we get to the crux of the matter. This is a sunset program meaning that it will end, in this case 2003. Having said that, time is of the essence. The status quo has not worked and if people want to see change they must become more active in initiating change. My focus will be establishing streamkeeper groups that will be able to monitor streams, wetlands, and waterways adjacent to their homes or in points of interest. Having these individual groups band together with a common voice to address issues that affect everyone and develop lobbying options for mechanisms to initiate change where required. Collectively, these stewardship groups can have an enormous impact on decision making by all levels of government. The options are crystal clear, either affect positive change or accept what alien policies are randomly delivered. This is no different than having parental involvement with the school system. Collectively decide what is the best option and then strive to attain it. It will take time and effort but the rewards will be very long lasting and yes you can change the future by what you do today. I shall be giving you a variety of ways to get involved and exploring how I can support your ideas and visions as a community, because ultimately the community should drive its' own future.

Bob Tritschler  
Watershed Stewardship Coordinator  
Habitat Conservation and Stewardship Program  
Bella Coola, BC  
Phone 250-799-5763  
fax 250-799-5748  
email [bestfishes@belco.bc.ca](mailto:bestfishes@belco.bc.ca)

Attn: Angela Hall  
Coast Mountain News

For Community Stewardship News bi-weekly column

By Bob Tritschler  
Watershed Stewardship Coordinator  
Bella Coola, BC  
Phone 250-799-5763, fax 250-799-5748, email [bestfishes@belco.bc.ca](mailto:bestfishes@belco.bc.ca)

## **The Land Ethic**

Every story has a beginning; it usually is where one becomes aware that there is a story. My name is Bob Tritschler and I'm your Watershed Stewardship Coordinator. My involvement is from lobbying government agencies for more riparian zones on waterways that require it, to facilitating meeting for the Central Coast Partnering Group and insuring projects that are funded by Fish Renewal through this group are completed on time and within budget.

As we all know times are a changing. Don't get me wrong, I'm not saying change is bad or good, but I am saying change is inevitable. What we do today affects tomorrow so be aware of what you do today. The following will give you something to think about before the next edition, so do read on as we begin our saga together.

Aldo Leopold first published his book *A Sand County Almanac* in 1940 and it has since become a standard in environmental literature. This week, I would like to share with you just a tiny bit of the writings of Aldo Leopold in the chapter titled The Land Ethic from this famous volume.

“An ethic, ecologically, is a limitation on freedom of action in the struggle for existence.” Leopold says that ethics traditionally exist in the context of relationships between people. In order to begin to also have an ethical relationship with nature we must stop thinking of the land as only property to be owned and consumed, and as a resource from which we derive benefits.

Having a conservation ethic means that we include nature as part of the community in which we live, and which we have obligations to. "...A land ethic changes the role of *Homo sapiens* from conqueror of the land community to plain member and citizen of it."

One of Leopold's ideas in this chapter is that we must not limit our conservation ethic to parts of nature that have economic value. For example, we work very hard to preserve the habitat of salmon because salmon are so economically valuable to us. However, there are millions of other species of animals, plants and insects that have no economic value to people but are worth protecting for their intrinsic value, simply because they are part of our earth community.

One of the beautiful things about thinking with this frame of reference is that it fits in so perfectly with ecosystem based science and management, which involves managing our use of natural resources by looking at intact systems such as watersheds instead of at only individual species.

The other key concept in this chapter of Leopold's' book is about the land pyramid. Humans are among the top carnivores at the very top of a layered pyramid and the creatures in each layer depend on the layers below them for food. At the bottom of the pyramid are countless insects, then a layer of millions of plants, moving higher through layers of other animal groups. We at the top are dependent for food on all the layers in the pyramid below us. However, Leopold also says that the land pyramid is actually more like a web, with multiple connections and links. The role of human beings in changing the environment in which we live to suit our needs affects these interdependencies. Having an ethical relationship with the land is crucial to sustaining this complex web of life in which we exist.

For example, Steven Watkinson from the community of Kitkatla, who is a student at the UBC Fisheries Center in Vancouver, is doing his Masters thesis on the movement of nitrogen through riverine systems to the marine environment. He believes there is a direct relationship between the nitrogen provided by decomposing salmon carcasses brought up to the forest floor by bears and the health of the estuarine and marine environments. Steven is using the Ecopath model developed at UBC to test this theory of interdependent systems. I encourage you to read 'A Sand County Almanac'. It will challenge you and give you a better understanding of the concept of conservation.

Until we meet again, keep your eyes open and be aware of your environment and the results of your actions on future ecosystems.

Attn: Angela Hall  
Coast Mountain News  
March 20<sup>th</sup>, 2001

Here is a rebuttal to the somewhat negative connotations of the last article on the Precautionary Principle.

### **Beware the Precautionary Principle**

Social Issues Research Center, Oxford, UK  
<http://www.sirc.org/articles/beware.html>

It argues that we should also refrain from developments which have no demonstrable risks, or which have risks that are so small that they are outweighed, empirically, by the potential benefits that would result. In the most recent application of the doctrine it is proposed that innovation should be prevented even when there is just a perception of a risk among some unspecified people.

Precaution is one way of making decisions in the presence of uncertainty. There are three general approaches:

1. Ignore uncertainties: take the best estimates and assume they are the true state of nature, and manage accordingly.
2. Take uncertainties into account qualitatively:
  - a) Use uncertainty as a reason not to take some new action or a drastic action, i.e. maintain status quo.  
(e.g. argue that delaying actions on emissions of greenhouse gases is appropriate in the face of uncertainty about climate change)
  - b) Use uncertainty to justify extreme pessimism about the response to an action, i.e. apply the precautionary principle  
(e.g. don't allow any harvesting of herring in BC for 5 yrs.)
  - c) Use uncertainty to justify moderate pessimism about the response to an action, i.e. take a guarded or precautionary approach (e.g. allow harvesting but use some arbitrarily set safety margin to take a cautious approach, such as a 25-50% reduction in harvesting quotas on groundfish in BC)
  - d) Use uncertainty to justify optimism about the response to an action, i.e. aggressive approach (e.g. harvest rates of BC forests have been increased in some areas in part based on what appears to be optimistic predictions about the effects of thinning and other enhanced silviculture on future timber supply)
3. Take uncertainties into account quantitatively: use decision analysis and other methods.  
(May not be appropriate in cases where there is considerable uncertainty that cannot be quantified or even categorized, and where risks are large. In that case, a precautionary approach may be appropriate.)

None of the above is the best option in all situations and some are not appropriate in any situations. Risk assessments and decision analyses can be done taking into account whatever management objective and whatever degree of risk aversion managers desire. This is the proper way to determine how best to carry out a risk averse management strategy.

At every stage the opponents of technological progress argue that just because there is no evidence of harm, that does not mean that something is not harmful. We have to 'prove' that it is not harmful before we embrace it.

This form of pre-scientific thinking presents a serious obstacle to rational discussion. The absence of an effect can never be proved, in the way that I cannot prove that there are no fairies at the bottom of my garden. All I can say are two things: firstly, sustained observation over the past 20 years has revealed no evidence of their presence, and secondly the existence of fairies, in my garden or elsewhere, is very unlikely on a priori grounds. This is how science works - precisely in accord with the principles of Karl Popper that hypotheses cannot be proved, only refuted.

Quantitatively, it really depends on which kind of potential error you want to avoid. Although there are changing trends, resource management has focused on producing a confidence level for saying that there is no effect (failing to reject the null hypothesis) as the rationale for deciding that a proposed action will not have a detrimental effect. If wrong, we have assumed no effect when in fact, there was one (type II error). For example, statistics show that there was no significant evidence (95% confidence) to suggest that yield per unit effort changed from year 1 to 5, when in fact it did. We failed to recognize this, we maintained the harvest, and the stocks crashed. These type II errors and others have put us in the predicament we are currently in. How such a fundamentally flawed approach to applying statistical reasoning to resource management decisions gained recognition I will never know. Hindsight is 20/20. Emerging management is beginning to recognize the importance of maximizing power (ability to detect an effect when one is there; rejecting the null hypothesis) rather than maximizing confidence that there is none. If we make a mistake in the former by having low power, we say there is an effect when there is none. We have made a type I error, and we have erred on the side of caution when we did not need to. Which error would you rather make?

Avoiding a type II error beyond doubt would involve proving that there are 'no fairies at the bottom of my garden' example from the article above. And I agree, this would be difficult, and is a poor quantitative application of the precautionary principle. But high power attempts to 'detect the fairies' instead. That's the difference between confidence levels (1-alpha or 95%) and power (1-beta or about 80). Reversing the burden of proof can be done in one of two ways: 1) the proponent has to show that the management action will not produce an unacceptable outcome; or 2) the proponent has to demonstrate high power to support their management outcome. Rationales for the precautionary principle may appear extreme if combined with traditional (and possibly outdated)

confidence levels (ie. 'proving the fairies are not there') but more realistic when applied in situations when the ability to detect an effect is low (low power). In theory, high power should not need precaution. In the absence of quantitative data or in cases with considerable concern about data quantity or quality, ignoring uncertainty or being overly optimistic may not be the best course of action. Precaution seems to be a viable alternative.

I hope this explains, very generally, that issues surrounding the precautionary approach and principle, as well as other methods of dealing with uncertainty, can be very rational and scientifically defensible using established statistical techniques to risk assessment and decision analysis. But until the concept of statistical power makes its way into 'old and established ways of doing things' and receives wider application, we will likely make many more type II errors to the detriment of our natural resources. I'm sure we will make qualitative precautionary decisions that should ideally be quantitative decision analyses, but the reality is that we do not always have the right information. This will change, but we need to reverse the burden of proof irrespective of the method or available

Well you have now seen both sides of the fence and depending on the rational anything can be spun out of anything. When you have to make a decision on a particular issue, look at your options and when you are convinced you have the facts of the matter make a decision and be accountable for it. We should let the managers of our resources have the same opportunity as long as they want to be accountable for the action or inaction.



Attn: Angela Hall  
Coast Mountain News  
March 6<sup>th</sup>, 2001

Here is a dissertation from Oxford that you might find interesting.

### **Beware the Precautionary Principle**

A new mantra is beginning to occupy pride of place in debates on all environmental issues, whether they be to do with food safety, genetic engineering or global warming - the precautionary principle. Originating in 1960s Germany as Vorsorgeprinzip (literally foresight planning) it has been increasingly seized upon by green activists and other romantics since the 1970s as an unanswerable credo - when considering technological innovation, exercise caution with regard to its potential consequences.

In itself the precautionary principle sounds harmless enough. We all have the right to be protected against unscrupulous applications of late twentieth century scientific advances - especially those which threaten our environment and our lives. But the principle goes much further than seeking to protect us from known or suspected risks. It argues that we should also refrain from developments which have no demonstrable risks, or which have risks that are so small that they are outweighed, empirically, by the potential benefits that would result. In the most recent application of the doctrine it is proposed that innovation should be prevented even when there is just a perception of a risk among some unspecified people.

We have seen the impact of this thinking in recent debates on genetically modified crops, 'novel' foods, 'greenhouse' gasses and even the mythical ability of cellular phones to fry the brains of those who use them. At every stage the opponents of technological progress argue that just because there is no evidence of harm, that does not mean that something is not harmful. We have to 'prove' that it is not harmful before we embrace it.

This form of pre-scientific thinking presents a serious obstacle to rational discussion. The absence of an effect can never be proved, in the way that I cannot prove that there are no fairies at the bottom of my garden. All I can say are two things: firstly, sustained observation over the past 20 years has revealed no evidence of their presence, and secondly the existence of fairies, in my garden or elsewhere, is very unlikely on a priori grounds. This is how science works - precisely in accord with the principles of Karl Popper that hypotheses cannot be proved, only refuted.

The precautionary principle is, however, a very useful one for consumer activists precisely because it prevents scientific debate. The burden of

evidence and proof is taken away from those who make unjustified and often whimsical claims and placed on the scientific community which, because it proceeds logically and rationally, is often powerless to respond. This is what makes the principle so dangerous. It generates a quasi-religious bigotry which history should have taught us to fear. Its inherent irrationality renders it unsustainable.

Everything in life involves a risk of some kind. Throughout our evolution and development we have sought to minimize and manage risk, but not to eliminate it. Even if this were possible, it would undoubtedly be undesirable. A culture in which people do not take chances, where any form of progress or development is abandoned 'just to be on the safe side', is one with a very limited future. The very nature and structure of all human societies are what they are because individuals, in co-operation with each other, have taken their chances - seeking the rewards of well-judged risk-taking to the enervating constraints of safe options. Had the precautionary principle been applied the Pilgrim Fathers would never have set sail for America in their fragile ships. Life-saving advances in medicine would have been halted when the first patient died on the operating table.

The champions of the precautionary principle, of course, will argue that what we choose to regard as modern progress is nothing more than the manifestation of greed and exploitation. But in their vehement critique of the interests and power of 'big business' - forces which they see as inexorably apocalyptic - they cling to a naïve and romantic vision of agrarian idylls which have never existed and can never exist. In doing so, they offer no sustainable solutions to the potential problems which are recognized by us all. Their rhetoric, however, is sufficiently seductive to win over those whose anxieties about food, health and the environment have been generated and nurtured by those very same people who now purport to offer a solution. Create an unfounded scare, provoke fears, sell them the precautionary principle - a style of marketing of which 'big business' would be proud.

