



**Northern Cod (NAFO Divisions 2J3KL)
Stewardship Fishery**

**Fishery Improvement Project
Action Plan**

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World Wildlife Fund &
Fish Food and Allied Workers*

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ACRONOMS

Term	Definition
B _{LIM}	Biomass Limit reference point
CAB	Conformity Assessment Body
DFO	Fisheries and Oceans Canada
ERAF	Ecological Risk Analysis Framework
ETP	Endangered, Threatened or Protected
F	Fishing Mortality
FIP	Fishery Improvement Project
FFAW	Fish, Food and Allied Workers
GN	Gillnet
HCRs	Harvest Control Rules
HL	Hand line
IFMP	Integrated Fisheries Management Plan
LL	Longline
LRP	Limit Reference Point
M	Natural Mortality
MPA	Marine Protected Area
MSC	Marine Stewardship Council
MSY	Maximum Sustainable Yield
MUN	Memorial University of Newfoundland
NAFO	Northwest Atlantic Fisheries Organization
NMFS	National Marine Fisheries Service
NCAM	Northern Cod Assessment Model
P1, P2, P3	MSC's Guiding Principles
PA	Precautionary Approach
PI	Performance indicator
PRI	Point of Recruitment Impairment
RV	Research Vessel
SARA	Species at Risk Act
SFF	Sustainable Fisheries Framework
SSB	Spawning Stock Biomass
SURBA	SURvey BAsed model
TAC	Total Allowable Catch
UoA	Unit of Assessment
USR	Upper Stock Reference
VME	Vulnerable Marine Ecosystem
WWF	World Wildlife Fund

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INTRODUCTION

The 2J3KL Stewardship Cod Fishery Improvement Project (FIP) is led by the Fish, Food and Allied Workers (FFAW-Unifor) and the World Wildlife Fund (WWF). FIPs of this type usually follow a 3-step approach:

- Step 1: Scoping
- Step 2: FIP Action Plan Development
- Step 3: Implementation and Tracking Process

The first of these 3 steps, Scoping, has concluded and involved: stakeholder mapping and engagement, the completion of an MSC-Pre-assessment and the development of a Scoping document. The stakeholder mapping process identified key players who are able to highlight areas of interest and expertise. In this FIP stakeholders include: government representatives, fish harvesters and their representatives, fish processors, the scientific community and ENGO representation. The MSC pre-assessment for the 2J3KL Stewardship fishery was completed in the spring of 2016 and informed FIP stakeholders of the steps that need to be undertaken before the 2J3KL cod fishery will be ready to enter a full MSC assessment process. The pre-assessment document is available on the WWF website at http://awsassets.wwf.ca/downloads/2j3kl_cod_pre_assessment_final.pdf. The final stage of the Scoping step is the preparation of a scoping document. This was completed in the summer of 2016 and was presented in summary at the FIP Stakeholders meeting in September 2016. The scoping document reviewed the 2J3KL Cod pre-assessment's analysis of each of the MSC performance indicators and made determinations of the priority issues to be addressed.

The second of these steps, FIP Action Plan Development, has also recently concluded and is reported on in this document. This step had two main milestones: A FIP Stakeholder Meeting and the development of a FIP Action Plan. The purpose of this Action Plan document is to provide general background information on the number of ongoing and new projects and tasks that were proposed during the FIP planning workshop, held in St. John's on September 27, 2016. This includes information on the level of priority (high or medium), current status (ongoing or new) and expected timeframe to complete the initial tasks. The priority level for each project was assigned according to the highest level within the FIP scoping document (Appendix 1).

The third step in this 3-step process will occur in the coming years and will include the following 4 initiatives:

1. The Establishment of a FIP Steering Committee
2. Implementing the FIP Action Plan
3. Conduct Annual FIP Review Meetings
4. Track Work and Report on Progress.

The definition of the fishery as outlined in the pre-assessment and thus the FIP is:

Species	Atlantic Cod (Gadus Morhua)
Geographical Area	NAFO Areas 2J, 3K and 3L
Catch Method	Gillnet (GN), Longline (LL), Hand line (HL).
Management Authority	Fisheries and Oceans Canada (DFO)

It is anticipated that the World Wildlife Fund (WWF) and the Fish Food and Allied Workers (FFAW-Unifor) will lead the FIP Action Plan and co-ordinate the development of each task. This document serves primarily as a guide to the type and range of tasks required in the Action Plan to reach the Marine Stewardship Council (MSC) standard. The Plan itself must be further developed to include more specific timelines and potential costs. The results generated from the Action Plan should have periodic internal and external reviews to ensure they will meet the MSC standard. A summary of all tasks is provided in Appendix 2.

The main focus of the Action Plan included in this report is on areas that have been identified in the Scoping Document as high or medium priority. The priority levels have been assigned to elements of performance indicators that the pre-assessment designated as Fail (High Priority) or Pass with Condition (Medium Priority). Also included in this report are some items that are considered Low Priority (full pass). While these PI's have achieved a full pass in the pre-assessment, some work may be required to either: ensure that a full pass occurs in an eventual full assessment; or to assist MSC assessors in scoring certain PI's while conducting a full assessment.

1. Sustainable Fish Stocks

1.1 Stock Status (High Priority)

MSC PI – Stock Status

1.1.1 MSC Pre-assessment Comments

There are some positive indications related to stock status from the latest full stock assessment and stock status updates.

- Stock assessment Indices from the autumn DFO RV survey and the Sentinel survey were generally higher in 2014, particularly in the north (Divs. 2J and 3K), indicating improvement in overall stock status.
- Recent recruitment has improved, but is not expected to result in major changes to SSB relative to the LRP in 2015.
- Tagging results indicated that exploitation levels continued to be low ($\leq 5\%$) in 2014.
- In 2013, scientists concluded that estimates of current exploitation rates show that fishery removals are a minor component of total mortality rates and have had little impact on recent stock dynamics (DFO 2013c). This was reiterated in 2015 (DFO 2015b).

However, estimated SSB has been well below the LRP since the early 1990s. The estimate of 2012 SSB is 15 % of the LRP. The 2011-2013 average SSB is 19% of the LRP while the 2012-2014 average is 26%. Scientists concluded that at current levels of SSB the stock is considered to have suffered serious harm and the ability to produce good recruitment remains seriously impaired. Based on the current level of SSB the fishery fails.

1.1.2 FIP Stakeholder Discussions

A full assessment of the 2J3KL cod stock was completed in early 2016, subsequent to the completion of the MSC pre-assessment for this stock. This latest assessment used a new fully integrated space-state model (Cadigan, 2015, 2016) to determine population estimates and to complete stock projections. Results from this assessment show that further rebuilding has occurred and the SSB is now 34% of the LRP. Three-year projections show that the stock will continue to rebuild and by 2018 the SSB will just over 60% of the LRP under a variety of catch options. Recent estimates suggest that fishing mortality remains quite low ($F=0.014$ in 2015) which is the lowest F estimated by the model in the 33 year time series and is currently 5% the estimated natural mortality ($M=0.28$) in 2015.

