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**Proceedings Series 2004/041** | **Série des compte rendus 2004/041**

# PROCEEDINGS OF THE MARITIMES REGION SPECIES AT RISK RECOVERY TEAMS

## MEETINGS OF 2003

**1 April 2003 to 31 March 2004**

Species at Risk Office
Bedford Institute of Oceanography
1 Challenger Drive, P.O. Box 1006
Dartmouth, Nova Scotia
B2Y 4A2

# COMPTE RENDU DES RÉUNIONS DES ÉQUIPES DE RÉTABLISSEMENT DES ESPÈCES EN PÉRIL - RÉGION DES MARITIMES

## RÉUNIONS DE 2003

**Du 1er avril 2003 au 31 mars 2004**

Bureau de coordination pour
les espèces en péril
Institut océanographique de Bedford
1, promenade Challenger, C.P. 1006
Dartmouth (Nouvelle-Écosse)
B2Y 4A2

**May 2005 / mai 2005**

Canada

## Foreword

The purpose of these proceedings is to archive the activities and discussions of the meeting, including research recommendations, uncertainties, and to provide a place to formally archive official minority opinions. As such, interpretations and opinions presented in this report may be factually incorrect or mis-leading, but are included to record as faithfully as possible what transpired at the meeting. No statements are to be taken as reflecting the consensus of the meeting unless they are clearly identified as such. Moreover, additional information and further review may result in a change of decision where tentative agreement had been reached.

## Avant-propos

Le présent compte rendu fait état des activités et des discussions qui ont eu lieu à la réunion, notamment en ce qui concerne les recommandations de recherche et les incertitudes; il sert aussi à consigner en bonne et due forme les opinions minoritaires officielles. Les interprétations et opinions qui y sont présentées peuvent être incorrectes sur le plan des faits ou trompeuses, mais elles sont intégrées au document pour que celui-ci reflète le plus fidèlement possible ce qui s’est dit à la réunion. Aucune déclaration ne doit être considérée comme une expression du consensus des participants, sauf s’il est clairement indiqué qu’elle l’est effectivement. En outre, des renseignements supplémentaires et un plus ample examen peuvent avoir pour effet de modifier une décision qui avait fait l'objet d'un accord préliminaire.

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ISSN 1701-1280

Published and available free from:
Une publication gratuite de:

Fisheries and Oceans Canada / Pêches et Océans Canada
Canadian Science Advisory Secretariat / Secrétariat canadien de consultation scientifique
200, rue Kent Street
Ottawa, Ontario
K1A 0E6

http://www.dfo-mpo.gc.ca/csas/

CSAS@DFO-MPO.GC.CA

Printed on recycled paper.
Imprimé sur papier recyclé.

Correct citation for this publication:
On doit citer cette publication comme suit:

DFO, 2004. Proceedings of the Maritimes Region Species at Risk Recovery Team Meetings of 2003. DFO Can. Sci. Advis. Sec. Proceed. Ser. 2004/041.

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## SUMMARY

In 2003, Canada passed its "Species at Risk Act". The purposes of the Species at Risk Act (SARA) are to prevent wildlife species from being extirpated or becoming extinct, to provide for the recovery of wildlife species that are extirpated, endangered or threatened as a result of human activity and to manage species of special concern to prevent them from becoming endangered or threatened.

As such, the Minister of Fisheries & Oceans, as a "competent minister" under SARA, has responsibility for the survival and recovery of aquatic species at risk. To foster the survival and recovery of species at risk, SARA requires the development of "*Recovery Strategies*" and "*Action Plans*". Recovery Teams are in place for the North Atlantic Right Whale, Inner Bay of Fundy Atlantic Salmon, Atlantic Whitefish, Lake Utopia Dwarf Smelt and the Atlantic Leatherback Turtle.

This document provides a formatted and stylized synopsis of the meetings of these recovery teams for the period 1April 2003 to 31 March 2004.

## SOMMAIRE

En 2003, le Canada a adopté sa *Loi sur les espèces en péril* (LEP). Cette loi vise à prévenir la disparition - de la planète ou du Canada seulement - des espèces sauvages, à permettre le rétablissement de celles qui, par suite de l'activité humaine, sont devenues des espèces disparues du pays, en voie de disparition ou menacées et de favoriser la gestion des espèces préoccupantes pour éviter qu'elles ne deviennent des espèces en voie de disparition ou menacées.

En sa qualité de « ministre compétent » aux termes de la LEP, le ministre des Pêches et des Océans est responsable de la survie et du rétablissement des espèces aquatiques en péril. Pour faciliter la survie et le rétablissement des espèces en péril, la LEP exige l'élaboration de « programmes de rétablissement » et de « plans d'action ». Des équipes de rétablissement ont été mises sur pied pour ce qui concerne la baleine noire de l'Atlantique, le saumon atlantique de l'arrière-baie de Fundy, le corégone atlantique, l'éperlan nain du lac Utopia et la tortue luth.

Le présent document fournit un compte rendu sommaire formaté et stylisé des réunions tenues par ces équipes de rétablissement entre le 1er avril 2003 et le 31 mars 2004.

# NORTH ATLANTIC RIGHT WHALE RECOVERY IMPLEMENTATION TEAM

## INTRODUCTION

A Canadian Recovery Implementation Team for the North Atlantic Right Whale has been functioning for several years. The team completed the first phase of their work with the release of a Canadian Recovery Plan in 2000. Since then, the Canadian North Atlantic Right Whale Recovery Implementation Team meets once to twice per year to discuss progress on the Implementation Table in the current Strategy. The next step for the Team is to amend the recovery plan so that it is compliant with the new federal legislation, the Species at Risk Act (SARA). Following the completion of that step, the Team will draft a Recovery Action Plan according to SARA guidelines.

Members of the North Atlantic Right Whale Recovery Implementation Team met on October 20, 2003 in Dartmouth, Nova Scotia. The primary goal of this meeting was to review and rank recovery priorities for right whales so they would be ready for the review of proposals for the Habitat Stewardship Program and the World Wildlife Fund (WWF) Endangered Species Recovery Fund. Another goal of this meeting was a discussion of different aspects of the Habitat Stewardship Program including an outline of the program, the review process and potential projects. Recovery strategy updates as well as updates on Species at Risk Program funded science projects were presented. Following is a formatted and stylized synopsis of this meeting.

## Synopsis of the October 20, 2003 meeting

Members of the North Atlantic Right Whale Recovery Implementation Team met on October 20, 2003 at the Bedford Institute of Oceanography in Dartmouth, NS. Please see Appendix 1 for a list of participants. The meeting opened with introductions and a review of the agenda. Please see Appendix 2 for a copy of the agenda. Several items were added to the agenda. These included: 1) Team membership, 2) Gray zone, 3) Review previous meeting minutes, and 4) Gear entanglements.

### Agenda Items

## Updates

Shipping lanes in the Bay of Fundy

It was noted that the Bay of Fundy shipping lanes have been relocated further east and it appears that the ships were further away from the aggregation of right whales than in previous years. A rough map of right whale locations indicated that they were present in the old outbound lane thus moving the lanes is thought to be having a positive effect.

A discussion was held on the dead right whale was found upside down and extremely decomposed on October 2, 2003. It was identified as 2150, a female first sighted in 1991. It appears that there was only one strike but it was a catastrophic one. A lot of samples have been taken due to the humpback die-off and the possibility of bio toxin impact. The whale had drifted 23 miles in 49 hours between first sighting and recovery of the carcass. These data are being shared with oceanographers that are experts in drift (Charles Hannah in Canada and Dave Mountain in the US); they are trying to determine where the strike would have occurred. It will be a couple of months before any data from the analysis of samples come back.

Conservation measures for Roseway Basin

Field studies this past summer indicate that right whales are indeed in the Roseway Basin Conservation Area again and that ships are definitely coming through the conservation area.

A comment regarding the speed of ships in the Bay of Fundy (BoF) and the Roseway Basin was brought up. The speed issue has not been addressed; however, it should be, as a speed above 10 knots is thought to increase the likelihood of whale mortality in the event of a collision between a ship and a whale by 50%. It was suggested that speed was also easy to supervise through Fundy Traffic. The Vessel Whale Working Group should address this. The Vessel Whale Working Group will discuss the issue of speed at their next meeting anticipated in winter/spring 2004

Births and Mortalities

M. Brown distributed a draft table from Amy Knowlton of the New England Aquarium on known mortality events. The mortality discussed earlier is not listed. Some of

these data have been published. There were a total of 19 calves documented in 2003 as of the date of this meeting.

MOU with the Center for Coastal Studies

An MOU (Memorandum of Agreement) was signed with the Center for Coastal Studies. They are mandated to help with the release of entangled whales in Canadian waters. This agreement has provided for a disentanglement person hired by CCS (Chris Slay) to be present and able to respond in the Bay of Fundy 24 hrs a day, 7 days a week. He also conducted whale patrols in the Bay of Fundy conservation area on days with suitable weather, checking every right whale encountered for evidence of an entanglement and chatting with boaters.

Entanglements

It was suggested that we need to address entanglements in terms of where Canada needs to go with this issue. It should definitely be discussed at the January meeting. There were eight entangled right whales last year (2002). One is dead – washed up in Nantucket. The other seven have not been seen as of this date [Note: an update on the status of the sightings of the entangled right whales from 2002 was circulated to the team by email following the meeting.]

## Gray Zone

A presentation was made by K. Sonnenberg on the Gray Zone which is an area between US and Canada, adjacent to Grand Manan. In a 1987 decision by The Hague, there was an area that was not decided upon and any US/Canadian fisherman can fish there. There has been a lucrative lobster fishery there; however, in the past 10 years, American fishers have started to creep in over the line. There is no limit on catch; however, Canadian fishermen cannot scallop fish when American fishermen still have their lobster traps set out. We need to address this as an area of interest. There is more interest from the Americans as of late so we hope to get them on board with declaring it an area of interest for them. Once this is achieved, a management plan can be developed that will benefit both sides. This is where right whale issues can also be addressed by making certain that lobster gear is moved when whales are present. Right whales equipped with satellite monitored transmitters in 1999 showed several tracks through the Grand Manan Channel.

## Review of minutes and action items

Outstanding Action Items

During the review of minutes and action items from last meeting it was commented that the process by which the Implementation Team is kept up to date needs to be formalized. For example, when the last minutes were sent out, *attachments were alluded to but they weren't attached*. This information needs to come out more quickly. Agreed and the missing attachments will be sent to the team.

Letter to Neil Bellefontaine regarding the proposed quarry at White Point NS. This was not completed for a number of reasons; Habitat Branch is dealing with this issue and it was explained that it was agreed to put together a review panel for the proposal. An agreement was drafted and the public was called upon to comment. There was a project description and Merriman wrote a response on behalf of WWF that was copied to team chairs stating that the marine portion was not well represented and concerns about right Whales explicitly suggested. It was commented that the team should be kept involved and take part in reviews when appropriate. There is an environmental assessment available; however, there are a number of problems with the assessment and it will be updated now that there is a Fed/Prov panel. It was pointed out that in general, any issue in the Bay of Fundy will need addressing in terms of Species at Risk and this Team should be ready to respond about how it may impact the right Whale.

Report from the Disentanglement Working Group. This group never met for several reasons including a representative from the Center for Coastal Studies disentanglement team not being available to consult. Insurance issues related to the Habitat Stewardship Program (HSP) were addressed and found that very few places will provide insurance for this type of work and HSP will not fund programs that do not have appropriate insurance. Work has commenced with the Coast Guard to develop protocols. It was commented that the group should meet on this issue and that it is imperative that a process be put into place very soon.

Issue of membership. We want to ensure that we have the appropriate representation. Now that we are working toward updating the existing strategy and moving ahead with an Action Plan, we might want to invite people in with certain expertise. The group felt that the numbers should be kept at a minimum (approx. 20); however, experts can be called upon when necessary. Certain groups need to be involved and if the current members are not showing up at meetings, other people from these groups should be solicited. It was recommended that both the province of NB and the Gulf region be involved. It is important to keep in mind that we will need representatives from all regions to sign off on the final SARA compliant strategy as well as the provinces, Parks, Transport Canada and EC. Therefore, we might want them at the table.

It was commented that the name ‘Implementation Team’ should be reconsidered as ‘Recovery Team’. It is felt that it can be confusing. Right now, it’s not an issue, as the NARW is not listed so there is time to deal with this.

## Recovery Strategy Update

Process and Timelines

K. Querbach provided a document that outlined the missing SARA compliant components (see Attachment 1). It was noted that DFO has the responsibility for ensuring the development of a SARA compliant recovery strategy. The North Atlantic Right Whale was on Schedule 2 of the SARA, and was reconfirmed in May 2003. The

process is now unfolding and listing under the SARA will come about in approx. 6-8 months. We will have one year from that time to develop the strategy but keep in mind that this includes the process of ministerial approval (signoff). We really don't have that much time. We should aim for 6 months after the listing to have the strategy into the region.

A document was distributed that outlined the proposed process by which the recovery strategy will be updated and reviewed. (see Attachment 2). The members present felt that it was a good approach, as it was the most efficient and everyone would still have ample opportunity to comment. We are shooting for January 2004 to have a first draft of the SARA compliant strategy. At this point, the larger group would review it.

Critical Habitat

The approach for dealing with the requirement for critical habitat is to bring a number of experts together from Canada and the US in order to come up with some advice to the recovery team on critical habitat (CH) identification. This date is set (November 19 and 20, 2003) and a diverse group of people have been invited. Subsequently, this section will be tabled within the strategy for review. It is possible that the group will decide that they cannot identify CH at this time and in this case, a list of studies in order to be able to identify it is required in the recovery strategy.

Population Targets

K. Smedbol is currently working on the population targets. There may be a need for a smaller meeting to address this.

**Incidental Harm Permits (IHPs).**

It was noted that Fisheries management has to ask Science for an expert opinion. They then take this information and issue IHPs based on the recommendations. The issue of 'allowable take' or 'allowable activities' must be addressed in the SARA compliant strategy and the recovery team can do this independently from Fisheries management's process. It is important to keep in mind that IHPs are only required in the absence of a strategy. Once the strategy is in place, 'allowable activities', etc will be based on what is contained in the strategy. The RT have to come up with a list allowable activities/take. However, NARW is not on schedule 1 of the Act. Therefore, consultations will be required prior to the addition of this species to the legal list under SARA. This action will necessitate a Regulatory Impact Analysis Statement (RIAS) as part of the regulatory process.

**Recovery Priorities.**

The SAR Coordination Office is asking all teams to look at recovery priorities this year to be used for funding purposes (SARCEP, HSP and WWF ESRF). As more species are listed, the pool of funding will get smaller and smaller so this list will allow us to focus projects. The three categories are: 1) Essential for Recovery, 2) May Promote Recovery and 3) Desirable for Recovery. The group felt that it was best to

use the project priorities from the current strategy and update them accordingly. The team reviewed each of the recovery priorities in the original recovery plan. (Please see Attachment 3 for the list created at this meeting)

**HSP Outline and Review Process.**

K. Querbach discussed the HSP program and asked that a review team be struck for review of project pre-proposals. All projects must be signed off by the recovery team to ensure that the project meets the recovery priorities for the NARW. The group decided that no proponent should be involved in the review of HSP pre-proposals. A group was struck to review the pre-proposals and to provide a ranking. The review team for HSP is as follows: J. Huston, K. Querbach, W. Williams, J. Logan and C. Merriman.

A review team was also struck for the Endangered Species Recovery Fund (ESRF): R. Stephenson or designate, W. Williams, C. Merriman, S. Kempton and K. Querbach.

**Updates from St. Andrews Biological Station (SABs).**

SABs work on right whales as well as other species at risk. Currently there are four main projects involving research on Right Whales.

1. *Development of Canadian Right whale sighting database*. Thus far, the database has been developed for storage of sightings. Data recovery is also underway from the department's records (fishery patrol, observers) including data quality recording.
2. *Distribution/Abundance of RW in Canadian Waters*. With this program, we are trying to work where others are not. We have increased effort to some degree but we are falling short of what we would like to do. It will build over time. We are comparing underwater acoustics with ship-based surveillance. Right whales were recorded on acoustic gear but we didn't see them from the ships.
3. *Fishing Gear Overlap (with Dalhousie).* This project aims to quantify fishing gear overlap with right whale distribution. The fishing distribution in recent years has been summarized and it is being compared to investigate any overlap.
4. *Whale Watching/Research – Potential Disturbance.* This project aims to investigate the potential disturbance from whale watching and research activities. This was conducted from a camera suspended on a blimp. The results are good and the perspective from above is good.

A comment was made on setting approach limits. This is definitely coming and will help to make informed decisions.

R. Stephenson announced that the date for the Bay of Fundy research coordination meeting has been set for March 30 and 31, 2004.

## Other Business

Gear Modification Issues

It was suggested that the recovery team lead a more coordinated approach to reducing the risk of entanglements. This is a very important issue especially considering the SARA and IHPs. Industry has a lot of scope for change if they know what direction to go in and if there is some incentive. The group suggested that the Fishing Working Group should take this on. The Working Group has been dormant for the last year but this does not mean that they can't get involved again. It is just a matter of letting them know that a strategic approach is required and asking if they would like to take it on. It should be explained that things have changed, much like an information session.

Communications Strategy

It was suggested that a strategic approach be made with regard to NARW communication. We need a good communications strategy for the upcoming Action Plan. A communications group should be struck with representation from all working groups. Targeted groups would include the fishing industry, whale watchers, .etc. General information to the public is also important; there would be an emphasis on what is going on in terms of research and recovery. This will be important if and when IHPs are issued. People will want a justification. W. Williams will represent communications but she will work with a group from this team who can advise her.

## INNER BAY OF FUNDY ATLANTIC SALMON RECOVERY TEAM

## INTRODUCTION

The meetings of the Inner Bay of Fundy Atlantic Salmon Recovery Team provide a framework for developing strategies for the conservation and restoration of Inner Bay of Fundy Atlantic salmon populations and for identifying factors that may influence their survival. Following sharp declines in numbers of returning adults in most Inner Bay of Fundy rivers, these Atlantic salmon were designated endangered in 2001 by COSEWIC. While efforts continue to identify the reasons for this decline, a brood stock management program has been developed to help re-establish populations while maintaining genetic diversity.

Members of the Inner Bay of Fundy Salmon Recovery Team met on April 30, September 30, and November 21, 2003 in Amherst, Nova Scotia. The goal of these meetings was to review progress made in the evaluation of Inner Bay of Fundy (iBoF) salmon populations and habitats and to discuss current and future projects for the conservation and restoration of these populations. Following is a formatted and stylized synopsis of these meetings.

## Synopsis of April 30, 2003 Meeting

Members of the Inner Bay of Fundy Salmon Recovery Team met on April 30, 2003 at the Wandlyn Inn in Amherst, Nova Scotia. Please see Appendix 3 for a list of participants. The meeting opened with introductions and a review of the agenda. Two items were added. Please see Appendix 4 for a copy of the agenda.

### Agenda Items

**Review of Action Items from November 22, 2002 Minutes**:

Posting of decisions reached via e-mail on the Recovery Team's (RT's) File Transfer Protocol (FTP) site was discussed. It was suggested that these 'decision' e-mails should be summarized rather than maintained in an active folder of e-mails. The quickest way to keep an e-mail decision record is to send them all to DFO Central Records (this includes both current and historical records). It was also suggested that decisions made by e-mail go to the RT for inclusion in the minutes.

Recommendation on what to do with small numbers of parr in Live Gene Bank (LGB) from the Genetics Technical Committee was discussed. The last recommendation was that they be released back into the wild after kinship testing. Releasing separate small stocks or progeny of random matings to a single river should be considered. This issue is to be re-assessed with further information at the fall meeting of the Planning Group.

Genetics Technical Committee is trying to address the question of differentiation of wild and LGB fish and its importance. This item is on-going and will be reviewed at the next meeting.

NB Electroseining data discussions are on-going between F. Whoriskey and A. Curry.

