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Evaluation of the Grant Program
for the Institute of Environmental
Monitoring and Research

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1258-174 (CRS)



Canada 

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Acronyms and Abbreviations

Asst CAS	Assistant Chief of the Air Staff
ATK	Aboriginal Traditional Knowledge
CAS	Close Air Support
CEAA	<i>Canadian Environmental Assessment Act</i>
CF	Canadian Forces
CRS	Chief Review Services
D Air CFG	Director Air Contracted Force Generation
DM	Deputy Minister
DND	Department of National Defence
DAOD	Defence Administrative Orders and Directives
EMP	Environmental Mitigation Program
EMS	Environmental Management System
FAC	Forward Air Controller
FEARO	Federal Environmental Assessment Review Office
FMT	Foreign Military Training
FY	Fiscal Year
IEMR	Institute for Environmental Monitoring and Research
ISO	International Organization for Standardization
LLTA	Low Level Training Area
MC	Memorandum to Cabinet
MO	Mitigation Orders
MOU	Memorandum of Understanding
MMOU	Multinational Memorandum of Understanding
MND	Minister of National Defence
MTGB	Military Training Goose Bay
NORAD	North American Aerospace Defence Command
NATO	North Atlantic Treaty Organization
PAA	Program Activity Architecture
RFP	Request for Proposal
RMAF	Results-based Management Accountability Framework
SARA	<i>Species at Risk Act</i> (federal)
SRC	Scientific Review Committee
TB	Treasury Board
TBD	To be Determined
VEC	Valued Ecosystem Component



Results in Brief

Funding for the Named Grant to the Institute for Environmental Monitoring and Research (IEMR) was approved and is effective until 31 March 2010. In accordance with the Treasury Board (TB) Policy on Transfer Payments and the Program's Grant Agreement, a summative evaluation is required to determine if the continuation of the program should be sought.

The evaluation was conducted to assess the relevance and performance of the IEMR.

Overall Assessment

- The IEMR is meeting its performance objectives.
- The Transfer Payment Program for the IEMR continues to be relevant and effective.

Key Findings

Relevance

The IEMR supports the federal government's responsibility for appropriate environmental stewardship. The IEMR supports the mandate of the Department of the Environment to preserve and enhance the natural environment and supports the Department of National Defence (DND) Program Activity "Environmental Protection and Stewardship." The annual research priorities of the IEMR are relevant and have been responsive to changes in the current and the proposed training activities in the Goose Bay Military Low-Level Training Area (LLTA).

Performance

The IEMR has effectively established professional relationships with other research and regional organizations and has been successful in developing a strong level of cooperation and trust between disparate stakeholders. Previous and ongoing environmental research, combined with monitoring programs and appropriate and effective mitigation programs have not yet determined any significant negative environmental impacts from present military activities that cannot be mitigated or justified. This has directly supported the viability of the military training program.

Recommendations

While the Goose Bay LLTA is an area designated and used for military training activities and as the federal government retains the responsibility for environmental stewardship of the designated area, there remains a role for the IEMR. As the IEMR is presently assessed to be relevant and effective and has demonstrated value for money, it is recommended that the Named Grant to the IEMR continues to be funded.

Note: For a more detailed list of CRS recommendations and management response, please refer to [Annex A](#)—Management Action Plan.

Introduction

Background

The IEMR was established in 1995 in response to a recommendation by an independent federal environmental assessment panel appointed to review military flying activities in Labrador and northeastern Quebec.

The Environmental Assessment Panel, appointed by the Federal Environmental Assessment and Review Office (FEARO), reviewed the military flight training program at 5 Wing Goose Bay and produced the report on Military Flying Activities in Labrador and Quebec. The 1995 Report, which contained 58 recommendations, proposed the establishment of the IEMR as a necessary condition prior to the approval of a Multinational Memorandum of Understanding (MMOU), between Canada and various North Atlantic Treaty Organisation (NATO) countries, “for the provision of low-level flying training activities in the LLTA.”

Since that time, the Allied requirement for low-level flying training activities has diminished significantly and the MMOU, for which the IEMR was a pre-condition, is no longer in effect. Other military activities, such as survival training, in addition to limited low-level flying training, are currently being scheduled in the LLTA, and arrangements that were previously covered under the MMOU have been replaced with separate agreements and “pay as you go” pricing options.

