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Proceedings of the regional peer review of the update on the status of Atlantic Salmon in Newfoundland and Labrador - 2012

**November 19-20, 2012
St. John's, NL**

**Chairperson: Ben Davis
Editors: Martha Robertson and Rebecca Poole**

Science Branch
Fisheries and Oceans Canada
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Foreword

The purpose of these Proceedings is to document the activities and key discussions of the meeting. The Proceedings may include research recommendations, uncertainties, and the rationale for decisions made during the meeting. 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 individually 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 in the timeframe of the meeting. In the rare case when there are formal dissenting views, these are also archived as Annexes to the Proceedings.

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SUMMARY

A meeting of the Newfoundland and Labrador Regional Advisory Process (RAP) on the status of Atlantic Salmon was held November 19-20, 2012, in St. John's, Newfoundland. Its purpose was to assess Atlantic Salmon stocks in Salmon Fishing Areas (SFAs) 1-14B. Participants included staff from Fisheries and Oceans Canada (DFO) Science, Fisheries and Aquaculture Management, Parks Canada, Government of Newfoundland and Labrador, Memorial University of Newfoundland, Aboriginal Groups, and Non-Governmental Organizations and Associations. A Science Advisory Report (SAR) was produced at this meeting and contains the summary and conclusions of this science review. A Research Document will also be produced. This proceedings report includes abstracts, discussion summaries, and recommendations for each presentation. The terms of reference for the meeting, agenda, list of attendees and detailed summary sheets for the various Atlantic Salmon stocks assessed are appended.

Compte rendu du processus de consultation régionale de Terre-Neuve-et-Labrador sur la situation du saumon de l'Atlantique

SOMMAIRE

Une réunion du processus de consultation régionale de Terre-Neuve-et-Labrador sur la situation du saumon de l'Atlantique a eu lieu les 19 et 20 novembre 2012 à St. John's (Terre-Neuve-et-Labrador). Elle visait à évaluer les stocks de saumon de l'Atlantique dans les zones de pêche du saumon (ZPS) 1 à 14B. Les participants comprenaient des représentants de la Direction des sciences et de la Direction de la gestion des pêches et de l'aquaculture de Pêches et Océans Canada (MPO), de Parcs Canada, du gouvernement de Terre-Neuve-et-Labrador, de l'Université Memorial de Terre-Neuve, de groupes autochtones ainsi que d'associations et d'organisations non gouvernementales. Au cours de cette réunion, un avis scientifique a été préparé; il renferme le sommaire et les conclusions de cet examen scientifique. Un document de recherche sera aussi rédigé. Le présent compte rendu comprend des résumés, des sommaires des discussions et des recommandations pour chaque présentation. Vous trouverez en annexe le cadre de référence de la réunion, l'ordre du jour, la liste des participants et des fiches sommaires détaillées pour les différents stocks de saumon de l'Atlantique ayant fait l'objet d'une évaluation.

PRESENTATION ABSTRACTS AND DISCUSSION SUMMARIES

OPTIONS TO HELP REBUILD SOUTH COAST (DU 4) ATLANTIC SALMON STOCKS

Presenter: M. Robertson

Abstract

South Newfoundland Atlantic Salmon were assessed to have declined by 37 % for small salmon and 26 % for large salmon from 1994 to 2007 and on this basis was designated Threatened in November, 2010 by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC 2010). A Recovery Potential Assessment (RPA) was conducted by DFO Science to provide information and scientific advice required under the *Species at Risk Act*. A regional science peer review meeting was held in February, 2012. A Science Advisory Report from this meeting is available on the [Canadian Science Advisory Secretariat's \(CSAS\) Website](#).

Projection analyses were conducted to determine Designatable Unit (DU) 4 abundance over the next 15 years. Eight different average marine survival values observed in monitored rivers over the past 15 years were used (2 % to 9 %). To assess the potential for management measures to facilitate recovery, four fisheries scenarios were included: no angling, catch-and-release only angling, half of current angling and current angling (retention and catch-and-release). All possible combinations of marine mortality values and fishing scenarios were assessed.