The Species at Risk Office is to develop a proposal for a PY (person year) to coordinate education/outreach for iBoF salmon. The Planning Group was to rule on recommendations but this was deferred to a later date as no student is available at this time.

Biodiversity Operators to notify Conservation & Protection (C&P) of stocking plans. This was agreed to at November 22 meeting.

Planning Group to decide on criteria for release of fish**.** Priorities for the retention of fish in the LGB is as follows:

1) wild fish
2) wild selected F1's (families not in the LGB)
3) captive F1's

There are 1000 typed F1 pre-grilse at Mactaquac for which the recommendation is to retain 132 (rare families that may be difficult to locate in the wild), release about 600 into the Little River system of the Petitcodiac (in-river gene banking river) this spring. The remaining 300 or so are to be released into Little or Coverdale River as mature grilse this fall. Four of the spring fish will be acoustically tagged with frequencies to be monitored by receivers on loan to AMEC for downstream smolt investigations at locations upstream and downstream of the Petitcodiac Causeway. These releases are not a recovery action but rather a holding action for families that are already in the Big Salmon River.

Planning Group to advise on Genetics Technical Committee Proposal resulting from the April 19, 2002 Planning Group meeting. This item was reviewed on April 29, 2003 and an action plan will be reported at the next meeting. The Planning Group is to advise on an experimental strategy to assess relative family survival by age of release.

## Species at Risk Act

An overview of the SAR Act was given by K. Davidson, CWS Environment Canada. He made the following points:

- Incidental Harm Permits (IHPs) will have an exemption of 1 year after the proclamation of SARA in order to allow for assessments.
- Public Information sessions on SAR are to be held in conjunction with the June 'pronouncement' of the Act. The original invitee list sent to the government was missing many important client groups and Environment Canada has since sent a list of approximately 350 people. The general public will be invited via newspaper ads. Information packages entitled "What does it mean to me?" (i.e. fisher, farmer, etc.) are being developed.
- In reply to a question which asked whether funding was available for the recovery of a species, K. Davidson said that a certain amount of money is allocated to SARA but the more species are listed, the thinner the money must be spread.

## Critical Habitat (CH)

P. Amiro gave a PowerPoint presentation that he had provided at a DFO CH Workshop in Montreal last December. He noted that identification of critical habitat for survival or recovery of the stock complex will be required as part of the next iBoF recovery strategy. The presentation pointed out the complications introduced by uncertainties in life-history strategies, meta-population structure and recovery targets and described an approach for estimating the productive capacity of freshwater habitat using remote-sensed data and historical distributions. Within the marine environment, sea surface temperature was used as a measure of habitat preference within the Bay of Fundy and Gulf of Maine on a month by month basis. Designation of critical habitat for both freshwater and marine environments may be required. The strategies to attain survival through supportive breeding and rearing to maturity

requires only critical freshwater habitat but a strategy based on recovery requires designation of critical marine habitat as well. Peter suggested that for 'survival', one might use the minimum requirements for in river live gene banking and that for 'recovery' one should consider the 'transitional' zones.

There was a question regarding Gilles Lacroix's pelagic trawl survey for post smolts in 2003 and testing of a temperature preference hypothesis using a real time marine SST model. In Lacroix's absence, it was felt that such a proposal was too much of a departure from prescribed work plans. An effort to incorporate hypothesis testing would be made in ensuing years.

## Fishery Regulations and Illegal Introductions

G. Stevens presented an amendment of Fishery Regulations to prohibit transport alive or possession alive of certain fish species. The minnow trade is being considered but likely won't be included in the legislation. Live bait is prohibited in most of NB except for boundary waters between Maine and NB where live bait is permitted if taken from those waters.

There was a general consensus that the Recovery Team supported the proposal. It was suggested that the list of species to which the prohibition of live transport or possession alive apply should be exhaustive but provide legitimate exceptions (i.e. pet stores, live shellfish, etc.). The timeline for the new legislation is 2004/2005.

Another option for discouraging invasive species is the development of a reward system. However, a proposal by the Atlantic Salmon Federation and NB Nature to offer a reward of $10,000 for information leading to a conviction was turned down.

Consultations on changes to the regulations have not been carried out with the bass associations. The NS Federation of Anglers and Hunters have been consulted and did develop a resolution of support.

## Recommendations to Combine Planning Group Technical Committees

The recommendation to combine Monitoring and Research and Fish Culture and Genetics was accepted by the RT.

## Update of Proposed Activities for 2003

Please see attachment 4 for a list.

The issue of whether the aboideau on the Chiganois River operates effectively for the passage of smolts arose. J. Gibson is to provide, to Habitat Management Division DFO, a list of aboideaus for potential fish passage evaluation. (This is to include the Chiganois, Great Village, Parrsboro, Shepody, Parrsboro and Petitcodiac Rivers).

## DFO June RAP

In May of 2001, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) undertook an evaluation of the status of this salmon population (to 1999) and designated it “endangered”. COSEWIC is to re-evaluate this designation as early as April 2004. In preparation for this, DFO has undertaken to assess all new relevant information. In addition, DFO is committed to informing clients and stakeholders on trends of iBoF salmon population abundance. The assessment of data will serve to peer review information for use by COSEWIC and to generate a stock assessment for public dissemination.
The date for the RAP meeting is June 11-12, 2003 in the Veteran’s Affairs Boardroom, Belmont House, Dartmouth. Participants in the Planning Group are welcome reviewers. Topics will include:

1. Hatchery stocking history of iBoF rivers (Gibson, Bryan and Amiro)
2. Gene flow within the iBoF salmon (O’Reilly)
3. Live Gene Banking iBoF salmon populations, 1998-present (O’Neil and Goff)
4. Multiple index procedures to infer status and recovery of Big Salmon and Stewiake Rivers (Gibson and Amiro)
5. Stock status of additional 40 iBoF rivers (likely qualitative based on genetics, fishery performance and historic data) (Gibson and Amiro)

## Other Items

Proceedings Series
L. Cullen spoke to the RT regarding the intention of Maritimes Region Species at Risk office to include the Minutes of RT meetings in one yearly ‘Proceedings Series’.

Parrsboro Conservation and Protection (C&P) Activities and Public Education Project
V. Smith reported that C&P hoped to continue last years' work although funding is as yet unclear. Work would include patrols on 9 rivers suggested for gene banking in the Minas Basin and inventory of salmon pools, river access, spawning areas and proximate land based activities (forestry/ logging). A weatherproof sign has been developed (revamp of ASF poster) for posting. More work is planned on the coast on the identification of impacts of brush weir and recreational gill nets (target herring) on salmon, particularly on night tides. Striped bass recreational fishing also warrants more intensive scrutiny.

Communications
One hundred fifty posters are being printed as are 1000 English and 500 French brochures (same information as the poster) for hand-outs. A PowerPoint presentation has been developed for presentation to schools.

Next meeting
Having the next meeting sooner than November would be better in terms of developing ideas for HSP. There is also a need to consider that the RT shouldn't approve an HSP proposal just because it includes an activity listed in the Recovery

Strategy. It was decided that Planning Group and RT meet on September 29 and 30 respectively, to discuss funding/proposals (preliminary planning), followed by a regular November meeting (date to be decided) at which summary field season activities and possibly final HSP proposals would be reviewed.

## Synopsis of September 30, 2003 Meeting

Members of the Inner Bay of Fundy Salmon Recovery Team (RT) met on September 30, 2003 at the Wandlyn Inn in Amherst, Nova Scotia. Please see Appendix 5 for a list of participants. The meeting opened with introductions and a review of the agenda. Two items were added. Please see Appendix 6 for a copy of the agenda.

### Agenda Items

## Review of Agenda

A number of agenda items were deferred due to the cancellation of the Planning Group Meeting originally scheduled for September 29, 2003 and the absence of many RT members.

## Review of RT Minutes and Action Items from April 29 and Planning Group Minutes and Action Items from April 30

Website and File Transfer Protocol (FTP) site.
The website is at the point where it could be published. However there is no funding to pay the $3500 translation costs. P. Amiro is to assess decision making emails from1998-2000 and recommend those appropriate for FTP posting. L. Marshall is to locate meeting minutes to be added to the FTP site.

Release and mating of small stocks in Live Gene Bank (LGB).
It was previously recommended that that small stocks be released back to the wild after kinship testing. Another recommendation was that the progeny of small stocks be released to a single river. However, levels of inbreeding and their effect on survival are a concern. P. O'Reilly reported that except for the Debert and Irish Rivers, levels of inbreeding will accrue slowly. Evidence in the literature suggests that there are very limited inbreeding effects below an inbreeding coefficient of 0.25. He advocates a strategy that will allow within-population crosses until inbreeding effects are observed or an inbreeding coefficient of 0.25 is reached. At this point he suggests gradually introducing new individuals (simulating natural gene flow) while continuing to monitor inbreeding over time. He has discussed this approach with Roger Doyle who thinks that there should be less concern with genetic diversity within rivers because drift is more important than selection when small numbers of individuals are involved. O'Reilly still prescribes a more conservative approach and he will formulate a recommendation for mitigating inbreeding in rivers with small numbers of individuals (i.e. a mating strategy). He will calculate inbreeding coefficients and link these to number of families and to inbreeding depression. He will make recommendations for the surpluses including cost/benefit analyses. Due to time constraints the report will be prepared by October 10, 2003.

F1 pregrilse to be released as mature grilse this fall.
R. Wissink suggested that if 300 were released to Point Wolfe, a reasonable monitoring program could be undertaken. The grilse would be monitored for success

and 24 would be tagged with acoustic pingers. The study would attempt to determine if the F1 release is a successful recovery strategy. Most of the fish are in the 3 to 6 pound range and appear to be mature. L. Marshall noted that Point Wolfe is low priority and so it could be used as an opportunity to test for returns. P. O'Reilly stated that he cannot tell gentically whether the remaining fish in Pointe Wolfe are original or remnants of stocking (74% of samples were from 5 families +EU haplotype). On the Little River (originally proposed for release of F1s), there would be no way to separate which group was successful as there would be releases at different stages. T. Goff suggested that some of the immature fish be tagged and then they could be released to different sites. However, sample sizes would be reduced if immature fish were tagged and released to multiple sites. O'Reilly reminded the team that there are some Minto origin families in this group and therefore some of the fish might really be F2s (really F1.5s since they are a cross between wild and F2). These fish should not be used in this experiment.

Amiro questioned the utility of acoustic tags in determining anything about spawning or the transportability of the results. He suggested keeping the sampling design as simple as possible and asked how many fry (age 0-parr) have to be sampled next year to ensure success. O'Reilly clarified that adults have already been partially processed. However, he noted that spawning does not reflect survival of progeny and suggested that sampling might be required at multiple life stages (i.e. smolts). Wissink and Amiro discussed the value of tagging fish.

The potential to monitor populations through genetics alone was discussed. Wissink and O'Reilly are to develop an experimental design for discussion. O'Reilly has developed specific plans for LGB within the current bounds of operating capacity. These are to be discussed at the November Planning Group Meeting. O'Reilly reports that he is using the maximum number of fish possible to address the questions being asked**.** There is no potential to do any more. Marshall and O'Reilly are to send O'Reilly's general strategy to O'Neil and Goff.

The issue of whether to keep Black River fish in the LGB was discussed. Three sites on the Black River were to be monitored and the data provided to Gibson. R. Jones reported an average of 17 fish per 100 square meters when all ages were combined. This is the highest concentration of any non-stocked river and the question was asked whether the gene bank be cleared of these fish. O'Reilly noted that the samples to date were comprised of relatively few families and recommended keeping a small number of fish in the LGB (these would be kept separate) for use when inbreeding depression accrues as discussed in his scenario for small populations. A report has been submitted by Bagnall regarding the movement of pre-grilse in the Little River. R. Bradford had previously recommended that phenetic data be compiled. O'Reilly agreed that this is important and suggested that life history and other traits also be compiled (e.g. scale patterns). O'Reilly will follow up with O'Neil to see what is being done and what may be possible. Discussion will follow in November.

Action Items arising

- J. Gibson is to provide Habitat Management with a list of aboideaus for potential fish passage evaluation. It was noted that Rick Devine prepared a report that might be of value.
- Gibson is to review decision tree for release rivers/hypothesis and framework.
- Committee exercise is to focus on prioritized threats to iBoF Salmon (led by Amiro and Whoriskey).

## Overview of 2003 Activities

DFO SARA Funding

At the time of the last meeting, DFO had only been allocated emergency species at risk funding for iBoF salmon (minimal level). In August 2003, more funds were allocated and were directed towards projects that (1) had been risk managed and (2) were high priority and not affected by the delay. Specifically, monitoring, habitat, genetics, NS biodiversity facilities; NB biodiversity facilities; and C&P activities were supported.

Monitoring (Amiro)

Due to funding delays, this project has been risk managed from April-August using Abase funds. Upper Stewiacke and nine other rivers were surveyed. Four research documents have been prepared, and the status report submitted to COSEWIC in 1999 has recently been published in the Canadian Technical Series.

Amiro/Gibson have been funded to develop a risk analysis approach to identifying critical habitat for iBoF salmon. This will require population modeling and they hope to hire a term employee for this work in early November.

Amiro was asked by Jim Irvin (British Columbia) to contribute to a paper on the status of salmon in Canada (completion date of February). Amiro/Gibson contributed a poster on the status of iBoF Atlantic salmon to the American Fisheries Society meeting in Quebec City. The poster also included a preliminary estimate of iBoF salmon's probability of recovery.

Amiro reported that Mart Gross (COSEWIC subcommittee co-chair and plenary member) visited BIO this summer and spent considerable time with Division staff. Gross is drafting a new Atlantic salmon COSEWIC status report. Given the timelines involved, iBoF salmon will not be reassessed until Nov 04.

Monitoring (Jones)

Year three of the smolt project was completed (1500 were caught in total). Run strength was estimated as 8500 non-fin-clipped fish and 225 non-clipped animals were collected for the live gene bank with help from additional staff and Fort Folly First Nations. Two separate swims of Big Salmon River took place, in late July (10 fish) and early Sept (13+2 fish).

Fish Culture

For the first time, spring smolts have been brought into the LGB (for potential use for broodstock) and they have done well. Goff noted that caudal fin clips have regenerated on most of the fish.

Goff reported that 550 F1 pre-grilse were stocked into the Petitcodiac. At least one of the four acoustically tagged fish went past the causeway so they showed movement immediately and headed downstream.

Goff questioned the team on whether rainbow trout should be removed if caught. The team discussed whether or not this was a policy vs. ethical vs. science issue. Jones' group is not catching them so they are currently not being removed. Amiro asked if there is proof of rainbow trout causing a negative impact on salmon. Province (New Brunswick) directs that except for named areas (rainbow trout stock-out rivers), rainbows should only be removed until Sept 30. DFO science is already licensed to remove the trout but DFO should be making recommendations to the province if they think the trout are harming salmon.

Amiro will develop a rationale for maintaining or removing rainbow trout and if appropriate, DFO will recommend that the Province extend harvest dates to November 30th.

Genetics

Many iBoF salmon have been genotyped in 2003: 302 Big Salmon River wild captured fish were genotyped at 9 loci; 200 Stewiacke, 320 F1 Big Salmon, and 400 Stewiacke F1s were genotyped at 4-5 loci.

Samples from the Black, Economy, and Debert Rivers have been screened to associate individuals to their genotype for gene banking purposes.

For the Black River, mtDNA analyses will be the most informative. However, 150 samples have been genotyped and from inspection, they look like very few families. Southern Uplands samples have been analysed. MtDNA analyses show differences between inner and outer Bay of Fundy instead of Minas and Chignecto Basins discontinuity as previously reported by Verspoor.

Samples from 50 Cascade stock and aquaculture sites were genotyped to determine the origin (local or non-local) of broodstock. In all lab analyses, 15% redundancies are used to confirm findings. With respect to the efficacy of the mating plans and LGB, most of the lineages from the Big Salmon River have been recovered. Minto information has not yet been analyzed. Stewiacke River lineages were not well recovered due to variable family representation. However, these parents were spawned twice so there will be another opportunity to try and recover families.

P. O'Reilly is investigating cryopreservation of salmon from the gene bank. The only additional costs are the nitrogen (they are donating the space) and the storage

drawer. Cryopreserved sperm can be used to restore variability to populations but should not be used to restore populations (very difficult).

Harrington River samples have not been run; they were lower priority than 3000 LGB salmon that have already been run.
P. O'Reilly reported finding European salmon in Big Salmon River but cannot distinguish the non-European salmon from Canadian origin aquaculture salmon. This is why he is trying to better characterize the Saint John River strain.

P. Amiro asked if it would be better to only include fish with the putative iBoF mtDNA haplotype in the LGB since we cannot detect the locally-sourced aquaculture fish at this time. O'Reilly explained that with this strategy, hybrids would still be missed and these hybrids may be more numerous than expected since studies have shown that male aquaculture fish are more successful when mating with wild females than the converse.

P. Amiro was concerned with drawing inferences on the levels of aquaculture fish without supporting analyses and suggested that the scientific basis for the LGB may not be viable.

P. O'Reilly advised further assessing/characterizing local (non-European) aquaculture salmon. Although, the aquaculture industry should report any escapes, this seldom occurs. Kierstead suggested that there are many more escapes than those reported.

P. O'Reilly mentioned the situation in the US as they are encountering similar challenges. US colleagues are trying to use all of the historic samples available to identify pure lines and stocking origins.

June RAP
L. Marshall reported that RAP was well attended. Proceedings are ready and will be available from the CSAS website soon. If you do not have access to the web you may request a hard copy.

Conservation and Protection
J. Kierstead reported hearing of adult salmon in the Black River. Patrols are taking place to monitor habitat on the Big Salmon and Black rivers.

Fundy Park
A. Caissie reported that upgrades were made to the smolt wheel; 101 smolt were collected from the Upper Salmon River and transferred to Mactaquac. However, the fate of these fish is still uncertain. Electrofishing surveys for juveniles are complete. No young of year were detected in Upper Salmon and 3 were found in Pointe Wolfe. To date no adults were observed in either of Pointe Wolfe or Upper Salmon. No additional habitat work is being done until there is some direction on the interpretation of critical habitat.

Fort Folly

T. Nye reported on the testing (1-2000 m) of equipment (pingers) that was funded through the HSP program. Derek Knox (St. Andrews Biological Station) assisted. Receivers were not able to pick up the pingers as well as were expected (based on results of Lacroix work). This might have been due to time of year (e.g. phytoplankton, temperature etc). Detection broke down as distance increased. From 700-800 meters, they were only able to pick up 10% of the pingers. More receivers may be required to do the type of study envisioned. The larger of the two tags tested, performed fairly well from a bottom deployment (~30m from bottom). Nye thought there was too much noise in the top deployment. Nye is currently working on the data from Ile Haute (July). Environment Canada and DFO will both receive a copy of the data-report. P. Amiro requested that the report also include a recommendation and observed that the data will be useful for an interpretation of probabilities. Future work might benefit from the timely input of physical oceanographers.

Nye is unsure as to whether they will apply to HSP for 2004-05 and may pursue funding through the Aboriginal Aquatic Resource and Oceans Management (AAROM) program. However, Nye will keep in touch with Oceans/Habitat/HSP staff.

Electrofishing surveys on the Memramcook and lower tributaries of the Petitcodiac rivers continued this year but no salmon were observed. Kierstead suggested that C&P might be able to provide vessel-time if required for the contemplated kelt surveys.

DFO Socio-Economics

M. Rudd is attending recovery team meetings to get a sense of the issues associated with each species. He is currently involved with Atlantic whitefish and leatherback turtles and hopes to use them as pilot projects. Economic analyses will be required in SARA-compliant action plans, in the Regional Impact Analysis Statement (RIAS) process, and in the 5 year review of species status. Rudd is not yet sure how much detail will be required but thinks that recovery actions would first be generated by the recovery teams. He would then consider these actions and try to evaluate the impact of each of them for inclusion in the Action Plan. This process is still not well defined within DFO.