In accordance with the 2008 TB Policy on Transfer Payments and the 2005 Grant Agreement between the Minister of National Defence (MND) and the IEMR, a summative evaluation of the Named Grant to the IEMR is required to determine whether to seek approval for continuation of the Named Grant to the IEMR.

Total funding of \$7.5 million to the IEMR was approved and the present Grant Agreement is effective until 31 March 2010.

Objectives

This evaluation was designed to address five core issues that are reflected in the following statements:

Relevance

Issue 1: Continued Need for Program. Assessment of the extent to which the program continues to address a demonstrable need and is responsive to the needs of Canadians.

Issue 2: Alignment with Government Priorities. Assessment of the linkages between program objectives and (i) federal government priorities and (ii) departmental strategic outcomes.

Issue 3: Alignment with Federal Roles and Responsibilities. Assessment of the role and responsibilities for the federal government in delivering the program.

Performance (Effectiveness, Efficiency and Economy)

Issue 4: Achievement of Expected Outcomes. Assessment of progress toward expected outcomes with reference to performance targets and program reach, program design, including the linkage and contribution of outputs to outcomes.

Issue 5: Demonstration of Efficiency and Economy. Assessment of resource utilization in relation to the production of outputs and progress toward expected outcomes.

Scope

The evaluation covers grant-financed activities of the IEMR since April 2005. Included in the summative evaluation is an assessment of the continued relevance and performance of the IEMR. In terms of performance, the focus of the evaluation is on the major components of research, information distribution and consultation.

Methodology

A review of related IEMR documents and annual reports provided a comprehensive understanding of the mandate, purposes and objectives of the Institute. Data collection and analysis methods combined both qualitative and quantitative techniques.

Interviews were held with key stakeholders including the IEMR Chairperson; the IEMR Board of Directors; Director Air Contracted Force Generation (D Air CFG); D Air CFG staff; the Wing Commander 5 Wing Goose Bay; and 5 Wing Goose Bay staff.

A draft Results-based Management Accountability Framework (RMAF), including a Logic Model and a performance measurement strategy, was developed in 2005 by D Air CFG for the IEMR, but it was not formally reviewed or approved by TB as the Transfer Payment was designated as a Named Grant. Therefore, the assessment of expected results for the IEMR have been identified by the list of approved objectives in the Grant Agreement, in addition to the list of results that IEMR's work must contribute to. These criteria are listed in the "[Description of Program](#)" sub-section.

Questionnaires were developed for completion by IEMR Board members to assist in determining their level of satisfaction with the IEMR research and related activities. Using a seven-point scale to rate member agreement with each statement, the questionnaires were administered face-to-face during two meetings with the IEMR Board of Directors in the spring of 2009. One meeting was held with the Aboriginal Board members while a second meeting was held with Board members who are community and regional representatives.

An evaluation matrix ([Annex B](#)) was established to identify the evaluation questions and data collection methods for the major issues of the study: relevance and performance.

Limitations of Study

Surveys and interviews did not extend to the Aboriginal or municipal groups in the regions that are represented by the members of the Board of Directors.

IEMR operates as an independent arm's length organization from DND. Therefore, the Department does not have direct control over the management or decision-making of the Institute.

Description of Program

The IEMR is an independent, provincially incorporated, not-for-profit organization that operates at arm's length from DND. The IEMR conducts scientific research and monitoring initiatives related to military training activities on the Labrador and northeastern Quebec ecosystems within the LLTA, which is administered by 5 Wing Goose Bay. Research is also conducted on the socio-economic effects of military training activities in the area.

As shown in Figure 1, the IEMR is headed by a Chairperson who reports to both the Minister of the Environment and the MND. Reporting to the Chairperson are a Board of Directors and a Scientific Review Committee (SRC). The Board of Directors is comprised of ten voting members¹ and five non-voting members² and is responsible for setting research priorities and ensuring that relevant criteria and policies are followed in soliciting and awarding funding for research activities. The SRC is comprised of a group of recognized experts selected for their expertise and knowledge on issues related to the northern ecosystem and its people. The SRC provides scientific direction and support; conducts a peer review process for all scientific publications from the IEMR; ensures the relevance of proposed monitoring and research activities to the mandate of the IEMR; and advises the Board on the monitoring and research priorities.