Under current conditions (1996-2010) the probability of DU 4 Atlantic Salmon meeting or exceeding the conservation requirement/recovery target in the next 15 years was 23 %. Management measures to reduce fishing mortality increased this probability to 52 % under the no angling scenario. As expected, marine survival has a very strong influence on the potential recovery of DU 4 salmon. An increase in average marine survival from 4 % to 6 % over the next 15 years improves the probability of achieving the conservation requirement/recovery target from 23 % to 89 % under current angling mortality. This probability reaches 98 % if management measures to remove fishing mortality are included (i.e. no angling scenario). Given that the estimated catch-and-release mortality was relatively low, population projections for catch-and-release only angling were generally similar to the no fishing scenario.

Discussion

There was discussion around the issue that DU 4 shouldn't be treated as a single population. It was clarified that DU 4 contains many populations of Atlantic Salmon, but is currently considered a single DU for Species at Risk purposes.

There was discussion around the assumption that marine survival for DU 4 has averaged 4 % over the last 15 years. An individual noted that an increase from an average of 4-5 % in marine survival was not a large increase and that it could be expected to occur. In reality a one percent increase in marine survival represents a 25 % increase over the current level (1-4 %).

It was noted that there are no counts in SFA 12. However, there is recreational fishery data from that area that could potentially be used for assessment purposes.

There was confusion with respect to the role Conne River played in the abundance declines noted for DU 4. The Committee on the Status of Endangered Wildlife in Canada's decision to designate DU 4 as threatened was also based on other south coast rivers, and recreational angling data that supported the declines.

PARKER RIVER WATERSHED – SALMONID SPECIES AND FACTORS IMPACTING THEIR SURVIVAL

Presenter: C. Bourgeois

Abstract

Parker Brook is a small watershed flowing into Pistolet Bay in SFA 14A. The watershed is home to anadromous Atlantic Salmon, Arctic Char and Brook Trout making it relatively unique amongst insular Newfoundland watersheds. The counting fence operated on Parker Brook from 2009 to 2011 revealed an anadromous salmonid population of between 612 and 687 over the three year period. The population of anadromous salmonids over this time period appeared to be quite stable.

Discussion

There was discussion regarding the purpose of the presentation. It was stated that Fisheries and Aquaculture Management requested this information as questions have been raised regarding the Arctic Char population in the watershed. The population is of interest as it is in the lower southern limit of its range for the anadromous form in the Newfoundland and Labrador Region.

A question was asked regarding Arctic Char exploitation rates; however this data does not exist.

FACTORS THAT MAY IMPACT THE SURVIVABILITY OF SMOLTS

Presenter: R. Poole

Abstract

Marine survival of Atlantic Salmon smolts generally ranges from 2 % to 10 % in Newfoundland and Labrador. The risk of mortality increases as the smolt move down stream to the estuary. Many factors affect the survival of smolt including; smolt condition, predation and competition, parasite and disease, food availability, water temperature, synchrony of smolt run timing and marine environmental conditions, pollution, and other anthropogenic factors. Complex interactions of these factors determine smolt survival and the specific contribution of one factor is difficult to quantify. Factors that have been shown to correlate with smolt survival are inconsistent and are not reliable for predicting the number of fish that will return to a particular river to spawn.

Discussion

There was discussion around the different types of Atlantic Salmon fisheries in Newfoundland and Labrador (Aboriginal, resident, recreational) and international fisheries (St. Pierre et Miquelon and West Greenland).

There was concern expressed that without habitat protection under the new fishery protection policies Atlantic Salmon will be negatively impacted.

By-catch of Atlantic Salmon smolts in other fisheries was discussed. This was monitored in the past and few salmon smolts were recorded in fish plants. There was concern regarding the by-catch of salmon and that this should be looked at by DFO enforcement.

