Third Annual Surveillance Report

GULF OF ST. LAWRENCE NORTHERN SHRIMP TRAWL FISHERIES – SHRIMP FISHING AREAS 9, 10, 12

Certificate No.: MML-F-090B

Intertek Moody Marine Ltd.
5 December 2011

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1.0 GENERAL INFORMATION

Scope against which the surveillance is undertaken: MSC Principles and Criteria for Sustainable Fishing as applied to the GULF OF ST. LAWRENCE NORTHERN SHRIMP TRAWL FISHERIES – Shrimp Fishing Areas 9, 10 and 12.

Species: *Pandalus borealis*

Area: Gulf of St. Lawrence shrimp fishing areas 9, 10 and 12

Method of capture: Trawl

Date of Surveillance Visit:	**November 4, 2010**			
Initial Certification	**SFA 9, 10, 12- PCR Issued: September 18, 2008** Certificate: MML-F-090B Certificate Expiry Date: September 22nd, 2013			
Surveillance stage	**1st**	**2nd**	**3rd**	**4th**
Surveillance team:	**Lead Assessor: Steven Devitt** **Assessors: Jean-Claude Brêthes**			
Client 1 Name: **Address:**	Association Québécoise de l'Industrie de la Pêche, Québec Place de la Cité, Tour Belle Cour 2590, coul. Laurier Bureau 860, 8e étage Québec (Québec) G1V 4M6			
Client 1 Contacts	Contact: Jean-Paul Gagné Phone: 1 (418) 654-1831 Fax: 1 (418) 654-1376 Email: aqip@globetrotter.net			
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Client 3 Name: **Address:**	Produits Belle-Baie Ltee. 10, rue du Quai Caraquet, New Brunswick E1W 1B6
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2.0 RESULTS, CONCLUSIONS AND RECOMMENDATIONS

This report contains the findings of the third surveillance audit of the Gulf of St. Lawrence Northern Shrimp Trawl Fisheries. The scope of the certification of the three units of certification is the northern shrimp trawl fishery conducted by Quebec and New Brunswick harvesters in Shrimp Fishing Areas (SFAs) 9 (Anticosti), 10 (Sept Iles) and 12 (Estuary). The surveillance audit was carried out in accordance with the Marine Stewardship Council (MSC) Fisheries Certification Methodology (FCM) Version 6 and applicable MSC Technical Advisory Board Directives and Policy Advisory documents.

An announcement of the surveillance site visit was initially published on the MSC website on 16 September 2011 advising stakeholders that the audit site visit would take place 4th October. The date was subsequently revised to 4 November 2011 via a stakeholder announcement issued on 4 October 2011.

The surveillance team – Jean-Claude Brêthes and Steve Devitt - met with members of the client group via teleconference and with staff from Fisheries and Oceans Canada in person and via teleconference. Information and evidence was gathered on the status of the stocks, the performance of the fishery throughout the year, measures to meet the Conditions of Certification and changes in management. The report and rescoring conclusions were subsequently reviewed by Don Parsons.

Intertek Moody Marine circulated the notification of surveillance audit to known, interested stakeholder groups advising that stakeholder consultation opportunities were available during the surveillance audit visit. No stakeholder groups requested meetings with assessment team members.

The following section is set out as a table within which general information about the status of the stock and the fishery for this reporting period is provided along with the surveillance team's observations, conclusions and recommendations on the current status of the fishery and the client's progress toward meeting the Conditions of Certification.

The table includes the original assessment scoring guideposts and scoring commentary and the requirements of the original Condition alongside the heading 'Activity assessed'. This identifies the areas in which the fishery was determined to perform below the level required by the MSC standard during the initial assessment, and the required actions to address these issues.

As required by the MSC assessment methodology, the client group produced an Action Plan setting out the activities and timeline which they proposed to address the Conditions raised. This is set out in the table alongside the heading 'Client Action Plan'.

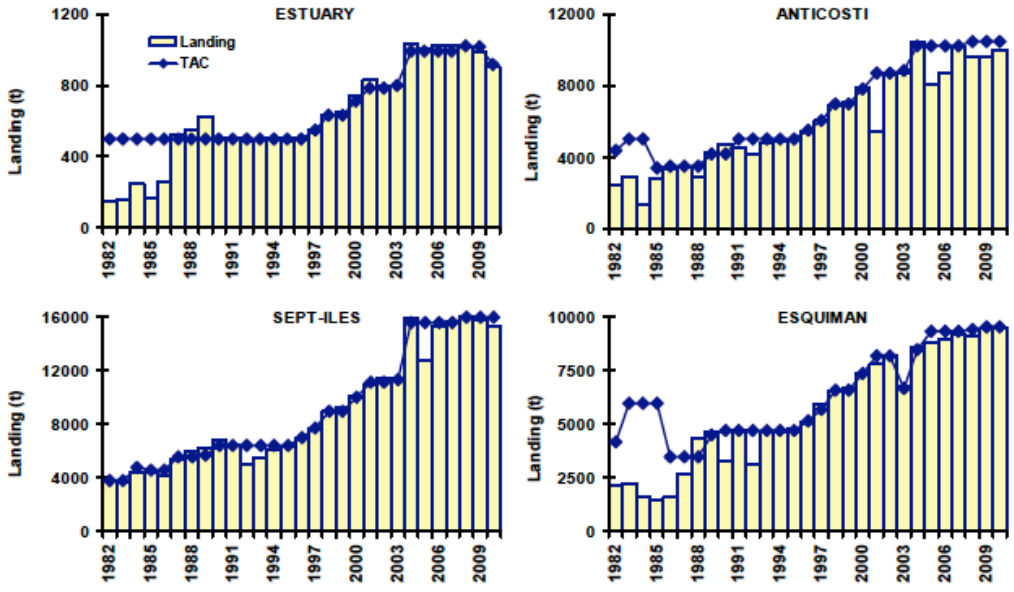
According to the terms of the Action Plan, the client has provided information on the work undertaken to date.