Authority has been delegated from the MND to the Assistant Chief of Air Staff (Asst CAS)/D Air CFG to approve, sign and amend the Grant Agreements with the IEMR. D Air CFG is responsible to the Deputy Minister (DM), through the chain of command, for all aspects of the program. D Air CFG has delegated the Section Head, Foreign Military Training (FMT) Goose Bay as the Program Manager responsible for the strategic oversight of foreign military training at Goose Bay.

¹ Voting Members: representatives of the Makivik Corporation; Naskapi Nation; Innu Nation; Labrador Metis Nation; Nunatsiavut Government; Mamit Innuat; Town of Happy Valley-Goose Bay; Municipalité régionale de comté de Minganie; Town Office Churchill Falls; and Central Labrador Economic Development Board.

² Non-voting Members: representatives of Environment Canada; Government of Quebec; Government of Newfoundland and Labrador; the Wing Commander 5 Wing Goose Bay; and Director of Air Contracted Force Generation.

The Mandate of the IEMR is to:

- Focus on the protection of the environment and, within the concept of sustainable development, support the viability of the military flight-training program;
- Provide independent verification of environmental effects as well as expertise and advice on structuring adequate monitoring and mitigation measures; and
- Foster a level of trust amongst all groups affected by the military training program.

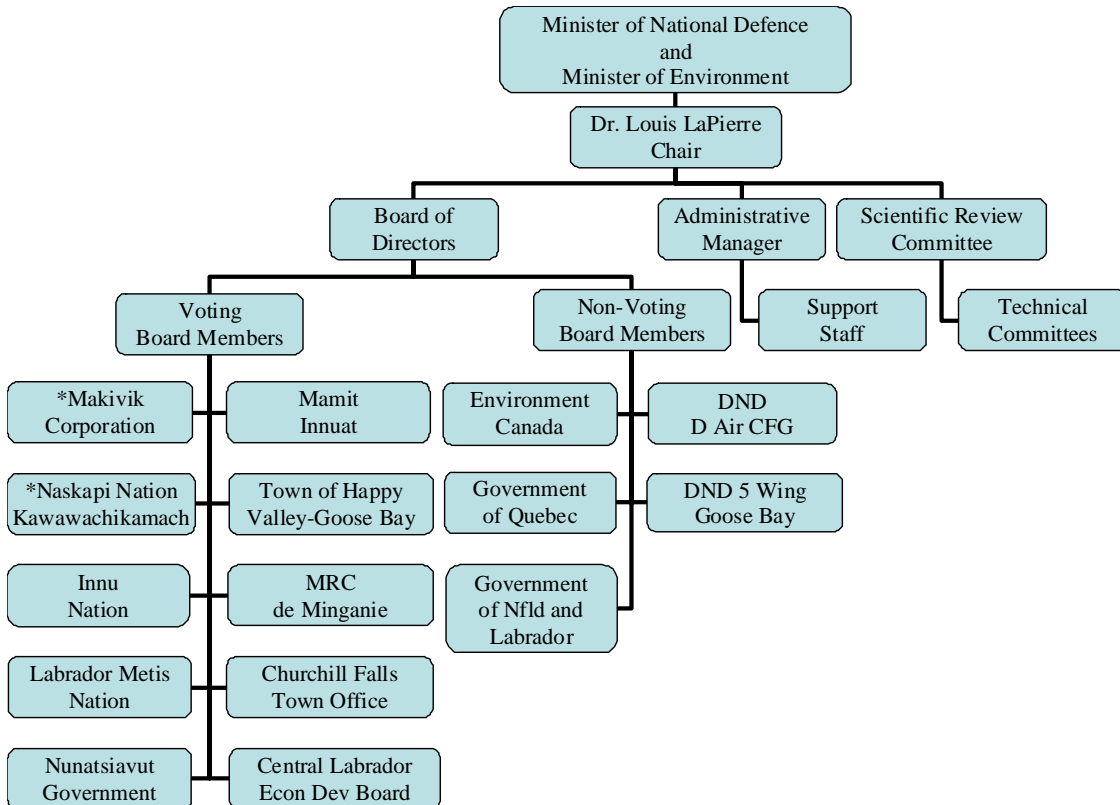


Figure 1. IEMR Organization Chart. This chart presents the three components of the IEMR that report to the Chair: Board of Directors, Administrative Manager and the Scientific Review Committee.

