

Workshop Summary Report
***Strengthening Marine and Freshwater
Conservation in BC***

Vancouver, BC: November 21, 2008

**Peter Abrams
Peter Abrams Consulting Services
February 2009**

Table of Contents

Table of Contents.....	i
Executive Summary	ii
List of Acronyms	vii
1 Introduction.....	1
Introduction to the workshop, Craig Orr	1
2 Marine and Freshwater Conservation in BC: Progress and Challenges	2
BC’s Marine Fisheries – Scott Wallace	2
Pacific Salmon: What can we conserve, and how can we conserve it – Ken Wilson	6
Panel discussion with Scott Wallace, Ken Wilson and representatives from DFO	11
3 The Marine Conservation Caucus: Present and Future	14
Background on the MCC.....	14
Recent initiatives	14
Future challenges.....	15
Ground-truthing a draft of MCC’s operating principles.....	15
4 Ideas to Strengthen Marine and Freshwater Conservation in BC	21
What is working well in marine and freshwater conservation and why?	21
As marine and freshwater conservation groups, where do we need to focus our efforts, and how?.....	23
How can we work together more effectively?.....	29
5 Take Home Messages.....	34
Approach.....	34
Outreach and education.....	34
MCC	34
6 Appendices.....	35
Appendix A: Workshop agenda.....	35
Appendix B: Workshop participant list and contact information	37
Appendix C: Basic Consequences Table.....	42
Appendix D: Successful conservation initiatives	44

List of Tables

Table 1: Comments regarding MCC operating principles that are unclear or miss the mark.....	16
Table 2: Key persistent challenges	23
Table 3: Key opportunities to explore for overcoming persistent challenges	27
Table 4: Ideas and suggestions for working together more effectively	29

Executive Summary

This report summarizes the proceedings of the workshop, “Strengthening Marine and Freshwater Conservation in BC”, hosted by the Pacific Marine Conservation Caucus (MCC), in Vancouver, November 21st 2008. The workshop brought together marine and freshwater conservation groups from across the province to share information and experiences, and to explore possibilities for collaboration to strengthen efforts. The workshop agenda can be found in Appendix A.

A total of 87 people participated in the workshop. Thirty-five marine and freshwater conservation Non-Governmental Organizations (NGOs) were represented from 29 communities across British Columbia (BC). Participants also included representatives from federal, provincial and municipal governments, academic institutions and affiliated projects, the Vancouver Aquarium, and environmental consulting firms. See Appendix B for the participant contact list.

Following are summaries of the main topics of discussion covered during the workshop.

BC’s marine fisheries

The plethora of conservation NGOs and initiatives in BC focused on fisheries have translated into some conservation gains for Canada’s Pacific marine ecosystems. However, to ensure efforts are effective, “Marine Conservation Acupuncture” must be practiced, i.e. make interventions at strategic points in the political and management decision-making system to maximize leverage with the time and resources available. However, due to the complexity of the political/management system and ecosystems involved, it is challenging to know where to “stick the needle”. Precautionary management has never been more relevant or its need accepted.

A number of fisheries have made progress in strengthening conservation, yet still face continuing challenges:

- **Groundfish:** Areas of progress are many, including a better understanding of the catch and its location for all target and non-target species. A number of key factors led to this progress, including good scientific information, pressure from stakeholders, and Department of Fisheries and Oceans Canada (DFO) leadership. Challenges to the fishery include establishing an appropriate Total Allowable Catch;
- **Herring:** Areas of progress include a functioning advisory process, while challenges still faced include low abundance and declining size with age;
- **Shellfish:** Areas of progress include functioning advisory processes, while continuing challenges include weak involvement by the conservation community;
- **Recreational fisheries:** Conservation gains have been achieved in non-salmon recreational fisheries, but overall, there are many persistent challenges, including poor catch accounting and enforcement, and effective monitoring of the catch of commercial guides and lodges.

There have been conservation gains and challenges in related areas including the protection of habitat protection and species at risk, the establishment of protected areas, and the development of a certification system for seafood by the Marine Stewardship Council.

Overall, the conservation community has been successful in putting in place sufficient legislative and policy tools. The immediate priority is on implementation with a strong conservation standard that meets best practices in other jurisdictions. Experiences from reforms in the groundfish sector indicate that putting accountability for catch back on the harvesters has generated more innovation, as well as concern and stewardship of the resource. Structural changes focused on a strong conservation objective best accommodates the innovations needed. A combination of hammer, incentive and individual accountability is required.

Pacific Salmon Conservation

A useful definition of salmon conservation is needed. The Wild Salmon Policy (WSP) is the best attempt to date to agree on an operational definition, but implementation is proving difficult.

DFO has developed management processes for Fraser sockeye and South Coast/Fraser chum that should reflect the agency's understanding of the WSP and their obligations as managers. However, Fraser sockeye stocks are being managed and harvested as four timing groups, not as individual stocks or Conservation Units. This raises concerns, including the risk with setting harvest objectives for timing aggregates. The Fraser River Sockeye Spawning Initiative developed and implemented harvest objectives for these mixed stock fisheries, overriding opposition from the conservation sector about the inappropriate use of models. Currently, Fraser sockeye abundance, productivity and diversity are declining.

Management of Fraser chum salmon raises many concerns, e.g., commercial harvesting in Johnstone Strait and United States waters can continue even when the Fraser run is below the escapement goal, and hatchery contributions to the Johnstone Strait and Fraser chum runs and to the escapement are very significant but not adequately monitored or considered.

Key challenges facing Pacific salmon conservation include replacing the old management paradigm of Maximum Sustainable Yield, clarifying the roles of DFO scientists and harvest managers, developing and articulating coherent conservation values, and obtaining and allocating resources to engage in management processes as equal partners. Progress has been made by engaging in process, demonstrating and learning.

The Marine Conservation Caucus and shaping its future

The MCC was established in December 2003 by marine conservation groups. The MCC is the main method of representing these groups' conservation interests in formal DFO advisory body consultative processes. However, this engagement with the MCC does not replace the need for government to consult with other marine and freshwater conservation groups.

The MCC currently concentrates on themes covered in the *Fisheries Act* and the *Oceans Act*, such as sustainable fisheries management and marine conservation. By taking on difficult harvesting issues, the MCC also fills a challenging niche among conservation NGOs. The MCC has three active committees: Groundfish, Pelagics, and Salmon, and its mandate can be found on its website: <http://www.mccpacific.org/pages/about/mccmandate.htm>

While the MCC has been effective in many ways during the five years of its existence, it is reaching out to network more closely with other marine and freshwater conservation NGOs across the province, seeking to better define its role and strengthen the community's collective conservation influence and work. To this end, workshop participants provided feedback to the MCC on a draft set of 9 MCC operating principles (Table 1 in this report). Many changes were suggested. Overall comments include:

- Although freshwater fish and watersheds are of interest to the MCC, “freshwater conservation” is not in its mandate and the organization does not represent the many groups involved in this work. Based on its current focus, the MCC could be named “The Fishery Conservation Caucus”;
- The MCC needs to decide whether it is solely about species conservation. Habitat seems to be absent;
- The MCC does not have the capacity to effectively take on all issues around marine and freshwater conservation. Set priorities and narrow MCC's scope so you have a manageable task and do it well.

Additional operating principles for the MCC to consider include:

- Adopt an ecosystem-based approach, rather than a fisheries-focused one. Go beyond habitat vs. harvest;
- Address sustainability, inclusiveness, openness, transparency, respect, operating by consensus, accountability, credibility, engagement of First Nations, involvement of industry;
- Clarify MCC's process for identifying common advocacy goals or priority issues MCC;
- Act as a force multiplier by supplying weight behind the efforts of smaller groups;
- Raise awareness about the MCC;
- Develop and promote the capacity of the environmental community.

What is working well in marine and freshwater conservation and why?

See Appendix D in this report for overviews of successful marine and freshwater conservation initiatives provided by participants. Examples of common factors of success are:

- Collaboration among a diversity of parties and interests;
- Partnership with First Nations;
- Focus on a common, clear goal;
- Consensus among parties on priority objectives and strategies;
- Sufficient funding;
- Credible data and information from different knowledge bases;
- Large pool of volunteers;
- Positive working environment for staff and volunteers;
- Outreach based on identification of target groups and understanding their characteristics.

Examples of common strategies, tools and techniques used are:

- Strive for the adoption of an ecosystem-based approach by regulatory agencies;
- Build partnerships with First Nations;
- Build coalitions around a common goal from a diversity of relevant interests;
- Organize around issue-specific initiatives;
- Adapt to scale when designing and testing management practices;
- Build credibility and value of data/information by collaborating with involved parties on design and implementation of collection, analysis, presentation and sharing;
- Engage in political and planning processes at strategic points and with key individuals to build government support, and apply pressure when necessary;
- Raise and sustain morale and create commitment among staff, volunteers and partner groups/organizations by setting realistic goals and objectives, celebrating small and large victories, recognizing efforts.

Where should marine and freshwater conservation groups focus their efforts, and how?

Table 2 in this report presents key persistent challenges facing marine and freshwater conservation groups, and Table 3 presents key opportunities to explore for overcoming these challenges. Examples of key persistent challenges are:

- Securing long-term project funding and resources;
- Prioritizing resources;

- Working with the size and diversity of BC;
- Establishing effective collaborations;
- Adopting ecosystem-based management by regulatory bodies;
- Dealing with DFO's conflict of interest;
- Carrying out effective outreach and education.

Examples of key opportunities to explore for overcoming challenges are:

- A focus on salmon and habitat protection;
- Identifying weak links in the health of an ecosystem;
- Partnering with First Nations;
- Accessing DFO data;
- Taking advantage of the “greening” of the government and the economy;
- Studying and testing successful models from beyond BC;
- Developing and using internet-based technology.

How can marine and freshwater conservation groups work together more effectively?

Table 4 in this report presents key ideas for enabling marine and freshwater conservation groups to work together more effectively, focusing on common priorities, methods of support, ways to improve communications, and potential collaborations. Examples of common priorities are:

- Improving information sharing between conservation NGOs;
- Increasing partnerships with First Nations;
- Creating a system to build consensus among conservation NGOs and form consistent messages on key conservation issues;
- Building coalitions among diversity of interests by creating common goals and identifying potential benefits;
- Building trust with communities;
- Working at a scale that is manageable;
- Improving and expanding outreach and environmental education;
- Improving fundraising;
- Adopting an ecosystem-based approach;
- Implementing long term, responsive management.

Examples of methods are support are:

- Networking to share experience, successes, contacts, trainings and resources;
- Providing place-based education with simple tools for conservation learning and involvement;
- Providing materials for culturally sensitive education and outreach;
- Encouraging the use of conservation NGO websites;
- From the MCC, build consensus, consistent messaging and coordinated action; clearly establish and communicate MCC's goals, priorities, operations, offerings of support, and ways to participate; act as a liaison with DFO; identify gaps and redundancies in conservation efforts.

Examples of ways to improve communications are:

- Use the MCC website to expand networking and build collaboration;
- Create an MCC communication outreach “tree”;
- Use media to reach wider audiences to improve ecological literacy amongst the public;
- Use social networking tools and video-conferencing;
- Use terminology familiar to target groups.

Examples of potential collaborations are:

- Forming more partnerships with First Nations;
- Building temporary partnerships built on specific issues of shared concern;
- Improving access to DFO information;
- Developing regional working groups to represent priorities of conservation NGOs;
- Distributing “Basic Consequences” table (see Appendix C in this report);
- Organizing events to recognize and celebrate conservation achievements in local communities and at a broader scale.

Take-home messages

Common ideas and themes emerging from the workshop’s “take-home” messages are:

- Maximize results and minimize wasted effort by increasing communication between parties and building collaborations among a diversity of interests based on common goals;
- Put conservation first and use a collaborative approach to all decision-making processes;
- Implement the Precautionary Principle;
- Factor in the economic value of the environment in all decision making;
- Use a scale-adaptive approach for conservation dependent on the issue/system/situation;
- Apply science to set and achieve ecosystem-level conservation goals, ensuring adequate resources for research.
- Inclusive, effective, culturally appropriate outreach is key to success: connect with people’s existing values;
- Adapt best practices from models, such as the “Thank you, Ocean” program for education and outreach: <http://www.thankyouocean.org/>
- The MCC has a key role to play in networking marine and freshwater conservation organization and community groups, and it needs to better use information technology and the internet to this end;
- MCC should collaborate more with First Nations;
- Broaden the focus of the MCC to include non-fishery related conservation concerns.

List of Acronyms

BC	British Columbia
CU	Conservation Unit
DFO	Department of Fisheries and Oceans Canada
FRSSI	Fraser River Sockeye Spawning Initiative
IFMP	Integrated Fisheries Management Plan
IHPC	Integrated Harvest Planning Committee
LWSP	Living Water Smart Program
MCC	Marine Conservation Caucus
MPA	Marine Protected Area
MSC	Marine Stewardship Council
NGO	Non-Governmental Organization
PFR	Pacific Fisheries Reform
PICFI	Pacific Integrated Commercial Fisheries Initiative
PNCIMA	Pacific North Coast Integrated Management Area
RCA	Rockfish Conservation Area
SARA	Species at Risk Act
SEHAB	Salmon Enhancement and Habitat Advisory Board
TAC	Total Allowable Catch
TEK	Traditional Ecological Knowledge
WSP	Wild Salmon Policy

1 Introduction

This report summarizes the proceedings of the workshop, “Strengthening Marine and Freshwater Conservation in BC”, hosted by the Pacific Marine Conservation Caucus (MCC), in Vancouver, November 21st 2008.

The workshop brought together marine and freshwater conservation groups from across the province to share information and experiences, and to explore possibilities for collaboration to strengthen efforts. To fulfill this purpose, workshop participants engaged in a variety of activities including presentations on key topics, small group discussions, and large group sessions. The goal and objectives of the workshop can be found in Appendix A.

A total of 87 people participated in the workshop. Thirty-five marine and freshwater conservation Non-Governmental Organizations (NGOs) were represented from 29 communities across British Columbia (BC). Participants also included representatives from federal, provincial and municipal governments, academic institutions and affiliated projects, the Vancouver Aquarium, and environmental consulting firms. See Appendix B for the participant contact list.

Introduction to the workshop, Craig Orr

Craig Orr, Co-chair of the MCC and Executive Director Watershed Watch Salmon Society, welcomed participants, thanking them for generously offering their time and expertise, and provided his perspective on the day. Following is a summary of Craig's remarks.

- I affectionately refer to the MCC as a somewhat “rag-tag” collection of conservation NGOs, composed of the following eight organizations: Canadian Parks and Wilderness Society - BC Chapter, David Suzuki Foundation, Living Oceans Society, Pacific Streamkeeper Federation, Raincoast Conservation Foundation, Stewardship Centre for BC, Watershed Watch Salmon Society, and World Wildlife Fund Canada;
- As the name implies, a caucus is not as formally structured as a coalition: it allows us greater flexibility in forming and taking forward joint initiatives;
- In addition to taking on the more unifying habitat issues, the MCC fills a rare and extremely challenging niche among NGOs by taking on often vexing harvest issues. For this reason it is likely to remain a small group – harvest issues are not for everyone;
- As the MCC developed, it also became a main means of consultation between the aquatic NGO community and DFO – which is no small task;
- While the MCC has been effective in many ways during the five years of its existence, with many organizations around the province engaged in a variety of conservation issues, there are opportunities for us to network more closely. This prompted the members of the MCC to reach out to others to better define the MCC's role and to strengthen our community's collective conservation clout;
- Later this morning, the MCC wishes to share a bit about its current role and operations, and in return we hope you can help us by providing feedback on our future direction;
- We need to acknowledge that the task of conserving fish and fish habitat is beyond the collective efforts of the MCC, and perhaps even everyone in this room. However, today is an opportunity to strengthen our contribution to this work. I invite you to share your expertise, experiences and ideas.

2 Marine and Freshwater Conservation in BC: Progress and Challenges

The first two presentations of the workshop provided a context for discussing marine and freshwater conservation in BC, examining areas of progress and continuing challenges. Below are summaries of the presentations, followed by key points from question and answer periods and a panel discussion that followed.