## HSP Process and Guidelines

The Habitat Stewardship Program (HSP) review process was briefly discussed. It was proposed that a small committee be formed to review pre-proposals. Committee members are to include L. Marshall (DFO Science and Co-Chair), C. Myers (DFO Communication), K. Querbach (DFO HSP) and A. Hamilton (HMB DFO). Other team members interesting in serving on this review committee are to contact Marshall. Querbach is to send out information on the HSP to the recovery team.

## Redrafting a SARA-compliant Recovery Strategy for 2004/05

The iBoF salmon recovery strategy will need to be revised by June 2005 (but 6 months are required for translation and federal signoff) to address recovery feasibility, long and short term population abundance targets, critical habitat, allowable activities, and timelines for action planning.

## Prioritized List of Projects for 2004/05

The team discussed the 'Action Table' currently being used and tried to evaluate whether activities were (1) essential for recovery, (2) may promote recovery or (3) desirable. Projects not listed on the Action Table were also proposed. Comments for inclusion in the next draft are invited from RT members not in attendance.

"*Essential for Recovery*"

- adaptive strategies to monitor abundance at any life-history stage
- studies that address marine survival and potential causes of marine mortality, especially late stage, especially predators, but including parasites, toxins, vibrio
- temporal and spatial distribution model for post-smolts
- studies on kelts (e.g., proposal by FFHR) given that repeat spawning is deemed an essential to maintenance of iBoF salmon [Amiro/Gibson's analysis]
- historical scale analysis as possible means of addressing an environmental change
- identifying, maintaining or improving critical habitat (both freshwater and marine)
- analyses of environmental conditions associated with post smolt distribution, inc. assessment of availability of conditions previous to current population declines
- protection of critical habitat (both freshwater and marine)
- continuation of LGB/captive breeding program (in- & ex- situ) in support of maintaining a few genetically diverse populations
- design, implementation, and monitoring the success of a reintroduction program
- discrimination of North American aquaculture fish from self sustaining pops in the Bay of Fundy
- research into cryopreservation
- targeted stewardship on critical habitat by relevant stakeholders or related to other threats identified
- development of population reference levels for recovery & monitoring
- communications network in support of the RT
- maintenance of RT

''*May Lead to Recovery*''

- studies targeting sources of freshwater mortality (early stage) & smolt viability – to address lingering freshwater threats including toxicology, pathology etc.

''*Desirable*''

- identifying potential marine threats and post migration distribution using tags (controlled experiments)
- river specific compliance patrols through the Fisheries Act (exploitation is not a threat to mortality but the residual population could be impacted in by-catch fisheries)
- reviews/ update of stream survey information, map & model productive capabilities
- protection, maintenance or enhancement of non-critical habitat (freshwater and marine)
- framework to evaluate stewardship proposals, e.g., cost/ benefit for the profiling of issues and appropriate funding
- communications to general public on iBoF salmon
- development & deployment of new tech tags e.g., magnetic bar codes, for easier recovery of identification
- tests of smolt viability/ lingering effect in the marine environment
- communication and collaboration with American colleagues

## Repository for Recovery Team Minutes

Information item: Minutes from RT meetings will appear annually in the DFO proceedings series. Hard-copies will be available.

## Other Items

A proposal to grow out 40000 low priority Stewiacke 0+ par (that would have otherwise been released this fall) into Chiganois, Debert, and Folly rivers (high priority parr are being returned to the Stewiacke) was considered.

It was proposed that a high proportion would be tagged and could be used to evaluate survival to adults in 2005. The project would follow smolts coming out of the Stewiacke this spring. The project could enhance the interpretation of returns from smolts enumerated/ released in the Stewiacke and Gaspereau rivers in 2004. There was some concurrence that this was an opportunity but there was some discussion on where they should be released, and to how many rivers. One suggestion was to restrict the 40000 to just one of these rivers (Chiganois is not an option). This would facilitate an the assessment of adult returns given that return rates may well be less than the decade-old 0.2% return rate for the Stewiacke, (i.e. 40 fish @ 0.1% of which only 5-10 might be captured as a basis for the estimate).

Amiro suggested that every focus be on marine survival so multiple tagging of these individuals may be useful. The attributes of floating radio and acoustic tags (new technologies) were discussed. The LaHave River was suggested as a control. Amiro will develop a framework/experimental design for discussion at the November meeting indicating possible benefit from these fish.

## Proposed Date for Next Meeting

November 20 and 21st for Planning Group and Recovery Team, respectively.

## Synopsis of November 21, 2003 Meeting

Members of the Inner Bay of Fundy Salmon Recovery Team met on November 21, 2003 at the Wandlyn Inn in Amherst, Nova Scotia. Please see Appendix 7 for a list of participants. Welcome, opening remarks by the Co-chair were made. Please see Appendix 8 for a copy of the agenda.

### Agenda Items

### Review of Agenda

The only changes made to the agenda were the removal of a number of items due to some invited participants not being present. It was noted that many items were covered on Thursday, November 20 at the Planning Group Meeting.

### Review of Planning Group and RT Minutes and Action items from September 30, 2003

Website and FTP site. The website is complete except for translation. Science has agreed to hand the site over to the communications sub-group for completion.

Recommendation for mitigating inbreeding for small rivers (development of a mating strategy). Plans for a mating strategy had to be altered because the small stocks that were housed in Coldbrook were not of the sex ratio that was required. The primary problem was a lack of females. Some crosses were made between rivers. This is usually not done but in this case out-breeding was less of a concern than inbreeding. The project which is being done will evaluate the difference between the inbred and out-bred progeny.

Experimental Design for F1 pre-grilse release by Wissink and O'Reilly. This is complete and was presented at the Planning Group meeting.

Marshall and O'Reilly are to send O'Reilly's general strategy to O'Neil and Goff. This is a housekeeping item and not yet off the ground. However, it is an on going activity for the Planning Group who will continue to look at it.

A list of aboideaus for potential fish passage evaluation was provided to Habitat Management by Gibson. This list will be attached to the November 21 Planning Group minutes.

Gibson's review of a decision tree for release rivers/hypothesis and framework is not yet complete. A design is required. The proposal requires more thought and the Chair, L. Marshall has agreed to champion this.

The committee exercise to focus on prioritized threats to iBoF salmon, led by Amiro and Whoriskey has been deferred until it is peer-reviewed. The Critical Habitat issue

has not yet been resolved and is a big part of this. The focus will be on threat analysis.

Discussions regarding the compilation of phenetic data are ongoing. O'Reilly will follow up with O'Neil to see what is being done in this area and what may be possible.

Amiro is to develop a rationale for maintaining or removing rainbow trout and if appropriate, DFO is to recommend that the Province extend harvest dates to November 30th. No specific action has been taken with outside parties to date. Science has the potential to do this and it should be discussed with the provinces present. This discussion was deferred to a time where provinces present. It was suggested that NB may be online with this but the issue should be discussed further.

Querbach has sent out HSP information to the Recovery Team.

Discussions are on-going regarding the experimental design for the release of the low priority Stewiake 0+ par**.** Amiro will develop a framework/experimental design indicating the possible benefit from these fish. Rivers to be used are yet to be finalized. There was a suggestion that smaller systems should be used. As well, community involvement for things such as monitoring would be desirable. The question was asked whether other groups such as the Cobequid Salmon Association would be involved. Other groups are not yet involved but this project is still 1.5 years away.

**Overview of 2003 activities**

Monitoring & Research
See attachment 5 for overview and presentation. The June RAP resulted in 4 Research Documents, 3 of which are completed. There was as well a poster developed and presented at the AFS Annual Meeting in August and the DFO National Science Workshop in November which suggests that at existing marine survival, recovery is impossible. Peter noted that there should probably be an effort to standardize the format of information collected by all iBoF stakeholders.

Critical Habitat initiative
Definition and interpretation is a national priority (Amiro). A modeling project has been funded and results will contribute to the development of a threat analysis model. Scale pattern analysis to detect possible changes in marine growth (and possible migration) is moving ahead. Historic samples versus contemporary samples are being looked at to determine if there are changes in the frequency of local migrators (method being used is not environmental related but growth pattern related).

Electrofishing density surveys
Graphical presentation (attachment 6, Amiro) indicates LGB supported rivers vs non LGB (few if any juveniles by comparison). It is unlikely that the survey will be repeated in 2004.

Population dynamics model
(Attachment 7, Amiro) also depicted on poster, uses return rates from smolt to adult survival – 5%, 1966 to 1971 – the return rate for the 2001 smolt year class was 0.84%. Survival of repeat BSR adults averaged 0.494 from '68 to 72, and is now negligible. Results indicate that recovery of the species (BSR pop) is not possible – maintenance and survival in freshwater through the LGB is feasible, (presumes that smolts can be produced from fry), that habitat is fine and that research priorities should be in the marine environment for which there is little if any funding.

T. Goff noted that the Mactaquac program is duplicated at Minto to ensure that if something happens at one hatchery then we will still have a supply of fish. Attachment 8 provides a summary of fish on hand and distributed. In response to the question re: status of Cobequid hatchery it was noted that it was given up by Science and is now in the hands of DFO Real Property for disposal. Goff noted that there was 250 k unfed fry to be distributed in '04, the location of which was to be determined at April Planning Group.

BSR Smolt Assessment
R. Jones provided a power point (attachment 9) presentation of the field program on the BSR including data background to a smolt output of 9200 non ad-clipped and 6100 ad-clipped (fall parr); a point estimate of 21 adult returns to the river in 2003 comprised of 3 salmon and 18 grilse of which 3 were adipose clipped (hatchery origin) and 15 were wild. Rivers electroseined in 2003 were Big Salmon River (12 sites), Black River (3 sites), Demoiselle Creek (3 sites) Pollett River (4 sites), and Little River (4 sites).

Fundy National Park smolt and adult releases
R. Wissink indicated that a smolt wheel captured 96 Upper Salmon River fish which were transported to Mactaquac. A portion will be kept for the LGB and the rest will be released next year. Electrofishing - 6 sites on each of the Point Wolfe and Upper Salmon river – yielded only 4 parr, and 24 parr respectively. F1 releases – 286 in mid October split between an upper and lower site with 24 ultrasonically tagged fish. Tracking has been done since, along with a swim through. The higher the fish were placed in the system, the greater the percentage that stayed in the river. Three of four immature fish moved down and out of the system. A swim thru on Nov 3 yielded sightings of only 67 (est. 100) of the 286 grilse released. To date there was no evidence of spawning. Genetic information of juvenile collections in 2004 will be used to evaluate the contribution by these adults. Receivers will also be left in some of the larger pools to monitor over the winter. An interesting side to this was that precocious parr appeared around the females.

Telemetry equipment in the Bay

T. Nye provided summary results (Attachment 10) of the Bands efforts and conclusions regarding the utility of VR2s in the open bay; i.e., large receivers (adults) should normally be not more than 1200m apart, and within the Minas Basin (Isle Haut), not more than 600m. The small pingers applied to smolts were good for only 400m. Vemco suggested that the reduced ranges could be due to acoustic noise in ocean, or electrical interference. Waters tested were not noted to be turbid. Bottom deployment is much preferred over surface (10m from top) deployment which has more background noise.

NS Power – White rock smolt counts

C. Burgess discussed the decommissioning of the old fish ladder at Whiterock and evaluation of efficacy of the new fish ladder and downstream passage of smolts. Upstream passage of adult salmon (14 in 2002 and 7 in 2003) and gaspereau has been monitored. Visual surveys were to follow to determine the presence of salmon and their use of the potentially “new” but spring flood-scoured spawning habitat below the new fishway.

Studies on downstream passage (Attachment 11) began in 2002 and were continued with the refinement of a deflector and placement of a bubble screen at the upstream end of the power canal (bypass #1 proximate to the upstream fishway) in 2003. Bypass #2 and #3 are at the downstream of the canal to either side of the draft tube (turbine intake). Bypass efficiencies were estimated using 1500 hatchery reared smolts released at 3 upriver locations each year. Efficiency increased after the modifications in 2003 with about 66% of recovered smolts appearing in bypass #1, up from 12.6% in 2002. An average of 40.4% of tagged smolts was estimated to have used the power canal in 2002; only 28.6% used it in 2003. (It was suggested that cold temperatures may have been a factor for reduced numbers in 2003).

Plans for 2004/05 include restoration of substrate, stream banks, riparian vegetation below the new fishway and outreach, (possible HSP proposal) and continued monitoring and possibly electro-fishing.

Genetics & Fish culture at the NS BFs

S. O’Neil provided a summary overview (Attachment 12) of collections and holdings in 2003. Stewiacke River appears to be devoid of wild founders given that only 17 parr were collected and all were of LGB origin. One possibility for new founders would be from the smolt wheel were it to be installed in 2004.

O’Neil reviewed the numbers of salmon brought into Coldbrook, numbers spawned and numbers released. Mortality in 2003 occurred after a jumping fish knocked a valve causing it to shut off the water. The valve was replaced to prevent future occurrence. The largest percentages of fish go out at early stage to increase exposure to wild conditions. Gaspereau River: parr collected in 2001 for adult program in 2003; there were only 14 returns (broodstock) in 2002 and 7 came in 2003.

Ongoing projects (2003):
Previously spawned and reconditioned adults were released into spawning channels improvised in large circular ponds at Mersey where they appeared to spawn successfully demonstrating that repeat freshwater captive grown females CAN spawn "naturally". Egg viability was to be followed. This was a follow-up to the evidence that no juveniles were detected in 2003 resultant of adult releases to Salmon River, Truro, in 2002. It is not known from tracking data if fish stayed or left the river or if the absence of juveniles could have been the result of a 100 year flood in late March 2003.

- precocious parr were captured from Gaspereau River to increase effective population size at spawning
- -examination of diet in relation to egg quality (membrane strength)
- -exploring capacity to hold eggs at Mersey
- -cryopreservation of sperm was conducted by Patrick O'Reilly
- -an experiment conducted to evaluate inbreeding vs outbreeding depression in other Minas Basin populations
- -major site renovations.

In Summary, the majority of individuals are being released at early stages; discussion of release sites on the Stewiacke River; different stages released at different sites; juveniles distributed widely but concentrated within one or two tributaries, in part because of access.

Captive Rearing of Big Salmon and Black River origin salmon at Mactaquac
T. Goff provided a handout of stock distributed from, collected and on hand at Mactaquac (Attachment 8). BSR collections included 208 "wild" smolts and 440 "wild" parr. BSR broodfish in 2003 numbered 250 females and 260 males 196 immatures which resulted in 100 HIGH priority spawnings, 50 MEDIUM priority spawnings and 100 LOW priority spawnings

Black River first time spawners on hand were 43 female, 30 males and 69 immature. Relative to the BSR, the high incidence of immaturity suggests a greater tendency towards later spawning, i.e., 2SW fish

Distributions totalled ~300 k unfed fry, 55 k fall parr, 21 k 1+ parr, ~14k and 1+ smolt – most to the BSR. The Little River received 549 pregrilse and the Point Wolfe received 286 2-3 kg grilse.

For release in 2004 are 375,000 HIGH priority unfed fry for the BSR; an estimated 250,000 LOW priority fry are available for release in 2004.

Goff indicated that an additional river would be useful for stock out of NB Chignecto Bay (BSR) fish and queried the possibility of adopting an NS river, e.g., Maccan or River Hebert on the Cumberland Basin. There was no conclusion to the discussion and no agreement to expand the range of NB populations into NS.

Genetics and cryopreservation
O'Reilly provided a power point presentation (attachment 13). Topics included a flow chart of products from founder broodstock and the potential to trace subsequent progeny; the calculation of mean kinship and assessment of parentage; steps being taken to mitigate the loss of wild fitness (wild exposure, rearing practices to mimic wild, minimize variation in family size, mean kinship breeding program to minimize inbreeding and loss of genetic variation AND, cryopreservation of sperm which is intended to minimize genetic change between founder and subsequent generations of LGB populations.

O'Reilly as well reviewed mtDNA information at hand re: the unique haplotype for iBoF salmon and the SNP 'fast" analysis for determining potential source populations (attachment 13). The follow-up to this work will involve the search for older archived DNA (scales) in the NB Museum.

Fort Folly Habitat Recovery & AAROM initiatives
T. Nye gave a description of the AAROM Program and its roles/ responsibilities (see Attachment 14). This is only available through an aggregate of Bands – currently FFFN is working with Bear River and Annapolis Bands on an iBoF proposal which would bring each Band to the RT. Nye is resigning from the Band's staff and suggested that we may be contacted re: someone else participating in the RT.

NSDAF - absent

NBDNRE – absent

Cumberland Co. River Enhancement Assoc. absent

Upper Bay of Fundy Biosphere Initiative Society –absent

DFO Socio-economics –absent

DFO Maritimes Fishery Regulations
G. Stevens reviewed progress on the draft RIAS – required to change fishing regulations. The iBoF RT has supported this and was in favor of making the species list all-inclusive with exceptions. NB is almost ready to support this and PEI is the only one that we still need support from.

DFO Conservation and Protection
V. Smith provided a verbal and written report on C&P activities (Attachment 15). The Digby, Kentville, Parrsboro and Saint John detachments all have a part in the iBoF. On the Gaspereau River there were a lot of patrols done in the *square net* gaspereau fishery. A condition of licence is that their nets and poles be locked down at night. The lower area of the river was worked a lot this year to ensure that no poaching took place. Some habitat charges were laid with hog farms – EC does chemicals, DFO does silt. The weir at Morden was regularly watched because some salmon are caught and released there.

The Saint John office has been low on staff and between Parrsboro and Saint John few if any patrols were conducted. There was a report of salmon being 'jigged' in the Black River but there was no investigation because of the workload associated with shellfish disease. It was noted that C&P really need to know what rivers they should focus their investigations on.

There were patrols out of Parrsboro: 4 rivers patrolled by kayak so as to inventory location of where salmon could be. It is hoped that more of this work can be done earlier in 2004 (funding late in 2003). A public education program was developed and will be going to the schools next year (grade 8). Signs have been posted to prevent the intentional and non-intentional capture of salmon. Parrsboro had one violation from a logging operation.

Questions ensued re: whether DFO is looking for illegal introductions of aquaculture fish to outer Bay cages (trucks are inspected when seen); where the funds go when someone is charged and found guilty (questioner suggested that the fishery officers need to suggest to the judge where fines should be directed) and, ATV infractions esp. on the Pt. Wolfe River (destruction of fish habitat is a hard thing to prove-signage can be effective.)

HSP Proposals for 2004

P. Amiro reported that pre-proposals were discussed with a small group on Tuesday, November 18th. A total of 4 proposals were received and reviewed by the committee (Querbach, Amiro, Hamilton and Taylor): 1 high priority and 3 medium priority projects. All projects seemed to fit into the "desirable" for recovery category of the RT priorities.

Projects were:

1. Survey of Hants County Barriers to Migration (Ecology Action Center)- intention is to raise the level of public awareness re: importance of the lost interfaces between freshwater/saltwater and its potential contribution to the overall productivity of the Bay. The Committee had questioned the direct utility of the project to recovery of Atlantic salmon.
2. Maccan River Project (Cumberland County River Enhancement Assoc.)- seeks to identify primary salmon habitat and take awareness to land owners of the impact of land practices and value of e.g., fencing of pasture adjacent to Atlantic salmon habitat.
3. Classroom Education Package through Fundy National Park (Fundy Guild) – seeks to increase respect in youth for habitat for salmon.
4. Development of community habitat stewardship for area below Whiterock, Gaspereau River (King County Wildlife Association) - -involves 2.5 km of river habitat below the new fishway.

All of the proponents were recommended to develop a full proposal. Suggested that the Communication group recommend priorities for stewardship initiatives as it was felt that the proposals all were focusing on 'essential for recovery".

Communications and Public Awareness Technical Committee
Marshall gave a brief overview of the group's deliberations the day previous. This included a review of components of a draft plan (attachment 16) and the target audiences…stakeholders, Media, Academia, school children, general public etc. Much effort has been directed towards school children, maybe more effort directed at people having possible direct effect on salmon. There was also thought that the group should be more proactive in involving the media. Timelines on activities were requested – e.g., – release of fish, any event that would be media worthy.