This progress has been evaluated by the surveillance audit team ('Observations' and 'Conclusion') against:

1. the commitments made in the Action Plan;
2. the intent of the original Condition; and,
3. the original scoring indicator, guideposts and commentary.

The influence of any overall regulatory and management changes in the fishery are also taken into consideration.

When the Condition has been judged to have been met, a re-evaluation of the scoring allocated to the relevant Performance Indicator(s) in the original MSC assessment will be included within the evaluation.

Item	Comments regarding *P. Borealus* stock status in the Gulf of St. Lawrence
1	**Stock status**
Observations	The following information was extracted from the Fisheries and Oceans Science Advisory Report (MPO 2011a), entitled "Assessment Of Shrimp Stocks In The Estuary And Gulf Of St. Lawrence In 2010", published in March 2010. Landings of northern shrimp in the Estuary and Gulf of St. Lawrence have risen gradually since the fishery began, from approximately 1,000 tons to 7,500 tons between the early and late 1970s, and to 15,000 tons by the late 1980s. They remained mostly stable between 1990 and 1995 (Figure 1). The TACs increased gradually beginning in 1996, and landings totalled over 23,000 tons by the late 1990s. TACs rose again in 2000, 2001 and 2004, and landings followed, totalling over 36,000 tons in 2004. The TAC had however been lowered in the Esquiman area in 2003 in order to reduce the exploitation rate. The TACs did not change in 2005, except in Esquiman where the TAC was increased by 10%. They remained stable in 2006 and 2007. In 2008 and 2009, they were increased relative to 2007 by 2.0 and 2.3% respectively. In 2010, the TACs were similar to those of 2009 except in Estuary where the TAC was lower by 10%. Preliminary statistics indicate that the Gulf landings were close to 36,000 tons in 2010.  Figure 1: Landings and total allowable catch (TAC) by fishing area and year. 2010 landing data preliminary. (Source: MPO, 2011a) There was no noticeable change in the distribution of fishing effort in 2010 (Figure 2). In 2010, the total number of fishing hours increased by 14% in Sept-Iles and 30% in Anticosti but stayed the same as in 2009 in Estuary and Esquiman.

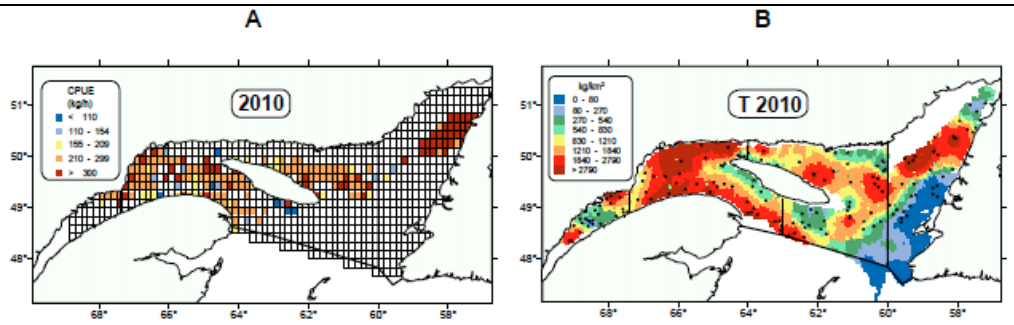


Figure 2: A) Spatial distribution of catch rates (CPUE) from the shrimp fishery in 2010. B) Spatial distribution of shrimp biomass estimated by kriging during the research survey in 2010. (Source: MPO 2011a)

The catch rate from the commercial fishery and the biomass index from the research survey are considered as good indicators of the size of the stocks.

In 2010, the annual standardized catch rate from the commercial fishery decreased relatively to 2009 in all areas except Esquiman where it increased. The catch rates are higher than the mean in Anticosti and Esquiman. In 2010, the biomass index from the research survey was similar to that of 2009 in all areas. The biomass indices are similar to the mean in all areas.

An index of the exploitation rate is obtained by dividing the commercial catches in number by the abundance estimated from the research survey. This method cannot be used to estimate the absolute exploitation rate nor to relate it to target exploitation rates, but the method does make it possible to track relative changes in the exploitation rate over the years. The exploitation rate index increased in 2010 in all areas except Estuary where it decreased (Figure 3). The index is above the mean in Sept-Iles and Anticosti while it is similar to the mean in Estuary and Esquiman. In general, the exploitation rate index shows an increasing trend in all areas since 2003 even though the landings have stayed relatively stable since 2005 or 2006.

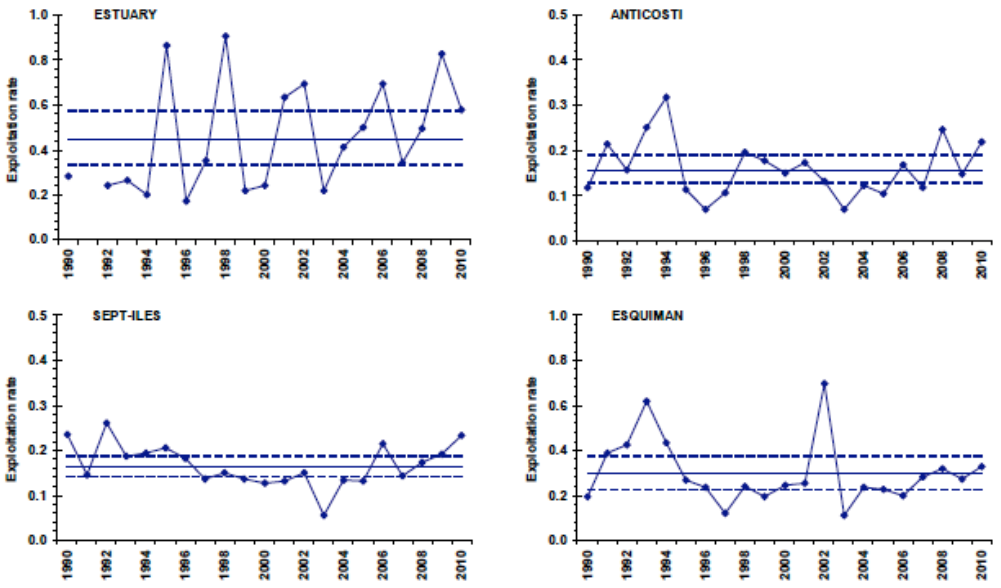


Figure 3: Indices of the exploitation rate. The full horizontal line represents the 1990-2009 mean ± 0.5 standard deviation. (Source: MPO, 2011a)