BC's Marine Fisheries – Scott Wallace

Scott Wallace, Chair, MCC Groundfish and Pelagics Committees and Sustainable Fisheries Analyst for the David Suzuki Foundation, gave an overview of the state of BC's non-salmonid marine fisheries. Following are the key points covered; a copy of Scott's presentation can be found at: www.mccpacific.org/mccworkshop2008.htm

Background

I believe fisheries are still the single largest anthropogenic impact to BC's marine ecosystems, from both the trophic impact – killing, removing, and discarding animals – and the impacts on habitat. Since fisheries are a direct product of marine biodiversity, robust sustainable fisheries probably indicate we are protecting the core elements of the marine ecosystem.

The plethora of BC conservation NGOs and initiatives focused on fisheries have translated into some conservation gains for Canada's Pacific marine ecosystems. However, there is a barrage of information to fight through to understand the political and ecological systems that we are trying to protect, and creating the change we'd like to see often feels like breaching fortress walls.

To ensure our efforts are effective, we need to focus them by practicing "Marine Conservation Acupuncture", i.e. make interventions at strategic points in the political and management decision-making system to maximize leverage with the time and resources we have. The goal is to change something in the final Integrated Fisheries Management Plan (IFMP), since that is the operational side of all the laws, policies, lobbying, and advisory information. But where to stick the needles? Understanding the political process is a challenge in itself. For example, we could stick a needle in the Minister's Office in a lobbying effort to get a national policy in place (e.g., Species at Risk Act [SARA], Oceans Act), or we could stick a needle in an advisory process and be an active participant. However, the political/management system is simple compared to the complicated marine ecosystem it is intended to manage. For example, an over-simplified trophic model linking hake and fur seals reveals 29 million trophic pathways. We deal with uncertainties, and have to choose between various and competing scientific sources of information.

Precautionary management has never been more relevant or accepted by decision makers. Some of the most successful fisheries conservation initiatives are based on management principles, not necessarily a measurable outcome.

Areas of progress and continuing challenges

Groundfish

The groundfish fishery has improved over the last 15 years. Changes made thus far will result in broad conservation gains for the ecosystem in which the fishery is embedded. Areas of progress include:

- Additional protected areas through the establishment of 164 Rockfish Conservation Areas (RCAs) provide a minimum safety net;

- Catch and its location are well understood for all target and non-target species, allowing the use of a rudimentary risk assessment to build our understanding of relationships between catch levels, the abundance of stock, historical catches, and the life history of the species and managing to a Total Allowable Catch (TAC);
- A multi-species accountable fishery means it is not possible to catch all of the allocated TAC: one species will ultimately limit the ability to catch others, providing a buffer around the uncertainties associated with the TACs;
- The integrated system eliminates the need to explore or fish new areas;
- Fishing effort in some of the historical hot spots has been drastically reduced due to fear of capturing too many by-catch species, thus providing an additional reserve effect;
- In the last 10 years, several new surveys have been put into place to monitor the long term trends in abundance of several species;
- Recently, confirmation has been received that an integrated advisory board overseeing the fishery will be established – something MCC has been asking for. We will now be able to stick an acupuncture needle in that part of the system.

Continuing challenges include:

- Establishing an appropriate TAC: Assessments are outdated;
- Managing SARA species: Where is the cut-off between a fisheries management solution and a SARA solution?
- Deep sea trawling: This fishery continues as a glaring management failure. DFO management has not imposed reforms despite information from their science branch suggesting this fishery is unsustainable;
- Pilot status: The integrated fishery is still a pilot and at risk of being discontinued;
- Data use and sharing: High quality data are being collected but not used to their fullest potential, nor are they accessible to all interested stakeholders;
- Socio-economic concerns: There are ongoing concerns regarding the fishery's social sustainability;
- Habitat protection: This has not yet factored into the management of any of the groundfish fisheries;
- Restoration: There are still several areas where the ecosystem is not as diverse and productive as it once was and no restoration plans exist.

Reforms to the groundfish fishery were successful because there was:

- Scientific information;
- Pressure from conservation NGOs, the public and industry;
- DFO leadership where DFO provided an ultimatum to industry to figure out a solution or risk being closed down;
- As a result of the DFO ultimatum, industry was forced to design a system to achieve a conservation outcome.

Herring fishery

Areas of progress in the herring fishery include:

- A functioning advisory process;
- Controlled fishing efforts;

- Catch accountability.

Continuing challenges include:

- Low abundance whose cause remains unknown;
- Declining size with age;
- In-season management;
- Ecosystem considerations;
- Conflicting information between traditional knowledge gained by fishers and the outcomes of the DFO scientific stock assessment process.

Shellfish fisheries

Areas of progress in the shellfish fisheries include:

- Functioning advisory processes;
- Generally well-managed.

Continuing challenges include:

- Little involvement by the conservation community, including no monitoring;
- Sea otter interactions with the resource as the sea otter population increases.

Recreational fisheries

There has been some progress in the last couple of years to control some non-salmon recreational fisheries. For example, at the beginning of November, DFO closed the in-season halibut fishery to recreational anglers despite fierce opposition. This demonstrates that DFO is slowly recognizing that recreational fisheries are a conservation concern. Continuing challenges include:

- Very diverse interests involved in the fisheries, represented by a powerful lobby group (Sports Fishing Association of BC);
- Poor catch accounting and enforcement. Despite attempts to improve creel surveys and voluntary programs, the data are poor due to the number of participants spread over large temporal and spatial scales;
- Weak involvement by conservation NGOs. The recreational fisheries potentially undermine the conservation gains made in other sectors;
- Widespread fisheries, with more than 300,000 licenses;
- Monitoring the catch of commercial guides and lodges. Since commercial guides and lodges catch such a large volume of fish, they are of particular concern. Better monitoring and reporting is needed.

Habitat protection

Progress in habitat protection is being realized with the formation of the Coral and Sponge Conservation Strategy and the Sensitive Benthic Areas policy. Continuing challenges include:

- Ensuring these policies are robust, effective at conservation, have “teeth”, and are adequately resourced. For example, glass sponge reefs are not protected from all fishing gear types;
- Implementing the policies into IFMPs;
- Managing the unknowns.

Species at Risk

Main progress is that SARA exists. Continuing challenges include:

- Implementation: how the legislation will actually work since almost every marine fish has been excluded from legal listing;
- Bias against legal listing of marine fish: This bias can be attributed to:
 - an inadequate socio-economic evaluation method of costs and benefits of listing. The socio-economic impact analysis favours the “costs” to industry rather than the intrinsic benefit of protecting and conserving biological diversity
 - overlap of some species between fisheries management and SARA. As a result, the Government in Council has often argued that the protection and recovery of a species can be achieved through the *Fisheries Act*;
- Protection of critical habitat;
- SARA has too many loopholes where the Minister can essentially choose not to enforce the law.

Protected Areas

Areas of progress include the establishment of several RCAs (creating fisheries closures), Bowie Seamount, Endeavour Hot Vents, Sponge Reefs, Gwaii Haanas, and the Southern Gulf Islands. Continuing challenges include:

- Slow pace with establishing Marine Protected Areas (MPAs) and National Marine Conservation Areas;
- Questionable conservation gains;
- Establishing networks with high conservation value;
- Integrating changes in fisheries management;
- How to establish protected areas to manage for scientific uncertainty?

Marine Stewardship Council

Main progress is that a market for eco-certified seafood has been developed. Nearly every large BC fishery is considering, or is undergoing, Marine Stewardship Council (MSC) pre-assessment:

- Halibut (almost complete),
- Pacific hake (in process),
- Pacific salmon: sockeye, pink, chum (in process),
- Sablefish (beginning process),
- Spiny dogfish (pre-assessment complete),
- Groundfish bottom trawl (pre-assessment complete),
- Several others in confidential pre-assessment process.

The main challenge is to ensure the credibility and verifiability of the process. High standards need to be maintained.

Summary

The conservation community has been successful in putting in place sufficient legislative and policy tools, including SARA, Oceans Act, MPAs, Marine Use Planning, WSP, Sensitive Benthic Areas policy, advisory processes, and sustainable seafood markets. Immediate priority is on

implementation of these initiatives with a strong conservation standard that meets best practices in other jurisdictions. Groundfish fishery reforms appear to be a conservation success, offering lessons for learning.

Questions and answers

The discussion following Scott's presentation highlighted the following issues and points:

- We lack in our ability to measure and understand the impact from sport fishing on halibut and other fisheries;
- In BC, sport fishing is more loosely managed than commercial fisheries. Due to the absence of accountability, there is no way of verifying whether sport fisheries are staying within their allocations and other management responsibilities (e.g., size limits, daily limits, closed areas). Lottery tags have been suggested as one way of controlling what is taken;
- Mislabelling of species occurs due to inadequate requirements for proper labelling at all levels of the seafood trade. Mislabelling is fraudulent and creates health concerns. Although the MCC is not directly involved in this issue, MCC member David Suzuki Foundation and other organizations are. There are also opportunities for the public to get involved;
- The Marine Stewardship Certification system has good verification processes, tracking the product throughout the production chain, from the fishery to the marketplace.

Pacific Salmon: What can we conserve, and how can we conserve it – Ken Wilson

Ken Wilson, member of MCC Salmon Committee, fisheries biologist provided an overview of aspects of salmon conservation in BC. Following are the key points covered; a copy of Ken's presentation can be found at: www.mccpacific.org/mccworkshop2008.htm

Defining salmon conservation and the Wild Salmon Policy

I found many definitions of "conservation", talking about wise use, sustainable benefits, and the management of the biosphere. None of them provide any useful guidance concerning how best to manage a salmon stock. A useful definition of salmon conservation would include:

- That it has broad public support
- Provides clear guidance to decision makers
- Holds the decision making process accountable
- Respects aboriginal rights
- Respects Canada's domestic and international legal obligations.

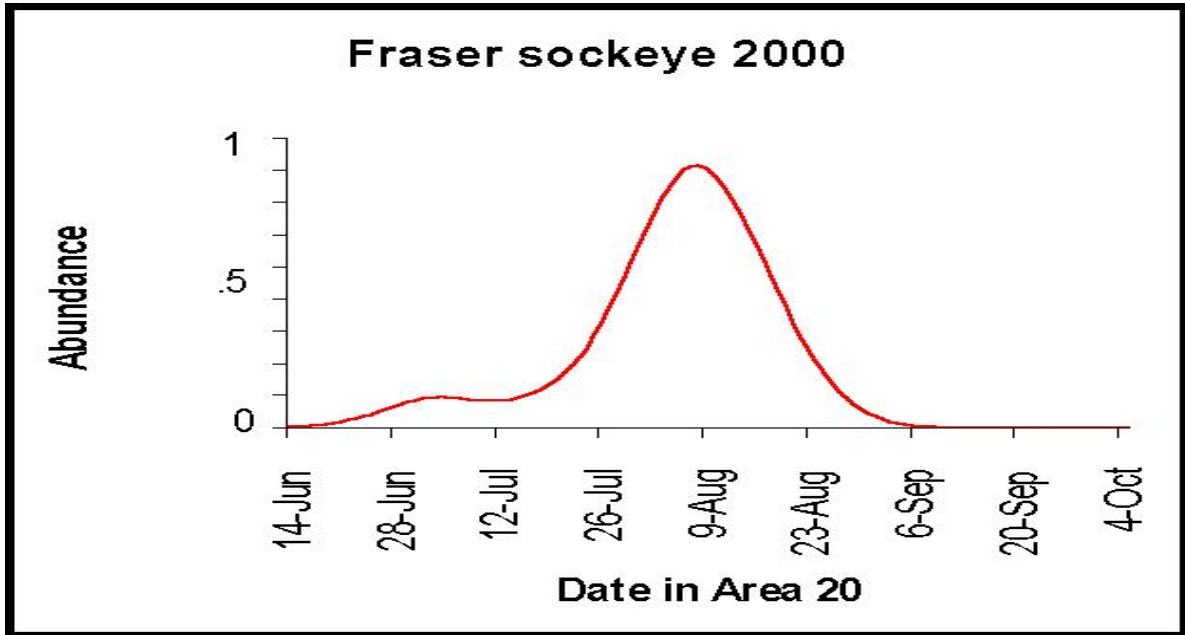
The WSP is our best attempt to date to agree on an operational definition of salmon conservation, but implementation is proving to be just as difficult as expected. By mandating protection for each Conservation Unit (CU) of salmon, the WSP makes mixed stock fisheries much more difficult to prosecute. Addressing conservation concerns in mixed stock fisheries will lead to more harvest opportunities in terminal areas.

Fraser sockeye and Fraser chum management

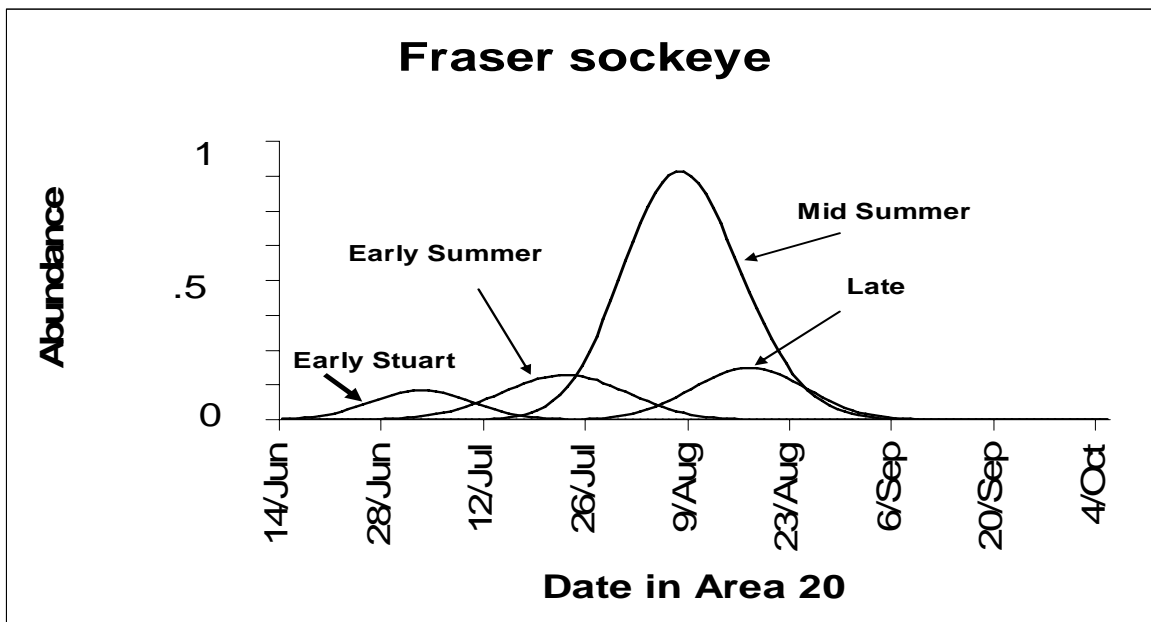
DFO has developed a "new" management approach for Fraser sockeye that they think is consistent with the WSP. DFO is also implementing a new South Coast/Fraser chum management process. These new processes should reflect DFO's understanding of the WSP and their obligations as managers.