* Note that the Makivik Corporation and the Naskapi Nation Kawawachikamach have a two-year rotational Board membership.

The Objectives of the IEMR are to:

- Initiate, coordinate, support and conduct environmental research;
- Monitor effects and propose mitigation measures associated with the military training activities over northeastern Quebec and Labrador;
- Foster inclusion or incorporation of Aboriginal environmental knowledge and cooperation in research and monitoring activities amongst DND, scientific establishments, research institutions, consultants and universities interested in the mandate and objectives of the IEMR;
- Promote a solid understanding and flow of information with the public on the work of the IEMR; and

Provide advice and information to stakeholders to ensure that the environmental impact of low-level flying and other training in and around the LLTA is minimized to the fullest extent possible. Results of the work of the IEMR must contribute to:

- Minimization, to the fullest extent practicable, of the environmental impacts of low-level flying training at Goose Bay;
- The development of knowledge of the people, flora and fauna of northeastern Quebec and Labrador; and
- The development of a level of trust amongst various Aboriginal and other stakeholder groups, that DND's operations are non-detrimental to the interest of these stakeholders.

Findings and Recommendations

Relevance

Issue 1: Continued Need for Program. Assessment of the extent to which the program continues to address a demonstrable need and is responsive to the needs of Canadians.

The Canadian Forces (CF) and allied forces' present demand for low-level flying training is low. In addition, the MMOU, for which IEMR was established as a pre-condition, is no longer in effect. The focus of the IEMR has therefore evolved, and the Institute no longer places the emphasis it once did on environmental mitigation and monitoring activities resulting solely from military low level flying training. While the extant IEMR mission and mandate do not encompass other military training activities beyond low level flying training, IEMR environmental research now also includes investigating the environmental effects of proposed future military training activities in the LLTA.

The continued use of the LLTA by DND necessitates that the federal government conduct appropriate environmental stewardship in the area. In support of this requirement, the IEMR is established as a unique organization focused on environmental studies in the LLTA and as a forum for informal consultations and informed discussions between disparate groups affected by the military activities. As such, it brings together representatives from Aboriginal groups, environmental experts, and municipal, provincial and federal government representatives in both informal and established working partnerships to study and monitor environmental effects of military activities in the LLTA. In addition to environmental research, the IEMR has promoted and continues to successfully cultivate an effective level of communication, trust and understanding among all stakeholders.

Recommendation

Conduct a joint review of the Mission statement, Mandate and Grant Agreement of the IEMR to ensure all military-related training activities in the LLTA are included.

OPI: D Air CFG

Issue 2: Alignment with Government Priorities. Assessment of the linkages between program objectives and (i) federal government priorities and (ii) departmental strategic outcomes.

A priority of the Government of Canada, which is achieved through the mandate of the Department of the Environment, is to coordinate environmental programs and preserve and enhance the natural environment. More specifically, the Department of the Environment, on behalf of the federal government, is responsible for the coordination of the policies and programs respecting the preservation and enhancement of the quality of the natural environment, including migratory birds and other flora and fauna.³ This federal priority correlates with the IEMR's objective to initiate, coordinate, support and conduct environmental research.

³ *Department of Environment Act.*

One part of a three-prong Government of Canada strategy for the protection of wildlife species at risk is the *Species at Risk Act* (SARA). This Act, which is a product of the implementation of the Canadian Biodiversity Strategy, also includes commitments under the Accord for the Protection of Species at Risk and activities under the Habitat Stewardship Program for Species at Risk. The SARA provides federal legislation to prevent wildlife species from becoming extinct and to provide for their recovery. Two species in the LLTA, identified by the SARA, are being studied and monitored by the IEMR: the Barrow's Goldeneye and the Woodland Caribou.

In DND's Program Activity Architecture (PAA), the work of the IEMR falls under the Program Activity "Environmental Protection and Stewardship" which is part of the Departmental Strategic Outcome for "Care and Support to the Canadian Forces and Contribution to Canadian Society." This program activity promotes public health and safety and supports sustainable development on Defence lands with protection and stewardship which is compliant with applicable legislation and federal policies.