There was discussion around the possible factors related to higher smolt survival on the northeast coast compared to the south coast. It was noted that the spawner to smolt ratio is higher on the south coast compared to the northeast coast (1:30 vs 1:10, respectively).

The impact of Hydro dams, culverts and aquaculture were further discussed.

UPDATE ON ATLANTIC SALMON POPULATION GENETIC ANALYSIS IN NEWFOUNDLAND AND LABRADOR: IMPLICATIONS FOR DU IDENTIFICATION AND FISHERY ASSIGNMENT

Presenter: I. Bradbury

Abstract

Genetic data on Atlantic Salmon in Newfoundland and Labrador was presented. Questions addressed included:

1. the presence of population structuring within Newfoundland and Labrador; and
2. the origin of salmon caught in coastal food, social and ceremonial fisheries (FSC).

Data was presented for 15 microsatellite loci from ~ 80 locations throughout Newfoundland and Labrador with sample sizes ranging from 50 to 100 salmon per location. Regional groupings were present in the data explaining a significant component of the spatial variation. Most divergent groups were small Avalon Peninsula rivers and rivers in Labrador. Genetic analysis has also been completed on ~ 1600 Atlantic Salmon collected from the FSC harvest in coastal Labrador spanning the period 2006-11. Standardization of the various components of the Canadian Baseline is currently underway and once available, likely in early 2013, an analysis of fishery composition will occur.

Discussion

There was discussion regarding the genetic assignment of aquaculture salmon (St. John River origin) to the Conne River population and it was noted that no aquaculture fish were detected at this time. However, a full evaluation of a potential impact will require an examination of genome wide (both genes and non-coding regions) differences which is currently under way.

Discussions occurred around the presence of significant population structuring within DU 4. Microsatellite data were presented which suggests the presence of region groupings throughout this DU. However, based on COSEWIC's current definition of a DU, it was stated that a revision of the south coast DU boundaries will require data on adaptive diversity currently not available. At this stage DFO Fisheries Management is currently developing a plan for the entire DU.

Labrador fishery assignments were discussed, but it was noted that this will require North American baseline genetic information which is not yet available.

There was discussion regarding straying and its impact on genetic diversity. Straying from very large rivers is more likely to have impacts on population structure. It was also noted that repeat spawners tend to have higher straying rates than virgin spawners.

The ability to determine genetic differences between 1 sea-winter and 2 sea-winter salmon was discussed. It was noted that microsatellite data is unlikely to be appropriate to determine sea age and gene associated markers may be more successful.

IMPACTS OF WARM WATER ON FISH PHYSIOLOGY

Presenter: G. Veinott

Abstract

Fish, like any animal, expend a certain amount of energy simply to maintain vital bodily functions such as breathing and blood circulation. The minimum amount of energy needed to sustain life is termed the Basal Metabolic Rate (BMR) (See review in DFO 2012). Surplus energy above the BMR that can be used to forage for food, avoid predators, or fight on the end

of a fishing line is termed the Active Metabolic Rate (AMR). The difference between the BMR and the AMR is the aerobic scope of the fish (DFO 2012 - Fig. 2). The BMR and the AMR are moderated by water temperature. At the optimal water temperature (T_{opt}) the aerobic scope is at its maximum. As water temperatures increase a greater proportion of the fish's total available energy goes into sustaining life until a critical temperature (T_{crit}) is reached. At T_{crit} the aerobic scope is zero and the fish only has enough energy to maintain vital functions. As waters warm and T_{crit} is approached fish transition from aerobic metabolism to anaerobic metabolism. When anaerobic metabolism energy is generated without the combustion of oxygen and survival time is limited, potentially damaging metabolic by-products such as lactic acid are generated, only when conditions return to allow for aerobic metabolism can these by-products be broken down.