To achieve a score of 60 (Pass with Condition) the stock must rebuild to the LRP – at this point it is likely that the stock will be above the point where recruitment would be impaired (PRI). The condition for this performance indicator would be that further growth in the stock is necessary to ensure that being above the point of recruitment impairment is highly likely or achieves this level with a high degree of certainty. It is therefore desirable that management actions are such to enable additional stock rebuilding beyond the LRP to an upper stock reference point consistent with the MSY biomass level.

1.1.3 FIP Action Plan

To achieve the required rebuilding of this resource, management objectives should be to continue to keep fishing mortality at a low level. A definition of what constitutes a low level of fishing mortality should be established during the development of a full suite of harvest control rules.

The conclusions from the framework discussion (DFO, 2010b, page 42) respecting the Limit Reference Point is as follows:

“The 2J+3KL cod spawner biomass and recruitment remain at extremely low levels compared to the 1960’s. SSBs in the 1980’s were the last to produce medium levels of recruitment. After the 1980’s SSB has been low and recruitment poor, indicating that the stock has been below a level where serious harm occurs. The average SSB during the 1980’s is considered as the limit reference point for 2J+3KL cod. The stock is currently estimated to be at 10% of this LRP. The model spawning stock during the 1980s was 55 Kg per tow or 660 000 t. Recent estimates of total mortality have been lower than the very high levels experienced by 2J+3KL cod from 1996 to 2003, thus establishing a LRP based on the low productivity period is not appropriate for this stock. This LRP should be re-evaluated once more data, particularly at higher stock sizes, are available.”

The LRP level has been recently revised based on the model results in the 2016 assessment and is now approximately 880,000t (Model estimate of SSB = 300,000 t). Since the framework meeting in 2010 the stock has shown positive signs of rebuilding and there are now indications of improved recruitment. If the current level of SSB can actually generate positive recruitment, the time may be approaching to re-evaluate the LRP developed in 2010. The application of a new assessment model should be helpful in this re-evaluation.

Working Group	All Stakeholders
Priority	High
Status	Ongoing
Timeframe	5+ Years
MSC Performance Indicators	<i>High priority</i>
	1.1.1 Stock Status
	1.1.2 Stock Rebuilding
	<i>Medium Priority</i>
	1.2.2 Harvest Control Rules & Tools

1.2 Development of a full Precautionary Approach Framework (Medium Priority) (MSC PI 1.1.1 Stock Status – Reference Points)

1.2.1 MSC Pre-Assessment Comments.

Estimated SSB has been well below the LRP since the early 1990s. The estimate of 2012 SSB was 15 % of the LRP. The 2011-2013 average SSB is 19% of the LRP while the 2012-2014 average was 26%. Scientists concluded at the time that at current levels of SSB the stock is considered to have suffered serious harm and the ability to produce good recruitment remains seriously impaired. Based on the current level of SSB the fishery fails. This SSB for this stock will need to increase above the point where recruitment would be impaired to receive a higher score on this PI.

While a Biomass limit reference point was established, the process in 2010 did not provide for any other reference points. Upper Stock Reference (USR) points, target biomass or fishing mortality reference points, etc. are currently not defined.

1.2.2 FIP Stakeholder Discussions

The following was taken from the most recent assessment (DFO, 2016):

“Three-year projections (to 2018) were conducted to investigate the potential impact of a range of catch options from zero catch (no fishing) to a 5-fold increase in catch. Projections were based on the model estimate of catch for 2015 (6,900 t). The age-pattern in F values was assumed to be the same as in 2015. The natural mortality rate applied is a progressive transition from the recent values to the long-term average estimated in the Northern Cod Assessment Model (NCAM). Projected recruitment, stock weights, and proportions mature were assumed to be equal to the mean of their 2013-15 values. Assumed recruitment (age 2) has minimal impact on the projected SSB.

The projections indicate a low risk (< 4%) of SSB in 2018 declining below the 2015 value, but also a low probability (5-8%) of exceeding B_{lim} in 2018. The stock is projected to be less than B_{lim} (0.60-0.66) and remain in the critical zone in 2018 over the full range of catch options considered, including no fishing (Table 1).”

Projections	Catch Multiplier 0	Catch Multiplier 1	Catch Multiplier 2	Catch Multiplier 3	Catch Multiplier 4	Catch Multiplier 5
Risk (in %) of SSB declining below 2015 value	1.0	1.3	1.7	2.1	2.6	3.3
Probability (in %) of exceeding B_{lim} in 2018	7.9	7.1	6.5	5.9	5.3	4.8
SSB in 2018 relative to B_{lim}	0.66	0.65	0.64	0.62	0.61	0.60

There is currently a DFO Cod Rebuilding Working Group in place that includes participation by DFO Science and Management, the Government of Newfoundland and Labrador, a variety of industry representatives and members of the ENGO community (WWF). This would appear to be the most appropriate forum to discuss many of the action items included in this document.

Up to this time there have not been reference points developed for this stock beyond the Limit Reference Point established in 2010 (DFO, 2010b). Work should continue to develop a full precautionary approach framework

to include other reference points (upper stock reference/target reference point consistent with Biomass at MSY) as well as appropriate harvest control rules.

1.2.3 FIP Action Plan

Data on other reference points or the MSY biomass level will be required to determine if a full pass (score \geq 80) on this PI is warranted. This work could be primarily conducted by the DFO Cod Rebuilding Working Group.

Working Group	DFO, DFO Cod Rebuilding WG
Priority	Medium
Status	Ongoing
Timeframe	1-3 years
MSC Performance Indicators	<i>High priority</i> 1.2.4 Stock Status 1.2.5 Stock Rebuilding
	<i>Medium Priority</i> 1.2.2 Harvest Control Rules & Tools

1.3 Time Frame for Rebuilding (High Priority)

MSC PI 1.1.2 Stock Rebuilding

1.3.1 MSC Pre-assessment Comments

Based upon the autumn DFO surveys the SSB in 2005 was only 1% of the LRP, the three year average SSB increased to 12% of the limit reference point (LRP) in 2010-2012, 18% in 2011-13 and 26% in 2012-2014. While the stock has shown some improvement after 2005 it has remained below the LRP (in the critical zone) since the early 1990s.

Monitoring is occurring using annual research vessel surveys which are reported regularly at full stock assessments or assessment updates.

While there is evidence the stock is rebuilding, there is no specific time frame defined for this stock to rebuild to the biomass limit. Therefore the score for this PI is less than < 60% (Fail).

A rebuilding strategy for 2J3KL cod with a rebuilding timeframe that is the shorter of 20 years or 2 times its generation time along with continued monitoring will be required for this PI to achieve a higher score.

1.3.2 FIP Stakeholder Discussions

Clearly there is a need for the implementation of a rebuilding time frame. As stated above there is evidence that the stock is rebuilding. In addition, monitoring on the progress of any rebuilding strategy is occurring through the stock assessment or stock update processes within the Canadian Science Advisory Secretariat (CSAS) on an annual basis.

The 2016 assessment concluded that the SSB is now 34% of the Limit Reference Point (LRP) (DFO, 2016) and stock projections indicate that the stock should grow to just over 60% of the LRP in three years. This implies that the time frame for rebuilding the stock to the LRP is beyond three years.

There are many elements that should be discussed and concluded by the DFO Cod Rebuilding WG so that a fully defined cod rebuilding strategy can be established. The specific time frame for rebuilding is one of the elements that can be concluded through this process.

