



THINK SALMON

Salmon are the lifeblood of the Pacific Northwest. They feed us, inspire us, and provide the nutrients that our forests and wild animals depend on for life.

Think Salmon is about inspiring, you, as well as other individuals and organizations to act in the best interest of British Columbia's Pacific salmon, giving them the best possible conditions and environment in which to grow and thrive.

When we all play a part in helping salmon to thrive, we also protect beautiful BC for ourselves and future generations.

THINK – Think about how salmon has been a memorable part of your life. Tell a tall tale of the fish that got away or of watching the boundless determination of a tired red salmon making her way to spawn. Share your story with us and you'll earn great rewards.

LEARN – Learn about the Pacific salmon, the Fraser Basin where we all live and work, and how important the choices we make every day are to the health and future of Pacific salmon, as well as our own.

ACT – It is simple to make a difference, at home, at school, at work, on the internet or in your community. Start right now by taking a first step and begin to Think Salmon in your daily life.

Here are 10 easy suggestions to **Think Salmon** at your home:

1. Speed up your shower or shower with a friend.
2. Save a toilet flush or two, especially at night.
3. Turn off the water while brushing your teeth.
4. Don't use toxic cleaners and bleaches for cleaning.
5. Fix connections and pipes that leak water.
6. Load your dishwasher full before running it.
7. Use your legs! Leave your vehicle at home.
8. Plant native plants in your garden and along stream banks.
9. Install a low-flow shower head.
10. Sweep paved areas instead of hosing them so pollutants and debris won't enter storm drains.

For more information on Think Salmon visit...

www.ThinkSalmon.com

or call 604-664-7664





WHAT IS THINK SALMON

The **Think Salmon** campaign is designed to engage and inspire the public to make the necessary changes in human behaviour required to make a positive difference in salmon and watershed sustainability. It is targeted to the interested general public with the objective of making salmon more top of mind in their thinking and how closely they are connected to salmon and the watersheds they depend on.

Once people “Think Salmon”, they are then in a position to become further engaged through a number of targeted public education initiatives to undertake activities to reduce their individual impact on salmon and inspire them to be proactive in their communities in regard to the issues facing salmon.

ThinkSalmon.com

This comprehensive website serves as the mothership for Think Salmon. Using Think, Learn & Act site visitors will find an abundance of information, resources, stories, art and more to support their positive behaviour change for the benefit of salmon.

Think

ThinkSalmon.com is also collecting salmon stories to share. Visitors to the site are encouraged to tell how their lives have been touched by salmon. Whether it was a great big fish that got away, to a delicious meal you had with friends or family to a memorable trip to a river to watch the incredible perseverance of salmon returning to spawn, there are lots of tales to be told and read.

Learn

ThinkSalmon.com has a selection of salmon information so that visitors can learn more about salmon. There is a section on Salmon Species, the Science of Salmon, Ideal Salmon Habitat and the amazing Life Cycle of Salmon.

Professor Salmon also provides visitors with answers to all kinds of salmon questions. There is an extensive collection of answers to questions already asked, as well as an opportunity to ask Professor Salmon questions directly.

Act

ThinkSalmon.com provide visitors with lots of way they can help salmon At Home, At School, At Work, in their Community and on the Internet. There are lots of tips on how individuals, companies and groups can act now to support salmon and their habitat.

There is also an extensive educational component for teachers to act on and get their students to Think Salmon.



Salmon School

There are approximately 67,000 classrooms in British Columbia. Building on the long-term success of Fisheries and Ocean's Salmon in the Classroom program, a Fraser watershed-wide initiative will be undertaken to ensure that salmon have a place in every classroom.

With the support of the Vancouver Port Authority and their Port-in-a Box program, The Think Salmon Streamkeepers Kit is available free of charge for educators to teach their students about British Columbia's valuable freshwater resources and impacts to the environment.

Each kit contains enough supplies and safety equipment to equip a class of 30 students for an entire field season and a Think Salmon teacher's package. This program is designed to work in conjunction with current class curriculum and each activity complements Ministry of Education IRP guidelines.

Salmon Safe Certification

The goal of Salmon Safe is to address water quality and quantity issues pertaining to industry and agriculture in the Fraser watershed through a market-based incentive program.

Salmon-Safe land management involves conservation practices that benefit the watershed where the farm, golf course or industry is located. Land managers can do much to promote healthy landscapes for salmon by planting trees along riparian areas, improving irrigation systems, erosion control, and being good stewards of the land. On a product, the salmon-safe logo refers to how the crop is produced, not to the food or beverage product itself.

PSF is currently conducting feasibility and adaptability studies to determine the potential of implementing a program in the Fraser watershed in 2007, that will be adapted from one developed in Oregon in 1997.

Volunteer Stewardship Community Bursary Program

A critical link between education and the community volunteer community, the spirit of the Volunteer Stewardship Community bursary program is to reduce the financial barriers to achieving success for aquatic stewardship volunteers enrolled in education and training programs that support their goal of a career in salmon management and recovery.

