

RIVER TO PLATE

An Executive
Summary

River to Plate

2009 Results



PROGRAM OVERVIEW

River to Plate is a 5-year effort to define the attributes of a First Nations strategy for their economic salmon fisheries in the Fraser River by 2012. The following report on 2009 activities has been designed to illustrate ways in which First Nations are working to implement their vision. The **River-to-Plate** framework has been defined by their collaborations as they experiment with “Demonstration” economic fisheries on the Fraser River.

These *Demonstration* fisheries are designed and managed by these Fraser River First Nations, working along with government, academia, and industry, involving those who are embracing the sea-change in the public market place towards full traceability, quality management, and sustainable salmon fisheries. Their work is designed to meet locally relevant challenges but embrace watershed principles, and serve to advance their Mission. Each of 9 strategies described here-in reflects their work arranged around the building blocks as we have tried to capture them in **River to Plate**.

Though all 9 strategies remain consistent since 2007/8, in 2009/10 a significant reshaping of the programs 3 over-arching goals emerged to account for a predominant focus on traceability. The reorienting of these goals to include traceability included a re-profiling of “value” back among sustainability and quality attributes. With this new emphasis, traceability is now also captured in the renewed icon.

The strategies in this refined program vision will continue to reflect Fraser Salmon fisheries in the ways espoused in the program Vision for **River to Plate** – in the sustainable way these First Nations fish, in the traceability of their fish products, and wholesome qualities of the food produced.



Photograph courtesy of the Secwepemc Fisheries Commission

STRATEGY OVERVIEW ~ WHERE GOVERNANCE AND FISHERIES ECONOMICS MEET

The following goals have been generated from early experiences by First Nations and their partners in the emerging economic salmon fisheries in the Fraser River:

- I. Sustainability
- II. Traceability
- III. Quality

These 3 goals provide a principled structure for cultivating sustainable economic salmon fisheries in the Fraser River, and provide a strategic foundation in traceability for the program vision for *River-to-Plate*. They also are an icon for the program vision representing the building blocks underlying the strategic work of First Nations demonstration fisheries in the Fraser River.

A set of 9 programming principles follow each goal statement, divided into 3 compellingly similar groups. These are proposed both as the basis for formulating performance measures and a guide for related program development in the Fraser River.

Proposed strategies and actions were prepared for the inaugural program year 2008, and implemented in demonstration fisheries projects as the foundation for refining strategic planning to 2012. They are not perfect, but they provide a guide to performance measure and adaptive planning – they are reviewed annually.

A new icon – simple, clear and it's ours.



Sustainability

Traceability

Quality

A Report Card on Progress – River to Plate 2009

Strategy			Results
1. Standards of Excellence	Sustainability	B+	Open networking and coordination involves regulators, producers and academia
2. Sustainable fisheries objectives		A	Project-based planning among First Nations and with DFO to ensure selectivity to meet both economic and FSC objectives
3. Promote orderly trade and traceability	Traceability	B	Pilot work by Chehalis and Scowlitz First Nations to regulate landings through fishers and band permits
4. Common standards for production networking		B	Virtual warehouse pilot expanded to include Harrison, Fraser and Thompson River sites
5. Create quality management tools & systems		B	Standardized and verified primary documentation systems recommended
6. Employ business planning mentors	Quality	C+	Specialists employed in the projects explore plant and production efficiencies/ feasibility
7. Cultivate fisheries, business plans, benefits and support strategies		B+	Studies involving upper, middle and lower Fraser demonstration fisheries focused on efficiencies of fisheries/processing and considered marketing
8. Build relevant products and markets		C	Partnerships in the value chain are being explored in the Thompson and on the Harrison River – product research is being built into business planning
9. Rewards in the value chain		c+	Incentives derived from cooperative work with virtual warehouse

SUSTAINABILITY

STRATEGY 1: STANDARDS OF EXCELLENCE



GOAL: To develop and maintain a program advisory committee and open network made up of representatives of Fraser First Nations, regulators (ex-officio¹), and academia to oversee programming. The Traceability management program is the centerpiece of the program.