1.3.3 FIP Action Plan

A specific time-frame for rebuilding the stock required. This specific time frame will be particularly important as the 2J3KL cod stock rebuilds from the Limit Reference Point (LRP) to an Upper stock Reference (USR).

Working Group	DFO, DFO Cod Rebuilding WG
Priority	High
Status	New
Timeframe	3+ Years
MSC Performance Indicators	<i>High priority</i> 1.1.1 Stock Status 1.1.2 Stock Rebuilding <i>Medium Priority</i> 1.2.2 Harvest Control Rules & Tools 1.2.3 Information and Monitoring <i>Low Priority</i> 1.2.1 Harvest Strategy 3.1.3 Long-term Rebuilding

1.4 Harvest Strategy Explicitly Included in IFMP

MSC PI 1.2.1 Harvest Strategy

1.4.1 MSC Pre-assessment Comments

The cod fishery in Divisions 2J3KL is managed by the Department of Fisheries and Oceans through the 2013 Groundfish Integrated Fisheries Management plan in conjunction with annual TAC decisions announced by the Minister and Conservation Harvesting Plans negotiated with fish harvesters.

The management plan in place is supported by an operational framework with considerable stakeholder participation, scientific research, stock monitoring, comprehensive assessments and peer reviews. The fishery has a biomass limit reference point; it also has a generally understood harvest control rule (to keep the removals of cod at the lowest possible level).

The evidence regarding the low exploitation rates for this fishery and the regular increases in SSB indicates that while the harvest strategy has not been fully tested it is meeting the objective of continue stock growth.

There are regular reviews of the status of the SSB in relation to the LRP. Research vessel surveys are conducted annually and there is a full stock assessment completed every 3 years and in intervening years there is a stock status update completed. This provides the monitoring needed to determine if the strategy is working.

1.4.2 FIP Stakeholder Discussions

Key elements of harvest strategies include:

- The control rules and tools in place, including the ability of the management system to control effort, taking into account issues such as overcapacity and its causes.
- The information base and monitoring of stock status and the responsiveness of the management system and fleet to stock status.

In the case of 2J3KL cod stewardship fishery this information is available in various DFO documentation (Integrated Fisheries Management Plan, Conservation Harvesting Plans, Fisheries Management Decision Announcements, Fisher Licence Conditions, Fishery Management Post Season Reviews, and many of the scientific documents etc.).

1.4.3 FIP Action Plan

It would be helpful to MSC Assessors if this information was extracted from all these sources and included in an explicit form in a revised Integrated Fishery Management Plan for this fishery.

Working Group	DFO, DFO Cod Rebuilding WG
Priority	Low
Status	Ongoing
Timeframe	1-3 Years
MSC Performance Indicators	<p><i>High priority</i></p> <p>1.1.1 Stock Status</p> <p>1.1.2 Stock Rebuilding</p> <p><i>Medium Priority</i></p> <p>1.2.2 Harvest Control Rules & Tools</p> <p>1.2.3 Information and Monitoring</p> <p>Low Priority</p>

	1.2.1	Harvest Strategy
	3.1.3	Long-term Rebuilding

1.5 Harvest Control Rules to Be Developed and Included in the IFMP (Medium Priority)

MSC P1 1.2.2 Harvest Control Rules and Tools

1.5.1 MSC Pre-assessment Comments

While there are no well-defined biomass based harvest control rules at this point, there is a single generally understood harvest control rule currently in place for this stock. That is to keep the removals of cod at the lowest possible level to enable the SSB to rebuild to the LRP level.

Information related to the low exploitation rates for this fishery and the regular increases in SSB indicates that the generally understood HCR for this stock is appropriate and effective in controlling exploitation.

The score for this PI is 60-79 (Pass with Condition)

1.5.2 FIP Stakeholder Discussions

Harvest Control Rules are defined as the pre-agreed rules and management actions that will be taken in response to changes in indicators of stock status with respect to explicit or implicit reference points, and MSC expects these elements to be part of HCRs. HCRs should be regarded as ‘well-defined’ in the sense required to achieve an 80 score when they exist in some written form that has been agreed by DFO, ideally with stakeholders, and clearly state what actions will be taken at what specific trigger reference point levels. The basis for the design of HCRs should be considered in relation to the scale and intensity of the fishery, for instance utilizing empirical information; relevant science; or model based approaches such as Management Strategy Evaluation.

To achieve a full pass score on this PI it will be important to complete the precautionary approach framework referenced in this document. Additional reference points will be required to measure changes in the indicators of stock status. Difference management strategies should be employed when indicators show the stock is less than the LRP, between the LRP and the Upper Stock Reference and fluctuating around or above the USR.

1.5.3 FIP Action Plan

The development of explicit Harvest Control Rules should be completed by the cod rebuilding working group and when tested and finalized be included in a revised Integrated Fisheries Management Plan for the 2J3KL cod stewardship fishery.

Working Group	DFO, DFO Cod Rebuilding WG
Priority	Medium
Status	Ongoing
Timeframe	1-3 Years
MSC Performance Indicators	<p><i>High priority</i></p> <p>1.1.3 Stock Status</p> <p>1.1.4 Stock Rebuilding</p> <p><i>Medium Priority</i></p> <p>1.2.2 Harvest Control Rules & Tools</p> <p>1.2.3 Information and Monitoring</p> <p><i>Low Priority</i></p> <p>1.2.1 Harvest Strategy</p> <p>3.1.3 Long-term Rebuilding</p>

1.6 Estimates of removals from the Recreational Fishery (Medium Priority)

MSC PI 1.2.3 Information and Monitoring

1.6.1 MSC Pre-assessment Comments

There are no available estimate of removals from the recreational fishery. Additionally, results from tagging suggest the recent removals from the recreational/food fishery can be substantial.

Even with the lack of an estimated total cod catch, caused by the absence of recreational fishery removals, scientists still conclude that exploitation rates for this stock are very low and the fishery has very little impact on stock dynamics.

Recent stock assessments have been survey based (catch not required), however upcoming assessments will require determination of total catch, so estimation of recreational fishery removals will be important.

As a result of the lack of an estimate of recreational catch the score for this PI is 60-69 (Pass with Condition).

1.6.2 FIP Stakeholder Discussions

The key issue that resulted in the Pass with condition score for this Performance Indicator was the absence of an estimate of the removals from the recreational fishery. This is response to scoring issue (c) Comprehensiveness of Information: There is a need to have good information on other fishery removals (i.e. the recreational fishery). The reference to 'other' fishery removals relates to vessels outside or not covered by the unit of assessment. These require good information but not necessarily to the same level of accuracy or coverage as that covered by scoring issue (b).

The most recent assessment (DFO, 2016) concluded: “There are no direct estimates of recreational landings for some years (2006, 2008, 2013-15) and available estimates in other years are uncertain. Removals from all sources should be better accounted for to reduce uncertainty in the assessment model inputs.”

This has been a long standing issue regarding the management of this stock. DFO should take steps to develop a system that will enable managers and scientists to evaluate these removals.

1.6.3 FIP Action Plan

On May 20, 2016, DFO announced that a licence and tags regime for the recreational fishery is expected to be introduced prior to the 2017 recreational fishery season. (<http://news.gc.ca/web/article-en.do?mthd=tp&crtr.page=1&nid=106878>). Implementation of this licence/ tags system is a first step towards developing estimates of removals from the recreational fishery. There will be a requirement to have models developed to use these data to generate estimates of catch.

