

# IEMR Research

## Highlights

Fall 2000  
Volume 1, Issue 3

### Inside this Issue

**1** Effects of Noise on Wildlife Conference

**2** What's New?  
Meet the Waterfowl  
Technical Committee

**3** Research Highlights:  
Harlequin Ducks  
Lac Joseph Caribou Herd  
River Valley Ecosystem  
Waterfowl Spring Staging

**4** Conference Delegates  
Experience Labrador  
IEMR Staff

Institute for Environmental  
Monitoring and Research  
P. O. Box 1859, Station B  
Happy Valley-Goose Bay,  
Labrador, NF A0P 1E0  
Web Site: [www.mun.ca/iemr](http://www.mun.ca/iemr)

Telephone: (709) 896-3266  
Facsimile: (709) 896-3076  
E-mail: [iemr@hvgb.net](mailto:iemr@hvgb.net)

### Effects of Noise on Wildlife Conference

The Institute hosted their second conference on August 22-23, 2000, in Happy Valley – Goose Bay. The first conference held two years ago focused on Traditional Ecological Knowledge and Western Science. This year's conference brought experts from around the world to share their knowledge on the effects of noise on wildlife.

The objective of the conference was to review the present state of knowledge on the impact of noise on animals in their natural habitat. During the two days, sixteen speakers addressed an audience of eighty delegates in the following areas: (a) general principles, approaches, and overview of research; (b) aboriginal discourse and knowledge concerning industrial impacts on the environment; (c) noise measurement techniques and procedures; (d) responses of peregrine falcons and osprey; (e) effects on waterfowl and other birds; (f) effect of exposure to low-level aircraft disturbance on space use and movements of woodland caribou in central Labrador; (g) responses of caribou to overflights in Alaska; (h) mitigation programs; and (i) overview of overflights in national parks.

In an interview with The Labradorian in August, Dr. Louis LaPierre, Institute Chair, explained how this conference fits well with the mandate of the Institute. "The Institute right now is looking at refining its research agenda. We can't study all the topics we would

like to study so we're going to have to focus on some of the ones with the least information available. We don't want to duplicate what's already been done; we'd like to work in areas where there are gaps in the knowledge field."

Post-conference, the speakers and Board members were invited to a session to evaluate the effectiveness of the conference. This meeting provided an opportunity for Board members to speak one-to-one with the speakers and to have any of their questions answered. Concerns were raised by representatives of the Innu Nation regarding the lack of involvement of the Innu elders with the conference. All of the speakers and members of the Scientific Review Committee agreed that the science presented at this conference was impressive. This forum was an opportunity to identify areas for improvement with future conferences, and Dr. LaPierre welcomed all comments.

A common theme throughout the conference was the necessity to keep this network of communication going. Participants have been forwarded copies of the delegate list and a list server has been established to promote an exchange of ideas. You can visit this site at [www.egroup.com/group/IEMR](http://www.egroup.com/group/IEMR). Proceedings of the conference will be printed in the 2<sup>nd</sup> edition of *Terra Borealis* to be published in the coming months.\*

**Please read on for the  
IEMR Research Highlights**

# RESEARCH HIGHLIGHTS

## ❖ HARLEQUIN DUCK

Ian Goudie, Ph.D. candidate with the Atlantic Cooperative Wildlife Research Network of Memorial University of Newfoundland, has completed his second year of research on the effects of low-level flying on the behavior, body condition and survival of the *endangered* Harlequin Duck at Fig River. Highlights from this years fieldwork include: (i) ~90% of adult pairs banded in 1999 re-sighted in 2000, (ii) >600 hours of behavioral data collected, (iii) the location of a nest site by radio-telemetry (iv) the location of a control site (Crooked River) and, (v) substantial improvements in noise monitoring efforts and jet over-flight support. For 2001, the project seeks to expand on its work to date by comparing data from a treatment site (subjected to over-flights) with that from a control site (devoid of jet activity). \*

## ❖ RIVER VALLEY ECOSYSTEM

The Petit Mecatina and the St. Augustine were two of the rivers suggested for comparative studies during the first River Valley Ecosystem conference in May 1999. In early September, Jacques Whitford Environment Limited was awarded the contract to assess the suitability of the proposed rivers in the River Valley Ecosystem project. Preliminary campsites were chosen on both rivers that shared similar physical characteristics as shown on topographic maps. Fieldwork was performed by staff of JWEL and IEMR over three days in mid-September and consisted of reconnaissance flights and brief ground surveys at both proposed sites. Campsites were selected based on their elevation from spring flooding, float plane accessibility, vegetation

community structures and riverine characteristics 10km upstream and downstream of each proposed camp. The final report has been completed and was presented at the SRC meeting in Quebec during 25 – 26 September. \*