Fraser sockeye

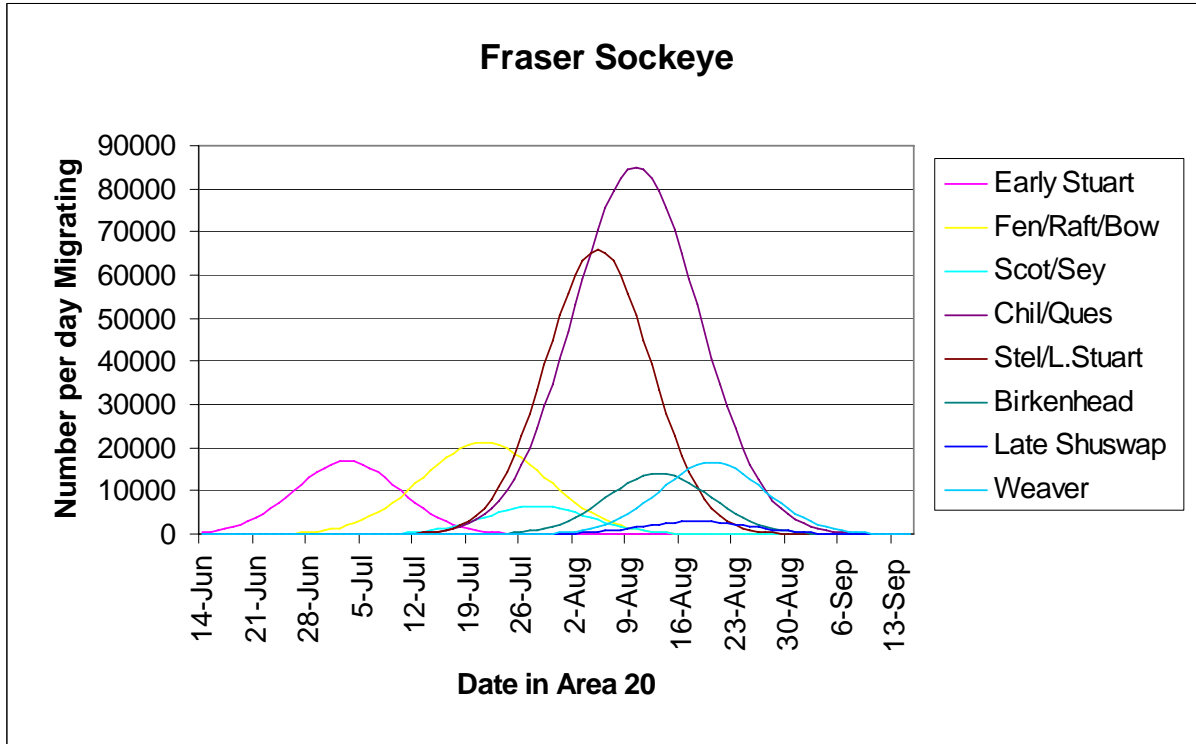
Fraser sockeye are managed and harvested as four timing groups, and not as individual stocks or CUs. There are many spawning stocks in each group, but only one shared escapement goal. Protecting weak stocks in a timing group makes it difficult to harvest stronger stocks, and timing groups overlap significantly. Harvesting an abundant timing group will harvest other less abundant timing groups.



This curve shows the expected abundance of Fraser sockeye passing through Area 20/day.



This curve shows the expected abundance of Fraser sockeye from the four timing groups passing through Area 20/day.

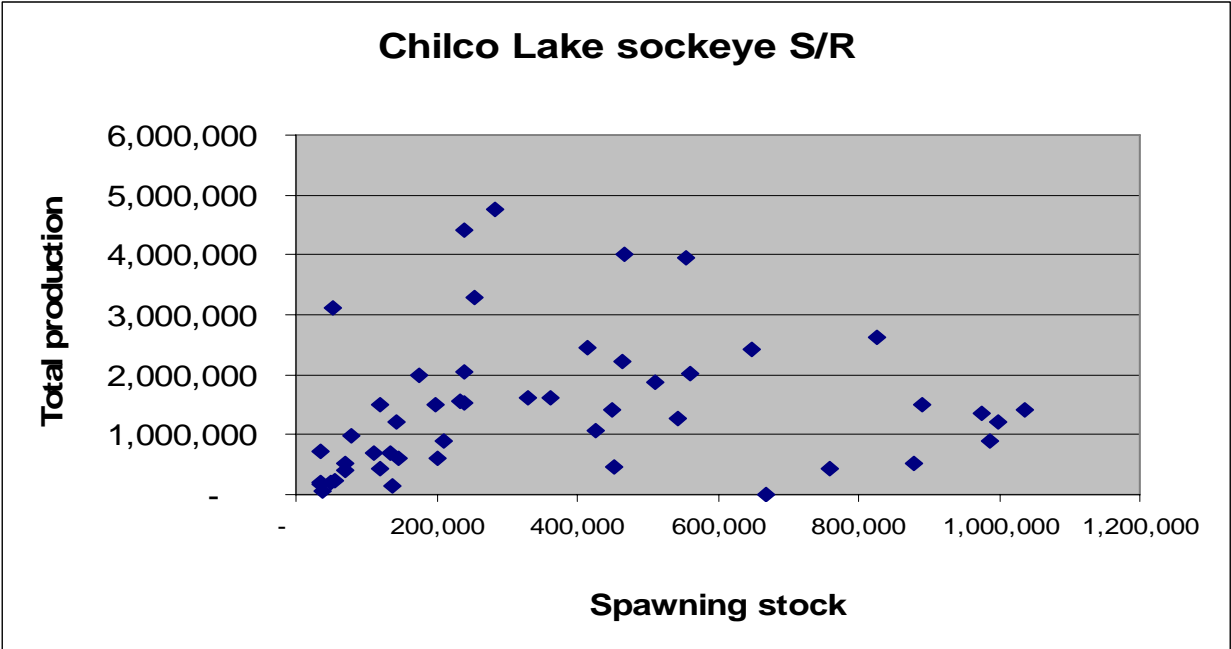


Each timing group is comprised of many stocks migrating together, but with slightly different timing. The great majority of commercial harvest of Fraser sockeye is taken in the ocean in mixed stock fisheries. Setting harvest objectives for timing aggregates is risky, because productive and less productive stocks, and stocks from other timing aggregates are harvested simultaneously.

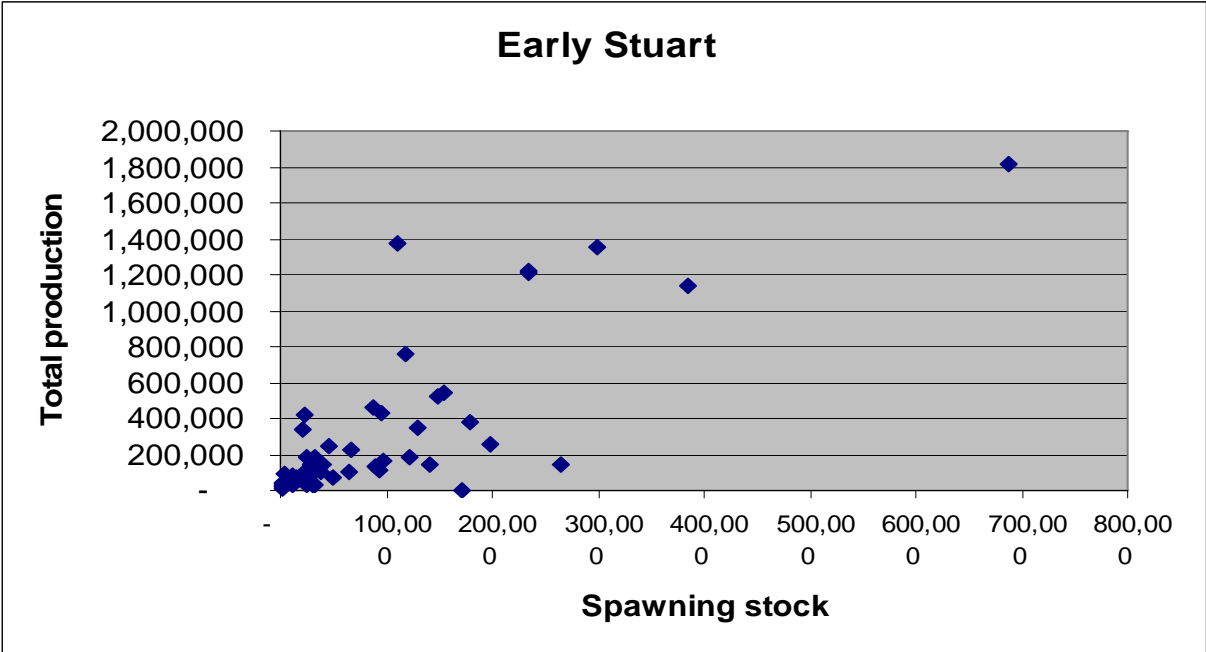
Fraser River Sockeye Spawning Initiative

The Fraser River Sockeye Spawning Initiative (FRSSI) developed harvest objectives for these mixed stock fisheries by using average historical productivity to estimate future productivity and by using simulation models to explore how the abundance of stocks within the timing groups respond to different harvest strategies. The conservation sector argued that the models were being used inappropriately because:

- Fraser sockeye productivity was declining, not stable as assumed
- Stock Recruit models being used are often poor, and many stocks have not been adequately assessed.
- The models made assumptions about run timing and harvest impacts that were unrealistic or untrue.



The graph shows that Chilco Lake sockeye productivity is declining slowly for most cycle lines.



Is this relationship useful? Early Stuart Sockeye productivity is declining rapidly on every cycle. Extinction appears imminent.

The harvest objectives developed by FRSSI are imposed over the objections of the conservation sector. We continue to see individual conservation units in decline, while other stocks within the same timing unit grow. Fraser sockeye abundance is declining, productivity is declining, and diversity is declining.

Harvest of Fraser Chum Salmon

Fraser chum migrate primarily through Johnstone Strait (St.). A small proportion (less than 10%) of Fraser chum is assumed to migrate through Juan de Fuca most years, but it is difficult to know. Fraser Chum make up more than 50% of the Johnstone St. chum harvest most years (mixed with Nanaimo, Cowichan, Jervis, Goldstream, Sooke and United States [US] stocks):

- >90% of Fraser chum migrate to the Fraser through Johnstone St;
- <10% of Fraser chum migrate through Juan de Fuca?

Between 1996 and 2005 (the last 10 years for which data are available):

- 84% of the harvest of Fraser chum was intercepted outside of the Fraser, primarily in Johnstone St;
- 16% of the harvest of Fraser chum was taken in the Fraser River;
- 84% of Fraser chum harvest taken in approach areas;
- 16% of Fraser chum harvest taken in-river.

Fraser chum fisheries are regulated:

1. under Chapter 6 of the Pacific Salmon Treaty (New for 2009)
2. through the Johnstone St. and Fraser Chum Sections of the Integrated Fisheries Management Plan (IFMP) approved by the Integrated Harvest Planning Committee (IHPC)

Proposed Chapter 6 language related to Johnstone St. says:

- No commercial fishing is allowed below a total run size in Johnstone St. of 1 million chum;
- At runs above 1 million,
 - harvest in Johnstone St. will be fixed at 20% of the run (15% commercial and 5% Food, Social and Ceremonial [for First Nation's], and Recreational),
 - US chum harvests in 7-7A capped at 120,000 (120K) (80% Fraser).

Proposed Chapter 6 language related to Fraser River/7-7A states:

- If the run into the Fraser is less than 900K, (as estimated by the Albion chum test fishery), commercial fisheries in Canada and the US are closed;
- If the run is below 800K, Aboriginal food fisheries inside the Fraser are restricted.

IFMP Johnstone St. Chum

The IFMP considers chum harvests in Johnstone St. to be mixed stock fisheries, even though Fraser chum make up more than 50% of the 'mixed stock' harvest. The current IFMP calls for a 20% harvest of chums in Johnstone St. "regardless of total abundance". It is DFO's position that this is "abundance based management".

Concerns

Concerns for Fraser and Johnstone St. chum include:

- Johnstone St. chum fisheries are not abundance-based as I define the term;
- At low run sizes, Fraser chum will be harvested commercially in Johnstone St. and US waters, even if the Fraser run is below the escapement goal (800K);
- Commercial harvests in Johnstone St. take priority over Fraser food fisheries at low run sizes;

- Hatchery contributions to the Johnstone St. and Fraser chum runs and to the escapement, are very significant but not adequately monitored or considered;
- Fraser chum spawning escapement estimates are incomplete, and as a result, the reliability of the run size estimates based on the Albion test fishery is difficult to assess.

Status of Fraser Chum

Conservation of other species makes it almost impossible to harvest the available TAC. Escapements frequently meet or exceed goals.

Progress and key challenges

In the next two weeks the conservation sector will be making representation to the Fraser Panel concerning the way Fraser sockeye stocks are grouped and managed, and to the IHPC recommending changes to the way Fraser chum are managed in Johnstone St. Key challenges we face are:

- Accepting the death of Maximum Sustainable Yield and developing a new salmon management paradigm;
- Coming to terms with the economics of exploitation and conservation;
- Clarifying the roles of DFO scientists and harvest managers;
- Developing, articulating and defending coherent 'conservation values';
- Obtaining and allocating resources to engage in management processes as equal partners.

We have learned that what works is engaging in process, demonstrating, and learning. What hasn't worked is engaging in process, lecturing, and assuming.

Panel discussion with Scott Wallace, Ken Wilson and representatives from DFO

Following the presentations and question and answer sessions, a panel discussion took place to further explore marine and freshwater conservation issues in BC. Scott Wallace and Ken Wilson were joined by two representatives from the DFO: Ron Kadowaki, Director Pacific Fisheries Reform, and Barry Ackerman, Groundfish Trawl Coordinator.

Ron Kadowaki began the panel discussion by providing a brief overview of DFO's involvement in conservation initiatives. Key points include:

- DFO's advisory processes began in the 1970s, involving recreational and aboriginal fishers. The focus at the time was on managing commercial fisheries for the benefit of commercial fishers and processors;
- Since that time, consultations have increased with First Nations, and the environmental and recreational communities. Progress has been made from this collaboration, but DFO has not always been good at keeping up with all the changes influencing the fisheries, and much remains to be done;
- DFO supports the engagement of diverse environmental interests in discussions as it seeks to build greater support for outcomes through identifying common objectives;
- DFO's conservation initiatives include:
 - the Pacific Fisheries Reform (PFR), announced in the spring of 2005 in response to the 2004 reports of the First Nations Panel on Fisheries and the Joint Task Group on Post-treaty Fisheries;
 - the WSP, released in June 2005, whose goal is to ensure healthy and diverse wild Pacific salmon populations and their habitats, supporting sustainable salmon fisheries;

- Pacific Integrated Commercial Fisheries Initiative (PICFI), announced in July 2007 in response to issues facing the commercial fisheries, e.g., fishing at a lower rate in mixed-stock fisheries, problems with economic viability, access for First Nations. PICFI supports the direction of PFR through integrated commercial fisheries, and has led to improved co-management approaches, improved management and monitoring, and greater opportunities for First Nations participation in commercial fisheries;
- With the recreational fishery sector, DFO has worked on introducing log books, guide certification, and education;
- Monitoring continues to be a challenge for all fisheries, not just in the recreational sector;
- All sectors have to work together to solve the problems we are facing.

Open discussion

Following are key issues and points discussed during the panel dialogue with workshop participants:

- Recording sport fishing catches is not regulated or mandatory. Lodges have volunteer log books available, and creel surveys are done in high effort fishing areas, but this information is patchy. Currently, what is counted is what is landed on the dock, which misses mortalities of fish that are caught and released. However, there is growing awareness of the conservation issue among sport fishers, and the Sport Fishing Institute will be discussing guide certification at their AGM in December;
- It is difficult to come up with practical solutions for sport fishing regulations. Issuing tags (similar to hunting) is problematic due to the distribution and number of species involved. It is important to examine models from other parts of the world. Regarding salmon, restrictions to ocean fisheries in the north could be designed to address conservation concerns. Realistic escapement goals need to be set and met, and sharing arrangements between sectors negotiated;
- Experiences with the groundfish sector indicate that putting accountability for catch back on the harvesters has generated more innovation, and concern and stewardship of the resource. As a result, harvesters have completely changed how they fish. In Scott's opinion, structural changes focused on a strong conservation objective best accommodates the innovations we need, e.g., gear types. A combination of hammer, incentive and individual accountability is required;
- RCAs cover 35 species of rockfish (6 species are inshore), 17 of which are harvested. Due to the complexity of the system, testing the effectiveness of RCAs is difficult. Since the fishery is now accountable for its catch, the need for RCAs is not as important as it once was. However, on principle, it is beneficial to have 20% in protected status. The RCAs do help with recreational fishing;
- The *Fisheries Act* is due for an overhaul, but progress is uncertain;
- Species with less commercial interest often do not receive attention from larger conservation organizations despite documented declines, e.g., surf smelt. Individuals and smaller groups can move these kinds of concerns forward by combining forces and unifying their message. As well, any person can submit a proposal to classify a species as one at risk, even though becoming listed may not increase protection due to limited resources. Currently, there are 404 marine fish species in Canada's Pacific waters, with good information on approximately 50. DFO is trying to respond to the need to protect less commercially-important species through implementing an ecosystem management approach, rather than relying on SARA. However, the department has been slow in this respect;

- PICFI is part of DFO's broader national Fisheries Renewal Initiative. PICFI is experimenting with different ways of managing commercial fisheries with existing resources. In 2007, \$175 million over five years was committed by the Federal Government to implement the initiative. Approximately \$115 million is dedicated to First Nation access. Some funding is for co-management initiatives. Approximately 30 staff positions, some of which are aimed at First Nations and enforcement programs, are included in this funding
- Pacific North Coast Integrated Management Area (PNCIMA) has a marine planning process scheduled for the new year that will have DFO staff involved. Outcomes from this could feed into the north coast's Integrated Fisheries Management Plan for salmon;
- Progress with conservation requires collaborative action at the local level. In the Cowichan, the First Nations, the Regional District, and commercial and recreational fisherman have come together to look for solutions. Harvest interests can be valuable allies to conservationists, in their concern for protecting the resources they depend on. A sound process, stakeholder commitment and buy-in are all important;
- The more conservation interests come together to present a unified, coherent stance, the more government officials at any level are likely to listen.