The abundance of primiparous females which will recruit to the spawning stock in a given year can be predicted from the abundance of males the preceding year. Similarly, the abundance of reproductive females which will hatch the larvae at spring can be predicted from the abundance of females the preceding year. The abundance indices for males and females are therefore good indicators of the quantity of females that will be available to the fishery and the reproduction the following year and constitute, when they are combined, the main indicator for the stock status.

The stock status combined indicator is calculated from the indices for males and for females, obtained from the fishery in summer (number per unit of effort for June, July and August) and from the research survey (abundance). Each index is first standardized relative to the 1990- 1999 period (annual value of the index divided by the 1990-1999 geometric mean). An integrated index by sex is obtained by calculating the mean between the index from the fishery and the index from the survey. The stock status combined indicator represents the mean between the integrated indices estimated for each sex.

In 2010, the stock status combined indicators were all below the high values observed in 2007 in Estuary, Sept-Iles and Anticosti and in 2006, in Esquiman (Figure 4). The 2010 indicators were slightly above the mean in all areas except in Estuary where it was similar to the mean.

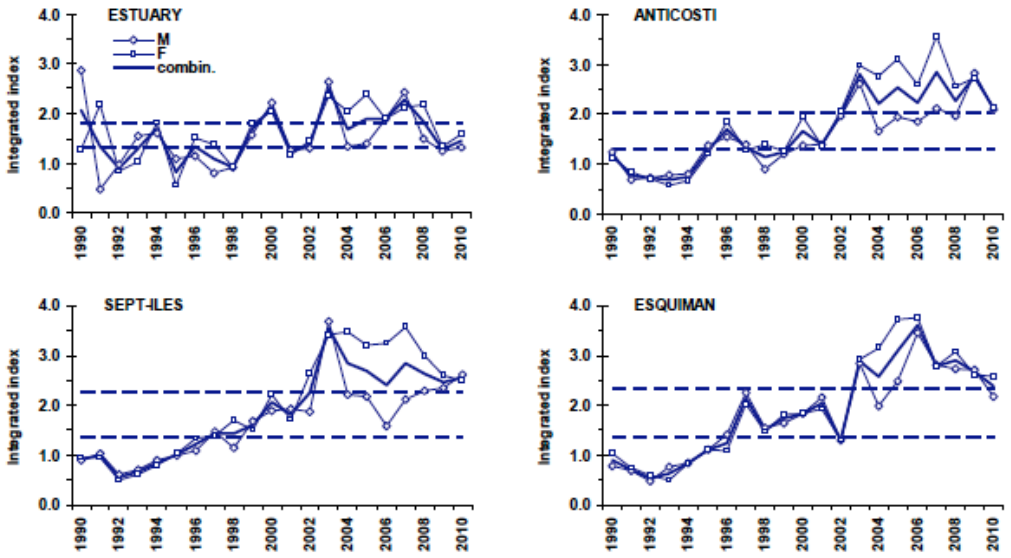


Figure 4: Integrated index for males (M) and females (F) and stock status combined indicator (combin.) by fishing area and by year. The dotted horizontal line represents the interval (± 0.5 standard deviation) around the 1990-2009 mean of the combined indicator. (Source: MPO, 2011a)

The mean index for female abundance in 2010 is compared to the provisional reference points to determine in which status zone each of the four stocks is situated (Figure 5). In 2010, the index for the abundance of the spawning stock stayed in the healthy zone in Sept-Iles, Anticosti and Esquiman. The index for the Estuary area which decreased in the cautious zone in 2009, increased slightly in 2010 at a value equal to the upper reference point. In general, the female index has been decreasing gradually in all fishing areas for the last 4 to 5 years.

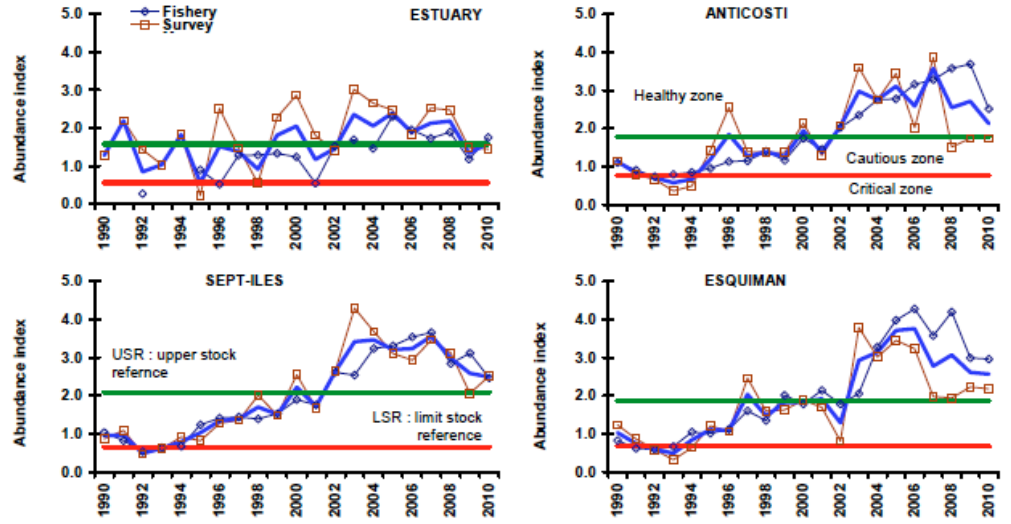


Figure 5: Abundance index for females obtained from the fishery and from the survey and mean integrated index by fishing area and by year. The horizontal lines correspond to the provisional reference points (USR and LSR, see Sept-Iles panel) that delineate the healthy (above green), cautious (between green and red) and critical (below red) zones (see Anticosti panel). (See also the paragraph below entitled