Working Group	DFO
Priority	Medium
Status	New
Timeframe	< 1 year
MSC Performance Indicators	<i>High priority</i>
	3.1.4 Stock Status
	3.1.5 Stock Rebuilding
	<i>Medium Priority</i>
	1.2.3 Information and Monitoring

2. Minimizing Environmental Impact

2.1 Availability of Data (Medium/Low Priority)

MSC Pls 2.1.3, 2.2.3, 2.3.3 Primary, Secondary and ETP Species Information/Monitoring

2.1.1 MSC Pre-assessment Comments

With the low number fishers/buyers/vessels involved in the stewardship fishery for 2J3KL cod, DFO was unable to provide detailed by-catch information for the most recent period. In addition, DFO could not provide recent catches for cod pots or cod traps because of these same confidentiality issues. Confidentiality concerns arise if the numbers of fishers, buyers or vessels utilized in a specific component of a fishery are low (≤ 5).

2.1.2 FIP Stakeholder Discussion

The confidentiality of data that prevented DFO from providing detailed catch statistics has been described as follows: *“The Department of Fisheries and Oceans recently made changes to the Species Quota Reports available on the external DFO website. These changes were enacted to comply with new Treasury Board of Canada Guidelines on the Release of Information. Only Species Quota Reports that meet these guidelines will be available to the public online or otherwise. These guidelines were established to protect the privacy and economic interests of people and companies involved in fishing, purchasing and processing of fish. The same rules apply to informal Requests for information.”*

The DFO Access to Information and Privacy group has further interpreted these Treasury Board guidelines. *“As with personal information, in some cases it is possible to render third party information anonymous through aggregation. If choosing to de-identify third party information, DFO should; ensure there at least five groups/organizations in the data set; and ensure that the information provided cannot be combined with another source (i.e., data matching) to reveal confidential or injurious third party information.”*

With respect to requests for DFO data these rules mean that for data sets required for specific evaluation of the MSC standard, data will not be released if there are 5 or less fishing enterprises, active fishing vessels or fish buyers in any subset of the data requested. The absence of this data will make it virtually impossible for CAB assessors to complete the required evaluations against the MSC standard for many of the performance indicators.

This was not a major problem for the most recent pre-assessment as detailed data on primary, secondary and ETP species were available for 2010 from a former pre-assessment (Aldous, 2011) and DFO provided some general data that gave the assessment team confidence that the recent situation on incidence of primary and secondary species was consistent with the detailed 2010 data set. However, if a full assessment is to occur in the future the availability of appropriate data will be a priority.

This issue of access to information from DFO has also been identified by other groups (outside the 2J3KL FIP) who are also using the MSC Standard for sustainability assessments.

2.1.3 FIP Action Plan

Client Groups will be required to work with DFO to determine ways to have the appropriate data available for evaluations against the MSC sustainability standard.

Working Group	All Stakeholders
Priority	Medium
Status	Ongoing
Timeframe	3-5 years
MSC Performance Indicators	2.1.1 Prim. Species: Outcome 2.1.2 Prim. Species: Man. Strategy 2.1.3 Prim. Species: Info/Monitoring 2.2.1 Second. Species: Outcome 2.2.2 Second. Species: Man. Strategy 2.2.3 Second. Species: Info/Monitoring 2.3.1 ETP Species: Outcome 2.3.2 ETP Species: Man Strategy 2.3.3 ETP Species: Info/Monitoring

2.2 Information on Bait Fisheries (Medium Priority)

MSC PIs 2.1.1, 2.1.2 Primary Species Outcome & Management Strategy

2.2.1 MSC Pre-assessment Comments

There has been insufficient data provided to determine the status of the various bait species that are used for the 2J3KL cod stewardship fishery. No information is available on how these species used as bait are managed. Depending on their stock status, a partial strategy might be needed.

Thus it cannot be said the partial strategy/ strategy is being implemented successfully and is achieving its overall objective. Therefore, this PI is scored 60-79 (pass with condition).

2.2.2 FIP Stakeholder Discussion

The primary bait utilized for the longline and hand line UoA's for the 2J3KL Cod fishery is squid that is sourced from South America (*Illex argentines*). MSC assessments for other species in Newfoundland and Labrador (e.g. Snow Crab) also utilize squid from this location. The amount of squid utilized in other fisheries is determined to be much greater than that utilized for the 2J3KL cod stewardship fishery. As an example, the full MSC assessment for NL Snow Crab contains the following (the bait in this example is the same used for the 2J3KL cod fishery):

“With respect to bait, the species used has a short life span and abundance varies substantially from year to year depending on recruitment, which is heavily influenced by environmental conditions. No biologically based

limits have been established for this species, but the existence of several spawning sub-populations is considered to confer resilience on the species and the species is considered fully exploited, which would imply that it is within biologically based limits. The fishery has been exploited since the 1980s and continues to provide substantial catches. The amounts of bait used in the crab fishery (6700 t) are very small fractions of the total catches in the fishery for the bait species (179,000 – 955,000 t/year in 2000-2009).”

As the Snow Crab fishery has scored a pass on performance indicators relative to bait fisheries, one can infer that the 2J3KL Cod fishery will also score a pass in this regard.

2.2.3 FIP Action Plan

The species and stocks that are utilized as bait for the 2J3KL fishery will need to be confirmed. Additionally some analysis of the amount of bait utilized in the cod fishery compared to other MSC assessed fisheries may be required. This evaluation should enable related PIs to move from a Pass with Condition (score 60-79) to a full Pass for related UoA’s. The gillnet fishery does not require bait, so this UoA has already scored a pass (score ≥ 80 Pass).

Working Group	DFO, FFAW, WWF
Priority	Medium
Status	Ongoing
Timeframe	1-3 years
MSC Performance Indicators	<i>Medium Priority</i> 2.1.1 Prim. Species: Outcome 2.1.2 Prim. Species: Man. Strategy 2.1.3 Prim. Species: Info/Monitoring 2.2.1 Second. Species: Outcome 2.2.2 Second. Species: Man. Strategy 2.2.3 Second. Species: Info/Monitoring

2.3 Alternatives to the Observer Program (Medium Priority)

MSC PI 2.2.1, 2.2.2, 2.2.3 Secondary Species – Outcome, Management Strategy & Information/Monitoring

2.3.1 MSC Pre-assessment Comments

Catch and discard data in the fishery are collected by on board by fisheries observers, Landings and effort data are recorded by DFO based on port sampling and vessel logbooks. However the observer coverage is very low (0.8%). With this low coverage, it is difficult to say that there is accurate and verifiable information on the catch of all secondary species and the consequences for the status of affected populations.

2.3.2 FIP Stakeholder Discussions

The very low observer coverage was noted above respecting accurate and verifiable information on the catch of all secondary species. It could be said that this same issue may be relevant to in other parts of this overall evaluation. The problem for the assessment team in this regard is that there was no information presented on the objectives of the observer program for this fishery; how much of this coverage is directed to enforcement priorities compared to the verification of information and the collection of scientific data.

