Fisheries and Oceans Pêches et Océans

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PROCEEDINGS OF PEER REVIEW AND CLIENT CONSULTATIONS

FOR DIADROMOUS FISH STOCKS (SALMON)

IN THE MARITIME PROVINCES

IN 1997

DIADROMOUS FISH DIVISION
MARITIMES REGION
343 ARCHIBALD STREET
MONCTON, N.B.
E1C 9B6

APRIL 1998

Canada

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PART 1

PEER REVIEW

1. 0 INTRODUCTION

This report provides records of both the peer review meeting for assessing the status of the diadromous fish stocks in 1997 and the client consultation meetings held prior to the peer review meeting.

The Peer Review took place March 9-13, 1998, at the Gulf Fisheries Centre, Moncton, New Brunswick. Participants numbered 46 and, in addition to Diadromous Fish Division members, were comprised of individuals or representatives from provincial agencies (New Brunswick, Nova Scotia and Quebec), local universities (Moncton and University of New Brunswick), one other federal agency, DFO Science organizations (Ottawa and Newfoundland), other Divisions of DFO's Regional Science Branch, and client interests (Aboriginal and recreational fishing). The letter of invitation to clients and other interests outside DFO and both mailing and attendance lists are attached in appendices.

Sixteen stock assessment documents and environmental overview papers were reviewed during the four-day peer review session (see Agenda in Appendix 1.6). Eleven referees contributed to the review of the 16 working papers (letter of invitation with instructions and list of referees attached in appendices 1.2 and 1.4). Each paper was formally reviewed by two referees and, also, was opened-up to questioning and comment from all the participants in attendance. One referee, absent from the Peer Review meeting, provided written comments which were presented by an attending referee. The comments and concerns, with the author's responses, are summarized in the rapporteur reports prepared for each of the 16 working papers presented and are detailed in Peer Review pages 3-26 of this report. These same reports detail the research and management recommendations and, as applicable and feasible, the management advice for both the coming year and the long term.

RAPPORTEUR REPORT

ATLANTIC SALMON

Miramichi

Rapporteur: **David Moore**

Working Paper Title: **Atlantic salmon Miramichi**

Author(s): **Gérald Chaput**

Referees: **Cronin, Peter**
Whoriskey, Fred

Introduction:
Atlantic salmon adults were decreased in abundance in the Miramichi during 1997. Separate assessments of returns to the Southwest and Northwest Miramichi Rivers have been made since 1992 and conservation requirements had exceeded in all cases until 1997. In 1997, the Northwest Miramichi exceeded is conservation requirement (104%) while the Southwest Miramichi River did not meet (78%) conservation requirements. The Miramichi River has been assessed since 1982 and met or exceeded conservation requirements from 1986-96 but received only 87% of conservation requirements in 1997. Juvenile salmon abundance, however, remains high throughout the Miramichi watershed indicating that long term prospects for the Miramichi salmon stock are good.

Concerns:

Referees:
1. Emigration of tagged fish has been calculated using recapture data from anglers. Recaptures from counting facilities upstream from the estuary should be used to augment this data.
2. The identification of the Furunculosis bacterium as Saint John River wild strain in Appendix 2 should be explained.
3. The high juvenile densities and resulting high PHS values may be affecting growth of juveniles. Length at age data for juvenile surveys should be included in the future.
4. The description of native fisheries should include more details on the gillnet fisheries.
5. Angling catch data will be only be provided by DNRE FISHSYS in alternate years. New methods for estimating angling catch for the Miramichi River need to be developed.
6. The forecasting model for large salmon may be improved by removing previous spawners from the relationship.

RAPPORTEUR REPORT

ATLANTIC SALMON

Miramichi

Recommendations

1. Small salmon need to be tagged during both h the summer and fall to improve tag-recapture estimates of returns.
2. Smolt production within the Miramichi needs to be estimated.
3. Juvenile salmon growth changes between years need to be examined, particularly since densities have increased and current PHS values indicate densities may be surpassing a threshold level.
4. A forecast model to predict maiden 2SW returns in year I from 1SW returns in year I+1 should be developed.
5. Angling catch data independent of FISHSYS needs to be collected since FISHSYS will only be available in alternate years.

Fisheries Management Advice

1. Conservation requirements for egg depositions are unlikely to be met in 1998.
2. The forecast model used to predict large salmon returns for 1998 has been unreliable in the past. An in-season assessment of returns would be possible by mid-September.
3. There is no forecast for small salmon returns in 1998. An in-season assessment of returns can be made by mid-July.

DATE:March 13, 1998

RAPPORTEUR REPORT

ATLANTIC SALMON

Restigouche

Rapporteur: **John Hayward**

Working Paper Title: **Atlantic salmon Restigouche**

Author(s): **Andrea Locke**

Referees: **Caron, Francois**
Whoriskey, Fred

Introduction:

Concerns:
A discussion occurred about the different classifications of streams and rivers. Recognizing the differences within the streams is important.

Referees:
1. It is appropriate to see that the Restigouche has been broken down into the smaller tributaries but the data for the main Restigouche should be included and presented.
2. Are the snorkeling and visual count numbers used for extrapolating any other information?
3. Concern was expressed about the large number of fish that were not seen with streamer tags. What happened to these tags?
4. The two sets of information for estimating escapement - spawning numbers and juvenile surveys appear to be going in the opposite direction. Can this be explained.
5. Could the contribution of precocious parr be considered for the ratio of 1 to 1 spawners?
6. It is difficult to understand how the abundance indices are related to each other. Do any of them correlate to each other?
7. It would be helpful to include a table showing the percentages of fish counted by snorkeling, visual and other means.
8. Comment about the fact that 2.4 eggs/m^2 is used for calculating the entire system.

Recommendations
1. Consider using different color tags for future assessments.
2. It would be helpful to know the spawning requirements above the counting fences.
3. A prediction for the 1998 MSW fish may be accomplished from a relationship of the grilse data from the Upsalquitch and the Matapedia counting fences
4. A correlation using the Upsalquitch counts and angling numbers may be used for an estimate for the river.

RAPPORTEUR REPORT

ATLANTIC SALMON

Restigouche

Fisheries Management Advice

1.
2.
3.
4.
5.
6.

DATE: March 11, 1998

RAPPORTEUR REPORT

ATLANTIC SALMON

Chaleur Bay

Rapporteur: **Chaput, Gérald**

Working Paper Title: **Status of Atlantic Salmon in the Nepisiguit and Jacquet Rivers, New Brunswick, in 1997**

Author: **Locke, Andrea, Fran Mowbray, and A. Madden**

Referee: **Caron, François**

Introduction:
The Nepisiguit and Jacquet Rivers empty into Chaleur Bay (Gulf of St. Lawrence) in northeastern New Brunswick. For the Nepisiguit River, fence counts, redd counts, angling catches, and juvenile abundance data are used to assess the status of the stock. An active salmon stocking program has been carried out in the Nepisiguit River for the past two decades, initially to restore the population following a pollution event and subsequently for enhancement purposes. For the Jacquet River, a barrier fence has been operated since 1994. Conservation requirements are recalculated based on updated habitat measurements.

Concerns:

Referees:
1. Report biological characteristics data from fence samples, broodstock, to assess if there are changes in repeat spawners, etc.
2. Fisheries information for Nepisiguit: association estimate versus FISHSYS data versus logbook data. Association collects information in the field. Describe how these data are collected to confirm the validity of the estimates. Logbook data indicated relative catch below the fence was higher than in other years indicating fish were holding below the fence.
3. Results show decrease in catch and effort. Water conditions were low in the fall in this area and reliable discharge data would be useful. Discharge data from the hydro facility upstream should be presented.
4. Although clipped fish are stocked, few are observed returning. Few fish were observed overall in 1997 therefore difficult to estimate sea survival of hatchery stocked smolts
5. For Nepisiguit, used redd counts to situate status relative to previous years when complete counts/assessments were available.
6. Jacquet River habitat estimates should be described in greater detail. Surveys from 1968-69 contain more information regarding habitat type than has been presented.