RESULTS: The Fraser Basin Council's *Salmon and Watershed's Program* and DFO's *Pacific Integrated Commercial Fisheries Initiative* both contributed to the communications and reporting of the River to Plate programming in the Fraser Watershed in 2009. Hosted by the Fraser River Salmon Table, the support made it possible to convene both watershed and localized workshops, watershed networking, and a referral process that informed local project planning and enabled collaborative programming.

In the Thompson River, a review of area catch and processing efficiencies, fish qualities and systems was led by the Secwepemc Fisheries Commission among participating First Nations and DFO in May. In the Harrison, a series of monthly meetings (May – September) were convened by Chehalis and Scowlitz Bands to bring together government, industry, and academic experts, as well as monthly evening forums with community fishers to assist in preparing for PICFI business planning. These producers planned collaboratively on piloting the virtual warehouse, in meetings with industry, and with regulators in a review of traceability functions.

Watershed best practices workshops were held in Chilliwack on July 9th, and in Harrison Mills on February and 9th. The July forum engaged the demonstration fishery proponents in a discussion of their projects with each other and with sport fishing and commercial fishing groups. The February workshop focused on a review of the traceability functions in their programming.

This kind of exchange, different from meetings with regulators, allowed for potentially competing interests to understand each other's fisheries and to consider areas of possible conflict and synergies. The meeting also allowed for coordination of production plans among producers who otherwise may not meet to discuss plans directly.

¹ Producers benefit from the presence of regulators and other government officials because they help new producers understand guidelines etc. in their pursuit of market readiness

STRATEGY 2: ADVANCE SUSTAINABLE FISHERIES OBJECTIVES

GOAL: To develop selective harvest management plans as the basis for sustainable in-river fisheries, to manage economic opportunities to meet escapement and FSC priorities, and support share-based fishery planning.



RESULTS: Since 2005, this project included an annual spring review and assessment of annual salmon stock strength and potential areas for selective fishing of available TAC, leading to sharing arrangements. Due to the significant number of meetings on inter-tribal FSC sharing and planning, the gathering of First Nations project proponents to address economic fisheries was less a priority and project proposals for demonstration fisheries were undertaken on a project by project basis, with some collaboration by phone. However, each project was able to develop and refine their approaches to address escapement and FSC objectives while prosecuting an economic fishery.

In the Thompson, lower Fraser and Harrison River demonstration fisheries, proponents operated beach seines to target the available commercial catch of pink salmon while releasing by-catch of steelhead and Harrison Chinook. Proponents declined possible sockeye opportunities to protect FSC needs. In the Thompson river, the fishery was timed to avoid coho, and a catch threshold was established with DFO and the Secwepemc Fisheries Commission to manage by-catch of non-target Adams River sockeye.

Fisheries in the Harrison and adjacent river mouth for both chum and pink salmon utilized beach seines allowing for the release of non-target Harrison Chinook and late sockeye. More detailed strategic planning has been undertaken by the Chehalis Indian Band with funding from the Fraser Salmon and Watershed's Program in the development of a benchmarks model (a Wild Salmon Policy refinement), being designed to shape future harvests to protect distinct life history traits found in local populations and the local FSC fisheries that depend upon them.

II TRACEABILITY

STRATEGY 3: PROMOTE TRACEABILITY, TRANSPARENCY AND ORDERLY CONDUCT IN THE TRADE ENVIRONMENT

GOAL: Improved monitoring and traceability systems are desirable, linking producers, processors, and consumers in the value chain. The output here is traceability from *River to Plate*.



RESULTS: In 2009, as part of a continuing effort in the Fraser River to improve producer-led traceability in these new fisheries, DFO funded a study to assess the effectiveness of their traceability work, and to determine areas for improvement. The Demonstration fisheries studied involved an aggregation of some local and watershed level salmon producers that have been working on a web-based “Virtual Warehouse” for their salmon. The same tools designed to assist in producer networking, have also proven useful in traceability. The study went into the field to observe systems, and brought together the working group to analyze their traceability functions. The project also upgraded their web-based traceability system to assist them in their vision of “river to plate” traceability².

Field observations determined that the participating Demonstration fisheries were successfully applying traceability controls in their fisheries, but highlighted redundancies in forms, the potential for a central coordinated and independent data warehouse, and the need for a “super” Fish Slip, which would improve traceability and reduce paperwork.