While the observer program has a number of specific objectives (enforcement, data collection, etc.), alternate more low cost methods for collecting data that can be used for the evaluation of MSC performance indicators should be explored. One suggestion presented at the FIP Stakeholder meeting was to provide the appropriate training and compensation to fish harvesters who may be able to complete the necessary data collection for MSC evaluation.

2.3.3 FIP Action Plan

There may be a requirement for a clarification of the objectives of the observer program followed by an analysis to determine the observer coverage rates that can realistically address these objectives. However, from a MSC evaluation perspective the key element is the collection of information (particularly for secondary species). Up to this point in time the observer program was the key source of data for this PI.

In the meantime the suggestion raised at FIP that fish harvesters be trained and compensated to collect relevant data should be evaluated by DFO, FFAW and WWF representatives. This may provide all the data required for the MSC evaluation, while enabling observers to focus on enforcement priorities.

Working Group	DFO, FFAW, WWF
Priority	Medium
Status	Ongoing
Timeframe	1-2 years
MSC Performance Indicators	<i>Medium Priority</i>
	2.1.1 Prim. Species: Outcome
	2.1.2 Prim. Species: Man. Strategy
	2.1.3 Prim. Species: Info/Monitoring
	2.2.1 Second. Species: Outcome
	2.2.2 Second. Species: Man. Strategy
	2.2.3 Second. Species: Info/Monitoring
	<i>Low Priority</i>
	2.3.1 ETP Species: Outcome
	2.3.2 ETP Species: Man. Strategy
2.3.3 ETP Species: Info/Monitoring	

2.4 Regular Monitoring of ETP Species (Low Priority)

MSC PI 2.3.3 ETP Species: Information/Monitoring

2.4.1 MSC Pre-assessment Comments

The effects of the fishery are known and are highly likely to be within limits of national and international requirements for protection of ETP species. Three ETP species are known to occur in the 2J3KL area. Two of these three species are wolffishes (Northern and spotted). The third species is Leatherback turtle.

Wolffishes: Reported wolffish catches were relatively high in the 1970s and declined in the 1990s. Since 2006, the lowest values since the start of the data series have been recorded, probably partly due to the requirement to release Northern and Spotted Wolffish under SARA. Although reported wolffish catches once exceeded 8,000 mt, current values are approximately 200 mt annually.

Commercial log data under-report wolffish catch rates (Kulka *et al.* 2007), and close to half of Atlantic Wolffish bycatch in Canada is believed to be discarded without being reported (Simpson and Kulka 2002). Landed values therefore underestimate actual catches. It has been presumed that fishing mortality from bottom gears has been the primary cause of death due to a loss of buoyancy from depleted blubber reserves (there is no directed fishery for wolffish).

With the passage of SARA and the requirement for live release (except in a very specific case of a limited fishery for Atlantic Wolffish), Canadian reported landings of unspecified wolffish in Subarea 2 and Div. 3KLNO of Canada's EEZ decreased to zero by 2004 and, in Div. 3P amounted to just 13 t from 2011-13. Reported landings from bottom trawls and gillnets became negligible by 2004. As well, reported landings of wolffish in Canada's EEZ have primarily been associated with longline fisheries, and have since become negligible.

Leatherback turtle: It is currently listed as 'endangered' under SARA. Incidental entanglement in fishing gear such as pelagic longlines, lines associated with pot gear and gillnets, buoys and anchor lines, and other ropes and cables pose a risk of entanglement to Leatherback Sea Turtles. Entangled turtles are at risk of serious injury, infection, necrosis or death. Entanglement can limit the Leatherback Turtle's ability to feed.

One of the most important sources of information on Leatherback turtles-fisheries interactions is the observer program conducted by DFO in each region (Newfoundland, Gulf, Quebec and Maritimes) and SARA logbooks. From SARA logbooks, there have been no reported interactions with this fishery from the Newfoundland and Labrador, Gulf, and Maritimes regions. During 2005-2011, there were three reports (one in 2006 and two in 2008) from the Quebec Region.

This PI meets the SG80 score for all gear types.

There is a strategy in place for managing the fishery's impact on ETP species, including measures to minimise mortality, which are designed to be highly likely to achieve national and international requirements for the protection of ETP species.

Once protected under SARA, ETP species are subject to recovery strategies and management plans. A mandatory SARA logbook must be completed and submitted to DFO as a condition of license. Training courses in release techniques have been provided to license holders. A recovery strategy detailing procedures for expeditious release of wolffish has been established, industry has been trained, reporting procedures of

encounters are in place and research on release methods used are monitored to ensure a high level of survival. Under SARA, a recovery strategy has been implemented for the leatherback turtle.

2.4.2 FIP Stakeholder Discussion

The cod stewardship fishery occurs fully inside 12 miles from land.

Sufficient information is available to allow fishery related mortality and the impact of fishing to be quantitatively estimated for ETP species. Information is also sufficient to determine whether the fishery may be a threat to protection and recovery of the ETP species.

There is a 100 percent dockside monitoring program in many, but not all, ports and there is random dockside monitoring in other ports. There is also an at sea monitoring program that monitors ETP species. Fisheries enforcement also occurs both at-sea and at the dock.

Finally the information concerning the distribution of wolfish species and leatherback turtles in the region is sufficient to suggest the 2J3KL cod fishery is not a major threat to the recovery of wolfish species or leatherback turtles.

2.4.3 FIP Action Plan

As the stewardship fishery expands over space and time regular monitoring for ETP species interaction will be helpful to ensure this score remains a pass.

Working Group	DFO, FFAW, WWF
Priority	Low
Status	Ongoing
Timeframe	Ongoing
MSC Performance Indicators	Low Priority 2.3.1 ETP Species: Outcome 2.3.2 ETP Species: Man. Strategy 2.3.3 ETP Species: Info/Monitoring

2.5 Development of a Fishery Footprint (Low Priority)

MSC PI2.4 3 Habitats – Information/Monitoring

2.5.1 MSC Pre-assessment Comments

Canada has developed a Sustainable Fisheries Framework (SFF) which builds on existing fisheries management practices to form a foundation for implementing an ecosystem approach in the management of its fisheries to ensure continued health and productivity while protecting biodiversity and fisheries habitat. The primary goal of the SFF is to ensure that Canada’s fisheries are environmentally sustainable, while supporting economic

prosperity. It is designed to foster a more rigorous, consistent, and transparent approach to decision making across all key fisheries in Canada.

Overall, the SFF provides the foundation of an ecosystem-based and precautionary approach to fisheries management in Canada.

The original policies under the SFF include: (i) A Fishery Decision-Making Framework Incorporating the Precautionary Approach (PA Framework); (ii) Policy on bycatch, (iii) Managing Impacts of Fishing on Sensitive Benthic Areas; and, (iv) a Policy on New Fisheries for Forage Species. Integrated Fisheries Management Plans (IFMPs) and self-diagnostic tools are among the planning and monitoring tools developed to help implement sustainable use policies.

Building upon the Policy for Managing the Impacts of Fishing on Sensitive Benthic Areas, introduced by DFO in 2009, the Department has developed an Ecological Risk Analysis Framework (ERAF) that assists in identifying and measuring the ecological risks and impacts of fishing on sensitive benthic areas. This tool and the policy on which it is based have been developed in recognition of the importance of sensitive benthic areas to overall aquatic ecosystem health. Its implementation will support healthy and productive oceans and better ensure fishing is conducted sustainably.