This bursary is designed to honour and leverage bursary and scholarship programs currently funded by the salmonid volunteer community. Two bursaries of \$1,000 will be offered annually to one student in the Lower Mainland and another in the remaining BC watersheds.



THINK

It is time for everyone to start to Think Salmon. Think about how important they are for our health and our economy; how great they taste; how much fun they are to catch; the role they play in our culture; how their health is a reflection of the condition of our environment and how they need our help. Now is the time to think about how we can make simple changes in our daily lives that will have positive results for Pacific Salmon.

Share your stories and special salmon tales. Take some time to think about how many ways you've enjoyed salmon. Whether it is was a memorable, mouth-watering meal with friends or family or playing one out that just wouldn't give up, we want to hear your special memories, then share them with others.

Think Salmon is about how you can Think, Learn & Act in support of Pacific salmon. So, take the time now to Think Salmon and visit www.ThinkSalmon.com and tell us what you think.



LEARN

Salmon are the lifeblood of the Pacific Northwest. They feed us, inspire us, and provide the nutrients that our forests and wild animals depend on for life.

Learn more about Pacific Salmon, their species and lifecycle and how they survive. Discover the Science of Salmon and what innovative research is being done to support them. Some interesting Pacific Salmon facts:

There are seven species of salmonids in BC.

Chinook, Coho, Sockeye, Chum, Pink, Steelhead and Cutthroat trout

What is the biggest Pacific Salmon?

Chinook, also known as Spring and King, are generally over 30lbs . They live the longest of salmon (up to eight years), and prefer larger river systems. They are strong swimmers and leapers, and are prized by sportfishers. Their size and strength makes them wonderful catches, but it also contributes to their scarcity relative to other Pacific salmon.

Which species of salmon is the most abundant?

Pink salmon, whose species name is *O.gorbuscha*, are both the most abundant and the smallest of Pacific salmon. Spawning Pinks generally weigh from 1.5 to 3 kilograms and are always two years of age.

While in the Fraser, Pink salmon are the most plentiful in the odd years, on the north coast of BC and Alaska they are much more likely to return to rivers in the even years. But in some rivers in the North Pacific, Pinks can be found spawning in rivers every year.

Salmon & Climate Change

In the last decade, we have had eight of the hottest years since people began keeping records. A degree or two of change means a great deal to both people and salmon. High water temperatures and reduced stream flows are threatening the viability of Pacific salmon.

Life Cycle

All Pacific salmon are anadromous, which means they start in freshwater (streams, lakes, rivers, etc.), migrate to the ocean, then return “home” to spawn and die. Adult spawners often journey for thousands of kilometres to return to the waters their parents spawned in, and where they themselves were born.



ACT

At Home

Salmon need water in the rivers, streams and lakes of our communities. The best way to help salmon is to use less water. Using less water in our daily lives leaves more water for salmon, which means healthier salmon.

Here are 10 easy suggestions to **Think Salmon** at your home:

11. Speed up your shower
12. Save a toilet flush once a day, especially at night
13. Fix appliances, connections and pipes that leak water
14. Replace old, inefficient appliances with new, energy-efficient ones
15. Load your dishwasher full before running it
16. Use your legs! Leave your vehicle at home and get on your bike or walk around your community
17. Hunt down energy waste in your home: turn off lights, check for drafts at windows and doors, keep the thermostat low, replace incandescent light bulbs with fluorescent light bulbs
18. Install a low-flow shower head
19. Wash your car on the grass and let the water runoff filter through the soil, or use automatic car washes that recycle water and dispose of detergents properly
20. Sweep paved areas instead of hosing them and you'll prevent pollutants and debris from entering storm drains

Car and Driveway Tips

- Oil, antifreeze and contaminants from car exhaust will kill fish when washed off roads into storm drains and streams.
- Fix oil and transmission leaks. Place a drip tray under the car.
- Never dispose of used oils and antifreeze into gutters or storm drains, all of which empty into streams.
- Recycle used oil and antifreeze.
- Wash cars with a minimum of detergent.
- Where possible, wash on gravel or lawns to avoid runoff entering storm drains. Never dump leftover detergents or cleaning compounds into gutters or storm drains.
- Sweep your walks and driveways. Hosing washes litter and pollutants into storm drains and streams.
- Avoid paving your lot. Consider using porous asphalts, paving stones or bricks to let water seep through driveways and walks.
- During construction projects, keep wet concrete from storm drains and streams. It is very toxic to fish and other wildlife.



Garden Tips

Whether your garden is two feet or two kilometers from the nearest creek, stream, lake or harbour, it affects salmon. Everything that runs off your property into storm drains eventually washes through their habitat.

Salmon friendly gardens are beautiful, healthy and easy to maintain. They work with natural processes to grow plants with minimal irrigation, fertilizer and pesticides. These gardens keep pollutants out of streams and lakes, where they can harm salmon habitat. They also save time and money.