## ❖ LAC JOSEPH CARIBOU

Of the 14 satellite collars deployed on adult females of the Lac Joseph Caribou Herd in late March by the IEMR, in conjunction with its partners (Robert Otto, Senior Wildlife Biologist, Govt. of Newfoundland and Labrador; Serge Couturier, Senior Wildlife Biologist, Govt. of Quebec; Tony Chubbs, Mitigation Officer, GBO-DND; and several members of the Mamit Innuat) 3 have since died due to predation or natural mortality. Analysis of satellite locations is presently ongoing, and the subset of the population collared will provide valuable information into the home range of the herd and their seasonal use of the Low Level Training Area. \*

## ❖ SPRING STAGING WATERFOWL HABITAT STUDY

Waterfowl tend to be traditional in habit, demonstrating fidelity to breeding and wintering areas, and to stopover points on their northward and southward migration. During springtime, these stopover points, or staging areas, provide the habitats needed to maintain, restore, or increase the energy reserves necessary to meet the demands of migration and reproduction. While many waterfowl species move northward in a leisurely manner, normally after spring thaw is complete, e.g. scoters, mergansers, other species advance as soon as open water becomes available, e.g. Canada Goose, Black Duck, and Harlequin Duck. As these areas of first open water represent the only habitat available to the early migrants, it is important that the integrity of these areas not be compromised by physical degradation or disturbance.

There has been little systematic study of the temporal and spatial distribution of spring staging areas in Labrador and the relative importance of these areas to migrant waterfowl. Nor has there been any quantitative assessment of the biophysical characteristics of these areas that make them attractive to waterfowl. Therefore, it is in the benefit of both waterfowl and military training operations to delineate areas of importance to spring staging waterfowl as this knowledge will have several applications, including the following: 1) the designation of areas to be avoided by low-level jet aircraft to reduce potential for aircraft-bird collisions, 2) to minimize disturbance effects on waterfowl, 3) the identification of areas for management and conservation, 4) and the selection of study areas to investigate the potential disturbance effects of low-level jet overflights on spring migrant waterfowl.

To date, spring staging areas were identified using Radarsat imagery as well as areas known to Innu elders. In all, 18 sites were selected from Snegamook Lake in the North to Lac Fourmont in the south. Waterfowl surveys were conducted by helicopter at weekly intervals from late April to early June to assess the number and species composition of waterfowl at each site. Ground visits of each site were conducted from mid-July to mid-September for qualitative and quantitative assessments of wetland vegetation.

Future work will involve relating habitat variables to relevant variables of water quality, waterfowl abundance and documented observations of waterfowl behaviour, focussing primarily on feeding and resting. Through statistical modelling, a landscape-level spring staging waterfowl habitat suitability index will be constructed. This index will then be used in generating a classification map of important areas for spring staging waterfowl. \*

## CONFERENCE DELEGATES EXPERIENCE LABRADOR

In August eminent scientists from around the world gathered in Happy Valley – Goose Bay to discuss the impact of noise on wildlife. It was the goal of Rexanne Hopkins, Conference Coordinator, and the Logistics Committee to provide as much exposure to Labrador culture as possible in a very short timeframe.

The conference opened with a welcoming reception at Maxwell's. Throughout the evening delegates enjoyed the local musical talents of Beatrice Hope, Richard Neville, and Murphy's Law. Local crafters and artists provided over thirty items for a silent auction. These ranged from carvings, beaded slippers, and single-thread embroidery to caribou bologna. Although some items were donated most of the crafters were reimbursed for the value of their work. The silent auction was a success on two levels: not only did this provide an opportunity

for visiting delegates to purchase local crafts, it also raised \$764 for the Paddon Memorial Home to be used towards the construction of a sunroom for the residents.

On the second night of the conference, delegates enjoyed a feast of Labrador delights. The menu included roast caribou, shrimp, scallops, char, and salmon. This wonderful meal was topped off with a choice of bakeapple or redberry cheesecake. The KILAUTIK Drum Dancers from Nain, Labrador, provided entertainment for the banquet. An improv show by Acting up Entertainment concluded the evening.