3 The Marine Conservation Caucus: Present and Future

Craig Orr, Co-chair of the MCC provided workshop participants with an overview of the MCC, and its recent initiatives.

Background on the MCC

In 2002, an investigation into a recurring Fraser River sockeye “anomaly” provided the genesis for the MCC. The investigation highlighted a critical need for the DFO to more meaningfully include a conservation perspective in decisions around the care and use of the marine environment and resources such as salmon and groundfish. In April 2003, after considerable and sustained effort by various representatives of the BC marine conservation community, including the incomparable Terry Glavin, DFO announced major and historic reforms. For the first time, conservation groups were made full stakeholders in DFO decisions on the West Coast. Following this, in December 2003, the Pacific Marine Conservation Caucus – MCC for short – was established by marine conservation groups independently of DFO.

For the participating environmental organizations, the MCC is the main method of representing their conservation interests in formal DFO advisory body consultative processes. These processes are particularly related to fisheries management, but not limited to them. The MCC’s mandate can be found on its website: <http://www.mccpacific.org/pages/about/mccmandate.htm>

While the primary role of the MCC is to be an advocate for marine and freshwater conservation, it does not replace the work being carried out by individual MCC member organizations, or other conservation groups. Furthermore, the MCC in no way supersedes or eliminates the need for other forms of consultation between the conservation community and DFO, but it does provide an important opportunity for the conservation sector to have a seat at consultation tables—an opportunity already available to sectors such as the commercial and recreational fisheries.

The MCC currently concentrates on themes covered in the *Fisheries Act* and the *Oceans Act*, such as sustainable fisheries management and marine conservation. At first blush, this may seem a narrow focus, i.e. salmon and groundfish, but the MCC’s interests and activities are quite extensive.

Recent initiatives

Following are profiles of each of the MCC’s committees.

MCC Groundfish Committee

The MCC Groundfish Committee focuses on rockfish/lingcod, Integrated Groundfish Management, and RCAs. The Committee’s main push over the last year has been to secure a DFO commitment to a “Groundfish Integrated Advisory Board”, which would oversee the new integrated groundfish fishery. The Minister and DFO have committed to start this process early in 2009. The creation of the advisory board and MCC’s involvement are both important developments.

Other initiatives the Groundfish Committee has engaged in include:

- Four submissions to the Marine Stewardship Council’s (MSC) halibut review. The results are still unknown. The draft MSC evaluation of halibut has imposed one condition, and MCC has recommended others;
- The establishment of RCAs in 2005;
- Participation in the annual lingcod/rockfish working group discussing management in the Strait of Georgia. Unfortunately, the MCC has had little success in influencing decisions.

MCC Pelagics Committee

The Pelagics Committee has primarily focused on herring. Herring are at a very low level of abundance, and the MCC has been successful in securing lower quotas than those suggested by DFO over the last two years. However, since industry has also called for lower quotas, it is uncertain how much the change is industry-driven rather than due to the MCC's work. In 2009, the MCC will ask for a thorough examination of the declining trend of size at age.

Both tuna and sardines are in the Committee's portfolio, but involvement has been limited to attending meetings.

Salmon Committee

The Salmon Committee focuses on the WSP, fisheries management, SARA and Environmental Process Management Plan. Committee members have participated in many consultation processes including:

- those addressing harvesting (IHPC's for the north and south coast);
- Fraser Panel;
- Williams' Review;
- Fraser salmon table;
- MSC;
- WSP – involved for 10 years, providing input on all four strategies: harvest, governance, habitat and ecosystem indicators;
- Aquaculture, which has been deferred to the Coastal Alliance for Aquaculture Reform (CAAR);
- Marine Planning, which has been deferred to the PNCIMA process;
- those addressing water, which is a new focus and involves many member groups, including Living Oceans Society;
- Integrated Fisheries Dialogue Forum (Committees, December meeting).

Future challenges

Conservationists face a number of crises:

- Capacity and funding constraints: it is increasingly difficult to remain informed on all the issues and to respond to all the requests to participate in consultations;
- Networking effectively;
- Unifying our voices to ensure our messages are heard, while respecting and maintaining our diversity;
- Remaining relevant and effective.

Ground-truthing a draft of MCC's operating principles

To ensure the relevance and effectiveness of the MCC, workshop participants were asked to provide feedback on a draft set of MCC's operating principles. Specifically, participants provided input on which principles were unclear or missed the mark, how they were unclear, and what additional principals would be beneficial for MCC to consider. Table 1 presents participants input on principals that were unclear or missed the mark, and in what way.

Table 1: Comments regarding MCC operating principles that are unclear or miss the mark

<p>Principle 1: Ensure that the public interest in marine and freshwater conservation is afforded the highest policy priority</p>
<ul style="list-style-type: none"> ▪ “Public interest” is too broad and vague. The aim of MCC is more effectively stated in Principle 2. ▪ The MCC has an important role to play here. Pay attention to gaps and strengths. Promote the public interest. ▪ Promote a coordinated approach to inform the electorate that fisheries are a public trust. ▪ How can MCC modify public interest? Perhaps through communication, interaction, education, and open dialogue. ▪ Perhaps this is not needed, but action is best stated in Principle 5.
<p>Principle 2: Ensure effective representation of marine and freshwater conservation interests in Fisheries and Oceans Canada decision-making processes regarding Pacific fisheries and marine conservation</p>
<ul style="list-style-type: none"> ▪ Could be a mission statement. ▪ Need to focus on larger issues facing marine and freshwater conservation beyond fish management, such as climate change, ocean ranching, pollution and habitat. ▪ Conservation groups need a process to contribute to MCC priorities. ▪ Expand focus beyond DFO to other policy makers and managers (provincial agencies, municipalities, Union of BC Municipalities, other agencies responsible for aspects of the <i>Oceans Act</i> and strategy implementation) whose actions and decisions influence the health of the marine and freshwater environments. Clarify how MCC relates to these other agencies/groups. ▪ This principle seems to be undermined by Principle 6, i.e. 6 seems to allow MCC to do less and justify it. ▪ We are weak on the operational aspect: many conservation issues are not addressed. ▪ Combine 1, 2, and 3.
<p>Principle 3: Strive to accurately represent the interests of the marine and freshwater conservation community in discussions with and formal recommendations to Fisheries and Oceans Canada</p>
<ul style="list-style-type: none"> ▪ Is it possible to represent such a diverse community? Who is driving the agenda? How and which interests will be chosen? ▪ Represent conservation interests within industry groups/committees (e.g. Independent Power Producers Association of BC, mining, commercial fishing). ▪ Consultation needs to include capacity building and human growth.

Principle 4: Support the development of effective collaboration among MCC members, and among the broader marine and freshwater conservation community

- Involve the community from the beginning.
- Develop strategies and specific actions on the ground.

Principle 5: Assist in the sharing of information to the marine and freshwater conservation community and the general public on matters pertaining to Pacific fisheries and marine conservation

- Include, “strive for annual meeting”.
- Clarify the best way to communicate with the larger conservation community.
- Include the idea of sharing information back: “sharing of information among” instead of “to”
- Does MCC ever consult/communicate with the public?
- Create a conduit for providing information to the general public to create political will.
- Personal welfare will always supersede conservation priorities.
- Provide more indication of direction, i.e. add on “through an interactive website accessible to the public”.

Principle 6: Recognizing the MCC’s limitations on representing the variety of marine and freshwater conservation interests in BC, emphasize where necessary to Fisheries and Oceans Canada the need for other forms of consultation with this community

- Promote consultation with groups and interests not represented by MCC. Need an “enabling” concept for marginal groups, and accessibility for communities not aligned with conservation groups (fishers, labour unions).
- Regional processes need input from local tables.

Principle 7: Strive to be both effective and accountable in all operations

- Clarity what effective means. What operations? In which processes, e.g., SARA, marine mammal protection, protection of seabirds.
- Accountability mechanisms are unclear.
- MCC is not inclusive. Needs to be accountable, transparent, and effective.

Principle 8: Ensure that information provided at consultation tables is credible and scientifically valid

- How would this be done? Perhaps reword to “reviewing information provided at the table to ensure credibility and validity”.
- Clarify if this refers to MCC information, and/or other information provided at the table, e.g., from DFO.
- Also ensure information is accessible.
- Ensure the particular science is in the best interest of conservation and sustainable development.
- How will MCC achieve this, both in process and content, since there is much scientific uncertainty?

Principle 9: Invite individuals from the marine and freshwater conservation community to participate as needed on MCC committees and at MCC meetings on the basis of their expertise

- “Invite individuals from the broader marine and freshwater conservation community...”
- Can a community member come to the MCC and encourage the creation of a committee?
- Reword to express intent: “Create effective committees by inviting a broad representation of expertise from the community/membership as needed”.
- Is “expertise” the only criterion for inviting community members? What about interest and involvement in an issue?

Overall suggestions

- “Freshwater conservation” is not in the MCC mandate, although freshwater fish and watersheds are of interest to the group. Currently, the MCC does not represent the large and diverse collection of groups involved in freshwater conservation.
- Consider renaming MCC since freshwater issues are also of concern. Based on its current focus, the organization could be named “The Fishery Conservation Caucus”.
- The MCC needs to decide whether it is solely about species conservation. Habitat seems to be absent.
- The MCC does not have the capacity to effectively take on all issues around marine and freshwater conservation.
- Need to develop a strategic plan, including vision and mission statement.
- Build “SMART” objectives from these principles.
- Strengthen operating principles by mentioning possible mechanisms to achieve them, i.e. provide an indication of direction.
- Set priorities and narrow MCC’s scope so you have a manageable task and do it well.
- Re-order principles: 3, 2, 1, 4, 9, 5, 7, 8, 6.
- Not clear how non-members feed into MCC processes.
- Add 3 sub-headings to better organize the principles:
 1. Interface/advisory role with government
 2. Public communication
 3. Process of MCC organizational management

Additional principles

Following is a summary of workshop participants' ideas on additional operating principles:

Approach and scope of issues

- Adopt an ecosystem-based approach, rather than a fisheries-focused one. Go beyond habitat vs. harvest;
- Question DFO's "resource conservation" worldview. Provide eco-centric conservation worldview, including the limits of governments' ability to manage nature;
- Carrying capacity as the basis of all planning;
- Need to ground these in reality of BC by considering economic uses of resources (commercial and recreational fisheries) and how these influence policy;
- Include principle on sustainability;
- Watershed issues and habitat protection;
- Expand scope beyond fisheries to other marine mammals, e.g., whales, otters;
- Work to have DFO manage for conservation without relying permanently on an NGO community to represent their perspective of conservation science.

Rephrasing the principles

- Rephrase the principles to include:
 - Inclusiveness
 - Openness
 - Transparency: who is MCC representing, and what are they doing
 - Respect
 - Operating by consensus: indicates how MCC makes decisions
 - Accountability
 - Credibility
 - Engagement of First Nations
 - Engagement of industry
 - Clarity, e.g., defining approach on issues
 - Conflict resolution
 - Use of a learning approach: improvement through lessons learned from own experience and that of other entities, e.g., fisheries plans, habitat action plans
 - Minimize harm: ensure the least displacement/costs to other sectors when conservation goals are accomplished.

Representation

- Where are First Nations?
- What is the process for identifying common advocacy goals or priority issues within the MCC?
- Provide an opportunity for "other" marine conservation issues to be voiced, and for MCC to take "your voice" to the table;
- Act as a force multiplier: supply the weight behind smaller groups who can insert and use pins to exert pressure at strategic points (i.e. the acupuncture pins referred to by Scott).

Outreach

- People need to be educated as to how to show their interest in their environment;
- Raise awareness about the MCC;
- Educational component needs broad focus on issues facing our fisheries, e.g., climate change;
- How to broaden support? Association members?
- Reach out to the fishing sector: ask fishers for solutions to problems.

Overall suggestions

- Include mechanisms that indicate how MCC works and how to achieve principles such as accountability, communication, outreach/education, assessment and representation of issues;
- Support mechanisms of change;
- Develop and promote the capacity of the environmental community.

4 Ideas to Strengthen Marine and Freshwater Conservation in BC

The afternoon of the workshop was devoted to examining ideas to strengthen marine and freshwater conservation in BC. Participants responded to the following three questions and discussed the associated topics:

- What is working well in marine and freshwater conservation and why? Discuss successful marine and freshwater conservation initiatives and the strategies, tools and techniques used;
- As marine and freshwater conservation groups, where do we need to focus our efforts, and how? Discuss key persistent challenges to improving marine and freshwater conservation in BC and opportunities for overcoming these;
- How can we work together more effectively? Explore possibilities for collaboration among marine and freshwater conservation groups by identifying common priorities, methods of support, and ways to improve communications.

Participants chose one of the following three themes or contexts within which to respond to the questions and to form small facilitated groups:

- 1) Wild Salmon Policy (2 groups formed)
- 2) Marine Fisheries and Habitat Conservation (4 groups)
- 3) Marine Pollutions and Toxins (2 groups)

Even though participants addressed the three questions from different themes or contexts, there were overwhelming commonalities. Following are the ideas, themes, and suggestions generated by the groups, organized by the 3 questions.

What is working well in marine and freshwater conservation and why?

To respond to this question, participants provided overviews of successful marine and freshwater conservation initiatives, highlighting factors of success, and strategies, tools and techniques used. Following are common factors of success, and various strategies, tools and techniques used. See Appendix D for the overviews of each initiative.

Common factors of success

- Collaboration among interests, including conservation NGOs, local groups invested in where they live, regulatory agencies, politicians, recreation and commercial sectors, academia, and researchers;
- Partnership with First Nations;
- Focus on a common, clear goal;
- Consensus among parties on priority objectives and strategies;
- Information sharing and collaborative problem-solving among parties;
- Sufficient funding;
- Credible data and information from different knowledge bases, i.e. Traditional Ecological Knowledge (TEK), western science, and non-aboriginal local knowledge;
- Large pool of volunteers;
- Positive working environment for staff and volunteers;
- School-based education component;

- Outreach based on identification of target groups and understanding their characteristics; ¹
- Use of existing networks and creation of new ones to build a supportive constituency, including “the grassroots”;
- Ability to respond rapidly to immediate threats;
- Use of media to raise public awareness and educate;
- Strategic, sustained engagement in or pressure on government planning and decision-making processes;
- Alliance with conservation “champions”;
- “Adaptive project management”: ability to monitor progress and make necessary changes to project direction and/or activities in a timely and effective manner.

Strategies, tools and techniques used

- Strive for the adoption of an ecosystem-based approach by regulatory agencies;
- Build partnerships with First Nations;
- Build coalitions around a common goal from a diversity of relevant interests, including governments, local groups invested in their place, conservation NGOs, decision-makers or those who can influence them, technical experts, etc;
- Look for “creative collaborations”, by considering unlikely pairings/partnerships that may provide an excellent opportunity that is often overlooked;
- Strengthen coordination and cohesion among partners activities by building consensus on priority objectives and strategies;
- Bring people together to brainstorm during all stages of an initiative;
- Organize around issue-specific initiatives;
- Adapt to scale when designing and testing management practices;
- Share information early on to maximize its benefits;
- Explore diverse sources of funding;
- Build credibility and value of data/information by collaborating with involved parties on design and implementation of collection, analysis and presentation;
- Integrate information collected from various knowledge bases, i.e. TEK, western science, and non-aboriginal local knowledge;
- Engage in political and planning processes at strategic points and with key individuals to build government support, and apply pressure when necessary;
- Identify and work with conservation “champions” within government and other organizations/groups. Champions in both the office and the field;
- Carry out outreach based on identification of target groups and sound research:
 - identify and highlight common concerns/environmental threat(s),
 - design outreach to be responsive to cultural values and beliefs,
 - identify and highlight common benefits,
 - use effective means to engage target groups and public, e.g., networks, direct experiences with nature, interactive displays;
- Use existing networks to quickly mobilize support to respond to immediate threats;

¹ For more information on this approach, referred to as community-based social marketing to foster sustainable behaviour, see <http://www.toolsofchange.com/English/introductions/social-marketing.asp>

- Raise and sustain morale and create commitment among staff, volunteers and partner groups/organizations by setting realistic goals and objectives, celebrating small and large victories, recognizing efforts, etc;
- Create and implement an “adaptive” system for monitoring project progress and making necessary modifications, e.g., to tactics, strategies, objectives;
- Explore use of courts to resolve contentious issues.