Here are some tips for growing a salmon friendly garden:

- Keep garden waste out of streams. Branches, grass clippings and weeds rot and reduce the amount of oxygen in the water.*
- Pull weeds by hand or learn to live with them instead of using pesticides and herbicides.
- Don't use fertilizer because fertilizer runoff causes excess weed and algae growth in streams which reduces the available oxygen for fish and other aquatic life.
- If you must use chemicals do not over apply. Use specific spot treatments rather than general broadcast herbicides. Never spray near ditches, lakes or streams. Spray on windless days and not before or during rain.*
- Use straw, leaves, or grass clippings to keep down weeds and insulate the soil. Limit the use of bark mulch near streams and storm drains, because it leaches toxins.*
- Avoid landscape plastic which creates runoff. On hillsides, use burlap or landscape fabrics which let water penetrate through to the soil.*
- Plant native or drought-tolerant plants.
- Use a mulch mower and fertilize your lawn without chemicals.
- Water heavily once a week during the early evening hours when water evaporates less.

Household & Yard Tips

When urban development covers the land with buildings, concrete, and asphalt, less rain soaks into the soil. The water stays on the surface and runs off quickly into streams, ditches, and storm drains, which also empty into streams. The result is “urban runoff.”

- When draining hot tubs or pools, direct the water slowly into the ground or sewer system. Never drain water into streets and storm drains. Chemicals such as chlorine are toxic to salmon and other animals.
- Keep litter and trash out of streams. Besides being unsightly, trash will collect into debris jams and block water flow. Limit in-stream cleanup activity to the summer months.
- Keep pets away from streams. Animal waste is polluting. Pets entering streams can erode streambanks and cause siltation; their activity also disturbs wildlife and salmon living in streams.*
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THINK SALMON

- Dispose of unused paint and chemicals correctly. Never dump into household toilets and sinks or outside ditches, storm drains or streams. Follow guidelines for disposal or recycling from the B.C. Ministry of Environment, Waste Management Branch.*
- If possible, redirect roof downspouts away from drain tiles and street storm drains. Gravel drain systems filter and slowly release rain into the groundwater stores, which later enter streams.

If You Live Near a Stream

Keep streams shaded; don't remove growth that reduces shade. Trees and bushes keep the water cool for fish and help stabilize the banks. Don't remove streamside vegetation within at least 15 m of the stream

Dogs 4 Salmon

Turn your dogwalks into salmon-friendly occasions. There are few things as joyful as walking your canine companion in a beautiful environment, whether it be a grassy field or along the banks of a stream or river. Unfortunately, all the fun your dog may be having may be deadly for salmon. Adult salmon can be disturbed from spawning, and/or the eggs they deposit in the gravel can be torn up and washed away. The threat is most severe when water levels are low, making escape harder for the salmon.

But there's good news! Your dog can act on behalf of salmon, with your help. When you walk your dog alongside a stream or river keep these tips from a community streamkeeper program called Dogs 4 Salmon in mind:

Look out for:

- Cement trucks, carpet cleaners, or dry cleaners dumping any suspicious waste
- Any water colour or smell that doesn't seem normal or healthy
- Anyone harming salmon, whether through poaching or using unauthorized stream flow diversions
- Anyone or any activity that is causing destruction to the riparian zone where you and your dog are walking
- And help your dog be good to salmon:
- Clean up after them in riparian areas
- Keep them from chasing birds and wildlife including salmon
- Learn which areas to avoid walking your dog based on the presence of salmon spawning, hatching, or being too young to avoid danger

* Home Tips for Healthy Streams, Fisheries and Oceans Canada and the B.C. Ministry of Environment.



ACT

At Work

Think Salmon applies at the corporate level too.

Reduce Energy Consumption

The energy we use often competes with salmon for water. The less energy we use, the more water is left in our rivers and lakes for salmon.

Here are a few ideas on how you can save energy and help salmon.

- Use the stairs instead of the elevator. It's good for you and good for salmon.
- Bring your lunch to work in reusable containers. All those styrofoam boxes and wrappers take huge amounts of energy to create and then clog landfills.
- Use an insulated mug or cup for your coffee or tea. Wash and refill it each day and save yourself a few cents at the same time.
- Turn down the thermostat. Stay cool and stay alert.
- Run dishwashers and washing machines only when full.

Use Efficient Computer Monitors

- Use LCD (liquid-crystal display) monitors, which are more efficient than CRT (cathode-ray tube) monitors and output less heat.
- Shorten the delay time before your monitor automatically powers-down into sleep mode.
- Don't use screen saver. When screen saver is running, the monitor is not "sleeping" but using the same amount of electricity as if you were actively working on your computer.
- Turn monitors off at night, on weekends and anytime they are not being used for extended periods of time.

Quick Fact

Turning off idle equipment can save up to \$100 per workstation over a year.

Conserve Water

- Conserve water by installing low-flow shower heads and low-flow toilets.
- Fix leaking taps and toilets. Save water and get rid of that annoying dripping.
- Sweep sidewalks and put the sweepings in the garbage instead of hosing. You will save water and prevent pollutants and debris from entering streams and storm drains.

