



Fisheries and Oceans  
Canada

Pêches et Océans  
Canada

# **Building Capacity and Trust**

**Response by**

**Fisheries and Oceans Canada to the  
2004 Southern Salmon Fishery Post-  
Season Review**

**❖ Fraser River Sockeye Report**

**June 2005**



**Canada**

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# FISHERIES AND OCEANS CANADA RESPONSE TO THE 2004 SOUTHERN SALMON FISHERY POST-SEASON REVIEW – FRASER RIVER SOCKEYE REPORT

## ***1. Introduction***

In response to critically low returns of Fraser River sockeye salmon to their spawning grounds in 2004, the Minister of Fisheries and Oceans appointed Mr. Bryan Williams, a former Chief Justice of the BC Supreme Court, to lead a post-season review of the fishery and provide recommendations to address the problems identified and guide future management. Mr. Williams worked with the support of the Southern B.C. Integrated Salmon Harvest Planning Committee.

The final report, *2004 Southern Salmon Fishery Post-Season Review – Fraser River Sockeye Report (2004 Review)*, was released publicly on April 7, 2005. It provides a detailed assessment of the fishery, its management, and the possible causes of the low escapements. The *2004 Review* sets out a goal statement and 47 recommendations designed to support conservation of the resource and avoid a recurrence of the events that occurred in 2004.

This document provides Fisheries and Oceans Canada's (DFO) response to the *2004 Review*. It outlines the challenges associated with managing Fraser River sockeye, identifies some of the underlying problems, describes a framework for changing the way these stocks are managed, and provides a response to each recommendation identified in the *2004 Review*.

The importance of the Fraser River salmon fishery in British Columbia, and the need to ensure conservation and good management of the fisheries resource, is echoed in another report released in March 2005. The Standing Committee on Fisheries and Oceans also undertook a review of the 2004 Fraser River salmon fishery and reached largely similar conclusions. The Department is providing a separate response to the Standing Committee report, which will be tabled in Parliament. This response to the *2004 Review* addresses some of the key issues in advance of the 2005 fishing season, which was an important concern to the Standing Committee.

## ***2. Background***

There are many uncertainties inherent in managing Pacific salmon, including Fraser River sockeye. While best efforts are made to achieve escapement and conservation objectives on an annual basis, it must be understood that even the most risk averse plans will experience some fluctuation (up or down) in achieving escapement goals. Recent environmental conditions and serious stock conservation problems add to the complexity of managing Fraser River sockeye.

In managing the fishery, the Department also strives to balance social and economic considerations with its conservation goals. This can lead to conflict amongst harvesters, particularly with respect to resource access and allocation. These conflicts have become

extremely polarized and divisive amongst harvesters and historic management approaches are challenged in providing solutions to these conflicts. As conservation pressures increase, these conflicts are exacerbated.

In the fall of 2004, concerns were raised over the number of Fraser River sockeye reaching their spawning grounds. Early reports indicated that 1.6 million sockeye were “missing” or unaccounted for on the spawning grounds. The *2004 Review* determined that 2.3 million sockeye returned to the mouth of the Fraser River. Of those, 486,000 were caught in subsequent authorized fisheries, 683,000 are estimated to have died due to temperature related effects and other enroute mortalities, such as unauthorized fishing which is referred to as the Environmental Management Adjustment (EMA), and 524,000 made it to the spawning grounds. That leaves an unexplained shortfall of 653,000 sockeye. Since the *2004 Review* was completed, a follow-up study has estimated the unauthorized harvest of Fraser River sockeye to be in the range of 77,000 - 107,000 fish (included in the EMA estimate of 683,000).

From the outset, three main contributing factors were identified as causing the low spawning escapements:

- in-river mortality due to high water temperatures in the Fraser River;
- errors in the estimates of sockeye abundance in-river and on the spawning grounds; and
- illegal catches taken in-river.

Findings in the *2004 Review* focused on temperature related mortality and illegal fishing as the main factors contributing to the poor returns to the spawning grounds. However, the relative contribution of either one could not be determined.

The *2004 Review* provides a good overview of a number of significant issues. However, in some instances, the recommendations do not take into consideration underlying problems that exacerbate the situation.

The Pacific salmon fishery, and especially the Fraser sockeye fishery, is plagued by chronic uncertainty and acrimony over catch allocation, conservation of weaker stock components and responses to adverse environmental effects. The search for meaningful solutions is hampered by the lack of meaningful co-management and real shared decision-making amongst all interests. As a result, the Department is often left to mediate disputes and make decisions that do not satisfy anyone.

These underlying, structural problems have contributed to the instability and led, in part, to recurring crises in Fraser River salmon fisheries. The review led by Mr. Williams is the fourth such review initiated by DFO since 1992. In the same timeframe, the House of Commons Standing Committee on Fisheries and Oceans has twice reviewed Fraser River salmon fisheries. While the *2004 Review* acknowledged that DFO has largely responded to the recommendations in the previous reports, the fundamental problems remain. This situation contrasts with other BC fisheries, which are generally more sustainable, profitable, and characterized by more positive relations.

### ***3. Building Capacity and Trust***

A durable solution must address the underlying issues as well as the specific concerns for the Fraser River that were observed in 2004 by building capacity to undertake the necessary program elements and by building trust so that all interested parties can work together in a constructive manner. Fisheries and Oceans Canada is committed to addressing both, to ensure conservation of the resource and sustainable management of the fishery, and to address the environmental and human dimensions of the Fraser River salmon fishery. To this end, the reform of Pacific fisheries announced by the Minister of Fisheries and Oceans on April 14th, 2005 is an essential underpinning of the response to the *2004 Review*. It provides the long-term blueprint for reform, guiding the Department as it puts in place specific measures in 2005.

#### **a) The Blueprint for Reform**

The Department's vision for the future is of a fishery that is biologically sustainable and allows for certainty and predictability in resource allocations, where full economic and social potential of the resource has been achieved and where First Nations fishing interests are understood and reconciled with the interests of all Canadians. In this vision, all fishery participants are involved in decision-making, share accountability and management costs for the fishery, and are self-reliant and able to self-adjust.

To achieve its vision, DFO will be guided by a broad program of Pacific Fisheries Reform focused on four main themes:

I. Sustaining strong salmon populations by setting clear objectives for each fishery based on the principles of the *Wild Salmon Policy*

The *Wild Salmon Policy* (WSP) will provide critical direction for salmon management with respect to the primacy of conservation and the application of the precautionary approach. Conservation units and benchmarks of biologically-based conservation limits are being defined for Fraser River sockeye, recovery plans are being developed for critically low salmon populations, and new escapement goals have been proposed for Fraser River sockeye. Once conservation requirements have been defined, fishing plans will need to be developed accordingly.

II. Strengthening departmental programs that are critical to salmon conservation, such as habitat protection, enforcement, and the scientific assessment of stocks

New and innovative ways to assess stocks, protect habitat, monitor fisheries and report catches and enforce the rules of the fishery will be developed with all our partners. In part, this will require that the Department review and re-prioritize programs to strategically provide resources to the most critical areas. Resource assessment programs will be reviewed within a "system-wide" approach that considers other monitoring and enforcement activities. Future compliance programs

will be focused on improving relationships with all interests, education, and alternative justice approaches, although there will continue to be a need for traditional enforcement approaches.