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ATLANTIC SALMON

Chaleur Bay

Others:

1. Jacquet River counts are increasing as the fence was removed. More fish could have entered afterwards given the late spawning movements in the fall of 1997 observed in other rivers/tributaries of New Brunswick.
2. Useful to continue electrofishing surveys in the Jacquet River to verify the estimates of spawning escapements from previous years.
3. Logbook data may be selective for the best anglers and some of the angling data could be biased towards the better anglers.
4. For the Nepisiguit River, a large number of large salmon were removed for broodstock relative to the estimated returns. Is the current level of removal excessive relative to natural spawning escapement.

Recommendation:

1. Habitat survey methods should be appropriately described and tabled and where surveys are deficient (in terms of coverage, data quality), they should be completed / redone to conform with the required levels for assessing the conservation requirement. Historical information should be brought forward and assessed as to its usefulness and current applicability.

Management Considerations

1. Nepisiguit River: The current management regime allowing a retention fishery on small salmon and catch-and-release of large salmon has resulted in improved although variable juvenile abundance in the river since 1990.
2. Jacquet River: has been considered as a full protection barrier for salmon since 1995, small salmon are released to provide angling opportunity. No changes to current management are recommended.

Date: March 4, 1998

RAPPORTEUR REPORT

ATLANTIC SALMON

Buctouche River

Rapporteur: **Jones, Ross**

Working Paper Title: **Status of Atlantic salmon *(Salmo Salar)* in the Buctouche River in 1997.**

Author: **Atkinson, Gary**

Referee: **Lutzac, Tim**

Introduction:
The Buctouche River contains a late spawning run of Atlantic Salmon which is exploited by the Buctouche First Nation and by anglers. The stock on this river has been assessed since 1993 using a mark and recapture experiment in co-operation with the Buctouche First Nation and the Southeastern Anglers Association. Conservation requirements have not been met on this river in any year assessed.

Concerns:

Referee:
1. Since fish lost to poaching and disease are included in "2.4 egg requirement" and because they were not included in the table of removals it was suggested they should not be mentioned in the abstract.
2. It was suggested to remove the 3% hook and release mortality for angled fish since it is minimal in a fall fishery.
3. Was the reason that fry densities doubled from 1996 related to an underestimate of escapement in 1996 or an increase in egg to fry survival rate during the winter of 1996/97?
4. Spawning requirements should be revisited since recent surveys suggest less suitable habitat.

Others:
1. State the percentage of eggs removed by the various fisheries under the current management regulations.

Fisheries Management Advice:
1. The river is not expected to meet conservation requirements in 1998. However, current First Nation and angling harvests account for less than 2% of the total egg deposition.

Date: March 10, 1998

RAPPORTEUR REPORT

ATLANTIC SALMON

Richibucto River

Rapporteur: **Jones, Ross**

Working Paper Title: **Update on the Status of Atlantic salmon *(Salmo Salar)* in the Richibucto River in 1997.**

Author: **Atkinson, Gary**

Referee: **Cronin, Peter**

Introduction:
The Richibucto River has a late spawning run of Atlantic Salmon which is exploited by the Big Cove First Nation and by anglers. The stock on this river was previously assessed in 1992-94 and did not meet conservation requirements in any year. In 1997, the Richibucto River Association operated a counting fence on the main stem which provides the basis for the stock status update.

Concerns:

Referees:
1. Summary sheet should include footnotes to explain what "Below" represents and the poaching estimate of 200 fish, in 1992.
2. Pg. 6 - Explanation of poaching activities should be reworded so that one group is not singled out as the lone participant.
3. Concern was expressed over the use of the modal length value for large parr because of the small numbers of fish.
4. The missing allocation data for 1992-93 should be added to Table 1.

Others:
1. It should be noted that the gillnet activity does not knowingly take place in the Richibucto river but in the Richibucto estuary.
2. Was it possible the counting fence may have deflected some to the returning adults into the Coal branch system?
3. What was the cause of the degraded habitat and could the electrofishing data be used to look for possible "bottle necks" in egg to fry and/or fry to 1+ parr survival rates?

Fisheries Management Advice:
1. Since both juvenile densities and escapements above the fence were exceptionally low, the stock is considered to be in a poor condition for recovery, and conservation requirements are

RAPPORTEUR REPORT

ATLANTIC SALMON

Richibucto River

very unlikely to be met in the coming year. Allocations of salmon are not recommended in 1998.

Date: March 10, 1998

RAPPORTEUR REPORT

ATLANTIC SALMON

Prince Edward Island

Rapporteur: **Moore, Dave**

Working Paper Title: **An update on the status of Atlantic salmon on Prince Edward Island in 1997**

Author: **Cairns, David**

Referees: **Cunjak, Rick**

Introduction:

Concerns:

1. The change in the efficiency of the Leard's Fishway between 1996 and 1997 needs to be explained in more detail.
2. The fish spawning upstream of the Leard's Fishway (32 % of the habitat is above Leard's) are mostly hatchery fish. Could there be substantial numbers of wild fish spawning below Leard's.
3. Since the Leard's Fishway and dam are not to be used to count returns in the future and the spillway seems to be injuring salmon the structure should be removed from the river.
4. Juvenile salmon densities should be included in the document. With these egg to fry survivals can be calculated and reasons why the wild salmon returns are so low could be explored.
5. The fall run has disappeared since the 1980's - is there an explanation?
6. Hatchery smolt releases from semi-natural ponds need to be quantified annually so smolt to adult sea survival can be monitored.

Others:

Date: March 12, 1998

RAPPORTEUR REPORT

ATLANTIC SALMON

Inner Fundy

Rapporteur: **Tim Lutzac**

Working Paper Title: **Atlantic Salmon-Inner Bay of Fundy-SFA 22 & part SFA 23**

Author(s): **Amiro, Peter**

Referees: **None**

Introduction:
Inner Bay of Fundy salmon stocks inhabit 36 rivers in the upper end of the Bay of Fundy with 26 rivers in Nova Scotia's Salmon Fishing Area 23 (SFA 23) and 10 rivers in New Brunswick's SFA 22. They share similarities in biology and probably marine distribution as well as geography. Theses stocks have been in a state of decline since 1986 and have been closed to all fishing since 1990. The current position of Science Branch adopted at the 1996 peer review is that at least four consecutive years of increased juvenile levels will be required before a recommendation for any increase in stock exploitation would be recommended. Nineteen ninety-seven did not qualify as year one of four in the process.

Concerns:
1. Critical research on smolt migration through the Bay of Fundy was eliminated due to cutback in research funding and personnel. This would likely have shed light on the crash of salmon stocks and changes in marine survival there.
2. The advisability of carrying out broodstock collections for hatchery production of juvenile salmon to bolster stocks in these rivers was questioned. Pure Inner Bay of Fundy stocks are small and unique. Current research under way by Matt Jones et al. Examining the genetics of Inner Bay of Fundy salmon stocks, suggests that at low population levels, the potential to induce genetic drift by removal of adults for broodstock production is a reality. If enhancement is to be used as a tool to lever up salmon population sizes, the collection of parr from specific rivers, followed by rearing in the hatchery environment and restocking in the rivers of origin should be considered as an alternative.
3. Significant factors other than decreased marine survival have not been included as potential causes of poor returns to Inner Bay of Fundy rivers. For example, the presence of 432 partial or complete obstructions to the passage of salmon on Inner Bay of Fundy Rivers, a reality which has likely changed the entire ecosystem of the inner bay, has not been considered as a contributing factor. Further, possible effects of the introduction of salmon aquaculture to the Bay of Fundy along with the occurrence of associated new diseases, has been left out of the equation.

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ATLANTIC SALMON

Inner Fundy

Recommendations

1. Begin an evaluation of the effects of aquaculture on wild salmon stocks on Bay of Fundy rivers.
2. Evaluate the need for specific barriers to the passage of anadromous fish species on individual rivers and remove partial or complete obstructions to fish passage where possible.