Quick Facts:

- A toilet dam, a common water-retention device, can save about 5 litres per flush.
- A leaky toilet, one that continues to run after flushing, can waste up to 200,000 litres of water in a single year.



Recycle, Repair, Reuse

In both the manufacturing and disposal of the things we buy, we use energy and water. Making better use of the things we buy reduces our energy and water consumption on both ends.

- Organize an office recycling program if one doesn't exist.
- Try to repair or donate for repair items that no longer work.
- Use your own re-usable coffee cup, rather than a disposable cup.
- Save and re-use binders, file folders, envelopes, paper clips, elastics, and other common supplies.
- Produce double-sided documents and photocopies.

Healthy Cleaning Supplies and Products

- Encourage your employer to purchase office supplies and cleaning products that are less harmful to the environment.
- Follow and encourage environmentally safe practices in the storage, use and disposal of hazardous wastes.
- If your workplace uses a cleaning company or property management company, ask them about their approach to sustainability and thinking salmon.

Commute Together

- Rideshare and carpool. Join up with others and multiply the power of your salmon thinking.
- Maintain your vehicle. Make sure your exhaust system is clean and clear.
- Make your own energy and walk or ride your bike. It's another thing that's good for you and good for salmon.
- Turn your vehicle off when parked or waiting to pick someone up. Don't stink up the joint.

Quick Facts:

- A mid-sized sedan driven 20,000 kilometres a year produces about 4 tonnes of CO₂, the main greenhouse gas.
- A poorly maintained vehicle uses up to 50% more fuel and produces up to 50% more greenhouse gas emissions than a vehicle that is serviced regularly.



ACT

At School

Salmonids in the Classroom

For 20 years, teachers around the province have been raising salmon in the classroom and taking kids on fieldtrips to local streams and releasing fry. The Department of Fisheries and Oceans has completely revised the materials that support this program. Organized around the salmon life cycle, each unit contains at least one strong science-based activity and many suggestions for language arts and fine arts.

Teacher Resources:

ThinkSalmon.com has for a variety of resources, links and ideas for the classroom.

With the support of the Vancouver Port Authority and their Port-in-a-Box program, **Think Salmon Streamkeeper Kits** are available free of charge for educators to teach their students about British Columbia's valuable freshwater resources and impacts to the environment. Each kit contains enough supplies and safety equipment to equip a class of 30 students for an entire field season and a Think Salmon teacher's package. This program is designed to work in conjunction with your class curriculum and each activity complements Ministry of Education IRP guidelines.

The **Stream to Sea program** from Fisheries & Oceans Canada, brings the ocean to the classroom! DFO Pacific Region Education Coordinators and Community Advisors are helping to foster the next generation of aquatic stewards: people who understand, respect, and protect entire freshwater, estuarine, and marine ecosystems, and who recognize how all humans are inextricably linked to these complex environments. Visit the Fisheries and Oceans Canada's Stream to Sea program website at:

http://www-heb.pac.dfo-mpo.gc.ca/community/education/eduintro_e.htm

Marine and Aquatic Educator's Resource Guide (PDF, 97 pages)

<http://www.pac.dfo-mpo.gc.ca/oceans/Outreach/MAERGfinal.PDF>

Parks Canada and Gulf of Georgia Cannery host school tours in the summer

http://www.pc.gc.ca/lhn-nhs/bc/georgia/edu/edu1_E.asp

Salish Sea Handbook for Educators is published by Fisheries and Oceans Canada.

With over 70 activities for primary or intermediate students, it is an innovative teaching tool for communicating marine conservation messages through the medium of music.

Visit http://www.pac.dfo-mpo.gc.ca/oceans/salishsea/default_e.htm



ACT

In Your Community

British Columbians love their salmon, and many communities already have robust action plans (volunteer and otherwise) for protecting them and enhancing their habitat. From simply watching and revering salmon when they return to a river near you to getting down and dirty as a streamkeeper in the mud and water, there are lots of ways to get involved.

Get Your Feet Wet! Become a Streamkeeper

Take an active role in the health of your local watershed—take the plunge and become a streamkeeper! The Streamkeepers Program helps citizens protect and preserve freshwater habitats. Community stewardship is essential for the long-term protection of the environment of our communities.

To get involved, call The Pacific Streamkeepers Federation at 604-986-5059, or email pskf@direct.ca, or call your nearest Community Advisor at Fisheries and Oceans Canada.

Start a Dogs 4 Salmon in Your Community

Dog owners can help be the eyes and ears of the creek, and prevent their dogs from harming salmon. Dogs in this program get:

- Bandanas that their owners paint with the DFO Observe, Record, and Report (ORR) hotline number
- Cookies
- And a cookie for their human companion!

Their owners learn about the seasonal use of the stream by fish and wildlife, and how at certain times of the year there are eggs in the gravel.

For more information about Dogs 4 Salmon, email dramage@shaw.ca.

Host a Storm Drain Marking Party

The yellow fish are there to remind us that storm drains on our roadways empty directly into local streams. We need to keep harmful things out of the storm drains. Storm Drain Marking is a conservation and education project developed by Fisheries and Oceans Canada.

