

**ACTION PLAN TO ADDRESS CONDITIONS FOR MARINE STEWARDSHIP
CERTIFICATION OF BRITISH COLUMBIA SOCKEYE FISHERIES
(Fraser River, Barkley Sound, Nass River and Skeena River)**

December 21, 2009

This action plan provides a detailed response outlining our commitment to meeting the 36 Marine Stewardship Certification (MSC) conditions within a 5-year period.

Many of these conditions are similar across the fishery units and will be met through implementation of regional and national policy and programs, such as the Wild Salmon Policy (WSP) and National Sustainability Framework. The WSP describes how DFO will meet its responsibilities for the conservation for wild Pacific salmon. It identifies the following four basic principles:

- Conservation of wild salmon and habitats is the highest priority;
- Honour obligations to First Nations;
- Sustainable use; and
- Open and transparent decision making.

The WSP separates conservation from sustainable use and identifies the primacy of conservation over use. The intent of the policy is to protect the biological foundation of wild salmon in order to provide the fullest benefits to Canadians. It must be noted though that there will be exceptionable circumstances where it is not possible to address all risks.

“Where an assessment concludes that conservation measures will be ineffective or the social or economic costs to rebuild a CU are extreme, the Minister of Fisheries and Oceans may decide to limit the range of measures taken. Such a decision will be made openly and transparently.”

We do not believe that this statement is inconsistent with the MSC standard. Many DFO harvest decisions favour conservation (e.g. Thompson coho, Cultus and Sakinaw Lake sockeye, WCVI chinook, Cowichan chinook) despite great social and economic costs. In specific cases such as Sakinaw sockeye, further harvest restrictions would be unlikely to achieve a significant marginal increase in the probability of survival of the population. However, they would result in great hardship.

Third-party assessment of the Fraser, Nass, Skeena and Barkley sockeye fisheries against the MSC standard has resulted in conditions for continued certification. There were 36 assessment criteria that did not meet the required 80% scoring guidepost. Conditions related to these criteria must be met within a 5-year period. Many of these conditions are similar across the fishery units and will be met through implementation of regional and national policy and programs, such as the WSP and National Sustainability Framework. The action plan contains significant commitments for Fisheries and Oceans Canada to implement over the next five years. All of these actions are consistent with plans already

underway within the department. It is important to note that implementation of the following action plan assumes there will be no requirement for additional departmental resources. However, as we initiate implementation of the action plan, we may discover that this assumption was flawed and a re-evaluation of the original assumption is required.

Actions proposed to meet conditions general across all four fishery units are described below followed by actions proposed to meet fishery-specific conditions for Fraser River, Barkley Sound, Skeena River and Nass River sockeye fisheries. The following table summarizes the key deliverables of this action plan referenced by condition:

	Unit	Deliverable	Lead	Timeline	Item
General	All	PSARC paper: CU definition	Science - Region	October, 2008	1
General	All	Workshop	Science - Region	January, 2009	
General	All	PSARC paper: Reference Points Methodology	Science - Region	October, 2009	2
General	All	Regional Framework for Integrated Planning	FAM - Region	December 2010	3
General	All	Report to Certifier: Progress on integrated planning	FAM - Region	December, 2010	4
1	Fraser	Report to Certifier: Sakinaw program update	FAM, Science - Area	September, 2010	5
2	Fraser	Report to Certifier: Indicator status update	FAM, PSC	June, 2010	6
3	Fraser	Report to Certifier: Sakinaw program update	FAM, Science - Area	September, 2010	5
4	Fraser	Report to Certifier: Sakinaw program update	FAM, Science - Area	September, 2010	5
5	Fraser	PSARC paper: Fraser sockeye LRPs	Science - Area	December, 2011	7
6	Fraser	WSP Strategy 4 Implementation: revised IFMP	FAM, Science - Area	May, 2012	8
7	Fraser	Report to Certifier: Cultus program update	FAM, Science - Area	December, 2010	9
8	Fraser	PSARC paper: Fraser sockeye LRPs	Science - Area	December, 2011	7
9	Barkley	PSARC paper: Henderson Lake SO stock status	Science - Area	February, 2010	10
10	Barkley	PSARC paper: Henderson Lake SO stock status	Science - Area	February, 2010	10
11	Barkley	Report to Certifier: Barkley sockeye LRPs	Science - Area	December, 2011	11
12	Barkley	WSP Strategy 4 Implementation: revised IFMP	FAM, Science - Area	May, 2012	12
13	Skeena	PSARC paper: Skeena stock status	Science - Area	December, 2011	13
13a	Skeena	Report to Certifier: Catch monitoring framework	Science - Area	December, 2011	14
13b	Skeena	PSARC paper: Skeena stock status	Science - Area	December, 2011	13
13c	Skeena	PSARC paper: Skeena stock status	Science - Area	December, 2011	13
14	Skeena	WSP Strategy 4 Implementation: revised IFMP	FAM, Science - Area	May, 2009	15
15	Nass	Technical workshop, Nass monitoring plan	Science - Area	December, 2010	16
16	Nass	PSARC paper: Nass sockeye LRPs	Science - Area	December, 2011	17

	Unit	Deliverable	Lead	Timeline	Item
17	Fraser	Report to Certifier: Bycatch update	FAM - Area	May, 2012	18
18	Fraser	Report to Certifier: Sakinaw program update	FAM - Area	September, 2010	5
19	Fraser	WSP Strategy 4 Implementation: revised IFMP	FAM, Science - Area	May, 2012	8
20	Barkley	WSP Strategy 4 Implementation: revised IFMP	FAM, Science - Area	May, 2012	12
21a	Skeena	Refer to condition 13a			
21b	Skeena	WSP Strategy 4 Implementation: revised IFMP	FAM, Science - Area	May, 2009	15
		PSARC paper: Skeena sockeye LRPs	Science - Area	December, 2011	19
22	Skeena	WSP Strategy 4 Implementation: revised IFMP	FAM, Science - Area	May, 2009	15
		Report to Certifier: Skeena chum management plan.	Science - Area	December, 2011	20
23	Nass	WSP Strategy 4 Implementation: revised IFMP	FAM, Science - Area	May, 2011	21
		PSARC paper: Nass chum LRPs	Science - Area	December, 2011	22
24	Fraser	Bycatch update, Report to Certifier	FAM - Area	May, 2012	18
25	Fraser	Report to Certifier: Sakinaw program update	FAM, Science - Area	September, 2010	5
		Report to Certifier: Cultus program update	FAM, Science - Area	December, 2010	9
		Revised IFMP: Fraser sockeye fisheries	FAM, Science - Area	May, 2012	8
26	Fraser	Report to Certifier: Harvester compliance	FAM - Area	December, 2010	23
27	Fraser	Resource Assessment Framework	FAM, Science - Area	May, 2008	24
		Revised IFMP: Fraser sockeye fisheries	FAM, Science - Area	May, 2012	8
28	Fraser	Report to Certifier: Cultus program update	FAM, Science - Area	December, 2010	9
29	Fraser	Report to Certifier: First Nation fisheries	TAPD	December, 2010	25
30	Fraser	Refer to conditions 17, 24			
31	Barkley	Refer to condition 20			
32	Barkley	Report to Certifier: Harvester compliance	FAM - Area	December, 2010	26
33	Barkley	Revised IFMP: Barkley sockeye fisheries	FAM, Science - Area	May, 2012	12
34	Barkley	Report to Certifier: First Nation fisheries	TAPD	December, 2010	25
35	Skeena	Revised IFMP: Skeena sockeye fisheries	FAM, Science - Area	May, 2012	15
35a	Skeena	Refer to condition 13a			
35b	Skeena	Refer to condition 13a			
35c	Skeena	Report to Certifier: selective fishing practices	FAM, Science - Area	December, 2010	27
35d	Skeena	Revised IFMP: Skeena sockeye fisheries	FAM, Science - Area	May, 2012	15
36a	Skeena	Report to Certifier: First Nation fisheries	TAPD	December, 2010	25
36b	Skeena	Report to Certifier: selective fishing practices	FAM, Science - Area	March, 2010	27
36c	Skeena	Report to Certifier: Catch monitoring framework	Science - Area	December, 2011	14

Conditions related to implementing DFO's Wild Salmon Policy:

The goal of DFO's WSP (2005) is to restore and maintain diverse salmon populations and their habitat. The elements of the WSP are consistent with the MSC standard and several conditions of BC sockeye certification will be met through implementation of the policy. Actions and rationale for actions to meet these conditions are described below.