Fisheries Management Advice

1. No fisheries for Atlantic salmon should be permitted in 1998.
2. Resource users should be alerted that prospects for short-term recovery of stocks are poor.
3. Fishers should also be made aware that the available data suggests no hope for recovery of stocks in the foreseeable future.
4. No consideration should be given to reopening rivers for salmon fishing until at least four consecutive years of elevated juvenile salmon levels have been achieved.

DATE: March 14, 1998

RAPPORTEUR REPORT

ATLANTIC SALMON

Southwest New Brunswick

Rapporteur: **Locke, Andrea**

Working Paper Title: **Status of Atlantic salmon stocks of southwest New Brunswick, 1997. Working Paper#98/45**

Author: **Marshall, Larry; Jones, Ross; Harvie, Carolyn**

Referees: **Cunjak, Rick; Meerburg, David**

Introduction:
Salmon stocks of the Saint John River above Mactaquac, the Nashwaak, Kennebecasis and Hammond rivers (tributaries to the Saint John below Mactaquac), and the Magaguadevic and St. Croix rivers are assessed. Returns were fewer than expected and continued a 10-year downward trend. Less than 40% of conservation requirements were met in most systems.

Concerns:

Rapporteurs:
1. Quality of the estimate of bycatch downriver of Mactaquac, Native catch, etc.
2. Need to justify sacrifice of fish for sex ratio and aging (explain better in report).
3. Stocks in the lower St. John (i.e., unregulated parts of the system) are not adequately assessed.
4. Lack of information on smolts is a serious shortfall in the data.
5. Assessment may be quite difficult to understand for the inexperienced reader.
6. Make it clear whether all native harvests are grilse.
7. Some confusion with fish removed from MSW category and moved to grilse.
8. No tabular material on thermal habitat index - might include so models can be played with.
9. Re recommendation to limit exploitation to male hatchery fish; might be hard to implement.
10. Include electrofishing sites on map.

Others:
1. At what point would salmon be considered “endangered” in the St John? Outside of the Serpentine stock, there may not be any wild fish according to the ICES definition.
2. If the stock is endangered, should we mitigate by, for example, removing the dam?
3. Identification of hatchery vs. wild fish. Once a fish is classified as hatchery based on external characteristics there is no opportunity to reclassify it to wild status. Could some of these be misclassified?
4. Maybe there is a problem with freshwater survival in the St. John? Doesn’t look like the smolts are getting out.
5. For management, it may be more conservative to recommend leaving the river closed until

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ATLANTIC SALMON

Southwest New Brunswick

an in-season forecast indicates that conservation requirements will be met, rather than starting with an open angling season.

Date: March 4, 1998

RAPPORTEUR REPORT

ATLANTIC SALMON

Northshore Nova Scotia

RAPPORTEUR: **Amiro, Peter**

Working Paper Title:

Author: **O'Neil, Shane**

Referees: **Lutzac, Tim**

Introduction:
About 15 stocks occupy rivers entering the Northumberland Strait on the north shore of mainland Nova Scotia. These stocks consist predominantly of large salmon entering rivers after autumn rains and increased river flows. Most rivers have met or exceeded required spawning escapements in the previous five years. Rivers were assessed by mark and recapture technique (River Philip); float count (Sutherlands and East, Pictou), and by angling catch rate (John; Wallace; Waugh; West, Antigonish; and West, Pictou).

Concerns:

Referees:
1. Is there a need to include hook and release mortality for late run rivers? Research shows that hook and release mortality is considerably less than the 5% used.
2. Regroup tables for greater clarity.
3. Describe methods for snorkel dive estimates more completely.
4. If trends in returns are increasing then state more clearly in recommendations to management for increased exploitation.
5. Statement concerning grilse is perhaps too definitive.
6. Reference to less restrictive regulations concerning exploitation of grilse needs to include cautions given the constraints of present regulation change mechanisms.

Others:

Date: March 4, 1998

RAPPORTEUR REPORT

ATLANTIC SALMON

Cape Breton

Rapporteur: **Paul LeBlanc**

Working Paper Title: **Atlantic salmon Cape Breton**

Author(s): **Larry Marshall et al.**

Referees: **Fred Whoriskey**

Introduction:
Stock assessments for five Cape Breton Island rivers are reviewed. Mark and recapture techniques were used to assess returns on Middle, Baddeck and North Rivers. Margaree River returns were estimated from historical estimates of returns of adults at Levis trapnet and recreational catch data from NS Salmon License stubs. Grand River returns were assessed using partial counts at the Grand River Falls fishway. Conservation requirements in 1997 were exceeded on the Margaree and North Rivers. Middle and Baddeck Rivers returns were about the 5 year average and remained below conservation requirements. Returns to the Grand River did not meet conservation requirements.

Concerns:

Referees:
1. Why was the Levis trapnet not operated during 1997?
2. Atlantic Rivers have shown a downward trend in returns during 1997 except for the Margaree, why?

Others:
1. Does Cape Breton Island have a screening process for aquaculture fish?
2. For the mark-recapture estimates, is there a concern that fish tagged in the lower end of the river system are not available for recapture?
3. Although not apparent, Margaree Returns may be on the same downward trend as the rest of of the Atlantic Rivers when you consider current returns levels as compared to historic returns minus fish harvested on the high sea fishery.

Fisheries Management Advice
1. There is no information to support an increase in fishing mortality.

DATE: March 13 , 1998

RAPPORTEUR REPORT

ATLANTIC SALMON

South Shore Nova Scotia

Rapporteur: **Larry Marshall**

Working Paper Title: **Status of Atlantic salmon in salmon Fishing Area 21, in 1997, with emphasis on the upper LaHave River, Lunenburg Co., Nova Scotia.**

Author(s): **Peter G. Amiro and Eric M. Jefferson**

Referees: **Cutting, R.E.**
Harvie, C. J.

Introduction:
Cutting is favorably impressed with content and improvement over last 3 years. He wondered about a link between the late run-timing of smolts (their fewness and size) in 1997 and run-timing of adults. Two related documents (1) Estimates of wild Atlantic salmon smolt production in Gold and Medway rivers derived from concurrent abundance and survival of wild and hatchery smolts in LaHave River, 1996. by P.G. Amiro and (2) Area of ice over the Newfoundland Shelf as a variable to reduce the variance of inseason forecasts of Atlantic salmon at Morgan Falls, LaHave River. Inseason forecasts at Morgan falls by C.J. Harvie and P.G. Amiro were also presented for peer review. However, no referees were assigned.

Concerns:

Referees:
1. (H) would prefer to see format of "results" follow that of "methods" esp., as pertains to forecast.
2. (H) wondered about stocked smolts laying over for a second year before smoltifying.
3. (H) forecast of 1SW hatchery fish (method 2) couldn't be duplicated within 80 fish (used values in 3rd last column, last 5 values).
4. (H) forecast of 1SW wild; probability of 310 = 1-value = 94(?) % ; why sum rather than use Method 2, 5 most recent years? (first time that we had a wild return rate).
5. (C) Table 10; footnote missing but wondered about assigning equal survival rates for age 0+ to 1+ and age 1= to age 2+ (Elson uses identical rates??)
6. (C) wondered about effects of handling at MF and contribution to mortality and reduction in actual escapement.
7. (C) Table 18, concern about fallback; groupings of tagged and dummy tagged gets 50% vs 40% (Table 17 is used for observed radio-tagged fish.). Wonders how many of the 13 stayed above MF? (2 went above that were never traced?) Table 18 is noted as not yet being complete - bulk of data is to come from kelts on their way out.
8. (C) concern over 1983 being a single year basis for determination of total river returns.

RAPPORTEUR REPORT

ATLANTIC SALMON

South Shore Nova Scotia

Problem stems from 1983 when 50+% of run to MF was even later than in 1997 and wonders if one wouldn't get a different rate of return to MF and a higher exploitation rate (because of delays in ascending).

9. (C) noted that North Branch produces all 2SW fish and should be assessed separately from the mainstem, i.e., use the other fishway.