For information on storm drain marking in your neighbourhood, contact your local Community Advisor or Education Coordinator. You can also e-mail Joanne Day, Information Coordinator, at dayj@pac.dfo-mpo.gc.ca, or phone (604) 666-6614.



Report Habitat Violations in Your Community

BC's Environment Minister Barry Penner encourages the public to report all poachers and polluters by calling 1-877-952-RAPP (7277), #RAPP (7277) on the TELUS Mobility Network or by visiting the RAPP website at www.rapp.bc.ca.

Observe, Record, and Report fish habitat, environment, wildlife, and fisheries violations in British Columbia and the Yukon. DFO Operators are standing by 24 hours, 7 days a week

Observe, Record, and Report: **1-800-465-4336**

In Greater Vancouver: **(604) 666-3500**

To help DFO respond, please:

- Describe the incident
 - date, time, and location
 - nature and amount of substance spilled
 - nature and extent of habitat damage
- Describe the offender
 - persons witnessed at the scene
 - vehicle description and license plate
 - boat description and name
- Tell DFO how to contact you
 - Name
 - Address
 - Telephone number



ACT

2006 Project Funding Highlights

1. Chilliwack River Watershed Strategy

The purpose of the Chilliwack River Watershed Strategy is to provide a common understanding of watershed values, based on sound science and local knowledge, to assist in decision making that will promote a healthy watershed. The Chilliwack River Watershed Strategy is a proactive multi-jurisdictional planning process involving community, local, provincial and federal governments, First Nations, academic institutions, and non-profit organizations.

The Project Team gathered existing information and local knowledge relevant to the watershed, developed a website, and conducted a public process to identify issues threatening the balance of social, economic, and environmental values for the watershed. The Project Team recognizes that sustaining salmon requires a healthy watershed and a healthy watershed depends on sustainable resource extraction, development, recreation, fish and wildlife management, and hazard mitigation practices.

As a result, the project seeks to identify strategic actions that can be undertaken within the existing regulatory and jurisdictional framework to promote a sustainable balance of values. The final Watershed Strategy will identify goals for the Chilliwack River and develop long-term priorities and strategies for addressing watershed issues.

2. Chilliwack Off-Channel Project

Land development in the Lower Fraser Valley has resulted in the loss of many deep side channel ponds that provided rearing habitat for juvenile coho. The Fraser Valley Regional Watersheds Coalition created two new off-channel habitat sites for salmon along the Chilliwack-Vedder River in 2006. While the projects were designed primarily to provide habitat for juvenile coho salmon, other wildlife and fish species, especially the endangered Salish sucker, will also benefit.

The first habitat site involved the development of groundwater ponds and spawning channels connected to Pierce Creek, a tributary to the Chilliwack River. The second habitat site is located adjacent to the Great Blue Heron Nature Reserve and connects to Salwein Creek. A number of deep ponds were developed on land that had been used as a pasture.

The Fraser Valley Regional Watersheds Coalition and the Great Blue Heron Nature Reserve Society plan for further riparian planting at this site in the next year or two, as funds and labour become available. Interpretive signage has been installed and a path connecting the site to existing trails in the Great Blue Heron Nature Reserve was roughed in.

Other contributors to the project include the Pacific Salmon Commission, BC Ministry of Transportation, Fisheries and Oceans Canada, Pacific Salmon Foundation's Community Salmon Program, Fraser Valley Regional District, Great Blue Heron Nature Reserve Society, Habitat Conservation Trust Fund, and the City of Chilliwack.



3. Chilliwack River Nutrient Enrichment

Dyking along the Upper Chilliwack River to protect residential and commercial development has confined the watercourse to a much narrower floodplain. The nature of a straightened river reduces the chance of salmon carcasses lodging on river debris or settling into deep pools. Salmon carcasses make a significant contribution to the nutrient cycling of aquatic and terrestrial ecosystems.

The objective of this project was to augment the lost nutrients with slow release fertilizer. The loss of the essential nutrients has particular consequences for the survival of juvenile salmon. The loss of nutrients means there is less food available for the juvenile fish in the river. The project was targeted at increasing the growth and survival of juvenile fish, particularly chinook and steelhead, but will benefit all species that feed on aquatic insects, including other fish, amphibians, and birds.

Partners in the project include the BC Conservation Foundation, Habitat Conservation Trust Fund, Ministry of Environment, a local landowner, and volunteers from community groups such as the Chilliwack River Action Committee.

4. Fortune Creek Surface Water Study (UBC Okanagan)

Fortune Creek is a regulated system that supplies water to approximately 2,500 residences in Armstrong and the Spallumcheen Valley in the North Okanagan. Fortune Creek has gone dry almost every summer since 1999 in a section of river located north of the City of Armstrong. The reason why the creek is disappearing through this section is not clear.