Principle 1 Conditions:

There are several conditions common to all four fishery units that require defining limit and target reference points and conservation units for target stocks. These are:

Condition 5

Certification is conditional until the Conservation Units have been defined for Fraser sockeye using the methods described in Holtby and Ciruna (2007) and LRP's for each Fraser sockeye conservation unit are defined and peer reviewed. (Fraser Condition #1.5).

Condition 6

Certification is conditional until the Management Units have been defined for Fraser sockeye and the management agency defines the TRP's for each Fraser sockeye management unit taking into account the productivity of target and non-target stocks within each management unit. (Fraser Condition #1.6).

Condition 8

Certification is conditional until the management agency defines the LRP's for the target stocks and the management agency provides documentation that fisheries have not resulted in escapements that approach or are below the LRP in more than one year in a period of the most recent 5 cycle years, for any of the target sockeye stocks. The intent for this condition is to resolve the effects of fisheries, not other factors, on the stock and to recognize that the Fraser River sockeye undergo cycles so that these cycles must also be taken into account when examining whether the stocks are being maintained above LRPs. (Fraser Condition #1.8).

Condition 11

Certification will be conditional until a LRP has been defined for Henderson Lake and there is no significant scientific disagreement regarding this LRP. (Barkley Sound Condition #1.3).

Condition 12

Certification will be conditional until evidence has been provided that the productivity of non-target stocks was considered when the interim TRP was defined for Somass sockeye. (Barkley Sound Condition #1.4).

Condition 14

Certification will be conditional until the management agency provides direct evidence that the productivity of non-target stocks has been taken into account when setting the TRP for the target Babine stock. (Skeena Condition #1.2).

Condition 16

Certification will be conditional until LRP's have been defined for each of the Nass sockeye stocks targeted in the fisheries for Nass sockeye. (Nass Condition #1.2).

To satisfy these conditions DFO will fully implement ‘Strategy 1’ of our WSP. ‘Strategy 1’ of the WSP requires standardized monitoring of wild salmon status, including identification of upper and lower benchmarks to represent biological status and guide harvest decisions. Implementing this strategy requires identification of Conservation Units (CUs)¹ for salmon: the scale at which the WSP aims to maintain biodiversity and at which benchmarks (LRPs and TRPs) will be defined. There are various definitions of lower and target reference points in relation to resource management. In the context of the WSP, The lower benchmark (LRP) will be established at a level high enough to ensure there is a substantial buffer between it and being considered at risk of extinction by COSEWIC. As defined in the WSP: “the buffer will account for uncertainty in data and control of harvest management. There is no single rule to use for determination of the lower benchmark. Rather, it will be determined on a case by-case basis, and depend on available information, and the risk tolerance applied...” The upper benchmark (TRP) will be established to identify whether harvests are greater or less than the level expected to provide, on an average annual basis, the maximum annual catch for a CU, given existing environmental conditions.

The following table describes milestones for implementing Strategy 1 of the WSP. DFO will provide a progress report on Strategy 1 implementation to the MSC certifying body by late 2010.

Action	Description	Timeline
Identify Conservation Units	Paper defining conservation units regionally for all salmon species based on biological criteria (Holtby and Ciruna, 2007)	Paper reviewed and approved by PSARC, published 2008
Develop standardized assessment criteria	Paper defining general methodology for determining reference points for salmon populations and assessment criteria (Holt et al., <i>in prep</i>) Workshop to facilitate application of methods in Holt et al.	Workshop, January 2009 Finalized methodology: October, 2009
Define LRPs for each target stock (CU)	Apply criteria and methods of Holt et al. (<i>in prep</i>) to specific CUs.	Through December, 2011
Define TRPs for each target stock (CU) and corresponding harvest strategy	Recognizing TRPs inherently involve trade-offs, determine TRPs through participatory decision-making (co-management) – see below.	Through May, 2012

¹ A Conservation Unit (CU) is defined by the policy as, “a group of wild salmon sufficiently isolated from other groups that, if lost, is very unlikely to re-colonize naturally within an acceptable timeframe (e.g., a human lifetime or a specified number of salmon generations).”

Principle 2 Conditions:

There are several conditions common to all four fishery units related to acceptable harvest limits on non-target stocks and development of rebuilding plans for these stocks:

Condition 19

Certification will be conditional until Limit Reference Points or their equivalent have been defined for Fraser sockeye salmon stocks, and recovery plans have been developed and implemented for stocks harvested in Fraser sockeye fisheries that are below their LRP. The proposed recovery plans must provide information regarding the probability of recovery and the timing for recovery. (Fraser Condition 2.3)

Condition 20

Certification will be conditional until Limit Reference Points or their equivalent have been defined for Barkley Sound sockeye salmon stocks, with particular reference to Henderson Lake sockeye, and recovery plans have been developed and implemented for stocks harvested in Barkley Sound sockeye fisheries that are below their LRP. The proposed recovery plans must provide information regarding the probability of recovery and the timing for recovery. (Barkley Sound Condition 2.1)

Condition 21b

Certification will be conditional until Limit Reference Points or their equivalent have been defined for Skeena sockeye salmon stocks, and recovery plans have been developed and implemented for stocks harvested in Skeena sockeye fisheries that are below their LRP. The proposed recovery plans must provide information regarding the probability of recovery and the timing for recovery. (Skeena Condition 2.1b)

Condition 22

Continued certification of the Skeena sockeye salmon fishery is contingent upon developing and implementing a recovery plan for chum stocks harvested in Skeena sockeye fisheries that are below their LRP. The proposed recovery plan must include procedures for determining the impact of the existing fishery management system on these stocks and provide for decreasing incidental harvest rates on chum salmon. (Skeena Condition 2.2)

Condition 23

Certification of the Nass sockeye salmon fishery is contingent upon developing and implementing a recovery plan for chum salmon stocks that are below the LRP and that spawn in the Nass or its tributaries. Such a plan must have clear procedures to determine the impact of the existing fishery management system on these stocks and provide for decreasing incidental harvest rates on chum salmon, if harvest pressure is found to have significant risks to chum recovery. (Nass Condition 2.1)

For salmon fisheries, the question of how to manage fisheries targeting mixed-stock complexes of weak and strong populations is central. DFO has a proven track record of implementing 'weak stock' management for salmon conservation. Over the last decade, we significantly reduced the harvest rate of mixed stock fisheries in order to conserve stocks of concern.