The T_{crit} for adult Atlantic Salmon is not precisely known. However, studies on survival of juveniles and stress on adults suggest that the lethal temperature for adults is likely near 25 °C and the T_{crit} near 23 °C (DFO 2012). Any additional activity in water temperatures above 23 °C will likely trigger a shift to anaerobic metabolism. However, Atlantic Salmon can and do react to warm waters by seeking out cooler temperatures (Breau *et al.* 2007; Breau *et al.* 2011; DFO 2012).

The ability of Atlantic Salmon to recover after a stressful event is also related to temperature. In studies by Wilkie *et al.* (1996 and 1997), adult Atlantic Salmon were exercised to exhaustion at 18 °C, 20 °C, and 23 °C. Recovery of physiological endpoints to resting levels occurred 4 or more hours after the end of the experiment. Further there was a delayed mortality of 40 % when recovery occurred in water temperatures of 20 and 23 °C. DFO (2012) suggested that salmon exposed to daily minimum water temperatures of greater than 20 °C on two consecutive days would require at least two additional days with daily minimums less than 20 °C to recover.

Discussion

Reference was made to the Gulf RAP session earlier in 2012 that reviewed temperature thresholds for Atlantic Salmon angling fisheries. Particular reference was made to investigations associated with Miramichi River. A question was asked that related to how often would the Miramichi River be closed if temperature criteria were applied? As temperatures often peak in mid-late afternoon, reference was made to various angling options such as recreational fishing in the early morning, but then closing the rivers later in the day.

Another question asked if measures were successful in reducing mortality. Information on this, however, was not known.

It was noted by DFO Fisheries and Aquaculture Management that environmental closures were not enforced during the last two years (2010 and 2011), but owing to extreme conditions they were enforced in 2012. It was also stated that consultation meetings show support for the closures.

A question was asked whether an analysis of run timing metrics could be used to determine appropriate temperature thresholds for environmental river closures as fish may have adapted their run timing in response to experienced temperatures.

Other comments noted that if water temperatures are warm and water levels are low, few salmon will "take a fly" and be captured in recreational fisheries. Hence, it was suggested that it may be better to maintain a presence of anglers on rivers.

UPDATE ON THE STATUS OF ATLANTIC SALMON IN THE NEWFOUNDLAND AND LABRADOR REGION FOR 2012

Presenter: C. Bourgeois

Abstract

Marine survival appears to be the major factor contributing to the abundance of Atlantic Salmon within the region. Inter-annual variation in the index of marine survival continues to fluctuate widely.

The index of abundance of small and large salmon in insular Newfoundland for 2012 was below (small) or similar to (large) the previous five-year mean (2007-11). However, the previous five-year mean remains below the pre-moratorium index (prior to 1992) of abundance for both small and large salmon when adjustments for marine exploitation are incorporated.

In Labrador, returns of small salmon remain unchanged from the previous six year mean on English River, but declined below the six year mean for Sand Hill River and Southwest Brook. On Sand Hill River, returns of large salmon were above the previous six year mean and remain unchanged at the other two rivers. Abundance of large salmon has remained particularly low since the 1980s (mean 1980-89 is 114,490 large salmon: mean 1990-2012 is 31,412).

Six (40 %) of the 15 Atlantic Salmon stocks assessed in Newfoundland and Labrador achieved their conservation egg requirement. Of the nine stocks that did not achieve conservation, three have historically undergone enhancement activities including fish passage and stocking which opened up new habitat that is still being colonized. The remaining six stocks that failed to achieve conservation are in SFA 2-2 stocks, SFA 9-1 stock, SFA 11-2 stocks and SFA 13-1 stock.

Estimates of retained and total catch (retained + released) in the recreational fishery for the NL region have been trending up in recent years and the estimates of retained catch and total catch for 2011 are above their previous five-year mean by 17 % and 12 %, respectively.

Estimates of removals in the Labrador subsistence fisheries (net fisheries) in 2011 have increased by 21 % and 27 % by number and weight, respectively over the previous six-year mean.