As marine and freshwater conservation groups, where do we need to focus our efforts, and how?

Participants discussed where and how marine and freshwater conservation groups need to focus their efforts by identifying key persistent challenges to improving conservation, and opportunities for overcoming these challenges. Table 2 presents key persistent challenges and the numbers of corresponding key opportunities – found in Table 3 – that could be explored for overcoming these challenges. Table 3 presents the key opportunities and associated numbers; numbering of the opportunities does not reflect any prioritization.

Table 2: Key persistent challenges

Key Persistent Challenges	Possible Opportunities
<p><i>Securing long-term project funding and resources</i></p> <p>Fundraising for initiatives consumes significant time and energy, reducing efficiency and contributing to burnout. The problem is particularly severe for projects involving salmon: returns take 4-5 years and results frequently require half a decade to tally. Programs can be abandoned and un-assessed before their completion, creating additional difficulty for future fundraising</p>	<p>1, 3, 5 & 7, 14</p>
<p><i>Creating sufficient capacity in conservation NGOs</i></p> <p>Establishing and maintaining sufficient capacity to carry out initiatives and engage in consultative processes is a persistent challenge. Funding and attracting and retaining staff and volunteers are key aspects of this challenge.</p> <p>Lack of funds and resources leaves organizations relying on a core group to carry out initiatives, causing burnout. Also, due to the lengthy nature of salmon and other habitat conservation initiatives, exhaustion from employees and volunteers is a constant threat. Difficulty in insuring volunteers can also limit their involvement, and thus, interest</p>	<p>1, 5, 7, 14</p>

<p>Prioritizing resources</p> <p>Conservation NGOs cannot respond to the many conservation issues requiring attention, nor can they effectively participate in all consultation processes. A key question is: “Do we focus on protecting what is still healthy, or on recovering ecosystems and stocks that are ‘sick’ “? For example, pollution and toxins and the serious threat to forage species (e.g., Surf Smelt) have yet to be given high priority by large conservation NGOs.</p> <p>The continual stream of urgent issues makes it difficult to take a proactive approach that would focus on identifying and addressing underlying causes</p>	<p>1-4, 6, 7, 8, 10, 11</p>
<p>Working with the size and diversity of BC</p> <p>Due to the province’s vast size, extensive coastline, and isolated watersheds, communication and community-building among conservation NGOs have been difficult to establish. BC’s diverse ecosystems have also complicated establishing common goals since different regions require different management strategies and approaches to conservation. Stretching limited resources across the whole of the province has also hindered research and record-keeping</p>	<p>1-5, 11, 12, 14</p>
<p>Establishing effective collaborations</p> <p>The challenge of creating and maintaining effective collaborations over time has many aspects:</p> <ul style="list-style-type: none"> ▪ <u>Balancing unity and autonomy</u>: Unity of voice brings power, but individual members can have diverse perspectives that may need representation. Building and maintaining trust can be problematic ▪ <u>Building a business case for proposals</u>: Getting everyone “on-side” before applying for funding can be difficult ▪ <u>Poor communication</u>: Lack of communication among members in a collaboration leads to repeating mistakes and redundancy, wasting time, energy and resources ▪ <u>Reducing costs to other parties</u>: It can be difficult to reduce costs to and negative impacts on other parties when conservation goals are pursued and achieved 	<p>1, 2, 4, 5, 7, 11, 14</p>
<p>Adopting ecosystem-based management by regulatory bodies</p> <p>Regulatory bodies, such as DFO, continue to focus on the management of a few select commercial species and their habitats rather than adopt an ecosystem-based approach. As a result, many species, habitats and water sources go unmonitored and unstudied, and face threats from sources such as land development and pollution. These habitats include many of BC’s estuaries, freshwater rivers and streams, and adjacent terrestrial ecosystems, such as forests lining freshwater bodies and the ocean</p>	<p>1, 2, 4, 5, 10, 11, 12, 13</p>

<p><i>Unifying ecosystems among levels of government</i></p> <p>Currently, salmon and the ocean are federally managed, while watersheds fall under provincial jurisdiction. This division complicates the establishment of an inclusive approach, unifying marine and freshwater habitats</p>	1, 2, 5, 10, 11
<p><i>Dealing with DFO's conflict of interest</i></p> <p>DFO has an inherent conflict of interest since the agency promotes conservation but also serves commercial fisheries' interests, e.g., salmon aquaculture. Responding to these interests often require very different approaches that cannot be reconciled. There is also a strong, traditional coalition among fisheries ministers, bureaucrats, and user groups. One of the consequences is the difficulty in getting the WSP and other conservation-oriented policies fully implemented</p>	1, 2, 5, 10, 11
<p><i>Working within DFO's area based management</i></p> <p>DFO's Pacific Region management structure leaves areas to interpret regional management policy. This leads to different priorities among areas, creating difficulties in coordination, inconsistencies, and loss of a larger ecosystem approach</p>	1, 2, 5, 11, 12, 14
<p><i>Improving government accountability and influencing government more effectively</i></p> <p>Transparency is lacking in government processes, making accountability difficult. Recently, climate change has become a scapegoat for poor management. It is difficult to know who to speak to in government for information and how best to intervene to influence policy and decision-making</p>	3, 5 - 7, 11, 14
<p><i>Working with insufficient government capacity</i></p> <p>DFO lacks sufficient capacity to carry out necessary research, monitoring, and enforcement, including the implementation of all pillars of the Ocean Strategy.</p> <p>At the local government level, elected officials and staff in local and regional governments often lack necessary scientific/technical knowledge about conservation issues, yet responsibility for the decisions is "down-loaded" onto them. In the case of development permits, often old engineering and planning standards are used</p>	6, 7, 11, 12, 14
<p><i>Adopting a long-term time frame</i></p> <p>Parties involved in conservation issues often adopt too short a time frame for planning, goal achievement, funding, etc, based on election cycles and business schedules. Thus, for example, monitoring does not receive necessary long-term support, and cumulative effects go unstudied, undetected and/or under appreciated</p>	1, 2, 5, 7, 14

<p><i>Carrying out effective outreach and education</i></p> <p>The challenge of carrying out effective outreach and education has many aspects:</p> <ul style="list-style-type: none"> ▪ <u>Invisibility of impacts</u>: Negative impacts often take time to become visible and frequently result from a cumulative effect, creating a disconnection between public and personal lifestyles and negative ecological consequences. Examples of invisibility: the physical remoteness of an area, our lack of awareness of the quality of the acoustic environment for aquatic organisms ▪ <u>Invisibility of short term results</u>: Meaningful change often takes time, but people often need to see immediate results from their actions to maintain their interest and commitment ▪ <u>Overcoming apathy</u>: Many people do not feel connected to issues relating to environmental conservation. Cultural, economic and educational differences can contribute to this ▪ <u>“Ivory tower” language</u>: Language used by conservation NGOs is often inaccessible to the general public ▪ <u>Inconsistent messages</u>: Conservation messages are frequently inconsistent and poorly coordinated with other organizations, confusing and over-saturating the public 	<p>1, 5, 7, 11, 13, 14</p>
<p><i>Going “green”</i></p> <p>Switching consumers to “green” products can be difficult when sustainable seafood and many environmentally-friendly goods and services are more expensive. “Green-washing” has also eroded the power of market differentiation for “green” products and services, and verifiable green alternative energy projects can be difficult to determine. Our consumer society and mass marketing increase the difficulty in communicating an alternative message</p>	<p>1, 5, 7, 11, 13, 14</p>
<p><i>Operating within the context of large scale threats</i></p> <p>At least three large scale threats create challenges:</p> <ul style="list-style-type: none"> ▪ <u>Current economic crisis</u>: The current economic crisis is creating more pressure for immediate job creation and greater consumer spending. Conservation has become a lesser priority ▪ <u>Climate change</u>: Climate change and global warming increase the urgency of conservation and amount of uncertainty in our management practices ▪ <u>Increasing energy demand and population growth</u>: Growing energy demands in Canada and abroad, and pressures on a variety of Canadian resources from a growing global population become threats when responded to in an environmentally destructive way 	<p>7, 11, 13, 14</p>
<p><i>Funding scientific research and maintaining a broad scope</i></p> <p>Both insufficient funding of research and channeling available funds into narrow research areas lead to ill-informed decision-making</p>	<p>5-7, 10</p>

Table 3: Key opportunities to explore for overcoming persistent challenges

Number	Key Opportunities
1	<p><i>Focus on salmon</i></p> <p>Protecting salmon and salmon habitat protects other species, and thus focuses conservation efforts. Supporting the implementation of the WSP is a key step, which also provides conservation NGOs with a way to promote a change in DFO's fisheries management process.</p> <p>Protecting salmon also provides potential for collaboration since it is important for many people</p>
2	<p><i>Focus on habitat protection</i></p> <p>Protecting habitat can address many conservation issues, and moves us a step closer to ecosystem-based management</p>
3	<p><i>Mobilize the public for stronger control of sport fishing</i></p> <p>Mobilize the public and the conservation community to pressure DFO for stronger controls on sport fishing. For example, ensure sports fishers keep to their TAC, and promote better practices.</p> <p>Raising public awareness in this manner could also influence a shift in DFO toward building bridges with conservation NGOs, enabling progressive dialogue to occur</p>
4	<p><i>Identify weak links in the health of an ecosystem</i></p> <p>By discovering which elements of an ecosystem are most at risk, a strategy focused on restoring health to these parts can help to bring health to the whole ecosystem</p>
5	<p><i>Partner with First Nations</i></p> <p>Create meaningful partnerships with First Nations based on mutual respect, capacity building and power sharing. Among the many assets in working with First Nations, there may be legal advantages not available to conservation NGOs</p>
6	<p><i>Access DFO data</i></p> <p>Currently, DFO has valuable data that are not available to the public. If available, advances in various areas might occur more easily and rapidly. Tax dollars funding the research and generating the data means they should be publicly available. Use of filters can address privacy issues</p>

7	<p><i>Take advantage of the “greening” of the government and the economy</i></p> <p>Government and business’ interest in going “green” create opportunities for funds, resources, influencing planning and decision-making, mobilizing the public, the collaborative development of ideas, and leveraging of efforts:</p> <ul style="list-style-type: none"> ▪ Create a project that aligns with existing conservation-oriented government programs, e.g., the BC government’s climate change initiative, the creation of MPAs ▪ Influence “green” shifts in government planning, e.g., local governments are required to produce urban sustainability plans in next few years ▪ Encourage and build on “green” ideas in the development stage, e.g., “green” energy sources, environmentally-sound technologies, full cost accounting method to integrate the value of a healthy ecosystem into financial calculations ▪ Support and utilize findings from multi-disciplinary efforts to solve complex social issues, e.g., economists, sociologists and scientists working together on fisheries-related issues ▪ Gain access to new sources of revenue/funding being adopted, e.g., green fees, tax shifting ▪ Use market incentives, e.g., Oceanwise, Marine Stewardship Certification; ▪ Use existing and emerging “green” technological solutions, e.g., composting sewage
8	<p><i>Push for implementation of existing legislation</i></p> <p>There is a variety of legislation and rules available to support conservation: implementation is required, e.g., for boat sewage</p>
9	<p><i>Change the approval process for developments</i></p> <p>Require a public review of development projects first before departmental/government approval</p>
10	<p><i>Support more independent conservation science</i></p> <p>More independent science focused on an overriding conservation goal would provide the opportunity to develop new technologies and to look at better practices</p>
11	<p><i>Study and pilot successful models from beyond BC</i></p> <p>Learn about successes from beyond BC, and adapt models, where possible, to test locally. For example, there are small African fisheries with success in both conservation and sustainable livelihoods, and other cases can generate ideas for technology and gear changes, forms of regional collaboration, etc.</p>
12	<p><i>Expand scope to include regional growth</i></p> <p>Expand our focus from local growth to include a regional scale. Conservation NGOs can focus on defining regional carrying capacities, e.g., water, population</p>

13	<p><i>Gain advantage from large scale factors</i></p> <p>At least three large scale factors could create opportunities:</p> <ul style="list-style-type: none"> ▪ <u>Global momentum to act locally</u>: The concept and practise of urban sustainability is strengthening in developing Pacific Rim countries ▪ <u>Current economic crisis</u>: The current crisis may allow for a re-evaluation of the economic system and community values, as well as replace old jobs with “green” ones ▪ <u>Climate change</u>: Public concern about climate change and global warming have put environmental issues at the top of political agendas and could lead to innovation in management and research and development of “green” products and services
14	<p><i>Develop and use internet-based technology</i></p> <p>Develop and use a variety of internet-based technologies to build capacity, create and strengthen coalitions, and support project work</p>

How can we work together more effectively?

To respond to the question of how the conservation community can work together more effectively, participants identified common priorities, methods of support, ways to improve communications, and potential collaborations. Table 4 presents key ideas and suggestions generated.

Table 4: Ideas and suggestions for working together more effectively

Common priorities
<ul style="list-style-type: none"> ▪ Improving information sharing between conservation NGOs ▪ Increasing partnerships with First Nations ▪ Creating a system to build consensus among conservation NGOs and form consistent messages on key conservation issues ▪ Building coalitions among diversity of interests by creating common goals: Conservation NGOs can unite on particular projects and key issues, channelling the energy of diverse groups, and pooling resources. This provides momentum for accomplishing results, and building future, successful coalitions. Common goals also bring clarity, focus and coordination of efforts, which helps to create a positive working atmosphere, preventing burnout ▪ Clarifying our language. For example, define terms such as “sustainability”, and distinguish between “common” and “shared” priorities, i.e. a common priority unites groups over the long term (the desire for sustainability), while a shared priority offers temporary partnership opportunities (the protection of a particular habitat or species) ▪ Building trust with communities we are operating in. Conservation NGOs need to win over the trust and understanding of the communities in which they operate, especially in regards to the sport and commercial fishing industries. Meaningfully engage local people, including preliminary consultations before priorities are set and decisions are made

- Maintaining a diversity of interests and efforts: We don't always know what will be the most productive and effective place to focus our efforts
- Working at a scale that is manageable, e.g., a smaller, regional level. This would also facilitate greater participation, as citizens are more likely to get involved in a local initiative
- Encouraging the involvement of individuals in local politics, e.g. local advisory committees, town council meetings, local government
- Improving and expanding outreach and environmental education for the public, especially new Canadians and children
- Integrating environmental ethics into BC school curriculum
- Building support for initiatives by appealing to the interests of others and revealing potential benefits – e.g., economic, health, well-being. Change the mind-set from “burden” or “individual sacrifice” to “an opportunity to gain”. Ducks Unlimited and Project Seahorse have done this
- Sending a message of hope to keep the public inspired
- Improving efficiency by using existing bases of support: People have been unified around issues like resisting fish farms and this base can now be applied to other issues
- Improving fundraising
- Getting volunteers involved
- Using the best available information from western science and traditional ecological knowledge to reduce our uncertainty and risk
- Funding for the right scientific research projects, e.g., rockfish by-catch in the prawn industry
- Adopting an ecosystem-based approach
- Protecting habitat and maintaining biodiversity
- Protecting species at risk
- Restoring abundance
- Developing and implementing proven sustainable practices
- Implementing long term, responsive management, including monitoring and adaptation to changing conditions
- Using the precautionary principle and shifting the burden of proof to the industries who propose to disrupt ecosystems, i.e. they must prove their actions will not cause harm

Methods of support

- Networking to share our experience, successes, contacts and resources
- Providing place-based education to connect people to where they live accompanied by simple tools for learning and involvement in conservation work, e.g., handbooks to assist community groups raise public awareness, lobby government, raise funds, etc.
- Providing materials for culturally sensitive education and outreach
- Highlighting local successes and encouraging enthusiasm, which can snowball, building momentum and increasing involvement
- Using existing networks to extend outreach and engagement to the public and specific groups not yet involved, such as different cultural groups