III. Making progress over time on increasing First Nations' access to economic fisheries in collaboration with First Nations and Indian and Northern Affairs Canada

Salmon are an inextricable part of the history and culture of First Nations communities in the Pacific Region. The Department will be working with First Nations and our colleagues at Indian and Northern Affairs Canada (INAC) to reconcile the fishing interests of First Nations with the interests of all Canadians with the ultimate objective of equitable treaty-based fisheries. Areas of focus will include finding ways to improve First Nations' economic access to fisheries, improving co-management and providing a larger and more meaningful role for First Nations in the Department's resource assessment, catch monitoring and enforcement programs.

IV. Improving the economic performance of fisheries so that they reach their full potential, provide certainty to participants and optimize harvest opportunities

The Department will be working with all harvest groups to find ways to optimize harvest, consistent with the conservation framework of the WSP. Greater certainty and stability in allocations in the fishery for all harvesters will provide a more favourable climate for true co-management where harvesters take more responsibility for fishery management decision making and work more collaboratively to solve potential conflicts. In developing demonstration projects for the upcoming salmon season, some commercial harvesting groups have already begun to assume this responsibility to improve their own economic viability.

**b) Immediate Measures**

The Department has undertaken a thorough review of all 47 recommendations (see Annex 1 for specific responses). The scope of the recommendations is wide ranging and while many can and will be implemented this year, others will take longer to put in place. A small number of recommendations would entail high implementation costs or have limited practical value, making them infeasible to implement in the foreseeable future.

In concert with DFO's comprehensive long-term approach toward reform of the salmon fishery, specific measures related to the Fraser River will be introduced that address the areas of concern identified by the *2004 Review*. For 2005, the Department's emphasis in responding to the recommendations will be on improvements to enforcement, fishery monitoring and catch reporting and critical stock assessment programs in the Fraser River. Work on some of the responses could extend over a period of years. To assist in implementing changes in 2005, the Department has identified approximately 2.7 million dollars of incremental funding for the management of Fraser River salmon. In addition, funds have been identified (approximately 2.5 million dollars) to stabilize regional

enforcement and catch monitoring programs and to begin implementation of the Pacific Fisheries Reform initiative.

In the area of enforcement, the Department will:

- Pilot an organizational change that will see direct reporting of field enforcement operations to regional headquarters;
- Deploy additional fishery officer resources from other portions of the Pacific Region to the Fraser River during critical periods;
- Enhance both routine and special enforcement operations so that officers can conduct additional closed time/area patrols, conduct aerial surveillance, target illegal sales activities, and enhance community justice programs.

In the area of catch monitoring, the Department will:

- Strengthen programs (e.g. improved integration between programs, improved monitoring, validating and auditing of catch, and more timely reporting);
- Improve accuracy and timeliness of monitoring of unauthorized harvest; and
- Undertake pilot projects to improve real time catch reporting.

In the area of stock assessment, the Department, in conjunction with the Pacific Salmon Commission and other partners, will:

- Make improvements to the Environmental Management Adjustment (EMA) model to estimate in-season environmental and enroute losses more accurately and in a more timely fashion;
- Undertake additional evaluation of the feasibility of installing a new split beam hydro acoustic system on the north shore of the Fraser River at Mission, which is expected to enhance the accuracy of the Mission hydro acoustic facility.
- Undertake a pilot study above Mission to assess the relative impacts of set nets versus drift nets and to investigate other mortality factors, such as “drop out” rates. It is expected that this work will continue beyond 2005.

## ***Annex 1: Departmental Response to the Recommendations***

The following is a comprehensive response to the *2004 Review* recommendations. It is important to note that the response is situated in a broader context of Pacific Fisheries Reform, which seeks to find lasting and robust solutions to the problems noted in the review.

### ***The Goals***

***The primary goal of Fraser sockeye management must be to ensure adequate spawning escapement.***

Agree; conservation was clearly established as the primary objective in managing salmon in the 1998 policy paper, *A New Direction for Canada's Pacific Salmon Fisheries*. This objective has been reaffirmed many times since. The *Wild Salmon Policy* will provide a framework to guide the conservation and recovery of salmon populations.

***a) To facilitate this, there must be an escapement goal and harvest plan that applies to all sectors. Ideally, this should be the result of consensus among all harvest sectors, but ultimately the setting of a sustainable goal is the responsibility of the Minister of Fisheries and Oceans. At present there is at least the perception of different goals for different groups.***

Agree; the escapement goals for Fraser River salmon populations will be reviewed in accordance with the *Wild Salmon Policy*. The escapement goals would establish biologically-based conservation limits and would not be adjusted in relation to harvest or to sector allocations. Adjustments to escapement goals for stocks that are above the conservation limit could be considered after adequate consultation with First Nations and forums such as the new Integrated Harvest Planning Committee process.

***b) If there is no harvestable surplus beyond the sustainable conservation goal, then there can be no fisheries.***

Agree; in the past, the Department has taken a very strong stand in controlling fisheries when abundance of Fraser River salmon has been low. For example, virtually all Fraser River sockeye fisheries were closed in 1999, when returns were far below forecasts. In recent years, potential harvest of the stock aggregate of Summer run sockeye has been limited to protect other stock aggregates of Fraser River sockeye.

***c) If there is a harvestable surplus, First Nations FSC needs have priority. It is the responsibility of DFO to negotiate the size of each First Nations' harvest and to impose a catch number failing agreement.***



Agree; First Nation fisheries for food, social, and ceremonial (FSC) purposes are accorded first priority, after conservation. DFO, through the Aboriginal Fisheries Strategy program, seeks to provide for the effective management and regulation of the Aboriginal fishery and to provide Aboriginal groups with opportunities to fish for FSC. Aboriginal fisheries are authorized by a communal licence. Where agreement on harvest objectives cannot be reached with a group, DFO will issue a licence that reflects the consultations that occurred between DFO and the group up to that date.

- d) Since the largest part of the First Nations' harvest will be taken in the Fraser River system, these FSC numbers need to be defined clearly along with an agreed harvest process that avoids undue damage to the structure of the run. In order to achieve agreements on these harvest numbers and any economic opportunity fisheries DFO should employ a team of skilled and experienced negotiators.***

Agree; FSC harvest objectives are defined through preseason and in-season consultation processes. FSC harvest objectives, as with other harvest sectors, are developed and implemented to meet conservation objectives. Skilled and experienced negotiators are involved in consulting and reaching agreement with First Nations on FSC and economic harvest objectives.

- e) The remaining harvestable surplus must then be allocated among commercial and recreational fisheries including First Nations economic opportunity fisheries with each user group accountable for its share.***

Agree; currently, fisheries by other harvest groups are based on a Pacific Region salmon allocation policy framework and various guidelines, which are developed by established consultation processes. As part of a Department-wide plan of Fisheries Renewal, DFO will be seeking to introduce new measures that support long-term security of access and enhanced certainty of harvest shares.