In reality, the precautionary principle presents a serious hazard to our health that extends way beyond the generation of unnecessary neuroses. The biggest correlate of our health and well being is our standard of living, as measured in conventional economic and physical terms. People in technologically advanced societies suffer fewer diseases and live longer than those in less developed nations. The biggest killer in the world is not genetically modified Soya, pesticide residues or even tobacco. It is something that is given the code Z59.5 in the International Classification of Disease Handbook and accounts for more deaths worldwide than any other single factor. It is defined as 'Extreme Poverty'.

The narrow philosophy that surrounds the precautionary principle is fundamentally conservative in both political and literal senses. It offers little prospect for those who are disadvantaged in our societies - those who have far more real concerns in their daily lives than to be worried about whether the beef that they cannot afford has a remote chance of being contaminated with BSE. By seeking to dismantle the industrialized-based processes which generate wealth and health, the Eco-activists can only make their plight much more profound.

In one sense, though, the precautionary principle might have some utility. If we apply the precautionary principle to itself - ask what are the possible dangers of using this principle - we would be forced to abandon it very quickly. It would seem that the precautionary principle is just another tool that, being faceless, can be distorted or used at the whim of the user. Using the old adage "if it appears to be too good to be true it probably is" might well fit this utensil to our management toolbox. Caution in itself is deemed wise but can and will stagnate development if it supercedes scientific data.

This reminds me of standing on a log over a gorge and being frozen in fear without the ability to look at the options and make a decision to proceed, go back, call for the fire department or in any manner address the current situation and come up with a rational, logical, best option solution. Next article lets us look at the positive options that are available.

For Community Stewardship News bi-weekly column

By Bob Tritschler

Watershed Stewardship Coordinator

Bella Coola, BC

Phone 250-799-5763

fax 250-799-5748

email [bestfishes@belco.bc.ca](mailto:bestfishes@belco.bc.ca)

Attn: Angela Hall  
Coast Mountain News  
March 1<sup>st</sup>, 2001

### **Working Together for the Common Good**

The following is a news item that came out the other day that shows the potential of diverse groups working together with a common goal. This pilot project will be a good one to follow up on as it goes through its' growing pains. If people want to have more say about their future they must be prepared to develop partnerships with other people and organizations to promote their point of view. This can be a small group of concerned individuals that want to address an issue or a very complicated diverse community steering committee that promotes economical development. I guess the bottom line is, if you have a concern that you want addressed, find a way to negotiate a partnership to deal with the concern. Remember the whole is often greater than the sum of the parts. Concerned about waste management, water or air quality, highway maintenance, by-laws, your children's education, or any issue that you feel strongly about, the best way is to get involved and do your part to constructively advance your point of view. Read on and then think how you too can play a role in your own future.

FEBRUARY 26, 2001 - 17:45 EST

Fisheries and Oceans Canada: Pilot West Coast Of  
Vancouver Island Aquatic Management Board To Proceed

VANCOUVER, BRITISH COLUMBIA--The Honorable Herb Dhaliwal, Minister of Fisheries and Oceans Canada and MP for Vancouver South-Burnaby announced today approval of terms of reference for a three-year pilot regional aquatic management board on the West Coast of Vancouver Island.

"The WCVI Aquatic Management Board is an important step in establishing community-based co-management regimes in the Pacific region based on principles of respect, sustainability, inclusion and conservation," Minister Dhaliwal said. "The federal government is proud to be working with others - governments, First Nations and other interested parties - in support of shared stewardship and decision-making."

The West Coast of Vancouver Island (WCVI) Aquatic Management Board (the Board) is a forum for coastal communities and other persons and bodies affected by aquatic resource management to participate more fully with governments in aspects of the integrated

management of aquatic resources in the management area. The pilot will proceed for a three-year term, at which point it will be evaluated and assessed with respect to its ongoing role.

In 1998, Fisheries and Oceans Canada made a commitment to explore the possibility of a local area management board on a pilot basis based on the principles of integrated management and shared decision-making found in the Oceans Act. A working group consisting of representatives from the Federal government (DFO), Provincial government (Ministry of Fisheries and MELP), Nuu chah nulth Tribal Council (NTC), local community and Sport Fishing Advisory Board (SFAB) developed the terms of reference for the Board, which have now been accepted by all levels of government.

The Board will consist of 16 representatives, two appointed representatives each from the federal, provincial, Nuu-chah-nulth and regional governments, and eight representatives to be nominated by aquatic resource interests. The Board will be involved with local issues as they pertain to stewardship, local fisheries management, Aquaculture, community economic development, and integrated oceans management. Decision-making will be by consensus and will constitute recommendations to the appropriate statutory authority.

### **Background**

West Coast of Vancouver Island Aquatic Management Board

### **Terms of Reference**

The work of the Board will be governed by the following principles:

#### **Hishukish Ts'awalk and Isaak:**

Aquatic resources should be managed on an ecosystem basis, which is consistent with the principles of Hishukish Ts'awalk and Isaak. The Nuu-chah-nulth phrase Hishukish Ts'awalk (pronounced 'he-shook-ish tsa-walk') means 'everything is one'. Isaak (pronounced 'e-sock') means 'respect'. These phrases embody an understanding that all things are sacred and nothing is isolated from other aspects of life surrounding and within it. This concept contributes to a value system that promotes the need to be thrifty, not to be wasteful, and to be totally conscious of one's actual needs when interacting with others. The belief underlying these two principles is that the goal in interacting with other people or species is not to maximize personal benefit, but to produce mutually beneficial outcomes. These outcomes arise from understanding and respecting the needs of other people or species,

and recognizing an essential 'oneness' or interconnection with other people or species.

### **Conservation**

The protection, maintenance, and rehabilitation of aquatic resources, their habitats, and interconnected life support systems, should take precedence in managing aquatic resources, to ensure ecosystem sustainability and biodiversity. A 'conservation-first' approach will help ensure that aquatic resource use is conducted in an environmentally sustainable manner.

### **Precautionary Approach**

Decision-makers should err on the side of caution when making conservation and resource management decisions. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

### **Adaptive Management**

Aquatic resource management decision-makers should integrate relevant local knowledge, together with appropriate ecological, social, and economic information, with the goal of continual improvement.

### **Sustainability**

Sustainability is the use of aquatic resources such that the ecological, social, and economic factors are considered and balanced, while ensuring that current activities do not affect the potential for future generations to sustain themselves.

For Community Stewardship News bi-weekly column

By Bob Tritschler

Watershed Stewardship Coordinator

Bella Coola, BC

Phone 250-799-5763

fax 250-799-5748

email [bestfishes@belco.bc.ca](mailto:bestfishes@belco.bc.ca)

Attn: Angela Hall  
Coast Mountain News

### **Membership in a Community**

Communities are usually an eclectic group of individuals with a common sense of direction or purpose. Some focuses drive why the community was developed and in other cases the community develops their own vision and focus. The first step is to determine what the community is and what are its' boundaries. Within the Central Coast we have many coastal communities that have played and continue to play important roles in the economic and social development of the area. The obvious initial observation is that communities contribute change to an area simple by being there. People impact the environment in all ways. We have to work to generate revenue to function within the community in a financial society. Infrastructures are put in place to allow people to move around. Homes and businesses are developed and become an integral part of the society. Whatever we do to change or alter our personal environment affects all the surrounding area of the community in one form or other. Keep in mind that change is inevitable and should be expected. Summer brings sunshine and winter brings snow and with that comes change. Climate cycles and weather patterns change. These changes are mostly uncontrollable and become the rhythms of the seasons. The things that we do however are outside the natural rhythm of the world and yet have an impact on all things. These controllable impacts are where we play a role in designing the future. Sometimes the changes that are created or very subtly initiated are not to the betterment of the longevity of our required elements, namely clean water and air. Without these two simple key elements of life living creatures, including humanity, will cease to exist. It is a balancing act of social economics and bio-diversity. Communities need the work to thrive and prosper; yet the danger of losing sight of the key elements is ever present. The opportunity for communities to play an active role in the future of the area of influence has never been clearer. The question is are peoples within the community prepared to take an active responsible role in defining their tomorrows? This is no easy task as systems have been in place for a long time to maintain and support the status quo. Grass roots organizations can have an impact on the direction of change but they must be engaging and sincere.

There comes a time, which always defines history, in the changing system of things which is a pivotal point in direction. All our knowledge and intertwining webs are the result of what was. That is to say that our reality today is the result of yesterday and the yesterdays before. Individuals today have never had a greater opportunity to define and direct the future. Everyone will be a part of the legacy, the only option you have is to what degree and in what direction you will affect it. Remember that even if you do nothing, you affect the outcome. Get involved at whatever degree you are comfortable with and become a pro-active member of your community.

For Community Stewardship News bi-weekly column

By Bob Tritschler

Watershed Stewardship Coordinator

Bella Coola, BC

Phone 250-799-5763

fax 250-799-5748

email [bestfishes@belco.bc.ca](mailto:bestfishes@belco.bc.ca)



Attn: Angela Hall  
Coast Mountain News  
For Community Stewardship News bi-weekly column  
June 15<sup>th</sup>, for the June 22<sup>nd</sup> edition

### **Developing a Stewardship Group on your Stream**

We are very fortunate to live in a part of the world that allows us the opportunity to have input into the design of our future. There may be those that feel disenfranchised but the fact of the matter is, you can make a difference. Everyone needs a source of income to participate in the society we belong to. The question really is how members of the community can earn a viable living and yet minimize our footprints in the sand. We can do this by being active in how we affect our surroundings and striving to be aware of things that occur and view them with an open mind. Take a walk in the forest and observe the relationship of plants and animals that participate in the dance of nature.

Before I digress too far, observation is one of the greatest tools used in decision making. This leads us to how we, as individuals, can play an active role in our future. Our valley encompasses a watershed of many diverse micro ecosystems. Leave the plateau and follow the main watercourse from 4000 feet to sea level through a myriad of lakes, streams, wetlands, side valleys, and one is left with awe as to how varied that 40 miles truly is.

Each sector of this kaleidoscope is unique and often very fragile. It works because all the members in that particular area have been adjusting their requirements for thousands of years. What is needed are observers to note what is happening in these realms. Many areas of the world have developed observers or “stream keepers.” These people watch how a stream or river is affected by water conditions, how future development will affect or impact the area, and bring forth solutions to problems that have developed or could arise. It is a labor of love that will connect you with the ever-changing landscape. Sometimes the changes are so subtle that to the untrained eye they go unnoticed. One thing is for sure, the more you observe the more observant you become. Watch out its catchy!

So you live on a creek and your are interested or even concerned in the condition of the creek, where do you start? By having an interest or concern you have already started. The question now where do I go? Check with your neighbors and see if they have similar thoughts, start some dialogue. Contact your local Community Advisor, Sandie MacLaurin (982-2663) , and see what information is available on the creek in question. Maybe there has been baseline data collected already and now you can monitor it for her. Training can be provided and should there be interest, workshops can be developed to help you make meaningful records of your observations.

It could be a new beaver dam and your concerned about fish access or flooding, or you want to put a bridge across the creek and want to know how best to do it with minimal impact. Have someone come out and look at your concern and find a solution that works. Do you have concerns of stock in waterways and the potential of fecal matter getting into your drinking water? Fencing options are available and funding can be sought to cover costs of material and labor. Whatever the problem, solutions can be found.

A stream keeper watches, always having a finger to the pulse of the area monitored, and notices change that affect the ecosystem in question. Remember to ask questions about what changes that have occurred in the lifetime of some of our seniors and how they view these changes. Changes do occur, but without records they are lost. Our terms of reference are very short so be cautious of what is called normal.

With these few insights you have the start of something great. Techniques are taught but the desire to get involved in your future, through stream keeping, can only come from the heart. Enjoy your surrounding in a responsible manner and get involved in your own wellbeing by helping to ensure clean air, water and environment for future generations.

Take the time to smell the flowers, it's worth it!

By Bob Tritschler  
Watershed Stewardship Coordinator  
Bella Coola, BC  
Phone 250-799-5763  
fax 250-799-5748  
email [bestfishes@belco.bc.ca](mailto:bestfishes@belco.bc.ca)

Attn: Angela Hall  
Coast Mountain News  
June 12<sup>th</sup>, 2001

### **Options for Making Change**

Let us examine an option whereby individuals can have an impact on what happens in their own back yard and strengthen community stewardship. A watershed is a series of rivulets and streams gathering into a mainstem and flowing downhill into a body of water, in this case locally, the ocean. Anything that happens along the course of the watershed affects everything else within that watershed. All watersheds have a predetermined gradient and length depending on substrate and bedload. This is very simplistic and of course there are very many variables, however, in essence whatever you do within the watershed affects it all. For example, remove a bend in the river thus shorting the entire length, and the river will speed up and create another corner to compensate for the loss. Think of a river as a piece of rope and when you give it a whip a series of “esses” are formed and travel along the rope as waves. These waves are like bends in a river and as waves they emulate the movement of bends in a river toward the sea or downhill. Anyone living on the outside corner on a river in flood is acutely aware of this fact. The current is faster and the cutting action of flows hastens the downward motion of the bend. In theory a bend that starts at the headwaters of a river can in fact work its way all the way to the ocean if not acted upon by some outside force. The inverse is also true where deposits are built up on the inside of corners and this allows the seaward migration of the corner.

