INSTITUTE FOR ENVIRONMENTAL MONITORING AND RESEARCH

RESEARCH HIGHLIGHTS

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HARLEQUIN DUCK POPULATION TREND SURVEY

Peter Thomas, Canadian Wildlife Service

The Harlequin Duck (*Histrionicus histrionicus)* is presently listed as a species of *Special Concern* in eastern Canada under the federal Species at Risk Act, and as *Vulnerable* in Newfoundland and Labrador by the Provincial Endangered Species Act.

In 1990 the Harlequin Duck was first designated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as an *Endangered* species due to their low eastern North American wintering population. This listing spurred increased monitoring and research on the species. The extra effort afforded biologists the opportunity to gain more insight and knowledge on the species' movements, distribution, population trend, and overall size. The results of these efforts led to our improved knowledge of the species and in turn to the downlisting from *Endangered* to *Special Concern* in 2001. Despite this action, the Harlequin Duck remains a high profile species due to their low numbers relative to other waterfowl species.

The low-level training program at Goose Bay prompted attention to the Harlequin

Duck that was listed as an *Endangered* species at the time the program was initiated. An environmental impact assessment was conducted to determine biophysical impacts on wildlife in the area. Monitoring programs ensued, and Harlequin Duck were located within the low-level flying training area.

The increased focus on the science of the Harlequin Duck subsequently prompted a research project by Dr. Ian Goudie to assess the impact of low-level flying military aircraft on the behaviour and activity budgets of the Harlequin Duck. While his results did indicate behavioural changes in response to low-level flying, the magnitude of this disturbance was suggested to be minimal, and the low-level flying buffer zones surrounding key Harlequin Duck areas were lifted in 2004.

With the removal of the low-level

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Photo by I. Goudie

flying buffer zones, it was determined important to monitor the population over a period of years to determine if there were changes in population trend. To accomplish this, the Canadian Wildlife Service was approached to develop a population trend survey for Harlequin Ducks in this area of eastern Canada.

In developing the methods, consideration was given to the factors confounding population trend analysis conducted on previously collected Harlequin Duck data in Labrador. Unlike past projects aimed at determining status and/or effects monitoring, it is important to realize that this study was designed only to assess population trend.

The initial year of the survey was successful. Timing of the survey was accurate, as was indicated by the proportion of lone females in comparison to the number of pairs and lone males, indicated that the pair bond was still strong. Additionally, the number of groups of Harlequin Ducks was small, and it was uncertain if the groups that were observed were non-breeders, failed breeders, or staging individuals.

The intent of this first survey year was to conduct aerial surveys along multiple rivers and river sections. The rivers were stratified based on relative abundance values determined from historic survey efforts. An attempt was made to survey a cross section of strata with the intent to represent a mixture of Harlequin Duck habitat and ultimately reduce variance in the final analysis of this data. We believe the 49 rivers and/or river sections surveyed were adequate to appropriately represent these strata. Twenty-eight of the 49 rivers sections surveyed had Harlequin Duck sightings, for a total of 108 sightings – averaging 3.86 sightings per occupied river.

The intent is to use this information to further refine the survey transects to be used in future years of the survey. In the final report for 2005, we hope to select river sections and define beginnings and end locations for the subsequent survey years. This selection will be based on the selected strata and the number of individuals observed during this year and from historic data.

Photo C. Jones

UPDATE ON RECOVERY TEAM ACTIVITIES IN LABRADOR

Rebecca Jeffery, Wildlife Division

Within Labrador, both the woodland caribou and wolverine are at risk. There are three woodland caribou herds in Labrador, the Red Wine, Lac Joseph, and Mealy Mountain caribou herds, all of which are considered 'threatened' by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). The wolverine population in Labrador, which is considered 'endangered' by COSEWIC, is part of the Eastern population which is shared with northern Québec. There has not been a confirmed wolverine sighting in Labrador since the 1950's. In an effort to recover both species, two groups were formed with the goal of returning each species to viable populations in Labrador. The Labrador Woodland Caribou Working Team (LWCRT) and the Labrador Wolverine Working Group (LWWG) work outside of the Government of Newfoundland and Labrador and include representation from Aboriginal groups, government, non-governmental agencies, and conservation groups. Although there are several other recovery groups within Canada, the LWCRT and LWWG have much more Aboriginal participation than many of the other jurisdictions.