DFO and Park Canada have a number of MPAs designated under the Ocean Act (1996), including several areas of interest that are at various stages of progress towards designation. There is some evidence that the measures comprising the partial strategy are being implemented successfully.

For example the following is a list of protected areas in the Newfoundland and Labrador Region where the fishing industry and academia have worked with DFO to define and select areas for protection:

- Gilbert Bay MPA;
- Eastport MPA.

In addition Canada has plans to increase the increase the proportion of Canada's marine and coastal areas that are protected – to five percent by 2017, and ten percent by 2020.

2.5.2 FIP Stakeholder Comment

The current stewardship fishery has a smaller footprint than the traditional inshore fishery in 2J3KL for the combination of gear types evaluated in the recent pre-assessment. A current and traditional fishery footprint as well as an overall multi-fishery footprint should be prepared and compared to any sensitive benthic habitats that may occur within or in close proximity to these fishing areas.

There has been considerable work undertaken by DFO and NAFO related to the identification and protection of sensitive benthic habitat. There has also been considerable scientific work on these habitats that has been referenced in the primary and secondary literature. Some of this work as well as DFO approaches to dealing with sensitive ecosystems and habitat are referenced in the Pre-assessment report in sections P2.4.1, P2.4.2 and P2.4.3.

The continuation of this work should provide the required information/evaluation to maintain a pass score for this Performance Indicator.

2.5.3 FIP Action Plan

The development of a current and traditional fishery footprint should be considered. This could be compared to any sensitive benthic habitats that may occur within or in close proximity to these fishing areas. DFO has already completed analysis on the development of a fishery footprint. Stakeholders should continue to work with DFO in this regard.

Working Group	DFO, FFAW, WWF, MUN
Priority	Low
Status	Ongoing
Timeframe	1-3 Years
MSC Performance Indicators	Low Priority 2.4.1 Habitats: Outcome 2.4.2 Habitats: Man. Strategy 2.4.3 Habitats: Info/Monitoring

2.6 Progress on Protection of Sensitive Habitats (Low Priority) MSC PI 2.4.2 Habitats – Management Strategy

2.6.1 MSC Pre-assessment Comments

Building upon the Policy for Managing the Impacts of Fishing on Sensitive Benthic Areas, introduced by DFO in 2009, the Department has developed an Ecological Risk Analysis Framework (ERAF) that assists in identifying and measuring the ecological risks and impacts of fishing on sensitive benthic areas. This tool and the policy on which it is based have been developed in recognition of the importance of sensitive benthic areas to overall aquatic ecosystem health. Its implementation will support healthy and productive oceans and better ensure fishing is conducted sustainably.

DFO and Park Canada have a number of MPAs designated under the Ocean Act (1996), including several areas of interest that are at various stages of progress towards designation. There is some evidence that the measures comprising the partial strategy are being implemented successfully.

For example, the following is a list of protected areas in the Newfoundland and Labrador Region where the fishing industry and academia have worked with DFO to define and select areas for protection:

- Gilbert Bay MPA;
- Eastport MPA.

There have also been other initiatives:

- DFO ecological risk assessment tool or the implementation of DFO sensitive Benthic Policy
- DFO strategy for the conservation of corals and sponges for Eastern Canada

2.6.2 FIP Stakeholder Comments

In addition to the above:

- Canada has plans to increase the increase the proportion of Canada’s marine and coastal areas that are protected – to five percent by 2017, and ten percent by 2020.
- NAFO has implemented protection measures that apply in Division 3L
- The Hawke Channel in Division in 3K is closed to otter trawl and gillnet activity.

2.6.3 FIP Action Plan

DFO has completed an inventory of all habitat protection measures in place in the 2J3KL area. These should be discussed with FIP stakeholders to provide a common understanding of the ongoing habitat protection measures in place. This information could provide that basis for analyses to determine if additional protection measures are required.

Working Group	DFO FFAW WWF
Priority	Low
Status	Ongoing
Timeframe	3+ Years
MSC Performance Indicators	Low Priority 2.4.1 Habitats: Outcome 2.4.2 Habitats: Man. Strategy 2.4.3 Habitats: Info/Monitoring

2.7 Continuous Monitoring of the Ecosystem (Low Priority)

MSC PI 2.5.3 Ecosystems – Information/Monitoring

2.7.1 MSC Pre-assessment Comments

The fishery is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.

There have been many changes to the Newfoundland and Labrador ecosystem over the past 30 years. Some of the changes include:

- A major cooling of bottom waters occurred in the mid-1980s;
- The index of zooplankton abundance was low in the 1990s when phytoplankton levels were high and the opposite pattern during the 1960s and early 1970s;
- Major structural changes in the fish community – a number of groundfish species have declined while small pelagic species and commercially exploited invertebrate species have increased;
- Reductions in the average body size of groundfish, with unexpectedly low improvements in condition and growth; and
- Steadily increasing abundance of seals

The current recovery of the cod stock indicates that the ecosystem may be able to move back towards its original state, although the continued slow pace of Cod stock rebuilding remains a major concern. Given the precautionary management of cod stocks in the region, it is considered that the current fishery is unlikely to disrupt the key issues underlying the ecosystem structure to the point where there would be serious or irreversible harm.

The assessment team could not find any evidence to indicate that the fishery causes any disruption to the key elements underlying ecosystem structure and function. The main impact of the fishery on target, bycatch and ETP species, and habitat are identified and there is no indication that the fishery causes disruption to the ecosystem’s main structure and function. There is a comprehensive assessment of the target species, and information is available to show the negligible impact on retained, bycatch and ETP species. There is no indication that the fishery causes serious or irreversible harm to habitats.

2.7.2 FIP Stakeholder Discussion

Regular research vessel surveys are conducted by DFO in all areas and at different times throughout the year. Data is collected on the ecosystem on all these cruises. There are some areas that are surveyed more than one time during the year. It is anticipated that this survey intensity will at-least remain at the current level into the future.

2.7.3 FIP Action Plan

Continue monitoring to ensure pass. DFO regularly collects data on the entire ecosystem through their regular trawl survey program. Information is collected annually (and in some cases more frequently) and by NAFO Division.

Working Group	DFO
Priority	Low
Status	Ongoing
Timeframe	Ongoing
MSC Performance Indicators	Low Priority 2.5.1 Ecosystems: Outcome 2.5.2 Ecosystems: Man. Strategy 2.5.3 Ecosystems: Info/Monitoring

3. Effective Management

3.1 IFMP: Consultation Process (Low Priority)

MSC PI 3.1.2 Consultation Roles & Responsibilities

3.1.1 MSC Pre-assessment Comments

There are many specific references to various governance and consultation processes for 2J3KL cod throughout the DFO literature posted on its website. The Governance Section of the 2J3KL Groundfish Management Plan published in 2013 describes how consultation occurs: “Groundfish management is conducted through advisory processes. The advisory committee solicits the opinions of stakeholders on past management practices and focuses on management measure recommendations for future groundfish fisheries. This includes recommendations on the Total Allowable Catch (TAC).” (<http://www.dfo-mpo.gc.ca/fm-gp/peches-fisheries/ifmp-gmp/groundfish-poisson-fond/groundfish-poisson-fond-div2-3KL-eng.htm>). The management decisions for 2J3KL cod also described that additional consultation with industry participants is required to finalize additional management measures (e.g. Seasons).