Issue 3: Alignment with Federal Roles and Responsibilities. Assessment of the role and responsibilities for the federal government in delivering the program.

The February 1995 FEARO Panel Report specified that the IEMR would advise on the terms and conditions governing low-level flying with respect to avoidance criteria, mitigation measures, research, effects monitoring, compliance auditing, boundaries of the LLTA and project-related land uses in the training area.

In support of the federal government's environmental responsibilities, military activities within the LLTA are conducted in a sustainable manner that protects the environment while achieving operational results. Activities are planned to ensure compliance with Defence Administrative Orders and Directives (DAOD) 4003-2 (Environmental Assessment), the *Canadian Environmental Assessment Act* (CEAA) and the Environmental Assessment Regulations under the *Newfoundland and Labrador Environmental Protection Act*.

In addition to practicing good governance, the federal government has statutory, contractual and common law obligations to consult with affected Aboriginal groups.⁴ While the IEMR does not consult with Aboriginal groups on behalf of DND, the IEMR does provide the Aboriginal communities' representatives on the IEMR Board of Directors with independent research which may mitigate a community's environmental concerns or be used as a basis for further discussion and study. As DND is represented on the IEMR Board with two non-voting seats, IEMR Board meetings provide an opportunity for DND to present information to all Board members on proposed and ongoing military training activities, take notice of stakeholders' concerns, and have access to IEMR research results. The federal government may then undertake direct formal or informal consultations with affected Aboriginal communities, as may be necessary.

⁴ Aboriginal Consultation and Accommodation, Interim Guidelines for Federal Officials to Fulfill the Legal Duty to Consult, February 2008, page 5.

Performance (Effectiveness, Efficiency and Economy)

Issue 4: Achievement of Expected Outcomes. Assessment of progress toward expected outcomes with reference to performance targets and program reach, program design, including the linkage and contribution of outputs to outcomes.

Objective 1: Initiate, Coordinate, Support and Conduct Environmental Research.

IEMR Board of Directors sets the annual Monitoring and Effects Research Work Plan from the priorities proposed by the IEMR SRC. The SRC proposals are derived from the original 1995 Panel Recommendations, from initiatives presented by Aboriginal and other IEMR Board Members and the various IEMR Technical Committees. Once the annual priorities are set, the Board of Directors ensures that relevant policies and criteria are followed in soliciting contractors and awarding funding. The SRC remains engaged with the contractors, providing scientific direction and support for the approved monitoring and environmental research activities and the peer review of completed studies.

Since the termination of the MMOU, IEMR has reoriented its studies, monitoring and effects research focus. In support of a proposal for future supersonic flight training in the LLTA, a predictive “Boom Cast” model is being developed by IEMR as a key tool to assess noise projection from supersonic flying training activities. The research also includes the collection of basic ecological data for species that could be vulnerable to noise disturbance from supersonic flight training, in addition to the development of the concomitant monitoring protocols.

IEMR also coordinates environmental research with other organizations that have an interest in the Labrador and northeastern Quebec ecosystems. Memoranda of Understanding (MOU) have been coordinated with DND, the Innu Nation, the Naskapi Nation of Kawawachikamach, the Government of Newfoundland and Labrador, the Government of Quebec, and the Nunatsiavut Government. These agreements contribute to IEMR’s conduct of environmental research and allow the IEMR to access and share data sets, while recognizing the proprietary ownership of the information. For example, after observing a linkage between the productivity of many northern species and the dynamics of small mammal populations, IEMR established a small mammal trapping program in 2007. In support of this initiative, IEMR entered a cost-sharing agreement and partnership with the Government of Newfoundland and Labrador, and effective partnerships with the Innu Nation, Nunatsiavut Government, the Labrador Metis Nation and the Naskapi Nation of Kawawachikamach.

An overview of IEMR study activities during the period of the current Named Grant funding from 2005 to 2009 is summarized at Table 1.

Study Activity	2005/06	2006/07	2007/08	2008/09
Number of new studies proposed	26	16	20	22
Number of new studies sponsored and coordinated	18	17	18	17
Number of new studies completed	16	14	14	16

Table 1. IEMR Study Activity 2005–2009 indicates the number of studies proposed, sponsored, coordinated and completed during each year of the current Grant funding.