For example:

- In 2001, impacts on Interior Fraser coho were limited to a maximum of 3% Canadian exploitation rate. Since then, this limit has been maintained to allow rebuilding, even in years when the stock was well above the provisional LRP. A recovery program is in place for Interior Fraser River coho.
- Mixed-stock fisheries targeting productive Fraser River sockeye populations are managed to avoid stocks of concern, including but not limited to Sakinaw and Cultus Lake sockeye. For these two populations, the maximum allowable exploitation rates have been set in recent years of 12 and 20%, respectively. Recovery programs are in place for both these sockeye stocks.
- Chinook fisheries coast-wide are managed to limit impacts on low-status WCVI chinook. The maximum allowable exploitation rate in Canadian fisheries is maintained between 10 to 15%. Measures include weekly monitoring of the catch composition of the Northern Troll fishery through DNA analysis, resulting in closures of the fishery with remaining TAC in years when the interception rate of WCVI chinook was too high. Also, there are significant time-area closures off the WCVI for sport and commercial fisheries during periods when WCVI chinook is prevalent.
- Similarly, fisheries are managed to avoid lower Strait of Georgia (LGS) chinook stocks. There have been two management strategies in effect to protect LGS chinook. Up until 2007 catch composition of the WCVI troll was monitored with a ceiling placed on the encounters of Cowichan coded wire tags. When the ceiling was reached the troll fishery is closed. In 2008 an alternative management strategy was introduced to protect LGS chinook. Under this strategy the overall WCVI harvest rate was reduced by 20%.
- In 2008, chinook fisheries were managed to avoid early timed and spring/summer Fraser chinook stocks due to poor recruitment from the 2005 sea-entry year. Again, time and area closures were implemented during periods when these stocks were vulnerable to mixed-stock commercial and sport fisheries.
- Also in 2008, the maximum allowable exploitation rate on Skeena sockeye in Canada was limited to a ceiling of 30%.
- The 2008 Pacific Salmon Treaty (PST) recently negotiated between Canada and the USA resulted in further harvest reductions in Canadian 'AABM' fishing areas to reduce interception of low status US-origin chinook stocks.

The 80% scoring guidepost for Indicator 2.3.1 under the sockeye assessment tree requires that the management system "has a reasonable (>60%) probability of achieving long-term recovery of depleted non-target stocks." All BC sockeye fisheries received conditions related to this guidepost. However, it is our opinion that this scoring guidepost does not reflect the intent of the MSC standard.

The newly standardized MSC assessment trees (2008) provide much needed guidance regarding the assessment of species fished as stock complexes, such as Pacific salmon.

Specifically, species fished as stock complexes “may be considered analogous to multi-species target species considered under the guidance of performance indicator 2.1.1.” This distinction is important because it allows for a pragmatic approach to the central problem of weak stock management, recognizing that factors other than harvest may cause a stock to decline. A non-target stock within the fishery may be below the point at which recruitment is impaired. *The critical factor for certification is whether or not the fishery is ‘hindering’ recovery of the stock.*

Our WSP prescribes a systematic approach to salmon management, essentially moving DFO from a reactive to a pro-active approach for maintaining the biodiversity of salmon populations within Canada.

To ensure that fisheries have acceptable harvest limits on non-target stocks and that the management system allows for rebuilding of non-target stocks, DFO will:

- Implement ‘Strategy 1’ of the WSP: Define LRPs and TRPs for non-target stocks (CUs) and monitor their status. The objective for fishery management shall be to maintain CUs above their LRPs unless otherwise determined by the Minister. Not meeting this objective would occur only in exceptional circumstances where management actions are assessed to be ineffective, or the social and economic costs will be extreme (p.29 WSP).
- Implement ‘Strategy 4’ of the WSP: Create a regional framework for integrated planning that will be used to articulate salmon management choices that consider social, economic and biological consequences. Consensus based advisory processes will be used to assist in defining these trade-offs and also to assist in developing strategic plans for the management of salmon conservation units; including harvest strategies designed to maintain the biodiversity of stocks within the CU.
- Benchmarks will be used to guide management response. For example, if a CU is below its lower benchmark and in the ‘Red Zone’ this will trigger consideration for ways to protect the fish, increase their abundance and reduce the risk for loss. Biological considerations will be the primary consideration for CU below the lower benchmark and in the ‘Red Zone’. Page 17 of the WSP identifies additional guidance on how response would be taken for CU between the lower and upper benchmark.
- Implement Strategy 5 of the WSP. Review annual performance against measurable objectives, particularly with regards to stock status and rebuilding objectives.

Specifically, DFO will also define LRPs or their equivalent for Fraser River, Barkley Sound, Skeena and Nass sockeye CUs. A rebuilding plan consistent with the WSP will have been developed and implementation underway within 2 years for stocks harvested in fisheries targeting Fraser River, Barkley, Nass and Skeena sockeye that are below their LRPs. For Barkley Sound this will include consideration for Henderson sockeye. On the Skeena and Nass Rivers the proposed rebuilding plan will include measures to recover chum salmon stocks that are below their LRP contingent upon determining whether harvest pressure is found to have a significant risk for chum rebuilding. The

rebuilding plan will include a stated objective and rebuilding target and timeline for rebuilding. This rebuilding plan will demonstrate how the fisheries management strategy will assist in ensuring rebuilding objectives are met. Fishery actions may only be one component of a rebuilding plan and could include enhancement, habitat and other measures to enable rebuilding objectives being met. It must be recognized though, that there will be instances that rebuilding is not possible even where the appropriate management actions are implemented. Rebuilding may not be possible due to a variety of events that are beyond our control (e.g. low marine survival, habitat changes, environmental conditions, etc.)

The following table describes milestones for implementing elements of the WSP required to meet the Principle 2 conditions for MSC certification of BC sockeye fisheries. DFO will report on progress of this work plan to the MSC certifying body by December, 2010.

Action	Description	Timeline
Define LRPs for non-target stocks (CUs)	Apply criteria and methods of Holt et al. (<i>in prep</i>) to specific CUs.	Through December, 2011
Implement WSP Strategy 4: Design and implement a fully integrated planning process for salmon conservation.	Define a regional framework for integrated planning.	December, 2010
Implement WSP Strategy 4: Develop fishery-specific integrated management plans.	Initiate local integrated strategic planning processes to develop integrated management plans for salmon CUs that will: <ul style="list-style-type: none"> - Define LRPs for target and non-target stocks - Define precautionary harvest strategies and decision rules - Determine rebuilding strategies - Define performance measures 	Barkley Sound WSP Pilot (complete December, 2011) Skeena Watershed Process (complete December, 2011) Nass Watershed (complete December, 2011) Fraser Watershed (complete December, 2011)
Implement WSP Strategy 5: Annual Performance review	Annually review and report on performance of fishery and management system against defined performance measures for salmon conservation.	Starting 2012 for CU status measures and fishery performance review indicators.

Principle 3 Conditions:

There are several conditions common to all four fishery units related to objective setting and implementation of the Precautionary Approach. Many of these conditions are somewhat redundant with the conditions applied for Principles 1 and 2 because they deal specifically with the mixed-stock fishery problem. That is, the harvest and rebuilding of non-target stocks below or near their LRPs. These are:

Condition 25

Certification will be conditional until the management agency provides a clear commitment to implement recovery action plans for Cultus and Sakinaw sockeye (Fraser Condition #3.2).

Condition 26

Certification will be conditional until the management agency provides clear evidence that measures are being implemented to encourage harvesters not to exceed catch targets or exploitation rate limits (Fraser Condition #3.3).

Condition 28

Certification will be conditional until the management agency provides TRP's for the Cultus sockeye salmon stock, a clear indication of the commitment to implement the Cultus Sockeye Recovery Plan, and an assessment of the probability of recovery and the timing for recovery for Cultus sockeye. (Fraser Condition #3.5).

Condition 31

Same as Condition 20. (Barkley Sound Condition #3.1).

These conditions will be met in part through implementation of the WSP, particularly Strategy 4, as described above. Strategy 4 requires development of an integrated strategic plan for salmon management that clearly states conservation, habitat and ecosystem objectives. Moreover, strategy 5 requires annual review of the plan's ability to meet these objectives. For Barkley and Skeena sockeye fisheries, Strategy 4 and 5 will be implemented over the next 3 years. For Fraser sockeye fisheries, Strategy 5 will be implemented over the next 3 years.

In addition, over the next two years, DFO will be revising the format for Integrated Fisheries Management Plans (IFMPs). The new IFMP template is much more fishery specific and requires elements not included in past IFMPs, such as stock status, a socio-economic overview and summary of management issues. Development of these IFMPs will require many of the gaps identified in the conditions to be addressed.