AMEC (Petitcodiac smolt trials) – absent.

**Recommendations from Planning Group**

Monitoring and research: Proposed DFO science priorities/ action items for 2004 were provided by Amiro (attachment 17). They included data and analysis (recovery potential reference points, Critical habitat modeling, scale analyses and threats analysis modeling); Field work for Smolts (proof of freshwater habitat production, evaluation of LGB storage approaches and smolts for research); electrofishing (11 rivers only and re-evaluation of BSR sampling strategy); adults (BSR, Gaspereau and rivers of opportunity ala C&P/ local collaborators).

Proposed Long Term Projects were in freshwater best restricted to Great Village or possibly the Portapique and Folly (argument made however that s/r parameters and s/r monitoring in NS would be of small incremental gain). For the marine environment research is needed to move from maintenance to recovery. No tracking or trawling proposed in absence of existing data and analysis, rather, smolt viability studies (3 wild and 1 hatchery) coupled with toxicology and r&d for smolt tagging with metallic detectable and floating radio tags.

Genetics – ref. O'Reilly's presentation (attachment 13). Calcien marking trials are on hold for now because results coming from the states show that calcien may be detectable for little more than a year. Patrick noted that the LGB program decreases the wild fitness of the fish over time and that various methods are being incorporated to minimize the loss, e.g., cross (out) breeding, placement of eyed eggs into the wild rather than waiting until they are fry. As well, cryogenic preservation of sperm is being tested to minimize the genetic changes between founder and subsequent generations of LGB populations. Currently there hasn't been any success in freezing eggs and then thawing.

Inner Bay of Fundy salmon mtDNA is different from outer Bay of Fundy salmon. MtDNA analysis is more cost effective than nuclear DNA analysis. European ancestry has been detected in the Magaguadavic River, Black River and Upper Salmon River.

O'Reilly was asked if one can determine aquaculture fish among iBoF salmon to which the answer remains no, i.e., individual Saint John River salmon are not that different from the iBoF population, esp. those (the majority) that do not carry the unique haplotype.

## Process for redrafting of SARA compliant Recovery Strategy

RT was reminded that the DFO Species at Risk Office target date had been Jan. 1st, 2005 (that allows 6 months for translation). The RT should decide whether it wants the strategy contracted out or not. Discussion went both ways given that the knowledge base is largely resident within the RT. An external contractor would have to be objective and work closely, perhaps only with an RT sub group, in both the structure and word smithing. The consensus was that a contractor would minimize everyone's work load and that the arranger/ facilitator would be K. Querbach of the SAR Office.

## Other items

Tidal barrier issue. A. Hamilton noted that D. Hache (Moncton) is center to the debate, and that concerns over lost fish habitat has been elevated in importance by the RDG. Stewardship will be linked with the issue. (*Action: Hamilton suggested that tidal barrier issues (salt marsh tidal passage) be included among the high priority research issues of a SARA compliant strategy n Plan.)*

The co-chair volunteered to update the Appendix of iBoF Implementation plans relevant to recovery objectives.

## Date for Next Meeting

April 29 and 30, 2004

# ATLANTIC WHITEFISH CONSERVATION AND RECOVERY TEAM

## INTRODUCTION

The goal of the Atlantic Whitefish Conservation and Recovery Team meetings is to provide members with information regarding progress made in the assessment and improvement of the status of the Atlantic whitefish. The meetings provide a framework for identifying factors that may influence Atlantic whitefish habitat and abundance so that strategies for conservation and restoration of Atlantic whitefish populations can be developed. An important aspect of these discussions is the effort to raise public awareness of the Atlantic whitefish and the issues which must be considered in this species' recovery from its endangered status.

Members of the Atlantic Whitefish Conservation and Recovery Team met on April 10, September 25, and November 27 in Bridgewater, Nova Scotia. The goal of these meetings was to provide information about the assessment of Atlantic whitefish, its' habitat and to set goals for the conservation and restoration of Atlantic whitefish populations. Participants also discussed and reviewed efforts to raise public awareness of the Atlantic whitefish. Following is a formatted and stylized synopsis of these meetings.

## Synopsis of April 10, 2003 Meeting

Members of the Atlantic Whitefish Recovery Team met on April 10, 2003 at the DesBrisay Museum in Bridgewater Nova Scotia. See Appendix 9 for a list of participants. The meeting opened with introductions and a review of the agenda. Several items were added to the agenda at the meeting. See Appendix 10 for a copy of the agenda.

### Agenda Items

## Review of Action Items from Previous Meeting

The issue of water quality in the Atlantic Whitefish Watershed area was raised. Water quality reports will be obtained from M. Fox, representative for the Town of Bridgewater, and from Dr. M. Brylinsky of Environment Canada. R. Bradford will meet with Dr. Brylinsky and M. Fox to harmonize the separate reports of water quality data for the watershed. M. Fox will provide an overview of the Town's water quality data at the September meeting. He indicated that he is willing to assist anyone doing environmental studies in the watershed area. It was also noted that in order to charge someone with polluting a watershed, there needs to be historic water quality data for at least 5 years.

Environment Canada will provide the Recovery Team (RT) Chairs with Habitat Stewardship Program (HSP) proposals and final reports/products. K. Querbach will ensure that they are made available to the RT.

The Nova Scotia Power Incorporated (NSPI) Tusket HSP project report is now available. Bradford and Querbach have assisted in the preparation of Nova Scotia Power (NSP) and Nova Scotia Department of Agriculture and Fisheries HSP proposals for the coming year.

Bradford presented a report summarizing the Aboriginal Traditional Knowledge (ATK) survey conducted in August of 2002 within Acadia First Nation. Please see attachment 18 for a copy. Sixteen band members (elders) were interviewed to document their knowledge of and personal experience with whitefish. Two individuals reported catching whitefish 50 and 60 years ago. One was from the Yarmouth Reserve, the other from the Wildcat Reserve. Although other members were aware of whitefish, no distinction was made between lake and Atlantic whitefish.

## DFO SARCEP funding

Funding was anticipated to be equal to or greater than that of '02-'03. This however, is unlikely to be true - funding decisions are as yet incomplete but funding is unlikely to exceed that presently allocated to the Region (~25% of the anticipated Science budget). No monies were received for whitefish specifically, but some of the funding for Inner Bay of Fundy (iBoF) salmon has been redistributed to whitefish. Thus DFO

will only have capacity for culture of what are already on hand, some monitoring, and a modest amount of genetics work.

## Report from the Communications and Public Awareness Sub-committee

The members of the sub-group met by conference call (2) to discuss strategies to increase public awareness of the Atlantic whitefish as well as its' present status. (See attachment 19 for notes and a list of participants).

- There have been 2000 magnets ordered which will be used in concert with other initiatives.
- The NS Fish Series Atlantic Whitefish Fact Sheet has been printed (5000) and is available for broad distribution. (Comments were complimentary but wondered at the wording that Atlantic whitefish was considered to be an excellent sport fish).
- There has been some movement to build a dedicated Species at Risk (SAR) living exhibit at the Shubenacadie Wildlife Park (EC/PARKS) with a request to incorporate whitefish. The display would also have some travelling/portable components as well as materials for teachers e.g., Fact Sheets. Teacher packages, CDs etc.,
- Nova Scotia Power has a HSP proposal to develop a pamphlet/poster for distribution to the surrounding community. The thrust would be to relay information to educate and inform the public about Atlantic whitefish with a focus on the threats (habitat quality, exotic species etc.) to the successful reintroduction.
- The Communications sub-group looked into printing ads in the local newspaper with general information on whitefish. This did not work out due to timing but will be pursued in the present fiscal year, possibly in May and associated with yearly angling closures. It was noted that fishing has already started in the Watershed (illegal).
- C. Myers has approached the Science Editor of the Chronicle Herald and they are willing to dedicate a story to the Atlantic whitefish.
- In the next month C. Myers will be contacting 'Country Canada' and 'Land and Sea' to determine their interest; Cynthia Kent is interested in doing another article on whitefish.
- The DFO Maritimes Species at Risk web-site will have a page dedicated to whitefish. However, if the team wants something more, someone from the team will need to provide a proposal to the SAR Office to have it funded. (There are no guarantees that it would be funded). In this context it was noted that there are two sites housed at Acadia University that may be an alternative option and which do not have 'official languages' and 'common look and feel' issues.
- The DesBrisay Museum is finishing up a teachers kit which will be distributed to schools in the south shore.
- There is a need to increase visibility in the community, and for a sub-group member linked with the community. Products should be developed and tailored for the people of the Petite. The initial contact in terms of community capacity

must be good, as there is likely to be only one chance. M. Elderkin will send what they have for the Coastal Plains Flora Project.

- There is a need to know “entry points” well in advance of activities (i.e. - fish appearing at the Wildlife Park) if Communications is to capitalize on the event.
- The communications plan will be developed with or without funding. For ’04 it was suggested that someone develop a 'community stewardship' project for submission to the HSP.
- There is little visual documentation of the recovery process available, although D. Hasselman has lots of video of the whitefish from embryo stage up. Discussion ensued on the suggestion of having a large road sign on Highway 103 indicating the Petite as being “home to the Atlantic whitefish” (something like some others in the province showing a special aspect). Such a request usually originates from the municipality and is passed to the province for development of signage.

**Need for Recovery Team Information Repository**

The possibility of a DFO in-house File Transfer Protocol (FTP) site was discussed. This site could be used in conjunction with the public communications activities.

**Progress report on socio-economics**

This item is deferred as M. Rudd not able to attend meeting but some discussion was held on the outline of the project:

- Some activities seem complimentary to some of the science work that will take place.
- Relevance of an adaptation to Objective Based Fishery Management?
- Will the Action plan have target numbers by which to base a successful recovery?
- Clarification on the purpose of the proposed project and how it is a socio-economic analysis.
- Noted that the proposed project has yet to be discussed with the RT or scientists and suggested that the work isn't a priority at this time, however, without the benefit of having M. Rudd to explain the project we cannot make an informed decision. M. Fox noted that the Petite Watershed may be re-designated in the future, and if it is, a socio-economic analysis will need to be done. This will be done by a third party (this could be beneficial to the team). L. Marshall will meet with M. Rudd to get a better understanding of what is proposed in light of the RT objectives [involve town of Bridgewater]).

**Update on Web Publications by Clair et. Al**.

L. Marshall gave a brief summary of this work. The model indicates that there is no news in terms of pH. With the continuation of a 10% reduction in sulfate emissions, the pH of the Tusket would recover by 2060. Base cations will not recover until the end of the century. The Petite is not as impacted as the Tusket.

## Letter of Interest for the Display of Atlantic Whitefish at Huntsman

If an aquarium display of Atlantic whitefish were allowed, there would need to be a number of guidelines in place in order to convey the intended message. For example, concerns were expressed about the message being sent with a "species at risk" in an aquarium. The suggested solution was that no wild fish to be used in displays. There should be a disclaimer to say that fish are captive-reared progeny and that they are a significant step in the recovery of the species. Other practical considerations included moving juveniles rather than adults, as they seem to be the most resilient. A test tank will be set up at Mersey to scope conditions that might present problems for public displays. Other guidelines include:

- Fish are not to be released into the wild
- Requesting parties must demonstrate their containment capabilities
- A license to move and hold the fish must be obtained (in the case of holding the fish it is required yearly)
- The final disposition of the fish must be included in the license
- Fish are for display only, i.e. cannot be bred for research
- Only juveniles less than age 1 to be made available
- Tissue sampling not permitted
- Proper disposal for any mortality must be available
- Requesting parties must demonstrate expertise and be a reputable institute/organization
- Only allowable after review and recommendations of RT
- Water quality monitoring will be required while the fish are on display

The communications sub-group will build on this list with things the applicant would be required to do in terms of outreach.

## Recovery Objectives and Action Plans Review

The table of recovery objectives and action plans was reviewed. See attachment 20 for a copy of this table.

## Other Items

Sea Run Speckled Trout

A request from the Petite River Salmon Group to have NS Department of Agriculture and Fisheries stock the Petite with approximately 2000 sea-run speckled trout was received at a recent RFAC (Recreational Fishing Advisory Council) meeting. At that meeting the Province indicated that they would bring the proposal to the whitefish RT for discussion and recommendations. D. Bell of the Petite River Salmon Association indicated that the approval of the request would increase participation in their group and provide angling opportunity in the main river, a directed effort away from known whitefish populations. Bell noted that since there were no whitefish caught in the main river the impact would be non-existent and that historically whitefish, salmon, and sea-

trout all occupied the main river. Discussion ensued on the potential risks of introductions of stocked trout and non-indigenous species such as smallmouth bass and chain pickerel to whitefish populations, particularly the young stages. It was noted that:

- Salmon had been stocked up until 2 years ago and speckled trout are stocked annually in several lakes below where whitefish occur.
- Trout to be stocked would be approximately 20cm in size, introduced to the lower portion of the main river in the fall, and adipose clipped. Many of these fish would potentially be angled the following spring in the lower portions of the river.

It was suggested that at this point, with the whitefish anadramous population unknown, stocking would optically be a poor idea. Additionally, past stocking activities should be reviewed.

J. LeBlanc indicated that similar sea-run enhancement programs in neighboring watersheds such as the LaHave, Broad, Jordan, and Clyde rivers have been very successful and supported by local angling associations. The whitefish RT decided to defer recommendations on a sea-run speckled trout project until the fall meeting when all stocking practices and options could be reviewed.

Conservation License Plate
The Nova Scotia Conservation license plate is now available for $70, with a portion of the proceeds going to a NS conservation fund.

Summer Student
NSDAF summer student is to work with municipalities on water quality issues. It was noted that they would like to have a GIS database developed from the work.

Fish Passage
Fish passage on the Petite Riviere is vital to developing an anadromous run and monitoring of same. It was noted that Crousetown is at the top of the list for passage and monitoring. Fancy Lake is secondary and requires careful consideration, as there is the possibility of providing access to invasive species. Anadromous expression is assumed to be inherent in landlocked populations and could conceivably express itself over 2-3 generations. DFO is to review status of the Crousetown proposal and conceptual plans. R. Bradford is to review criteria for introducing landlocked populations to anadromous habitat.

Additional Water Quality Testing
The town of Bridgewater has an opportunity to obtain two ‘advanced hydrolabs’ for water quality testing and is seeking a letter of support from the RT. A letter was drafted by M. Fox and sent without RT signatures.

DFO Proceedings Series
Given the need for readily accessible information on the progress of Recovery Teams, it has been suggested that RT meeting summaries (minutes) be published annually in

the Canadian Science Advisory Secretariat (CSAS) Proceedings Series. The document would include minutes of all other Regional RT's and would be available to the public.

## Next Meeting

September 24, 2003 in Bridgewater

## Synopsis of September 24, 2003 Meeting

Members of the Atlantic Whitefish Recovery Team met on September 24, 2003 at the Wandlyn Motel in Bridgewater Nova Scotia. Please see Appendix 4 for a list of participants. The meeting opened with introductions and L. Marshall informed the RT that he would be stepping down as the co-chair. The new DFO chair will be I. Marshall, A/Manager, Yarmouth area office.

### Agenda Items

## Review of Minutes & Action Items

Small changes were made to the minutes from April 2003. The following action items from the previous meeting were completed:

M. Fox made the suggestion to the Town of Bridgewater that a road sign indicating the Petite being "Home of the Atlantic Whitefish" be installed and the Town supported the idea. The highway sign will be prepared as soon as the wording is complete. He also provided an overview of Town's water quality data. The data was provided to R. Bradford.

M. Elderkin sent the website address for Atlantic Coastal Plains Flora to the RT**.**

J. Whitelaw set up an experimental display of whitefish to anticipate potential problems with holding whitefish in an aquarium for public display.

These action items were outstanding as of the September meeting:

The creation of a sub-group to begin planning a proposal to meet the needs of the municipalities for '04-'05 has been deferred until the next meeting as has the discussion of water quality reports from Dr. Brylinsky. The meeting between R. Bradford, M. Brylinsky, and the Town of Bridgewater to harmonize the separate reports on water quality data for the watershed has not yet occurred.

DFO is to review the status of the Crousetown proposal and conceptual plans. R. Bradford will review criteria for introducing landlocked populations to anadromous habitat at the fall meeting.

## HSP Process/Guidelines for 2004/05 Project Development

K. Querbach presented an overview of the HSP for species at risk and provided information and guidelines for the submission of project proposals. She noted that the stewardship project including both coastal plains flora and whitefish in the Tusket system might be a good fit.

There was some interest in defining the common issues (priorities) of the whitefish RT and the Coastal Plains Flora RT with an eye to a possible common front. The DFO

co-chair, I. Marshall, is to discuss with M. Elderkin and S. Boates what might be appropriate.

Pre-proposals are to be submitted to the RT by November 15 and full proposals are to be in to Environment Canada by December 12. All proposals need to be ranked by the RT.

In the fiscal year 2002-2003 there was $513K for all HSP projects in the Atlantic Region. Whitefish, in competition with all Atlantic Region HSP projects, captured approximately 10% of the funding (2 of 19 projects in NS).

Applications to assist in the development of plans for re-introductions may or may not be approved depending on the priority given by the RT and the involvement of the stewards.

RT review of pre-proposals
In 2002, the review team consisted of the DFO RT co-chair, DFO HSP coordinator, and a DFO Science and Habitat Management representative. After discussion it was decided that representation in 2003 should additionally consist of a DFO Science person independent of the DFO co-chair role, a NSDAF representative (J. LeBlanc), and a representative of the RT's Communication and Public Awareness Subcommittee (CPAS). CPAS will appoint a participant. Applicants to HSP cannot take part in reviewing their own proposal. It was noted that it would be beneficial to get the HSP information out to the general public/groups. K. Querbach will look into the availability of funding to spread the message regarding the HSP and projects of interest to the RT and discuss this within CPAS.

## Activity Updates

**DFO Science** – (Bradford/Whitelaw/O'Neil)

D. Hasselman's thesis was successfully defended. It made a significant contribution to the understanding of the life stages of coregonine fishes. 'Draft' manuscripts of the primary publications from Dan's thesis are expected to be available this fall.

There is now a snapshot of the fish assemblage on Anderson Lake from baseline gillnets and water quality surveys. R. Bradford will give a summary at the November meeting.

The Tusket-Annis lake survey to assess the effects of chain pickerel introductions on native fish assemblages is complete and is being analyzed. A report will be produced and results are being presented at a DFO National Science Workshop in November.
Preparations are now underway for autumn trap netting (with regular checks to avoid possibility of any mortality) to monitor abundance and collect an additional 20-30 broodstock. Salinity and pH trials will be done this fall.

Trials will begin this fall to determine the viability of using pingers for tracking of fish. 'Dummy' pingers have been purchased and will be surgically implanted into some fish to test the fishes' capacity to carry and normalize. There will also be a first assessment of the potential to artificially cross lake and Atlantic whitefish and subsequently examine physical and genetic characteristics.

Otoliths from a fish caught by D. Bell in the main stem Petite, May, 1998, have been assessed and initial isotope analyses indicate that the fish had protracted exposure to marine realms. R. Bradford will present the results at November meeting.

S. O'Neil reported that holding facilities and the water supply line at Mersey are being upgraded with completion expected by mid 2004. Due to lateness of funding and the requirement to house some fish in temporary tanks aerated with bottled oxygen in the summer 2003, an accident occurred that resulted in the loss of ~ 3000 F1's. A few hundred F1's were saved and the broodstock all survived. Measures were taken to ensure that there would not be a repeat of such accident. It was noted that DFO SARCEP funding is not A-base but rather dependent on Service Level Agreements applied for and awarded annually. It is not anticipated that future awards will take as long to deliver as those in 2003.