Having said that, we can see that either man-made or natural obstructions or structures do in fact affect the hydrology of a watershed. Something of great significance is the removal of stabilizing material causing erosion. Standing trees have an enormous stabilizing affect on bank erosion. Their root structure binds the soil together and allows the bank to absorb more moisture before collapsing. A classic example of where you find enormous erosion is on the outside corner of the river adjacent to a pasture with only grasses for root structure. Not only the removal of soil is a loss to the farmer but the introduction of it into the water system adds to the bedload and thus depositions downstream are increased and further channel changes are affected. Something that everyone can do to ensure maximum stabilization of streams and rivers is to leave standing trees and vegetation adjacent to the waterway. Not only does the growth provide root structure for bank stabilization but it also gives shade to the water and thus helps maintain a cooler and healthier water temperature. Remember all water runs downhill so the stream can be simply a ditch line at the end of your lawn. Water exposed to the sun will still heat up and affect temperatures downstream. If one does nothing else than leave shrubs, bushes, and trees along a waterway they will have had an enormous impact on water temperature and thus the life of the waterway. Before you clean up that ditch line or creek, think about what impact you will have on your human and fishy neighbors downstream. Will this action cause erosion or change the temperature of the water? What

impact will this action have on the downstream inhabitants? If you have concerns or questions call and options can be figured out to benefit everyone.

For Community Stewardship News bi-weekly column

By Bob Tritschler

Watershed Stewardship Coordinator

Bella Coola, BC

Phone 250-799-5763

fax 250-799-5748

email [bestfishes@belco.bc.ca](mailto:bestfishes@belco.bc.ca)

Attn: Angela Hall  
Coast Mountain News  
For Community Stewardship News bi-weekly column

May29th for June 1<sup>st</sup> deadline

## **COMMUNITY GROUPS AND HOW THEY WORK**

People generally come together out of desire, concern, need for survival or any significant focus. We have PTAs, soccer leagues, Rod and Gun Clubs, Rotary Clubs, and numerous other gatherings of persons for some common aim. Locally, we have groups from a broad spectrum that encompasses dart teams to volunteer groups such as the Central Coast Fishermans Protective Association. The first is a group for entertainment and enjoyment of collective companionship and the second is a group of dedicated individuals who contribute their time and energies to restoration of habitat and education of the public about such matters. Both have a function in our society and play a role in the design of it. What one devotes their free time to depends on how they view the system works and how they want to play within it. Volunteerism is a tool, that allows individuals the opportunity to participate in an event that they normally would not be involved with, or that allows people to contribute to whatever cause using their expertise gained through their academic or technical skills.

Volunteerism is a great thermometer of a society and demonstrates what that society stands for. In days gone by helping your neighbor in time of need was the expected norm. Today our worlds are so monetarily driven that at times it is very difficult to get people to

commit their free time to volunteer for some cause.

The group that I am involved with, the Central Coast Partnering Group, is a group of volunteers that came together out of the realization that the future direction of funding programs and restoration works would rely on the ability to create a cohesive diverse body with a single focus. This is no easy task as most individuals, by definition are individuals and have their own agenda. In order to ensure that these representatives maintained their vision a mechanism was created to keep everyone on track. Conflict resolutions were developed and goals were established. The creation of a living entity, such as a working partnership group, takes time and patience. Growing pains can be painful and at times very frustrating. Today, ten months after creation, the group is developing and doing well. The last fiscal year saw \$400,000 delivered to the Central Coast through the group for restorative and preservation works and with the beginning of another fiscal year more projects are on the table. For those of you have not seen the work being completed at the Atnarko Spawning Channel stop by and watch it being developed by local technicians. If you have ideas of little projects that could improve habitat bring them to our

attention so they can be examined for viability. Remember that no positive influence on our ecosystems is too small and any negative impact is too great.

Should you be interested in volunteering some of your time to enhancing your

environment please contact me and I'll help you get your feet wet.

Here's an article that came out of Haida Gwaii by Kimiko Bechta, the Watershed Coordinator there.

### **A Sense of Balance**

I am sitting in the alcove of my hotel room overlooking Rupert's harbor. I've never seen Rupert look so beautiful. The sun is about to set, streaking brilliant hues of orange, purple and pink across the sky. Neighboring islands are reflected in the mirror-like surface of the water, and there are moments where the images warp from the trails of boats making their way home.

My body sighs, and the tension of the day begins to melt away. The beauty that surrounds me comforts me.

I am sure that we have all experienced moments like this. The demands of our hectic lifestyles can often overwhelm us. Leaving us feeling unbalanced and disconnected from ourselves. Feeling a need to get away from it all. Wanting to escape to find a quiet place and regain a sense of balance. And where do we often find this? In Nature.

Why does Nature allow many of us to feel this sense of balance? Why do we seek a relationship with Nature during these times? I would suggest that there are a few things about Nature that make us yearn for it, and which allows us to find a sense of balance.

Nature is a vast expanse compared to the context of our everyday lives, and experiencing this allows us to see that our lives, which previously seemed so large and complex, suddenly are only a small part of a much larger picture of life.

Going out into Nature for most of us is an activity of play rather than work, which allows us to relax and act in a different manner than we would at work. Therefore, it becomes a special time and activity.

Many of our understandings of Nature are conceptualized as a system that is organized, where everything has its place and purpose; where perfection exists. Where balance exists. I think this is why experiences in Nature are often linked to our spiritual well being. Because it is this perfect balance that we seek in our own lives, and experiencing Nature, having a relationship with Nature, allows us to be reminded of this balance, as well as, provides us with balance in our own lives.

However, balance is a two-way relationship. We also need to balance our effect on Nature.

Today, a lot of our decisions reflect our desire to use Nature only as an economic resource. The comfort and value that Nature, in its beauty and perfect balance, gives me and many others is not reflected equally in the decisions that are being made. This is creating an imbalance, and this imbalance that will eventually effect us all; environmentally, socially, and economically.  
Balance is the key not only in our own personal lives, but also in our relationship with Nature.

Building a land/stewardship ethic in our communities is a way of achieving this sense of balance in our relationship with Nature. A land/stewardship ethic does not preclude our use of Nature as a means for satisfaction of our needs, but that using, however, must be consistent and balanced with allowing Nature, now and again, to be what it is apart from our purposes for it.

A sense of balance. This is what we need. This is what we should want.

Thanks Kimiko for sharing your thoughts. Through volunteering you can develop a balance in your life and return something positive to the system we all have the opportunity to enjoy.

By Bob Tritschler  
Watershed Stewardship Coordinator  
Bella Coola, BC  
Phone 250-799-5763  
fax 250-799-5748  
email [bestfishes@belco.bc.ca](mailto:bestfishes@belco.bc.ca)

Attn: Angela Hall  
Coast Mountain News  
July 26<sup>th</sup>, 2001

### **When and how does the Watershed-Based Fish Sustainability Planning process start?**

WFSP starts now. As well as promoting tangible benefits for fish and fish habitat, the first WFSPs will be lead projects where participants test the process, tools, and principles outlined in this guide. There are no hard and fast rules for the WFSP process. Because it's a new initiative, effective techniques for moving through the process need to be worked out through trial and error, otherwise known as adaptive implementation. Lead WFSPs will take place in regions and watershed planning units selected as priorities by government and/ or other parties. Some of them will be selected as formal lead projects by government to address specific WFSP development goals. A key government goal is to test and refine the four-stage process outlined in this guide and to identify best practices. Another is the development of a standard toolbox of data sets and analytical methods that WFSP participants can use to obtain accurate information about the status of fish and fish habitat at different stages of WFSP and in different types of watersheds. Even where such tools are missing or incomplete, the work of WFSP participants in identifying and filling information gaps will be invaluable. The federal and provincial governments will jointly initiate formal lead WFSPs as part of their ongoing commitment to WFSP. Federal and provincial agencies will provide appropriate resources to these formal lead projects and work closely with other parties in implementing them. The Steering Committee anticipates that implementation of the lead projects will generate broader interest in WFSP, and the resources to implement it more widely.

In selecting formal lead projects governments will place a high priority on projects that:

- are relatively simple to implement
- can take advantage of existing data
- are most likely to help define best practices for future WFSPs, and
- address planning at both the regional and watershed levels.

During this early period of adaptive implementation, agencies, First Nations, local governments, and/or fish conservation interests may choose to initiate informal lead WFSPs, in particular at the watershed planning unit level. These informal projects will also be able to provide valuable information about the WFSP process, tools, and principles, and to contribute to the overall improvement of the WFSP Guide. Government will – to the full extent that resources allow – provide support to these informal lead projects and to those parties who apply the planning sequence outlined in this guide in setting priorities for fish and habitat management activities. This support may range from letters of endorsement to potential funding sources, to assistance with the detailed technical aspects of WFSP, to more extensive involvement.



In many cases, existing data sets and analytical models may not fully support the information needs of WFSP. Nevertheless, WFSP can and should proceed using the best information currently available. Fish sustainability planning and watershed-based coordination and planning are urgently required in many areas, and participants will be able to achieve tangible benefits despite existing limitations. The identification of information gaps is expected to be an important part of WFSP at the regional and watershed levels.

### **How Do I Get Involved?**

First Nations, conservation groups, local governments, community groups, private interests and stakeholders can become involved immediately in WFSP by

- participating in a Stage I WFSP process at the regional level (in most cases, such projects will be initiated by government)
- initiating and/or leading a Stage II process for a local watershed planning unit (in many cases, such projects will be initiated by non-government interests)
- seeking appropriate professional expertise or the resources to obtain such expertise, in order to participate in the technical component of WFSP, or
- participating actively in planning, implementation, and/or monitoring in any WFSP project already underway.

The WFSP Steering Committee encourages WFSP participants in both formal and informal lead processes to document the challenges they face at each stage of the planning process, the tools they find most effective, the solutions they develop, and the outcomes that ensue.

### **For Further Information**

For more information about WFSP or about how to become involved in the WFSP process, please visit [www.bcfisheries.gov.bc.ca](http://www.bcfisheries.gov.bc.ca)

Feel free to contact Russ Hilland at 250-982-2522 or drop him a line at his email at : [hillandr@dfo-mpo.gc.ca](mailto:hillandr@dfo-mpo.gc.ca)

Bob Tritschler  
Watershed Stewardship Coordinator  
Bella Coola, BC  
Phone 250-799-5763  
fax 250-799-5748  
email [bestfishes@belco.bc.ca](mailto:bestfishes@belco.bc.ca)

Attn: Angela Hall  
Coast Mountain News  
July 12<sup>th</sup>, 2001

## **What Is Watershed-based Fish Sustainability Planning?**

Watershed-based Fish Sustainability Planning (WFSP) is a new approach to the management of fish populations and fish habitat in British Columbia. Its overall goal is to ensure effective long-term conservation of fish and fish habitat – including spawning grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly. WFSP is based on a standard planning sequence that can be applied to regions and watersheds across the province. By using this planning sequence, a range of parties with an interest in fish conservation can work together more effectively for the benefit of fish and their habitat.

### **Why Is WFSP Needed?**

An abundance of fish was once taken for granted in British Columbia. Over the course of the last century, overfishing, habitat destruction, climate change and numerous other factors have devastated fish populations in many parts of the province. While the focus of attention in recent years has been on salmon because of their tremendous economic and cultural value, other species of fish in BC watersheds are equally in need of conservation measures. Of course, what happens to fish affects other elements of an ecosystem, including those human communities that depend on healthy salmon runs to keep their economies moving. In the 1980s and 1990s, as fish populations continued to decline generally, there were many conflicts as fisheries interests came under threat and different groups disagreed about causes of the problem and how to fix it. In the case of salmon, sports fishers pointed the finger at commercial fishers, and vice versa. First Nations fisheries commissions defended their right to traditional fisheries. Environmental groups went after forest companies for clear-cutting practices that they said silted up streams, disrupted natural flows, dumped debris in creeks and destroyed riparian vegetation. Communities that depended on fisheries saw their economies decline, and asked for more direct involvement in decisions affecting fish. And governments and non-government organizations alike desperately tried to come up with solutions to stabilize fish populations.

By the mid to late 1990s the federal and provincial governments had introduced a broad variety of conservation initiatives – programs such as the Salmonid Enhancement Program, Forest Renewal BC, Fisheries renewal BC, the Urban Salmon Habitat Program and the Habitat Conservation Trust Fund – to turn this trend around. They had also established a number of planning processes – including Land and Resource Management Planning, Water Use Plans and Landscape Unit Plans – that had the potential to influence fish and their habitats as well as other resources.

These initiatives have made some inroads into the protection and restoration of fish populations and habitats. They have also taught us a lot about what works and what could

be improved. Specifically, we have learned that it's important to be more strategic about fish conservation and management, to identify priorities and to invest our resources wisely. It's important to work together, share resources, and coordinate our efforts to manage fish and habitat. And it's important to establish a strong, united voice for fish conservation. Watershed-based Fish Sustainability Planning builds on the lessons of the past and is designed to help government agencies, First Nations, and a broad range of other fish conservation interests work more effectively together in the future. It will take a concerted effort to bring fish populations back and ensure they have the conditions they need to survive. If we don't make that effort now, fish populations will continue to decline. We owe it to ourselves, our children – and most of all, the fish – to take effective action now and to do it together.

This has been an introduction into what is happening in long term planning to develop specific watershed plans that work in each region. As members of the community you all can have a say in the direction that the collective community wants to see the plan develop. Meetings will start to be held in the early fall and I shall attempt to keep you all informed as things progress. If you have any questions or concerns please feel free to contact me at 250-799-5763.

***For Community Stewardship News bi-weekly column***

By Bob Tritschler  
Watershed Stewardship Coordinator  
Bella Coola, BC  
Phone 250-799-5763  
fax 250-799-5748  
email [bestfishes@belco.bc.ca](mailto:bestfishes@belco.bc.ca)

Attn: Angela Hall  
Coast Mountain News

For Community Stewardship News bi-weekly column  
June 27<sup>th</sup> for July 6<sup>th</sup> edition

Watershed Projects of Central Coast Partnership Group

It has been a busy year for restoration works in the Bella Coola Valley. The projects did not get started until late in the fall, some as late as this spring. Most of the works are not as visible as the Atnarko project but they are just as important. Here is a list of work that was done.