The consultation process provides opportunity for all interested and affected parties to be involved, therefore the score for this PI is Pass (≥80).

3.1.2 FIP Stakeholder Comments

All scoring issues have been addressed to ensure a full Pass on this PI, but in some cases the information was derived from several sources.

3.1.3 FIP Action Plan

The complete consultation process for this fishery should be specifically described and contained in a revised Integrated Fishery Management Plan.

Working Group	DFO
Priority	Low
Status	Ongoing
Timeframe	1-2 years
MSC Performance Indicators	Low Priority 3.1.2 Consultation, Roles & responsibilities

3.2 IFMP: Long-Term Objectives (Low Priority)

MSC PI 3.1.3 Long-Term Objectives

3.2.1 MSC Pre-assessment Comments

A general long-term objective for Fisheries and Oceans Canada is described in broad terms (<http://www.dfo-mpo.gc.ca/oceans/oceans-eng.htm>): “DFO strives to safeguard Canada's healthy and productive aquatic ecosystems and thus helps to maintain sustainable resources for Canadians by adopting an integrative approach for improved management and conservation of our oceans.”

DFO also articulates that its Long-term objectives for sustainable fisheries need to address (<http://www.dfo-mpo.gc.ca/fm-gp/peches-fisheries/ifmp-gmp/guidance-guide/template-app-a-ann-modele-eng.htm#n3.5>): Stock Conservation, the Ecosystem, Stewardship, Social, cultural, and economic (i.e. commercial, recreational, and Aboriginal) and Compliance.

DFO’s Guidance documents indicate that Integrated Fishery Management Plans will incorporate limit reference points developed within the framework of the precautionary approach, as well as associated decision rules.

The above suggests that there are clear long term objectives that guide decision making, consistent with MSC Fisheries Standard and the precautionary approach, are explicit within management policy. Therefore the score for this PI is Pass (≥80).

3.2.2 FIP Stakeholder Comments

No further action required.

3.2.3 FIP Action Plan

The Long-term objectives should be included in a revised Integrated Fishery Management Plan.

Working Group	DFO
Priority	Low
Status	Ongoing
Timeframe	1-2 years
MSC Performance Indicators	Low Priority 3.1.3 Long-term Objectives

3.3 IFMP: Fishery Specific Objectives (Low Priority)

MSC PI 3.2.1 Fishery Specific Objectives

3.3.1 MSC Pre-assessment Comments

Overall goals of the Newfoundland Groundfish IFMP: Consistent with the requirements of the Sustainable Fisheries Framework and other applicable laws, to develop sustainable fishery management plans to research

and manage the groundfish fishery at long-term sustainable levels (P1). Some of IFMP objectives address P2 issues such as bycatch, management/protection of ETP etc.

The 2J3KL cod stock is currently below the defined biomass limit reference point (LRP) determined in 2010. There has been some growth in this stock during the recent period with the Spawning Stock Biomass average of the past 3 year at 26% of the LRP. Annual fisheries specific objectives are simply to maintain removals at the lowest possible level while allowing the spawning stock to rebuild to a healthy level.

Short and long term objectives (above), are consistent with achieving the outcomes expressed by MSC’s Principles 1 and 2, and are explicit within the 2J3KL Cod management system. Therefore the score on this PI is Pass (≥80).

3.3.2 FIP Stakeholder Comments

Clearly, there is an implied fishery specific objective for this fishery – to maintain removals at the lowest possible level while allowing SSB to rebuild.

3.3.3 FIP Action Plan

A full set of fishery-specific objectives should be explicitly developed and included in a revised Integrated Fishery Management Plan. These objectives should be linked to the Harvest Strategy and the Harvest Control Rules for this fishery.

Working Group	DFO
Priority	Low
Status	Ongoing
Timeframe	1-2 years
MSC Performance Indicators	Low Priority 3.2.1 Fishery Specific Objectives

3.4 IFMP: Decision Making Process (Low Priority)

3.5 MSC PI 3.2.2 Decision Making Process

3.5.1 MSC Pre-assessment Comments

Groundfish management is conducted by DFO through advisory processes. The advisory committee solicits the opinions of stakeholders on past management practices and focuses on management measure recommendations for future groundfish fisheries. This includes recommendations on the removals from the fishery.

Ministerial approval of TACs is required while approval of the “Evergreen” Integrated Fisheries Management Plan (IFMP) for Groundfish in 2J3KL (including 2J3KL cod) is the responsibility of the Regional Director, Fisheries

Management, Newfoundland and Labrador Region. Recommendations from all stakeholder groups on TACs and all management measures are considered in the development of the IFMP. Decision making for opening and closing dates in specific areas and gear types is done in consultation with industry as well as DFO Area Staff. Other issues that arise during the lifetime of this plan are addressed through similar consultative processes.

The stock assessment and associated management approach is based on the LRP determined and the maintaining the catch for this stock at the lowest possible level. Figures describing this process are shown above.

Information on the management of the fishery is regularly reviewed between discussions and consultations between government officials and industry stakeholders, other levels of government, academics and from time to time the general public. The Government of Canada is responsive to questions related to the science and management of the 2J3KL cod stock as well as other fish stocks.

Given the above the score for this PI is ≥ 80 (PASS)

3.5.2 FIP Stakeholder Comments

No further action required.

3.5.3 FIP Action Plan

The Decision Making Process should be described and included in a revised Integrated Fishery Management Plan.

Working Group	DFO
Priority	Low
Status	Ongoing
Timeframe	1-2 years
MSC Performance Indicators	Low Priority 3.2.2 Decision Making Process

4. Suggestions for Further/Ongoing Research

4.1 Further work on 2J3KL Cod Stock Structure/Migration

This element was not scored in the pre-assessment for this stock, but was included in the Sources of Uncertainty section in the Pre-assessment report. There has been considerable work completed on this topic and there has also been recommendations regarding additional work on this subject over the past 25 year: in the Harris Panel Independent Review of the State of the Northern Cod Stock (Harris, 1990), in the Canada-Newfoundland Action Team for Cod Recovery (Can-NL, 2005) and in the DFO 2010 Stock Status Report (SSR) for 2J3KL cod (DFO, 2010 c).

Some more recent work is included in Bratley, 2013, Bratley et al, 2008, Bratley and Cadigan, 2004. In addition work on the issue of stock structure and inshore/offshore migrations of cod are ongoing at DFO and at the Memorial University's Marine Institute.

Given the importance of this work in the understanding of cod populations, further research on these issues should be encouraged.

4.2 Capelin stock abundance and its role in the ecosystem

In the pre-assessment report it was noted that historically capelin has been identified as an important part of the diet of cod. There have also been capelin acoustic surveys conducted historically by DFO and more recently by DFO and MUN-Marine Institute. This disposition of future MUN-MI surveys is currently uncertain. Many of the FIP stakeholders spoke to the importance of capelin research as it relates to 2J3KL cod.

During the FIP Stakeholder meeting it was suggested that further research related to capelin stock abundance and its role in the ecosystem as food for cod should also be encouraged.