P. Bentzen (Dalhousie) is collaborating with DFO to develop 20 new micro-satellite markers (he has 10 old) of whitefish in order to compare the relationship of Atlantic and lake whitefish in terms of genetic variability. So far it appears that there is low genetic variability (i.e. no variability in 15 of the 20 markers) within Atlantic whitefish relative to lake whitefish. The samples used were collected over a 3-year period at Hebb Lake. Bentzen has some samples from the other two lakes but there is a need for additional samples. A follow-up to this will be presented at the November meeting.

**NSDAF**

The Inland Fisheries Division of the NS Department of Agriculture and Fisheries received up to $32K to assess the potential affect smallmouth bass may have on Atlantic whitefish present in the Petite Riviere watershed. The project has two major components: (1) stewardship initiatives and (2) biological assessment. A project coordinator has been hired (Heidi Bishop) to lead both aspects of the project.

J. LeBlanc noted that there have been no bass found spawning in the three lakes in which Atlantic whitefish have been found. A report on this project will be given at the RT meeting in the spring.

See attachment 21 for more details on this project.

**Bridgewater Public Service Commission**

The issue of obtaining hydro-labs for use is still on the table but those that were previously thought to be available have been committed elsewhere. The Bridgewater Public Service Commission is, however, independently collecting water data.

There has been some concern about access to Millipsigate Lake as the access road to the dam is private and landowner permission to cross is required.

The letter sent to the co-chair by the Town of Bridgewater regarding stocking of lakes caused a misunderstanding. Introductions were to be in the main stem below the watershed lakes and therefore not a concern.

## Socio-Economics

A generic framework is in place for doing Socio-Economic monitoring. Over the fall it will be customized for whitefish and developed into a test case. In the long term there is a need to establish a system of formally monitoring management performance and of linking management and stewardship activities to species recovery initiatives. Such a framework should permit the evaluation of priorities and identification of benefits/costs to stakeholders for various management activities. For this exercise Rudd needs to consult RT members on available data, especially expenditures and any information about different stakeholders that the management measures may affect.

J. LeBlanc volunteered to provide information on the National Recreational Fishing Report. Rudd was unsure how the socio-economic considerations within the potential issuance of incidental harm permits (IHP) will be incorporated into the framework. It will however consider different socio-economic and hopefully ecological costs to stakeholders, whether direct or indirect. It is hoped that the framework for whitefish will be completed in the in the spring. Rudd is to provide updates on data collection at the November meeting and preview of analyses at the spring meetings.

## Maritimes Fishery Regulations

At a previous meeting G. Stevens presented a draft RIAS (Regulatory Impact Analysis Statement). The proposal is to amend fishery regulations to prohibit the live transport or possession of live species. This proposal has been presented to different groups and there seems to be general support. One modification to the draft was to have the regulations applied to all species and list exemptions. It was suggested that exotic fish from pet stores are sometimes introduced into lakes. Stevens noted that this is already illegal. It is anticipated that these new regulations will not be implemented before late 2004 but more likely sometime in 2005. A draft of the RIAS is included in attachment 22.

## Communications and Public Awareness Subcommittee (CPAS)

There have been several articles regarding whitefish over the last couple of months, including those in the Chronicle Herald and Bridgewater Bulletin. Ads were placed in local newspapers ('Bridgewater Bulletin' in English and the 'Le Courier de la Nouvelle-Ecosse' in French). See attachment 23 for a copy of the English version. 'Country

Canada' and 'Land and Sea' seem interested but these are not yet definite. A fall project will focus on higher visibility, for example, existing field/facility work, posting of material on a web-site etc. Also the CPAS plan to move forward on community education and stewardship initiatives.

## Listing/ Prioritization of Projects and Potential Sources of Funding

Please see attachment 24 for details. Note: emphasis of "essential", "may", and "desirable" replacing high, medium, and low priorities used at the meeting.

Essential for recovery – (high priority)
May provide recovery – (medium priority)
Desirable for recovery – (low priority)

## Request to stock sea-trout

This issue was first tabled at the April meeting of the RT and prompted a high level of concern which resulted in several action items for discussion on this agenda, specifically, the provision of NSDAF stocking history (1976-2002) and DFO stocking history (1976-1990) (attachment 25).

The provincial records indicate that brook trout of domestic origin have been stocked in Petite lakes up to and including 2002. "Sea" trout have yet to be released. Sea trout available for stocking would be of Antigonish Hatchery origin (20cm range and adipose clipped).

DFO's records indicated that Atlantic salmon principally of LaHave River origin had been stocked in the main stem over the period of records ending in 2000. There are no stocks available and no plans for "recovery" of salmon in the Petite.

It was pointed out by RT members that there was currently a "good" population of speckled trout in many areas of the watershed and possibly sea-run trout, although in the case of the latter, unavailable to a sport fishery by virtue of a closure designed to protect Atlantic salmon. Assessments of the status of the trout species have not been conducted.

A general discussion ensued including the following points:

- past stocking of trout hasn't been questioned
- previous considerations were dealt with in a single species management framework and had not considered or questioned the potential impact of trout stocking (e.g., potential to manifest a disease/compete for food and habitat etc.) on other species, specifically whitefish
- no one had yet addressed the criteria for stocking fish in potentially sensitive and certainly a "unique" system with respect to the fish assemblage
- there is little or no basis to curtail or prevent stocking into a unique system other than the precautionary principle

- From a Resource Management perspective, stocking sea-run speckled trout below Hebb Lake is a low risk activity. Trout, salmon and Atlantic whitefish have always co-existed on the Petite and Tusket systems. Both systems have been regularly stocked with salmon and trout in the past. However, because Resource Management doesn't have a problem with the proposal does not mean that Science and other clients feel the same. As the RT works on a consensus basis, the consensus did not support that view.

In an effort to prevent the immediate introduction (this fall for a spring fishery) of sea trout, it was suggested that the main stem Petite be open to fishing only for trout from January to April. This suggestion was made because of the possibility that there is already a fishable population of sea trout, albeit protected by closure to fishing.

A change of angling season would need to be tabled at both the Recreational Fisheries Advisory Council (RFAC) and the Zone Management Advisory Committee (ZMAC) for salmon meetings. Existing closures of Salmon fishing are from April 1-14$^{th}$. If the season opened early, then NSDAF indicated that they would conduct a creel survey to assess catch rates. It was noted that the opening of the season early could affect the salmon population. A group will be assigned to keep this on the table from biological and conservation perspectives. This has to be done within the next 6 weeks. J. LeBlanc, G. Stevens, L. Marshall, with I. Marshall leading, will report back at the next meeting.

## Whitefish exhibits

S. O'Neil reported that the reason that the planned exhibit for the Huntsman Marine Center didn't work was because regional fish health/quarantine issues had been over looked, i.e., Mersey is not a certified disease-free facility. If the display is to be 'flow-through', the NB regulations require that there be disease testing (sacrifice) of the fish to be transferred. However if the display is to be "static", the issues can be more easily resolved. It is anticipated that the hurdles will be cleared in order to affect a transfer in 2004.

## Repository for RT Minutes

Minutes that are produced from our meetings will be put into a "proceedings document" that will be posted on the CSAS web-site.

## Sarty Pond

A newspaper article indicating that Ducks Unlimited is to abandon their water control structure on Sarty Pond prompted a question regarding the potential impact on whitefish. Discussion suggested that this was not likely to be a habitat issue for whitefish but might be an issue with respect to water quality. It was subsequently suggested that someone, including an individual from Habitat Management, contact the biologist from Ducks Unlimited to evaluate the potential impact on whitefish. The Co-chair is to file a report of findings at the November meeting.

**Next Meeting** - November 27, 2003 in Bridgewater

## Synopsis of the November 27, 2003 Meeting

Members of the Atlantic Whitefish Recovery Team met on November 27, 2003 at the Wandlyn Inn in Bridgewater Nova Scotia. Please see Appendix 9 for a list of participants. The meeting opened with introductions and a review of the agenda. Please see Appendix 10 for a copy of the agenda.

### Agenda Items

### Review of Minutes & Action Items

A summary of research activity results will be given by R. Bradford at this meeting.

A summary of fish assemblages at Anderson Lake from baseline gill net and water quality surveys will be presented by R. Bradford at this meeting.

Presentation of the results of the otolith isotope analysis of the fish given by D. Bell is deferred to the April 2004 meeting.

Some information regarding whitefish genetics will be discussed today but most discussion is deferred until April 2004.

Draft wording for a road sign indicating the Petite being "Home of the Atlantic Whitefish" is still under discussion. A mock up of the sign was provided and wording has been changed. An update will be provided at the next meeting (April 2004).

G. Stevens modified a RIAS (Regulatory Impact Analysis Statement) so that regulations for transport and possession of live fish to apply to all species. Exemptions would then be listed.

CPAS (Communications and Public Awareness Subcommittee) appointed C. Myers as their representative on the team reviewing pre-proposals for HSP projects.

K. Querbach discussed the availability of funding for HSP and projects of interest to the RT with the CPAS.

The DFO co-chair discussed defining the common issues of the whitefish RT and the Coastal Plains Flora RT with M. Elderkin and S. Boates. These discussions are on going.

An update will be provided at today's meeting on the discussions between G. Stevens and the province regarding sea trout introductions. A group to promote this issue from Biological and Conservation perspectives was assembled. Members are J. LeBlanc, G. Stevens, and L. Marshall, with I. Marshall leading. A report will be presented at today's meeting.
A brief update regarding the removal of the fish ladder on Sarty Pond and its potential effect on whitefish habitat will be provided today. This issue is on going.

## Stocking of Whitefish

PH and salinity trials are planned for January in anticipation of the possibility of the introduction of an anadromous run. The issue of where to put the fish has been under discussion for the past couple of years. A framework that would help to formulate an objective decision regarding where to stock the fish was discussed.

R. Bradford presented possible criteria for re-stocking Atlantic whitefish based on what has been done for the Inner Bay of Fundy (iBoF) salmon. An explanation was given as to what was done for salmon, and it was suggested that we apply the same logic to whitefish. Branford's criteria include societal, ecological, and habitat issues.

Several points were raised:

- It was asked whether the fish should be stocked in a heavily sport-fished area.
- It would seem that the focus should be on putting the fish where outreach initiatives are in place.
- Long-term viability: Where can we put the fish with a human footprint?
- Ecological: What fish live there now? Is there a buffer for an introduced species? Can you maintain potential threats?
- Habitat: Water quality. Is the pH acceptable? Is the forage base adequate? Does the team recommend this type of study be done?

The suggested process for recommending a site would be to first go through the criteria and have it recommended by the RT and then apply to the IT&T Committee.

What would intentions be? Give the RT a list of sites? Develop the criteria first and then bring to the RT before proceeding with the actual 'matrix'. This is largely aimed at landlocked populations. On the anadromous side of things this type of matrix wouldn't have a great deal of input into this process.

Questions were raised as to what the strategic plan would be, what the time frame would be, and how many sites would be required. It was pointed out that the project is long term and would develop over the next 10 years. It will involve genetics, although studies to date indicate that the genetic diversity is low.

Final questions included:

Why are certain sites chosen over others? How should this be monitored? How do we deal with the anadromous population?

Any suggestions as to what should be included in the criteria for whitefish stocking should be sent to Bradford. Our ultimate goal is to maintain the species in a natural habitat.

The SARA Compliant working group includes M. Elderkin, T. Wheaton, A. McPherson, and I. Marshall. A copy of what is required in the compliant strategy is included as attachment 23. A copy of the Blandings Turtle SARA Compliant Recovery Strategy, can be found at http://www.speciesatrisk.ca/blandings/Blandings_Turtle_Recovery_Plan_Jan2003.pdf.

## HSP Review

The proposal review committee reviewed the proposal for Education and Awareness and recommended that a full proposal be developed. Please see attachment 27 for a copy of the pre-proposal.

B. Cook asked the group for recommendations for a person who could facilitate the workshop. M. Elderkin suggested Steve Hawboldt, and will provide Cook with his contact information.

## Communication and Public Awareness Sub-Committee Report

Road Sign

The wording of the sign should be changed to include words like 'globally' endangered or 'last home' of the Atlantic whitefish. It was suggested that the phrase 'water supply' be replaced by a logo. M. Fox is to coordinate the location of the sign. He will explore what criteria are required for the Department of Transportation (DOT) to install a sign and whether they will do it if DFO does the graphics. It was suggested that the DFO contribution be in-kind, as this would enable the team to put up an English-language sign. If not paid by DFO it doesn't have to be bilingual. There is support for including a graphic of the fish. It was suggested that a photograph rather than a drawing of the fish be used. R. Bradford, M. Elderkin and C. Myers will decide on an image (Bradford and Elderkin will send images to Myers). The final wording for the sign is: 'Last home of the globally endangered Atlantic whitefish'. There is support for placing the sign near the water along the 103. The sign would be 6-10 feet wide and 12-20 feet long. This could be a HSP project with the Town, or the Bluenose Coastal Action Foundation (BCAF) could incorporate it into their HSP project. It was noted that if this were to be done with HSP funds it would still need to be translated.

The wording of the sign must also include 'Petite Riviere' (before other wording). BCAF will include this in their HSP proposal and Mike Fox will talk to DOT.

Update on Communications Activities

C. Myers will work with BCAF on communication initiatives. The group is working on getting visuals and on the website. The group would like a project list so that they might be able to get more visibility. They would also like more photos of fish. Next year there will be more dedicated projects they would like to work on. There will be some open houses in Bridgewater that they could likely piggyback on. M. Fox will inform BCAF of the scheduling of these so that they can participate. The next open house will be for people who have direct impacts on the watershed. R. Bradford and I. Marshall are considering having some sort of session in the Tusket to get people

interested. Not sure how this will happen but will likely piggyback on something else. A question was asked regarding the idea of exhibiting whitefish. Did this happen? This was discussed at the last meeting but basically the project for Shubenacadie display has not gone through and may not happen. It was noted that Jon Stone (EC) is working on this and may be applying for Interdepartmental Recovery Fund (IRF) funding.

Nova Scotia Department of Natural Resources (NSDNR) is working on a website that will have updated information on Species at Risk. They are also working on other projects for Species at Risk. It was noted that all projects are aimed at getting information out to the municipalities and others at an early stage.

**NSDNR & Municipal Stewardship**

Referring to discussions on combining some aspects of the Coastal Plains Flora project and the Atlantic whitefish project, Elderkin noted that there are biological and political differences between the two. Stakeholder groups are quite different. They are not seen as a common platform at this time because there are different levels of threats on the Petite and Tusket River watersheds. BCAF is doing a project on the Petite and there are a wide range of stewards. The Municipal project incorporates all species at risk. Database and maps raise awareness of stewards and individuals in the areas. Critical habitat is being incorporated into the municipality project. This process will allow for flagging species at risk when requests are received for planning.

**Sarty's Pond**

The proposal to decommission the fish ladder on Sarty's Pond is on hold while Ducks Unlimited is waiting to see if there are funds to rebuild it. Some repairs were done last fall and should hold until spring when a decision will be made. This item raises water quality issues as this may be marginal habitat for whitefish. It was suggested that we look at this more in terms of a habitat conservation issue rather than just as a fish passage issue.

The question was asked as to what happens if DFO doesn't give the ok to decommission? Is Ducks Unlimited required to maintain it? It was noted that we (DFO) would need a strong case to turn them down. If we turned them down then it would decommission naturally anyway. We should work proactively with them to ensure that it is maintained. Elderkin will look into some funding that may help out (Eastern Habitat Joint Venture Fund?) There have been discussions between DFO Habitat and Ducks Unlimited to start a pilot project of developing a 'rock ramp'. This is something that is done in Europe.

**Sea Run Speckled Trout**

The decision not to stock trout was reached via conference call. As a compromise, the angling season was adjusted. Angling would be open on the lower area of the Petite to single, un-baited lures with a bag limit of two trout, which would allow access

to the sea run trout. The Province is willing to conduct a creel survey to get baseline information. It was suggested that the bag limit be reduced for the entire season on the main stem of the river.

Discussion began on the fact that D. Bell is no longer present at our team meetings. It was noted that his (D. Bell) absence is definitely a problem when it comes to DFO and Province consultations on the fishing season. J. LeBlanc will contact Mr. Bell to tell him the decision. J. Gilhen will also give him a call.

## Science Update

Chain Pickerel Introductions

R. Bradford gave a presentation on chain pickerel introductions. Pickerel are now in 30 watersheds although introductions of non native species have been illegal since 1945. This will affect our decision as to where to re-introduce whitefish. Studies show that fish assemblages tend to collapse when fish with spines are present but collapses are rare when soft rayed fishes are introduced.

All presence and absence data were presented. It was noted that Ontario pickerel are in decline and it would be interesting to find out what this is attributed to.

Petite Lakes Monitoring and Water Quality Work Done this Fall

A trap-net was set for two weeks, catching 17 whitefish in fairly good shape. This shows that it can be done and that the fish are fairly well represented in the fish assemblage. The project would be redesigned for next year. As well, tagging is anticipated to be done next year.

Minamkeap Trammel Net

No whitefish were caught in the 3-day survey. Bass, bullhead, perch and sucker were present.

Bentzen's Genetics Work

The study shows that there is very little genetic variability among Atlantic whitefish samples obtained from one lake. The reason for this is not known but fish from other lakes are being collected to determine if the lack of variability is a general phenomenon or just a local effect. It was noted that Lake Whitefish show a lot of genetic variability and it may be that low variability among Atlantic whitefish may have been caused by a 'bottlenecking event'.

The results of the expanded genetic survey will play an important role in how we are going to re-stock these fish. We need to solve the genetic structuring among the lakes.

It was suggested that genetics may also be important for the identification of Critical Habitat. The National Recovery Working Group has developed guidelines on Critical Habitat identification, although they are not available for distribution. A working group

to discuss this as well as the re-writing of the Recovery Strategy will be developed, with I. Marshall as a lead.

## Other Items

Fate of Dead Fish

It was noted that these fish have scientific value and can be used for various studies. Once studies are complete, remainder of fish will be sent to the museum for their collection. J. Gilhen noted that anything that is sent over needs to be labeled properly. The question of whether genetic material from the fish will be archived was raised. Tissue samples will be preserved in alcohol and kept at BIO. Cryopreservation is being explored.

Recovery Team Terms of Reference (TOR)

The TOR for the RT will be circulated for comment before the next meeting at which time approval will be sought.

Membership

Jonathan Kierstead of Bowater Mersey has resigned from the RT.

## Next Meeting

Mid-April 2004 pending decisions on funding for projects

# LAKE UTOPIA DWARF SMELT RECOVERY TEAM

## INTRODUCTION

Lake Utopia, in south-western New Brunswick is the home of two morphologically and genetically distinct forms of smelt, 'dwarf smelt' and 'normal smelt' (genus Osmerus). The dwarf form was last examined by The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) in 2000 and designated as threatened. The limited geographical distribution of the Lake Utopia Dwarf Smelt population makes it vulnerable to various environmental threats and so it is currently protected under the federal Species at Risk Act (SARA). The goal of the Recovery Team meetings is to examine those factors which pose a threat to the preservation of this population and to develop strategies to help ensure its survival.

Members of the Lake Utopia Dwarf Smelt Recovery Team met on March 21 and October 1, 2003 in Fredericton, New Brunswick. The goal of these meetings was to review progress that has been made in the evaluation of the Lake Utopia Dwarf Smelt (LUDS) population and its habitat, and to discuss a recovery strategy for the restoration and conservation of this population. Following is a formatted and stylized synopsis of these meetings.

## Synopsis of March 21, 2003 Meeting

Members of the Lake Utopia Dwarf Smelt Recovery Team met on March 21, 2003 at the Sheraton Hotel in Fredericton, New Brunswick. Please see Appendix 15 for a list of participants. The meeting opened with introductions and a review of the minutes from the last meeting. Please see Appendix 16 for a copy of the agenda.