## **RECOMMENDATIONS**

### ***Pre-Season, In-Season, Mission and Post-Season Estimates***

- 1. It is recommended that a cost benefit analysis be done to determine the utility and feasibility of an additional counting station at either Boston Bar or Qualark.***

Agree – with qualifications. A cost benefit analysis will be undertaken in 2005. The work on costing was largely completed in previous years, when there was a hydro acoustic installation in place at Qualark Creek. The equipment is available in Pacific Region, but it is expected that annual operating costs for such an installation would be about \$120,000.

The analysis will consider benefits of putting this operation in place against the need to establish a more strategic long-term “system-wide” approach to Fraser River stock assessment, as noted in Section 3(a) of this report. Recent DIDSON (sonar)

technology is thought to be a better and more advanced tool to the traditional hydro-acoustic equipment that was previously employed. For these reasons it is unlikely the Department would consider installation of another hydro acoustic site at either Boston Bar or Qualark.

- 2. A further site at the confluence of the Harrison might also be beneficial if it could be installed in order to establish run-size, catches, escapements and timing on late run-timed sockeye (i.e., Birkenhead, Harrison, Weaver, etc.)***

Disagree with qualifications – while DFO supports the need to improve in-season assessment programs, it is questionable whether this site would provide a significant improvement. However, workplans in 2005 do include an evaluation of DIDSON technology at the Harrison-Fraser confluence as part of on-going research in the Fraser watershed to assess the feasibility of DIDSON technology.

In addition, the Department will be pursuing improvements to the Mission site beginning in 2005 (see Recommendation 4). For the long term the Department will be reviewing all Fraser River stock assessment programs, with a view to modernizing programs under a renewed “system-wide” assessment approach.

- 3. That sufficient funding needs to be ensured to keep and expand on existing assessment programs. A continuation of “real-time monitoring” (12-hour turnaround) is needed to give PSC and DFO faster and accurate data of the migrating stocks. The continuation of funding from both Canada and the U.S. is needed to pay for the above.***

Agree - DFO is experimenting with real time reporting of catch data in a number of fisheries. In 2005, the Department will be taking steps to improve real time catch reporting (authorized and unauthorized), in-season assessment estimates, and the timeliness of estimates of environmental impacts. It is important to note that funding for Pacific Salmon Treaty mandated programs, such as the Mission acoustic site, is a bilateral responsibility through the Pacific Salmon Treaty process. DFO agrees that continued collaboration with the Pacific Salmon Commission (PSC) to improve efficiencies at Mission is important (see Recommendation 4).

For the long term, DFO will continue to review all programs to ensure that the highest priority programs are delivered in a timely and cost effective manner. DFO will also seek opportunities to work with the PSC and other partners, including First Nations, to improve program delivery.

- 4. That a further split-beam be installed on the north shore of the Fraser at the Mission Site.***

Agree - This is a high priority. Decisions to change the Mission site are a joint Canada-US responsibility under the Pacific Salmon Treaty. The use of a fixed split-beam system on the south shore in 2004 was an important step in improving the effectiveness and efficiencies at the Mission site. DFO agrees that an assessment of

further options to improve the Mission site is an important next step and this work will be undertaken over the next one to three years. In 2005-06, an evaluation of options to improve the Mission system, including evaluating the potential for a split-beam system on the north shore, will be undertaken.

In the longer-term, DFO is committed to working with the Pacific Salmon Commission and other partners, including First Nations, to improve the resource assessment capabilities in support of an integrated, “system-wide” approach to Fraser River salmon management.

- 5. The use of the First Nations FSC harvest in marine waters should be incorporated as part of the test fishing program on a long-term basis. This requires secure long-term funding for the catch monitoring carried out during the First Nations Marine Society FSC fishery.***

Agree – The Department supports the First Nations Marine Society food, social and ceremonial (FSC) fishery and this new test fishery as an important component of sockeye in-season stock assessment. The Department is committed to making the best use of test fisheries for assessment purposes in all areas. The First Nations Marine Society has developed an effective real time catch monitoring program for its fishery. In 2005, DFO, in conjunction with willing First Nations, may expand the program, which will include work to establish a long-term funding mechanism for the program.

### ***Catch Monitoring***

- 6. That DFO convene a meeting with First Nations, fisheries stakeholders, and Conservation and Protection staff to assess the province-wide state of catch monitoring. The participants should examine budgets, personnel needs, transparency, accuracy (bias), problem areas, and ways to improve monitoring programs in all sectors.***

Agree - There are clear benefits from collaborating with First Nations, and commercial and recreational harvesters in a common forum. The Integrated Harvest Planning Committee has been established for inter-sector discussion and collaboration on salmon. This Committee is expected to provide a forum for discussions on fishery monitoring and catch reporting. To facilitate this work, a working group may be specifically tasked with monitoring progress toward an improved catch monitoring system in all fisheries.

Over the longer term, the Department will take steps to address gaps in the regions fishery monitoring and catch reporting frameworks. As a first step, the Department has initiated a process (March 2005) to identify and implement appropriate fisheries monitoring and catch reporting improvements, consistent with the 2002 Fishery Monitoring and Catch Reporting Policy Framework. The initiative focuses, as a priority, on providing improvements to catch monitoring programs in the commercial

salmon fishery, aboriginal fisheries (all harvests) and recreational fisheries (all harvests). In addition to identifying options for immediate and longer-term improvements in these fisheries, a cohesive and coordinated regional program for fisheries monitoring and catch reporting will be developed that can be applied to other fisheries.

- 7. That DFO, First Nations and stakeholders establish a semi-regular (perhaps annual) review of the status and adequacy of the province-wide catch monitoring program.**

Agree – As described in Recommendation 6, DFO agrees to the provision of regular updates on the status of catch monitoring programs and sees the Integrated Harvest Planning Committee as the primary forum to do this work. A sub-committee or collaborative working group may be established, as required, to monitor progress and provide advice on an ongoing basis.

- 8. That an estimate of total mortality be included in the catch monitoring of all fisheries.**

Agree with qualifications - Estimates of total mortality associated with fish harvesting are desirable and often essential (e.g. Fraser sockeye) for the proper management and control of fisheries. Some fisheries already have frameworks in place (e.g. chinook fisheries under the Pacific Salmon Treaty). Also, the selective fishing program that was initiated in 1998 has provided better estimates of total mortality in a number of salmon fisheries. However, it is not always possible to estimate total mortality for all fisheries due to technical limitations.

For 2005, radio telemetry studies will be initiated to estimate Fraser sockeye mortality for both fishing and non-fishing factors. The drift fishing study scheduled to occur above Mission will also attempt to assess total mortality rates. For the longer term, the system-wide stock assessment review is expected to identify additional programs to assist in this area.

- 9. That DFO develop, on an annual basis, a strategy pre-season to develop some estimate of unauthorized fishing and fish harvest.**

Agree – This recommendation is fully supported. As a first step, the Department is designing a program for the Fraser River with sufficient structure and rigour to better estimate total unauthorized harvest (all sectors). For example, aircraft over flights will be used during close times to estimate the incident of unauthorized fishing activity. In addition, the 2005 program will identify information requirements, data collection processes, and the underlying assumptions. Fraser River fishery managers and fishery officers will work collaboratively to make unauthorized harvest estimates.