The participants pointed out the value in reducing the number of forms, the need for real-time management of data, and potential breaks in the chain of data custody. They also demonstrated that although share-based fisheries and collaborative production has merit in the Fraser River, its utility was not proven beyond the local producer aggregates, where it worked well.

The work concluded that if data is integrated for the broad range of objectives involving producers, processors, and regulators, the system could have broad utility, less redundancy, and a greater likelihood of successful application in river to plate traceability.

² Fraser River Traceability Pilot – Review Recommendations for 2010 and Beyond

STRATEGY 4: STANDARDS THROUGH COOPERATIVE PRODUCTION NETWORKING

GOAL: Cooperative production networks are seen as an essential part of creating viable business plans throughout the in-river fishery.



RESULTS: The quality management plans developed since 2007 were applied in fisheries in 2009. Technical support from UBC and BCIT Food sciences continued to provide a part time foods sciences coordinator to assist in the development of species-based QMP's for fisheries in the Fraser, Thompson, Quesnel, Harrison and the Okanagan Rivers. Implementation of the QMP's focused on proper icing and handling, and minimizing holding times, and speeding up time to processing with more efficient processing at Siska fish plant, shorting holding times at the plant, and better transport protocols for fish sent to coastal fish plants (temperature and weight/quality accounting).

The "Virtual warehouse" piloted in the Harrison River in 2005 for organized traceability and self marketing was expanded to additional participants from the *Sto:lo* and Secwepemc fisheries in 2009. Seven Seas was again engaged as the service provider, and producers organized a production network to expand the total harvest. The objective, as in the Harrison in 2008, was to improve revenues and traceability by organizing landing, processing and marketing together. Expanded to the Thompson River, this was to accomplish the same goal, while generating an advanced traceability tool which is seen as a marketing advantage for any number of future participating independent producers.

The 2009 Harrison River chum and pink salmon fisheries once again showed improved revenues when compared to their neighbors river-bank wholesale prices. However, the growth of participating landing sites and fishers taxed the existing web-based system and created far greater demand on the traceability system than it was designed to provide. Poor market returns from the Thompson River pink salmon production was attributed to a harvest of over-mature fish.

A significant variation in fish qualities and transport costs created equally significant variations in production revenue for the parties. The project also exposed a weakness in the document trail, a common break in the chain of data custody, and poor quality and weight validation between landing and processing plants. The outcomes from this year's work provided much clearer standards for traceability among producers, including a demand for real-time traceability and a "custodian protocol" that will ensure an unbroken chain of custody. The most significant lesson may have been the decision to re-create the virtual warehouse using an independent service provider for 2010, keeping traceability functions under the control of the producers and distinct from any single processing company.

III QUALITY

STRATEGY 5: CREATE QUALITY MANAGEMENT METHODS AND SYSTEMS: TOOLS, INFORMATION, TRAINING

GOAL: Quality management methods, tools and educational materials are to be generated that will improve systems around control points in the fishery (e.g. icing systems, sealable totes, landing site and micro-processing development) to enhance the quality, traceability and value of river salmon fisheries.

RESULTS: The introduction of hanging scales at the landing sites in the Harrison and the Thompson River in 2009 was an important step to introducing standardized weighing of landed catch in order to accommodate full traceability in the catch. Some limited use of temperature loggers was applied in the Thompson River to verify cooling plans in their QMP's. Notably, once a QMP is developed for a fishery and cooling procedures established, it is in the fisheries best interest to follow procedures to optimize quality. This eliminates the need for temperature monitoring in every fishery. Verification checks may only be necessary when procedures in the fishery change. Both projects demonstrated some advancement in the formalization of the senior monitors role at the landing sites (the tally-master) to account for all landings and responsibility for completion of all necessary paperwork to accompany transported fish.

On the Harrison, Chehalis-led partnerships with the *Sto:lo* Nation Human Resources Development Programming (Human Resources and Skills Development funds) and the BC Capacity initiative (INAC) supported the creation and delivery of a 3 day certification training course and *River to Plate* field manual for fishers and landing site workers. The training covered fish handling, traceability, and food safety.