The IEMR Board of Directors expressed general satisfaction with the environmental research that has been conducted by the IEMR. Some Aboriginal Board members expressed a desire for the IEMR to receive additional funding to conduct focused studies of specific animals of Aboriginal interest which fulfill a subsistence requirement for members of their community. These include the porcupine, the arctic hare and the partridge. While various Aboriginal groups indicated different environmental study priorities and desired a higher profile for an Aboriginal perspective in developing the annual priority list, it was acknowledged that the prioritization of studies is a balance between Aboriginal and non-Aboriginal priorities and interests; the priority species listed by the Environmental Assessment Panel; the federal and provincial registries of species at risk and the mandate of the IEMR.

Overall, there was consensus that the Aboriginal communities were well served within the constraints of the IEMR’s available funding. On a seven-point scale, the Aboriginal Board members rated their satisfaction level at the (5) to (6) level, while the community and regional representatives scored this component at the (7) level.

The IEMR Board members also expressed satisfaction with the research conducted by the IEMR on the socio-economic effects of military activities in the LLTA. As a result of studies conducted by the IEMR, the community of Happy Valley-Goose Bay has a better understanding of the specific economic benefits that the DND/CF brings to the region. While there was consensus that the IEMR socio-economic research was useful and of good quality, the Board members recommended that more socio-economic research on the effects of military activities was required for other Aboriginal communities. The ratings by Aboriginal Board members were wide ranging. Scores ranged from (3) to (5) out of (7) with lower scores reflecting that they had not yet benefitted from this research. The community and regional representatives scored this component a (7).

Objective 2: Monitor effects and propose mitigation measures associated with the military training activities over northeastern Quebec and Labrador.

Within DND, D Air CFG performs a strategic planning role and is responsible for corporate funding of 5 Wing Goose Bay activities as well as funding of the IEMR. It is the responsibility of 5 Wing Goose Bay to operationally support military training and activities including the day-to-day operation of environmental mitigation of those activities. Mitigation measures involve activities designed to reduce, avoid or control any potential adverse environmental impacts of military training. This includes avoidance

and monitoring programs conducted by 5 Wing Goose Bay to identify and prevent disturbances to human and sensitive wildlife locations on the ground. Sensitive wildlife areas in the LLTA are identified through historical data, real-time monitoring studies conducted by the IEMR and by other resource management agencies. Human avoidance areas are designated in response to community consultation requests and voluntary notifications by persons planning activities within the LLTA as well as active inquiries by 5 Wing Goose Bay personnel. Avoidance criteria define the circumstances when area closures are activated and de-activated as well as the extent of spatial or temporal protection. The Human Avoidance Program and the Wildlife Avoidance Program are components of the Environmental Management System (EMS). The Wildlife Avoidance Program is based on criteria supported by field monitoring activities of the “Valued Ecosystem Components” (VEC)⁵. The criteria are based on several factors, including available scientific literature, the species’ scientific or cultural importance, and consultation with federal and provincial government departments. As the effects of interaction between both the human activities and various wildlife species and training activities in the region are determined, specific avoidance criteria are developed and refined. Proposed changes to the avoidance criteria, defined with 5 Wing Goose Bay Mitigation Orders (MO)⁶, are circulated through the IEMR for comments by stakeholders including Aboriginal groups.

The IEMR is defined, in its Constitution, as the organization that will:

- verify the accuracy and relevance of predicted environmental impacts and support effects research;
- verify the effectiveness of mitigation measures; and
- review/validate the various mitigation criteria.

Under the CEAA, DND is the Responsible Authority for the development and management of appropriate mitigation programs in support of its activities.