Discussion

There was a discussion regarding the different methods used in the Newfoundland and Labrador indices of salmon abundance. The impact Sand Hill River (one of the 3 counting facilities in Labrador in 2012) data had on the International Council for the Exploration of the Sea (ICES) model was discussed. It was noted that the error bars were much higher in years Sand Hill River had record returns.

An index similar to the method used for the Newfoundland index was presented for Labrador.

Both models were shown and there was discussion on the best modeling approach. If the models were being used as an index and used to show the trend of the salmon population there is no difference between the models. It was noted that it is important to know how to interpret the index.

There was some discussion on smolt survivability and if the numbers of smolt leaving and returning were correlated. This data was looked at and in general, there were no consistent correlations. Mortality in the marine environment is highly variable and related to many complex factors.

It was noted that the counting fence at Muddy Bay Brook in Labrador washed out during a period of high rainfall in July and it was decided to discontinue the operation of the fence as the main run of salmon would have passed through while the fence was out of operation.

There was discussion on the harvest of salmon in Labrador, percentage of logs returned, and how catches were adjusted. It was noted that the preliminary harvest for 2012 was not shown because return rates of the catch logs to date were too low to make adjustments.

There was a comment regarding the low numbers of grilse in the Maritimes region and that data from NL Region is not showing the same trend. It was agreed that grilse have not experienced the declines observed in the Maritimes.

There was discussion regarding the impact of aquaculture sites on Conne River smolts. There was concern that DFO has not conducted any studies in the area to address this issue. It was noted that DFO has started projects to investigate some of the issues (e.g. Ian Bradbury's genetic work).

A comment was made concerning the Cohen Report and its relevance to Atlantic Salmon.

RECOMMENDATIONS

- There should be no increase in harvest of small and large salmon in Newfoundland and Labrador fisheries in 2013.
- There should be no human induced mortality on stocks that are below 100 % of conservation.
- Attendees were encouraged to read the Cohen Report and its recommendations.

REFERENCES CITED

- DFO. 2012. Temperature threshold to define management strategies for Atlantic salmon (*Salmo salar*) fisheries under environmentally stressful conditions. DFO Can Sci. Advis. Sec. Sci. Advis. Rep. 2012/019.
- Breau, C., Cunjack, R.A., and Bremset, G.G. 2007. Age-specific aggregation of wild juvenile Atlantic salmon (*Salmo salar*) at cool water sources during high temperature events. J. Fish Biol. 71: 1-13.
- Breau, C., Cunjack, R.A., and Peake, S.J. 2011. Behaviour during elevated water temperatures: can physiology explain movement of juvenile Atlantic salmon to cool water? J. Ani. Ecol. 80: 844-853.
- COSEWIC. 2010. COSEWIC assessment and status report on the Atlantic Salmon *Salmo salar*. (Nunavik population, Labrador population, Northeast Newfoundland population, South Newfoundland population, Southwest Newfoundland population, Northwest Newfoundland population, Quebec Eastern North Shore population, Quebec Western North Shore population, Anticosti Island population, Inner St. Lawrence population, Lake Ontario population, Gaspé-Southern Gulf of St. Lawrence population, Eastern Cape Breton population, Nova Scotia Southern Upland population, Inner Bay of Fundy population, Outer Bay of Fundy population) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xlvii + 136 pp.
- DFO. 2013. Recovery potential assessment for the South Newfoundland Atlantic Salmon (*Salmo salar*) designatable unit. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2012/007.

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- Wilkie, M.P., Davidson, K., Brobbel, M.A., Kieffer, J.D., Booth, R.K., Bielak, A.T., and Tufts, B.L. 1996. Physiology and survival of wild Atlantic salmon following angling in warm summer waters. *Trans. Amer. Fisher. Soc.* 125: 572-580.
- Wilkie, M.P., Brobbel, M.A., Davidson, K., Forsyth, L., and Tufts, B.L. 1997. Influences of temperature upon the postexercise physiology of Atlantic salmon (*Salmo salar*). *Can. J. Fish. Aquat. Sci.* 54: 503-511.