- 10. That resources for catch monitoring be restored to an adequate level in commercial, recreational, and First Nations fisheries as determined through the process in recommendation 6.**

Agree with qualifications - DFO agrees that properly funded catch monitoring programs are a priority. As noted in Recommendation 6, a long term strategy to improve fishery monitoring and catch reporting in all fisheries will be developed. This work will begin with a focus on some key fisheries - commercial salmon, First Nation and recreational. The Department will be looking to partnerships and co-management and cost recovery arrangements to fully implement this objective.

For 2005, new resources have been identified for the Fraser River to strengthen existing programs (e.g. enhanced coverage, improved validation, and timelier reporting), provide estimates of unauthorized harvest and to initiate new real time catch monitoring projects. The Fraser stock assessment and resource management units will collaborate on this work to allow for a more integrated approach between programs.

***11. That DFO retain the ultimate authority and responsibility for auditing catch monitoring reports and performance.***

Agree - The fisheries monitoring and catch reporting initiative, referred to in Recommendation 6, will develop monitoring and reporting standards in all fisheries (commercial salmon fisheries, recreational fisheries, and First Nation fisheries as a first priority). Harvesters will be increasingly responsible to provide the required catch information (according to the established standards) to the Department. Appropriate levels of auditing of catch reports will remain a Departmental responsibility, as will the management and communication of regional catch data.

***Temperature***

***12. The EMA model should consider the newly developed mortality criteria related to in-river water temperatures.***

Agree - DFO will review all methods and models, including the mortality criteria, to assess options before the 2005 season. The present procedure for estimating management adjustments is a two-step process. DFO provides the inputs for the Environmental Management Adjustment (EMA) model through the Environmental Watch Program. Pacific Salmon Commission staff then use the model to predict the escapement adjustments necessary at Mission to achieve the target spawning escapement. This model was jointly developed by DFO and the Pacific Salmon Commission but has since been modified in its in-season application by the PSC.

The following improvements to forecasting river temperature and other factors are planned for 2005:

- 1) Develop long-range (months) and medium-range (weeks) forecasts of environmental conditions as an early warning system for managers. This can then

be used for risk assessments of different fishing scenarios prior to enacting fishing plans.

- 2) Improve the current short range forecasting (10 days) of environmental conditions. Remove some of the uncertainty that exists surrounding the 20% of unmonitored systems in the Fraser River by installing additional temperature loggers.

Better information on the errors associated with the enumeration methods at Mission, harvest (both legal and unauthorized), and on the spawning grounds is required to understand the amount of mortality due solely to environmental impacts. In particular, estimates of in-river losses associated with sanctioned and unsanctioned fisheries above Mission are required before environmental effects can be distinguished from other sources of discrepancy. This information will be gathered through improved catch monitoring programs noted in Recommendation 10.

***13. The estimate of accumulated degree days should be considered as an approximation of the environmental stress experienced by migrating Fraser River sockeye salmon to inform in-season management decisions.***

Agree with qualifications - The mean temperature and migration period have been used as input variables in the EMA model development. Arithmetically, they are equivalent to accumulated degree days models. In the long-term, mortality from environmental impacts cannot be distinguished from other factors without reliable and independent estimates of fishing impacts (see Recommendation 12).

***14. The factors contributing to the discrepancy between gross escapement at Mission and spawning ground escapement (river temperature, river flow, unreported catch, catch estimation, errors in Mission and spawning ground escapement estimates, etc.) should be separated through improved data collection and modeling. In the interim, the EMA model should be renamed to eliminate the perception that it only accounts for environmental factors.***

Agree - Improved monitoring is important to identify the various sources of mortality and estimation error. This recommendation speaks to the need for a system-wide approach in assessing all sources of mortality. This is explicitly addressed in the response to Recommendation 15. Responses to Recommendations 12 and 13 also address this concern.

The Department also agrees that the name “EMA” model (Environmental Management Adjustment) is misleading. The EMA model predicts the total discrepancy between Mission and up-river spawning escapement and therefore in its present format does not predict environmental effects alone.

***15. New and properly designed research is required on Early Stuart, Early Summer and Summer run adult sockeye to complement the work done on Late run sockeye***

***to determine any stock-specific effects of high temperature on migration and spawning success.***

Agree – This is a high priority. The technology exists to study stock-specific effects, however multi-disciplinary research, as was applied to assess Late Run sockeye mortality, is costly. For 2005, joint funding by DFO and the Pacific Salmon Treaty (Southern Endowment Fund) has been secured to conduct an exploratory radio tagging program. An independent consultant will be hired to conduct this work, which will assess the feasibility of estimating mortality due to fishing and non-fishing factors using telemetry studies.

In 2006-07, a multi-stock telemetry project is proposed to estimate all sources of mortality. However, conducting the work will depend on identifying a source of funding either from within the Department or through alternative sources (i.e. the Pacific Salmon Treaty Endowment Fund). This work would provide for a consolidated approach to estimating total mortality from all sources. DFO will seek opportunities to work with partners where appropriate, including First Nations, to improve program delivery.

As noted previously, the planned system-wide review of stock assessment programs will assist in determining the priority for this work over the long term.

***16. That riparian habitat in tributary watersheds throughout the Fraser basin be protected and restored to reverse the warming effect that lack of cover creates through the disruption of the hydrologic cycle.***

Agree with qualifications - The protection and rehabilitation of riparian habitat is important to provide shade, food and protective cover for salmon, primarily juveniles. It also plays an important role in erosion control. For these reasons, protection of this habitat is a key element of the habitat program. Examples of protection measures include the use of guidelines and mitigations to avoid reduction in riparian vegetation, and the use of compensation agreements (replacement in greater measure) in the authorizations issued under the Fisheries Act. The engagement and technical support provided to stewardship groups who restore riparian vegetation through replanting, along with the DFO Public Involvement Program, help to educate the public about the importance of riparian vegetation.

The degree to which the absence of riparian cover contributes to warming of both tributary and mainstem portions of the river is not well understood, relative to other drivers such as weather patterns, drought and global climate change. While tributary streams can play a limited role in cooling the mainstem Fraser, the river cannot be protected from significant warming effects associated with large areas of exposed river (e.g. canyon areas) as it travels its course to the ocean.

The Department's recently developed Environmental Process Modernization Plan along with other initiatives (e.g. Provincial Riparian Area Regulations) provides a comprehensive framework for the protection of fish habitat, including riparian

habitat. These initiatives promote and foster a shared stewardship approach to habitat protection and provide a strong monitoring role for tracking compliance with standards and guidelines.

***17. The feasibility should be investigated of modifying existing flow control/hydro facilities and water use agreements that might decrease Fraser mainstem and tributary temperatures during high temperature years.***

Disagree - Numerous studies of the Nechako River on the influence of cooling summer flows demonstrate a negligible influence on Fraser mainstem temperatures. Work could be done to explore new opportunities for cooling of Fraser mainstem and tributary temperatures through regulation of existing flow/hydro facilities, for example, at the Seaton and Bridge River hydro projects. However, it is unlikely that they would provide any substantial benefits, as observed in the Nechako situation. In addition, any evaluation of flow control potential at hydro facilities and water use agreements fall under provincial jurisdiction and would require the involvement of provincial authorities, private interests and crown agencies.