Many creeks in BC's Southern Interior are maintained by the inflow of groundwater throughout the summer and fall. Lower snow-pack levels, longer summer droughts, and increasing demands for water have resulted in lower groundwater tables in many areas. Low water levels in the lower stretch of creek below the dry section increasingly results in summer water temperatures that are lethally warm to the resident rainbow trout, juvenile coho, and juvenile chinook.

While the Department of Fisheries and Oceans and City of Armstrong have worked co-operatively to try and maintain creek flows to sustain fish populations, stream flow management has become increasingly difficult. Thousands of dollars have been spent on riparian restoration in the lower reaches of the creek, but it is increasingly apparent that water quantity and temperature, not streambank habitat, are the limiting factors for salmonid conservation in this creek and many others like it in the Thompson-Okanagan Region of BC.

A research assistant from the UBC's Okanagan campus is looking at the existing information that is known about the creek and designing a research project for this summer. The end goal is to find a way to ensure water flow in lower Fortune Creek is sustainable for both the fish and people of the Spallumcheen Valley.

The partners in this project consist of representatives from the City of Armstrong, Township of Spallumcheen, Spallumcheen Indian Band, White Valley Community Association (neighbouring community), Pacific Salmon Foundation, University of British Columbia, Fisheries and Oceans Canada and the BC Ministry of Environment.



ACT

2007 Project Funding Highlights

1. Mountain Pine Beetle and Threats to Wild Salmon

The FSWP will study potential threats to wild salmon in BC from the mountain pine beetle, which has infested forests across the province. While most people in BC recognize that the mountain pine beetle infestation is having serious social, economic and environmental consequences to the forests and forest communities, the impact to the aquatic ecosystem is not as apparent.

A technical advisory committee will identify the anticipated impacts of mountain pine beetle on salmon and resident freshwater fish — as the kill-off of trees could mean loss of shade in fish habitat, as well as changes to water flow and temperature. The committee will recommend any ongoing monitoring that may be required to document the impacts to salmon and fish habitat and to recommend potential adaptive management strategies.

Participants at a workshop in Prince George in January identified the need to start discussion with all the key stakeholders to identify what the impacts are, how we may be able to plan for them and, if at all possible, mitigate them.

2. Lower Fraser River Live Capture and Radio Tagging

More reliable and timely information on returning abundance and in-river survival of salmon and steelhead is required to manage the expanding harvests in Fraser River fisheries. Reduced confidence in the Mission abundance estimates for sockeye, enroute losses between Mission and spawning areas, and the lack of in-season abundance estimates for several salmon species have increased the potential for over-harvesting Fraser salmon stocks.

Through the FSWP, the Pacific Salmon Foundation and Fraser Basin Council, along with the Pacific Salmon Commission, have funded LGL Ltd. to test a pilot Lower Fraser River live capture and tagging facility.

The facility will provide reliable species specific estimates of abundance for salmon returns to the Fraser River. Two of the main goals of the project are to improve the species composition estimates of Fraser River salmon at Mission and to determine the cause of poor upstream migration success of salmon in some portions of the Fraser River. It is anticipated that the complete facility design will include at least 4 large fishwheels distributed across the river channel in the vicinity of the railway bridge at Mission.

During this pilot year, 2-3 fishwheels will be placed in the river and will operate during the peak salmon migration period from June-September 2007. 500 sockeye salmon that pass through the fishwheel will also have radio-tags placed in them in order to follow their movement and assess their survival as they swim upstream from Mission to their spawning areas. The size and health of salmon that pass through the fishwheel will also be assessed.

The development of a sustainable multi-species stock assessment and harvest monitoring system will benefit commercial, First Nations, recreational fishers, and numerous communities within the Fraser watershed.



The Fraser Salmon and Watersheds Program (FSWP)

Backgrounder

Fraser Salmon and Watersheds Program

Think Salmon & the Fraser Salmon and Watersheds Program are jointly managed by Pacific Salmon Foundation and Fraser Basin Council. The aim of these programs is to inspire changes in human behavior for the benefit of salmon and the watersheds we all depend upon.

The Fraser Salmon & Watersheds Program is supported by the Provincial Living Rivers Trust Fund with \$10 million over four years, the Federal Department of Fisheries and Oceans Canada with \$10 million over five years, contributed as \$5 million cash and \$5 million in kind, Pacific Salmon Endowment Fund Society with \$5 million over five years towards capacity at Pacific Salmon Foundation, along with commitments from several private sector partners.

The funding is to support innovative initiatives that address the underlying challenges to Fraser River salmon populations. To date, the Program has funded 37 salmon conservation and restoration projects in the Fraser Basin watershed.

Pacific Salmon Foundation

Pacific Salmon Foundation is an independent, non-profit organization and a national leader in the conservation and recovery of Pacific salmon. Formed in 1987, PSF directs funding to grassroots, volunteer-driven projects specifically focused on the conservation of Pacific salmon.

PSF has grown into the leading Canadian non-profit organization to forge partnerships with local communities, First Nations, all levels of government, industry, educational institutions, commercial and recreational fisheries and non-profit organizations all working together to restore and enhance Pacific salmon.