A group of 26 fisheries workers were put through the pilot course and an evaluation of the training program is underway to look at strengths, gaps and recommendations for future certification of other participants that will consider it's expandability. Copies of the *River to Plate* manual will be made available to other producers in the watershed.

Additional safety training needs have also been identified in both Thompson and Harrison River sites to address workers around commercial fishing boats and swift-water.



STRATEGY 6: EMPLOY QUALITY, MONITORING AND TRACEABILITY SYSTEMS IN BUSINESS PLANS

GOAL: Demonstration projects present an opportunity to plan new systems of monitoring, quality control, and traceability into business plans.



RESULTS: In 2009, the employment of technical support for demonstration fishery planning was provided through DFO's PICFI program in the upper Fraser (UFFCA), middle Fraser (Secwepemc Fisheries and Siska Indian Band) and lower Fraser areas (Chehalis). This has contributed significant capacity to projects in each area to develop procedures for each fishery to employ quality management plans, and systems to monitor and verify species, qualities and weights as the foundation to manage traceability in their catches.

These projects have each in their own way developed the formalities of production controls into landing site procedures. Efforts by DFO and partner agencies to provide for more timely planning and licensing has also contributed positively to the organizational capacity of the participants.

Though limited funding was provided for business planning in particular, the demonstration projects have studied the attributes necessary to maximize the value of their catch for future business plans. They all have embraced how markets value sustainable fishing, consistent and well defined qualities in salmon production, and traceability back to a regulated fishery. They have begun to look at ways this work will improve the sales of their salmon harvest in the future.

A proposal for 2010 includes piloting a digital data warehouse (a take-off on the original virtual warehouse focused on traceability) and the testing of an electronic monitoring note-pad. The pilot proposes the introduction of designation cards with magnetic id strips, reprogrammable RFID tags on totes and disposable RFID tags on boxes, and bar codes on all fish packages tied back to a primary data set. The technology is already in use elsewhere and the new independent host for the virtual warehouse has been developing the web-based tools for the ground-fish fishery for the last 4 years.

STRATEGY 7: CULTIVATE FISHERIES WITH VIABLE BUSINESS PLANS AND THAT OPTIMIZE LOCAL VALUES AND BENEFITS

GOAL: To support ongoing feasibility planning support for First Nations in the Fraser to formulate effective strategies and business models for their own fishery.



RESULTS: DFO continued in 2009 to provide grants from PICFI to projects in the upper, middle and lower Fraser River. On the Thompson river, a joint feasibility study was undertaken to assist the *Secwepemc* Fisheries Commission and Siska Fish Plant to determine minimum catch requirements, to sort out logistical and quality management challenges, and to test local markets. The largest portion of the grant was dedicated to operations of the landing, transport and processing program. Their demonstration pink and Chinook fisheries on the Thompson River and at the Siska processing plant focused on ways to increase the harvest and efficiency at the processing plant. Their goal over-all and to more effectively market production that was excess to local sales. However, the partners continued to face challenges in marketing of over-mature pink salmon, and suffered from high cost of transport and a market glut of pinks. Local markets for fresh Chinook continued to grow though, and experiments with value-added processing continued to successfully create marketable products.

On the Harrison River, a joint demonstration fishery study was undertaken that assessed the ways in which the demonstration fishery operated in close proximity to the open-access fishery co-managed by DFO and a joint *Sto:lo* Management Board. The Chehalis-Scowlitz demonstration fishery for chum and pink salmon expanded to include both the Harrison and adjacent Fraser River fishing areas, and operated a mandatory landing site. Protocols were established with the *Sto:lo* to keep allocations and fishers distinct and a restorative justice process was implemented to address a significant poaching problem. The project successfully harvested their allocation, engaged several other *Sto:lo* crews in their experimental virtual warehousing venture, and demonstrated good traceability practices. As in 2008 the fishers cooperative generated 40% more compared to their counterparts in the adjacent *Sto:lo* fishery.

Involvement in an inland processing network continues to be attractive for the Harrison fisheries into 2010. Feasibility studies carried out on the Scowlitz fish plant did outline viability in developing a hub for custom-processing of inland salmon, however on-site inspections identified serious damages from neglect and vandalism, rendering the fish plant inoperable without more than \$750,000 in recommended upgrades.