Others:

1. Caron-notes that some hatchery smolts don't migrate and wonders what assumptions were made re: hold-over of tagged smolts (larger fish tagged and all assumed to migrate.)
2. Chaput- suggests estimating Ad-clip smolts out of system via return rates for tagged smolts and count of Ad-clipped grilse. To get at fall-back, requires more tags (ran out of fish to tag). He also has concern re: the proportion of returns that may have stayed below rather than ascend in late-season rises in water. This has potential to amplify exploitation rate. (counter argument is that tag returns are assumed to have returned to MF). Still a concern that exploitation rate is based on too few fish; more uncertainty in hatchery than wild fish.
3. **Estimates of wild Atlantic salmon smolt production in Gold and Medway rivers derived from concurrent abundance and survival of wild and hatchery smolts in LaHave River, 1996. by P.G. Amiro.** Chaput asks about cross validation of hatchery and wild exploitation rates on LaHave from those of the Gold(?).
4. **Area of ice over the Newfoundland Shelf as a variable to reduce the variance of inseason forecasts of Atlantic salmon at Morgan Falls, LaHave River. Inseason forecasts at Morgan falls by C.J. Harvie and P.G. Amiro** Harvie points that the forecast model formerly used July 7 is with the ice variable and June 15 date, more precise but not more accurate. Chaput seeks clarification on the effect of March ice on run timing. Ritter led a discussion on the concern about the high intercept values of the models and the probability of over predicting returns with respect to conservation .

Recommendations

1. None recorded per se.

Fisheries Management Advice (per SSr)

1. 60% probability of attaining conserv req'm at MF in 1998 @ zero exploitation.
2. To increase the chance of meeting requirements, exploitation should be minimized.
3. Any exploitation should be focused on hatchery grilse.
4. Adjustments to exploitation could occur after a June 15 assessment of end-of season counts at MF. Adjustments presumably applicable to other partially acid-impacted rivers of SFA 21.
5. The level of exploitation in rivers in which salmon have been extirpated but which offer

RAPPORTEUR REPORT

ATLANTIC SALMON

South Shore Nova Scotia

put-and take fisheries based on hatchery stocking (Mersey, Jordan and Clyde) is not currently a conservation concern.

DATE: March 26, 1998

RAPPORTEUR REPORT

ATLANTIC SALMON

Eastern Shore Nova Scotia

Rapporteur: **Harvie, Carolyn**

Working Paper Title: **Stock Status of Atlantic Salmon (*Salmo salar* L.) on the Eastern Shore of Nova Scotia, Salmon Fishing Area 20, in 1997**

Author: **O'Neil, Shane**

Referee: **Cutting, Dick**

Introduction:
Salmon Fishing Area 20, located on the eastern shore of Nova Scotia, includes 29 rivers, fewer than 20 of which have been fished in recent years. Many of the rivers are acid stressed. Atlantic salmon stock status is provided for several rivers in SFA 20, with special emphasis on the St. Mary's River.

Concerns:

Referees:
1. Best estimate of recapture in angling is at Salmon River.
2. Indicate when 2+ smolts were taken.
3. Consistent use of h&r mortality.
4. Why is there not a significant relationship between grilse sportcatch and MSW sportcatch the next year on the St. Mary's?

Others:
1. The MSW forecast for 1998 may be inflated due to the use of the 5-year mean return rate, which is higher than the 1997 return rate.
2. Escapements and fry the next year on the St. Mary's do not correspond very well. Are estimates of escapements out of whack?
3. Problem with use of ASRAM in density estimates of fry on the St. Mary's. Suspected problem is gravel emergence or over-wintering survival of juveniles. Look at why survivals are low.

Recommendations
1. Review of requirements in systems which will not achieve 2.4 eggs/m^2.
2. Population estimate on St. Mary's River.
3. Possible expand mark-recapture experiment for a more robust estimate of Salmon River fish.
4. Estimate hook-and-release mortality on fish caught at barrier beach on Salmon River (Tufts).
5. Develop a position on West River, Sheet Harbour, and others.

RAPPORTEUR REPORT

ATLANTIC SALMON

Eastern Shore Nova Scotia

Fisheries Management Advice

1. The acid-stressed stocks are also impacted by depressed marine survival. Spawning requirements for acid-stressed rivers are under review. Until returns improve, exploitation should be minimized.
2. In non-acid-stressed rivers, exploitation should be minimized because returns are not expected to meet conservation requirements. Returns to these rivers are anticipated to remain below conservation requirements until marine survival improves.

DATE: March 11, 1998

RAPPORTEUR REPORT

ATLANTIC SALMON

South Shore NS Gold and LaHave

Rapporteur: **Amiro, Peter**

Working Paper Title:

Author: **Marshall, Larry**

Referees: **Cutting, Dick**
Harvie, Carolyn

Introduction:

Concerns:

Referees:

Others:

Date: March 4, 1998

RAPPORTEUR REPORT

ATLANTIC SALMON

Ice & LaHave Salmon

Rapporteur: **Amiro, Peter**

Working Paper Title:

Author: **O'Neil, Shane**

Referees: **Lutzac, Tim**

Introduction:

Concerns:

Referees:

Others:

Date: March 4, 1998

RAPPORTEUR REPORT

STRIPED BASS

Southern Gulf

Rapporteur: **Atkinson, Gary**

Working Paper Title: **Status of striped bass (Morone saxatilis) in the southern Gulf of St. Lawrence in 1997.**

Author: **Chaput, Gérald**
Bradford, Rod

Referee: **Courtenay, Simon**

Introduction:
The southern Gulf of St. Lawrence is currently the principal area of wild striped production in New Brunswick. Gulf striped bass are genetically distinct from Bay of Fundy fish and are considered to comprise a single biological unit. Spawning primarily in the Northwest Miramichi estuary, this stock has a known summer range extending from Percé, Québec to Margaree River, Nova Scotia. The 1997 assessment represents the second census of spawner abundance since the permanent closure of the commercial fishery in March, 1996.

Concerns:

Referee:
1. A stronger statement should be made concerning management considerations relative to First Nation harvesting, and catch-and-release angling mortality.
2. The tagging effort in the Northwest Miramichi estuary should be described in greater detail.
3. It was questioned whether this stock could ever be expected to sustain a significant angling fishery, given the inherent uncertainties of being at the northern extreme of its range.
4. Concern was expressed that the spawner estimate would be biased if all the fish marked in the Nappan estuary did not ascend the Miramichi, as assumed.

Others:
1. There was concern that environmental impact assessments of nearby commercial development projects did not consider the effects on the quality of juvenile bass overwintering habitat in the Newcastle area of the Miramichi.

Recommendations
1. Effort should be directed toward determining the physical environmental parameters necessary for successful juvenile overwintering.
2. Examine the possibility of a relationship between river discharge and yearclass strength.
3. The effect on overwintering success of summer and winter temperatures, and possible changing oceanic temperature regimes, would be worth investigating.

RAPPORTEUR REPORT

STRIPED BASS

Southern Gulf

Fisheries Management Advice

1. An increased abundance of spawners is not expected before 1999. Measures to deter poaching and eliminate fisheries induced mortality are recommended. Conscientious angling practices (hook-and-release techniques) should be promoted throughout the southern Gulf of St. Lawrence. Current status of stocks information should be communicated to all parties (First Nations, commercial fishers, recreational fishers) for improved collaboration towards effective conservation measures.

DATE:13 March, 1998

PART 2

CONSULTATIONS

INTRODUCTION

This section of the Report contains the written records of the client consultation meetings held prior to the Peer Review meeting. The purposes of these consultations were to provide a preliminary status report on the stocks to clients and other interested parties, to gather any additional information and insights that they might contribute, and to seek suggestions on how to improve the assessment in the future. Some of these consultations were conducted as science only workshops while others were carried out under broader agendas usually dealing with a wider range of fisheries management aspects. Although there were inconsistencies in both meeting format and written record among the various consultations held, there was general consistency in the coverage of science matters.

ATLANTIC SALMON

MIRAMICHI SFA 16

N/A.

ATLANTIC SALMON

RESTIGOUCHE

1. SPECIES / STOCK:

- Restigouche R.