***18. Fisheries management action should be responsive and proportional to the direct relationship between increasing water temperature and decreasing survival to spawning. In extreme warm water years additional management actions need to be taken to ensure adequate and appropriate numbers of fish enter the river. Once in the river, management action, such as a time and area conservation corridor, is needed to create the opportunity for sockeye to migrate with a minimal amount of additional stress caused by fishing in the river.***

Agree with qualifications - Stringent guidelines should be used to modify fisheries management approaches (marine and freshwater) when water temperatures in the Fraser River reach dangerous levels for salmon. However, as most in-river fisheries are First Nation food, social and ceremonial fisheries, management decisions on adjustments will need to account for the special priority that these fisheries have over other harvesters.

Conservation is the Department's first priority in management. DFO has and will continue to limit fishing opportunities on Fraser River salmon stocks when conservation is at risk. A review of methods used to predict environmental effects is planned in 2005 (see Recommendations 12-14).

***19. Given the challenge posed to fisheries management by high water temperature and associated impacts on fish mortality, more systematic collection of data on the number of fish observed floating in the river or dead on the banks downstream of the spawning grounds would prove useful for comparative purposes.***

Disagree - There is a general recognition that estimating temperature related mortality based on observations of floating carcasses in the mainstem Fraser is difficult and potentially misleading due to the fact that sockeye salmon sink when they die. I.e. Carcass counts will underestimate the true mortality.



In 2004, carcass counts at the Mission hydro acoustic facility were similar to those observed in 1998 (the last year of high water temperature), relative to abundance. However, anecdotal sources reported that fewer dead fish were observed in 2004 compared to 1998. Differences in river discharge, abundance of the sockeye run, and distribution of temperature related mortalities may explain the differences between 1998 and 2004. DFO concludes therefore that there is likely little value added in a formal study of the abundance of floating carcasses given the implementation costs. That said, fishery officers and other technical staff working on the river will provide weekly updates during the migratory period, related to observations of carcasses and other extraordinary events.

### ***Gear Impacts***

***20. When designing the annual fishing plan, DFO must take into account not only the harvest impact of each fishery and gear type, but also the cumulative effect each fishery and its associated gear has on total fishing mortality.***

Agree with qualifications – Estimating total mortality is not always possible or necessary. In key fisheries, such as Fraser sockeye, it is important that total mortality (fishing and other factors) be understood and incorporated in managing fisheries. This would include an assessment of all marine and freshwater fisheries with the intent of trying to estimate mortality factors.

In order to undertake this task, DFO utilizes a range of assessment tools (e.g. computer fishery models, stock identification, gear impact experiments, pre-season, in-season and post-season run size assessment, and spawning ground enumeration programs). The end result of these assessment programs is to capture an estimate of total mortality due to harvesting and environmental impacts. DFO is continually evaluating and updating its assessment tools in order to improve upon its ability to manage salmon and achieve goals for conservation, escapement targets, and domestic and international allocation targets.

Earlier responses have touched on this issue (e.g. Recommendations 8, 14 and 15) and have identified work that will be undertaken in both the short and long terms to better address this concern.

***21. Research must be undertaken to verify whether the selective placing of set nets can have an adverse impact on upstream migration by depriving fish of resting places or forcing them to swim in the faster and more turbulent mid-stream waters. DFO policy should be to ensure the existence of a “conservation corridor” for the fish destined for the spawning grounds.***

Disagree with qualifications – Further research will not be undertaken as proposed by this recommendation. DFO utilizes a variety of management tools to achieve conservation objectives, escapement targets and food, social and ceremonial harvest

objectives within the Fraser River. In the past these tools have incorporated modification of open times and area, 'window closures' or 'conservation closures' (i.e. specific timing closures to protect a specific management group; duration of closure has been from 1-3 weeks), and gear restrictions.

FSC fisheries are accorded priority over other harvest opportunities. Therefore, if agreed FSC harvest objectives are not being met, then other harvest sectors may have to be constrained before in-river First Nation fisheries could be altered in a significant way.

Fisheries throughout the migration route (marine and freshwater) all have an impact on Fraser River salmon stocks. Current management frameworks (all sectors) take into account the cumulative impact on stocks and fishing times/locations are governed accordingly. DFO manages Fraser River sockeye to achieve:

- gross escapement targets for each management group,
- international allocation under the Pacific Salmon Treaty, and
- domestic allocation targets.

The first priority then is to achieve the gross escapement target as measured at Mission which consists of spawning ground targets plus the anticipated catch within the Fraser River First Nations' and recreational fisheries. This goal is adjusted a number of times in-season, based upon revised estimates of run size and environmental impacts. Management of the Fraser river sockeye is very complex due to large number of stocks that overlap in timing, in-season adjustments to run size and escapement targets and meeting conservation objectives, FSC priority fisheries, international and domestic allocation objectives. A variety of strategies are applied both in marine and freshwater fisheries in order to meet the gross escapement target.

***22. Research is needed into the relationship between gill net mesh size and the desired spawning ground gender ratio.***

Disagree - DFO is not aware of the issue of "gender imbalance" on the spawning grounds. In some years, a gender imbalance has occurred in some specific spawning locations, but this is not considered to be a widespread issue. If a chronic or pressing issue is identified, the issue would have to be researched, but a number of other elements would have to be considered such as gill net hang ratio, length, depth and fishing times before mesh size alone could be identified as the sole issue.

***23. Approval of a change in gear type, such as the 2004 approval of the use of drift gill nets by the Cheam First Nation, should not take place in the absence of an objective determination of the comparative fishing power of the different gear.***

Disagree with qualifications - The Department agrees with the importance of a study of the impacts of drift gill nets and set gill nets. However, it is important to note that drift gill nets are used by Aboriginal and non-Aboriginal fishers below Mission in the Fraser River and in marine areas throughout the coast. DFO does not accept the notion that the use of drift gill nets above Mission is fundamentally inappropriate, but agrees that the impact of drift versus set gillnets needs to be understood. Until more detailed information is available on the impacts of drift gill nets, DFO will continue to assess, on a case-by-case basis, whether the use of drift gill nets can be authorized in Aboriginal fisheries above Mission. Use of drift gill nets would be captured in, an overall management strategy for the Fraser River.

In managing Aboriginal fisheries, DFO attempts to manage fisheries in a manner consistent with *R. v. Sparrow* and subsequent Supreme Court of Canada decisions. Several First Nations on the Fraser River have indicated their preference for fishing with drift gill nets. DFO is continuing to consult with First Nations on the Fraser River about their interests in using drift gill nets in FSC fisheries. Decisions around the use of drift gill nets would be consistent with court decisions and conservation objectives.

In 2005, DFO in cooperation with First Nations will undertake a preliminary study on the impacts of drift and set gill nets in the Fraser River above Mission. The study is expected to continue beyond 2005, to fully flesh out and understand potential impacts. In particular, the relationship between the impacts of a gear type and any compounding effects from elevated water temperatures would require longer-term study. The goal is to determine a long-term management plan for the area above Mission that would include drift gill nets.

