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Proceedings of the Regional Peer Review of the Gulf of St. Lawrence (4RST) Atlantic Halibut Stock Assessment

February 17, 2015
Mont-Joli, Quebec

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Canada

Foreword

The purpose of these proceedings is to document the key activities and discussions of the meeting. The Proceedings may include research recommendations, uncertainties and the rationale for decisions made during the meeting. The Proceedings may also document when data, analyses or interpretations were reviewed and rejected on scientific grounds, including the reason(s) for rejection. As such, interpretations and opinions presented in this report may be factually incorrect or misleading, but are included to record, as faithfully as possible, what was considered at the meeting. No statements are to be taken as reflecting the conclusions of the meeting unless they are clearly identified as such. Moreover, further review may result in a change of conclusions where additional information was identified as relevant to the topics being considered, but not available within the timeframe of the meeting. In the rare case when there are formal dissenting views, these are also archived as Appendices to the Proceedings.

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SUMMARY

This document contains the proceeding from the meeting held within the regional assessment of the Gulf of St. Lawrence Atlantic Halibut. This review process was held on February 17th, 2015 at the Maurice Lamontagne Institute in Mont-Joli. This meeting gathered more than forty participants from sciences, industry and management. These proceedings contain the essential parts of the presentations and discussions held, and report the recommendations and conclusions that were presented during the review.

SOMMAIRE

Ce document renferme le compte rendu de la réunion tenue dans le cadre du processus régional d'évaluation du flétan atlantique du golfe du Saint-Laurent (4RST). Cette revue, qui s'est déroulée le 17 février 2015 à l'Institut Maurice-Lamontagne à Mont-Joli, a réuni plus de quarante participants des sciences, de l'industrie et de la gestion. Ce compte rendu contient l'essentiel des présentations et des discussions qui ont eu lieu pendant la réunion et fait état des recommandations et conclusions émises au moment de la revue.

INTRODUCTION

The Quebec Region of the Department of Fisheries and Oceans (DFO) is responsible for assessing the stocks of several exploited fish and invertebrate species in the Estuary and Gulf of St. Lawrence. Most of these stocks are assessed periodically within a regional advisory process, which is conducted at the Maurice Lamontagne Institute in Mont-Joli. This document consists of the proceedings of the meeting held on February 17, 2015, on the assessment of the Gulf of St. Lawrence (4RST) Atlantic Halibut stock.

The objective of the review was to determine whether there were any changes in the resource's status and whether adjustments were required to the management plans based on the chosen conservation approach, the ultimate goal being to provide scientific advice on managing the Atlantic Halibut stock in the Gulf of St. Lawrence (4RST) for the next two fishing seasons.

These proceedings report on the main points discussed in the presentations and deliberations stemming from the activities of the stock assessment regional committee. The regional review is a process open to all participants who are able to provide a critical outlook on the status of the evaluated resources. In this regard, participants from outside DFO are invited to take part in the committee's activities within the defined terms of reference for this review (Appendices 1 and 2). The proceedings also focus on recommendations made by the meeting participants.

CONTEXT

Meeting chairperson Bernard Sainte-Marie welcomes the participants. He goes over the peer review's objectives and agenda. The participants take turns introducing themselves. Mathieu Desgagnés, biologist responsible for Atlantic Halibut, describes the presentation plan. He briefly describes the context and key management measures of the fishery. Some components of the species' biology are also presented.

The data used in the assessment of the 4RST Atlantic Halibut stock come mainly from the commercial fishery and four research surveys: the DFO surveys in the northern and southern Gulf and mobile sentinel surveys in the northern and southern Gulf of St. Lawrence.

Atlantic Halibut landings have been increasing since the early 2000s. For management years 2013-2014 and 2014-2015, preliminary landings were 802 t and 834 t (TAC of 864 t), the highest since 1952.

- The 11% increase in landings represents changes in TAC rather than abundance. According to fishers, the increase in stock was greater than the increase in TAC.
- Regarding the long-term historical series, there are questions about the validity of data before 1950. It is agreed that one should not put too much emphasis on these data given their greater uncertainty.

The size frequency distributions from commercial data and research surveys are presented.