Other Conditions General to all Units

Research Planning

Three of the fishery units faced the same general MSC condition regarding developing a research plan for the fishery that addresses impacts of the fishery on the ecosystem and socio-economic issues that result from the implementation of management plans.

Condition 27

Certification will be conditional until the management agency provides a research plan that addresses identified concerns related to the impact of the fishery on the ecosystem, with emphasis on non-target stocks, and takes into consideration socioeconomic factors and anticipated changes to fisheries. (Fraser Condition #3.4).

Condition 33

Certification will be conditional until the management agency provides a research plan that addresses identified concerns related to the impact of the fishery on the ecosystem,

with emphasis on non-target stocks, and takes into consideration socioeconomic factors and anticipated changes to fisheries. (Barkley Sound Sockeye Condition #3.3).

Condition 35d

Certification will be conditional until the management agency provides a research plan that addresses identified concerns related to the impact of the fishery on the ecosystem, with emphasis on non-target stocks (e.g. Skeena summer-run steelhead), and takes into consideration socioeconomic factors and anticipated changes to fisheries. (Skeena Condition #3.1d).

The requirement to include ecosystem values and objectives in planning process is an element of the WSP. It is also an element of the new IFMP template described above that will be implemented for salmon fisheries starting in 2012. To address the need to include other objectives (ecosystem, socio-economic) in the planning process and assess performance against these objectives, we will need to re-align our current reporting and/or re-allocate research resources. DFO has developed a Resource Assessment Framework for Fraser River sockeye (PSARC review in May 2008) to help guide assessment priorities based on the biological status and knowledge gaps for each CU. Once LRPs are developed for each CU, they will be integrated into the assessment framework. The Fraser sockeye assessment framework will serve as a template for other CUs.

Observes legal and customary First Nation rights

Three of the fishery units faced the same general MSC condition regarding providing evidence that the management agency has identified aboriginal and treaty rights and that these issues are being addressed through an effective consultation or negotiation process. Whether an aboriginal right exists and the nature, extent and scope of that right is group and fact specific. The existence of aboriginal rights is generally established through litigation involving extensive historical and anthropological evidence or through historic or modern treaties.

Condition 29

Certification will be conditional until the management agency provides evidence that First Nation issues regarding aboriginal and treaty rights have been identified and these issues are being addressed through an effective consultation or negotiation process. (Fraser Condition #3.6).

Condition 34

Same as Condition 29. (Barkley Sound Condition #3.4).

Condition 36a

Same as Condition 29. (Skeena Condition #3.2a).

Treaty-making with aboriginal peoples has a long history in Canada. The Crown began entering into treaties with aboriginal groups in the early 1700's, which continued until the 1920's. These are referred to as "historic treaties". In the 1970's, treaty-making resumed resulting in "modern treaties" which are generally more complex and detailed than "historic treaties". "Modern treaties" continue to be negotiated in various parts of Canada.

In 1982, section 35 was added to the Constitution of Canada. Section 35 provides “constitutional protection” to aboriginal rights and rights under both “historic treaties” and “modern treaties”. The Supreme Court of Canada has held that the “constitutional protection” of aboriginal rights and treaty rights means that any infringement of such a right must be justified.

The Supreme Court of Canada has also held that aboriginal rights to fish for “food, social and ceremonial” purposes have priority, after conservation, over fishing for commercial or recreational purposes. From a Canadian perspective, it is important to distinguish between an aboriginal right to fish for food and an aboriginal right to fish for “livelihood”. The proposed Performance Indicators under this category merge these two distinct concepts in the same criteria.

In other words, the Government’s legal duty to consult with aboriginal groups can arise even where aboriginal rights have only been asserted and not yet legally proven. Whether an aboriginal right exists and the nature, extent and scope of that right is group and fact specific. The existence of aboriginal rights is generally established through litigation involving extensive historical and anthropological evidence or through historic or modern treaties.

Determining the nature, extent and scope of “historic treaty” rights can also present challenges. The wording in “historic treaties” can be difficult to interpret. For instance, the wording of the fishing right in the “Douglas Treaties” entered into in the 1850’s in British Columbia provides that the aboriginal groups who were signatories have the right “to carry on our fisheries as formerly”.

Although section 35 of the Constitution of Canada contains a general statement that all existing aboriginal and treaty rights are “recognized and affirmed”, the challenges described above can make it difficult to “recognize” what specific aboriginal rights may belong to a particular aboriginal group and or their exact nature and scope. Regardless of this difficulty, as noted above, the Government’s duty to consult with an aboriginal group may arise even where aboriginal rights have only been asserted and are not yet legally proven.

In order to meet this condition DFO will provide a report summarizing how the management system addresses issues regarding aboriginal and treaty rights related to the sockeye salmon fisheries. This report will be provided by December 2010.

MSC Principle 1

Fraser River Sockeye

Condition 1

Certification is conditional until a review of the run timing and harvest rates for Sakinaw sockeye has been completed and the fisheries management plan is consistent with the goal of minimizing the harvest rate on Sakinaw sockeye (Fraser Condition #1.1).

The assessment of timing and harvest rates based on run reconstruction techniques has been completed. Advice for fisheries management has been provided and the fisheries management plan is consistent with the advice as documented in 2007& 2008 South Coast Salmon IFMP. In particular the guidepost 80 “information available on the geographic range for harvest of non-target stocks is sufficient to prevent the over harvesting of these stocks” is met. For this reason we believe that we have met or exceeded the 80 scoring guidepost and therefore this condition should be removed.

A report summarizing this information will be made available to the appropriate MSC certifying body for their review by September, 2010.

Condition 2

Certification will be conditional until a rigorous review has been completed to confirm that the indicator stocks reflect the status of the other stocks within each management unit (Fraser Condition #1.2).

Canada’s Wild Salmon Policy (June 2005) and its implementation over the next few years requires the identification of Conservation Units (CUs), conservation benchmarks and monitoring systems to assess status of individual CUs. The current state of each CU within management units will be evaluated to assess status in order to meet the WSP objective of maintaining biodiversity. The management of Fraser River sockeye now routinely uses state-of-the-art DNA stock identification techniques. This reduces the uncertainty in stock composition estimates of CUs in each management unit. For example, Cultus Lake sockeye are severely depressed and cannot be sampled representatively in mixed stock fisheries. The choice of indicator stocks to represent the Cultus Lake sockeye has been agreed upon by the Pacific Salmon Commission and the Fraser River Panel Technical Committee.

To satisfy this condition DFO in conjunction with Pacific Salmon Commission staff will summarize existing information on choice of indicator stocks used to reflect the status of other stocks within each management unit. This information will be provided in a written review to the MSC certifying body by June, 2010.

Condition 3

Certification is conditional until the harvest rate analysis for Sakinaw sockeye has been updated using the best data available and appropriate fisheries management actions are

consistent with the goal of reducing harvest rates for Sakinaw sockeye and rebuilding this depleted stock (Fraser Condition #1.3).

Reconstructed estimates of recent harvest rates on Sakinaw sockeye have been completed. Actions have been taken to protect Sakinaw sockeye and estimates of harvest rates have declined substantially in recent years.

This information will be made available to the appropriate MSC certifying body for their review by September, 2010.

Condition 4

Certification is conditional until a review of the relative productivity of Sakinaw sockeye has been completed and the fisheries management plan is consistent with the estimated productivity and goal of rebuilding the Sakinaw sockeye stock (Fraser Condition #1.4).

Estimates of relative productivity for Sakinaw sockeye have been completed. Estimates of marine survival rates in recent years have been very low. Harvest rate reductions in conjunction with enhancement and habitat improvements have been implemented by DFO in an attempt rebuild Sakinaw sockeye.

This information will be made available to the appropriate MSC certifying body for their review by September, 2010.