**Bella Coola Coho Project**

Total Project Costs: \$13,501 Project # 99-050-1

The objective of this three-part project is:

Atnarko Tower Count: Collect Coho quantitative data in order to get a more accurate escapement estimation and be able to compare it to last years estimate. (DFOs' funding is focused on pink salmon only.)

1998 Brood Coho: Rear Coho to smolts to augment local stocks while obtaining valuable exploitation and survival data through code wire tagging.

Hagensborg Slough Fish Fence: Obtain accurate Coho production on this "index" system by monitoring smolt migration. Central Coast Fisherman's Protective Association in Bella Coola was awarded funding for this project.

**The Paisla Watershed and the "Pond" Ecosystems**

Total Project Costs: \$57,400 Project # 99-050-3

Needs assessment: Prepare a Habitat Assessment Report Assess through field visits and literature search, the present state of each ecosystem. Compile, through literature and interviewing of elders re traditional knowledge, an environmental history of the ecosystems, with emphasis on actions that have caused habitat loss and degradation. Define range of alternative actions (with costs) of rehabilitating each ecosystem. Develop recommendations on immediate priority in light of costs, likely effectiveness and, secondarily, ability of project to meet employment and capacity building goals. Prepare a Detailed Work Plan for phase 2 including identification of any permission needed. Conduct capacity building as an critical part of Phase 1 work including classroom sessions closely linked to ongoing activities in the needs assessment. The Nuxalk Nation in Bella Coola was awarded funding on this project.

### **Atnarko Spawning Channel Project (Common Project)**

Total Project Costs: \$ 74,452 Project # 99-050-5

This initial phase of habitat restoration for the Atnarko Spawning Channel aims to quickly and efficiently improve the conditions for both spawning and rearing steelhead, Chinook, Coho and pink salmon throughout the entire 1350 meters of the channel. This will be accomplished by discreetly altering the structure of the stream channel and redirecting flows to correspond more closely with conditions commonly found in the natural system. Large woody debris in the forms of logs and rootwads along with cobble and boulders will be the primary material employed to achieve the desired results. A significant increase of fish productivity from the utilization and survival rates can be expected as a result of this project. The Central Coast Regional District was awarded funding for this project.

### **Bella Coola Watershed Restoration Project**

Total Project Costs: \$36,977 Project # 99-050-6

The primary objective is to stabilize and eventually increase the salmonid populations of the Bella Coola River system, through the rehabilitation of degraded, lost or isolated salmonid stream habitat. To meet current restoration objectives the following four activities will take place in 1999/2000. Photo documentation of Watershed Restoration Sites: establish a portfolio of visual data and information for each restoration site that can be used in assessment, evaluation and education. Public Education and awareness Building: Increase public knowledge and sensitivity regarding adverse impacts of specific localized activities and practices on the salmon resources and habitat. Increase the public awareness of the activities undertaken by the Watershed Restoration projects. Bella Coola/Atnarko Access Management Plan: Develop a low impact access plan that will help salmon resources by directing traffic away from sensitive areas. Maintenance and Monitoring of Restoration Works: Measure, maintain, and enhance the longevity and effectiveness of establishing instream works on a yearly basis. The Central Coast Regional District was awarded funding for this project.

### **Bella Coola Watershed Restoration Project: Joint Program**

Total Project Costs: \$29,900 Project # 99-050-10

This project covers some areas that unfortunately could not be done in the past.

Oblique photo documentation of Watershed Restoration sites will be a cost-effective tool to monitor and evaluate past work. Often the overall scheme cannot be seen from ground level and establishing methodologies for further monitoring will reduce future costs.2) Access has been and will continue to be a problem unless present sites and potential access sites are examined for minimal impact to the watersheds. Areas of concern will be addressed and better locations will be activated after study of impact.3) The Neclesconay River has been virtually ignored because of its remoteness until recently where some preliminary assessment was carried out. Site specific surveys will be done to plan restoration

options.4) Assessment of the lower 4 miles of the Bella Coola through the Nuxalk Reserve with a Level 1 assessment and preparation for Level 11. The Central Coast Regional District was awarded funding for this project.

### **Bella Coola Watershed Restoration Project**

Total Project Costs: \$9,339 Project # 99-050-11

- This is an extension of the access and management plans to provide access to traditional areas of the Bella Coola-Atnarko systems and minimize impact to the watershed. One access area of major concern is the Walker Island ford crossing through a side channel.
- Public access to the river must be provided with minimal impact and Walker Island is a site that has lots of traffic. The Central Coast Regional District was awarded funding for this project.

### **Aquatic Environments Information and Decision System for the Central Coast**

Total Project Costs: \$23,900 Project # 99-050-12

An needs assessment based on interviews with Central Coast decision makers. An overview of existing databases about watershed, coastal and marine systems of the Central Coast. A review of the potential GIS and other management systems that can be utilized for the purpose of project priority setting. A brief summary of approaches used elsewhere, their basic nature, the decision making served, their pros and cons. A detailed and implementable design for the Central Coast Environments Information and Decision System. A concluding workshop to introduce and refine the proposed system. Preparation of a concluding report/plan. The Oweekeno Kitasoo Nuxalk Tribal Council and Heiltsuk Fisheries were awarded funding for this project.

There were also 5 projects funded on the outer coast in Bella Bella and Ocean Falls for a total of \$128,181. Maybe in reviewing these projects you will have an opportunity to visit a site or have an idea of what could be done with your stream or area. Remember that the only stupid question is the one that is never asked.

By Bob Tritschler  
Watershed Stewardship Coordinator  
Bella Coola, BC  
Phone 250-799-5763  
fax 250-799-5748  
email [bestfishes@belco.bc.ca](mailto:bestfishes@belco.bc.ca)



Coast Mountain News  
January 24<sup>th</sup>, 2001  
For Community Stewardship News bi-weekly column

### **Action and Inaction**

*3:08/10. B.C. "DESPERATE TO HEAD OFF STEELHEAD EXTINCTION": British Columbia is "desperate to head off extinction of steelhead stocks" in many streams along the mainland side of the lower Georgia Straits, according to a report in the Vancouver Sun. Although, the fisheries branch is ready to "impose an unprecedented series of angling closures and restrictions," four years of dismal returns on most rivers have fishermen and biologists gravely concerned that the province will not adequately respond to the crisis and that some stocks might be heading for extinction. Excessive development, agriculture, pollution and logging as well as poor ocean conditions have been blamed, but as yet the government still has no organized effort to protect steelhead habitat or restore depleted stocks other than fishing closures which so far have been ineffective. Canada does not have any equivalent of the US Endangered Species Act, and efforts to pass such a law in Canada have so far been fruitless.*

Part of what I do is track the environmental issues and concerns not only locally but also globally. This particular article posted on a listserv shows the problems the Georgia Strait basin is having with its Steelhead populations. I bring it forward because it is local and demonstrates how we can negotiate anything away. Georgia Strait is like a lake with many streams flowing in and two outlets, one to the north as Johnston Straits and the second to the southwest as Juan De Fuca Straits. The problem, as in most areas, is humanity and his keen sense of rational. We unfortunately, in the western world, reduce everything in existence to dollars and cents.

The Georgia Basin has great weather, superb views and too many people that want to live there. Herein lies the dilemma. Without well defined parameters, and believe me when I say I hate more government control, people have a tendency to have a narrow perspective of how they affect their environment. This also is true of our government agencies that sometime have agendas other than ensuring the longevity of a living viable ecosystem.

There is an old saying that goes "Now that we know who we are we just have to negotiate the price." I don't want to go off on a rant but I firmly believe there are issues that should not be negotiable. In this time of dialogue and consensus, an amorphous mass of conciliation grows into a total lack of accountability by anyone. We have people cutting down park trees in West Vancouver to improve their view and bolster resale. We have stickers under our wiper blades on our car that states "Do not leave valuables in your car that induce people to break into your vehicle." Cities run sewage into waterways because it is cheaper than other alternatives and secondly because they are allowed to do it. Accountability comes in many forms but the rational for the outcomes are often very bizarre. Destroying public property to improve your view and subsequently increase the



value of your lot is inherently wrong. Breaking into vehicles, even is there if a hundred-dollar bill on the seat is inherently wrong. Damaging or degrading habitat is inherently wrong. I think lines in the sand are good, it gives definition to points of view and defines what is negotiable and what is not.

I guess it is time to return to the Georgia Basin. Darn, I was having such a good time out there on that tangent.

Managers of a company or managers of a resource must also take responsibility for their decisions and actions, or in this case inaction. Steelhead in the Bella Coola Watershed seem to be facing the same demise, inaction. You see, inaction under our system of things requires no accountability. The beauty of inaction is that it can come in many forms.

Studies appear to be the trend of the day, one can defer action with future studies followed by further delays and studies. . . . . What everyone has to understand is that extinction as defined by the Oxford dictionary means “3. Total destruction or annihilation.” This means forever folks. So you see actions or inactions cause effects and these effects are what the managers have to be accountable for. As in daily life we ultimately are responsible for what we do or what we don’t do. People living in the Georgia Basin must take issue with certain philosophies if they want steelhead to remain part of that ecosystem. If steelhead are only a hindrance to development and play no significant role in the ecosystem of the area then eradicate them by doing nothing and the whole issue is moot. What really worries me is who decides what next is expendable and negotiated away through consensus or inaction? Ultimately, it comes down to this, we affect things by simply being here. Do we have a responsibility to ensure that our actions and inactions have minimum affects on our environment or are we destined to repeat what every society in history has done after about a thousand years, to become extinct? This has happened with the Mayans, the Romans, the great Egyptian Pharaohs, so let us not think that we are exempt because of technology. Be responsible for your action or inaction and maybe, just maybe...

By Bob Tritschler  
Watershed Stewardship Coordinator  
Bella Coola, BC  
Phone 250-799-5763  
fax 250-799-5748  
email [bestfishes@belco.bc.ca](mailto:bestfishes@belco.bc.ca)

Attn: Angela Hall  
Coast Mountain News  
For Community Stewardship News bi-weekly column  
February 21<sup>st</sup>, 2001

### **What you can do to understand your habitat.**

Let us look at a typical example of a country property with woods out the back and a road from town that used to be gravel, thank God it got paved last year and now you don't have dust through the house every day. The creek through the woods is pretty brushy with some old blackberry canes that the original landowner let grow wild. The blackberries always attract the bears in the summer so you think you might remove them. That would eliminate the attractant. A hole could be dug in the creek so that the garden could be watered in those times when the water table falls and the well doesn't have enough water to use the sprinkler. There didn't seem to be any fish in the creek anyway. A plan is in the works. Maybe a dam could be built to contain the water in low flows and there would be a swimming hole for the kids in the neighborhood. Amazing what could be done to improve this piece of real estate and of course the value would be increased with these improvements. No time like the present to get started so you order up the rental weed whacker and set a date for the backhoe to arrive the following weekend to get the excavation in the creek done. Heck, in a year or two this piece of run down property will be the envy of the neighbors.

This is typical of what can happen to an area. As humans we have this incredible urge to "improve" things. In this scenario, as in most, the creek becomes a focus of the property. What can be done to the creek to improve the property? Streams and waterways don't start and end at property lines so the effect of upstream or downstream events can affect the entire system.

Let us follow this through with only one scenario, there are countless ones to choose from. The blackberries are removed and the backhoe arrives to dig the pond. A dam is left at the lower end of pond to retain water in low flows. The grass is planted all the way down to the water so that it can be mowed to give easy access to the pump that will be installed for the garden irrigation in the summer months. The weed and feed is applied to the lawn area and after a few weeks grass is up and the lawn is well underway. Boy it's great you can run across the lawn in your bare feet, no blackberry thorns now, and dive into the pond. As the summer progresses you notice a scum forming on "the diving hole" and wonder what that is all about, but think it is just adapting to the new regime. Your downstream neighbor John calls and asks how your well is doing, his is getting pretty low. Yours is down as well but what the heck you have the pond to water the lawn and garden. The stream doesn't seem to be running as much anymore, probably just lack of snowpack and run-off. Not unusual for this time of year but the temperature in the pond seems to be up a bit, sure is great for swimming except for that algae that seems to be growing more and more. The insects that were prolific in the old stream water column are now gone. Sure nice knowing you don't have bugs in the pond when you're swimming.

The stage is set for what we see every day when people “improve” their property. The cover, blackberry and associated thorny and nasty bushes are removed and the ground/water temperature of the affected area goes up. Interesting to note that in areas where weather data has been collected for long periods of time there has been an increase in temperatures and a decrease in humidity, except in Palm Springs where the opposite is true. . First reaction is global warming causes it. This is not necessarily so. Most weather data collection sites are around airports or similar locations and as these areas change, more pavement, buildings, golf courses, etc. the actual micro-climate at that specific site changes. Back to the saga.

Summer is past and the water is still not coming up. The swimming pool is sort of a slime pool now and no one wants to swim in it anymore.

The pump gets plugged up with weeds every time the garden is watered so it hasn't been done for awhile and it looks sort of dry. Maybe he should call his downstream neighbor and see if he is fairing any better. The call is disheartening, as Johns well is worse than last year. He decides to call Mary, another neighbor upstream, and see what is happening. Mary assures him that there is no problem, in fact “grab a bathing suit and come up for a beer and try out his new swimming hole”. Sure enough the creek is dammed off, the pool is full and all the kids in the area are having a great time.