***24. DFO should set goals and objectives with respect to the number of nets allowed.***

Disagree with qualifications - Effort controls have been used in the past to limit the amount and type of gear used to harvest salmon. They have some utility in restricting the amount of harvest, but have not proven generally effective. DFO sets management objectives (e.g. conservation targets, escapement goals, FSC harvest objectives) and uses a variety of management tools to achieve those objectives.

***25. The regulation requiring that all nets be clearly marked as to their ownership should be vigorously enforced. Unidentified nets should be subject to immediate removal and confiscation. The penalty for leaving nets where they can continue to fish during closed periods should be substantial.***

Agree – Harvesters must clearly mark their nets with an identification number, or designation. This is a legal requirement, described in the conditions of licence.

For 2005, the Department will increase patrols on the Fraser River. This will assist in identifying and removing unmarked nets. Licence conditions will specify the requirement to mark gear and DFO staff will work with harvesters to address the issue of unattended/unmarked nets.

In the long term, the Department will continue to build partnerships to address all enforcement concerns with increased use of community stewardship, education and compliance programs.

### *Enforcement*

***26. At the present time, DFO through its C&P Division is not maintaining a credible enforcement presence and not properly enforcing the Fisheries Act and Regulations including those that relate to habitat protection. Accordingly, DFO must ensure that adequate resources are available and that the budget and staffing available for enforcement be increased.***

Agree with qualifications – Increased enforcement resources will be provided on the Fraser River in 2005. Existing resources will be augmented by providing additional officers from other parts of the region, on a temporary basis, during key times. Officers will be provided with additional overtime and operating funds, which will allow for increased vessel, vehicle and aerial surveillance patrols on the Fraser.

As part of the longer term strategy, the Department is making changes to its habitat management program to focus on monitoring of critical fish habitat by habitat staff and other partners. This will allow fishery officers more time to deal with priority fishery issues. The Department supports a strong and modernized compliance program and is seeking to establish innovative new compliance strategies that would include greater involvement by clients.

***27. DFO should focus on empowering user groups with the responsibility of providing enforcement within their own sectors. Of course, ultimately such activity must be overseen by DFO.***

Agree - The Department supports an increased role for First Nations and stakeholders to develop and implement effective compliance programs. This is consistent with the Department's vision of building strong and lasting relationships with First Nations and stakeholder groups and also supports a move toward meaningful co-management and shared decision-making processes.

In 2005, the Department will pursue an expansion of community and restorative justice techniques and explore new programs to promote stewardship.

For the long term, the Integrated Harvest Planning Committee will be consulted on ways to increase harvester involvement in compliance programs. The Aboriginal Aquatic Resources and Oceans Management (AAROM) initiative has an Aboriginal Fishery Officer program objective that if implemented, would assist in addressing this recommendation.

**28. C&P Division urgently needs a clear policy mandate and the resources with which to implement it. Morale will remain low among enforcement officers until this issue is addressed.**

Disagree with qualifications – The Conservation and Protection (C&P) program operates under a broad Departmental mandate defined by the *Fisheries Act* and by national policies that are specific to Conservation and Protection. Clear direction is generally provided through national policy directives (e.g. Fire Arms, Code of Conduct, Training and Standards, etc.) and regional Standard Operating Procedures. Low officer morale is acknowledged but is thought to reflect frustrations over resource levels, uncertainties around organizational change and staffing instability, rather than a lack of policy direction.

For 2005, the Department will provide additional staff (e.g. temporary deployments from other parts of the region) and financial resources to the Fraser River. Managers will also work with staff to provide a clear vision for the future, accelerate work to resolve Conservation and Protection staffing delays, and pilot a direct line reporting structure designed to provide stronger direction to the regions fishery officer cadre.

For the long term, the Department will focus on modernizing and improving compliance programs focused on relationships, partnering, stewardship and education. DFO will also evaluate the line reporting structure in consultation with National Headquarters, implementing new arrangements as appropriate, and address the backlog of staffing actions.

**29. Illegal fishing in the Fraser River has been described as rampant and out of control. This is unacceptable. DFO must properly enforce the Fisheries Act and Regulations and initiate measures to provide a reasonable estimate of the scope of this illegal activity and the number of fish actually taken.**

Agree with qualifications – The Department agrees with the need to properly enforce the provisions of the Fisheries Act and regulations. Some areas on the Fraser River experience higher levels of illegal fishing during salmon migration but the Department does not agree that illegal fishing is rampant and out of control. However, DFO agrees on the need to focus on key problem areas.

For 2005, officers will provide an enhanced enforcement presence on the Fraser River, as noted in Recommendation 26, and enhanced coverage of potential illegal harvesting activities. Officers have already begun to record illegal catch information in collaboration with Resource Management. The information recorded will be assessed to develop a reliable and timely estimate of illegal harvest.

In the longer term DFO will work with harvesters through community justice programs, the Integrated Harvest Planning Committee, and other forums to address illegal fishing.

**30. Enforcement must also include adequate presence to deter the concealing of over harvesting of fish by participants from all sectors.**

Agree - The presence of officers and other staff deters *Fisheries Act* violations, including the over-harvest of fish. The Department will seek to establish an increased role in supporting and promoting compliance by all harvest groups, and to improve relationships and enhance joint work efforts.

In 2005, the Department will increase the presence of staff on the Fraser River during critical times; strengthen catch monitoring programs (Recommendation 10); and as time permits, will increase inspections of fish retailers, storage facilities and processors. A searchable database has been developed to track such inspections.

In the long term, improvements to fishery monitoring and catch reporting programs (including work on traceability), work to define a clear role for First Nations and stakeholders in compliance programs, and work to build relationships between harvesters are expected to assist in addressing this concern.

**31. Throughout the South Coast there is an ongoing problem with the illegal sale of fish, both fish that have been caught as part of an FSC entitlement and fish that have been illegally harvested. We heard little evidence of any serious effort to prevent this activity. This situation is intolerable and must be addressed by DFO.**

Agree with qualifications – The Department acknowledges that there are illegal sales in some areas, but this is not a widespread problem throughout the south coast of British Columbia.

In 2005, the Department has identified resources to target key areas of concern on the Fraser River. This will support a variety of enforcement activities, including forensic audits, if required, and work with First Nations and key stakeholder groups.

In the long term, the Department will look to First Nations and stakeholder groups to provide a prominent role in improved compliance. Resources alone will not solve the issue; shared responsibility through education and strengthening relationships will be important to addressing this concern.

**32. DFO should develop and have in place as early as possible in 2005 a system to more accurately record illegal nets and fishing in the Fraser River and the approach waters. This system should include over flights at varying times during closed periods of all waters in order to provide for accurate assessment of the number of illegal activities.**

Agree – The Department already records the numbers of illegal nets. Increased patrols, including aerial surveillance, will help establish the scope of the problem and address incidence of illegal nets.

For 2005, the Department will increase its enforcement coverage on the Fraser River. Increased patrol activity by vehicle, vessel and air will identify and reduce the

presence of illegal activity and help to quantify illegal catch. Officers will work closely with resource managers to exchange information. They will be assisted by field computer equipment that will improve productivity, reduce office time and allow for more timely information exchange for both enforcement and catch monitoring.