Condition 7

Certification is conditional until the management agency provides a clear commitment to implement the recovery plan for Cultus sockeye and evidence that fisheries management actions are consistent with the recovery goals for Cultus sockeye (Fraser Condition #1.7).

A conservation strategy has been completed for Cultus Lake sockeye (http://www.pac.dfo-mpo.gc.ca/species/salmon/cultus_sockeye_cs/documents/Cultus_Conservation_Strategy_Feb08_e.pdf). Specific actions are already underway to recover Cultus sockeye Lake sockeye. They include control of exploitation through conservation-oriented fishing plans, population assessment, a captive breeding project, research on the cause of early migration and high pre-spawn mortality, assessment of littoral habitat and the Columbia Valley aquifer, an investigation of adult migratory timing using acoustic tag studies on the impact of predation and control projects for pike minnow and Eurasian water milfoil, and awareness materials including a brochure for the general public.

DFO has already demonstrated a clear commitment to implement a rebuilding plan for Cultus Lake sockeye with fishery management actions that are consistent with the rebuilding goals for Cultus Lake sockeye that are identified in the conservation strategy. A report summarizing how DFO actions are consistent with the rebuilding goals for Cultus sockeye will be developed. This report will be made available to the appropriate MSC certifying body for their review by December, 2010.

Barkley Sound Sockeye

Condition 9

Certification will be conditional until an assessment is completed regarding the adequacy of the strontium marking approach to identify the effect of the Henderson Lake enhancement efforts on non-enhanced stocks.

This 80% scoring guidepost for this indicator was only partially met: “there are adequate data and analyses to determine that the presence of enhanced fish in the management units does not adversely impact the un-enhanced fish stocks.”

Hatchery operations ceased for Henderson sockeye in brood year 2007. Therefore, this indicator is no longer relevant. Regardless, in the last few years of production, strontium marking and later calcein marking allowed the portion of hatchery production to be estimated.

These results will be published in a PSARC stock assessment research paper February, 2010. Any future enhancement of this stock will be accompanied by marking and assessment protocols to monitor the impact of enhancement.

Condition 10

Certification will be conditional until a more reliable escapement estimates are available for Henderson Lake sockeye.

This 80% scoring guidepost for this indicator was only partially met: “fishery independent indicators of abundance are available for the non-target species harvested in this fishery.”

Since the MSC 2005 assessment, several upgrades were made to the Henderson Lake sockeye assessment program for both juvenile and adult monitoring. The counting fence structure was upgraded in the summer of 2005; panels were improved and a floating structure was put in place to reduce breach events. As well, the mechanical counters were upgraded to pulsar counters and observer calibrations were conducted regularly to validate the pulsar counts. To back up the fence operation, swim surveys of Clemens Creek were reinstated to estimate escapement through the AUC method. As it turns out, the swim surveys are the more reliable method due to continued breach events of the fence structure. We are now relying on these estimates and annually survey the system about 6 times per year.

Details of the assessment program will be reported in a PSARC stock assessment research paper February, 2010. Future efforts at a directed counting operation will likely involve use of hydro-acoustic technology (i.e. a ‘DIDSON’ counter) as opposed to a counting fence.

Skeena Sockeye

Condition 13

Certification will be conditional until a peer reviewed (e.g. PSARC) assessment of the impact of production from Pinkut and Fulton spawning channels on wild sockeye stocks has been completed and the TRPs and LRPs have been clearly defined for the un-enhanced sockeye stocks. (Skeena Condition #1.1).

DFO commits to providing a peer reviewed assessment of the impact of production from the Babine enhanced production on wild Skeena sockeye stocks in a PSARC reviewed stock assessment paper and TRPs and LRPs have been defined for Skeena sockeye CUs (December, 2011).

Condition 13a

Certification is conditional until the management agencies implement a scientifically defensible program for estimating steelhead catch in the Skeena sockeye fisheries. (Skeena Condition #1.1a).

DFO will develop a program for monitoring the by-catch in Skeena sockeye fisheries including steelhead. Fishery impacts on steelhead have been estimated using a model jointly created by DFO and MOE, and reviewed by PSARC. The Skeena Independent Science Review commented on the model and expressed concern over the uncertainty in the model parameters. As recommended, DFO will work with MOE to develop methods to estimate steelhead impacts from the Skeena sockeye fisheries.

A catch monitoring framework will be developed by December, 2011

Condition 13b

Certification is conditional until the management agencies implement the escapement and fall fry monitoring plans for Skeena sockeye as defined in the Core Stock Assessment Review for North and Central Coast salmon stocks or a similar scientifically defensible program to address this key information gap. (Skeena Condition #1.1b).

DFO will use the existing core stock assessment program to develop and implement a plan for monitoring sockeye escapements. The program will be developed in cooperation with the FN interests in the watershed and may include direct visual escapement surveys, weir counts, and mark recapture programs for adults or hydroacoustic lake surveys to identify juvenile abundance. The Skeena Fisheries Commission has been conducting hydro acoustic estimates in recent years, and DFO will continue to cooperate in planning and funding of these surveys. The program will be described in PSARC reviewed stock assessment paper (December, 2011)

Condition 13c

Certification is conditional until the management agencies have implemented the programs necessary to provide periodic assessments of the relative productivity for each Skeena sockeye CU or justification for the use of currently monitored populations as indicator stocks. (Skeena Condition #1.1c).

DFO commits to providing periodic assessments of the relative productivity for Skeena sockeye CU's, or representative indicators. Our experience has been that the productivity of the sockeye systems are relatively stable, and will place priority on assessments of systems for stocks of concern, those most susceptible to climate change impacts or subject to recent habitat perturbations.

The relative productivity will be reviewed in a PSARC stock assessment paper (December, 2011).

Condition 14

Certification will be conditional until the management agency provides direct evidence that the productivity of non-target stocks has been taken into account when setting the TRP for the target Babine stock. (Skeena Condition #1.2).

As an interim measure for the 2009 fishing season DFO adopted a precautionary management objective of reducing the Canadian commercial exploitation rate on Skeena sockeye to begin rebuilding individual stocks of concern by maintaining on average, A Canadian commercial exploitation rate in the range of 20 to 30%. This represents a reduction of 30 to 50% from recent decade averages. This range was consistent with the advice provided in the Skeena ISRP (Independent Science Review Panel).

DFO also supports Recommendation # 1 of the ISRP, "There is a need to confront the major trade-off decisions that are implied by the Wild Salmon policy and the impacts of mixed-stock ocean fisheries on Skeena stocks. There should be an explicit public decision about the loss of biodiversity (number of weak stocks allowed to remain overfished or at risk of extinction) that is deemed acceptable and changes required to fisheries in order to achieve particular harvest objectives." Resolving this issue will be the central focus of the Skeena Watershed Process over the next few years.

Nass Sockeye**Condition 15**

Certification will be conditional until annual escapement estimates are computed for each of the Nass sockeye stocks targeted in the fisheries for Nass sockeye. (Nass Condition #1.1).

DFO will use the current core stock assessment program to develop and implement a plan for monitoring the escapement of sockeye stocks targeted in fisheries. DFO intends to continue monitoring escapements to the dominant Meziadin stock using direct counts at the fishway. For the other lake rearing stocks (Fred Wright, Damdochax, Bowser), an

escapement monitoring program will be developed in cooperation with the FN interests in the watershed and may include direct visual escapement surveys, stock specific escapement estimates derived from Nisga'a fishwheel DNA analysis, scale pattern analysis from Nisga'a fishwheel biological samples, and/or hydroacoustic lake surveys to assess juvenile abundance as an indirect measure of spawning success.

Stream-type sockeye stocks comprise a small component of the Nass aggregate sockeye stock and currently two systems are monitored by FNs for escapements using visual survey methods (Brown Bear and Gingit). DFO intends to continue to support these programs and as part of the overall Nass escapement monitoring plan will examine the feasibility of using fishwheel DNA analysis to develop annual estimates of the stream-type sockeye stocks (these are a single CU under the WSP). A technical workshop will be convened in 2009 to develop an overall Nass escapement monitoring plan. The resulting monitoring plan will be provided to the Certifier by December, 2010.