Fraser Basin Council

The Fraser Basin Council is a charitable non-profit society that promotes sustainability in all its dimensions: social, economic and environmental. The Council's vision for the Fraser Basin is a place where social well-being is supported by a vibrant economy and sustained by a healthy environment.

The Council has a unique collaborative governance structure that brings together on its board of directors representatives from the four orders of Canadian government (federal, provincial, municipal and First Nations), as well as the private sector and civil society. The FBC helps others collaborate for their mutual benefit and carries out various research initiatives, strategies and programs that support sustainability.



The Fraser Salmon and Watersheds Program (FSWP)

Program Overview

The Fraser Salmon and Watershed Program is built on a vision:

To inspire changes in human behaviour to the benefit of salmonids and the watersheds they depend on.

The Program further identifies three goals and seven objectives that guide the initiative. These are outlined below.

Goal	Objective
Foster effective communications and governance approaches	Think Salmon - Raise level of public interest, knowledge & engagement
	Governance - Establish strategic, well-informed & effective water & watershed governance approaches
	Aboriginal Engagement - Support collaborative relationships among Aboriginal peoples & with other governments & interests
Protect and restore habitat and water	Habitat Stewardship - Conserve and restore salmon populations and their habitats
	Water Stewardship - Integrate water use and access decisions with salmon recovery
Support responsive and effective fisheries management	Sustainable Fisheries Management - Improve information and tools for fisheries management
	Integrated Fisheries Values - Incorporate social, economic & ecological values and objectives in decision-making

These goals and objectives were developed with over 50 individuals from Federal, Provincial and local government agencies, First Nations, community stewards and NGO's in two workshops held in October 2005.

The discussion from these sessions resulted in the development of a business plan, as well as the list of projects for the 2006 Program. The business plan and project list were reviewed at a June meeting of key representatives within the Basin, termed the Fraser Assembly.



The Fraser Salmon and Watersheds Program (FSWP)

Program Priorities

The following priorities have been identified for '07-08. Priority activities are based on the goals and strategies of the Fraser Salmon and Watersheds Program. Proposed projects should address the following priority activities that have been identified for '07-08.

Objective	Priority Activity	Examples
<p>Education and Engagement: Encourage people to “Think Salmon” in order to raise level of public knowledge and engagement in order to make decisions that benefit salmon.</p>	<p>Maintain salmon as a highly valued public good, through collaborative projects which incorporate salmonids into existing event, programs and venues as well as encourage innovative new initiatives that address increased public involvement.</p>	<ul style="list-style-type: none"> - Incorporation of salmon themes into festivals and community events - Targeted education and outreach strategies and projects which are focused on key audiences with an impact on water quality, water quantity and access to habitat for salmonids.
<p>Governance: Establish strategic, well-informed & effective water & watershed governance approaches</p>	<p>Initiatives that support collaboration and relationship building among organizations and interests, leading to effective multi-party watershed planning processes.</p>	<ul style="list-style-type: none"> - Development of common goals and objectives, plans, and/or governance structure among parties, as part of a multi-party watershed planning process. - Development of background research, policy options, constructive community dialogue, and/or programs to implement action, as part of a multi-party watershed planning process.
<p>Habitat Stewardship: Conserve and restore salmon populations and their habitats</p>	<p>Development of tools (including best management practices, plans, models, guidelines, etc.) that protect</p>	<ul style="list-style-type: none"> - Development of land use guidelines. - Assessment of salmon values within an area and incorporation of those values into a plan, such as an Official Community Plan. - Creation of development guidelines specific to a regional district, in order to protect



THINK SALMON

	habitat.	salmon habitat.
	Initiatives which restore habitat for salmon, particularly within high priority watersheds.	<ul style="list-style-type: none"> - Riparian restoration. - In-stream modifications and restoration. - Access management. - Etc.
Water Stewardship: Integrate water use and access decisions with salmon recovery	Development of approaches to the incorporation of conservation flows in watershed planning	<ul style="list-style-type: none"> - Assessment of minimum flows required by fish and incorporation of those flows into planning exercises. - Local water management planning for conservation fish flows. - Development of tools, models, and/or metering stations for flow monitoring, dissemination, and analysis.
Sustainable Fisheries Management: Improve information and tools for sustainable fisheries management	Development of strategies or technologies that reduce fisheries impacts on weak stocks and non-targeted species	<ul style="list-style-type: none"> - Technology and/or planning that would support targeted fisheries. - Feasibility studies regarding targeted fisheries.
	Initiatives which foster coordination, collaboration, and information exchange among fisher organizations and fisheries sectors	<ul style="list-style-type: none"> - Workshops and/or other sessions among fisher organizations and fisheries sectors, in order to foster collaboration and information exchange in order to improve fisheries management. - Collaborative planning and/or development of protocols among fisher organizations and fisheries sectors in order to improve fisheries management.
	New assessment approaches for in-season management of salmon	<ul style="list-style-type: none"> - Assessment tools for returning salmon stocks. - Activities which support broader involvement in stock assessment by fishers and/or fisher organizations.