	Precautionary Approach.) The variations in female sizes follow an east-west gradient, the smallest being observed in Esquiman and the largest in Estuary. In 2010, the mean size of females was similar to the mean in Estuary and Esquiman. The size decreased below the mean in Sept-Iles and stayed lower than the mean in Anticosti. The fishery for the next few years will be sustained by the 2007, 2008 and 2009 year classes. It is possible to obtain an estimate of their relative abundance by examining their contribution to the research survey catches. The year classes are identified by the year of their birth and their progression through the years can be followed. The range of sizes at which males may change sex during the winter following the survey is also identified by research staff. The abundances for the Estuary area correspond to those estimated for the area that was extended in 2008 (see section Sources of uncertainty in Science Advisory document - MPO 2011a). It is not likely that the abundance of shrimp available to the fishery increased in 2011. The 2009 and 2008 year classes seem average or below average abundance in all areas. The 2007 year class seems more abundant than the mean particularly in Estuary and Anticosti. The individuals of this year class should contribute to the fishery as 4 years old males in 2011 and should change sex during the 2012 winter. However, it is possible that a proportion of males of this year class changed sex as early as during the 2011 winter in Anticosti and Esquiman and thus contribute to the 2011 fishery as primiparous females. The individuals that reached the sizes where the sex change usually occurs seem of average abundance in 2010. <u>Precautionary Approach</u> A national workshop was held in November 2008 on the development of precautionary approach frameworks for Canadian shrimp fisheries. The establishment of limit reference points and upper stock reference points delineating the healthy, cautious and critical stock status zones was discussed at the meeting. Provisional reference points based on female abundance were proposed for the Gulf of St. Lawrence fishery. The reference points were determined from a smoothed standardized mean index of the female abundance. The lowest observed value was used as the limit reference point and the upper stock reference was based on a reference period corresponding to the index appearing to plateau before increasing again. A finalized report will be published by late 2011.

Item	**Condition 1**	
2		
Performance Indictor 2.1.4.2 All significant effects of the fishery on the ecosystem have been identified and quantified.		**80 Scoring Guidepost** • The main effects of the fishery that are known to impact the ecosystem have been evaluated.
Condition		

The client must demonstrate that it can meet the 80 scoring guidepost within the 5 year certification period. Specifically, the client must define, through a Corrective Action Plan, how the main effects of the fishery which are known to impact the ecosystem will be evaluated. The assessment team would expect that this plan should consider both habitat components as well as bycatch species.

Proposed Client Action Plan

Benthic fauna data, collected during research conducted by DFO in 2006 and 2007 as well as 2008 data, will be used to characterize the benthic fauna of the northern GSL, including the areas exploited by the shrimp fishery. Sediment sampling will be performed during research surveys in 2008, 2009 and 2010; these data will be used to characterize habitat patterns. Fishery statistics from the fishing fleet collected since 1982 by DFO will allow a description of the fishing effort distribution and identify areas where trawling impact could be more important. Statistical analysis will permit to relate the abundance and the diversity of the benthic fauna with perturbed areas and sediments types. Tasks 1, 2 and 3 of the following table will be completed by the *Institut des Sciences de la Mer de Rimouski* (ISMER). The certification clients have agreed to finance the certification conditions projects with aid from the Quebec and New Brunswick Governments.

Project Tasks	Responsible Organization	Personnel	Timeline
1. Finalization of the epibenthic megafauna characterization project for the northern GSL which includes environmental parameters (from data collected by DFO research in 2006, 2007).	ISMER, Masters thesis project started in 2006 (DFO support)	ISMER Masters Student	Results available in 2009.
2. Continuation of the project by integration of new data: a) on epibenthic fauna in 2008, b) on sediments in 2008, 2009 and 2010. Researchers from ISMER will be tasked to collect samples, identify benthic organisms and to perform sediment granulometry	ISMER with DFO (IML) support	ISMER employees: 1 Masters student and 1 summer student, who will participate to DFO surveys and will collect samples.	Work in 2008,2009 and completed throughout 2010
3. Evaluation of shrimp fishery impact on benthic fauna and its habitat. To be completed using the benthic fauna and habitat characterization work (tasks 1 and 2) and shrimp fishery statistics.	ISMER with DFO (IML) support.	Biologist contract by ISMER for 28 weeks	Contract work in 2009 and 2010
4. Inventory survey of Gulf shrimp fleet to fully characterize the nature of all fishing trawls used. Based on this information, expected trawl impacts will be	Quebec and NB clients	Consultant or contractor	Work in 2009

hypothesized and results will be integrated into Task 3.			

Activity Completed in First Surveillance Cycle

- Samples collected during research surveys conducted by DFO in 2006 and 2007 will be used to characterize the benthic fauna of the northern GSL.
  - *Objective attained. Data collected during the 2006 and 2007 research surveys were analyzed and were published in a M.Sc. thesis in oceanography by Ms. Mélanie Lévesque in April 2009. Reference as follows: Lévesque, Mélanie. Avril 2009. Caractérisation de la macrofaune benthique de l'estuaire et du nord du golfe du Saint-Laurent (Québec, Canada) en relation avec les paramètres environnementaux : analyses multivariées et approche géostatistique. Mémoire de maîtrise en océanographie, Université du Québec à Rimouski, 107 p.*

- Continuation of the project of characterization of the benthic fauna of the northern GSL.
  - Benthic fauna data will be collected during research surveys conducted by DFO in 2008 data to complete the characterization of the northern GSL.
    Objective partially completed. Samples were collected during part of the 2008 research survey and throughout the entire survey in August 2009. Collected organisms to be identified and data archived over the course of the winter, prior to end of March 2010. Responsible person: P. Archambault, ISMER.
  - Sediment sampling will be performed during research surveys in 2008, 2009 and 2010; these data will be used to characterize habitat patterns.
    Objective modified. It was not possible to sample sediments during the 2008 and 2009 research cruises. However, a research team from DFO at MLI worked on characterising the benthic environment of the Estuary and Gulf of St. Lawrence using previously collected or published data. Close to 20 variables including depth, temperature, salinity and sediment type were analyzed using a 10 x 10 km grid and form the basis to describe the benthic environment at a megahabitat scale. Responsible person: J.-D. Dutil, DFO.