The process of recovery is long and contains many large steps which must be undertaken for the process to be successful. The LWCRT and LWWG are using a multi-pronged approach (i.e. research, public education, habitat protection) to work towards their recovery goals. The groups are compiling current research as well as historical data, and are developing future research projects which will help fill in some of the existing information gaps. In July 2004 the LWCRT released its provincial Recovery Strategy which outlines the direction and activities that need to be taken to recover the woodland caribou herds in Labrador. A similar strategy, developed by the national wolverine recovery team, was released for the eastern wolverine population. Currently, there is a large focus in both groups to delineate 'recovery habitat', areas with conditions suitable for woodland caribou or wolverine that will offer some level of protection to the recovering populations. In addition to on-going research activities, there is a strong stewardship and public education component to the recovery activities. The Aboriginal groups have personnel working towards the recovery of species at risk in Labrador. Both Innu Nation and the Labrador Inuit Association have created posters and children's drinking cups with information on wolverine and woodland caribou that have been distributed to their membership. There have also been a series of open public information sessions on both wolverine and caribou in several Labrador communities, and specialized wolverine workshops held in Northwest River and Nain to address specific questions and concerns about wolverine.

The latest meetings were held in Cartwright between October 3-6, 2005. The meetings were well attended and much work was completed towards the creation of an Action Plan, which outlines the specific steps needed for recovery. There were also public information sessions in the evenings which gave residents of Cartwright an opportunity to learn about the species at risk from the teams as well as share their concerns with the recovery process. Although much work remains, the LWCRT and LWWG continue to work with the public and government to return woodland caribou and wolverine populations to self-sustaining levels.

INSTITUTE FOR ENVIRONMENTAL MONITORING AND RESEARCH

P.O. Box 1859, Stn. B
Happy Valley - Goose Bay, Labrador
A0P 1E0

Phone: 709-896-3266
Fax: 709-896-3076
Email: iemr@iemr.org

www.iemr.org

EXPLORING FUTURE TRAINING OPTIONS WORKSHOP AUGUST 24-25, 2005

"Exploring Future Training Options" was the 4th in a series of Institute sponsored workshops. Previous forums presented by the Institute have focused on Traditional and Ecological Knowledge and Western Science, the Effects of Noise on Wildlife, and Waterfowl.

The objective of the 2005 workshop was to provide Institute Board members, research associates, and interested members of the general public an opportunity to gain insight into the environmental implications of proposed training activities for 5 Wing Goose Bay.

With over 90 delegates in attendance, this workshop featured presentations from a distinguished panel of guest speakers from the military

and scientific worlds. Dr. Peter Duinker of the School for Resource and Environmental Studies at Dalhousie University moderated question and answer sessions following each presentation. A round table discussion at the end of the workshop proved to be very interesting. This provided an opportunity for Institute Board members to offer comment and to voice concerns and issues with workshop presenters. Two major themes of this discussion were the continued funding of the IEMR after March 2006 and the need for community consultation.

To encourage continued discussion outside of the workshop, several social events were organized. On the evening of August 24, Dr. LaPierre hosted an evening reception at the Masonic Lodge. Delegates enjoyed a buffet of finger foods featuring traditional Labrador delights with entertainment throughout the evening by Classica. A silent auction was held during the reception, and Mr. Ernie McLean accepted a cheque in the amount of $1,020 on behalf of the Labrador Heritage Society at a Golf and Barbeque Social held at the closing of the workshop.

In the coming months, Institute staff will be working on putting together the proceedings from the entire workshop. This will be available in the New Year as the 4th edition of Terra Borealis.

IEMR STAFF

Moncton, New Brunswick

Louis LaPierre, Ph.D.
Institute Chair

Gloria Belliveau
Executive Assistant

Happy Valley– Goose Bay, Labrador

Maureen Baker
Administrative Manager

Natasha Canning
Secretary

Tony Parr
GIS Specialist

Research Highlights

Information for this issue of Research Highlights was compiled by Institute staff. If you have any comments or if you have information you would like to see included, please contact the Institute's office.