For the long term, the Department will continue to develop partnerships and establish relationships with First Nations and stakeholder groups to help address the root causes of illegal fishing.

***33. DFO should maintain a complete record, by species, of all fish found in confiscated nets.***

Agree - Officers already record species information from confiscated nets. They will continue this practice and will ensure this information is shared with resource managers. Increased patrols on the Fraser River in 2005 and sharing of information with resource managers will improve accuracy of the data.

***34. Night patrols should be undertaken on a regular but variable basis, particularly in those areas where illegal fishing is being reported.***

Agree – Random night patrols help establish information around levels of illegal activity. For 2005, night patrols on the Fraser River will be expanded. Patrols will be based on information from a variety of sources, including fishery officers, resource managers, catch monitors, First Nations and other stakeholders. Patrols will be scheduled to maximize benefits from available staff and financial resources.

Harvesters can and should play a significant role in finding solutions to this issue. For example, First Nations in Lillooet banned nighttime fishing in their area to control activities.

***35. DFO should increase and enhance the Restorative Justice program and apply it to all sectors.***

Agree - The Department has been piloting a Restorative Justice program in the last few years, which has had some very positive results. Two pilot projects, one with the Sto:lo Nation (Qwi:qwelstom) and one with the Nlaka'pamux Nation Tribal Council have assisted in developing this program.

For 2005, the Department plans to expand training for fishery officers, staff from other programs, middle and senior managers (where possible) along with members of First Nations and stakeholder groups.

For the long term, the community justice program will build on existing relationships with Aboriginal groups. Interest will be sought from other stakeholders to become involved in the program. These steps are expected to facilitate shared stewardship of the resource.

**36. Pacific Region enforcement should be organized as a separate branch ultimately reporting to a senior person with enforcement experience and line authority throughout B.C. This person must be a member of the Regional Management Committee.**

Agree with qualifications – The Department acknowledges the potential benefits that line reporting of enforcement staff could have. However, decisions around a change in reporting structure will have to be considered on a national basis to ensure consistency across regions. In considering changes, care would have to be taken to ensure that program coordination and communication is maintained with and between other programs (e.g. resource management, stock assessment, habitat etc.).

For the 2005/06 fiscal year, the Pacific Region will pilot a program that will see direct reporting of the region's Conservation and Protection functions (all areas) to the Director of Conservation and Protection. Under this pilot, the Director will report to the Regional Director General and will be a member of the Regional Management Committee.

The results of this pilot project will be reviewed to determine its application in the Pacific Region as well as other DFO regions. This pilot is expected to improve fishery officer morale and help in budget planning and allocation processes and should also assist in providing more informed decisions around compliance issues.

**37. The Committee heard testimony from a number of C&P officers who felt their enforcement powers had been undermined by their inability to conduct vehicle checks at roadblocks. This issue as well as their law enforcement status should be reviewed by the department.**

Agree with qualifications – Without legislative reform, fishery officers do not have the authority to participate in road blocks. In addition, the Conservation and Protection sector does not currently have investigative body status, which in some cases limits their abilities to gain access to information held by other government departments (e.g. vessel licence information).

In the short term, including 2005, DFO is unable to address the issues of road block authorities or investigative body status. The road block issue is being considered under the legislative reform initiative (*Fisheries Act* renewal) currently underway. A review of investigative body status is being conducted in the Gulf Region, and the results of the review will be considered as part of the national Conservation and Protection Compliance Review.

**38. In view of the threat to the resource posed by illegal activity DFO should review the level of penalties it can impose and consider requesting increases commensurate with the infraction and administrative sanctions, including licence suspensions, which can act as an effective deterrent.**



Disagree with qualifications - Penalty provisions, as defined in the *Fisheries Act*, are considered adequate. Decisions on penalties for individual cases are imposed by the courts and are not within the purview of the Department. However, officers and other Departmental staff can provide input and potentially influence penalty outcomes by working closely with Crown Agents and the judicial system.

For 2005, Departmental staff will continue to work with Crown Agents to present the best available evidence, inform judges as to the consequences of violations and make recommendations as to the most appropriate penalties. More effort will be taken to provide impact statements from experts within DFO, including resource managers, scientists, and biologists.

DFO will continue work on its broad Fisheries Renewal initiative (including legislative reform), which includes an examination of administrative sanctioning provisions as an alternative approach to penalties. This would allow for a more predictable and consistent application of penalties that are more appropriate to the nature of the offence.

***39. A higher level of traceability needs to be in place. DFO should work with stakeholders to identify their harvest.***

Agree – There is a need to have a higher level of traceability in all fisheries. For both the short (2005) and long terms, the planned improvements to Fraser River fishery monitoring and catch reporting programs will help to address this issue. In addition, increased inspection of storage and processing facilities, work with First Nations and stakeholders to develop tracking systems, and closer communications between DFO programs on both legal and illegal catch will all assist in achieving a higher level of traceability. Forensic auditing techniques may also be used in some cases.

***Management and Budget***

***40. DFO Pacific region should reassess its core mandate with respect to management of Fraser River sockeye (and indeed all Pacific fisheries resources) and devise a management organizational structure that best supports that mandate. We recommend that an independent consultant be hired to review the situation and provide guidance to senior management.***

Disagree with qualifications – The Department has a broad mandate to fulfill, which goes well beyond fisheries management. While the Department would be open to reviewing its organizational structure, any review would have to consider the full scope of the DFO mandate.

For 2005, the Pacific Region is piloting an organizational change for its Conservation and Protection program (Recommendation 36). Work related to the organizational structure of the Fraser Stock Assessment Program is ongoing, including a better

integration of fishery monitoring and catch reporting activities. In addition, the Environmental Process Modernization Plan may result in program or organizational changes to both the Conservation and Protection and the Habitat Management Programs.

In the longer term, changes related to new initiatives (e.g. Pacific Fisheries Reform, *Wild Salmon Policy* implementation) will likely require a review of organizational structures. Any changes related to these activities will have to consider the broad DFO mandate, including structure at both the national and regional levels.

***41. Integrated management plans should be developed within a framework that sets measurable goals, analyses options and evaluates results. Where possible goals should be quantifiable. This will provide public accountability.***

Agree – The Department develops annual Integrated Fisheries Management Plans (IFMPs) within a framework that sets measurable goals, analyses options and evaluates results. The Department has made concerted efforts to address this concern through the management planning process and other initiatives such as the *Wild Salmon Policy*, the development of a new advisory process, and the Fraser River Sockeye Spawning Initiative. For example, in the annual IFMPs for salmon, conservation objectives and escapement goals and their associated performance measures are clearly articulated for most of the key stocks. Other examples of IFMP goals include the identification of harvest rates and by-catch limitations on particular stocks. The success of meeting goals and objectives are evaluated as part of the regular post season review process at First Nations consultation and sector advisory processes (Sport Fishing Advisory Board, Commercial Salmon Advisory Board, Marine Conservation Caucus and Integrated Harvest Planning Committees).

The newly formed salmon Integrated Harvest Planning Committees should assist in bringing some additional rigour and consensus-based public input and accountability to developing fishery management plans, the evaluation of those plans post-season and in the provision of advice for future improvements.