2. ARRANGEMENTS: Restigouche Fishery Science Working Group meeting

DATE: January 26 1998
TIME: 1000
LOCATION: DNRE, Campbellton

3. FORM OF CONSULTATION

- Science workshop

4. PARTICIPANTS

- Andrea Locke, DFO
- Alan Madden, DNRE
- Paul Cameron, DFO
- Bob Allain, DFO
- Dave Dunn, DFO
- Gerald Chaput, DFO
- Donald Sullivan, Management of Salmon in the Restigouche and Tributaries
- Richard Firth, Corporation de gestion du saumon du Matapedia et Patapedia
- Jean-Pierre LeBel, Quebec Ministere de l'Environnement et de la Faune
- Pierre D'Amours, consultant
- Ed LeBlanc, DNRE

5. NEW INFORMATION BROUGHT FORWARD

- Crown Reserve catches lowest in 17 years (A. Madden)
- biological characteristics of tributary stocks (A. Madden, P. Cameron)
- discussion of experimental night fishing by CGSMP (R. Firth)

6. CONCERNS RAISED BY CLIENTS

- effect of lack of data from Listuguj First Nation on the quality of the assessment; MEF is responsible for obtaining such data, use of spawner counts as primary assessment method reduces effect on estimate of spawning escapement but estimates of returns are affected.
- concern that DFO has the intention of changing biologists on the system again; clients complained that biologists are moved around so much they don't get familiar with the river system and this affects the level of service provided.
- lack of harmonization of management and conservation targets among provinces is harmful to public acceptance of salmon advice
- there is currently no venue for discussion of salmon management issues, although this working group provides a forum for scientific discussion; suggested Heritage River Committee as a venue for management consultation.

7. RECOMMENDATIONS:

a.) Pertaining to Assessment

- stick with the visual spawner counts (divers) as the recommended method of assessment; clients and collaborators have better confidence in this than in mark-recapture

b.) Pertaining to next year's work plans

- continue visual counts
- develop in-season assessments for N.B. tributaries; could use visual assessments as is done in Quebec tributaries.

- **Other Concerns:**
-

Andrea Locke
NAME OF PRESENTER

Andrea Locke
NAME OF RAPPORTEUR

ATLANTIC SALMON

CHALEUR BAY SFA 15

ATLANTIC SALMON

BUCTOUCHE SFA 16

1. SPECIES / STOCK:

- Atlantic salmon, Buctouche River, 1997

2. ARRANGEMENTS:

DATE: 17 December, 1997
TIME: 1300
LOCATION: Buctouche First Nation Band Office, Buctouche, NB

3. FORM OF CONSULTATION (Science Workshop, ZMAC, ETC..)

- Science Workshop

4. PARTICIPANTS (Name and Affiliation)

- Gérald Chaput - DFO Moncton
- Gary Atkinson - DFO Moncton
- Bill Sanipass - Buctouche First Nation
- Wilfred Sanipass - Buctouche First Nation
- Gilbert Sanipass - Buctouche First Nation
- Natalie LeBlanc - Southeastern Anglers Association
- Serge LeBlanc - Southeastern Anglers Association
- Jean-Claude Babineau - Southeastern Anglers Association
- Tom Pettigrew - NBDNRE

5. NEW INFORMATION BROUGHT FORWARD (what? by who?)-*(Only a brief description required)*

- Gary Atkinson presented preliminary results of 1997 stock assessment indicating a significant improvement over 1996, but not achieving the conservation requirement. Juvenile survey data showed low densities and suggested low egg-to-fry survival.
- Serge Leblanc tabled details of fall fingerling stocking.

6. CONCERNS RAISED BY CLIENTS (include concerns, plus follow-up action/response made or committed). - (*Only a brief description is required)*

- The Southeastern Anglers Association, whose operation of a counting fence is crucial to the assessment, was concerned that continued operation could only be on an ad hoc basis because of uncertain sources of funding. DFO has no means at present to directly fund such groups.
- Buctouche First Nation, which is very conservative in its harvesting regime, was concerned about the possibility of other First Nations harvesting from the Buctouche River.
- Clients were satisfied with the efficacy of the workshop/consultation process, and agreed to cooperate to the extent possible in maintaining the assessment of the stock.

7. RECOMMENDATIONS: (*Only a brief description is required)*

a.) Pertaining to Assessment

- To the extent possible contingent on funding, maintain the current level of operation of mark/recapture facilities, and sampling for juvenile abundance.

b.) Pertaining to next year's workplans

- No significant change from 1997.

NAME OF PRESENTER

Gary Atkinson
NAME OF RAPPORTEUR

ATLANTIC SALMON

RICHIBUCTO

1. SPECIES / STOCK:

- **Atlantic salmon - Richibucto River**

2. ARRANGEMENTS:

DATE: 3 March, 1998
TIME: 1:00 PM
LOCATION: NB Dept. of Fisheries and Aquaculture, Buctouche

3. FORM OF CONSULTATION (Science Workshop, ZMAC, ETC..)

- Science Workshop

4. PARTICIPANTS (Name and Affiliation)

- Gary Atkinson - DFO Science
- Claude Williams - NB Dept. of Fisheries and Aquaculture
- Gilles Cormier - Richibucto Sustainable Development Project, Richibucto River Ass.

5. NEW INFORMATION BROUGHT FORWARD (what? by who?)-*(Only a brief description required)*

- Gary Atkinson presented an analysis of the data collected at a counting fence by the Richibucto River Association. Results showed egg deposition in the main stem of the river to be only about 15 % of requirement. Juvenile populations in the main stem and Coal Branch were very low, indicating poor returns in recent years.
-

6. CONCERNS RAISED BY CLIENTS (include concerns, plus follow-up action/response made or committed). - (*Only a brief description is required)*

- Concern was expressed that allocations of salmon are permitted on this system when evidence indicates that conservation requirements are not nearly being met.

7. RECOMMENDATIONS: (*Only a brief description is required)*

a.) Pertaining to Assessment

- **None**

b.) Pertaining to next year's workplans

- **No significant change from 1997.**

Gary Atkinson

NAME OF PRESENTER **NAME OF RAPPORTEUR**

ATLANTIC SALMON

PRINCE EDWARD ISLAND SFA 17

N/A.

ATLANTIC SALMON

INNER BAY OF FUNDY SFA 22

Northumberland Strait, Nova Scotia Science Review, 1997

1. SPECIES / STOCK:

- Atlantic salmon stocks of the Northumberland Strait coast portion of mainland Nova Scotia

2. ARRANGEMENTS: Fisheries and Oceans, Antigonish Office

DATE: January 6, 1998
TIME: 7:00 p.m.
LOCATION: Best Western Glengary, Truro, N.S.

3. FORM OF CONSULTATION

- Science information exchange with brief review of management issues

4. PARTICIPANTS

• Sandy W. Deny	Pictou Landing First Nation
• Cory Francis	Native Council of Nova Scotia
• Richard Kellock	Pictou County Rivers Association
• Bob Ferguson	Pictou County Rivers Association
• Lewis Hinks	Atlantic Salmon Federation
• Don MacLean	Nova Scotia Department of Fisheries and Aquaculture
• Leroy MacEachern	Fisheries and Oceans, Antigonish
• Warren Parsons	Fisheries and Oceans, Antigonish
• Charles MacInnes	Fisheries and Oceans, Antigonish
• Shane O'Neil	Fisheries and Oceans, Science Branch, Halifax

5. NEW INFORMATION BROUGHT FORWARD

- Pictou County Rivers Association described a habitat survey database which they have established and a partial physical survey of East River, Pictou, which they have completed. They will pass on a summary of their holdings to Charles MacInnes, Habitat biologist for the area.
- Middle River, Pictou - Pictou County Rivers Association is cooperating with the Pictou Harbours Environmental Cleanup Project to compile an historical account of the impoundments which affect Pictou Harbour and to organize sampling of the sediment in the Middle River reservoir. Funding for the project has been made available through Michelin and Kimberly Clark. These data are not available yet for inclusion in the assessment of Middle River or West River, Pictou.