- Inventory survey of Gulf shrimp fleet to fully characterize the nature of all fishing trawls used. Based on this information, expected trawl impacts will be hypothesized and results will be integrated into the next task.
  - *Objective modified. After further consideration, it was decided that it will not be necessary to conduct a full inventory of the types of trawl gear used by the fleet in order to describe the potential impact on the shrimp fishing habitat. A description of the typical shrimp fishing trawl equipment in the Gulf (doors and foot gear) and gear variations that might have impacts on the ocean bottom and benthic organisms will be the subject of a report completed by a specialized group to be identified.*
  - *This report will be included in a report identifying trawling impacts in the Gulf. Responsible person: L. Savard, DFO*

- Statistical analysis will permit to relate the abundance and the diversity of the benthic fauna with perturbed areas and sediments types.
  - *Objective to be completed in 2010-2011. Trawling impacts to be determined by superimposing the three layers of information, habitat, benthic fauna and fishing effort. Responsible person: P. Archambault, ISMER.*

- Statistical analysis will allow a description of the importance of by-catch.
  - *New objective established in 2010-2011. Importance of bycatch (in weight and numbers of*

individuals) will be evaluated and compared with the abundance and stock health of the primary species of fish which constitute the bycatch of the shrimp fishery. Responsible person: L. Savard, DFO

Activity Completed in Second Surveillance Cycle

- Continuation of the project of characterization of the benthic fauna of the northern GSL.
  - Benthic fauna data will be collected during research surveys conducted by DFO in 2008 data to complete the characterization of the northern GSL.
    Objective completed. Benthic fauna samples collected in 2008 have been sorted and identified. Data has been prepared for use in future modeling work to identify potential impacts.
  - Characterization of the benthic environment including habitat identification.
    Objective completed. In 2010, a research team from DFO at MLI completed characterising the benthic environment of the Estuary and Gulf of St. Lawrence using previously collected or published data. Close to 20 variables including depth, temperature, salinity and sediment type were analyzed and mapped using a 10 x 10 km grid and form the basis to describe the benthic environment at a megahabitat scale. The final results are presented in:
    Dutil, J.-D., Proulx, S., Chouinard, P.-M., and Borcard. D. 2011. A hierarchical classification of the seabed based on physiographic and oceanographic features in the St. Lawrence. Can. Tech. Rep. Fish. Aquat. Sci. 2916: vii + 72 p.

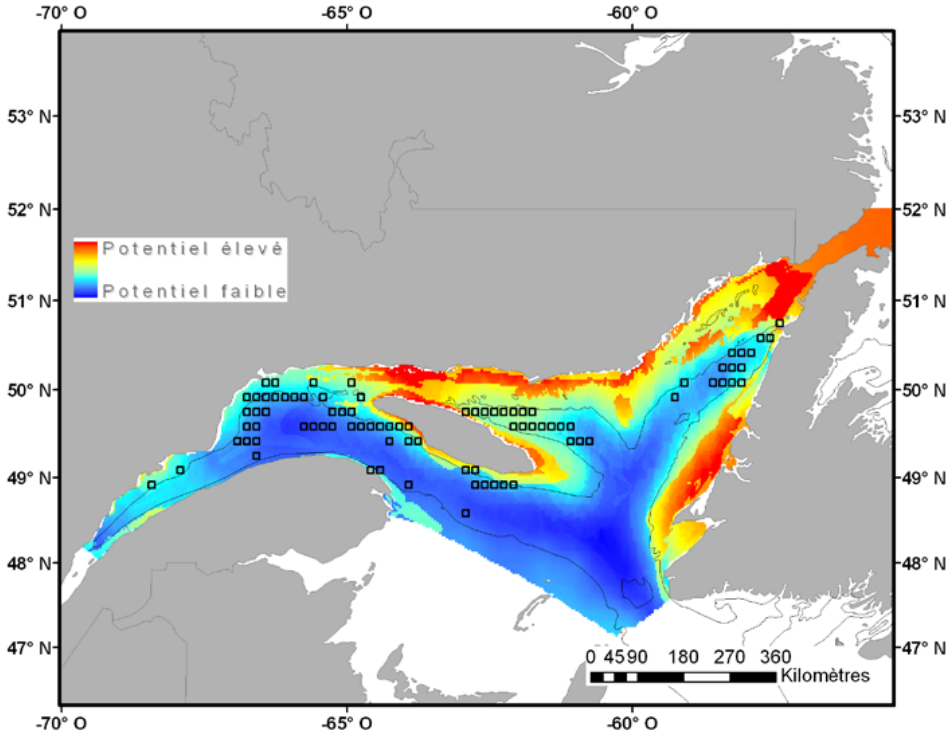
- Statistical analysis will permit to relate the abundance and the diversity of the benthic fauna with perturbed areas and sediments types.
  - *Objective continuing. In 2010, a contract was issued to ISMER (P. Archambault) to begin analyzing impacts of trawling. Trawling impacts to be determined by superimposing the three layers of information, habitat, benthic fauna and fishing effort. Results are expected in late 2011.*

- Statistical analysis will allow a description of the importance of by-catch.
  - *New objective continued. Importance of bycatch (in weight and numbers of individuals) will be evaluated and compared with the abundance and stock health of the primary species of fish which constitute the bycatch of the shrimp fishery. Responsible person: L. Savard, DFO*