- Providing major project funding, e.g., for a review of the *Fisheries Act*
- Encouraging the use of conservation NGO websites
- Using graduate students: identify professors whose research interests align with your organization's mission
- Organizing grant writing workshops
- Providing information on volunteer opportunities and environmental careers
- Increasing skills training of trainers (train the trainer) to disseminate information more effectively
- Keeping project mechanisms simple
- From the MCC:
 - Building consensus, consistent messaging and coordinated action on key conservation issues, for example, by preparing collaborative documents
 - Clearly establishing and communicating to conservation NGOs MCC's goals, priorities, operations, offerings of support, and ways to participate
 - Acting as a liaison with DFO to connect groups to help them use DFO resources and legal power
 - Coordinating a "go-to" list for resources, including volunteers, technical expertise, letter and report templates for council meetings/school boards/agencies, photo gallery, etc,
 - Coordinating a newsletter or regional reports which contain summaries of what is going on in different areas and organizations, success stories and resources
 - Hosting networking opportunities in a casual social environment, e.g., Green Drinks
 - Convening marine and freshwater conservation workshop annually, and broaden stakeholder representation
 - Identifying gaps and redundancies in conservation efforts, e.g., restoration, consultations, outreach
 - Identifying information gaps and ways to fill these
 - Identifying under-acknowledged or poorly understood issues and ways to overcome these

Ways to improve communications

- Use the MCC website to expand networking and build collaboration:
 - Act as a clearinghouse/'one-stop' shop for conservation issues around the province, linking issues with websites of conservation NGOs dealing directly with the issue
 - Share data, experiences, and expertise, preventing overlap and reinventing the wheel
 - Share resources, e.g., volunteer openings, funding opportunities, legal information and assistance
 - Connect with one another to discuss issues, build consensus and coalitions
 - Content could include:
 - newsletters
 - blogs and forums on conservation issues

- resource lists and events boards
 - a library of important articles
 - news clippings
 - a MCC member-maintained wiki to document and debate conservation issues
 - bios of member organization and links to their home pages
 - links to technical, financial, legal, etc, resources
- Create an MCC communication outreach “tree”: Similar to SkeenaWild Conservation Trust, email communications could be sent to a core group of people (10 – 15) who then channel the information into their various networks, reaching in to communities, organizations, etc.
 - Use media to reach wider audiences to improve ecological literacy amongst the public, e.g., weekly or monthly articles in local papers to “know your fish”
 - Use social networking tools, e.g., Facebook, Twitter, YouTube
 - Use video-conferencing
 - Use terminology familiar to your target group, e.g., developers, planners, bird watchers
 - Participate in Streamkeepers message boards
 - Use a collaborative/cooperative approach and open mind when working with others

Potential collaborations

- All suggestions for improving communication between MCC and conservation NGOs, e.g., interactive websites, newsletter, resource lists, etc
- Forming more partnerships with First Nations
- Building temporary partnerships built on specific issues of shared concern: These collaborations are free of the obligation of remaining together indefinitely, facilitating flexibility and fluidity among groups, allowing them to be less hesitant about forming partnerships
- Improving access to DFO information
- Developing regional working groups to represent priorities of conservation NGOs
- Distributing “Basic Consequences” table developed during the creation of the draft Angling Management Plan during the Skeena Quality Waters Strategy process (headed by BC Ministry of Environment). The table helps to illustrate and evaluate cost and benefits for involved parties of different management options put forward to achieve identified objectives (see Appendix C for further explanation and example of a table);
- Combating global warming and climate change
- Using the education system to embed environmental ethics into curriculum
- Creating and hosting a Marine Conservation Achievement Awards Event: Create annual achievement awards to give to marine conservation activists and champions. Creates an additional networking event with a celebratory theme and higher profile. Provides an opportunity to share success stories, motivate, inspire, and raise the public profile of conservation achievement
- Participating on Salmonopolis.com, and other conservation/stewardship websites
- Developing video-conferencing technology to make it more user-friendly

- Organizing NGO “speed dating” to get to know each other
- Developing a “Thank You Ocean” literacy program (science not advocacy)
- Organizing one annual event in local communities to celebrate watershed/ocean events
- Inviting businesses to join in fish-oriented festivals: VanCity and Coast Capital Savings both have regional funding programs which could support these community programs
- Organizing speakers to come to Quest University in Squamish
- Getting local grocery store to agree to putting small pictures of seafood next to fish
- Supporting greater ecological education through the growth in marine tourism
- Developing strategies around fish’s right to water, e.g., hydrological impact of run of river projects
- For issues concerning marine pollution and toxins:
 - *Urban sewage*: Apply Victoria win (provincial government ordering the Capital Regional District to develop new sewage treatment plan) to Vancouver and the coast; work with Living Water Smart Program (LWSP)
 - *Tanker traffic and oil and gas development*: Join broad coalitions against the tar sands; work with First Nations who have concerns over traditional food sources; use example of Queen of the North
 - *Acidification from CO₂/warming*: Support initiatives for Green House Gas reduction and green energy
 - *Persistent organic pollutants*: Support ban on brominates in flame retardants
 - *Urban run-off*: Work with LWSP, cosmetic pesticide bans, urban sustainability plans
 - *Agriculture run-off*: Support organic movement, LWSP, and animal manures for green energy
 - *Garbage*: Work with shoreline cleanups/source analysis by Vancouver Aquarium; support reductions in plastic bags and green boating program (commercial)
 - *Dead zones*: Support mapping/satellite imagery; engage in public education on sewage outfalls
 - *Industrial pollution*: Use funding to struggling industry to finance innovation; partner with First Nations who have legal rights/access to traditional food sources

5 Take Home Messages

The workshop closed with the presentation of “Take Home” messages from each of the eight groups formed during the afternoon breakout session. Common ideas and themes emerged from these messages and are presented below:

Approach

- We can maximize progressive results and minimize wasted efforts by increasing communication between parties and building collaborations among a diversity of interests based on common goals;
- Put conservation first and use a collaborative approach to all decision-making processes to minimize negative impacts on others;
- The Precautionary Principle must be adopted and practiced: Shift the burden of proof so the onus is on those threatening the ecosystem to prove they will do no harm.
- Factor in the economic value of the environment in all decision making;
- Growth is a threat;
- A scale-adaptive approach must be used for conservation: Appropriate scale will depend on the issue/system/situation;
- Apply science to set and achieve ecosystem-level conservation goals, ensuring adequate resources for research.

Outreach and education

- Inclusive, effective outreach is key to success for environmental education and building the marine conservation movement from the ground up;
- Outreach must be culturally appropriate, build trust, be empowering, and connect with people’s existing values: we cannot preach;
- Children, politicians and local government are particularly important;
- Suggested model is the “Thank you, Ocean” program”, from the USA:
<http://www.thankyouocean.org/>

MCC

- MCC has a key role to play in networking all sizes of marine and freshwater conservation organization and community groups so we can become stronger and more effective through the sharing of ideas, resources, contacts and experience;
- Information technology and the internet needs to be used much better by the MCC in networking and strengthening the conservation community;
- MCC should collaborate more with First Nations;
- Broaden the focus of the MCC to include non-fishery related conservation concerns.

6 Appendices

Appendix A: Workshop agenda

Marine and Freshwater Conservation Workshop

November 21, 2008, Vancouver

9 am – 5pm

GOAL

To strengthen marine and freshwater conservation initiatives and programs in BC through the sharing of knowledge, expertise and experiences among marine and freshwater conservation groups.

OBJECTIVES

The objectives of the workshop are:

1. Build a common understanding of key marine and freshwater conservation issues facing BC, and recent related federal Department of Fisheries and Oceans initiatives;
2. Increase knowledge about the Marine Conservation Caucus and its operations, and 'ground-truth' a draft of its operating principles;
3. In the context of i) the Wild Salmon Policy, ii) marine fisheries and habitat conservation, and iii) other contexts identified by participants:
 - a. Discuss successful marine and freshwater conservation initiatives and the strategies, tools and techniques used;
 - b. Discuss key persistent challenges to improving marine and freshwater conservation in BC and opportunities for overcoming these;
 - c. Explore possibilities for collaboration among marine and freshwater conservation groups by identifying common priorities, methods of support, and ways to improve communications;
4. Increase knowledge among marine and freshwater conservation groups of each other's operations and projects.

8:15	Registration and light breakfast
9:00	Welcome – Craig Orr, Co-chair Marine Conservation Caucus (MCC), Executive Director Watershed Watch Introductions – Peter Abrams, workshop facilitator, Peter Abrams Consulting Services
9:20	Overview of day
Objective 1	
9:30	Marine and freshwater conservation in BC: progress and challenges – plenary presentations BC's marine fisheries – Scott Wallace, Chair, MCC Groundfish and Pelatigics Committees; Sustainable Fisheries Analyst, David Suzuki Foundation Pacific Salmon: What can we conserve, and how can we conserve it – Ken Wilson, member of MCC Salmon Committee, fisheries biologist
10:20	Break
10:40	Panel discussion with Scott Wallace, Ken Wilson and representatives from the Department of Fisheries and Oceans
Objective 2	
11:30	The MCC and recent initiatives – plenary presentation by Craig Orr
11:50	Ground-truthing a draft of MCC's operating principles
12:20	Overview of afternoon process
12:30	Lunch
Objective 3	
1:15	Introduction to breakout group session
1:35	Strengthening marine and freshwater conservation in BC: breakout group session
3:00	Break
3:15	Breakout group session (cont.)
4:20	Sharing highlights from breakout group discussions
4:50	Closing remarks
5 – 7	Reception

Appendix B: Workshop participant list and contact information

Name	Position and affiliation	email
Barry Ackerman	Pacific Region Groundfish Trawl Coordinator, DFO	Barry.Ackerman@dfo-mpo.gc.ca
Mary Sue Atkinson	Pacific Fisheries Resource Conservation Council (PFRCC)	msatkinson@shaw.ca
Stephanie Avery-Gomm	David Suzuki Foundation (DSF)	saverygomm@shaw.ca
Gerry Bachmayer	DSF	gerry_b@telus.net
Paul Berlinguette	North Shore Wetland Partners (NSWP)	north.shore.wetland.partners@gmail.com
Thomas Bird	Director, Nile Creek Enhancement Society	tombird@shaw.ca
Leanna Boyer	Marine Projects Coordinator, Mayne Island Conservancy Society	leannabee@gmail.com
Tanya Bryan	Marine Ecologist, The Nature Conservancy of Canada	tanya.bryan@natureconservancy.ca
Sheila Byers	Nature Vancouver	scbyers@telus.net
Karl Byrne	Cutting Hedge	inspioraid@hotmail.com
James Casey	World Wildlife Fund- Canada	jcasey@wwfcanada.org
Rachel Clearwater	DSF	ihp.rachel@gmail.com
Ramona de Graaf	Research Scientist, Forage Fish Matter	rdegraaf@bms.bc.ca
Michele Deakin	Mid Vancouver Island Habitat Enhancement Society (MVIHES)/ Seagrass Conservation Working Group	auklet@shaw.ca
John Driscoll	Sustainable Fisheries Campaign Manager, Living Oceans Society (LOS)	jdriscoll@livingoceans.org
Stefanie Duff	Professor, Vancouver Island University	Stefanie.Duff@viu.ca

Brett Favaro	M.Sc. Candidate, Simon Fraser University (SFU)	bfavaro@sfu.ca
Caroline Fox	Biologist, Raincoast Conservation Foundation (RCF)	caroline@raincoast.org
Elaine Golds	Conservation Chair, Burke Mountain Naturalists	egolds@sfu.ca
Heather Gordon	NSWP	heatherg_z@shaw.ca
Angela Griffiths	Director of Conservation Vancouver Aquarium	angela.griffiths@vanaqua.org
Isabelle Groc	Self-employed journalist	igroc@shaw.ca
Trish Hall	Secretariat, MCC	hall@watershed-watch.org
Matt Hammond	Environmental Biologist, Pottinger Gaherty Environ Consultants	mhammond@pggroup.com
Caroline Hedin	Quest University Canada	cvh07@questu.ca
Kathy Heise	Marine Conservation Planning Coordinator, RCF	kathy@raincoast.org
Aaron Hill	Ecologist, Watershed Watch Salmon Society (WWSS)	hillfish@telus.net
Heather Holmes	Marine Ecologist, Parks Canada	heather.holmes@pc.gc.ca
Sara Howard	Aquatic Ecologist, The Nature Conservancy of Canada	sara.howard@natureconservancy.ca
Vicky Husband	WWSS	vickyhus@telus.net
Robyn Hutchings	Sea Kayak Guide, Spirit of the West Adventures	rjhutch@uvic.ca
Mark Johnson	Community Advisor, DFO	Mark.Johnson@dfo-mpo.gc.ca
Ron Kadowaki	Director, Pacific Fisheries Reform; DFO	Ronald.Kadowaki@dfo-mpo.gc.ca
Adam Keizer	A/Hook & Line Coordinator, DFO	Adam.Keizer@dfo-mpo.gc.ca
Sarah King	Oceans Campaigner, Greenpeace Canada	sarah.king@greenpeace.org
Sarah Klain	M.Sc. Student, UBC	sklain@ires.ubc.ca

Graham Knell	Trail and Habitat Coordinator, District of North Vancouver	knellg@dnv.org
Greg Knox	SkeenaWild Conservation Trust	gregk@skeenawild.org
David Lane	Executive Director, T. Buck Suzuki Environmental Foundation (TBSEF)	davidlane@bucksuzuki.org
Otto Langer	Fisheries Biologist & MCC Technical Advisor	ottolanger@shaw.ca
Don Lawseth	Consultant	dlawseth@shaw.ca
Joseph Lin	President, Green Club	josephlin@shaw.ca
Wen-Ling Liao	Forage Fish Matter!	wenling.liao@gmail.com
Misty MacDuffee	Biologist, Wild Salmon Program; RCF	Misty@raincoast.org
Shaun Madigan	Chair of the Board, Como Watershed Group	smm72@yahoo.ca
Rebecca Martone	Postdoctoral Researcher, UBC	rmartone@stanford.edu
Jim McIsaac	Director of Sustainability, TBSEF	jim@bucksuzuki.org
Jack Montpellier	DSF	jackattack@hotmail.com
Zo Ann Morten	Executive Director, Pacific Streamkeepers Federation (PSkF)	ZoAnn@pskf.ca
Ailish Murphy	SFU	ailish.murphy@gmail.com
Craig Orr	Chair, MCC	corr@telus.net
Elan Park	DFO	elan.park@dfo-mpo.gc.ca
James Pilkington	Guide/Marine Educator, Spirit of the West Adventures	jfpilkington@hotmail.com
Stan Proboszcz	Fisheries Biologist. WWSS	proboszcz@watershed-watch.org
Janna Rist	Project Seahorse, Fisheries Centre, UBC	j.rist@fisheries.ubc.ca
Luanne Roth	President, Prince Rupert Environmental Society	rothl@citytel.net
Anne Salomon	Adjunct Professor, SFU	salomon@msi.ucsb.edu

John Scull	Land Trust Alliance of BC	scull.john@gmail.com
Jennifer Selgrath	Project Seahorse, UBC Fisheries Centre	jselgrath@gmail.com
Jim Shinkewski	Project Coordinator, Pacific Salmon Foundation	jshinkewski@psf.ca
Ruth Skutesky	DSF	ruth.skutezky@gmail.com
Dave Smith	Volunteer/Board Member, Salmon Enhancement and Habitat Advisory Board (SEHAB)/Kanaka Education and Environmental Partners Society (KEEPS)	towerridge@shaw.ca
Faye Smith	Member/Staff, MVIHES	fsmith@telus.net
Tasha Sutcliffe	Program Manager, Ecotrust Canada	tasha@ecotrust.ca
Naomi Tabata	Coordinator, Stewardship Centre for BC	ntabata@telus.net
Terry Tebb	Deputy Executive Director, PSF	ttebb@psf.ca
Lara Tessaro	Staff Lawyer, Ecojustice	ltessaro@ecojustice.ca
Edith Tobe	Executive Director, Squamish River Watershed Society	srws@shaw.ca
Tomas Tomascik	Senior Advisor, Parks Canada	tomas.tomascik@pc.gc.ca
Karen Topelko	Manager, Ocean & Marine Fisheries Branch; BC Ministry of Environment	karen.topelko@gov.bc.ca
Kathy Wachs	Community Organizer, Chemainus Biodiversity Education Project	k_6032@hotmail.com
Scott Wallace	Sustainable Fisheries Analyst, DSF	swallace@davidsuzuki.org
Barbara Wepruk	SFU	wepruk@sfu.ca
John Werring	Salmon Conservation Biologist, DSF	jwerring@davidsuzuki.org

Christianne Wilhelmson	Clean Air and Water Program Coordinator, Georgia Strait Alliance	christianne@georgiastrait.org
Judy Williams	Fraser River Coalition	judyw@direct.ca
Rob Williams	UBC/Independent Aquatic Ecosystems Research Laboratory (AERL)	r.williams@fisheries.ubc.ca
Laura Wimpee	DSF	laura.wimpee@gmail.com
Nikki Wright	Co-Chair, Seagrass Conservation Working Group	seachange@shaw.ca
Jen Yip!	Quest University Canada	jky07@questu.ca
Jeffery Young	Aquatic Biologist, DSF	jyoung@davidsuzuki.org
Katherine Zarembo	Bowen Island Conservancy	katzarembo@yahoo.ca

Workshop facilitation and coordination		
Name	Position and affiliation	email
Peter Abrams	Lead Facilitator, Peter Abrams Consulting Services	p_abrams@telus.net
Trish Hall	Project Manager, MCC	hall@watershed-watch.org
Devon Knight and Dave Peterson	Registration and Coordination, Devon Knight Events	devon@devonknight.com
Katie Pease	Facilitator, Synapse	katie@synapse-strategies.com

Appendix C: Basic Consequences Table

The Basic Consequence Table is a form of Structured Decision Making. The main elements of the Table are problems and issues, objectives, management options and evaluation criteria. Values/objectives of stakeholders are incorporated into the Table, and various management options to address these are formulated and rated. Both technical information and values are clearly separated and assessed. Below is an example of a Basic Consequence Table. Evaluation values will change with input from others.