Appendix 1. Summary information by unit of assessment for performance indicators highlighted within the Northern Cod (NAFO Divisions 2J3KL) Stewardship Fishery MSC pre-assessment to be either a high priority (H; score < SG60), medium priority (M; SG ≥ 60 but < 80), or low priority (L; ≥ SG80).

Component	Performance Indicator		Priority			Linkages
			GN	LL	HL	
PRIORITY 1						
Outcome	1.1.1	Stock Status	H	H	H	1.1.2
	1.1.2	Stock Rebuilding	H	H	H	1.1.1
Management	1.2.1	Harvest Strategy	L	L	L	1.2.2, 1.2.3, 3.1.3, 3.2.1
	1.2.2	Harvest Control Rules & Tools	M	M	M	1.2.1, 1.2.3, 3.1.3, 3.2.1
	1.2.3	Information & Monitoring	M	M	M	1.2.1, 1.2.2
	1.2.4	Assessment of Stock Status	L	L	L	
PRIORITY 2						
Primary Species	2.1.1	Outcome	L	M	M	
	2.1.2	Management Strategy	L	M	M	
	2.1.3	Information/Monitoring	L	L	L	2.2.3, 2.3.3
Secondary Species	2.2.1	Outcome	L	M	M	
	2.2.2	Management Strategy	L	M	M	
	2.2.3	Information/Monitoring	M	M	M	2.1.3, 2.3.3
ETP Species	2.3.1	Outcome	L	L	L	
	2.3.2	Management Strategy	L	L	L	
	2.3.3	Information/Monitoring	L	L	L	2.1.3, 2.2.3
Habitats	2.4.1	Outcome	L	L	L	
	2.4.2	Management Strategy	L	L	L	
	2.4.3	Information/Monitoring	L	L	L	
Ecosystem	2.5.1	Outcome	L	L	L	
	2.5.2	Management Strategy	L	L	L	
	2.5.3	Information/Monitoring	L	L	L	
PRIORITY 3						
Governance and Policy	3.1.1	Legal &/or Customary Framework	L	L	L	
	3.1.2	Consultation, Roles & Responsibilities	L	L	L	3.2.2
	3.1.3	Long term Objectives	L	L	L	1.2.1, 1.2.2, 3.2.1, 3.2.3
Fishery Specific Management System	3.2.1	Fishery Specific Objectives	L	L	L	1.2.1, 1.2.2, 3.1.3, 3.2.3
	3.2.2	Decision Making Processes	L	L	L	3.1.2
	3.2.3	Compliance and Enforcement	L	L	L	
	3.2.3	Monitoring & Management Performance Evaluation	L	L	L	3.1.3, 3.2.1

Appendix 2. FIP Work plan Activity Matrix

TASK	WORKING GROUP	TIMEFRAME (EG. < 6 months, 6-12 months, 12+ months)	Links to MSC Performance Indicators																									
			P1: Sustainable Fish Stocks					P2: Minimizing Environmental Impact										P3: Effective Management										
			1.1.1 Stock Status	1.1.2 Stock Rebuilding	1.2.1 Harvest Strategy	1.2.2 Harvest Control Rules & Tools	1.2.3 Information & Monitoring	1.2.4 Assessment of Stock Status	2.1.1 Primary Species: Outcome	2.1.2 Primary Species: Man. Strategy	2.1.3 Primary Species: Info/Monitoring	2.2.1 Secondary Species: Outcome	2.2.2 Secondary Species: Msn. Strategy	2.2.3 Secondary Species: Info/Monitoring	2.3.1 ETP Species: Outcome	2.3.2 ETP Species: Man. Strategy	2.3.3 ETP Species: Info/Monitoring	2.4.1 Habitats: Outcome	2.4.2 Habitats: Man. Strategy	2.4.3 Habitats: Info/Monitoring	2.5.1 Ecosystem: Outcome	2.5.2 Ecosystem: Man. Strategy	2.5.3 Ecosystem: Info/Monitoring	3.1.1 Legal &/or Customary Framework	3.1.2 Consultation, Roles & Responsibilities	3.1.3 Long Term Objectives	3.2.1 Fishery Specific Objectives	3.2.2 Decision Making Processes
1. Sustainable Fish Stocks			(note: H = high priority and M = medium priority based on the MSC pre-assessment)																									
1.1 For stock to reach LRP, management actions should ensure that fishing mortality remains at a low level.	All Stakeholders	5+ years	H	H																								
1.2 A full precautionary approach framework to be developed to include other reference points.	DFO, DFO Cod Rebuild WG	1-3 years	M	M	L	M																						
1.3 A specific time frame for stock rebuilding from the LRP to aUSR is required.	DFO, DFO Cod Rebuild WG	3+ years		H																								
1.4 Include the Harvest Strategy explicitly in the IFMP for this fishery.	DFO, DFO Cod Rebuild WG	1-3 years			L	M																						
1.5 Appropriate HCRs be developed & included in IFMP.	DFO, DFO Cod Rebuild WG	1-3 Years			L	M																						
1.6 An Estimate of the removals from the recreational fishery is required.	DFO	< 1 year					M																					

Appendix 2 (Continued). FIP Work plan Activity Matrix

TASK	WORKING GROUP	TIMEFRAME (EG. < 6 months, 6-12 months, 12 months+)	Links to MSC Performance Indicators																													
			P1: Sustainable Fish Stocks					P2: Minimizing Environmental Impact										P3: Effective Management														
			1.1.1 Stock Status	1.1.2 Stock Rebuilding	1.2.1 Harvest Strategy	1.2.2 Harvest Control Rules & Tools	1.2.3 Information & Monitoring	1.2.4 Assessment of Stock Status	2.1.1 Primary Species: Outcome	2.1.2 Primary Species: Man. Strategy	2.1.3 Primary Species: Info/Monitoring	2.2.1 Secondary Species: Outcome	2.2.2 Secondary Species: Msn. Strategy	2.2.3 Secondary Species: Info/Monitoring	2.3.1 ETP Species: Outcome	2.3.2 ETP Species: Man. Strategy	2.3.3 ETP Species: Info/Monitoring	2.4.1 Habitats: Outcome	2.4.2 Habitats: Man. Strategy	2.4.3 Habitats: Info/Monitoring	2.5.1 Ecosystem: Outcome	2.5.2 Ecosystem: Man. Strategy	2.5.3 Ecosystem: Info/Monitoring	3.1.1 Legal &/or Customary Framework	3.1.2 Consultation, Roles & Responsibilities	3.1.3 Long Term Objectives	3.2.1 Fishery Specific Objectives	3.2.2 Decision Making Processes	3.2.3 Compliance and Enforcement	3.2.4 Monitoring & Man. Perf. Evaluation		
3 Effective Management																																
3.1	A complete consultation process for this fishery should be specifically described and contained in a revised IFMP.	DFO	1-2 years																									L				
3.2	Long-term objectives should be included in a revised IFMP.	DFO	1-2 years																									L	L	L		
3.3	A full set of fishery-specific objectives should be explicitly developed and included in a revised IFMP. These should be linked to the harvest strategy and the HCRs.	DFO	1-2 years																								L	L	L			
3.4	The Decision Making Process should be described and included in a revised IFMP	DFO	1-2 years																								L	L	L			

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