Herein lies the message, talk to your neighbors about issues in your area. We all affect each other in one way or another. This is why streamkeepers is such a great idea. You collectively become the guardians of your own environment. Together, you decide how to do things and what impacts one act will have on the whole. As independent individuals we sometimes have a problem working together and so have no collective action on issues that we feel we have the right to make sole decisions on. Had these neighbors met every couple of months or simply phoned and discussed the stream and development or changes most of the problems could have been avoided. Talk to your neighbors and if you need support, or help on what to do or not do, I can either help you or direct you to people that can. Remember we are all passengers on this dust spot in the universe and what each of us does affects the other. Be responsible for your actions and make decisions based on the best knowledge available. Be receptive to responsible change, look at your options and talk to people that you will ultimately affect. Remember the only difference between a rut and a grave is the depth.

By Bob Tritschler  
Watershed Stewardship Coordinator  
Bella Coola, BC  
Phone 250-799-5763  
fax 250-799-5748  
email [bestfishes@belco.bc.ca](mailto:bestfishes@belco.bc.ca)

## Y or Y not

In this ever-changing world sometimes it is the abstract or little things that can have an enormous effect on our future. Picture a pastoral stream through prime agricultural land with dairy cows in the fields and fish flopping on their spawning beds as they dig out their redds and go through their final stage of life, laying of eggs for the next cycle. The air is clean and everything appears ideal with another successful return of adult salmon and anticipated future returns. The fall progresses with no abnormal flooding, winter is not too severe and loss due to freezing or drying up is minimal. Spring sunshine is warm on the face and as the fry emerge from the gravel and start their life in this aquatic wonderland we are thankful for another successful mild winter and great survival rate. Everything is as it should be, the beaver dam bypasses work, the large woody debris in the streams give the required shelter from predators and the riparian that was planted provides more shade than the stream has seen in decades. All is right in the world, or is it? Following is an article out of Idaho by John Dadds.

Y or Y not, Salmon sex change still boggles American scientist.

If you are having problems telling girls from boys, it's probably a sign of old age. But if you're a scientist interested in sex and salmon, maybe you shouldn't believe what your eyes are telling you.

In the fall of 1999, University of Idaho associate professor Dr. Jim Nagler was studying wild Chinook salmon in a stretch of the Columbia River in Washington State. He found female salmon returning to spawn that had started life as males. Sampling 50 female and 50 male wild salmon from the Hanford Reach, about 720 miles (350 kilometres) southeast of Seattle, Washington. Nagler and his colleagues found all but a few females tested positive for a Y, or male, chromosome. "This was a real surprise," said Nagler. "We didn't find this in our hatchery sample." Similar DNA tests were done with fish from two hatcheries in the same area, one of which was located in the tributary of the Columbia. These fish proved to be physically and genetically the same sex, with a small number of exceptions.

Like humans, male salmon have an X and a Y chromosome, while the females have two X chromosomes. Any females with that Y chromosome must have gone through a sex-change process.

The group tested post-spawn fish that had returned to the stretch of river where they were born. Samples were taken from the fins of dead or dying fish after they had spawned. The fact that a hatchery population drawn from a nearby tributary was normal suggests that the Hanford Reach fish have been exposed to an environmental condition that caused the sex reversal.

"Obviously we have a lot of work to do to see if this is a reproducible event," said Nagler. "We're interested in looking at other populations as well." Nagler said it's been known for years that temperature changes can cause similar sex changes in the laboratory.

Estrogen-disrupting compounds commonly found in pesticides, detergents and some paint products could cause this type of anomaly, as can exposure to effluent from sewage treatment plants. Temperatures in the Columbia fluctuate due to manipulation of dams for the production of electricity, and the river runs through an intensely formed part of Central Washington Plateau. Nagler said he would like to accumulate five years' data as Chinook usually return to their natal rivers after four years. Further samples taken last fall have yet to be analysed.

Salmon reproduction and returns to rivers in the northwestern United States and British Columbia have been disappointing for years. Sex reversal may offer part of the answer to the question of why this happens. Females that have the Y chromosome still spawn, but the between numbers of male and female offspring gets thrown off. If genetically altered females spawn with normal males, the portion of the resulting brood will not have one, but two Y-chromosomes. When they eventually return to their birth river four years later, these double-Y males will spawn but they will only produce male offspring. A boy's club is all very well, but no girls mean no future generations of wild salmon.

Started out pretty simple but the subtleties of life are sometimes not too apparent. We all play a part in this dance of the world so think about what you do and how you might impact the future.

Attn: Angela Hall  
Coast Mountain News  
November 30<sup>th</sup> for December 7<sup>th</sup>

### **Food for Thought**

There will be time in everyone's life when the mind, maybe out of boredom, starts to play mental Ping-Pong with itself. Questions are raised, as they have for thousands of years, which seem to be unsolvable. Maybe the answer is of no significance at all and the only thing that matters is the process of looking at options and weighing ones perceived results. Maybe it is the change in oneself by simply asking the question. This may be the shortest article ever written because it consists of only four questions. The questions are even short but maybe the answers aren't.

1. What is my surrounding environment?
2. Is it important to the world, as we understand it?
3. How do I affect it?
4. Having thought on the first three am I content and at peace with myself on how I affect this changing world?

Seems simple enough to get the synapses fired up and do some cruising, but be cautious because one answer will lead to yet another question. Mental gymnastics are not for the faint of heart so be forewarned that the answers you find might not be what you expected. I will not be submitting an article until the New Year of 2001 so let me wish each of you a very Merry Xmas and thoughtful New Year.

For Community Stewardship News bi-weekly column

By Bob Tritschler  
Watershed Stewardship Coordinator  
Bella Coola, BC  
Phone 250-799-5763  
fax 250-799-5748  
email [bestfishes@belco.bc.ca](mailto:bestfishes@belco.bc.ca)

Attn: Angela Hall  
Coast Mountain News  
August 23, 2000

Sometimes you see glimmers of hope and foresight. Over the last month I had an opportunity to become aware of how a major corporation has played a role of, not only good corporate citizenry, but as visionary. Several years ago BC Hydro decided to maximize the water usage from Clayton Creek and upgrade the hydro generating station at Clayton Falls. A new penstock was installed and a second turbine was placed next to the old one inside a reworked building. The design and construction was extensive, but more interesting was the concerted effort to have a positive impact on fish habitat. The section of the stream that was accessible to migrating fish stocks is very short terminating in a precipitous waterfall impassable to upstream migration. To improve the lower accessible water it was decided to design a spawning channel in the spillway from the powerhouse outfall back to the creek. Connected into this channel was a second source of water to maintain minimum flows in the eventuality that the penstock had to be shut down or some event caused the units to trip off line and shut down.

Temperatures were initially monitored in both creek and spillway to see if there was any temperature variance, none were found. This shaded habitat, created and maintained by Hydro with its dedicated staff, is a wonder to see this time of year with pinks and chums busy doing what comes naturally. Here was an opportunity, the will and desire, and the foresight to give something back to the ecosystem.

Thanks to a good corporate citizen and a continuing job well done by local staff from Ah-Sin-Heek Generating Station. Take the time to visit this site and simply watch without having to cast a line in. Remember this is a designated spawning area and should be respected as such.

For Community Stewardship News bi-weekly column

By Bob Tritschler

Watershed Stewardship Coordinator

Bella Coola, BC

Phone 250-799-5763

fax 250-799-5748

email [bestfishes@belco.bc.ca](mailto:bestfishes@belco.bc.ca)

Attn: Angela Hall  
Coast Mountain News  
August 22, 2001

**The Case for a Provincial Network of Community Stewardship Resource Centers**  
By Mike Romaine, BC Watershed Stewardship Alliance

Throughout B.C. there is a groundswell of support for improved planning, restoration, and management.

Currently, there are between 50 and 70 locally driven Watershed Roundtable groups that have a watershed-wide perspective and represent a broad spectrum of community interests. There are also more than 40 Community Forests or community forest initiatives, hundreds of groups of Streamkeepers and Wetlandkeepers and more than 50 government-sponsored community-focused organizations such as Community Futures and Fisheries Renewal BC.

Given the numbers there are bound to be challenges- including competition for dollars, time, and people; lack of regional and /or holistic perspectives; and an absence of a common vision for environmental, social, and economic well-being through watershed-ecosystem based management. Other big challenges are poor communications between and among groups and lack of accessible information.

There is an overwhelming need to develop a province-wide network of community stewardship resource centers so that NGOs (non-governmental organizations) in all regions can deal effectively and collaboratively with emerging issues pertaining to water, land use, economic development, and bio-diversity.

As watersheds are frequently large- the Columbia, for example- resource centers must be strategically located to optimize information sharing. Interplay between and among resource centers should be encouraged so stewards can share successes and optimize the use of human and financial resources.

A network of resource centers would provide focus for NGOs and information for people interested in everything from erosion-resistant planting to environmental law. Centers would connect the scattered collective non-profit groups and volunteers, enable liaison between government and the public, and provide services for educational interests. They could house workshops, host meetings, and assist with proposal writing, fund raising, and media relationships.

Human traditions of conflict frequently refer to the adage “divide and conquer,” but water and ecosystem stewards must unite and support one another in their efforts to protect essential resource and secure natural environments for their children. Resource centers can facilitate these processes.

With all the potential benefits, what are we waiting for?



Mike Romaine has been with the BCWSA for some time now and continues to struggle for a province wide voice and connection on issues, because believe it or not no one area is truly isolated. All areas have common problems and opportunities. We just have to get together and quit trying to reinvent the wheel. If you have questions about what is happening in other areas of the province drop Mike a note at [eequity@bc.sympatico.ca](mailto:eequity@bc.sympatico.ca) or give him a call at 250-860-6455.

Next issue we shall return to our local issues and what you can do to get involved in the solutions. See you then.

For Community Stewardship News bi-weekly column

By Bob Tritschler

Watershed Stewardship Coordinator

Bella Coola, BC

Phone 250-799-5763

Fax 250-799-5748

Email [bestfishes@belco.bc.ca](mailto:bestfishes@belco.bc.ca)

Attn: Angela Hall  
Coast Mountain News  
July 27<sup>th</sup> for August 3<sup>rd</sup> edition

For Community Stewardship News bi-weekly column

## **Creation of a Partnership Group**

The whole idea of a partnership group originated about a year ago in the hot summer of 99. Sounds like the start of a Sam Spade novel. Anyway, the gathering of minds and the need of a delivery system for Fisheries Renewal Funding led to the joining of the Heiltsuk, Nuxalk, Central Coast Regional District, and various interest groups to come together in a united mechanism to allow FsRBC funding for restoration works in the Central Coast. As you might have noticed in the last article projects from the Atnarko River to Emily Lake were worked on last year and hopefully these projects will lead to bigger and better things. That is to say bigger and better for the fish.

The group had to create a working policy, mandate, a vision, and conflict resolution mechanisms in order for the entire picture to be finalized. Congratulations to all those who played a major role in the planning and development of this partnership, a job well done.

An administrative body had to be obtained to run the every day affairs of the group and Community Futures Development Corporation was selected to fulfill this function, under the direction of Larry Stranberg AKA happytrails. The relationship has grown and has worked out very well, thanks Larry. With the basic structure in place project applications were submitted and contribution agreements were signed. It was already the end of November and time was slipping along quickly. The original time slots were up to fiscal year end and as it was becoming very apparent that time would run out before completion of works a request for a carry the projects through March 31, 2000 up to June 30<sup>th</sup> was submitted to FsRBC. With that approval everyone had some breathing room to wind up what had to be done on his or her individual job sites.

Blinking twice we arrive at another cut off of June 30<sup>th</sup> with all reporting requirements to be handed in for final payouts. It has been nuts but it is great to see the work and effort all proponents have put in to helping restore areas of habitat degradation. As the new proposals flood in the dance starts anew with hopes and aspirations of another great year for helping our finned friends who are arriving in our local streams as this goes to press. As we speak the final touches are being put on the Technical Committee, a group of dedicated individuals with varied expertise, who will be reviewing all future proposals for technical merit. Something of note is that on July 11<sup>th</sup>, 2000 Kitsoo became a full partner in the group, congratulations to Kitsoo and we look forward to working with you in the future. The combined efforts of the school children in Bella Coola and Bella Bella have created the partnership logo, which is now on our letterhead, job well done. It looks great! Think what you want to see happen in your area and get involved in whatever way you can. Until we meet again, bestfishes.

By Bob Tritschler  
Watershed Stewardship Coordinator  
Bella Coola, BC  
Phone 250-799-5763  
fax 250-799-5748  
email [bestfishes@belco.bc.ca](mailto:bestfishes@belco.bc.ca)

Attn: Angela Hall  
Coast Mountain News  
September 19<sup>th</sup>, 2001

### **Modern Era of Sustainability**

During the early 1990s, water management experienced an era of stream stewardship and sustainable water management; this era was characterized by resurgence in community involvement. "Stream stewardship is the management of streams, streamside vegetation and watersheds to sustain production of fish and compatible species for present and future generations" (Ministry of Environment, Lands and Parks); it involved the consideration of multiple needs, and interests, and a responsibility for water management.

The era of sustainability was characterized by an attention to socioeconomic and ecological issues, new program implementation mechanisms, local community empowerment, shared decision-making power, multidisciplinary actions, an ecosystem approach, partnerships and stakeholders, and adaptive management.