Condition 16

Certification will be conditional until LRP's have been defined for each of the Nass sockeye stocks targeted in the fisheries for Nass sockeye (Nass Condition #1.2).

In addition to the development and implementation of an overall Nass sockeye escapement monitoring plan described above and consistent with the regional approach and schedule for LRP development, DFO will work cooperatively with the First Nation interests in the watershed to develop Nass sockeye LRP's. Initially the discussions are expected to focus on the existing lake productivity assessments (to indicate capacity) for non-Meziadin sockeye stocks, and stock recruit analysis for Meziadin.

Nass LRPs will be defined and reviewed by PSARC by December, 2011.

MSC Principle 2

Fraser Sockeye

Condition 17

Continued certification of the Fraser sockeye salmon fishery is contingent upon providing reliable and defensible estimates of the harvest of white sturgeon and steelhead within a reasonable time frame. See also Condition 1, 3 and 4 regarding Sakinaw sockeye, and the need to be able to identify and understand the impact of fish released from a supplementation program to assist in the recovery plan of Sakinaw sockeye and to be able to detect impacts on natural spawning produced returning adults. (Fraser Condition 2.1)

Programs are in place to estimate the number of sturgeon and steelhead encountered in fisheries directed at Fraser River sockeye. A mandatory release requirement for both of these species is in effect, therefore, estimates of releases are currently based on unverified reports of releases from fishery participants. In addition, several test-fisheries are

conducted in the fishery area, which provide independent data on the presence and scope of any sturgeon and steelhead by-catch issues. Improving estimates of fishery impacts on these species would require the implementation of an on-board observer program to provide direct, validated, observations of encounters of steelhead and sturgeon. With sufficient funding, implementing an observer program would be feasible for fisheries with larger vessels. However, fisheries using smaller vessels (e.g. FN Economic Opportunity fisheries and approximately a third of the commercial fleet)) could not accommodate on-board observers. These fisheries could potentially be monitored with on water roving observers an approach which was piloted in the 2007 Area E chum fishery. New in 2007 Area E commercial fisheries also had census-based catch reporting programs, which should meet the 100% reporting requirement for sturgeon releases.

Monitoring data to estimate the impact of Fraser River sockeye fisheries on sturgeon was not available in 2009 because there was no Area E Commercial Sockeye Fishery. Delayed delivery of a May 2012 report based on 2010 and 2011 fisheries monitoring is contingent on having commercial fisheries in 2010 and 2011.

For consideration, to address the potential impacts on sockeye fisheries on sturgeon, an alternative approach could be to use Albion, Cottonwood and Whonnock sturgeon encounters as a proxy.

To satisfy this condition DFO will develop a two year program (e.g. modelling, test fishery expansion, census based and/or observer based) to estimate the impact of Fraser River sockeye fisheries on steelhead and sturgeon beginning in 2010. The need for further work will be assessed according to the results of this program. A report summarizing the work will be completed in May 2012 and provided to the Certifier.

Condition 18

Fraser Sockeye Salmon Condition #2. Certification of the Fraser sockeye salmon fishery is contingent upon developing and implementing a risk assessment of the Sakinaw Lake recovery strategy that will include the following items: 1) examination of the risk of differing temporal harvest rates on returning run and its implication on the probability of the recovery of the stock; and 2) refinement and peer review of run reconstruction analysis for Sakinaw sockeye. (Fraser Condition 2.2)

Generic run reconstruction techniques are well developed and have been peer review by DFO's Pacific Scientific Advice Review Committee (PSARC). Uncertainty in the output of run reconstruction depends on the quality of input data and parameters. Refinement of key data inputs in the run reconstruction of Sakinaw sockeye have been completed (see Condition 1). The WSP also requires monitoring systems of CUs to assess status. Annual monitoring of the spawning escapements to Sakinaw sockeye is continuing to assess current rebuilding progress. Rebuilding has been severely impacted by prevailing low marine survival rates.

DFO will complete a risk assessment of the Sakinaw Lake sockeye rebuilding plan and will assess implementation options within two years.

Barkley Sound Sockeye

Condition 20

Certification will be conditional until Limit Reference Points or their equivalent have been defined for Barkley Sound sockeye salmon stocks, with particular reference to Henderson Lake sockeye, and recovery plans have been developed and implemented for stocks harvested in Barkley Sound sockeye fisheries that are below their LRP. The proposed recovery plans must provide information regarding the probability of recovery and the timing for recovery.

These 80% scoring guideposts for this indicator were only partially met: “The management system includes assessment of plans for the rebuilding of non-target stocks to levels above established LRPs; The management system has a reasonable (>60%) probability of achieving long-term rebuilding of depleted non-target stocks; Monitoring and assessment programs are established to determine with a high degree of confidence and in a timely manner that rebuilding is occurring.”

Management actions to meet Condition 20 are discussed in the general section above, including the work plan for developing reference points and decision rules for management of Area 23 sockeye populations. While provisional reference point and decision rules already exist, these will be reviewed and potentially revised through implementation of DFO’s WSP planned for Area 23 starting late 2008.

Notwithstanding WSP implementation, the current stock status of Henderson Lake sockeye is likely not depleted. In each of the last two years (2007, 2008), escapement has been estimated at over 10,000 based on swim surveys. While the biological LRP is not yet defined, it is likely well below 10,000. Moreover, we now know that the counting fence operation is a poor indicator of abundance. Unfortunately, it was the sole source of escapement estimates during the very low period of observations from 2001 to 2005. It was likely escapement was higher than the fence estimates, however anecdotal observations from spawner observations do suggest the abundance was low during this period.

We are also working to improve the estimates of harvest rate on Henderson origin sockeye. All fisheries have been sampled for DNA stock composition analysis since 2006. However, even given our catch sampling efforts, it is statistically difficult to estimate harvest rate directly due to the relative rarity of Henderson sockeye in the fishery. In 2004, a deterministic run-reconstruction was submitted to the MSC assessment team. This run reconstruction was based on conservative assumptions and suggested the average harvest rate of Henderson sockeye was less than 15%. Over the last two years, an independent scientific authority was contracted (Dr. Marc Labelle) to estimate harvest rate parameters for Henderson sockeye using an alternative dynamic simulation model.

Results from this simulation are similar to those of the run reconstruction and will be reported in the stock assessment research paper to be submitted to PSARC in October, 2009. LRPs will be defined for Barkley sockeye stocks and a report submitted to Certifier by December, 2011.

Skeena Sockeye

Condition 21a

Same as new condition 13a. Certification is conditional until the management agencies implement a scientifically defensible program for estimating steelhead catch in the Skeena sockeye fisheries. (Skeena Condition #2.1a).

DFO in cooperation with the Province of BC will develop a program for evaluating the by-catch in Skeena sockeye fisheries including steelhead. Fishery impacts on steelhead have been estimated using a model jointly created by DFO and MOE, and reviewed by PSARC. The Skeena Independent Science Review commented on the model and expressed concern over the uncertainty in the model parameters. As recommended, DFO will work with MOE to develop a method to estimate steelhead impacts in the Skeena sockeye fisheries.

A catch monitoring framework will be presented to PSARC for review in December, 2010.

Condition 21b

Certification will be conditional until Limit Reference Points or their equivalent have been defined for Skeena sockeye salmon stocks, and recovery plans have been developed and implemented for stocks harvested in Skeena sockeye fisheries that are below their LRP. The proposed recovery plans must provide information regarding the probability of recovery and the timing for recovery. (Skeena Condition 2.1b)

As an interim measure for the 2009 fishing season DFO adopted a precautionary management objective of reducing the Canadian commercial exploitation rate on Skeena sockeye to begin rebuilding individual stocks of concern by maintaining on average, A Canadian commercial exploitation rate in the range of 20 to 30%. This represents a reduction of 30 to 50% from recent decade averages. This range was consistent with the advice provided in the Skeena ISRP (Independent Science Review Panel).