6. CONCERNS RAISED BY CLIENTS

- French River, Pictou - Pictou County Rivers Assoc. expressed concern over the number of returns to the river. There are limited science data available for French River (electrofishing spotchecks for juveniles) so the status of the stock is inferred from neighboring Sutherlands River or Barney's River where additional information is available.

- Angling data - Many anglers are believed to be fishing salmon without a salmon license. Can this be addressed as it will affect the quality of the catch and effort data.

7. RECOMMENDATIONS:

a.) Pertaining to Assessment

- Increase license stub return rates to improve quality of the angling data both by dealing with the problem of anglers fishing without a salmon license, providing drop boxes for the stubs at various locations.

b.) Pertaining to next year's work plans

- Determine status of French River, Pictou salmon stock
- Monitor adult returns to Middle River for the next 2 years to see return rate of hatchery fish.
- Would like to see adult population estimates continue

Other Concerns:

- McLellands Brook - concern expressed regarding the siting of a debris disposal site on land which drains into the brook.

Shane F. O'Neil
NAME OF PRESENTER

Shane F. O'Neil
NAME OF RAPPORTEUR

ATLANTIC SALMON

SOUTHWEST NEW BRUNSWICK SFA 23

N/A.

ATLANTIC SALMON

NORTH SHORE NOVA SCOTIA SFA 18

N/A.

ATLANTIC SALMON

CAPE BRETON SFA 19

1. SPECIES / STOCK:

- Atlantic salmon, Cape Breton, NS.

2. ARRANGEMENTS:

DATE:Dec. 16, 1997
TIME: 7:00 PM
LOCATION: Bell Museum, Baddeck, NS.

3. FORM OF CONSULTATION (Science Workshop, ZMAC, ETC..)

- Science Information Exchange
- Cape Breton Sport Fishery Advisory Committee

4. PARTICIPANTS (Name and Affiliation)

Marshall Kaiser, (Chair, CBSFAC), David Harding and Gordon MacKinnon (C.B. Anglers), Lewis Hinks (Atlantic Salmon Federation), John Hart and Leonard Forsyth (Margaree Salmon Assoc.), Rannie Gillis (C.B. Island Wildlife), Kevin Dolhanty (Bras d'Or Wildlife), Gordon Delaney (C.B. Highlands National Park), John Macdonald and Douglas Poole (North Sydney Wildlife Assoc.), Hubert Doyle (Richmond Wildlife), John F. Kennedy (N.S. Wildlife Federation), Albert Ranson and Vernon Boone (Port Morien Wildlife), Darryl Murrant (N.S. Dept. of Fisheries), Jack MacKillop (Trout Unlimited, Whycocomagh), Bill Stephens (Highland Bras d'Or Sport Fishery) and Florence Mancini (DFO, Sydney)

5. NEW INFORMATION BROUGHT FORWARD (what? by who?)

- Swim-thru conducted staff of CBHNP on Clyburn River, Nov 19, in which 52 MSW and 19 1SW were counted (no mark recap estimate). 1SW count exceeds that of 3 of 6 years, 1985-1990; MSW count exceeds that of 2 of the 6 yrs (respective 6-yr means = 17.8 and 72.5 fish).; 3 swimmers and good visibility..
- Orange streamer tag (clean) noted on salmon in Ingram Brk, Margaree River by Larry Forsyth. Nearest tag applications were in East River Pictou and North River Victoria County.

6. CONCERNS RAISED BY CLIENTS (include concerns, plus follow-up action/response made or committed).

- Importance of sample size in mark-and-recapture for derivation of estimate.
- Possibility of tag loss and impact on over-estimating the population (North R.)

7. RECOMMENDATIONS:

a.) Pertaining to Assessment

- None

b.) Pertaining to next year's work plans

- None

Other Concerns:

- Impact of Greenland/ Labrador fisheries on reduced returns
- Government reductions (hatcheries, habitat and fish protection
-

L. Marshall
NAME OF PRESENTER

L. Marshall
NAME OF RAPPORTEUR

ATLANTIC SALMON

SOUTH SHORE NOVA SCOTIA SFA 21

1. SPECIES / STOCK:

- Salmon Fishing Area 21 - emphasis on LaHave River

2. ARRANGEMENTS: Bridgewater Office DFO

DATE: December 16, 1997
TIME: 10:00 - 13:00
LOCATION: Wandlyn Inn, Bridgewater, N.S.

3. FORM OF CONSULTATION (ZMAC - Science)

- Presentation of 1997 preliminary assessment.
- Roundtable discussion of previous year and next year.

4. PARTICIPANTS (Name and Affiliation)

- six local river committees, ASF, NS DoF, C&P of the DFO, MP's representative.
- List included in minutes being prepared by the Bridgewater C&P office.

5. NEW INFORMATION BROUGHT FORWARD (what? by who?)

- 1997 returns to Morgan Falls (MF). Return rates of wild and hatchery fish to MF. Harvests of grilse by angling in 1997 and estimated escapement, about 54% of requirement. (DFO)
- Estimate of 1997 smolt run above MF. Estimate of 1998 returns to MF using previous methodology and a method incorporating the low return rates of grilse in 1997. The median value of the most optimistic forecast would barely meet requirements with a fishery as in the past. This same forecast method overestimated the 1997 return by a factor of 3.3. Forecasts incorporating the 1997 return rate and the 1997 wild smolt count would imply reductions in exploitation to have at least a 50% chance of meeting escapement.(DFO)

6. CONCERNS RAISED BY CLIENTS (include concerns, plus follow-up action/response made or committed).

- Water quality in Rhodonizer Brook.
- Acid rain mitigation
- Quality control and compliance concerning hatchery production of Atlantic salmon with the divestiture of hatcheries from the government to private hands.

7. RECOMMENDATIONS:

a.) Pertaining to Assessment

- Trap in estuary should be larger.

b.) Pertaining to next year's work plans

- Assess the impact on wild stocks of hatchery interventions past and future.

Other Concerns:

- Local information and fisheries are taking the brunt of changes but no new information on marine survival
- Better communications of changes in regulations.

NAME OF PRESENTER :
P Amiro:

NAME OF RAPPORTEUR
P. Amiro, C. Veniot (minutes)

ATLANTIC SALMON

EASTERN SHORE NOVA SCOTIA SFA 20

Salmon Fishing Area 20
Zone Management Committee Science Review Meeting
December 18, 1997

Outline of Science Review

1. Purpose of science review

2. Status of Eastern Shore, N.S. salmon stocks in 1997

3. Stock assessment methodology: general and the 1997 program

- Musquodoboit River
- West and East River, Sheet Harbour
- Liscomb River
- St. Mary's River
- Salmon River, Guysborough

4. Input from clients not previously obtained

5. Forecast for 1998 based on current information

ATLANTIC SALMON

SOUTH SHORE NOVA SCOTIA - GOLD AND LAHAVE

N/A.

ATLANTIC SALMON

ICE AND LAHAVE SALMON

N/A.

ENVIRONMENTAL CONDITIONS

FRESHWATER ENVIRONMENTAL CONDITIONS

Not applicable.

STRIPED BASS

SOUTHERN GULF

Appendix 1. Record of Science consultation for striped bass for 1997.