Sustainability has meant, "being able to maintain water, its many uses, and the integrity of the aquatic system indefinitely. This will involve sustainable use; protection of water and ecological systems; protection of health and public safety; and protection of property and rights". The Canadian Water Resources Association, highlight a set of Canadian water management sustainability principles developed and based on international and national initiatives; these include:

- Sustainability ethic: wise management through commitment to ecological integrity, biological diversity, dynamic economy, and social equity for present and future generations.
- Water management principles including:
  - Practice integrated resource management by linking water quality, quantity and management of other resources, recognizing hydrological, ecological, social and institutional systems, and recognizing the importance of watershed and aquifer boundaries;
  - Encourage water conservation and the protection of water quality by recognizing the limits of the water resource, acknowledging consumptive and non-consumptive values, and balancing education, market forces, and regulatory systems to promote responsibility and user pays;
  - Resolve water management issues through planning, monitoring, research, and multi-disciplinary information for decision-making, encouraging consultation between stakeholders, consensus processes, and ensuring accountability through open communication, education and public access to information.

The latter half of the 1990s has seen a second period of re-entrenchment and also a downsizing of federal and provincial governments. Despite efforts on the part of senior

levels of government to test new forms of governance, the early 1990s did not yield drastic changes to government decision-making policies for water resources. However, senior levels of government have begun to attempt to incorporate the lessons learned from watershed demonstration projects undertaken in the early 1990s into policy. The new focus of the federal government is on providing community groups with the power to make decisions about local water resources. Now is the time to get involved at a local level and help define and develop long term planning for your watershed.

**For Further Information**

For more information about WFSP or about how to become involved in the WFSP process, please visit [www.bcfisheries.gov.bc.ca](http://www.bcfisheries.gov.bc.ca)

Feel free to contact Russ Hilland at 250-982-2522 or drop him a line at his email at: [hillandr@dfo-mpo.gc.ca](mailto:hillandr@dfo-mpo.gc.ca)

For Community Stewardship News bi-weekly column

By Bob Tritschler

Watershed Stewardship Coordinator

Bella Coola, BC

Phone 250-799-5763

fax 250-799-5748

email [bestfishes@belco.bc.ca](mailto:bestfishes@belco.bc.ca)

Attn: Tim Shafer  
Prince Rupert Daily News

For Community Stewardship News weekly column

By Michele Patterson  
Watershed Stewardship Coordinator  
Prince Rupert and area  
Phone 624-8566 Fax 624-8590 email [michelep@citytel.net](mailto:michelep@citytel.net)

For publication in the Daily News Monday October 30, 2000

## **OCP's - A Tool for Stewardship**

Official Community Plans (OCP's) are municipal government land use planning documents that contain broad long-range objectives for land use in a community. They are also used as frameworks to guide development decisions. OCP's are created through exhaustive local consultation and become a plan for future land uses and services to the community that citizens can be proud of having helped create.

As far as fish and fish habitat goes, OCP's can be a tool for protection that goes above and beyond permitting and regulation and comes closer to the concept envisioned by the term watershed stewardship. Also, as discussed in one of the background reports, a strong OCP, because it is adopted as a piece of local legislation, can protect community values from external pressures and changes that may have negative effects in the future.

There have been a number of communities in the Northwest that have recently completed or are in the process of working on Official Community Plans or updates of outdated OCP's. The town of New Hazelton has finished their planning process and now has a consultant writing their draft document. The City of Smithers has their completed OCP at the publisher.

The City of Terrace completed an OCP update in 1993 after a two-year planning and local consultation process. Their plan lays out community goals including: "to preserve and enhance the natural environment." Objectives for their natural areas include:

1. To avoid or mitigate disturbance of environmentally sensitive areas (ESA's) from human activities and development;
2. To protect aquatic habitat by maintaining water quality and respect the basic ecological functions of watersheds so they can continue to support fish and wildlife populations, and
3. To heighten awareness of the ecological and economic importance of ESA's by providing opportunities for public enjoyment of them in ways that respect their environmental sensitivity.

The City of Terrace has protected specific environmentally sensitive or high-value habitats from development through policies that require potential developments to be reviewed against environmental management objectives. They also allow that development in some areas will be prohibited in order to "maintain significant environmental values."

Back in 1992, Prince Rupert began a process to update its 1980 Official Community Plan. A number of excellent background reports were completed including one called General Development, Growth and Land Use. There is also one on the Environment that talks about, among other things, environmental considerations regarding development in the Prince Rupert harbour. Some of these include concern about deforestation of areas adjacent to the harbour through logging, potential for water pollution from industrial development, and our storm drain system, and potential degradation of the harbour water because of untreated sewage discharge.

A community consultation process was also undertaken as part of our background report preparation but nearly nine years after it was started, the updated OCP for Prince Rupert has still not been completed.

An updated Official Community Plan for Prince Rupert that includes environmental planning and protection for our sensitive and valuable aquatic habitats is a good example of watershed stewardship. If you are interested in more information about the Prince Rupert OCP process, you can call the Development Services Department at City Hall.





Column for the Prince Rupert Daily News  
for publication Monday October 23, 2000  
by Michele Patterson, Watershed Stewardship Coordinator  
phone 624-8566  
email: [michelep@citytel.net](mailto:michelep@citytel.net)

## **Fisheries and Oceans Sustainable Development Strategy**

Sustainable development is “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (The Bruntland Commission). This is the integration of economic, social, cultural, and environmental objectives to create a sustainable future. Since 1995, sustainable development has been an element of Federal Government Policy as legislated under amendments to the Auditor General Act.

At the 1992 Earth Summit in Rio, 178 nations, including Canada endorsed “Agenda 21” in which these countries committed themselves to producing sustainable development strategies. The Fisheries and Oceans (DFO) program that funds my position is one of the initiatives this Ministry has produced that contributes to meeting their sustainable development requirements under the Auditor General Act.

The DFO has recently produced a paper that is currently open for public comment called “Building Awareness and Capacity: An Action Plan for Continued Sustainable Development 2001-2003. It can be found on the DFO National website at [www.dfo-mpo.gc.ca](http://www.dfo-mpo.gc.ca). The paper looks at the progress the DFO has made over the last three years since they produced their initial strategy and sets out a continued vision. After the public comment period is concluded the strategy will be tabled in Parliament.

Some of the forces that were identified in shaping this renewed sustainable development strategy included:

- Globalization and technological change,
- Tension between protecting the environment and economic growth,

- The need to increase scientific knowledge about nature (especially regarding climate change and the interdependency of ecosystems), and
- Increased demand by the public for access to information on which decisions are based.

The Action Plan for sustainable development at Fisheries and Oceans Canada involves a number of goals. One of these is: *New forms of governance and shared stewardship*. One of the targets under this goal is for “increased stakeholder involvement in fisheries management, by new co-management arrangements with one or two fisheries plans per year, with a goal of up to 25 co-managed fisheries by 2003”. This will require a review of fisheries legislation to enable stakeholders to take part in allocation decisions. The DFO believes that “increased involvement by participants should also promote increased responsibility for management decisions and the long-term health of fish stocks and ecosystems.”

A second target under the goal of new forms of governance and shared stewardship is: strengthened fish habitat management. Habitat management activities that promote sustainable development are ones that are proactive and promote shared responsibility and stewardship by all Canadians, for the conservation, restoration and development of fish habitat. “Fish Habitat Management is Everyone’s Business” is the new slogan that has been coined to reflect this new way of doing business at the DFO.

The work being done by the new Stewardship Coordinators, Habitat Stewards and Habitat Auxiliaries under the DFO’s Habitat Conservation and Stewardship Program fits perfectly into Fisheries and Ocean’s plan for the future. As well, the association of this program with Community Partners such as the ‘North Coast Fisheries Renewal Council’ is part of the sustainable development strategy, as partnerships and community involvement are also keys to its success.

This is only a small look at the above document and I encourage you to read and provide your comments on the DFO’s Sustainable Development Strategy.

Column for the Prince Rupert Daily News  
for publication Monday October 16, 2000  
by Michele Patterson, Watershed Stewardship Coordinator  
phone 624-8566  
email: [michelep@citytel.net](mailto:michelep@citytel.net)

## **Forest Development Planning Workshop**

In a previous column I talked about how watershed stewardship could be applied when it involves the forest landbase. There are not many places for community involvement in forestry operations, unless it is through one of the newer types of tenure arrangements such as a community forest license. For the most part, the activities that happen on crown land are business arrangements between government and forest companies.

I suggested in that column that one way is through citizen participation in advertised public review processes such as the recently proposed (and now approved) license transfer from West Fraser Mills to Triumph Timber. Another forum for public comment is the operational planning phase of forest operations.

Under the phase of forest operations called Operational Planning, there is a 60-day public comment requirement period for forest development plans (FDP's), which "identify and guide harvesting and roadbuilding operations" (Ministry of Forests). As you may have seen by advertisements over the last month in this newspaper, the Ministry of Forest's Small Business Program is inviting public comment until October 31, 2000 on their 5-year forest development plan for areas under their timber sale license to December 2005.

Public input to forest development planning is encouraged in order to help identify forest values other than timber values. Before the District Manager of each Ministry of Forests District Office approves an FDP, it must meet the criteria of section 41 of the Forest Practices Code, which states:

“The District Manager must approve an operational plan...if the plan was prepared and submitted in accordance with this Act, the regulations and the

standards and the District Manager is satisfied that the plan or amendment will adequately manage and conserve the forest resources of the area to which it applies.”

Approval of the plan does not happen until, among other things, the public and other stakeholders who have interest in the plan, have had a sufficient period of time to review and comment on it.

One of the problems with the public comment process is that while individuals and organizations may have an interest in preserving certain forest values, there is no on-going public education process for citizens to learn how to read a forest map, or find out what the process is for addressing their concerns with certain proposed logging activities. It can also be a bit intimidating to walk into a government office and speak to government officials.

In order to provide an informal teaching atmosphere for local people who would like to learn more about the forest development planning process, I will be putting on a workshop in Prince Rupert this Saturday, October 21. There will be speakers in attendance from Fisheries and Oceans Canada, the Provincial Ministry of Environment and the Ministry of Forests Small Business Program. If you are interested in attending to learn a bit more about the forest development planning process, please call me at 624-8566 to reserve a seat.

Column for the Prince Rupert Daily News  
for publication Tuesday October 10  
by Michele Patterson, Watershed Stewardship Coordinator  
phone 624-8566  
email: [michelep@citytel.net](mailto:michelep@citytel.net)

## Workshops for Non-Profits

Over the last couple weeks I attended two weekend workshops for developing the skills of non-profit organizations here in the Northwest. The first was a workshop on Volunteer Management put on by the Smithers Community Living Association in Smithers. As Watershed Stewardship Coordinator I am interested in recruiting volunteers who will be advocates for fish and fish habitat protection in the North Coast. I decided to attend this workshop to gain some new skills and strategies for finding, keeping and managing volunteers.

The speaker, who manages 400 volunteers in three Catholic hospitals in Vancouver, told us some interesting things about the field of volunteerism. The volunteer sector is a growing professional field with a large body of resources and materials available to practitioners. For example, in the health field, volunteerism is taken very seriously and volunteers are treated like staff in many places, with a contract of some kind, specific duties, and with specific benefits and recognition.

One of the things I learned in the workshop was to have a more planned approach to finding volunteers. Instead of waiting for someone to come to your organization who may not have the specific skills you need, you should advertise for specific volunteers, with specific skill sets, for actual jobs you need done.

Also, people's motivations for volunteering vary. In the environmental field, we tend to focus on 'cause motivations'; which means volunteers who want to become involved because they want to be advocates. However, I learned that I may find other equally interested volunteers by targeting those with different motivations for volunteering with

me, such as those trying to get new job skills, or those looking for a fulfilling experience to balance with the expectations of a regular job.

One of the exercises we did at this workshop was to develop a recruitment plan for volunteers. We looked at what our recruitment challenges were. How many people would we like to have, for how long? What would their qualifications have to be? and where would we look for these people. What benefits did we have that would keep them here? The whole workshop was a great education in using smart techniques to have more success with volunteers.

The second workshop for non-profits that I attended was called: Preparing for the Press: Developing an Effective Media Plan. It was held in Terrace and put on by the Institute for Media, Policy and Civil Society. ([www.impacs.org](http://www.impacs.org)) The work being done in the non-profit sector is under-represented in the media and this workshop discussed developing a strategic communications and media plan to get your message out there.

As one exercise, we worked in groups to create a media plan for our organizations, or for a specific event that we were putting on. In the group I was in, I worked with some people from Northwest Community College in Terrace who were interested in developing a plan for advertising their Natural Resource program graduates to local employers. We looked at, among other things: the profile of the college in the region, how they want to be positioned in the media and who are the allies and supporters of the program.

It was a great workshop that also suggested there was some benefit for non-profit organizations to work together on a media strategy where they can support each other's efforts.

Also, the North Coast Fisheries Renewal Council would like to thank the anonymous person who recently cleaned a large amount of graffiti off the interpretive sign beside the

Morse Creek fish ladder. By your kind action, you have provided a good example of responsible watershed stewardship in our community. Thank you very much.

Attn: Tim Shafer  
Prince Rupert Daily News  
For Community Stewardship News weekly column

By Michele Patterson  
Watershed Stewardship Coordinator  
Phone 624-8566 Fax 624-8590 email [michelep@citytel.net](mailto:michelep@citytel.net)

For publication in the Daily News Monday, November 27, 2000

## **Community Input Wanted for Interfor Planning**

International Forest Products (Interfor), whose office for the North Coast Forest District is located in Terrace, has recently initiated a new public involvement process so that citizens with a stake in forestry activities and the forest environment can “participate in the development of the plan itself, not just review the plan that has been proposed.”

As part of International Forest Products “New Forestry” initiative, they are asking forest stakeholders to identify areas of interest or concern to them before any blocks or forestry operations are proposed for Forest License A16841. These uses include recreation, scenic, fisheries, harvesting, environmental, wildlife, cultural and heritage, mushroom picking, etc. They are also looking for information that will contribute to protecting biodiversity-which is the variety and range of species found in nature. Interfor is interested in developing a plan for forest development that “better addresses the multiple resource values of the forest.”