STRATEGY 8: BUILD RELEVANT PRODUCTS AND MARKETS

GOAL: Lead a salmon food sciences round-table of producers, processors, food nutrition experts etc. that will assess the food qualities of Fraser salmon, linking fishery and market strategies, including product development (food systems, labeling, aboriginal branding, and best-use/value) as well as research and development (flavorings, natural color enhancers etc) that will make best use and value from lower quality salmon meats as well as lead the development of specialty products, while avoiding over-capitalization and transport costs.



RESULTS: Work continued on the Thompson and lower Fraser/Harrison fisheries to define the qualities of caviar quality eggs in the Fraser salmon fishery. Chum, Chinook and pink salmon fisheries were involved in caviar production. Good demand for bait markets was found even more suitable when low volumes of egg harvests made caviar processing less practical.

There was little progress on bringing together a round-table of producers to undertake research on product and markets largely due to the lack of funding. However, producers continue to explore the values inherent in the pale-grade salmon meats. There is a general interest in the development of specialty salmon products based on traditional recipes to meet niche markets. However low volumes make international marketing impractical..

In 2010, partnerships with other agri-foods producers are being explored that will enable producers to team up with existing marketing networks (particularly around the "100 mile diet"), and will offer the opportunity to take initial steps in product development research.

The proposed move towards standardized packages (and frozen production) with bar codes presents a valuable opportunity to explore consumer response to traceability. With web-links to video messages that can easily be activated by an image on smart-phone, the future can include profiles of each fishery that can make a cultural experience out of buying and eating Fraser salmon.

STRATEGY 9: REWARDS IN THE VALUE CHAIN

GOAL: Incentives and rewards – Fishery certification is considered an important part of a long term effort that rewards the participants by opening up market access (i.e. MSC certification). The starting point is working with each community involved in demonstration fisheries to assess the potential costs and benefits of certification. More immediate incentives can come from assisting fishermen and fishing communities to find and capitalize on financial incentives for meeting the *River to Plate* program goals – an approach likened to self certification.



RESULTS: Though standards set by *demonstration* projects in the Fraser may currently exceed MSC certification, it is unclear whether this system is directly relevant to these in-river fisheries markets. There is a need to review and assess certification options to help focus efforts toward any particular certification standard over the long term. In the near future, a process of self certification (marketing-based standards) could be part of collaborative branding.

The cooperative production, self marketing and traceability experiment conducted in 2009 by a Chehalis and Scowlitz fishers cooperative continue to provide immediate financial incentives to that fishery. Plans are to continue with this business model into 2010.

**“RIVER TO PLATE” TRACEABILITY
FRAMEWORK 2010 AND BEYOND**

Goal: *River to Plate* Traceability from participating Fraser River salmon fisheries



Sustainability
Traceability
Quality

Objectives are to:

- 1) Provide traceability from marked fish products back to numbered lots containing primary data (i.e. processor, landing site, fishery, and date of origin);
- 2) Develop traceability systems to accommodate aggregated production, branding, and marketing from multiple and independent inland salmon commercial fishing enterprises;
- 3) Facilitate setting of common standards in business plans to support collaborative certification; and,
- 4) Cultivate marketing strategies that embrace the diversity of fish qualities, fishing cultures, and their brands in the Fraser salmon fishery.

Proposed action plan:

- **Develop and utilize a modified web-based warehousing** technology to store data and produce digitized Fish Slips and other key forms
- **Integrate encoded designation cards** with digital landing verification systems
- **Store primary data on reprogrammable RFID tags** attached to each tote
- Confirm with regulators and producers **the “super” Fish Slip representing primary data fields as the single primary document** and a number through which all other documents can be traced
- **Transfer primary data to disposable RFID tags on any primary processed products** destined to secondary processing
- **Create bar code tags to be placed on consumer packaging** that contain primary identifiers (utilize disposable RFID tags on bulk boxes to accommodate bulk printing of bar code tags)

Opportunities

Access protocols and ITT systems may be developed for specific data sets and users:

- ✓ Regulators for traceability and compliance monitoring
- ✓ Producers for quota trading, production logistics
- ✓ Processors for logistics planning
- ✓ Buyers for bidding
- ✓ For retail and consumer traceability needs