1. SPECIES / STOCK:

- Striped bass Miramichi River/Southern Gulf of St. Lawrence

2. ARRANGEMENTS:

DATE: March 2, 1998
TIME: 10:00 to 14:00
LOCATION: Kouchibouguac National Park, Kouchibouguac, New Brunswick

3. FORM OF CONSULTATION (Science Workshop, ZMAC, ETC..)

- Science Workshop

4. PARTICIPANTS (Name and Affiliation)

- Normand Allain, Gaspereau fisher (Northwest Miramichi), Richibouctou Village, NB
- Robert Allain, DFO, Area Manager, Tracadie-Sheila, NB
- Gerald Beck, Richibucto Sutstainable Development, Richibucto, NB
- Gerald Chaput, DFO Science, Moncton, N.B.
- Harry Collins, MREAC, Chatham, N.B.
- Rona Cormier, Gaspereau fisher, Pointe-Sapin, NB
- Simon Courtenay, DFO Science, Moncton, NB
- Brian Donovan, Angler, Miramichi, N.B.
- Bernard L. Dubee, DNRE, Miramichi, N.B.
- David Dunn, DFO Fisheries Management, Moncton, N.B.
- Glen Ferguson, DFO, Tracadie-Sheila, NB
- John Hayward, DFO Science, Miramichi, N.B.
- Léophane LeBlanc, Kouchibouguac National Park, Kouchibouguac, N.B.
- Eugène Richard, Gaspereau fisher (Northwest Miramichi), Richibouctou Village, NB
- Mike Robinson (MSc Student), University of New Brunswick, Fredericton, NB
- Eric Tremblay, Park Ecologist, Kouchibouguac National Park, Kouchibouguac, NB
- Kevin Walker, Beaver Enterprises, Miramichi, NB
- France Vautour, Fisher, St. Louis, NB
- Chris Ward, Eel Ground Fisheries, Eel Ground, NB
- James P. Ward, North Shore Micmac Development Corporation, Eel Ground, NB
- Fred Wheaton, New Brunswick Wildlife Federation, Moncton, N.B.

5. NEW INFORMATION BROUGHT FORWARD (what? by who?)-*(Only a brief description is required)*

- egg and larval survey in Kouchibouguac did not find bass in 1996 but juveniles were seined in late summer (L. LeBlanc, Kouchibouguac Park)
- eggs and larvae not found in Kouchibouguac Park but juveniles observed in late summer as in

1996 (Mike Robinson, UNB)

- eggs and larvae not found in the Richibucto River in 1997 but juveniles observed in August. Sampling along the coast from Miramichi to Richibucto found young-of-the-year bass distributed along the coast suggesting that juveniles observed in Kouchibouguac River and Richibucto River probably originated from the Miramichi river (Mike Robinson, UNB).
- overwinter study conducted by telemetry in Kouchibouguac Park indicated that winter habitat for bass was restricted to a small portion of the estuary under specific brackish water conditions (E. Tremblay, Kouchibouguac National Park)
- summary of mercury content study in musculature of striped bass which indicated that bass greater than 45 cm fork length may or may not have mercury levels which exceed Health Canada guidelines (Harry Collins, MREAC)

6. CONCERNS RAISED BY CLIENTS (include concerns, plus follow-up action/response made or committed). -

- frustration expressed by MREAC and the New Brunswick Wildlife Federation at the lack of support from the Environmental Trust Fund, NB Wildlife Trust, Environment Canada Science Linkages in supporting proposed studies regarding overwinter habitat requirements of bass and potential impact of human activities on this habitat.
- proposal to establish a striped bass working group to focus the issues of striped bass conservation and promote the dissemination of issues, research being conducted and establish priorities. (E. Tremblay and G. Chaput to follow-up on terms of reference and organization)

7. RECOMMENDATIONS: (*Only a brief description is required)*

a.) Pertaining to Assessment

- The use of gaspereau traps in the Northwest Miramichi to estimate spawner abundance may be compromised by variations in season openings and effort. The use of alternate sources of data such as the Eel Ground food fishery trapnets should be considered to provide a more consistent measure of abundance (based on catch per unit of effort)

b.) Pertaining to next year's workplans

- continue estimation of spawner abundance and YOY index in openwater fishery to determine the extended contribution of the 1991 year-class
- with the collaboration of user-groups in other estuaries (Richibucto, Kouchibouguac) assess through tagging and monitoring of spawners in the spring whether spawning does occur and in a consistent manner in estuaries other than the Miramichi

Gérald Chaput
NAME OF PRESENTOR

Gérald Chaput
NAME OF RAPPORTEUR

PART III

APPENDICES

APPENDIX 1.1

Science Branch
Maritimes Region
343 Archibald Street
Moncton, N.B.
E1C 9B6

February 24, 1998

«Title» «FirstName» «LastName»
«JobTitle»
«Company»
«Address1»
«Address2»
«City», «State»
«Postal_Code»

Dear «Title» «LastName»:

This letter gives notice of the scientific peer review session for Maritimes Region diadromous fish stocks. The review will take place March 9-12, 1998, in the Miramichi Room (5th Floor, Room 544) of the Gulf Fisheries Centre, 343 Archibald Street, Moncton, N. B. It will commence at 1:00 p.m. on Monday, the 9th.

You and/or representatives of your organization are welcome to come and participate in the discussion of those stocks in which you have interest. Formal referees have been named for each stock presentation, but time is being made available for others, such as yourself, who might have questions or wish elaboration on a particular stock assessment. Enclosed is a proposed agenda and schedule for presentation of the various stock assessments.

We hope your interests will be represented at the review. However, we are unable to assist with travel expenses.

Sincerely yours,

J. A. Ritter
Manager
Diadromous Fish Division

Attachment

APPENDIX 1.2

Maritimes Region
Science Branch
343 Archibald Street
Moncton, N.B. E1C 9B6

March 2, 1998

«Title» «FirstName» «LastName»
«JobTitle»
«Company»
«Address1»
«Address2»
«City», «State»
«PostalCode»

Dear «Title» «LastName»:

This letter is to confirm my invitation to you to serve as a referee at the Diadromous Fish Stock Peer Review to be held March 9-12, 1998. The review will take place in the Miramichi Room (5th Floor, Room 544) of the Gulf Fisheries Centre, 343 Archibald Street, Moncton, N.B. It will commence at 1:00 p.m. on Monday, the 9th.

The paper(s) that we are asking you to review will be forwarded to you as early as possible before the meeting. Also included for your information and guidance, are copies of both the Agenda for the Peer Review and some suggested "Considerations for Referees". You are welcome to participate in all or any of the review sessions. You will note from the Agenda that this Peer Review extends through to Thursday noon and encompasses all the salmon stocks for the Maritime Provinces, the striped bass stock for the southern Gulf and the gaspereau stock of the Margaree River.

We are pleased to reinburse you for your accommodations and food costs.

We look forward to working with you to ensure a thorough review of our diadromous stock assessments.

Sincerely,

John A. Ritter, Manager
Diadromous Fish Division

Attachment

APPENDIX 1.3

Listuguj First Nation
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Restigouche, P.Q.
GOC 2R0

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P.O. Box 700
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Mr. Randy Angus
Charlo Hatchery
R.R. #3
Cardigan, P.E.I.
COA 1G0

Chief Robert Atwin
Kingsclear First Nation
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R.R. #6
Fredericton, N.B.
E3B 4X7

Chief Michael Augustine
Red Bank First Nation
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Mr. Gilles Babin
Park Biologist
Kouchibouguac National Park
Kouchibouguac
Kent Co., N.B.
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Chief Floyd Bernard
Madawaska Mallseet First Nation
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Saint Basile , N.B.
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Chief Edwin Bernard
Tobique First Nation
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Gouvernement du Québec
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Mr. Scott Cook
Chairman Fish Committee
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Assistant Director
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Mr. Tim Dedam
Eel River Bar First Nation
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Mr. Charlie Denis
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Mi'Kma'Ki Aboriginal Fisheries Service
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BOK 1X0

Mr. Bill Donald
Miramichi Watershed Management Committee
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Mr. Ken Drinkwater
Research Scientist Coastal Oceanography
Department of Fisheries and Oceans
Bedford Institute of Oceanography
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Regional Biologist
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Mr. Todd Dupuis
EPAP Coordinator
Atlantic Salmon Federation
c/o Watershed Improvement Recreational Fisheries Organization
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Chief William J. Sanipass
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APPENDIX 1.4