The idea for this new public input process arose originally out of a recommendation of the Clayoquot Sound Scientific Panel, which required, through a sub-regional plan, that complete inventories of all forest values and protective reserves be established in Clayoquot's pristine (undeveloped) watersheds before any logging could occur in them.



I spoke to Interfor's Andrew Mackay who said that the company is interested in developing a better process than the one that currently exists. They are reacting to a concern for more 'ground level' consultation on logging and road building plans.

Interfor is cautious, however, to remind the public, through the literature provided with the maps, that "while all resource uses for a specified area may be identified, not all can be protected. However, a balance of these resource uses will occur wherever possible trying to minimize the impacts on all the resource values for the area."

This new process being initiated by Interfor is not a Forest Practices Code requirement, but something positive that Interfor is doing voluntarily, above and beyond what is required by any regulations. They recognize that some people feel the current forest development plans are a done deal prior to the current public comment process. Interfor also believes that allowing for public comment before their planning process begins will allow for valuable input that they may not normally get.

They are going to take all the information provided by the public, load it into their GIS program, where it will become part of their permanent record, and use it to help with planning out possible areas for logging and road building in their chart area in the North Coast.

This past weekend, Interfor also had an open house display at the Rupert Square Mall where the public was invited to discuss the process with representatives of the licensee.

Interfor has put clean forest maps without any proposed cut blocks or roads, in our local Chamber of Commerce office, the Public Library, at City Hall, the DFO Office (through Peter Woods, the Habitat Auxiliary) and at the Ministry of Forests

Office. You are invited to come and scribble on these maps if there are forest areas in Interfor's Forest License A16841 that you have an interest in. The closing date for this input is December 15, 2000.

Attn: Tim Shafer  
Prince Rupert Daily News

For Community Stewardship News weekly column

By Michele Patterson  
Watershed Stewardship Coordinator  
Prince Rupert and area  
Phone 624-8566 Fax 624-8590 email [michelep@citytel.net](mailto:michelep@citytel.net)

For publication in the Daily News Monday November 13, 2000

## **Upcoming Fisheries Renewal Public Consultation**

On Friday November 17 some Board members and staff of Fisheries Renewal BC (FsRBC) will be in Prince Rupert to present their draft Strategic Plan for 2001-2004. The event will be held at the Coast Prince Rupert Hotel from 12-2 pm and is open to all interested members of the public.

Fisheries Renewal BC is a Provincial Crown Corporation created in 1997 by the BC Government with the following mandate: *To bring vitality to BC fisheries by promoting the protection, conservation, enhancement and restoration of fish stocks and habitat, and to strengthen the economy of fishing communities for generations to come.*

Many of you are already familiar with the Salmonid Renewal Program through which Fisheries Renewal delivers project money through community partner groups. Here In the North Coast, our partner group is called the North Coast Fisheries Renewal Council.

The draft Strategic Plan for 2001-2004 was officially released at their Annual Meeting in Vancouver this past week and is available on the FsRBC website ([www.fisher renewal.gov.bc.ca](http://www.fisher renewal.gov.bc.ca)), or through myself. The new plan looks at eight key result areas and sets out goals in each of them. I will discuss two of them here.

### **Strengthen and Expand the Partnership Groups**

The 22 Partnership Groups in BC are one of FsRBC's proudest achievements. In the North Coast, our Partner Group has delivered nearly \$1.5 million worth of local funding

through the FsRBC Salmonid Renewal Program since 1997. Recently, this model of community-based program delivery gained national recognition when the program was chosen as the only BC finalist for the Institute of Public Administration of Canada's 1999 innovative management award.

FsRBC's five year goals for enhancing the partner group model include: promoting the prioritization of funded projects in each region; and encouraging and funding long term planning and capacity building in the regions where possible. They are also interested in the possibility of assisting interested Partnership Groups with regional fishery economic development initiatives.

### **Provide Advice to Government**

As Fisheries Renewal BC has grown it is becoming an organization with a higher public profile and the ability to be more influential regarding protecting and improving fish habitat. Part of their current mandate involves advising the Provincial Government regarding renewed fish and fisheries. In their new Strategic Plan FsRBC will "work with the Province to develop a mechanism for gathering input from shareholders throughout the province on matters related to fisheries programs, legislation and regulations." This will allow them to provide advice to government based on a clear process for providing this advice.

Russ Hellberg, the Mayor of Port Hardy, and newly appointed Board Member Heather Dudoward from Haida Gwaii / Queen Charlottes are two of the Board members that will be present at the public meeting to hear your thoughts about the future of Fisheries Renewal BC. Lunch will be provided at this meeting.

I encourage you to attend this event, as Fisheries Renewal BC is very interested in the opinions of the community organizations and individuals it serves through its fish renewal mandate.

Attn: Tim Shafer  
Prince Rupert Daily News

For Community Stewardship News weekly column

By Michele Patterson  
Watershed Stewardship Coordinator  
Prince Rupert and area  
Phone 624-8566 Fax 624-8590 email [michelep@citytel.net](mailto:michelep@citytel.net)

For publication in the Daily News Monday June 26, 2000

## **Stewardship on Forest Lands**

Forestry seems to be on the tip of everyone's tongue lately: moratoriums, boycotts, international marketing campaigns; dismal Forest Practices Board audits, continued cuts to the Ministry of Forests budget; the viability of the business for operators, and whose land is it really? In the North Coast, forestry is the principal use of the land base, and forestry operations also have the biggest impact on fish and fish habitat of any type of land use in our region.

Stewardship of forest lands being harvested is undoubtedly the most important fish and fish habitat activity local people can be involved in on the North Coast. What are the avenues for citizens to be stewards of forest lands in order to conserve and sustain this critical environment?

Last week at the Crest Hotel, a public consultation meeting was held regarding the possible transfer of West Fraser Mill's North Coast Forest License A16820 to Triumph Timber. The public has until June 27 to provide comments to the Ministry of Forests on whether this transfer should proceed. (By fax: 250-387-6445, or go to the MOF website at [www.for.gov.bc.ca](http://www.for.gov.bc.ca) and click on 'Public Consultation' for an on-line form.)

There was some heated discussion at the meeting about whether this should be an opportunity for a new type of tenure arrangement that may perhaps provide for better and more local stewardship of some of the forest lands in our region. Some ideas brought up included: a Community Forest License, which is a new type of tenure agreement; a pilot Community Stewardship Agreement, as discussed in the recent BC Forest Policy Review document; and an open sale instead of a private deal, which would

allow other bidders to have a chance to obtain the some of the license, including a possible joint venture or a transfer to First Nations who have territory in the area.

For the general public, usually the only time we have input into these types of decisions is through these public consultation meetings, often done with tight deadlines, and with the feeling that the arrangement under discussion may already be a done deal.

I see four options for involvement for citizens who are concerned about forestry policy and procedures on the North Coast:

1. Trust the Ministry of Forests and the Chief Forester who have been legislated responsibility for protecting the forest,
2. Work with existing environmental groups in BC who are monitoring and often protesting forest policies and practices,
3. Set up a local community stewardship group to address concerns about forestry policies and practices through citizen involvement,
4. Lobby for effective community land, water and resource use planning processes in our region and commit participation to them when they happen.

As Watershed Stewardship Coordinator for the lower and coastal Skeena, I spend a lot of time helping people access information about resource uses, and encouraging stewardship activities and involvement in planning processes. We must work together to build a forest economy that supports community interests and respects the unique mix of perspectives here on the North Coast. As Candace Batycki of the David Suzuki foundation said at the meeting, “these types of opportunities to access tenure don’t come along very often.”

Attn: Tim Shafer  
Prince Rupert Daily News

For Community Stewardship News weekly column

By Michele Patterson  
Watershed Stewardship Coordinator  
Prince Rupert and area  
Phone 624-8566 Fax 624-8590 email [michelep@citytel.net](mailto:michelep@citytel.net)

For publication in the Daily News Monday June 19, 2000

## **WILD SALMON POLICY CRITICISM**

The recently released DFO Wild Salmon Policy Discussion Paper has received some criticism from the Pacific Fisheries Resource Conservation Council. The Council was set up in 1998 by the Minister of Fisheries and Oceans as an independent advisory body to the Federal Fisheries Minister, the BC Fisheries Minister and the general public. They report annually on the state of BC's salmon stocks and their habitat, and also alert the Fisheries Minister about other issues that affect pacific fisheries. Their review of the Wild Salmon Policy has just been released and can be found at: [www.fish.bc.ca](http://www.fish.bc.ca). The site also contains their newly released 1999 Annual Report.

The Council reviewed and commented on the Wild Salmon Policy at the request of Fisheries and Oceans. Although they congratulate the DFO on laying out such a policy, they are concerned that its six principles are flawed and that the original science based document has been rewritten and compromised by removing explicit direction that will affect policy. They believe that the paper as it reads now is likely to "condone the persistence of management practices that are inconsistent with the precautionary principle and the concept of risk-averse management."

The members of the PFRCC state that they evaluated the document keeping in mind the following questions: "Would a policy articulated by the six principles...protect ecosystem functioning? Would it protect biological diversity? Would such a policy be consistent with the precautionary principle? Would it be risk-averse?" They answered each of these questions with the word "no."

In my column of June 5<sup>th</sup> I laid out the first three wild salmon principles in the document:

**Principle One: Wild Pacific salmon will be conserved by maintaining diversity of local populations and their habitats.**

**Principle Two: Wild Pacific salmon will be managed and conserved as aggregates of local populations called conservation units.**

**Principle Three: Minimum and target levels of abundance will be determined for each conservation unit.**

The Pacific Fisheries Conservation Council is concerned that Principle One is weak, and does not say anything new that would drive decision makers to create policy that will better protect wild salmon.

Secondly, they do not feel that Principle 2 is sufficient to conserve the genetic diversity in the more than 9,000 local spawning populations in BC by creating fewer than 100 conservation units (only two are proposed for the Skeena). The Council also says that the decisions regarding the creation of conservation units must be carefully made, taking into account other values, such as the importance of the fish in a specific stream to First Nations with their distinctive constitutionally protected rights.

Finally, as the review states regarding Principle 3: “Nowhere is there a clearly stated intent to ensure that abundance targets reflect defensible, historically-determined “baselines” of salmon abundance.”

I urge you to read the DFO’s Wild Salmon Policy Discussion Paper and respond in writing during this public comment period. You can either mail in your comments or respond online at: <http://www-comm.pac.dfo-mpo.gc.ca>.



Attn: Tim Shafer  
Prince Rupert Daily News

For Community Stewardship News weekly column

By Michele Patterson  
Watershed Stewardship Coordinator  
Prince Rupert and area  
Phone 624-8566 Fax 624-8590 email [michelep@citytel.net](mailto:michelep@citytel.net)

For publication in the Daily News Monday July 10, 2000

## STEWARDSHIP RESOURCES AT WILD BC

Wild BC is an initiative of the BC Ministry of Environment, Lands and Parks. Its aim is to increase environmental literacy through education and action. You can find the Wild BC website at: [www.elp.gov.bc.ca/hctf/wild.htm](http://www.elp.gov.bc.ca/hctf/wild.htm). Wild provides publications and manuals on stewardship, puts on workshops, and helps educators and natural resource professionals to promote environmental partnerships and conservation activities. Below are two of their many excellent publications, which can be used to plan a project or a curriculum. They are also engaging and informative reading. You can purchase them through Wild BC or you can borrow them from me.

**“Water Stewardship, A Guide for Teachers, Students, and Community Groups”** includes activities and case studies of stewardship in action in different BC communities, information about biological concepts, water management resources in BC, and has an interesting section on careers and vocations working in aquatic fields.

In the first section, the guidebook looks at environmental literacy. “An environmentally literate person is someone who has a thorough understanding of the environment in knowledge, skills and awareness.” This includes attributes such as: thinking about systems and how everything is ultimately connected; as well as thinking in time, by not looking for the quick economic fix but thinking about our effect on the earth for longer than our own life span.

Another of these characteristics involves being able to separate number and quantity, from value and quality: As the author states: “In the structure of modern life, it often appears to be less expensive to pollute and waste than it is to conserve. Questions at

the core of many environmental decisions tend to focus on the numbers or quantities of goods and the costs of solutions. We assign numbers to things that should really be assigned qualities. We assume that because we have enumerated things, we have addressed their value. An environmentally literate person has the ability to separate cost from value. He or she recognizes the importance of striving for value and quality over the long-term, rather than settling for solutions which may be faster or more cost-effective in the short-term.”

The second guidebook is called “**Backyard Biodiversity and Beyond**”. Like the Water Stewardship Handbook, it provides a lesson plan for Students and Teachers from Grades 1 - 12 to investigate the concept of biodiversity. This guide is beautifully made and draws from a wide variety of sources for thoughts about the value of diversity and the range of perspectives that exist about life on our planet. The chapter discussing the meaning of biodiversity includes a wonderful Secwepemc (Shuswap) legend about how the Sucker fish was created by Mother Nature.

However, now that summer is officially here, and school is out of session, I hope you will be able to have the chance to study the aquatic world and investigate the diversity of our world in the out of doors. A quote from the Backyard Biodiversity guidebook attributed to Swiss Biologist Louis Aggassiz sets out a great summer lesson plan: “Study Nature, Not Books.”