APPENDIX 1: TERMS OF REFERENCE

Update on the Status of Atlantic Salmon in Newfoundland and Labrador

November 19-21, 2012 - St. John's, NL

Chairperson: Ben Davis, Aquatic Resources Division, DFO, NL Region

Context

There are 15 Atlantic Salmon (*Salmo salar*) management areas, known as Salmon Fishing Areas (SFAs)* 1-14B, in Newfoundland and Labrador. Within these areas there are more than 370 rivers with reported Atlantic Salmon populations characterized by differences in life history traits including freshwater residence time, age at first spawning, and the extent of ocean migrations. This meeting is intended primarily to update those stocks/rivers considered during the last assessment meeting, with emphasis on determining the level of conservation spawning requirement achieved.

Objective

An update of any new information available concerning the status of Atlantic Salmon stocks will be presented for SFA regions as follows:

- Labrador: SFAs 1-2, 14B
- Newfoundland: SFAs 3-14A

The objective of this meeting will be to produce science advice on the request of FMB (Fisheries Management Branch). The meeting is not intended as a forum to seek changes/alterations to the Atlantic Salmon Management Plan. The meeting will focus on the general state of salmon stocks in Newfoundland and Labrador and identify conservation issues. Detailed assessments of individual rivers will not be carried out. Rather, regional overviews of the status of stocks will be tabled. An update on smolt production, marine survival of Newfoundland salmon and ecological considerations that impact the survival of salmonid species will be presented.

Expected Publications

- Science Advisory Report
- Proceedings
- Research Document(s)

Participation

- DFO Science, Fisheries Management, Policy & Economics and SARA Program
- Government of Newfoundland and Labrador
- Parks Canada
- Various Non-Governmental Organizations and Associations
- Various Aboriginal Groups
- Memorial University of Newfoundland
- Various Salmon Working Groups
- Various Aquaculture Groups

*There are 15 Atlantic salmon (*Salmo salar* L.) management areas know as Salmon Fishing Areas (SFAs) 1-14B in Newfoundland and Labrador. See CSAS Science Advisory Report 2009/068, Figures 1 and 2 for illustration.

APPENDIX 2: AGENDA

Update on the Status of Atlantic Salmon in Newfoundland and Labrador-2012

Admiral's Green Clubhouse, Pippy Park, St. John's,

November 19-21, 2012 commencing at 9:00 am

November 19, 2012

Time	Description	Presenter
9:00	Introduction Review of Agenda Rapporteur: R. Poole and M. Robertson	Chair: B. Davis
9:30	Presentation: options to help rebuild south coast (DU 4) Atlantic Salmon	M. Robertson
10:00	Parker River, its watershed, salmonid species and factors impacting their survival	C. Bourgeois
10:30	BREAK	N/A
10:45	Presentation: factors that may impact the survivability of smolts	R. Poole
11:15	Update on Atlantic Salmon population genetic analysis in Newfoundland and Labrador: implications for DU identification and fishery assignment	I. Bradbury
12:00 - 1:00	LUNCH (not provided)	N/A
1:00	Presentation: the ecological changes in the Bay d'Espoir area - Aquaculture Section	(cancelled)
1:45	Presentation: the impacts of warm water on fish physiology	G.Veinott
2:15	Update on the Status of Atlantic Salmon in the NL region for 2012	C. Bourgeois
3:00	BREAK	N/A
3:15	Manuscripts for upgrade to Research Document and Science Advisory Report	ALL
3:30	Other Business	ALL

November 20, 2012

Time	Description	Presenter
9:00	Review of the draft SAR and inclusion of recommendations	ALL
10:30	BREAK	N/A
10:45	Review of the draft SAR and inclusion of recommendations	ALL
12:00 - 1:00	LUNCH (not provided)	N/A
1:00	Review of the draft SAR and inclusion of recommendations	ALL
3:00	BREAK	N/A
3:15	Review of the draft SAR and inclusion of recommendations	ALL

APPENDIX 3: LIST OF ATTENDEES

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