***42. Public involvement is a good thing. Ultimately the public expect DFO to maintain responsibility for good resource management and will hold DFO accountable. Collaborative approaches and consultation are costly and should be evaluated explicitly against the goals set for fisheries management and compared with the costs and benefits of in-house or independent delivery of programs.***

Agree with qualifications – Although public involvement is time consuming and can be costly, it is important. Consultation and public involvement are key elements in managing the public resource. DFO uses six principles to guide its consultation planning and implementation. The principles include: 1) respect for the process; 2) transparency throughout the process; 3) shared accountability for success of the process; 4) balanced and representative participation in the process; 5) effective processes designed to achieve the goals; and 6) efficient size to facilitate consensus based discussion.

DFO envisions that over the medium to long term that consultation and public advice forums will provide for comprehensive shared decision-making and full co-management of the resource recognizing that the Minister retains the final authority for decision-making. In 2004, the Department established the Integrated Harvest Planning Committee to provide formal advice and make recommendations to the Department on operational decisions related to salmon harvesting in the north and south coastal portions of the Pacific Region. This is part of the process to establish a more streamlined, representative cross sectoral advisory process for harvest planning, management and post-season review. The Integrated Harvest Planning Committee is constructed around the six principles identified above. We envision that this newly established process will assist in achieving the objective of improved public involvement in the management of Pacific salmon.

***43. DFO's budgeting process should be informed by explicit evaluation of the impact of various budget proposals on results. Where critical elements of DFO's programs have budget issues they should be explained and funds sought. This information should be shared both within and outside DFO to provide stakeholders' views on budget priorities. In the Committee's view DFO has insufficient resources to meet its core mandate for developing, managing and controlling fisheries for Fraser River sockeye and conserving the resource. DFO should be directed to make a submission for additional funds, particularly in the areas of deficiency identified by this review.***

Agree with qualifications - As identified in a number of recommendations (e.g. 4, 6, 23, 36 and 40), DFO will be committing new resources in 2005 to enforcement, catch monitoring, resource management and science/stock assessment to address a number of the issues outlined in the report. However, it is not possible to fund all the initiatives outlined. The Department has many priorities and must balance the needs of all programs in making annual allocations to the various programs.

In terms of salmon management, the Department would be open to discussing annual priorities and funding needs with stakeholders through the Integrated Harvest Planning Committee process. However, DFO ultimately has to consider a wide array of demands to determine its funding priorities in the budget planning process. There will never be enough money to undertake all the tasks and a rigorous prioritization process will be important.

***44. The PSC FRP is the critical link in management of Fraser sockeye. The Canadian consultative and management structures for all fisheries impacting on Fraser sockeye should be integrated with the Canadian section of the FRP. In particular, First Nations' consultative processes must be fully engaged with that process. In addition, the Canadian chair of the FRP should be the senior authority on all fisheries management decisions relating to Fraser sockeye throughout the South Coast and be empowered to make those decisions on a timely basis.***

Agree - The management of Fraser River sockeye is complex and involves both domestic and international considerations in the management decision process. A central coordination point is critical in making timely decisions. The Department has empowered the Canadian Chair of the Fraser River Panel to be this focal point. The Canadian Chair of the Fraser River Panel provides updates and seeks input as appropriate from the Regional Director of Fisheries and Aquaculture Management, the Regional Director of Science, and the Regional Director General of Pacific Region.

DFO also agrees that the consultation process has to include and respect First Nations' fishing interests, and that strong participation by First Nations in the process is essential. As well, the Government of Canada has a fiduciary responsibility for bilateral consultation with First Nations.

For the medium to long term, a more effective framework for managing Fraser salmon species is needed. Two possible options include the creation of a Commission or restructuring the Canadian Caucus of the Fraser River Panel to capture more effectively the interests (e.g. increased First Nations membership) and area of responsibility beyond Fraser River Panel waters. In considering a new kind of arrangement, a primary objective would be to develop a more effective relationship building process between First Nations and non-Aboriginal fishers.

***45. DFO should vigorously pursue solutions to resource sharing and aboriginal claim accommodation.***

Agree - This is a high priority for both the Government of Canada and DFO. The October 2004 *Speech from the Throne* and the 2005 Budget both spoke to the need to address First Nations' issues more proactively. The Joint Task Group and First Nations Panel reports also provide strong guidance to move forward with addressing issues of access and allocation between First Nations and non-Aboriginal fishers. In addition, the Minister's recent Pacific Fisheries Reform announcement (April 14, 2005) highlighted the importance of increasing access to economic opportunities by First Nations, which would involve close collaboration with Indian and Northern Affairs Canada.

***46. The Committee heard repeated complaints by both DFO staff and fisheries stakeholders about the inadequate level of financial resources available to the department. There exists a strong public perception that reductions in the Pacific region budget are not consistent with good management. Since our Committee has not had the time nor expertise to undertake an objective examination of the region's financial situation, we recommend strongly that such a task be undertaken by an appropriate outside agency.***

Agree with qualifications - There is a need to provide additional resources for some key programs. In particular, additional resources are needed to improve fisheries enforcement, catch monitoring and salmon stock assessment programs. For 2005, additional resources will be provided to improve all of these programs on the Fraser

River (see comments under the assessment, catch monitoring, temperature, and gear impact and enforcement sections).

In the medium to long term, the Department will take steps to clarify its integrated business planning and budget process. Communication of this process will be through the Integrated Harvest Planning Committees. However, it must be understood that the public expectation for providing resources will always be greater than government's ability to deliver. To address this concern, long-term funding mechanisms must include the development of strong and durable partnership arrangements with outside agencies (e.g. Pacific Endowment Fund, The Salmon Foundation, Fraser Basin Council, etc.). These organizations all have a keen interest in the management of Pacific salmon and are interested in finding solutions. They have organizational structures in place to facilitate discussions and program delivery and also have the capacity to facilitate discussions on key issues.

***Recommendations of 1992, 1994 and 2002 Sockeye Management Review Panels:  
Themes, Lessons, Actions : Themes, Lessons, Actions***

***47. That DFO form a cross-sectoral committee, and produce a work plan for addressing the completeness of responses to past recommendations, and for responding to 'new' recommendations contained in the current review.***

Disagree - The *2004 Review* provides a thorough assessment of Fraser River sockeye issues in 2004, and a solid basis from which to move forward. As such, the Department will not be establishing a new committee to review previous reports and their recommendations. The *2004 Review* has evaluated previous reviews of Fraser River salmon fisheries dating back to 1994 and determined that DFO has responded to most of the recommendations. The *2004 Review* goes on to highlight challenges such as mixed stock fishery complexities, competing stakeholder aspirations, environmental deterioration, diminishing budgets, information and communication challenges and changing demographics as core issues.

Fundamental reforms are required to solve the problems underlying the circumstances of the 2004 Fraser sockeye fishery. The Minister's April 14<sup>th</sup>, 2005 announcement of Pacific Fisheries Reform lays out a strategy to guide the work that is required over the next number of years. In addition, extensive work is required to resolve long standing conflicts between First Nations and non-Aboriginal interests. New institutional arrangements need to be considered to address the serious relationship issues.