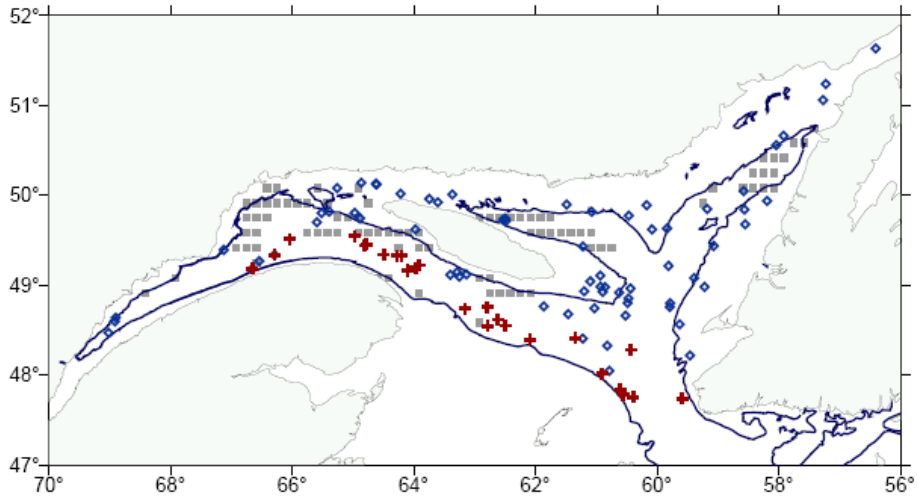
Activity Completed in Third Surveillance Cycle

- Statistical analysis will permit to relate the abundance and the diversity of the benthic fauna with perturbed areas and sediments types.
    - *Objective completed. A report was produced by a research team, from ISMER and DFO. The study combines physical benthic habitat (14 variables), benthic megafauna, and shrimp fishing effort. A map was created to predict benthic habitat sustainability. Other maps were drawn to show the abundance of shrimp, sensitive species (i.e. soft corals – Pennatulacea – and sponges). Those maps were overlaid by the intensity of shrimp trawl fishing summed over the period 1990-2010.*

The overall conclusions are that shrimp fishing occurs on deep bottoms which do not represent the most sensitive benthic habitats. Trawling does not coincide with optimal habitats for benthic organisms and it is likely that the impact of trawling in the Northern Gulf of St Lawrence is minor.



Map of the areas of intense fishing (squares) compared to the benthic habitat sustainability (high potential in red, low potential in blue).



Map of the areas of intense fishing (squares) compared to the presence of soft corals (red crosses) and sponges (blue losanges).

The results are presented in:

Lévesque M., Savard L., and Archambault P. 2011. Évaluation des impacts potentiels de la pêche au chalut à la crevette nordique (Pandalus borealis) sur les habitats benthiques de l'estuaire et du nord du golfe du Saint-Laurent.
This report is intended to be published as a DFO Technical paper and further discussed in a workshop on fisheries impacts and mitigation in Spring 2012.

A second project completed during the third surveillance cycle was a technological review of the shrimp trawls used in the Gulf fishery and potential impact of possible modifications of certain trawl elements on the benthic ecosystem. (Étude technologique sur le chalut à crevettes et impact potential de la modification de certains elements du train de pêche sur l'ecosysteme benthique. Merinov, 2011). The primary objective of the study was to describe the types of trawls used most commonly in the Gulf of St. Lawrence fleet as well as variations of trawl which could reduce or increase impacts on the trawled benthic environment or benthic organisms. A secondary objective was to produce a summary evaluation of potential benthic impacts from information collected from literature searches.

The study provides a breakdown of the brands of shrimp trawls and trawl doors used in the fishery, as well as information on the rockhopper gear/ footropes, and size of trawls. The study concludes that the shrimp industry realizes that the studies to date indicate that trawl doors, followed by rockhopper foot gear and then other trawl elements, are considered as the parts of the trawl which have the highest potential to impact benthic habitat. Furthermore, evaluation and reduction of trawl impacts is one of the more important fishery impact reduction priorities for sustainable fisheries.

The study demonstrated that there is high diversity in the choice of trawl gear in the Quebec fleet and the Cosmos 127'/101 trawl with two Thyboron type 11 trawl doors is the most common configuration used in the fleet. Using weight and surface contact of the different trawl elements, a coefficient of friction was calculated. The analysis demonstrates that trawl doors, with a coefficient of F=5.2, have almost twice the potential to damage benthic habitat as the rockhopper gear, with a coefficient of F=2.7. This conclusion was supported by various other studies in the literature.

Activity Evaluation (Milestone deliverables, timeline, results)

The assessment team has been provided evidence that work continues to attain the required results

defined in the client action plan in response to the prescribed certification conditions.

The assessment team concludes that the milestone associated with the third annual surveillance audit has been met.

Status of Condition

First Surveillance Audit

The surveillance audit concludes that the intent of the deliverable has been met at the time of the audit. Ongoing progress on this condition will be evaluated in 2010.

Second Surveillance Audit

The surveillance audit concludes that while work continues on the client action plan, task #3, evaluation of the impact on benthic fauna and habitat, has been delayed by a number of months. As the Certification body of record, Moody Marine reminds the clients that work on this task must be completed in time to allow subsequent conditions (PI 2.1.4.3 and PI 2.1.4.4) to be met prior to the five year period of the certification. Ongoing progress on this condition will be evaluated in 2011.

Third Surveillance Audit

There has been significant work completed on this condition in this surveillance cycle. The report prepared by Lévesque et al, is scheduled to undergo review and publication as a Fisheries and Oceans technical publication. The assessment team concludes that the requirements of the 80 scoring guidepost are now met and this condition is closed out.

Item	**Condition 2**
3	

Performance Indictor 2.1.4.3	**80 Scoring Guidepost**
Management objectives are set in terms of impact identification and avoidance/reduction.	• Management objectives are set to detect and avoid/reduce adverse impacts on key ecosystem components. Avoidance/reduction measures have been defined and implemented and their effectiveness is being evaluated. • These measures have demonstrated effective avoidance/ reduction in similar fisheries.