M. François Caron
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EOG 2X0

APPENDIX 1.5

Attendees:	**Referee Yes/No**	**Affiliation**	**Location**	**Days in attendance Mar.9-12, 1998**
Ritter, John	No	DFO, Science	Chair - Moncton	March 9-12
Amiro, Peter, G.	No	DFO, Science	Halifax	March 9-12
Atkinson, Gary	No	DFO, Science	Moncton	March 9-11
Bradford, Rod	No	DFO, Science	Halifax	March 11
Brimley, Bill	No	Environment Canada	1496 Bedford Highway Bedford, N.S. B4A 1E5	March 10-11
Cairns, David	No	DFO, Science	Charlottetown, PEI	March 9-12
Caissie, Daniel	No	DFO, Science	Moncton	March 9-12
Caron, François	Yes	MEF, Québec	Québec	March 9-11
Chaput, Gérald	No	DFO, Science	Moncton	March 9-12
Claytor, Ross	Yes	DFO, Science	Moncton	March 9
Conlon, Jim	No	DFO, Science	Moncton	March 9-10
Courtenay, Simon	Yes	DFO, Science	Moncton	March 11
Cronin, Peter J.	Yes	NB Dept. Nat. Resoures & Energy	Fredericton	March 9-11
Cunjak, Rick	Yes	DFO, Science	Moncton	
Cutting, Dick	Yes	Retired		March 9-12
Davidson, Kevin	No	DFO, Science	Moncton	
Dube, Bernie	No			March 9
Fairchild, Wayne	No	DFO, Science	Moncton	March 11
Forsyth, Leonard	No	Margaree Salmon Association	Margaree	March 10
Fraser, Phil	No	NB Aboriginal Peoples Council	NBAPC 320 Saint Mary's Street Fredericton, N.B. E3A 2S4	March 9-10
Goff, Trevor	No	Mactaquact Fish Hatchery	Mactaquac	March 12
Griffin, Gary	No	NB Wildlife Federation	Moncton	March 10-11
Hambrook, Mark	No	Miramichi Fish Hatchery	Miramichi	March 9
Hart, John	No	Margaree Salmon Association	Margaree	March 10
Harvie, Carolyn	Yes	DFO, Science	Halifax	March 9-11
Hayward, John	No	Miramichi Fish Hatchery	Miramichi	March 9-11
Hooper, Bill	No	NB Dept Nat. Resources & Energy	Fredericton	March 9-10
Jessop, Brian	Yes	DFO, Science	Halifax	March 11-12
Jones, Ross	No	DFO, Science	Moncton	March 9-11
LeBlanc, Ed	No	NB Department of Natural Resources and Energy	Edmundston, N.B.	March 9-10
LeBlanc, Paul	No	DFO, Science	Moncton	March 9-11
Locke, Andrea	No	DFO, Science	Moncton	March 9-12

APPENDIX 1.5

Attendees:	**Referee Yes/No**	**Affiliation**	**Location**	**Days in attendance Mar.9-12, 1998**
Lutzac, Tim	Yes	DFO, Science	Moncton	March 9-12
Mallery, John	No	DFO, Science	Halifax	March 9-10
Marshall, Larry	No	DFO, Science	Halifax	March 9-12
Meade, Ken	No	NSPI	P.O. Box 910, Halifax, N.S. B3J 2W5	March 10-11
Meerburg, Dave	Yes	DFO, Science	Ottawa	March 9-10
Moore, Dave	No	DFO, Science	Moncton	March 9-11
Mowbray, Fran	No	DFO, Science	Moncton	
Nobiss, Christine	No	NB Aboriginal Peoples Council	Ontario	March 9-10
O'Neil, Shane	No	DFO, Science	Halifax	March 9-12
Pettigrew, Tom	No		Hampton, N.B.	March 10
Simpson, Richard	No	Eel River Bar Fish Nation		March 9
Watt, Walton	No	DFO, Science	Halifax	
Whitlook, John	No	Salmon Care		March 10-11
Whoriskey, Fred	Yes	Atlantic Salmon Federation	St. Andrews	March 9 & 10

(R) Referees

APPENDIX 1.6

A G E N D A

FOR 1997/98 DIADROMOUS FISH STOCK ASSESSMENT PEER REVIEW
MARCH 9-12, 1998 (prepared February 24, 1998)

Monday, March 9			
PM	**1:00**	**- Introductions**	
		- Atlantic salmon Miramichi	**WP-98-37**
		- Coffee	
		- Atlantic salmon Restigouche	**WP-98-38**
Tuesday, March 10			
AM	**8:30**	**- Atlantic salmon Chaleur Bay**	**WP-98-39**
		- Atlantic salmon Boutouche and Richibucto	**WP-98-40 / WP-98-41**
		- Coffee	
		- Freshwater Environmental Conditions	**WP-98-42**
		- Atlantic salmon PEI	**WP-98-43**
		- Atlantic salmon Inner Bay of Fundy	**WP-98-44**
		- Lunch	
PM		**- Atlantic salmon Southwest New Brunswick**	**WP-98-45**
		- Coffee	
		- Atlantic salmon North Shore Nova Scotia	**WP-98-46**
		- Atlantic salmon Cape Breton	**WP-98-47**
Wednesday, March 11			
AM	**8:30**	**- Atlantic salmon South Shore Nova Scotia**	**WP-98-48**
		- Coffee	
		- Atlantic salmon Eastern Shore Nova Scotia	**WP-98-49**
		- Striped Bass Southern Gulf	**WP-98-50**
		- Lunch	
		- Eels PEI	**WP-98-51**
		- Reports	
		- Coffee	
		- Reports	
Thursday, March 12			
AM	**8:30**	**- Reports**	
	11:45	**- Closing Comments**	

APPENDIX 1.7

1997 DIADROMOUS FISH STOCK ASSESSMENT PEER REVIEW SCHEDULE

(Rapporteurs / Lead and Referees)

Prepared: March 18, 1998

SPECIES	ASSESSMENT STOCK	Assigned #s	RAPPORTEURS	LEAD	REFEREE #1	REFEREE #2
ATLANTIC SALMON	Miramichi **SFA 16**	WP-98/37	Moore, David	Chaput, G.	Cronin, Peter	Whoriskey, F.
ATLANTIC SALMON	Restigouche	WP-98/38	Pickard, Russell	Locke, A.	Caron, François	Claytor, Ross
ATLANTIC SALMON	Chaleur Bay **SFA 15**	WP-98/39	Chaput, Gérald	Locke, A.	Caron, François	
ATLANTIC SALMON	Buctouche **SFA 16**	WP-98/40	Jones, Ross	Atkinson, G.	Lutzac, Tim	
ATLANTIC SALMON	Richibucto	WP-98/41	Jones, Ross	Atkinson, G.	Cronin, Peter	
ENVIRONMENTAL CONDITIONS	Freshwater Environmental Conditions	WP-98/42	Conlon, Jim	Caissie, D.		
ATLANTIC SALMON	Prince Edward Island **SFA 17**	WP-98/43	Moore, Dave	Cairns, D.	Cunjak, Rick	
ATLANTIC SALMON	Inner Bay of Fundy **SFA 22**	WP-98/44	Lutzac, Tim	Amiro, P.		
ATLANTIC SALMON	Southwest New Brunswick **SFA 23**	WP-98/45	Locke, Andrea	Marshall, L.	Cunjak, Rick	Meerburg, D.
ATLANTIC SALMON	North Shore Nova Scotia **SFA18**	WP-98/46	Amiro, Peter	O'Neil, S.	Lutzac, Tim	
ATLANTIC SALMON	Cape Breton **SFA 19**	WP-98/47	LeBlanc, Paul	Marshall, L.	Whoriskey, Fred	
ATLANTIC SALMON	South Shore Nova Scotia **SFA 21**	WP-98/48	Marshall, Larry	Amiro, P.	Cutting, Dick	Harvie, C.
ATLANTIC SALMON	Eastern Shore Nova Scotia **SFA 20**	WP-98/49	Harvie, Carolyn	O'Neil, S.	Cutting, Dick	
STRIPED BASS	Southern Gulf	WP-98/50	Atkinson, Gary	Chaput, G. and Bradford, R.	Courtenay, Simon	
ATLANTIC SALMON	South Shore NS Gold and LaHave	WP-98/51	Amiro, Peter	Marshall, L.	Cutting, Dick	Harvie, C.
ATLANTIC SALMON	Ice & LaHave Salmon	WP-98/52	Amiro, Peter	Marshall, L.	Cutting, Dick	Harvie, C.