Note: For formatting reasons, one row in the table was removed, addressing the issue that wild caught salmon is an important nutritional commodity (ocean caught salmon have ~500% more Omega-3 than upriver). For full table, see Save our Skeena Salmon website: www.saveourskeenasalmon.org under the "Take Action" section, entitled "Salmon Conservation Initiative Consequence Table". Direct link:

<http://www.saveourskeenasalmon.org/content/salmon-conservation-initiative-consequence-table>

This table is adapted from one developed by Alan Dolan, Alan Dolan & Associates, and used in the draft Angling Management Plan - Skeena Quality Waters Strategy (October, 2008: pg 39). See BC Ministry of Environment website: <http://wlapwww.gov.bc.ca/ske/qws/>

Basic Consequence Table to Compare Possible Salmon Conservation Initiatives **Evaluation Criteria: 1 is worst; 5 is best**

Problem / Issue	Objective	Option 1 Electronic monitoring of smallboat gillnetters	Option 2 TAC, Logs and landing stations for recreational	Option 3 Go to terminal (upriver) fisheries	Option 4 Reduce sports steelhead take 20%	Option 5 Reduce commercial quota 20%	Option 6 close commercial sockeye during peak Steelhead run	7 Open during peak steelhead
The combined directed sports catch and commercial sockeye fisheries bycatch of Steelhead is too great	Reduce pressure on steelhead	1-3 Gillnetters have no \$ incentive to catch steelhead and already try to avoid them	4-5 The main directed fishery needs examination and control	1-3 Many think weak stocks school in main stem prior to entering their home tributary	5 Reduction of main directed sports fishery would be effective	1-3 Fleet already has short nets, short set times they try to avoid and release steelhead	1-3 studies show no relationship between Skeena gillnet openings and steelhead returns	3
The commercial fishery on large healthy sockeye runs catches mixed stocks of weaker runs	Reduce pressure on weak sockeye (ws) runs	1-3 EM can't distinguish sockeye	1	1 Main stocks of concern are in highest % at upriver fishing sites	3 Allows comm. fleet to favour, avoid, ws	3 Timing already avoids runs	1 avoiding steelhead pushes fishery onto weak sockeye runs	5
~35% of the commercial fleet are FN, whose boats are relied on in their villages	Coastal FN community transportation and food fish capabilities	1 Annual cost of EM is thousands \$ so it eliminates small boats	5	1	5	3-5	1	5 FN fishermen will get more income
Skeena salmon fishery ec value went down ~\$40 million with recent move to upriver and sports priority (same price same run size)	Max total economic value	1 lose hundreds of local jobs, gillnetters high cost low benefit	5 Only way to control which are overfishing threatening stocks of concern	1 ocean caught fish are worth about 10 times river marked, oil depleted terminal fish	5 sports revenue not sensitive to small quota reduction	1	1 Babine wastes hundreds of thousands sockeye in excess to spawning needs	5 Sports is only 16mill
Subtotal Evaluations: Highest are best options***		6-11	20-21 *****	5	23 *****	9-13	5-7	23 *****

Appendix D: Successful conservation initiatives

Following are overviews of successful conservation initiatives identified by participants. Key reasons for success were discussed and highlighted, as well as strategies, tools or techniques used. Initiatives are organized according to the context within which they were discussed, e.g., Wild Salmon Policy. Where possible, the participants providing information on the initiative are mentioned.

Wild Salmon Policy

Stream and Wetland Conservation in West Vancouver – North Shore Wetland Partners	
<i>Paul Berlinquette, North Shore Wetland Partners</i>	
North Shore Wetland Partners promotes conservation of North Shore wetlands through education, research, restoration and stewardship. It has been involved with Streamkeepers of West Vancouver, a grassroots volunteer organization that works to protect and restore streams in West Vancouver	
<p style="text-align: center;">Key reasons for success</p> <ul style="list-style-type: none"> ▪ Strength and size of the organization ▪ Armies of committed volunteers ▪ Strong-willed volunteers with time and expertise: West Van has a high number of retired, thick-skinned professionals (biologists, lawyers, etc) who volunteer their time ▪ Volunteers supported by the organization to protect what they love ▪ Organization is shaped according to values and priorities of the community in which it is based ▪ Lots of money: from developers to look after their restoration projects, and from corporate and individual donors. This is a very rich municipality where people will spend money on restoration in their neighbourhoods ▪ Credibility and good reputation: local government initially ignored them. Now municipality comes to them ▪ Persistence when dealing with government ▪ Use of DFO's regulatory power ▪ Collaboration with First Nations 	<p style="text-align: center;">Strategies, tools or techniques</p> <ul style="list-style-type: none"> ▪ Work for enforcement of local environmental laws, including on government projects, e.g., dumping restrictions, covering streams ▪ Work with DFO when beneficial, and use DFO's authority and policies to influence local government and local development ▪ Establish conservation measures/protection in the Official Community Plan: makes it more difficult to carry out contrary actions. Salmon habitat and wetlands are in the OCP, and now pushing for inclusion of old growth forests ▪ Work for Natural Heritage Protection Status: get local government to recognize heritage goes beyond "built" heritage, e.g., our salmon streams, old growth ▪ Use aggressive attitude to apply political pressure ▪ Work to replace conservation-unfriendly government staff ▪ Make public politicians' environmental record and opinions, e.g., on stream protection and restoration ▪ Use student education, e.g., elementary school art on salmon has raised awareness and promoted conservation

<ul style="list-style-type: none"> ▪ Education through the school system: children pick up environmental ideas quickly and pass them on to parents and adults ▪ Use of media for outreach and to communicate developers' and politicians' environmental records ▪ Outreach is targeted to broad cross section of groups already invested in an area, e.g., nature groups, user groups such as mountain bikers, watershed groups 	<ul style="list-style-type: none"> ▪ Involve First Nations on salmon and salmon habitat protection ▪ Re-establish salmon runs using hatcheries. Once this occurs, DFO laws can then protect the stream and habitat ▪ Use media to influence developers: media coverage on the tailed frog issue led to the Royal's taking an interest on their visit ▪ Pressure developers to maintain higher environmental standards, e.g., 15 metres setbacks in riparian areas versus the province's new riparian area regulations of 5 metres ▪ Target outreach to groups with investment in an area to build a broad section of local supporters ▪ Build support and resources for the organization to create a strong community presence ▪ Help volunteers do what they love to protect it: riparian areas bring diverse people together, but we respect their individual interests and motivations
--	--

Friends of Wild Salmon	
<p>A diverse coalition of commercial fishermen, sport anglers, First Nations and concerned citizens working together to protect the Skeena River's wild salmon heritage. Specific focus on stopping salmon fish farming at the mouth of the Skeena</p>	
<p style="text-align: center;">Key reasons for success</p> <ul style="list-style-type: none"> ▪ Mobilized diversity: formed a coalition of bright people from diverse sectors to fight fish farms ▪ Organized around and raised awareness of a common threat: focused on an issue that would have obvious negative impacts on existing industries and livelihoods ▪ Collaboration with First Nations 	<p style="text-align: center;">Strategies, tools or techniques</p> <ul style="list-style-type: none"> ▪ Formed a steering committee and used innovative political actions to put pressure on government not to allow fish farms ▪ Organized against common threat: formed coalition around issue that was easily identified as a common threat once educated ▪ Engaged First Nations as allies: they have particular legal powers to oppose developments

Opposition to Coal Bed Methane at the Skeena Headwaters	
<p><i>Greg Knox, SkeenaWild Conservation Trust</i></p> <p>A diverse coalition of First Nations, environmental organizations, sport fishers and others working together to stop Shell from drilling at the Skeena River's headwaters</p>	
<p style="text-align: center;">Key reasons for success</p> <ul style="list-style-type: none"> ▪ Mobilized and organized widespread and diverse support, including the grassroots ▪ Organized around a central community value: focused on an issue that would have obvious negative impacts on existing industries and livelihoods ▪ Alliance with First Nations 	<p style="text-align: center;">Strategies, tools or techniques</p> <ul style="list-style-type: none"> ▪ Focus on development projects that are common threats: focusing on obvious threats to many people is easier than focusing on more controversial developments that will bring jobs and therefore likely to gain greater support ▪ Engaging First Nations as allies: engaging First Nation provides additional legal avenues and ways to influence decisions

North West Watch, Terrace	
<p><i>Greg Knox, SkeenaWild Conservation Trust</i></p> <p>A local political organization formed 10 months ago to educate about conservation and provide opportunities for community dialogue. Since their formation, voter turnout in the last election increased and some city councilors and the mayor have been replaced with seemingly more environmentally progressive individuals</p>	
<p style="text-align: center;">Key reasons for success</p> <ul style="list-style-type: none"> ▪ Providing opportunities for the community to discuss environmental issues and learn candidates positions on environmental issues ▪ Engaging politically: influencing the election process 	<p style="text-align: center;">Strategies, tools or techniques</p> <ul style="list-style-type: none"> ▪ Hosting community discussions and all candidates' forums ▪ Force a public position on the issues: get candidates to declare their stand on environmental issues ▪ Allow the community to learn from each other: bring the community together to talk and learn from each other about the issues ▪ Inform politicians about issues

Building Environmental Values in School Children

Important initiative carried out by many organizations, such as the Como Watershed Group and various Streamkeepers

Key reasons for success

- Children quickly understand the importance of protecting nature, and carry these values into adulthood
- Engaging activities that facilitate the development of positive environmental values through hands-on experience, rather than teaching prescriptive messages
- Presenting nature's intrinsic value, beyond its utility to humans
- Children have regular access to protected forests, streams and wetlands

Strategies, tools or techniques

- Build ecological learning in schools: lean hard on the education system to strengthen ecological learning, i.e. eco-literacy. Integrate environmental lessons in existing school subjects and curriculum, e.g., environmental field projects for science, eco-messages in book readings, a unit on local food in a home economics class, math problems involving environmental measures and calculations
- Work from inside schools by identifying and working with eco-champions, e.g., a science teacher
- Give children regular access to nature: studies show that people who grow up to value and protect nature all had significant access to natural, functioning habitats as children
- Get public access to key habitats, such as riparian areas, so they can learn about the issues first-hand. Secure access to streams, as is done with waterfront
- Provide experiences that allow children to develop their own values through understanding and respecting organisms and ecological process
- Teach children to “read” nature the way we teach them to read poetry, i.e. in a way that touches them
- Connect children to nature in their own environment
- Focus on children who have little access/opportunity to connect with nature due to geography, safety concerns, etc.
- Engage children in conservation monitoring, for example, looking for indicator species and species of concern so they can help protect their habitats
- Present nature's intrinsic value not just as a resource for human use. For example, DFO's “fish in the classroom”

	<p>program is too applied</p> <ul style="list-style-type: none"> ▪ Reach young students and children ▪ Recognize and promote the developmental importance for children of self-directed learning in nature: The book “Last Child in the Woods” identifies nature deficit syndrome, and show that people learn differently when they learn on their own with nature
--	--

Green Club	
<p><i>Joseph Lin</i></p> <p>Reaches out to new Canadians to educate them about environmental issues</p>	
<p style="text-align: center;">Key reasons for success</p> <ul style="list-style-type: none"> ▪ Gained the trust of the community by using culturally appropriate outreach, e.g., language, integrating environmental information that responds to community values. Know your audience ▪ Using various outreach methods, e.g., e-mail, websites, community media ▪ Providing current, reliable information on a variety of topics ▪ Providing nature-based activities that meet a variety of participants’ health and spiritual needs 	<p style="text-align: center;">Strategies, tools or techniques</p> <ul style="list-style-type: none"> ▪ Engage people through issues they already care about, e.g., food and health in the Chinese community ▪ Build trust in a new community by doing outreach in a culturally appropriate way, including use of language ▪ Build a readership that trusts and relies on you for providing correct information ▪ Provide a variety of information, e.g., a different theme for each day of the week: Monday - climate change, Tuesday - eco-tourism, Wednesday - healthy life, Thursday - international issues, Friday - health promotion, Saturday - secret of life. Sunday - Asian issues ▪ Provide opportunities for people to experience nature and learn about conservation, e.g., with eco-tours ▪ Meet multiple needs through one activity, e.g., weekly guided nature and heritage walks present environmental information in a way that is entertaining, educational, social, and healthy

Involvement in Official Community Plans and Land Use Planning Process	
<i>Matt Hammond</i>	
Importance for long-term conservation	
Key reasons for success	Strategies, tools or techniques
<ul style="list-style-type: none"> ▪ Protection is on the books before developers plan and design a project. Lines on a base map are powerful and immediate constraints 	<ul style="list-style-type: none"> ▪ Participate in the process when long term planning happens ▪ Encourage enforcement of existing rules

Marine fisheries and habitat conservation

BC Coastal Eelgrass Stewardship Project (Seagrass Conservation Workgroup- BC Eelgrass Network)	
<p>The BC Coastal Eelgrass Stewardship Project was implemented in 2002 to conserve, restore and protect approximately 1,000 hectares of critical coastal habitat for migratory water birds, salmon, herring and other important fish stocks, shellfish and invertebrates in twenty areas along the coast of British Columbia. This goal has been accomplished through mapping and monitoring eelgrass sites, transplanting and restoring historic sites, and establishing a network of conservation stewards</p>	
Key reasons for success	Strategies, tools or techniques
<ul style="list-style-type: none"> ▪ Partnership between federal, provincial, local governments, First Nations, academics, ENGOs and volunteers ▪ Stewardship as primary component ▪ Support to public and community groups, e.g., education, training, information sharing, common tools ▪ Autonomy of community groups in use of tools ▪ Participation by scientific advisor who volunteered expertise ▪ Education of stakeholders ▪ Provision of credible information 	<ul style="list-style-type: none"> ▪ Involved 27 groups along the coast ▪ Multi-level mapping protocol that was scientifically defensible; data support ▪ Core group of people available for training / support ▪ Educated variety of stakeholders, e.g., other NGOs, First Nations, developers, local government ▪ Used Workgroup/Network annual conference to train and educate public and community groups ▪ Created common tools and circulated to each community to use in its own way

San Francisco Estuary Invasive Species Project	
<p>A federal-state-local partnership, the San Francisco Estuary Project's mission is to restore water quality and manage the natural resources of the San Francisco Bay-Delta Estuary while maintaining the region's economic vitality. The Project developed a plan of action to protect and restore the Estuary called the Comprehensive Conservation and Management Plan</p>	
Key reasons for success	Strategies, tools or techniques
<ul style="list-style-type: none"> ▪ Funding ▪ Early engagement of community and stakeholders 	<ul style="list-style-type: none"> ▪ Build partnership with various agencies and stakeholders ▪ Secured adequate funding