DFO also supports Recommendation # 1 of the ISRP, “There is a need to confront the major trade-off decisions that are implied by the Wild Salmon policy and the impacts of mixed-stock ocean fisheries on Skeena stocks. There should be an explicit public decision about the loss of biodiversity (number of weak stocks allowed to remain overfished or at risk of extinction) that is deemed acceptable and changes required to fisheries in order to achieve particular harvest objectives.” Resolving this issue will be the central focus of the Skeena Watershed Process over the next few years.

Condition 22

Continued certification of the Skeena sockeye salmon fishery is contingent upon developing and implementing a recovery plan for chum stocks harvested in Skeena sockeye fisheries that are below their LRP. The proposed recovery plan must include procedures for determining the impact of the existing fishery management system on these stocks and provide for decreasing incidental harvest rates on chum salmon, if harvest pressure is found to have significant risks to chum recovery.

DFO will develop a chum rebuilding plan for Area 4 chum included chum spawning in the Skeena River and its tributaries.

Management measures to reduce the impacts of the Skeena sockeye fishery on chum has been ongoing, and significant changes have been made to the Skeena gillnet and seine fisheries. Time and area closures and selective fishing measures are used to reduce chum impacts.

DFO supports the SISRP report recommendation 6:

“Chum salmon stocks appear to be severely depressed and should be protected by avoiding late season ocean fishery openings and targeted fisheries of any kind.”

Retention of chum salmon was not permitted by seines or gillnets in Skeena commercial fisheries in 2009. DFO will continue to revise the IFMP to take a more precautionary approach to chum concerns in the Skeena sockeye fishery.

Monitoring and compliance of these release fisheries will remain an important component of the rebuilding plan for chum.

LRPs will be developed for Skeena chum populations and provided for PSARC review by December, 2011.

Nass Sockeye

Condition 23

Certification of the Nass sockeye salmon fishery is contingent upon developing and implementing a recovery plan for chum salmon stocks that are below the LRP and that spawn in the Nass or its tributaries. Such a plan must have clear procedures to determine the impact of the existing fishery management system on these stocks and provide for decreasing incidental harvest rates on chum salmon, if harvest pressure is found to have significant risks to chum recovery.

DFO will work cooperatively with the FN interests in the area to develop a chum rebuilding plan for Area 3 chum included chum spawning in the Nass River and its tributaries.

Chum rebuilding has been an ongoing concern for DFO and significant changes have been made to the Nass area gillnet and seine fisheries over the past several decades. Time and area closures are the primary method used to reduce chum interceptions in fisheries directed at sockeye and pink salmon. Retention of chum salmon was not permitted by

seines in Area 3 in 2009 and gillnet fisheries are currently requested to release live chum. More stringent measures for chum are under consideration, as most chum encountered by gillnets are currently retained. An important point is that the majority of the chum encountered in the Area 3 fishery does not originate from Area 3 which complicates management of the fishery. DFO, with contributions from Alaska has developed an extensive chum DNA baseline for North Central BC and some coverage for SE Alaska. We are currently analyzing Canadian Area 3 and 4 commercial fishery samples to better understand the harvest impacts on Area 3 chum. There is a linkage between the fisheries impacts on Nass and Skeena chum, and the Nass and Skeena rebuilding planning processes will need to be coordinated.

The primary objective of a Nass Area rebuilding plan for chum is to halt the decline in chum abundance and ensure the aggregate escapement for each of the three Wild Salmon Policy conservation units (Portland Canal-Observatory, Portland Inlet, and Lower Nass) are in the amber zone or higher. To achieve this objective, non-retention regulations for chum are being considered for all Area 3 fisheries. Monitoring and compliance of these release fisheries will be an important component of the rebuilding plan for chum.

A Nass Area chum rebuilding plan will include a stock monitoring plan to evaluate rebuilding against goals. The Nisga'a Fisheries Program continues to monitor escapements of chum salmon to the lower Nass River using fishwheels, escapements to the Kincolith River, and conducted a pilot chum telemetry study in the lower Nass in 2008, as a first step towards better understanding the timing and habitat uses of specific lower Nass chum stocks. DFO monitors the escapement of chum salmon to Area 3 streams using visual surveys and will use the core stock assessment program to guide future chum escapement monitoring.

The development of escapement benchmarks (LRP) for the Area 3 chum aggregates in each conservation unit will be an important aspect of a chum re-building strategy. Analytical approaches to determining LRPs for chum are not well developed and much work needs to be done in this area. In the meantime, DFO will identify interim benchmark LRPs and rebuilding targets for Nass Area 3 chum. In 2010, the Nass Joint Fisheries Management Committee will review the current Nisga'a Treaty escapement goals for Nass Area chum and align those with the requirements of the Wild Salmon Policy.

In addition, it is important to note that, although the Kincolith CEDP hatchery does provide some small-scale enhancement of Kincolith River chum, large-scale enhancement is not proposed at this time as part of the chum rebuilding plan. Should harvest restrictions be found to not be sufficient to enable Area 3 chum stocks to be sustained in the amber or higher zone, DFO will review the role enhancement and other habitat-related measures might play at that time. In addition, should scientifically sound enhancement or habitat restoration opportunities be identified for Area 3 chum in the future, these will be reviewed by DFO.

LRPs will be developed for Nass chum populations and provided for PSARC review by December, 2011.

Additional measures to reduce the Nass sockeye fishery impacts on Nass chum were incorporated in to the 2009 IFMP.

MSC PRINCIPLE 3

Fraser Sockeye

Condition 24

Certification will be conditional until a clear set of management objectives has been defined and found to be consistent with MSC criteria and measures are taken to reduce the bycatch of sturgeon and improve the monitoring systems used to estimates sturgeon bycatch. (Fraser Condition #3.1).

Measures are already in place to reduce sturgeon impacts in the commercial, recreational, and First Nation fisheries in the Fraser River. All commercial Area E, recreational, and First Nations commercial fisheries are mandatory non-retention, and sturgeon releases are included in catch reports from fishery participants. For the First Nation FSC fishery, catch is reported either through a census-based program (which should have 100% reporting), or a creel survey, which will generate a sturgeon release estimate within +/- 20%. New for 2007 Area E commercial fisheries also had a census-based catch reporting program, which should meet the 100% reporting requirement for sturgeon releases. Sturgeon releases from the recreational fisheries are estimated with a creel survey, which will have some error associated with it. As mentioned previously, several test-fisheries are conducted in the area providing an independent indicator of the presence and scope of any by-catch issues.

Monitoring data to estimate the impact of Fraser River sockeye fisheries on sturgeon was not available in 2009 because there was no Area E Commercial Sockeye Fishery. Delayed delivery of a May 2012 report based on 2010 and 2011 fisheries monitoring is contingent on having commercial fisheries in 2010 and 2011.

For consideration, to address the potential impacts on sockeye fisheries on sturgeon, an alternative approach could be to use Albion, Cottonwood and Whonnock sturgeon encounters as a proxy.

To satisfy this condition DFO will develop a two year program (e.g. modelling, test fishery expansion, census based and/or observer based) to estimate the impact of Fraser River sockeye fisheries on steelhead and sturgeon beginning in 2010. The need for further work will be assessed according to the results of this program. A report summarizing the work will be completed in May 2012 and provided to the Certifier.

Condition 30

Same as Condition 17 and 24. Certification will be conditional until the management agency provides reasonable estimates of the harvest of white sturgeon and steelhead within a reasonable time frame. (Fraser Condition #3.8).