During their stay, delegates had opportunity to take tours of North West River, Sheshatshiu, Muskrat Falls, 5 Wing Goose Bay and to enjoy an evening cruise on the bay. Delegates were welcomed warmly and many positive responses have been received at the Institute's office. Congratulations to Rexanne and the Logistics Committee for a great job.\*

## IN UPCOMING ISSUES:

- The Socio-Economic and In-Town Mitigation Committee
- Update on planning for the Resource Harvesting Workshop
- The Arctic 2000 Conference
- The 9<sup>th</sup> Annual Caribou Conference
- Publication of the "Effects of Noise on Wildlife Conference" proceedings

## IEMR OFFICES

**Moncton, New Brunswick**  
**Office of the Chair**

**Louis LaPierre, Ph.D.**  
*Institute Chair*

**Gloria Belliveau**  
*Executive Assistant*

**Happy Valley-Goose Bay, Labrador**

### Research

**Thomas Jung**  
*Wildlife Biologist*

**Tony Parr**  
*GIS Specialist*

**Colin Jones**  
*Wildlife Biologist*

**Alain Fontaine**  
*Wildlife Biologist*

### Administration

**TBA**  
*Managing Director*

**Maureen Baker**  
*Administrative Manager*

**Natasha Canning**  
*Administrative Assistant*

Information for this issue of the IEMR Research Highlights was provided and compiled by Institute staff. Any suggestions or comments on the highlights or if you have information you would like to see included, please get in touch with Maureen Baker at the address provided on the front of the newsletter. \*

## What's New?

- In the summer of 2000, woodland caribou were designated a threatened species by the Canadian government.
- The final report from AGRA Earth and Environmental on "The Economic Impact of Military Flight Training in Labrador and Northeastern Québec" has been received. The Socio-Economic and In-Town Mitigation Committee are presently reviewing the document and its recommendations.
- A planning session for the Resource Harvesting Working is scheduled for February.
- In October Thomas Jung, IEMR Wildlife Biologist, attended the Arctic 2000 Conference in Yellowknife.
- Under the Science Horizons program of Environment Canada, a student worked at the Institute from June to October. The focus of this work was the Spring Staging Waterfowl Habitat Study.
- Rexanne Hopkins, Conference Coordinator, returned as a full-time student to Memorial University in St. John's this fall. Rexanne has continued to work part-time for the Institute updating the web page, list server, and library materials.
- Institute research staff are presently upgrading their skills in first-aid, map and compass, and GPS in preparation for the 2001 field season.

## Waterfowl Technical Committee

The members of the Committee are:

Ms. Natalie D'Astous, Liaison Person for the First Nations  
Dr. Fred Harrington, Liaison Person for the Labrador Inuit Association  
Mr. Ian Goudie, Ph.D. Candidate, Memorial University  
Mr. Tom Jung, Wildlife Biologist, IEMR  
Major Gary Humphries, National Defence Headquarters  
Dr. Mark Miller, Patuxent Wildlife Research Center  
Mr. Carter Russell, Labrador Metis Nation  
Mr. Jean Pierre Savard, Canadian Wildlife Service, Québec  
Dr. Anne Storey, Scientific Review Committee, IEMR  
Mr. Bruce Turner, Canadian Wildlife Service, Newfoundland & Labrador

In January 1998, on suggestion from the Scientific Review Committee, the Waterfowl Working Group was formed in order to bring together experts to conduct a detailed review of all waterfowl activities and to develop a list of research priorities for presentation to the Board of Directors of the Institute. The mandate of the Working Group is to:

- assess the design of present aerial surveys conducted to measure changes in breeding populations of waterfowl subjected to varying levels of disturbance by low-level jet aircraft;
- evaluate the experimental design used by the Canadian Wildlife Service to assess the effects of low-level flying on staging waterfowl;
- identify waterfowl research issues relevant to potential adverse impacts of low-level military jet aircraft flying out of Goose Bay;
- examine the mitigation program adopted by the Department of National Defence to ensure the protection of waterfowl.

Since inception, there have been several changes in the membership of this committee. In October 1998 members met in St. John's, Newfoundland, to review background information on waterfowl research in Labrador and northeastern Québec, to look at research priorities, and to discuss the role of the committee.

A peer review process has been completed on manuscripts derived from studies examining the effect of low-level jet flight activity on waterfowl in Labrador. Results of this review process will be updated at an upcoming meeting of the Board of Directors. In October 2000 Chris Fletcher's Ashkui Study was received at the Institute's office and was accepted at the November Board Meeting. In March 2000 a contract was awarded to Duvetnor for an analytical review of waterfowl data from Labrador and northeastern Québec. A first draft for review is expected in December 2000 and will be forwarded to committee members for comments. Other ongoing projects include the Harlequin Duck project and the Canada Geese Study. \*