### Agenda Items

## Election/Appointment of Chair for the RT

The Chair discussed the roles of recovery team chairs and the group was asked for any volunteers/nominations to fill the non-DFO chair. There were no volunteers or nominations. A. McPherson asked for volunteers to fulfill the DFO-chair position and nominated M. Rudd who declined, as he felt that someone with more background on smelt would be preferable. As there were no other volunteers or nominations, McPherson will remain as Chair until the next meeting.

## NB Field Season Results

S. Currie presented the NB field season results. The field report is still being completed and it will be distributed when it is finished.

The presentation prompted several questions regarding the Lake Utopia site:

Q. Is there any evidence of smelt in any of the brooks studied?
A. No, there appear to be only suckers.

Q. Is there a dam at Mill Lake?
A. Yes, at the outflow to Mill Lake Stream. It's an old logging dam.

Q. Does the dam affect flow into Mill stream?
A. No, the water is spilling over the dam. The dam is falling apart.

Q. Is there any road and cutting activity across the top of the lake?
A. The site has not been visited and therefore the level and type of activity occurring there is not known. However, the road is a passage to a popular beach and this has been a problem. Alternate routes have been suggested. Regionally, there is a plan in place to identify areas that have ecological significance and action has been triggered on those three streams where spawning is known to occur. Some of the land in that area is now crown land.

Q. Is there any evidence for spawning in the lake (shore spawning)?

A. Currently, there is not evidence of it but it cannot be ruled out at this point. We ruled out 14 streams but they might be using some of the shorelines around the lake.

## Discussion on Recovery Strategy

Introductory Remarks

Progress to date and suggestions on how the team might move forward were presented. The Chair discussed future milestones as well as the expectations of the recovery team. It was clarified that the strategy is being prepared by DFO in consultation with the recovery team. DFO needs and wants the input of the recovery team, as they are the experts and interested parties. It was noted that the draft strategy was sent out to members in January and that and the DFO Maritime Species at Risk Office only received comments from the NB Government.

The Chair suggested that we separate the recovery strategy from the action plan and she explained the difference between the two. The two documents can be developed on parallel tracks but they should be separate documents. Further, the strategy is a set document while the action plan is evolving. The recovery strategy will be one document for the five years. DFO has a legal timeline associated with the generation of the recovery strategy; therefore, that should be the first priority at present. The team was asked if there were any objections to separating the documents. There were none.

*Comments*

The distinction between the action plan and strategy is still not clear but we can clarify this as the day proceeds. We can hold off on a consensus until then.

We must keep in mind that the LUDS were listed because they only exist in Lake Utopia and thus, there are less than five populations on the planet. Further, COSEWIC suggested that there were 300-400 individuals, which is not the case (there are more). Therefore, the recovery strategy is not a strategy for recovery; it is a strategy for maintenance. We should be working toward downlisting the LUDS.

D. Rowland had some concerns about the length of the strategy and the appendices. The group decided that length itself was not important as long as it is written for the correct audience and entails all of the required components. It was agreed that it should be shortened and tightened up. Discussions on which appendices should be included commenced, and it was suggested that if any of the appendices could be paraphrased in the document, that would be a good start. This has already been accomplished in parts of the document. It was agreed that the regulatory framework was very useful and should remain as an appendix. It was suggested that links be made to other websites for documents that might not be included in the appendices.

## Recovery Strategy Structure

McPherson presented a sample structure for the recovery strategy document, which included all of the SARA compliant information. The NB government also presented a structure and it was distributed to the team. Their structure was a simplified version of the original taking into account that the species seems to be doing quite well. The management concerns of the province were also embedded. The team decided that it would be best to put McPherson's structure up on the screen, as it is SARA compliant and address each section at a time. Every section was discussed so that all recovery team members had an opportunity to comment. In addition, specific incomplete tasks were assigned to members. The structure is reproduced below with discussion and comments embedded.

*Status of species*

- **COSEWIC designation** – this component is completed
- **Reasons for designation** – this component is completed
- **Historic/current distribution and abundance information** – this section should include a statement on the current status of LUDS (i.e. that they are doing fine).

*Statement of recovery feasibility* – this is an important section for this species given its unique circumstances. Recovery is feasible but it must be stressed that in this particular case, maintenance of the already self-sustaining population is the goal, not recovery. The species does not need recovering; it needs to be maintained. M.Toner/S. Currie will write a section on the statement of recovery feasibility.

Recovery objectives

- *Long-term objectives (population and distribution objectives that if met would be considered "recovery" by the team)* – there was a lot discussion on this. Maintenance of the population is the long-term objective so quoting the current population quantities would suffice. The number of mature adults is the most important issue and it is difficult, as the numbers vary extensively. There was more discussion on whether there is sufficient data to estimate an appropriate abundance and it was suggested that we come up with a number that we do not want to go below (e.g. a percentage drop from the current numbers). It was also suggested that using other populations' demographic information to estimate an appropriate desired population size might be the way to proceed. What is typical across proximate populations could be quantified. The majority agreed that this was the best approach. R. Bradford will assess the information on other populations and get back to the team with the results.
- *Short-term objectives (5 year target)* – the short-term target is to conserve the numbers that we currently have.

Species description that is consistent with COSEWIC report that includes species

- *Ecology* - this information is already in the document but needs tightening up. The information should be short and concise.
- *Biology* – same as for ecology.
- *Needs* – same as for ecology/biology except that some of the needs were discussed under the next section of identifying knowledge gaps.
- *Identification of knowledge gaps* – the group came up with a list of gaps:
    a) Basic biological information is required including a consensus on the morphs
    b) More information on how smelt use the lake is required
    c) Lake life history information is required
    d) Lake distribution information (within b above) is required

Habitat Requirements

- *Identification of critical habitat to the extent possible based on the information available* – this is going to be a very difficult issue, as it has a number of implications. There was a great deal of discussion on this. It was suggested that at the very least, the three tributaries (i.e. spawning habitat) should be declared as critical habitat. There was a comment that even though the tributaries are very important, they may not actually be critical. Do we have enough information to say that they are? An opposing comment was that we are not confident that if these streams were destroyed, the smelt would spawn elsewhere so we should be defining them as critical. The group struggled with the idea of critical and whether it is a biological or legal issue or both. DFO members outlined that critical habitat is a biological issue and the expert biologists should address the critical habitat issue. Members from the province saw critical habitat as both a biological and a legal issue. It was suggested that from a DFO perspective, it is up to our minister to address the pros and cons of declaring the habitat critical and our job as scientists and recovery team members to define critical habitat based on the biological needs of the species. However, the implications of designating critical habitat are important and some Recovery Team members contended that such implications should be taken into consideration. More information would facilitate this process. A copy of a document with information regarding the lake will be obtained from D. Fox.

  It was concluded that volunteers would work on the critical habitat issue, given that information is currently available, and provide the results to the team. Moreover, the critical habitat issue will be discussed further with DFO/NB DNRE.

  K. Collet, A. Curry, S. Astephan, A. McPherson, K. Querbach, and M. Toner will look into the issue of critical habitat and pursue discussions between DFO/NB DNRE.

McPherson and Querbach will also provide more information on critical habitat to the above group and the team.

- *Examples of activities likely to lead to habitat destruction* – this will be discussed under threats.
- *Schedule of habitat studies when information is inadequate* – this was not addressed, as it will depend on the outcome of the threats section.

Assessment of threats and other barriers to recovery

Recommendations to mitigate these threats including measures already in place.

Threats were addressed using a table of potential threats provided by the NB DNRE group (with some additions from the team) using rankings of low, medium or high. Please see attachment 28 for the table. The potential affect and mitigation response was then outlined. Finally, the need for further information was assessed. Prior to going through the table, the section regarding threats in the COSEWIC report was reviewed as a reminder. From the COSEWIC report the threats were as follows:

1) predation pressure
2) size and number of spawning streams
3) spawning habitat susceptibility
4) recreational fishery.

It was concluded that these threats could be mitigated with small changes.

General description of the research and management activities needed to meet short and long term recovery objectives

The team went through a general description of research initiatives recovery and management but did not complete this section due to time constraints. The following was suggested:

1) Short-term: Improve information on population status and distribution and use this data to develop a management plan
2) We need to find out where these are found that in the lake
3) What is the scope of the threat to these species?
4) Long-term: Persistence and all that comes with it

Comments

It was suggested that agreement was needed on a monitoring technique, as this could be the last field season to collect data. A low effort system that provides good results would be the best option considering the current financial and time constraints. It was suggested that using eggs to calculate the estimates of population abundance would be the best method. An index of egg to spawner abundance could be created and it is

much simpler to map eggs than to map the adults. It was agreed that people would be required every night for 6 weeks and that it should be set up by the third week of April.

S. Currie and others are to agree on how many evenings, how many people and the total cost, and come back with a number for A. McPherson.

Bradford is to help Currie and others on the sampling design for this season given the suggested use of eggs.

Statement of allowable activities/level of permissible harm

The team was split on whether there should be an allowable take or not. This issue is similar to that for critical habitat with many biological, social, legal and political concerns. There was a discussion on whether dipping should be prohibited in the three tributaries and the team was split on this issue. The social cost of monitoring and enforcement should be compared to the cost of the fishery.

McPherson will check on the allowable take issue and get back to the team.

Statement of when one or more action plans will be completed

This section was not addressed due to time constraints.

## Other Items

The material from the meeting will be sent out to the members. A time-line of 6 weeks was decided upon for people to send in their comments on the sections they were volunteered for. Therefore, an end-of-June meeting should be possible.

## Synopsis of October 1, 2003 Meeting

Members of the Lake Utopia Dwarf Smelt Recovery Team met on October 1, 2003, at the Lord Beaverbrook Hotel in Fredericton, New Brunswick. Please see Appendix 17 for a list of participants. The meeting opened with introductions and a review of the minutes of the previous meeting. Please see Appendix 18 for a copy of the agenda for this meeting.

### Agenda Items

## Minutes from Previous Meeting

The minutes from the previous meeting were reviewed. Action items were discussed. The following items arose from the minutes of March 21st 2003 Recovery Team meeting:

- K. Querbach is to provide water quality report from Eastern Charlotte Waterways for distribution to the team
- R. Bradford is to assess abundance information on other smelt populations to aid in formulating the short term and long term population objectives.
- DFO and DNR will discuss the process for identifying critical habitat

All other action items had been addressed.

## Update of the 2003 Field Season

S. Currie updated the team on the population assessment undertaken in the spring-summer of 2003. The original plan was to calibrate the thickness of egg masses to population abundance. This would allow the use of egg mass monitoring (to infer population abundance) in the future. However, egg mass measurements were impossible; it would likely be very difficult to time sampling such that eggs could be reliably used to estimate spawner abundance. Many dwarf smelt were observed – between 5000-100000 in any one night. This was not a complete census as not all of the available habitat was surveyed due to accessibility issues. Fecundity of dwarf smelt was also examined. Smelt samples were collected for Jennifer Shaw (UNB) and P. Bentzen (Dalhousie).

J. Shaw (Master's student of A. Curry), reported on her thesis research. She is comparing the growth rates of the smelt morphotypes in Lake Utopia using otoliths. Regarding her sampling design, only the surface of the lake was sampled and the smelt seemed to prefer shallower (5-15m) areas of the lake. Almost the entire lake was surveyed and temperature was recorded when samples were collected. Stomach contents of the larval fish have not been looked at but this could be pursued in the future.

## Overview of the Habitat Stewardship Program (HSP)

Because K. Querbach was not able to attend the meeting, HSP was only briefly discussed. However, the team did tentatively agree to a process for proposal reviews. A small group will assess proposals: K. Smedbol, S. Curry, M. Rudd, R. Ferguson, and K. Querbach offered their assistance to the Chair. Criteria for evaluation are to include the priority of the project, the probability of success, its impact on recovery, and the ability of the proponent to carry out the work. The team agreed that if a member of the review group applies for HSP funding, they will not participate in the review of their own proposal.

Team members will notify the chair if they would like to participate in the review of HSP proposals in the event that any are submitted.

Querbach will provide her HSP presentation for distribution to the team.

## Update from Eastern Charlotte Waterways(ECW)

S. Farquarson reported that ECW has targeted the southern part of the lake and gone door to door educating lake users to which they have received a very positive response. As well as developing a community lake associations program, they are working with the province of NB to monitor water quality on Lake Utopia.

## Identification of Recovery Priorities

Given that genetic, larval, and population analyses are underway, the team deliberated the actions necessary to recover the Lake Utopia Dwarf Smelt. The following is the outcome of those deliberations. Recovery team members are invited to make additional comments.

- Essential for Recovery
  - -Lake eutrophication; collect baseline water quality data
  - -Life History and Habitat; survey to assess where smelt are in the lake
- May Promote Recovery
  - -Communications; information on regulations and impacts targeted to landowners and users
- Desirable
  - -Hydrological Data; information needed due to reversing channel

## External review of recovery strategy draft and consultations with the public

McPherson solicited suggestions for who might be qualified and willing to review the strategy. Someone from OMNR could be contacted, possibly John Casselman. Public consultations with the public were briefly discussed. The need for a public meeting in St. George (with someone present who could respond in French) was advanced.

## Time and place of next meeting

If all Action Items can be addressed in the next 2 months, the next recovery team meeting will take place on December 4, 2003 in Moncton, NB.

## Recovery Strategy

The remaining meeting time was spent discussing the recovery strategy draft. The following action items arose from that discussion. A revised version, based on the comments of the meeting, will be distributed shortly.

- **Allowable activities**: There was general agreement that the section on the fishery will remain in the strategy and will form the basis for the allowable activities section. DNR leads on recreational fisheries but conservation falls to the federal government so enforcement would need to be addressed in the SARA bilateral discussions. Toner will ensure that this issue is addressed in bilateral discussions.
- **Appendices**: The consensus opinion was that they are useful but need to be condensed. Querbach will condense appendices and send them to the team for review. Querbach is to contact Toner for information on ecoregions.
- **Regulatory framework appendix**: There was general agreement that the interpretation of laws is problematic. Perhaps just a list of regulations is required. Regulations that are discussed earlier in the strategy need to be referred to here. McPherson will review federal regulations and Collet will review provincial regulations.
- **Glossary**: There was general agreement that more definitions are needed. Recovery team members will review the document and suggest words to be included in the glossary (accompanied by definitions where possible).
- **Water levels in the lake:** The question arose as to whether there are minimum and maximum operating levels for the lake (at the dam) to explicitly protect the dwarf smelt spawning habitat. S. Curry will investigate and report back.
- **Future land use and the potential impact on the dwarf smelt**: Farquarson is to provide wording to capture the need for monitoring and management of land use adjacent to Lake Utopia.
- **Statement of historical abundance levels of dwarf smelt**: Does this information exist? Perhaps we could draw inferences from the first records of dip-netting – this would indicate a viable fishery. S. Curry and P. Cronin will investigate the first record of dip-netting and report back.
- **Number of spawners on any one night vs population abundance estimates**. S. Currie and A. Curry to develop this section in the text and clarify the caption associated with Table 1 in the recovery strategy.
- **Distribution of smelt in the lake**. J. Shaw will use her information on effort and sampling locations to develop the section on ecology of smelt in the lake.

- **Threats table**: McPherson to revise and reorganize table based on the comments of the team. Smedbol to develop definitions for what we mean by high, medium and low risk for inclusion in the table caption.

# ATLANTIC LEATHERBACK TURTLE RECOVERY TEAM

## INTRODUCTION

The Atlantic Leatherback Turtle Recovery Team has been in place since early 2002 with participation from a number of interested parties. The Team itself is comprised of representatives from various sectors including the fishing industry, the seafood industry, conservation groups, academia, and government. Representatives from Fisheries and Oceans Canada and the World Wildlife Fund co-chair the Recovery Team.

Members of the Atlantic Leatherback Turtle Recovery Team met on October 16, 2003 March 25, 2004 in Dartmouth, Nova Scotia. The goal of these meetings was to review progress that has been made in the research and evaluation of the Leatherback Turtle population, and to develop a recovery strategy that fosters the recovery of Leatherback turtles. Following is a formatted and stylized synopsis of these meetings.

## Synopsis of October 16, 2003 Meeting

Members of the Atlantic Leatherback Turtle Recovery Team met on Oct. 16, 2003, at the Lord Nelson Hotel in Halifax. Please see Appendix 19 for a list of participants. Please see Appendix 20 for a copy of the agenda for this meeting.

### Agenda Items

The objectives for the meeting were outlined as the following:

- Review draft strategy
- Priority areas for recovery
- Set timeline/next steps

The team went through the agenda in order to add items. One item added was a discussion of the Action Plan document. This was moved under next steps.

## Background

R. Jones (co-chair) presented on the history of the smaller recovery working group (RWG) using timelines from March 2003 until present.

March 2003: It appeared at this time, that there was a lack of progress in the formation of the recovery strategy as well as the need to address SARA requirements. As a result, a small working group approach was suggested.

April 2003: A letter was sent from co-chairs to recovery team regarding this approach including a timeline for the next draft (June 2003).

April 2003: The recovery working group (RWG) held a conference call and a face to face meeting in order to assign tasks, which would build on previous work. The 'background' section was refined and the 'goals/objectives' section was organized. The goals and objectives themselves were not changed much from what the team had decided upon previously. The RWG also addressed the SARA requirements of the strategy. Those outstanding sections were flagged (e.g. knowledge gaps).

May/June 2003: The issue of Critical Habitat was addressed. An expert opinion was solicited and a review of this expert opinion will take place in November 2003.

July 2003: Draft produced, circulated and comments requested.

Sept 2003: Comments received, draft revised to accommodate the editorials and major issues flagged. Comments were separated into two categories: 'editorial' and 'discussion topics'.

October 2003: Recovery team meeting held to go through the draft, in particular, the 'discussion' topics.

There were some comments on the process to date. One concern was the fact that industry was not represented on the RWG. This was disappointing, as there had been a lot of participation up until that time. The point was taken. It was explained that the process of forming the working group was meant to be unbiased and transparent. The composition of the group was meant to be neutral. It was formed for the sole purpose of getting things back on track with the full intention of involving the rest of the team in the review of the drafts. The recovery strategy will be reviewed at least once more before it is submitted so there will be ample opportunity for the team to have input. Essentially, we have Draft Version 1 in our hands. The RWG welcomes other members to become involved in the group's activities.

A second comment arose regarding the difference between the recovery strategy and the action plan. The recovery strategy is a static document that outlines the main goal and the general objectives. The action plan picks up where the recovery strategy leaves off. It is much more specific outlining specific projects, who might do them and what it might cost. It was stressed that this is a new process and we are still trying to understand it fully.

A third comment was that there has been a general lack of communication given all of the changes and it was suggested that even if there is not much going on, it is still important to be updated regularly. This was recognized as a valid point and is a lesson for the future.

**Draft Recovery Strategy - General Comments with Reference to the Pacific Plan**

The first general comment dealt with first nations and the importance of adding any significant information as per the Pacific Plan. It was concluded that there isn't much; however, there is a carving and it can be added with a reference. ACTION ITEM: D. McAlpine to provide a reference for the carving.

The issue of having a First Nations representative on the team was brought up. They were asked initially but it might be appropriate to ask again. There were two individuals from Labrador who presented at the HSP workshop in October that were keen on getting involved in species at risk issues. ACTION ITEM: C. Hood will contact these individuals and ask about potential participation.

Another general comment was the need for a section on activities going on outside the Canadian jurisdiction. It was concluded that it would be very difficult to fully exhaust this material and it would require a lot of effort. A general section can be added to the recovery strategy with more specifics added to the action plan under the objective of international cooperation.

The final general comment was that of indicators of progress. They are listed in the Pacific Plan and it was suggested that we also have them here. After 5 years, there is an obligation by the minister to report on progress and this is most likely why it is in the Pacific Plan. It was concluded that we need a general sense of how we are doing.

**Draft Recovery Strategy with Reference to More General Comments**

There was a general comment that the emphasis on Canadian jurisdiction should be made stronger. However, it is important to keep in mind that a broader global context also needs to be there. This can be accomplished easily with specific headings for 'Canadian' and 'Global' throughout the document.