Duplication of Condition 17 and 24 on Sturgeon. With respect to Steelhead, any releases from commercial, recreational, or First Nations fisheries would be accounted for through the same catch estimation process that is used to estimate sturgeon releases. Additionally, observer programs have been utilized in order to estimate the impact upon steelhead of fall commercial chum fisheries, and some chum-directed First Nations Economic Opportunity fisheries (beach seines). The time-frame for generating estimates of sturgeon and steelhead catch (and releases) varies by fishery, but all fisheries will have estimates available within a month of the fishery occurring. Most fisheries will have these estimates available within a few days.

To satisfy this condition DFO will develop a two year program (e.g. census based and/or observer based) to estimate the impact of Fraser River sockeye fisheries on sturgeon beginning in 2009. The need for further work will be assessed according to the results of this program. A report summarizing the work will be completed in May, 2011.

Barkley Sound Sockeye**Condition 32**

Certification will be conditional until the management agency provides clear evidence that measures are being implemented to discourage harvesters from exceeding catch targets or exploitation rate limits.

This 80% scoring guidepost for this indicator was only partially met: “the management system includes a program to create incentives for harvesters not to exceed target catches or exploitation rates.”

The assessment team incorrectly assumed that there are no defined allocations for Barkley Sound sockeye. The Barkley sockeye management table (attached) defines allocations at various run sizes for First Nation, Sport and Commercial fisheries. Incentives are provided to harvesters to discourage over-harvest. Probably the most important incentive is our co-management initiative that allows harvesters flexibility in fishing plans and technical input through participation in the ‘Area 23 Harvest Committee’. Because this is a table of peers (fishers from different sectors: First Nation, Sport, Commercial), harvesters are accountable and face pressure from other stakeholders to harvest according to manageable fishing plans. This committee has been in operation since 2005. The Somass Joint Technical Working Group, which also started in 2005, includes local First Nations biologists and fishery managers, who contribute to in-season decision-making regarding run forecasting. Since the inception of these co-management processes, no harvest sector has exceeded their allocation. In 2007 when the return was very low and below forecast, harvesters voluntarily curtailed their fisheries in season. In 2008, when the pre-season forecast was below the fishable abundance, harvesters agreed to delay (and eventually abort) harvest plans.

A report describing compliance of harvesters in the Barkley sockeye fishery will be provided to the Certifier by December, 2010.

Skeena Sockeye

Condition 35

Certification will be conditional until the management agency provides a research plan that addresses identified concerns related to the impact of the fishery on the ecosystem, with emphasis on non-target stocks and takes into consideration socioeconomic factors and anticipated changes to fisheries.

In addition to the more generic response provided above, a Skeena Watershed Process will be developed to provide a forum to help meet this condition. A socio-economic review of Skeena salmon fisheries was released in late October 2008, and will be used to inform a Skeena Watershed Process.

Research plans will be incorporated into a revised IFMP for the Skeena fishery by May, 2012.

Condition 35a

Same as new condition 13a. Certification is conditional until the management agencies implement a scientifically defensible program for estimating steelhead catch in the Skeena sockeye fisheries. (Skeena Condition #3.1a).

Condition 35b

Similar to new condition 13a. Certification is conditional until the management agencies implement a scientifically defensible program for estimating steelhead catch in the Skeena sockeye fisheries and escapement and stock status for Skeena steelhead stocks. (Skeena Condition #3.1b).

DFO will develop a program for evaluating the impacts of the Skeena sockeye fisheries on steelhead. Fishery impacts on steelhead have been estimated using a model jointly created by DFO and B.C. Ministry of Environment (MOE), and reviewed by PSARC. The Skeena Independent Science Review commented on the model and expressed concern over the uncertainty in the model parameters. As recommended, DFO will work with MOE to review the utility of the model to estimate commercial harvest impacts.

A program to estimate steelhead escapement for the watershed and for major steelhead stocks was initiated by MOE in 2008, in cooperation with DFO. Part of this study is to evaluate components of this estimation procedure to inform a steelhead escapement program planned for 2009.

MOE is expected to take the lead in an evaluation of Steelhead stock status, with DFO providing support as required.

The MOE initiated pilot studies in 2008 to address Skeena steelhead stock status and escapement (MOE 2008). These studies included funding to: extend DFO's Skeena test fishery past its typical late August ending date; carry out steelhead bio-sampling from the post August test fishery for genetic analysis; conduct acoustic tagging to assess the suitability of acoustic telemetry to monitor the distribution of steelhead spawners within the Skeena River; and hire a full time steelhead management biologist for the Skeena Region Ministry office to assist with steelhead project management, quality control and delivery.

A catch monitoring framework will be developed by December, 2010.

Condition 35c

Certification is conditional until the management agencies and the terminal gillnet fisheries demonstrate their commitment to implement selective fishing and handling techniques that have been shown to increase the post-release survival of non-target species. (Skeena Condition #3.1c).

This challenge is expected to be a particular focus of Skeena watershed discussions. There has been extensive research over the last 15 years to evaluate selective harvest approaches. Many of these have been implemented, resulting in very significant changes to commercial fishing seasons, geographical areas fished, daylight only fisheries, changes to gillnet configurations and the length of sets. These programs will continue to be evaluated and implemented. Monitoring and compliance of the selective fishing practices is recognized as an essential component of the management of the Skeena gillnet fishery.

A report will be provided to the Certifier by March, 2010 describing selective fishing measures and outcomes.

Condition 35d

Certification will be conditional until the management agency provides a research plan that addresses identified concerns related to the impact of the fishery on the ecosystem, with emphasis on non-target stocks (e.g. Skeena summer-run steelhead), and takes into consideration socioeconomic factors and anticipated changes to fisheries. (Skeena Condition #3.1d).

In addition to the more generic response provided above, the Skeena Watershed Process will provide a forum to help meet this condition. A socio-economic review of Skeena salmon fisheries was released in late October 2008, and is currently being reviewed as will be used to inform the Skeena Watershed Process. A "habitat" subcommittee has been formed and as a first step has initiated a mapping project to be completed by the spring of 2009, intended as a public information tool on salmon habitat, land use and ecosystem factors.

DFO will develop a program for monitoring the by-catch in Skeena sockeye fisheries including steelhead. Fishery impacts on steelhead have been estimated using a model jointly created by DFO and MOE, and reviewed by PSARC. The Skeena Independent

Science Review commented on the model and expressed concern over the uncertainty in the model parameters. As recommended, DFO will work with MOE to review the utility of the model to estimate steelhead catch in the Skeena sockeye fisheries.

Research plans will be incorporated into a revised IFMP for the Skeena fishery by May, 2012.

Condition 36b

Certification will be conditional until there is a clear commitment from the management agency and fishers to identify and implement selective fishing techniques that are consistent with the goal of reducing the catch of non-target species, especially steelhead. (Skeena Condition #3.2b).

There has been extensive research over the last 15 years to evaluate selective harvest approaches. Many of these have been implemented, resulting in very significant changes to commercial fishing seasons, geographical areas fished, daylight only fisheries, changes to gillnet configurations and the length of sets. These programs will continue to be evaluated and implemented. Monitoring and compliance of the selective fishing practices is recognized as an essential component of the management of the Skeena gillnet fishery.

A report will be provided to the Certifier by December, 2010 describing selective fishing measures and outcomes.

Condition 36c

Certification will be conditional until there is a clear commitment from the fishers participating in Skeena sockeye fisheries to provide sufficient information for managers to derive reliable estimates of the catch and discards of steelhead and other non-target species. (Skeena Condition #3.2c).

DFO will develop a program for monitoring the by-catch in Skeena sockeye fisheries including steelhead. Fishery impacts on steelhead have been estimated using a model jointly created by DFO and MOE, and reviewed by PSARC. The Skeena Independent Science Review commented on the model and expressed concern over the uncertainty in the model parameters. As recommended, DFO will work with MOE to review the utility of the model to estimate commercial harvest impacts.

A catch monitoring framework will be developed by December, 2011.