- It is noted that the female component is not well represented in the DFO surveys since the fishing gear does not sample large fish.
- However, it is stated that the small size of fish in the southern Gulf is not related to fishing gear selectivity.

ASSESSMENT OF THE RESOURCE

RESEARCH SURVEYS

Catch rates (in weight and number) are presented for each of the surveys.

- It is agreed that the surveys show an increase in catch rates in recent years.
- It is stated that halibut is found in the same locations that they were found historically.
- It might be interesting to examine the trends for the various depth strata. It is suggested that only the stratum corresponding to the Atlantic Halibut's preferred habitat be studied to gain a better picture.

DIRECTED FISHERY

M. Desgagnés reviews the key fishery indicators: spatial distribution of fishing, effort and landings, catch per unit effort (CPUE), size structure, proportion of fish smaller than 85 cm and smaller than 130 cm by fishing gear.

Catches per unit effort for the directed Atlantic Halibut longline fishery show an estimated annual increase of 11% for the entire historical series (1997 to 2014). This trend corresponds to a 300% increase in the fishery's standardized yield since 2005.

For catches sampled at sea, the proportion of individuals over 130 cm in length (i.e. size at 50% maturity for females) increased from under 5% to about 20% over the past 10 years. On the other hand, the proportion of Atlantic Halibut under 85 cm decreased by half. In the last two years, this proportion was about 40% for gillnet fishing and 24% for longline fishing.

- It is stated that the Figure illustrating the spatial distribution of the fishery is preliminary because the data are not all available at this time.
- Some participants note that the increase in CPUE would be even greater if the data for 1997 and 1998 were omitted.
- It is stated that the closure of an area for a year does not affect the CPUE, because the data are standardized.
- It is specified that the CPUE index reflects the abundance of fished stock and not reproductive stock. It includes immature individuals, and mature females are underrepresented.

OCEANOGRAPHIC CONDITIONS

The temperature conditions on the bottom of the Gulf of St. Lawrence are presented.

- The temperature at 200 m in the entire Gulf has never been as warm as it is now. This is a new record. Given that warm water enters the Gulf through the Cabot Strait, these conditions may persist in the coming years.
- Some participants inquire as to the possible effects of these changes on the 4RST Atlantic Halibut. Nothing can be confirmed at this time.

RESEARCH

A study of the distribution and seasonal migration of halibut in the northeast Gulf (4R) from satellite tags is presented by Dominique Robert. A few clarifications about methodology are provided and the main results are presented. Preliminary findings indicate that: 1) In fall and

winter, halibut migrate from coastal areas towards the deep channels where spawning occurs; 2) a large proportion of halibut have traveled over long distances and have not returned to the tagging area; 3) the majority of tagged halibut have completed their annual life cycle in the Gulf; 4) different seasonal migration patterns are observed; 5) seasonal temperature and depth patterns of 4R halibut appear to be different from those of Atlantic stock.

- Some questions remain unanswered. In particular, participants wonder about possible mixing of Gulf and Atlantic stock.
- Several participants feel that additional tagging work would be useful. This topic will be discussed further in the research recommendations.

CONCLUSION

RESEARCH RECOMMENDATIONS

A series of requests and priority issues are presented, including female fecundity determination, handling practices for maximizing survival, the survival rate of fish released back into the water, the consequences of increasing the legal size and the implementation of a longline fishing survey.

- With regards to the consequences of increasing the legal size, industry states that the market favours a certain size, particularly smaller sizes.
- It is noted that discussions are underway to implement a longline fishing survey that would enable better monitoring and tagging work. A proposal is being developed and will eventually be submitted to industry. The participants see great merit in this survey and industry seems willing to cooperate. Before involving the fishing industry in this survey, it is important to properly identify needs, how to carry it out and its costs.
- Management representatives add the establishment of reference points to the list of requests.

SUMMARY

The biologist presents the key findings of the assessment and the participants share their comments. Only a few comments regarding content, not the rewording, are recorded.

- In the highlight regarding landings, the participants suggest specifying the TAC value (864 t). It is agreed that it should only be mentioned in the text of the advisory that it has been consistently achieved since 2004.
- To emphasize the more noticeable increase in CPUE since 2005, it is suggested that a sentence be added to the CPUE highlight.
- Regarding the highlight on the fished component of the stock, it is decided not to include the item on management measures.