Utila Centre for Marine Ecology (UCME) (in Honduras) – paying volunteer program	
<p>UCME is a Honduran registered non-governmental organization that bridges the gap between applied scientific research and community-based conservation. In the volunteer program, participants work with researchers and conservation specialists in monitoring and studying various marine species and the dynamics of habitat use</p>	
Key reasons for success	Strategies, tools or techniques
<ul style="list-style-type: none"> ▪ Provides opportunity for non-biologist to be involved with a conservation program ▪ Creates funding source that would otherwise not be available 	<ul style="list-style-type: none"> ▪ Think outside the box – creative ways to generate capital and raise resources to move projects along

Pulp Mill discharge standards	
Key reasons for success	Strategies, tools or techniques
<ul style="list-style-type: none"> ▪ Zero discharge of dioxins ▪ Credibility ▪ Lobbying by “clean water” groups through an alliance approach. The writing was on the wall ▪ Solid coalition ▪ Linked to human health 	<ul style="list-style-type: none"> ▪ Build strong coalition ▪ Used alliance to lobby effectively ▪ Organized against common threat, i.e. to human health

Pilot Marine Reserves	
<p style="text-align: center;">Key reasons for success</p> <ul style="list-style-type: none"> ▪ Pacific nations buy-in ▪ Attention to illegal, unreported and unregulated fishing ▪ Eliminates Distant Water Fishing Nations ▪ Local awareness of issues ▪ Small scale fishery promotion 	<p style="text-align: center;">Strategies, tools or techniques</p> <ul style="list-style-type: none"> ▪ Built broad coalition ▪ Targeted issues of relevance for local communities and focused outreach to them ▪ Diverse data collection and analysis
Proposed National Marine Conservation Area Reserve in Gwaii Haanas/No take zones	
<p style="text-align: center;">Key reasons for success</p> <ul style="list-style-type: none"> ▪ Preserves habitat ▪ Promotes biodiversity ▪ Local involvement ▪ Had good data about habitat 	<p style="text-align: center;">Strategies, tools or techniques</p> <ul style="list-style-type: none"> ▪ First Nations key partner in coalition ▪ Involved local communities ▪ Used scientific data and traditional ecological knowledge
Toxic Smart Campaign	
<p style="text-align: center;">Key reasons for success</p> <ul style="list-style-type: none"> ▪ Support from public ▪ Right timing (environmental concern was high) ▪ Linked to human health ▪ Grassroots network and endorsed by community ▪ Endorsed by regional districts 	<p style="text-align: center;">Strategies, tools or techniques</p> <ul style="list-style-type: none"> ▪ Networking at the grassroots level ▪ Built support from the community and regional governments ▪ Organized against common threat, i.e. to human health

Integrated Groundfish Management	
Key reasons for success	Strategies, tools or techniques
<ul style="list-style-type: none"> ▪ Thorough catch accounting for every groundfish species ▪ Viable alternatives in fishing practices ▪ Good data ▪ Leadership shared amongst DFO, conservation organizations, and some commercial players ▪ All players involved 	<ul style="list-style-type: none"> ▪ Collect reliable, credible and thorough data ▪ Support shared leadership with DFO, conservation organizations and willing commercial players ▪ Negotiate with all relevant interests

Quest University Canada’s “mini-university” program	
<p>Quest University Canada is a not-for-profit liberal arts and science university located in Squamish. Every year students host a program where they teach subjects they enjoy/specialize in to any interested community members.</p>	
Key reasons for success	Strategies, tools or techniques
<ul style="list-style-type: none"> ▪ Broad participation from community ▪ Perpetuation of conservation ideals from enthusiastic students down through the community 	<ul style="list-style-type: none"> ▪ Education communicated in an engaging way ▪ Empowerment of community

Quest University Cafeteria – G-van Catering	
Key reasons for success	Strategies, tools or techniques
<ul style="list-style-type: none"> ▪ Getting sustainable seafood on campus ▪ Environmental audit done by group of students 	<ul style="list-style-type: none"> ▪ Targeted outreach to students ▪ Established credibility with process involving target group

Saanich Inlet & Peninsula Atlas of Shorelines	
Key reasons for success	Strategies, tools or techniques
<ul style="list-style-type: none"> ▪ Collaboration between conservation groups ▪ Sharing of resources, e.g., equipment and knowledge ▪ Linked together need of municipal and regional districts for accurate maps, which allows for good decision-making 	<ul style="list-style-type: none"> ▪ Facilitate cooperation and sharing of resources ▪ Identify common need of key stakeholders and link benefits from carry out the initiative ▪ Identify common needs across scales/jurisdictions to build support and potential resourcing

Davies Creek Restoration (still in progress)	
Key reasons for success	Strategies, tools or techniques
<ul style="list-style-type: none"> ▪ Collaborating among stakeholders ▪ Community buy-in 	<ul style="list-style-type: none"> ▪ On the ground volunteerism i.e. weeding and planting to restore habitat

Master's Thesis – Life Cycle Assessment of Maine Lobster Industry	
Sensitive information gathered on Maine Lobster fishery	
Key reasons for success	Strategies, tools or techniques
<ul style="list-style-type: none"> ▪ Successful cooperation with fishermen 	<ul style="list-style-type: none"> ▪ Honesty; straightforward with intentions, and goals of study ▪ Established shared goals ▪ Identified benefits for fishers

Marine Life Protection Act Initiative - California	
Key reasons for success	Strategies, tools or techniques
<ul style="list-style-type: none"> ▪ State-mandated ▪ Adequately funded ▪ Broad range of collaborators 	<ul style="list-style-type: none"> ▪ Representation of fishers' interests ▪ Fishers involved in research that fed into planning process

Stopping seismic surveys on BCs central coast	
<i>Christianne Wilhelmson and others</i>	
Initiative to stop use of underwater high energy sound for a research project, which would have opened the door for further use of seismic testing, e.g., to detect offshore oil and gas reserves. The decision-maker – the Natural Sciences and Engineering Research Council of Canada (NSERC) – stopped approval of the project	
Key reasons for success	Strategies, tools or techniques
<ul style="list-style-type: none"> ▪ Strong scientific support for initiative ▪ Sustained public pressure on decision-making body ▪ Sustained focus on goal ▪ Collaboration between ENGOs ▪ Took advantage of all members' strengths 	<ul style="list-style-type: none"> ▪ Built strong communications between interest groups. i.e. government, ENGOs, individuals ▪ Used the public's passion for whales to encourage the sending of comments to NSERC ▪ Credible information ▪ Worked with DFO scientist ▪ Used media to highlight concerns

Reintroduction of pink salmon and restoration into Nile Creek	
Restoring Nile Creek and reestablishing pink salmon stocks.	
<p style="text-align: center;">Key reasons for success</p> <ul style="list-style-type: none"> ▪ Collaboration formed among diverse interests (Society members, Federal/Provincial Government, First Nations, Commercial and Sports fishermen) ▪ Persistence with DFO ▪ Project champion onsite and within the government ▪ Fly fishing increased, and other species were also re-established 	<p style="text-align: center;">Strategies, tools or techniques</p> <ul style="list-style-type: none"> ▪ To bring back pink salmon: <ul style="list-style-type: none"> • Lots of creek work, relating to the highway upstream. Re-establishing debris fields. • Received pink eggs from DFO to release eyed eggs into the creek. ▪ Identified and worked with a ‘Champion’: through their influence success can snowball ▪ Identified a common objective that overrode individual needs.

BC Marine Conservation Analysis	
The objective of the initiative is to produce a series of maps showing areas of current ecological and human use in BC’s marine environment to inform marine planning initiatives in BC. The project team is composed of representatives from the Canadian and BC governments, academia and environmental organizations (including Living Oceans Society), with several First Nations sitting as observers. The first collaboration of this type and geographic scope in BC.	
<p style="text-align: center;">Key reasons for success</p> <ul style="list-style-type: none"> ▪ Collaborative project (Government, First Nation, NGO) ▪ Well defined goals and objectives ▪ Focused on providing best quality data and information to improve planning and decision-making 	<p style="text-align: center;">Strategies, tools or techniques</p> <ul style="list-style-type: none"> ▪ Community/user engagement to encourage buy-in to the goals

Watershed stewardship groups	
Key reasons for success	Strategies, tools or techniques
<ul style="list-style-type: none"> ▪ Took advantage of close proximity of provincial recreational trails to salmon-bearing creeks to raise awareness ▪ Collaborative initiative to run two small community hatcheries, involving DFO, volunteers, a corrections facility ▪ Building on successes ▪ Identifying and collecting crucial data for planning and management 	<ul style="list-style-type: none"> ▪ Public Outreach program- Sex on the Rocks ▪ Empowered recreation trail users: no trails will cross creeks or rivers during salmon spawning seasons. ▪ Salmon Enhancement Programs - funds/ community hatcheries, education programs with School District 42 (Sea to Stream Program). ▪ On going data collection (GPS). By initiating data collection, Streamkeepers were able to embarrass municipal government into providing funding based on their lack of knowledge regarding local streams

Pilot project to remove derelict marine debris from Boundary Bay	
Boundary Bay is an area with high recreation use and is important for bird aggregation and fish spawning habitat	
Key reasons for success	Strategies, tools or techniques
<ul style="list-style-type: none"> ▪ Collaboration between local stewardship groups, different levels of government (BC Ministry of Environment initiative), and First Nations 	<ul style="list-style-type: none"> ▪ Inventoried and removed debris from large section and removed small section of debris ▪ Involvement of First Nations needs to be increased

North Coast Cetacean Society on Gill Island	
<p>Research station is attempting to educate fishers, enforce compliance with marine mammal laws, and accumulate data on the interactions between sports fisheries and North coast Humpbacks and Orca</p>	
<p style="text-align: center;">Key reasons for success</p> <ul style="list-style-type: none"> ▪ Project still in process 	<p style="text-align: center;">Strategies, tools or techniques</p> <ul style="list-style-type: none"> ▪ Identified a growing problem between the large scale recreational sports fishery on the North Coast and the whales which are being targeted ▪ Working between lodges and guides to educate fishers and have them respect whales and comply with existing laws ▪ Working to have existing laws enforced ▪ Collecting data, and proposing to give these data to the provincial and federal governments

Salmonid Enhancement Program	
<p>Since 1979, DFO, with the involvement of many BC communities, has been running this program to increase salmonid populations (use of hatcheries, spawning channels, fish ways, etc). BC Ministry of Environment was also involved with responsibility for steelhead and cutthroat trout. Through the Community Economic Development Program, community-based groups have also operated local enhancement projects.</p>	
<p style="text-align: center;">Key reasons for success</p> <ul style="list-style-type: none"> ▪ High government involvement ▪ Funding applied in 3 tiered system (fully funded, partially funded, and community run) ▪ Community involvement at multiple levels, including educational programs for local schools 	<p style="text-align: center;">Strategies, tools or techniques</p> <ul style="list-style-type: none"> ▪ Major focus on supporting communities

Flood Plain Trail Removal (District of North Vancouver)	
The purpose of this project was to relocate a trail from a flood plain to an environmentally safe area, and re-establish a salmon habitat	
<p style="text-align: center;">Key reasons for success</p> <ul style="list-style-type: none"> ▪ Community involvement ▪ Collaboration between different stakeholder groups, e.g., hikers, cyclists, dog walkers, municipality ▪ Fostered a sense of project ownership amongst stakeholder groups 	<p style="text-align: center;">Strategies, tools or techniques</p> <ul style="list-style-type: none"> ▪ Community forums for discussion and exchange of ideas, concerns, and issues ▪ Involved stakeholder groups in all phases of the project ▪ Encouraged people to get involved in “hands on” activities, e.g., tree planting. ▪ District of North Vancouver used its website to advertise for public involvement

Brown Property Conservation Initiative (Qualicum Beach)	
The purpose of this project was to preserve 50 acres of old growth forest containing a salmon stream running through it from development	
<p style="text-align: center;">Key reasons for success</p> <ul style="list-style-type: none"> ▪ Remaining persistent in educating and lobbying local government ▪ Public education ▪ Working with diverse local groups 	<p style="text-align: center;">Strategies, tools or techniques</p> <ul style="list-style-type: none"> ▪ Educating politicians about mistakes and negative impacts of old practices ▪ Reinforce conservation-positive decisions ▪ Educating public and working with different local groups

City of Surrey habitat management practices	
Initiative to convince the City of Surrey to change the way it manages fish and wildlife habitat within their boundaries. Results: City hired new staff, engages consultants and developed a Sustainability Charter	
<p style="text-align: center;">Key reasons for success</p> <ul style="list-style-type: none"> ▪ Public education to raise awareness ▪ Public involvement in fund raising ▪ Collaboration with related groups ▪ Remaining persistent in involving local government (“squeaky wheel gets the grease”) 	<p style="text-align: center;">Strategies, tools or techniques</p> <ul style="list-style-type: none"> ▪ Public education of biodiversity issues ▪ Working with other related groups

Marine Pollution and Toxins

Upper Pitt Power Project (run-of-river)	
Initiative that stopped the construction of 7 run-of-river facilities on 8 tributaries of the Pitt River. Would have involved the removal of 70 hectares of land from Pinecone Burke Provincial Park to install a power line from the upper Pitt to Squamish. Stopped March 2008	
<p style="text-align: center;">Key reasons for success</p> <ul style="list-style-type: none"> ▪ Public participation which convinced decision-makers ▪ Credible data 	<p style="text-align: center;">Strategies, tools or techniques</p> <ul style="list-style-type: none"> ▪ Fact finding to build a convincing case ▪ Involving the public

Sewage treatment by Greater Victoria Region	
<i>Jim McIsaac, Sheila Byers and others</i>	
Stopping the pollution and contamination of the Strait of Georgia by the Region's dumping of untreated sewage. The Region has been directed by the provincial government to develop a new sewage treatment plant	
<p style="text-align: center;">Key reasons for success</p> <ul style="list-style-type: none"> ▪ Coalition-based ▪ Many volunteers ▪ Effective public education and messaging ▪ Collaborative problem solving among ENGOS 	<p style="text-align: center;">Strategies, tools or techniques</p> <ul style="list-style-type: none"> ▪ Used killer whales in the messaging encouraged people to listen ▪ Used a credible scientist with good public speaking skills and an excellent sense of humour to help with public education and capture media attention, e.g., the mascot Mr. Floaty

TD Great Canadian Shoreline Cleanup	
<i>Mark Johnson and others</i>	
The Cleanup is one of the largest conservation initiatives of the Vancouver Aquarium. Starting small 16 years ago (one beach), it has now grown into the second largest cleanup in the world. In 2007, over 52,000 Canadians registered to clean up 1,240 shorelines	
<p style="text-align: center;">Key reasons for success</p> <ul style="list-style-type: none"> ▪ Large and diversified funding base ▪ Partnerships with community leaders and ENGOS ▪ Effective use of technology to engage people ▪ Widespread media coverage and publicity ▪ Volunteer commitment is short (1-day) and focused ▪ Nation-wide status 	<p style="text-align: center;">Strategies, tools or techniques</p> <ul style="list-style-type: none"> ▪ Focus on community leaders ▪ Website uses Google maps ▪ Use of media and publicity ▪ Use of “event” context to increase appeal

Kenyan flip-flop beach clean-up	
<i>Robyn Hutchings</i>	
A coast-wide initiative by one woman in response to the large number of flip-flops littering the beaches	
Key reasons for success	Strategies, tools or techniques
<ul style="list-style-type: none"> ▪ Financial incentive for community to participate (benefits) ▪ Responded to the economic needs of local people ▪ Simple plan and operation 	<ul style="list-style-type: none"> ▪ Taught local people how to make toys for sale out of flip-flops ▪ Provided local people with an alternative income source to fishing ▪ Very good communication with the public: benefits shown
Monarch Butterfly Conservation Fund (Mexico City)	
<i>Alish Murphy</i>	
The establishment of a fund to compensate local community members for the loss of their logging rights and other resource extraction activities on their traditional lands which were converted into a park to help protect monarch butterflies. Success uncertain.	
Key reasons for success	Strategies, tools or techniques
<ul style="list-style-type: none"> ▪ Collaboration among ENGOs, government and local people 	<ul style="list-style-type: none"> ▪ Needs of local people were taken into account
Animated video on effect on juvenile salmon from sea lice associated with fish farms	
<i>Stan Proboszcz, Watershed Watch</i>	
A 6 minute video that has had over 12,000 website hits and has been seen in 83 countries	
Key reasons for success	Strategies, tools or techniques
<ul style="list-style-type: none"> ▪ Creativity, sustained effort & international partnership ▪ Easily-understandable video to facilitate education of general public 	<ul style="list-style-type: none"> ▪ Extensive network of international partners for distribution, and collaborated on the release date for a broader impact on the public