Condition

The client must present a corrective action plan which will define how the 80 scoring guidepost will be met within the certificate period of five years. The client should provide a work plan, timeline and milestone deliverables which will result in characterization of adverse impacts on key ecosystem components including habitat. Avoidance/reduction measures must be defined and implemented and their effectiveness evaluated.

The assessment team's opinion is that the requirements of this performance indicator can be met within the workplan to be established for performance indicators 2.1.4.2 and 2.1.4.4.

Proposed Client Action Plan

The proposed action plan for 2.1.4.4 will address the required performance improvements for this indicator.

Activity Completed in First Surveillance Cycle

Ongoing work in relation to the condition set for performance indicator 2.1.4.2 is on schedule and will be necessary in order to complete the client action plan for performance indicator 2.1.4.4.

Activity Completed in Second Surveillance Cycle

Ongoing work in relation to the condition set for performance indicator 2.1.4.2 is slightly behind schedule. However, it will be necessary to complete the tasks associated with PI 2.1.4.2 in order to complete the client action plan for performance indicators 2.1.4.3 and 2.1.4.4.

Activity Completed in Third Surveillance Cycle

With the conclusion of the evaluation of impacts by Levesque et al, 2011 and other work by DFO, the clients and management agency are now prepared to proceed to the next task of the client action plan, which is to define the acceptable impacts for key ecosystem components, such as non-target bycatch, sensitive benthic fauna and habitat areas.

The process of defining acceptable impacts, management objectives and potential mitigation measures (e.g. avoidance, impact reduction via gear changes) is currently planned for the first trimester of 2012. DFO and industry will conduct a workshop to evaluate and define potential adverse habitat impacts.

Activity Evaluation (Milestone deliverables, timeline, results)

These activities are slightly behind the schedule initially proposed by the client and accepted by the assessment team. However, the audit has confirmed significant progress in completing required work to respond to this condition and has confirmed with DFO that a workshop to develop the responses for this condition is currently planned for early 2012.

Status of Condition

First Surveillance Audit

No result was set for this condition for the first surveillance audit.

Second Surveillance Audit

No result was set for this condition for the second surveillance audit.

Third Surveillance Audit

There was no specific milestone defined for this audit. The assessment team has confirmed progress on this condition.

Item	Condition 3
4	

Performance Indictor 2.1.4.4	80 Scoring Guidepost
Acceptable impacts are determined and reviewed.	• Acceptable impacts for all key non target species and habitats have been determined and are reviewed periodically.

Condition

The client must present a corrective action plan which will define how the 80 scoring guidepost will be met within the certificate period of five years. The client should provide a work plan, timeline and milestone deliverables which will result in identification of all key non target species and habitats impacted by the shrimp fishery and then indicate acceptable impact and the process by which impacts will be periodically reviewed.

Proposed Client Action Plan

Shrimp fishery impacts in the GSL will be the focus of a peer review during a scientific workshop conducted by the *Centre des Avis Scientifiques* MPO-Quebec Region. The fishery impact on benthic communities and habitat, as well as on non-targeted fish species that are caught, will be determined for each fishing area. For each area, different characteristics of fishing, habitat, benthic invertebrates and fishes will be considered. Possible negative impacts will be determined and proposals will be made to reduce these impacts. The DFO Quebec Region will organize the workshop. The Quebec and New Brunswick fishery certification clients have agreed to finance this workshop with aid of Quebec and New Brunswick.

Project Task	Responsible Organization	Personnel	Timeline
1. Convene a workshop to evaluate acceptable fishery impacts 2. Identify and implement necessary avoidance/ reduction measures for identified adverse impacts on key ecosystem components.	Centre des avis scientifiques-MPO (IML)	External and Quebec based scientists, including ISMER.	2011 (or 2010 if the different tasks described above are finalised)

Activity Completed in First Surveillance Cycle

Ongoing work in relation to the condition set for performance indicator 2.1.4.2 is on schedule and will

be necessary in order to complete the client action plan for performance indicator 2.1.4.4.

Activity Completed in Second Surveillance Cycle

Ongoing work in relation to the condition set for performance indicator 2.1.4.2 is slightly behind schedule. However, it will be necessary to complete the tasks associated with PI 2.1.4.2 in order to complete the client action plan for performance indicators 2.1.4.3 and 2.1.4.4.

Activity Completed in Third Surveillance Cycle

The 2011 stock assessment document presented the following information on the four most important bycatch species as follows.

By-catches of small fish in the shrimp fishery between 1999 and 2010 were examined from the at-sea observer database. Fish by-catches were predominantly in the range of 1 kg or less per species and per sampled tow. In 2010, by-catches of the shrimp fishery represented catches of about 77 tons (1.0 million individuals) for turbot, 22 tons (0.6 million individuals) for redfish, 6 tons (0.1 million individuals) for cod and 9 tons (6.0 million individuals) for capelin.

Using information from both the fishery independent surveys and the commercial fishery, DFO will convene a workshop in February-March 2012 to determine acceptable fishery impacts related to bycatch and to define potential management measures which can be implemented if necessary.

Activity Evaluation (Milestone deliverables, timeline, results)

The activities for PI 2.1.4.2 had been slightly behind schedule but task 3 deliverables were met in 2011 and the condition was closed out (see above).. Quantitative information on by-catch of small fish represents a significant step towards identifying and implementing avoidance/reduction measures to avoid adverse impacts on key ecosystem components. Additional Client actions for PI 2.1.4.4 are planned for fall/winter of 2011/12.

Status of Condition

First Surveillance Audit

No result was set for this condition for the first surveillance audit.

Second Surveillance Audit

No result was set for this condition for the second surveillance audit.

Third Surveillance Audit

There was no specific milestone defined for this audit. The assessment team has confirmed progress on this condition.

Item	Any complaints against the certified operation; recorded, reviewed and actioned

6	No complaints that would potentially compromise the certification were reported or brought to the attention of the audit team during the site visit.