The Fraser Salmon and Watersheds Program (FSWP)

Project Funding Request Submission Information for 2007-08

CRITERIA

Eligibility Criteria

The following criteria must be met in order for a project to be considered eligible.

- Recipient must be an eligible organization (see below).
- Activities must directly benefit salmonids within the Fraser Basin.
- Project must address a priority activity.
- At least 20% of the total project budget must be provided by the applicant or other partner organizations matching contribution. Exceptions may be made for First Nations and environmental non-governmental organizations.

Ranking Criteria

Proposals will be assessed using the following criteria:

- a) benefit to the salmon resource, including habitat
- b) degree to which the project emphasizes collaboration
- c) proposal clarity
- d) value for money and cost-effectiveness
- e) innovation and creativity
- f) transferability – relevance to other areas of watershed or province
- g) public awareness and education
- h) risk management approaches
- i) capacity building
- j) technical merit
- k) participation of Aboriginal peoples
- l) community involvement

Review of projects may also include consideration of the level of threat to salmon and watersheds, geographic representation, and involvement of various types of organizations in order to ensure appropriate balance within the Program.

Letters of support from relevant government agencies and other organizations are also required to formalize approval where required (i.e. for habitat and stock assessment projects) as well as to demonstrate collaboration and support for the project.



Eligible Organizations

Eligible organizations for the program are:

- Aboriginal organizations
- Academic institutions
- Commercial and recreational fishers' associations
- Community associations
- Conservation environmental non-governmental organizations
- Industry associations
- Local governments
- BC Ministry of Environment

If you are a member of an organization not included in this list and you would like to submit a project that you believe can contribute to the Program and which is otherwise an eligible project, please contact the PSF or FBC, as listed below.

Costs and Partner Contributions

Eligible costs are:

- Salary, wages and other labour costs
- Travel and related field expenditures
- Professional services and consultant fees
- Utilities (telephone, fax and internet)
- Materials and supplies
- Conference / meeting costs
- Legal and bookkeeping fees
- Costs of audits requested by the Program
- Communications, publishing and printing costs
- Administration overhead (up to 10% of eligible costs of project)
- Equipment purchase or rental
- Equipment repair or maintenance

Proposals should include contributions (cash or in-kind) from sources other than Fraser Salmon and Watersheds Program or Fisheries and Oceans Canada. Partner contributions are expected to be at least 20% of the total project expense. Exceptions may be made for Aboriginal and conservation-based not-for-profit organizations.

In general, it is expected that total project value would normally be at least \$30,000, including partner cash and in-kind contributions. Partner contributions may include



resources provided by organizations other than the sponsoring organizations or by individuals (volunteers).

SUBMISSION INFORMATION AND DEADLINE

Proposals using the accompanying template must be received by Monday April 2nd at noon. Electronic submissions are encouraged.

Proposals may be received by:

Email <i>(emailed submissions are preferred, where possible)</i>	swebb@psf.ca
Fax	604-664-7665
Mail (received by the April 2 nd deadline)	Pacific Salmon Foundation 300-1682 West 7 th Avenue Vancouver, BC V6J 4S6

For any further information on the Fraser Salmon and Watersheds Program or the project selection process, please contact:

Pacific Salmon Foundation or
Alan Kenney
akenney@psf.ca
604-664-7664

Fraser Basin Council
Coral deShield
cdeshield@fraserbasin.bc.ca
604-488-5361

OTHER INFORMATION

Additional Funding Information

Information on other funding sources can be found through the Environment Canada's Green Source (www.ec.gc.ca/ecoaction/before_e.html) and through the Stewardship Centre (www.stewardshipcentre.bc.ca).

Project Year

The project year begins April 1 2007 and ends March 31, 2008. Projects will need to be completed by March 31, 2008.

Notification

All applicants will be notified in writing by early May of the status of their applications.

Think Salmon | Media Contact: Chad Brealey | 604-664-7664 | chad@thinksalmon.com



Payments and Reporting

Contracts will be issued by Pacific Salmon Foundation to successful proponents in early May. The payment and reporting schedule will depend on the size and complexity of the project. In all cases, there will be a 20% holdback payable upon acceptance of the final report. Final reports are required to be submitted no later than March 31, 2008.

Insurance

Recipients must have adequate insurance for the activities proposed including minimum coverage of \$2 million in comprehensive general liability insurance and proof of WCB insurance.

Audit

An audit may be requested of the recipient. Costs associated with an audit requested by the Program are an eligible expense under the Program. In general, projects over 100K will be subject to an audit.

Funds Owing to the Federal Government

A disclosure of money owing to the federal government will be required. Money owed to the federal government will be deducted from any allocation under the Program.

Conflict of Interest and Federal Employees

All recipients are required to disclose involvement of any former public office holders and public servants who are under the Conflict of Interest and Post-Employment Code for Public Office Holders or the Values and Ethics Code for the Public Service.

Communications

Pacific Salmon Foundation reserves the right to communicate the announcement of the reward as well as the placement of signage at projects or events funded by this program.