Attn: Tim Shafer  
Prince Rupert Daily News

For Community Stewardship News weekly column

By Michele Patterson  
Watershed Stewardship Coordinator  
Prince Rupert and area  
Phone 624-8566 Fax 624-8590 email [michelep@citytel.net](mailto:michelep@citytel.net)

For publication in the Daily News Monday December 11, 2000

## **Is the Sewage Issue Dead?**

Recently, more than 2000 citizens of Prince Rupert presented a petition to City Council asking for sewage treatment and a stop to dumping sewage and other waste into the harbour. Jamie Woollacott and a dozen volunteers worked for over two months this past summer gathering signatures from other citizens who are concerned about the way sewage is dealt with in Prince Rupert. The time Jamie and his volunteers put into creating this petition totalled about 1500 hours. The 2000 signatures gathered probably represent 25-30% of the voting population in the City.

The City of Prince Rupert responded, to the media, that it is too expensive and environmentally unnecessary to consider any kind of sewage treatment at this time. This is the same response they gave 10 years ago to the Friends of the Harbour Committee of the Prince Rupert Environmental Society. Again they cited the lack of urgent environmental impact and, of course, the cost of such a project.

While the City may argue that the impacts of our waste on fish and fish habitat in the harbour are low based on all the data collected; sound scientific principles argue that there are many uncertainties and unknowns regarding the impact of sewage on marine environments. These unknowns include persistent and bioaccumulative contaminants in sewage.

These are the types of substances whose impacts are called sub-lethal, meaning their effect is not acute and immediate, but seen over time. For example, waste that contains antibiotics or hormones (pharmaceuticals), or surfactants (detergent waste) can, over

time, impair the ability of juvenile salmon to adapt to salt water during their maturation process, and also cause the feminization of male fish.

Canada has committed itself under international and national environmental obligations such as the *Global Programme of Action for the Protection of the Marine Environment from Land-based Sources* (1995) ([www.ec.gc.ca](http://www.ec.gc.ca)). This may mean, in the near future, the Federal and Provincial Governments may demand municipalities proceed with primary and secondary sewage treatment. They could also regulate specific sewage contaminants making them more carefully permitted or even disallowed from entering marine environments without treatment.

Beginning the inevitable process towards sewage treatment is going to be very costly, but it is unreasonable to assume that Prince Rupert is not going to have to start sometime soon.

At the very least, the City of Prince Rupert should begin to develop a liquid waste management plan to respond to the obvious citizen concern for action on this issue. This is a city that, as Jamie Woollacott said: “thrives and survives by the sea; so why is it part of our sewer system.” If we had started working towards sewage treatment when the Friends of the Harbour asked for it 10 years ago, we may have been well on the way today. It would also be interesting to know if the citizens who signed the petition think the City of Prince Rupert has given them an adequate response to their concerns.

Attn: Tim Shafer  
Prince Rupert Daily News

For Community Stewardship News weekly column

By Michele Patterson  
Watershed Stewardship Coordinator  
Prince Rupert and area  
Phone 624-8566 Fax 624-8590 email [michelep@citytel.net](mailto:michelep@citytel.net)

For publication in the Daily News Monday August 28, 2000

## **THE OTHER SUZUKI FOUNDATION**

The *United Fishermen and Allied Workers Union* (UFAWU) is involved in many issues that have to do with protection of the fishing industry. They also have an active environmental division working to preserve fish and fish habitat. The T. Buck Suzuki Foundation has been doing conservation work since its creation by the UFAWU in 1981. The Union recognized that the future of the fishing industry depended on having a healthy environment for fish, so the foundation was created to act as an advocate for fish protection activities and processes for working people in the fishing community.

Tatsuro “Buck” Suzuki was a Fraser River commercial fisherman and an environmental activist who was a UFAWU leader and an expert on Fraser River pollution. Buck Suzuki was involved in protecting the environment, including fish habitat, through both political action in the Executive of the UFAWU, and through his own individual commitment as an early environmental activist.

Since 1981, the T. Buck Suzuki Foundation and its volunteers in BC have been working actively on a number of campaigns such as sewage pollution, poor logging practices, estuary losses through development, fish farming impacts and pulp mill pollution. They stand up for fish by sitting on many governmental advisory committees, land use planning tables and environmental coalitions, including some in conjunction with labour organizations. They have also done

many on-the-ground projects restoring marshes on the Fraser River by removing garbage and log waste.

One of their major campaigns was providing a leadership role in the defeat of the Kemano Completion Project through their involvement with other environmental and fishing organizations in the Nechako River Alliance during the early 1990's.

'Salmon Watch' is the Foundation's regular publication, and the most recent issue states that they are demanding an environmental review of a new spillway project proposed on the Nechako River to increase waterflows to the Nechako. Waterflows to this major salmon-bearing river were reduced in the late 1970's and the T. Buck Suzuki Foundation is now demanding an analysis of the proposed rehabilitation project before any work is done to increase flows. They are concerned that this project is ill-conceived and that no studies have yet been done to look at the general hydrology of the watershed and what waterflow regime will actually be the best for fish in the watershed.

I was recently asked to sit as a Board Member for the T. Buck Suzuki Foundation, and will be working with Arnie Nagy and other regional board members across BC to preserve fish and fish habitat through education, outreach and advocacy work.

You can pick up a copy of Salmon Watch from my office if you would like to learn more about what T. Buck Suzuki Environmental Foundation is doing in B.C. The office is in Vancouver and the Executive Director is David Lane (255-8819). You can also call Arnie Nagy (624-6048) or myself if you would like to volunteer help with research or to work on local habitat protection campaigns that the foundation is involved in.

Attn: Tim Shafer  
Prince Rupert Daily News

For Community Stewardship News weekly column

By Michele Patterson  
Watershed Stewardship Coordinator  
Prince Rupert and area  
Phone 624-8566 Fax 624-8590 email [michelep@citytel.net](mailto:michelep@citytel.net)

For publication in the Daily News Monday August 14, 2000

## **LIVING BY WATER**

Shorelines are the meeting place between water and land. They have many important uses, depending on the type of habitat, such as acting as filters for chemicals that would otherwise run into the water, and slowing down the passage of water by absorbing rainfall and runoff. Shorelines are also very active areas of the food web hosting a wide variety of interactions between animals, insects and plants.

*The Living by Water Project*, from Salmon Arm, BC is sponsoring 'Splash and Ripple' the theatre presentation for families and children taking place at Mariners Park on Friday night (Aug 18, 7pm). Living by Water's goal is to increase awareness in Canada about the importance of shorelines in our lives. Their motto is "Working toward healthier human and wildlife habitat along the shorelines of Canada." . The Living by Water Project calls shorelines "ribbons of life", rich in biodiversity and also sensitive to damage.

Some of the land uses that affect the quality of shoreline habitat include: overuse, pollution, and erosion. One of our own local 'ribbons of life' is the Hays Creek Estuary and mudflat. Local Prince Rupert algae botanist Larry Golden hosts an excellent website ([www.princerupert.com](http://www.princerupert.com)) on which he posts information about north coast ecological issues and places. Larry has done a lot of first hand research looking at the diversity in this mudflat shoreline habitat. He has found that although the site is affected by pollution concerns from runoff and has been heavily modified by development, a wide variety of plants and creatures use the site to support their lifecycles, including deer and bear which use the sedges for forage. Larry has also noted many clams growing in the

mud. The area is actually to some extent a man-made environment as the original mudflat was on the site of the now Allied Pacific cannery.

September has been designated Shoreline Celebration and Restoration month in Canada. There are a number of environmental events happening in September that highlight our relationship with shorelines: the International Coastal Cleanup during the week of September 17 to 24 (including the Great BC Beach Cleanup on the third weekend of September); and BC Rivers Day on Sunday September 24. If you are interested in helping to set up an event or participating in something we are working on at the Community Fisheries Development Centre, please call Corey Martens or myself at 624-8566.

To lead up to this busy month of September, In Mariners Park this Friday evening at 7:00 the Precipice Theatre Company from Banff, Alberta will be presenting a play called 'Splash and Ripple'. The company is travelling all over the north and will head to Masset after their Prince Rupert stop. I hope you will come and enjoy this evening of musical entertainment created especially for families and children.

The programs that Living by Water offers information and assistance to waterfront residents about how to live by water in a way that protects both the natural environment and their property investments. If you would like more information about sustainable practices for waterfront residents call them in Salmon Arm at 250-832-7405 or see their website at: [www.livingbywater.ca](http://www.livingbywater.ca)



Attn: Tim Shafer  
Prince Rupert Daily News

For Community Stewardship News weekly column

By Michele Patterson  
Watershed Stewardship Coordinator  
Prince Rupert and area  
Phone 624-8566 Fax 624-8590 email [michelep@citytel.net](mailto:michelep@citytel.net)

For publication in the Daily News Monday August 7, 2000

## **OIL SPILL EFFECTS**

The recent spill of one million litres (450,000 gallons) of crude oil into the Pine River in northeast BC provides a good reminder for us that although the risks of spills from oil drilling and transport may be lower as technology and environmental management improve, oil entering the aquatic environment is still a disaster for the ecosystem, including fish, marine plants and animals.

I recently received a report prepared in May of this year for Parks Canada, entitled "The Impacts of Oil on Cold-Water Marine Resources: A Review Relevant to Parks Canada's Marine Mandate." The paper was produced to advise Parks Canada about the potential impacts of oil spills near its coastal parks and marine conservation areas, including Gwaii Haanas on Moresby Island. It also makes recommendations about Parks Canada's role in preparing for the eventuality of some oil related impact to the environment through drilling or transportation.

The paper documents the existing literature about the effects of oil on the users of the marine environment including one chapter on fisheries effects. The greatest impact of exposure to oil is on salmon and herring because they are moving through the marine environment at different life stages and tend to swim higher up in the water column, allowing for more exposure to the oil. The author states "effects at interfaces can be great, such as on groups contacting the sea surface and on the intertidal ecosystems at the land-sea interface."

Fisheries can be negatively impacted by oil spill pollution through interference (closure of oiled areas and damage to gear) and effect on the fish's biology through exposure and ingestion. The author also states that tainting (oil incorporated into tissues as well as lack of consumer confidence in the product) is a problem for commercial and aboriginal food fisheries. For example, in the first year after the Exxon Valdez oil spill, 10 Alaskan aboriginal communities showed a 70% decrease in traditional food harvesting that was attributed to a loss of confidence in the quality of the food.

The paper also discusses some of the weaknesses and gaps in scientific understanding of the biology of oil impacts. Some of these include: a general lack of baseline information on the marine environment in order to compare pre and post spill conditions, and the long-term (chronic sub-lethal) effects of oil at the marine ecosystem level. There is also a lack of studies looking at marine ecosystems as a whole, as opposed to the effects of oil on specific marine organisms being done through laboratory work and by using computer models.

Interestingly, although there is a large body of existing information about the effects of oil on the environment, this Parks Canada paper comments that the industry-funded studies of oil related impacts seem to come to very different conclusions than the studies carried out by government agencies. In one recommendation, the author advised that Parks Canada staff maintain a healthy skepticism about the current state of spill-related science.

Attn: Tim Shafer  
Prince Rupert Daily News

For Community Stewardship News weekly column

By Michele Patterson  
Watershed Stewardship Coordinator  
Prince Rupert and area  
Phone 624-8566 Fax 624-8590 email [michelep@citytel.net](mailto:michelep@citytel.net)

For publication in the Daily News Monday, September 18, 2000

## LIFE IN THE INTERTIDAL ZONE

The intertidal zone is the part of the shoreline that is regularly uncovered through tidal cycles. Creatures and vegetation that live in this zone range from the easy to find limpets, barnacles and periwinkles, to the sea stars and anemones that are usually only uncovered at the lowest tides.

The *Shorekeepers Program*, part of the DFO's Science Division, provides training toward marine habitat stewardship for community groups and individuals in coastal communities. If you are interested in protecting fish habitat, regularly collecting information about the creatures on our foreshore may be something you could get involved in here in Prince Rupert.

The variety of intertidal marine life that live in the three different shoreline zonation are very tide dependent:

**Spray Zone** – here, in the highest, driest zone there are very few creatures. Less life can survive here with only minimal water spray for moisture and almost complete air exposure, and exposure to predators. The spray zone generally includes lichens and some limpets.

**High Tide Zone** – This area gets completely submerged at the highest tides. It is still an unfriendly place for marine life with pounding wave action and lots of air exposure. You can find barnacles, algae and more limpets and periwinkles.

**Mid-tide zone** – With more water coverage and more food sources this zone can contain seaweeds, shellfish, snails, anemones, sea stars and chitons.

**Low-tide zone** – This is the most productive and crowded area as it always stays moist, and some water usually remains in cracks, tide pools etc. Creatures that can be found at low tide include crabs, sea cucumbers, and grasses such as eelgrass.

There are also three other factors that determine which creatures can be found on the intertidal part of the shoreline: 1) type of substrate (mud, rock or sand); 2) Amount of exposure to waves, which determines whether fragile plants and animals can survive there; and 3) Currents, as areas swept by currents have more mixing of water and are richer in quality and quantity of marine life.

The foreshore intertidal habitat critical to marine life is affected by land uses such as outfalls for sewage and storm water, pulp mill effluent pollution, oil leaks from vessels, household dumping and garbage and toxic chemicals discarded from boat traffic.

The purpose of monitoring intertidal habitat is to provide a baseline of information about distribution, size, abundance, and populations of animals and plants on the foreshore. It is also a chance to document areas where human and natural impacts are affecting the foreshore environment, in order to look at making potential changes in the way we are affect this rich and valuable habitat through human activity.

If you have been wondering about the quality of marine habitat in our area and are interested in being involved in a Shorekeepers program that would regularly monitor the intertidal environment, please call me at 624-8566.