In general, the participants consider that:

Pre-recruit abundance indicators from fishery-independent survey data have reached levels that are among the highest in the historical series, and recent trends are stable or rising.

The size frequency distributions suggest a high recruitment to the fishery in the next five years; although cohorts that will reach legal size in the next two years will be less abundant than in previous years.

The fished component of the stock is rising and has reached high levels. However, harvest levels for the fished component are unknown.

APPENDIX 1 – LIST OF PARTICIPANTS

Name	Affiliation
Archambault, Diane	DFO – Science
Bernier, Denis	DFO – Science
Boucher, André	RPPNG
Bourdages, Hugo	DFO – Science
Brassard, Claude	DFO – Science
Brulotte, Sylvie	DFO – Science
Carter, Tony	PEIFA
Castonguay, Martin	DFO – Science
Chabot, Denis	DFO – Science
Coffin, David	DFO – Fisheries Management
Comeau, Réginald	Maritimes Fishermen Union (MFU)
Courtney, Robert	North of Smokey Fishermen's Association
Cyr, Charley	DFO – Science
Denis, Marcel	ACPG
Desgagnés, Mathieu	DFO – Science
Dubé, Pierre	RHMCN
Dubé, Sonia	DFO – Science
Duplisea, Daniel	DFO – Science
Emond, Kim	DFO – Science
Fisher, John	Memorial University of Newfoundland – Marine Institute
Gauthier, Johanne	DFO – Science
Gilbert, Michel	DFO – Science
Hurtubise, Sylvain	DFO – Science
Lambert, Yvan	DFO – Science
Le Bris, Arnault	Gulf of Maine Research Institute
Légaré, Benoît	DFO – Science
Lubar, John	DFO – Fisheries Management
MacDonald, Michael	PEIFA
Morneau, Renée	DFO – Science
Moyen, Emmanuel	Maritimes Fishermen Union (MFU)
Murphy, Willie	NOSFA
Robert, Dominique	Memorial University of Newfoundland – Marine Institute
Sainte-Marie, Bernard	DFO – Science
Sandt-Duguay, Emmanuel	MMAFMA/GMRC
Schwab, Philippe	DFO – Science
Simard, Nathalie	DFO – Science
Spingle, Jason	FFAW
Thiboutot, Chantale	DFO – Fisheries Management
Travis, James	PEIFA
Trottier, Steve	DFO – Science
Vanier, Caroline	DFO – Science

APPENDIX 2 – TERMS OF REFERENCE

Assessment of the Gulf of St. Lawrence (4RST) Atlantic Halibut

Regional Peer Review – Quebec Region

February 17, 2015
Mont-Joli, Quebec

Chairperson: Bernard Sainte-Marie

Context

The Atlantic halibut directed fishery is practised on a competitive basis and is carried out by longliners. To protect the population's reproductive potential, this fishery is subject to several management measures including the control of catches by a total allowable catches (TAC). Atlantic halibut represent a by-catch for other fleets, in particular the Greenland halibut gillnet fleet.

At the request of Fisheries Management Branch, resource assessment is done every two years. The purpose of the review is to determine whether changes have occurred in the status of the resource that would justify adjustments to the management plan based on the retained conservation approach.

Objectives

Provide scientific advice on Atlantic halibut stock status in NAFO Divisions 4RST. This advice shall include:

- Description of the biology of Atlantic halibut and its distribution;
- A summary of oceanographic conditions in the Gulf;
- Analysis of the commercial fishing data including landings, fishing effort, catch per unit effort, biological data;
- Analysis of data from the DFO annual research trawl survey in August and sentinel fisheries;
- Identification of monitoring indicators of the stock status during the interim years;
- Perspectives for 2015 and 2016 based on available indicators;
- Based on the assessment needs, setting research priorities for the next 5 to 10 years.

Expected publications

- Science Advisory Report on the Atlantic halibut in the Gulf of St. Lawrence (4RST)
- Research document
- Proceedings containing a summary of discussions

Participation

- Fisheries and Oceans Canada (DFO) (Science and Fisheries Management sectors)
- Fishing industry
- Provincial representatives
- Aboriginal communities/organizations
- External experts