It was suggested that information on the recovery team steps over the past two years be outlined in the strategy. It was concluded that the public registry might be the place for this.

The last general comment was that the style should include flow diagrams and more pictures. ACTION ITEM: Follow up with M. James on photos to be inserted.

**Draft Strategy with Reference to Specific Comments**

The specific comments were addressed one at a time, as outlined in the comments section of the draft strategy Word document. These changes were made in the document as we went along. The following will outline discussion topics that ensued during the process.

Recovery Goal
The recovery goal was revisited and edited to reflect the word 'stable' is problematic.

Pacific/Atlantic Recovery Strategies
Necessary to figure out the relationship between these documents and where it is appropriate to be consistent and when it is not. A few sentences should be added to this effect to acknowledge the differences (e.g. threats) and the similarities. ACTION ITEM: Someone to flesh out the issue of the Pacific Plan vs the Atlantic Plan.

SARA terminology
It is very important to be explicit about SARA terminology in the recovery strategy. Important terms should be added to the glossary as well as explained within when necessary.

Section on Current Status
This section is directly quoted from the COSEWIC designation. It was felt that there were sentences under the 'reason for designation' that were misrepresented. It was concluded that for now, a footnote would be added to state that this is directly quoted by COSEWIC and not necessarily the feeling of the recover team given current

information. In the meantime, getting permission to change words in the quote under the 'reason for designation' will be explored.

Type of Gear and Catchability

It was suggested that more discussion is warranted in the document regarding the catchability with different gears. The O'Boyle report could be very useful here. James has also done a synopsis of this and it can also be included. ACTION ITEM: M. James to provide his synopsis document to the team. ACTION ITEM: Ryder to look into correcting the section where Shoop and Kenney is discussed.

Threats – Order

It was suggested that threats should be categorized by Canadian threats vs International threats. It was pointed out that threats in the nesting environment should be put first as they, relatively speaking, have greater impact. Others did not agree that there is sufficient information to conclude this. It is too difficult to rank the threats, except for the poaching of eggs versus the poaching of meat on beaches. ACTION ITEM: Doherty to find references on poaching for the Atlantic leatherback turtle so that it can be outlined that poaching eggs is a much greater issue than poaching meat.

Threats Section - Structure

It was concluded that this section needs reworking in general. There is a need to add more information regarding the reports produced from the fishers through the Habitat Stewardship Program as well as the work by O'Boyle. It was outlined that numbers are needed instead of qualifiers. Also, it is necessary to distinguish between hooking and entanglement as well as what gear catches which turtles. It is important to think about this issue in a broader sense, not just in terms of the pelagic longline. We need to address all of the fisheries. ACTION ITEM: Querbach, Doherty, Atkinson and Murphy will flesh this section out so that it is more complete.

Threats Section – Lightsticks

Discussion took place regarding lightsticks and that all of the observer data from the longline fishery in Canada points to them having no effect. They are known to have an effect in the Pacific but not in the Atlantic. It was agreed that it would be removed.

Recovery Feasibility Section

Discussion ensued regarding whether we should be taking the precautionary approach and assuming the recovery is feasible, as outlined in the strategy. Some felt that it was justifiable to indicate that since we cannot determine feasibility at this time, it should NOT be assumed to be feasible. This is especially because they felt that we are dealing with mitigation in Canadian waters, not recovery of the species as a whole. The final consensus was that taking the precautionary approach was the most appropriate, especially given the guidelines under SARA. It was also outlined that regardless of whether recovery is feasible or not, the prohibitions apply because the species is listed under SARA. It was also concluded that it would be stated in the recovery strategy and outlined more clearly in the action plan that determining recovery feasibility will be a high priority.

Incidental Harm Permitting and Allowable Take

There was concern raised regarding incidental harm permits (IHPs). It was outlined that the IHPs just bridge the gap between the times where there is no strategy and when the strategy is finalized. It is possible to put an 'allowable take' within the recovery strategy. A concern was raised that the fishing industry would have to have 100% observer coverage in order to monitor entanglements to determine whether they are exceeding the allowable take so it will still be extremely expensive and thus, the fishing industry will be impacted. Either way, the fishing industry will be impacted.

It was also outlined that McMillan is preparing a report for peer review that will address the issue of allowable take. This peer review will be held on Oct 30th, 2003. It is hoped that after that time, a section will be included in the strategy for review by the recovery team.

Canadian versus Global

This issue came up numerous times and it was concluded that we are focusing on what we can do in Canadian waters; however, one of the main objectives is international cooperation. This cooperation is essential for recovery of the species. Focusing on what is possible in Canadian waters will be reflected throughout the Draft Version 2.

Actions Completed or Underway

There was some discussion regarding the paragraph on the longline fishery. A main component that needs to be clarified is the history of the use of hooks and the relation to the release of turtles. Especially since the circle hook was used because it was better for catching the target species and avoiding bycatch in general, not because it was better for the turtles, although, it was a beneficial coincidence. It was also made clear that citations are required. ACTION ITEM: Murphy and Atkinson will work on editing these paragraphs and will provide them to the RWG.

## Next Steps

Allowable Take Peer Review – October 30th, 2003

Critical Habitat Section Peer Review – Late November, 2003

Timelines. A timeline was indicated on a PowerPoint slide. There was some discussion on how many more drafts would be required; however, it was concluded that it is very difficult to decide this now. We should just focus on the timeline for the next month or two. This would include the incorporation of the corrections from this meeting as well as sections for critical habitat and allowable take. A new draft, Version 2 should be out to the recovery team in late November.

## Recovery Priorities

The recovery priorities as they stood at the end of this meeting are listed below.

a) essential for recovery – high priority

- research on mitigation measures
- documenting potential interaction of leatherback turtles and the fishing industry
- comprehensive aerial surveys – working toward distribution information and a population estimate
- observer coverage (for those fisheries yet to have observer coverage)
- investigate habitat requirements in Canadian waters
- continuation of fishers outreach/research- e.g. NS Leatherback Turtle Working Group
- continuation of the tagging program
- understanding life history characteristics – working toward determining recovery feasibility

b) may promote recovery – medium priority

- sightings database
- international networking (e.g. providing funding to less developed countries for the International Sea Turtle Symposium)
- determining post release mortality
- continuation of stranding response

c) desirable – low priority

- understand impact of collisions (similar to oil and gas)

Meeting adjourned at 5:45.

## Synopsis of March 25, 2004 Meeting

Members of the Atlantic Leatherback Turtle Recovery Team met on March 25, 2004, in the Hayes Boardroom at the Bedford Institute of Oceanography. Please see Appendix 21 for a list of participants. Please see Appendix 22 for a copy of the agenda for this meeting.

### Agenda Items

### Terms of Reference/role of team

The Team reviewed the original Terms of Reference to assess how well they have adhered to the terms. There was discussion on addressing socioeconomic impact of reducing and eliminating threats in the recovery strategy and it was concluded that a general statement could be added to the recovery strategy. A more detailed analysis will be completed in the action plan.

There was a comment regarding socioeconomic analyses and how they relate to decision making especially in terms of incidental harm permits (IHPs). This question was delayed until later in the day when the IHP process was outlined.

Another concern was raised regarding PEI fisheries and their lack of participation in this recovery strategy. It was concluded that they should be consulted appropriately on the draft strategy once it is finalized.

It was outlined that the minutes of all meetings will be summarized and produced as CSAS proceedings documents every year and that the team will have the opportunity to review them before they are posted.

### Review of Draft Strategy

The draft strategy was reviewed and commented on. Corrections/suggestions were written into the document as the day progressed. As such, only items that resulted in considerable discussion are outlined below. Further, action items are outlined in attachment 29.

Acknowledgements
It was noted that we should consider who else might go into the acknowledgements section (i.e. peer review members, photo credits, map credits Pacific recovery team members etc…). These people should be added.

Background
Comments arose regarding the paragraph under the COSEWIC box and it was agreed that it should be edited to reflect the teams thoughts on the threats outlined here. We were reminded that what is in the box is not inaccurate and a lot of the discussion results from how the box is being interpreted. This can be made clearer in

the 'Note'. It was also agreed that the reader would be redirected for further information on global threats.

Distribution

There was a discussion on what maps to use in the strategy in order to most appropriately outline the distribution in Canadian waters. It was concluded that both maps should be used (and possibly a global distribution map) and that M. James' map would be specific to habitat. There will be paragraphs that explain the context of each map to make it clear to the reader. The distinctions need to be made very clear.

It was outlined that new information on distribution is about to be published and we might want to add this to the strategy. This can be done prior to consultations.

Critical Habitat

The text and map provided corresponds to telemetry data from 39 foraging animals but does not include observer data from pelagic longline. If it did, it would follow the shelf edge. Further, it does not include US observer data. There should be question marks in the appropriate areas (e.g. Gulf of St. Lawrence). Inferred habitat use is based on telemetry.

It was concluded that we are not in a position to define critical habitat in the legal sense and we need to add a new paragraph, which outlines this and our rational.

In using the map for habitat, we need to ensure that the appropriate caveats are included in the text and are very clear. This will ensure that it is distinguished from the distribution map.

It was also noted that we need to come up with a schedule of studies in order to identify critical habitat. The knowledge gaps section is a logical place to start.

Threats

A discussion ensued on whether the threats on nesting beaches out way threats in the open ocean and it was concluded that they were both important. We cannot say that one is more important than another.

There was a lot of discussion about the fact that the pelagic longline fishery is the only fishery off Nova Scotia that has systematically implemented a data collection process. This process is not a part of other fisheries. We need to make this clear and put it into context.

Outline of Process to Determine Allowable Harm

It was prefaced that things are often changing under the implementation of SARA because this is new legislation and DFO is still determining its full obligations under the act. In June of 2004 the prohibitions section of the act comes into force. This will make at an offence to kill, harm, harass, capture or take an individual of a listed species. Section 73 provides the minister with authority to authorize activity that interacts in a harmful manner with a listed species. In our case, the harm is incidental

to the carrying out of the activity. In addition, three conditions must be met (a) all reasonable alternatives have been considered, (b) all feasible measures to minimize the impact have been taken, and (c) activities will not jeopardize the survival or recovery of the species.

We have focused our energy on (c). Fisheries Management has the authority to license fisheries. There are a series of tools under the Fisheries Act that we can use including licenses and conditions of those licenses to authorize activity under section 73 of the SARA. First, we need solid advice from Science that the activity meets the preconditions; Science will provide their best position regarding what is known and understood. There was a meeting in mid-March to determine the structure of the advice from Science and they are currently reviewing the information on Leatherbacks with respect to these guidelines. After Fisheries Management receives the analysis from Science and FM, a memo to minister is generated and he has to approve it in time to put permits into place.

Fisheries management is currently looking at the pelagic longline – swordfish, trap and pot fisheries and this is just in the Scotia Fundy region.

Q. Are these for federally managed fisheries?
A. Yes.

Q. What happens if you miss a fishery? E.g. Lobster fishery – thought to be a non-issue b/c of the time of the fishery.
A. Hasn't been any determination. There isn't a blanket determination. It will be fishery-specific. Some activities are deemed to be of such low probability that no permit shall be issued. Don't get the impression that fishery officers are going to be cracking down on fishers. It's a new Act and we are just trying to come up with the best method.

Q. Is fishing the only activity that is being looked at?
A. Fisheries Management only deals with fisheries; however, we do have to consider all of the activities. It was suggested that DFO go through all of their permits to see if it's applicable - Ecotourism, recreation, science will have to be looked at.

It was noted that IHPs are meant to bridge the gap between June 1st and the finalization (signoff) of the recovery strategy. The Act enables that the Recovery Strategies and Action Plans be the vehicle to permit certain activities. The recovery strategy/action plan will include mitigative measures.

A Regional Advisory Process (RAP) is scheduled to take place March 31, 2004 to review information available to support the allowable harm permitting process. An invitation was sent to all team members.

Recovery Feasibility
Discussion took place on whether or not recovery is feasible, given the ability of Canada to make a difference, and the issue of threats in nesting beaches versus threats in the offshore was readdressed. It was concluded that the less that we engage in trading off language, the better we will be.

Performance Indicators
There were comments on the fact that this table would be obsolete in a matter of months, as there are National guidelines currently being created to address this issue. It was concluded that although this table might not fit the proposed process, it is quite helpful for different groups (e.g. Fisheries Management).

Discussion took place regarding our ability to assess recovery and the criteria in place to do this. It was concluded that the performance indicators section is the best that we can do given the lack of information we face. That is why we do not currently have a population target.

## Next Steps

Peer Review
The team was asked to provide potential names for peer review. It was also suggested that we look to the Pacific group for cover letters. It was agreed that the reviewers should be well outside the realm of this team and perhaps include an NGO rep and someone from the Pacific team. Also, these people should have a variety of backgrounds including science and management.

Approvals process
The approvals process was outlined and it was agreed that it should be as transparent as possible. The hope is for the team to be involved in the process throughout.

Consultations
There are two types of consultations (formal and more general). The formal consultation on the recovery strategy will most likely be in the form targeted discussions with interested parties and affected stakeholders (these consultations do not include consultations on IHPs). The more general approach is through the public registry. It is the responsibility of DFO to run the formal consultations. It was noted that the Pacific strategy has a section on ‘record of consultations’ and the team felt that this would also be useful in our document.

Action Plan Development
It was outlined that DFO will not be in the position to develop action plans for some time, given the requirements for recovery strategies in the next year. However, this does not preclude others from initiating this process (linked with DFO). The current timeframe for an action plan as communicated in the recovery strategy is 2 years. It may be worthwhile revisiting this to ensure sufficient time to develop.

Meeting adjourned at 5:15 pm.

## Appendix 1

List of Participants at the October 20, 2003 meeting of the North Atlantic Right Whale Recovery Implementation Team.

| Name | Affiliation |
|---|---|
| Moe Brown | Center for Coastal Studies and Canadian Whale Institute |
| Jerry Conway | DFO – Fisheries Management |
| Derek Fenton | DFO – Oceans |
| Justin Huston | NS Government |
| Cathy Merriman | World Wildlife Fund |
| Deb Tobin | East Coast Ecosystems |
| Klaus Sonnenberg | Grand Manan Fisherman's Association |
| Steve Kempton | Coast Guard |
| Kirsten Querbach | DFO – Species at Risk Coordination |
| Arran McPherson | DFO – Species at Risk Coordination |
| Wendy Williams | DFO – Communications |
| Laurie Murison | Grand Manan Whale and Seabird Research Station |
| Rob Stephenson | DFO – Science |
| Arthur Bull | Fundy Marine Resources Centre |
| Chris Taggart | Dalhousie University |

Members of the team who are included on the email distribution list but were absent from the meeting: Hubert Saulnier, John Logan, Richard Goddard, Graham Daborn, Marianne Janowicz, Nancy Witherspoon, Fred Webster, Mark Elderkin, Bob Rangely, and Kevin Davidson

## Appendix 2

Agenda for the October 20, 2003 meeting of the North Atlantic Right Whale Recovery Implementation Team

9:00 – 9:45 WELCOME AND OPENING REMARKS

- Introductions
- AGENDA - Review and Approval
- Old business from last meeting
- Updates
  - Shipping lanes
  - Conservation measures for Roseway Basin
  - Births and Mortalities
  - MOU with the Center for Coastal Studies
  - Entanglements

9:45 – 10:15 Habitat Stewardship Program (Querbach)

- Outline of Program
- Review Process
- Potential Projects

10:15 - 12:00 Recovery Strategy Update (McPherson?)

- Due in 2004/2005
- Process
- Critical Habitat, action plans, etc.

12:00 – 12:45 LUNCH BREAK

12:45 - 2:30 Recovery Priorities (McPherson)

- Identify Projects Essential for Recovery
- Identify Projects that May Promote Recovery
- Identify Projects Desirable for Recovery

2:30 - 2:45 COFFEE BREAK

2:45 - 3:10 SARP Funded Science Project Updates (Stephenson)

4:00 - 4:30 Other business

*Coffee/tea and Lunch will be provided in the meeting room

## Appendix 3

List of Participants at the April 30, 2003 meeting of the Inner Bay of Fundy Atlantic Salmon Recovery Team

| Name | Affiliation |
|---|---|
| Roddy MacDonald | DFO - FM, SABS |
| Larry Marshall | DFO - DFD, BIO |
| Greg Stevens | DFO,FM, Dartmouth |
| Vince Smith | DFO - C&P, Parrsboro |
| Kevin Davidson | EC, CWS, Sackville, NB |
| Jack Johnson | Cobequid Salmon Assoc. |
| John MacMillan | NSDAF - Inland Fisheries |
| Lewis Hinks | Atlantic Salmon Federation |
| Carl Purcell | Nova Scotia Salmon Assoc. |
| Rita Almon | Big Salmon River Anglers Assoc. |
| Lynn Tobias | Big Salmon River Anglers Assoc. |
| Carys Burgess | Nova Scotia Power Inc. - Hydro |
| Peter Amiro | DFO - DFD, BIO |
| Jamie Gibson | DFO - DFD, BIO |
| Shane O'Neil | DFO - DFD, BIO |
| Trevor Goff | DFO - DFD, Mactaquac |
| Lynn Cullen | DFO - SAR, BIO |

## Appendix 4

Agenda for April 30, 2003 meeting of the Inner Bay of Fundy Atlantic Salmon Recovery Team

1. Introductions
2. Review Agenda
3. Review action items from November 22, 2002 Minutes
4. Species at Risk Act – K. Davidson
5. Critical Habitat – P. Amiro
6. Communications/Stewardship – C. Myers (Item deferred to fall meeting due to C. Myers absence).
7. Fishery regulations & illegal introductions – G. Stevens
8. Recommendations to combine Monitoring and Research technical groups and Cultural Genetics Technical Groups
9. Update of proposed 2003 activities by Technical Committees – L. Marshall
10. DFO June RAP – L. Marshall
11. Other items (added at meeting):
    - Minutes of Meetings to be compiled in 'Proceedings Series' of the DFO Canadian Science Advisory Secretariat – L. Cullen
    - C & P Activities & Public Education
12. Next Meeting

## Appendix 5

List of Participants at the September 30, 2003 meeting of the Inner Bay of Fundy Atlantic Salmon Recovery Team

| Name | Affiliation |
|---|---|
| Larry Marshall | Science; DFO |
| Peter Amiro | Science; DFO |
| Patrick O'Reilly | Science; DFO |
| Trevor Goff | Science; DFO |
| Ross Jones | Science; DFO |
| Rene Wissink | Parks |
| Alain Caissie | Parks |
| Lewis Hinks | Atlantic Salmon Federation |
| Jim Kierstead | Conservation & Protection; DFO |
| Vince Smith | Conservation & Protection; DFO |
| Arran McPherson | Science; DFO |
| Murray Rudd | Policy & Economics; DFO |

## Appendix 6

Agenda for the September 30, 2003 meeting of the Inner Bay of Fundy Atlantic Salmon Recovery Team.