Item	**Any relevant changes to legislation or regulation.**
7	There were no significant changes to legislation or regulation of the GSL shrimp fisheries during the past year. The fishery continues to operate under the measures published in 2010 (http://www.dfo-mpo.gc.ca/decisions/fm-2010-gp/atl-031-eng.htm).

Item	**Any relevant changes to management regime.**
8	A draft of the new Integrated Fishery Management Plan is completed and will be circulated to industry at the forthcoming Advisory Committee meeting in early 2012. Fisheries and Oceans Canada has introduced a quota reconciliation policy for management of commercial quota fisheries. The DFO website for Quota Reconciliation guidelines states the objectives of the policy as follows: Quota reconciliation will facilitate the management of all fisheries and encourage harvest limits to be respected. Quota reconciliation will help to achieve conservation objectives for the resource, ensure that over-runs by one fleet/harvester do not affect another, and provides industry with an increased responsibility in meeting conservation objectives. The guidelines define the administrative requirements of the quota reconciliation process which will be implemented in full in 2012.

Item	**Any other relevant changes.**
9	The 2011 surveillance audit team was informed of a number of forthcoming, important changes. • An analytical stock assessment model has been developed. It is currently under peer review. That model is expected to be used in the next 2-3 years to assess the status of the Gulf shrimp stocks. • In 2011, DFO prepared a position paper on application of the Precautionary Approach for northern shrimp in the Gulf of St. Lawrence. The document proposes reference points and a simulation model to identify examples of operational decision models, based on the proposed reference points and also identifies possible measures to be implemented should stocks decline. A peer review was completed on 2 November 2011 and a second workshop to present the proposed precautionary approach for GSL shrimp to industry will be conducted on November 29. • DFO Conservation and Protection staff presented a general overview of compliance statistics at the 2011 GSL Shrimp Advisory meeting on February 15,

Item	Any other relevant changes.
	2011. The summary findings, as presented in the minutes from that meeting, state that vessel compliance in the shrimp fishery was high and most of the irregularities were qualified as minor.

Item	Overall Conclusions regarding *P. borealis* in Gulf of St. Lawrence waters
10	The shrimp stock in the Estuary recovered in 2010, the stock index value reaching the upper stock reference point. The TAC for 2011 remained the same as the 2010 fishery. The Gulf shrimp resource in shrimp fishing areas 9, and 10 remains in the healthy zone as defined by DFO decision guidelines however, with a declining trend for some indicators. The TACs for these areas were reduced by 10% for the 2011 season. No other changes in management have taken place that would detrimentally affect the performance of this fishery against the MSC standard. Requirements of Condition 1 have been met and the condition was closed during this audit. The fishery continues to make progress in meeting the remaining conditions and requirements of the MSC Standard. MSC Certification should therefore continue with audits annually.

Information Sources:

Meetings

Meetings and conference calls were conducted with DFO personnel and client members on 4 November 2011 at the IML facility in Mont Joli, Quebec. Additional information was provided after the site visit by DFO Resource Management Staff after request by the surveillance audit team.

Interviewees included.

Daniel Boisvert, DFO
Bernard Morin, DFO
Louise Savard, DFO

Jacques Frechette, Industry Consultant
Jean-Paul Gagne, AQIP
Serge Hache, ACPI

Reports etc

Bourdages, H., Archambault, D., Bernier, B., Fréchet, A., Gauthier, J., Grégoire, F., Lambert, J. et Savard, L. 2010. Résultats préliminaires du relevé ultidisciplinaire de poissons de fond et de crevette d'août 2010 dans le nord du golfe du Saint-Laurent. Secr. can. de consult. sci. du MPO. Doc. de rech. 010/107. vi + 92 p.

DFO 2011. 2011 Conservation Harvest Plan for Gulf of St. Lawrence Shrimp. Available at

http://www.dfo-mpo.gc.ca/decisions/fm-2011-gp/atl-016-eng.htm

Lévesque, M., Savard, L. and Archambault, P. 2011. Évaluation des impacts potentiels de la pêche au chalut à la crevette nordique (Pandalus borealis) sur les habitats benthiques de l'estuaire et du nord du golfe du Saint-Laurent. 28 p.

Merinov, 2011. Étude technologique sur le chalut à crevettes et impact potential de la modification de certains elements du train de pêche sur l'ecosysteme benthique.

MPO 2011a. Évaluation des stocks de crevette de l'estuaire et du golfe du Saint-Laurent en 2010. Secr. can. de consult. sci. du MPO, Avis sci. 2011/006.

MPO. 2011b. Processus consultatif scientifique régional sur l'évaluation des tocks de crevette de l'estuaire et du golfe du Saint-Laurent; 26 janvier 2011. Secr. can. de consult. sci. du MPO, Compte rendu 2011/004.

Ouellet, P., Fuentes-Yaco, C., Savard, L., Platt, T., Sathyendranath, S., Koeller, P., Orr, D., and Siegstad, H. 2010. Ocean surface characteristics influence recruitment variability of populations of northern shrimp (*Pandalus borealis*) in the Northwest Atlantic. – ICES Journal of Marine Science, doi:10.1093/icesjms/fsq174.

Savard, L. 2011. Captures, effort et captures par unité d'effort de la pêche commerciale à la crevette nordique de l'estuaire et du nord du golfe du Saint-Laurent entre 1982 et 2010. Secr. can. de consult. sci. du MPO. Doc. de rech. 2011/032. iv + 49 p.

Savard, L. et Bourdages H. 2011. Mise à jour de l'estimation de biomasse et d'abondance de la crevette nordique (*Pandalus borealis*) à partir du relevé de chalutage dans l'estuaire et le nord du golfe du Saint-Laurent en 2010. Secr. can. de consult. sci. du MPO. Doc. de rech. 2011/043. iv + 30 p.

Standards and Guidelines used:

1. MSC Principles and Criteria for Sustainable Fishing
2. MSC Fishery Certification Methodology Version 6. September 2006
3. TAB Directives - all