1. Review Agenda
2. Review RT Minutes/Action items April 30 (& Planning Group Minutes/ Action items Apr 29)
3. Brief overview of 2003 activities (brought forward from Planning Group), e.g.,

    -DFO Science
    - Monitoring & Research
    - Genetics and Fish Culture
    - June RAP

    -Fort Folly Habitat Recovery
    -NSDAF (deferred)
    -NBDNRE (deferred)
    -Cumberland Co. River Enhancement Assoc. (deferred)
    -Upper Bay of Fundy Biosphere Initiative Society (deferred)
    -DFO Socio-economics
    -DFO Maritimes Fishery Regulations (deferred)
    -DFO Conservation and Protection
    -Communications Subcommittee (deferred)
    -AMEC smolt trials (deferred)
    -Others
4. HSP process/ guidelines for 2004/05 project development
5. Redrafting of SARA compliant Recovery Strategy for 2004/05
6. Prioritized list of projects for 2004
7. Repository for RT Minutes
8. Other items
9. Proposed Date for Next Meeting

## Appendix 7

List of Participants at the November 21, 2003 meeting of the Inner Bay of Fundy Atlantic Salmon Recovery Team

| Name | Affiliation |
|---|---|
| Larry Marshall | DFO, Science |
| Patrick O'Reilly | DFO, Science |
| Carl Purcell | NS Salmon Association |
| Lewis Hinks | Atlantic Salmon Federation |
| Greg Stevens | DFO, Resource Management |
| Tim Nye | Fort Folly First Nations |
| Harvey Millar | DFO, C&P |
| Carys Burgess | NS Power Inc. |
| Rene Wissink | Fundy National Park |
| Anita Hamilton | DFO, Habitat Management |
| Trevor Goff | DFO, Mactaquac |
| Shane O'Neil | DFO, Science |
| Ross Jones | DFO, Moncton |
| Kirsten Querbach | DFO, Species at Risk Coordination |
| Peter Amiro | DFO, Science |
| Lynn Cullen | DFO, Species at Risk Coordination |

## Appendix 8

Agenda for November 21, 2003 meeting of the Inner Bay of Fundy Atlantic Salmon Recovery Team

1. Welcome/opening remarks (Co-Chairs)
2. Review Agenda
3. Review Planning Group/ RT Minutes/Action items Sept 30, 2003 (April 30 Minutes reviewed Sept 30)
4. Brief overview of 2003 activities
   - DFO Science
     - Monitoring & Research.
     - Genetics & Fish culture
   - Dept. Heritage FNP
   - Fort Folly Habitat Recovery & progress with AAROM initiatives (?)
   - NSDAF – *representative not present to provide this, item deferred*
   - NBDNRE - *representative not present to provide this, item deferred*
   - Cumberland Co. River Enhancement Assoc. - representative *not present to provide this, item deferred*
   - Upper Bay of Fundy Biosphere Initiative Society - *representative not present to provide this, item deferred*
   - DFO Socio-economics - *representative not present to provide this, item deferred*
   - DFO Maritimes Fishery Regulations
   - DFO Conservation and Protection
   - DFO HSP Coordinator
   - Communications and Public Awareness Technical Committee
   - AMEC smolt trials - *representative not present to provide this, item deferred*
   - Others
5. Recommendations from Planning Group re:
   - A. Priorities/ action items for 2004
   - B. Appendix- iBoF Implementation plans relevant to recovery objectives
6. Process for redrafting of SARA compliant Recovery Strategy by Jan 1/ 04
7. Other items
8. Date for Next Meeting

## Appendix 9

List of Participants at the April 10, 2003 meeting of the Atlantic Whitefish Conservation and Recovery Team

| Name | Affiliation |
|---|---|
| Larry Marshall, Co-chair | DFO – DFD BIO |
| John Gilhen, Co-chair | NS Museum of Natural History |
| Mark Elderkin | NS DNR |
| John Mills | NS DNR |
| Mike Fox | Town of Bridgewater |
| Carys Burgess | NSPI |
| Tara Crandlemere | NS Inland Fisheries |
| Doug Bell | Petite Riviere Salmon Assoc. |
| Dan Hasselman* | DFO/Acadia University |
| John O'Brien | |
| Jason LeBlanc* | NS Inland Fisheries, Pictou |
| Jill Comolli* | South Shore Naturalists |
| Gary Selig* | DesBrisay Museum |
| Jeff Purdy | DFO C&P Yarmouth |
| Greg Stevens | DFO – FM Marine House |
| Carl Myers* | DFO-Communications BIO |
| Rod Bradford | DFO – DFD BIO |
| Patrick O'Reilly | DFO – DFD BIO |
| David Longard | DFO – DFD BIO |
| Phillip Longue | DFO – DFD Bridgewater |
| Bev Davison | DFO- Mersey Biodiversity Facility. |
| John Whitelaw | DFO- Mersey Biodiversity Facility. |
| Lynn Cullen* | DFO - SARC |

*Members of the Communications and Public Awareness Sub-Committee along with Ken Meade

## Appendix 10

Agenda for the April 10, 2003 meeting of the Atlantic Whitefish Conservation and Recovery Team

1. Opening Remarks/ Round table introductions.

2. Review of Minutes and reporting on *Action Items*, inc. present outlook for HSP and SARCEP funding.

3. Report from the Communications and Public Awareness Sub-Committee.

4. Discussion re: need for information repository

5. Progress report on socio-economics (M. Rudd).

6. Update on web publication by Clair et. al. on MAGIC and base ion recovery of Southern Uplands catchments (L. Marshall).

7. Letter of interest for the display of Atlantic whitefish at Huntsman Marine Lab. (M. Costello)

8. Appendix 3 from Nov 29, (Recovery Objectives and Action Plans): review, reporting on *Action Items* and Update for Field Season '03.

9. Other items added to agenda at meeting:
   - RFAC request to stocking Sea Run Speckled Trout in Petite Rivier
   - Conservation License Plate
   - Summer Student working with NS DNR
   - Fish passage on Petite Riviere
   - Support for additional Water Quality testing by Town with 5-yr loan of Advanced Hydrolabs
   - Stocking sites for landlocked Atlantic whitefish
   - Minutes of meetings in DFO "Proceedings Series" (information item not discussed but is included in these minutes for information of the entire team)

10. Next Meeting

11. Adjournment

## Appendix 11

List of Participants at the September 24, 2003 meeting of the Atlantic Whitefish Conservation and Recovery Team.

| Name | Affiliation |
|---|---|
| Andrew Hebda | NS Museum of Natural History |
| Bev Davison | DFO - Mersey Biodiversity Facility. |
| Carl Myers | DFO - Communications BIO |
| Crystal Doggett | Bluenose ACAP |
| Dan Hasselman | Dalhousie University |
| David Longard | DFO – DFD BIO |
| Don MacLean | NSDAF |
| Greg Stevens | DFO – FM Marine House |
| Heidi Bishop | NSDAF |
| Ian Marshall | DFO - FM Yarmouth |
| Jason LeBlanc | NS Inland Fisheries, Pictou |
| Jill Comolli | South Shore Naturalists |
| John Gilhen, Co-chair | NS Museum of Natural History |
| John Whitelaw | DFO - Mersey Biodiversity Facility. |
| Kim Murray | Dalhousie University |
| Kirsten Querbach | DFO – Species at Risk Coordination Office - BIO |
| Larry Marshall, Co-chair | DFO – DFD BIO |
| Lynn Cullen | DFO – Species at Risk Coordination Office - BIO |
| Mark Weare | Bluenose Bassmasters/CASA |
| Mike Fox | Town of Bridgewater |
| Murray Rudd | DFO - Policy & Economics |
| Paul Bentzen | Dalhousie University |
| Phillip Longue | DFO – DFD Bridgewater |
| Rod Bradford | DFO – DFD BIO |
| Scott Mossman | DFO – C&P Liverpool |
| Shane O'Neil | DFO – DFD BIO |

## Appendix 12

Agenda for September 24, 2003 meeting of the Atlantic Whitefish Conservation and Recovery Team

Welcome/opening remarks (Co- Chairs)

Review of Minutes/Action items (inc. App. 3 Action Plans) from April 10 (Co- Chair)

HSP process/ guidelines for 2004/05 project development (Querbach)

Activity updates

- DFO Science (Bradford/Whitelaw/O'Neil)
- NSDAF Affect of smallmouth bass on Atlantic whitefish (LeBlanc)
- NSP Stewardship of Atlantic whitefish habitat (Burgess) - **deferred**
- NSDNRE Municipal & community stewardship (Elderkin) - **deferred**
- Bridgewater Public service Commission (Fox)
- Socio economics (Rudd)
- Maritimes Fishery Regulations (Stevens)
- Communications and Public Awareness Subcommittee (Myers)

Listing , prioritization and potential source of funding ($) of desirable recovery projects for 2004-05 (Chair)

1. Essential for recovery (high priority)
2. May provide recovery (medium priority)
3. Desirable for recovery (low priority)

Request to stock sea-trout (Chair/ LeBlanc)

Whitefish exhibits (Co-Chair)

Repository for RT Minutes (Co-chair)

Sarty Pond (Comolli)

Other items - **none**

Next meeting

## Appendix 13

List of Participants at the November 27, 2003 meeting of the Atlantic Whitefish Conservation and Recovery Team

| **Name** | **Affiliation** |
|---|---|
| Ian Marshall, Co-chair | DFO – Yarmouth |
| John Gilhen, Co-chair | NS Museum of Natural History |
| Mark Elderkin | NS Department of Natural Resources |
| Mike Fox | PSC – Town of Bridgewater |
| Brooke Cooke | BCAF |
| Crystal Dogget | BCAF |
| Jason LeBlanc | NS Department of Agriculture and Fisheries |
| Heidi Bishop | NS Department of Agriculture and Fisheries |
| Thomas Wheaton | DFO – Habitat – Bridgewater |
| Lynn Cullen | DFO – Species at Risk |
| Carl Myers | DFO – Communications |
| Rod Bradford | DFO – Science |
| Greg Stevens | DFO - Resource Management |

## Appendix 14

Agenda for the November 27, 2003 meeting of the Atlantic Whitefish Conservation and Recovery Team

Introduction

Review of September 24/03 Minutes

Business Arising

Stocking Criteria/Site Selection for Stocking of Atlantic Whitefish (Bradford)

### Activity Updates

HSP Review- BCAF(Chair)

Communication & Public Awareness SubCommittee (Myers)

NSP Stewardship Of Atlantic Whitefish Habitat (NSP)

NSDNRE & Municipal Stewardship (Elderkin)

Socio-Economic (Rudd)

Sarty's Pond

Other items

Next Meeting

**Appendix 15**.

List of Participants at the March 21, 2003 meeting of the Lake Utopia Dwarf Smelt Recovery Team

| Name | Affiliation |
|---|---|
| Arran McPherson | DFO, Species at Risk Coordinating Office |
| Kirsten Querbach | DFO, Species at Risk Coordinating Office |
| Rod Currie | NBWF |
| Steve Currie | NB DNRE |
| Maureen Toner | NB DNRE |
| Mary Sabine | NB DNRE |
| Kathryn Collet | NB DNRE |
| Russell Fergusen | Heritage Salmon |
| Rod Bradford | DFO |
| Doug Rowland | Consultant |
| John Gilbert | JD Irving Ltd. |
| Allen Curry | UNB/NBCFWRU |
| Kent Smedbol | DFO SABS |
| Murray Rudd | DFO Policy and Economic |
| Pam Seymour | NB DNRE |
| Peter Cronin | NB DNRE |

## Appendix 16

Agenda for the March 21, 2003 meeting of the Lake Utopia Dwarf Smelt Recovery Team

| | |
|---|---|
| 9:00 a.m. | Coffee |
| 9:15 a.m. | Welcome and review of the minutes from the last meeting |
| 9:30 a.m. | Election/Appointment of Co-chairs (DFO and non-DFO) |
| 10:00 a.m. | NB Field Season Results (update) |
| 10:30 a.m. | Discussion of the draft recovery strategy including process/progress to date |
| 10:45 a.m. | Review of strategy format and required elements |
| 11:15 a.m. | Review of general goal and objectives |
| 12:30 p.m. | Lunch (provided) |
| 1:00 p.m. | Specific discussion of the strategy – identification of missing elements and process for providing information<br>• population distribution target<br>• critical habitat<br>• allowable take<br>• threats<br>• required research |
| 2:30 p.m. | Health break |
| 2:45 p.m. | Communication initiatives/2003/04 proposal submissions |
| 3:00 p.m. | Other items<br>Determine next meeting date |
| 4:00 p.m. | Adjourn |

## Appendix 17

List of Participants at the October 1, 2003 meeting of the Lake Utopia Dwarf Smelt Recovery Team

| Name | Affiliation |
|---|---|
| Arran McPherson | Chair: DFO – Species at Risk Coordination Office |
| Steve Currie | NB DNR |
| Maureen Toner | NB DNR |
| Kathryn Collet | NB DNR |
| Russell Ferguson | Heritage Salmon |
| Allen Curry | UNB/NBCFWRU |
| Jennifer Shaw | UNB |
| Kent Smedbol | DFO SABS |
| Murray Rudd | DFO Policy and Economics |
| Peter Cronin | NB DNR |
| Susan Farquarson | Eastern Charlotte Waterways |
| Melinda Hauson | Eastern Charlotte Waterways |

## Appendix 18

Agenda for the October 1, 2003 meeting of the Lake Utopia Dwarf Smelt Recovery Team.

9:00 a.m. Coffee

9:30 a.m. Welcome and review of the minutes from the last meeting

9:45 a.m. Update of 2003 field season

10:15 a.m. Overview of the Habitat Stewardship Program

11:00 a.m. Identification of Recovery Priorities for 2003-04

11:30 a.m. Review of draft recovery strategy

- population distribution target
- objectives
- critical habitat
- threat analysis
- allowable harm
- appendices
- action plans? Including socio-economic impact

12:00 p.m. Lunch (provided)

12:30 p.m. Continue review of draft recovery strategy

3:00 p.m. Coffee Break

3:15 p.m. Other Items including date of next meeting

## Appendix 19

List of Participants at the October 16, 2003 Meeting of the Atlantic Leatherback Turtle Recovery Team

| Name | Affiliation |
|---|---|
| Robert Jones | DFO – Science, NHQ - co-chair |
| Cathy Merriman | World Wildlife Fund, Halifax – co-chair |
| Kirsten Querbach | DFO-Species at Risk Coordination |
| Jerry Conway | DFO – Resource Management |
| Catherine Hood | DFO-Science, NFLD Region |
| Mike James | Dalhousie University |
| Penny Doherty | Ecology Action Centre |
| Troy Atkinson | (By Phone) Nova Scotia Swordfishermen's Association |
| Jim McMillan | DFO-Science |
| Cheryl Ryder | (By Phone) National Marine Fisheries Service – Office of Protected Resources, USA |
| Odette Murphy | DFO-Fisheries Management |
| Don McAlpine | New Brunswick Museum |
| Derek Fenton | DFO – Oceans |
| Gerard Peters | DFO – Policy |

## Appendix 20

Agenda for the October 16, 2003 meeting of the Atlantic Leatherback Turtle Recovery Team.

Introduction/Objectives:
- Roundtable, introduce new chair, meeting objectives, etc.

Background:
- October/December team meeting outputs
- decision to form sub-group
- process to produce 1st draft
- Pacific LBT recovery strategy

DRAFT Recovery Strategy - v.1:
*General comments* – roundtable, general reactions to process/contents

Break

DRAFT Recovery Strategy (cont'd)
*Specific comments* – section by section review and discussion of comments submitted by team members

Lunch (provided)

DRAFT Recovery Strategy (cont'd)

Break

Next steps:
- outstanding processes (Critical Habitat, IHP)
- timeline/process to produce v.2.

Habitat Stewardship Program/Priority areas for Funding

## Appendix 21

List of Participants at the March 25, 2004 meeting of the Atlantic Leatherback Turtle Recovery Team

| Name | Affiliation |
|---|---|
| Robert Jones | DFO – Science, NHQ - co-chair |
| Cathy Merriman | World Wildlife Fund, Halifax – co-chair |
| Kirsten Querbach | DFO-Species at Risk Coordination |
| Catherine Hood | DFO-Science, NFLD Region |
| Mike James | Dalhousie University |
| Penny Doherty | Ecology Action Centre |
| Chantale Thiboutot | DFO-Fisheries Management, Quebec Region |
| Troy Atkinson | Nova Scotia Swordfishermen's Association |
| Jim McMillan | DFO-Science |
| Kathleen Martin | Nova Scotia Leatherback Turtle Working Group |
| Cheryl Ryder | National Marine Fisheries Service – Office of Protected Resources, USA |
| Odette Murphy | DFO-Fisheries Management |
| Don McAlpine | New Brunswick Museum |
| Derek Fenton | DFO – Oceans |
| Murry Rudd | DFO-Policy |
| Gary Weber | DFO – Fisheries Management |

## Appendix 22

Agenda for the March 25, 2004 meeting of the Atlantic Leatherback Turtle Recovery Team

Objectives:
- Discuss/reach consensus on suggested major revisions to the draft recovery strategy
- Discuss general processes for draft strategy to be submitted for peer review and ministerial approvals within Fisheries and Oceans
- Assign action items and establish timelines for any outstanding work to be completed

Overview of the meeting

Introduction/Roundtable/Objectives

Terms of Reference/role of team

Review and finalize DRAFT Recovery Strategy
- Section by section review, team members to come prepared with general comments
- Critical habitat identification section review
- Process for determining allowable harm

Next steps:
- addressing outstanding comments
- peer review
- approvals process
- timelines
- Action plan development

Other business

## Appendix 23

List of Attachments

| # | Item | Meeting Name | Meeting Date |
|---|---|---|---|
| 1 | Requirements for SARA compliant Recovery strategy | Right Whale RT | Oct. 20, 2003 |
| 2 | Recovery planning process | Right Whale RT | Oct. 20, 2003 |
| 3 | Prioritized list of projects | Right Whale RT | Oct. 20, 2003 |
| 4 | List of proposed activities for 2003 | IBOF Salmon RT | April 30, 2003 |
| 5 | Presentation and overview of 2003 Monitoring activities | IBOF Salmon RT | Nov. 21, 2003 |
| 6 | Graphical presentation of electrofishing density surveys | IBOF Salmon RT | Nov. 21, 2003 |
| 7 | Population Dynamics model | IBOF Salmon RT | Nov. 21, 2003 |
| 8 | Mactaquac - summary of fish on hand and distributed | IBOF Salmon RT | Nov. 21, 2003 |
| 9 | Presentation of the field program on the BSR | IBOF Salmon RT | Nov. 21, 2003 |
| 10 | Fort Folly Summary results from telemetry equipment in the Bay | IBOF Salmon RT | Nov. 21, 2003 |
| 11 | NSPI Downstream salmon smolts counts | IBOF Salmon RT | Nov. 21, 2003 |
| 12 | NS Biodiversity facilities - summary overview of collections and holdings in 2003 | IBOF Salmon RT | Nov. 21, 2003 |
| 13 | Presentation on Genetics and Cryopreservation | IBOF Salmon RT | Nov. 21, 2003 |
| 14 | AAROM (Aboriginal Aquatic Resource Oceans Monitoring) An Overview | IBOF Salmon RT | Nov. 21, 2003 |
| 15 | Enforcement report for 2003 season | IBOF Salmon RT | Nov. 21, 2003 |
| 16 | Communications sub-group draft communications plan | IBOF Salmon RT | Nov. 21, 2003 |
| 17 | Monitoring and research proposed activities – 2004 | IBOF Salmon RT | Nov. 21, 2003 |
| 18 | ATK Survey | Atlantic Whitefish RT | Apr. 10, 2003 |
| 19 | Report from communications sub-committee conf. calls | Atlantic Whitefish RT | Apr. 10, 2003 |
| 20 | Recovery objectives and action | Atlantic Whitefish | Apr. 10, 2003 |

| # | Item | Meeting Name | Meeting Date |
|---|---|---|---|
| | plans | RT | |
| 21 | NSDAF project details | Atlantic Whitefish RT | Sept. 24, 2003 |
| 22 | DRAFT RIAS document | Atlantic Whitefish RT | Sept. 24, 2003 |
| 23 | English version of newspaper advertisement | Atlantic Whitefish RT | Sept. 24, 2003 |
| 24 | Listing/ Prioritization of Projects and Potential Sources of Funding | Atlantic Whitefish RT | Sept. 24, 2003 |
| 25 | DFO and NSDAF stocking history | Atlantic Whitefish RT | Sept. 24, 2003 |
| 26 | Requirements for SARA compliant Recovery Strategy | Atlantic Whitefish RT | Nov. 27, 2003 |
| 27 | BCAF HSP funding Pre-proposal | Atlantic Whitefish RT | Nov. 27, 2003 |
| 28 | Assessment of threats and other barriers to recovery | LUD Smelt RT | Mar. 21, 2003 |
| 29 | Action Items from Leatherback Turtle Recovery Team Meeting | Leatherback Turtle RT | Mar. 25, 2004 |