The 5 Wing Goose Bay EMS is intended to minimize any potentially harmful environmental impact that might result from military training activities, while maintaining suitable conditions to sustain a viable military training program. Because International Organization for Standardization (ISO) 14001 is mandated by DAOD 4003-0 as the EMS Model for DND and to ensure the Environmental Mitigation Program (EMP) remains effective, D Air CFG attained ISO 14001 certification in 2003 as the standard for its EMS for FMT in Canada. In 2006, D Air CFG transferred the authority and responsibility of the FMT–EMS and MOs to 5 Wing Goose Bay. 5 Wing Goose Bay developed, implemented and re-certified the EMS to demonstrate its ability to consistently implement applicable regulatory requirements associated with all military activities within the LLTA. The EMS provides the guidance for the development, implementation and maintenance of the Military Training Goose Bay Environmental

⁵ Valued Ecosystem Components can incorporate both the natural and human environments. They are defined by the CEAA as the environmental element of an ecosystem that is identified as having scientific, social, cultural, historical, archaeological or aesthetic importance. The value of an ecosystem component may be determined on the basis of cultural ideals or scientific concern.

⁶ Mitigation Orders are issued under the authority of the Wing Commander 5 Wing Goose Bay and are the Standard Operating Procedures (SOP) for the MTGB EMS.

Management System (MTGB EMS) which satisfies the requirements of DND and Government of Canada Environmental Policy. The MTGB EMS is comprised of the EMS Environmental Policy and 5 Wing MOs.

MOs establish procedures to minimize any potential adverse environmental effects on ecosystems, fauna and flora and also include socio-economic and cultural aspects. As the Responsible Authority, under existing environmental legislation, 5 Wing Goose Bay is responsible and accountable for the design and implementation of its Mitigation Program to minimize potential adverse effects from military training activities. The transfer of monitoring activities to the IEMR in 2006, however, necessitated the development of the IEMR mitigation monitoring and effects research work plan for fiscal year (FY) 2007/08, FY 2008/09 and FY 2009/10.

Effects monitoring involves the collection and analysis of relevant environmental data to assist species research or decisions regarding the mitigation of impacts on the environment. The Government Response to the Panel Report in 1995 differentiated the types of monitoring and the responsibility for monitoring activities. The Government response stated:

“DND is responsible for avoidance monitoring to ensure that there is the minimum of disturbance to activities on the ground consistent with responsible environmental management. The Department will continue to be directly responsible for avoidance monitoring for the life of the MOU.”

In particular, the Government response affirmed the monitoring responsibility of DND, stating:

“DND still retains ultimate responsibility and accountability for environmental protection and effects monitoring within the project area, irrespective of the role played by the Institute. These responsibilities cannot be delegated or abrogated.”

Notwithstanding the Government’s affirmation of DND’s responsibility for the monitoring and mitigation programs in support of military activities, the extant Grant Agreement designates the responsibility to conduct environmental monitoring activities, that DND had previously performed, to the IEMR. The Annual Grant Agreement of \$1.5 million provides an additional \$375,000 annually, over the previous Grant Agreement amount, to consolidate all monitoring activities under the responsibility of the IEMR.

In 2008, the IEMR completed a review of monitoring protocols for the VECs which have been identified as potential candidates for noise disturbance from supersonic flight training. In addition, the SRC and the Technical Committees continue to address knowledge gaps associated with noise disturbance effects from various military training initiatives to ensure appropriate levels of protection, particularly for species that have been granted special protection status and for those that are of specific interest to Aboriginal peoples. This year, the IEMR is undertaking a comprehensive review of the current mitigation and monitoring activities, including an assessment of the data from all IEMR field monitoring programs since 1996. Following this review, the IEMR plans to provide DND with recommended adjustments to the current mitigation program, as necessary.

The IEMR Board members expressed satisfaction with the existing mitigation measures which they felt were appropriate and effective. The satisfaction level of ratings by the Aboriginal Board members were at the (5) and (6) level on a seven-point scale for the Aboriginal Board members and at the (7) level for the community and regional representatives. However, 5 Wing Goose Bay has expressed concern about the effects of the transfer of the monitoring responsibilities to the IEMR. Notwithstanding this transfer of responsibilities, DND remains the Responsible Authority and, prior to 2006, was responsible for collecting all real-time data. With the present apportionment of responsibilities, 5 Wing Goose Bay provides the EMS, MOs and all ISO 14001 Audit Reports to the IEMR. While 5 Wing Goose Bay does receive some real-time positional information from the IEMR, IEMR is not responsive to 5 Wing's immediate operational requirements. Real-time positional data is necessary for 5 Wing Goose Bay to be responsive to real-time training requirements and requests, to determine viable and effective real-time mitigation measures, to designate the concomitant appropriate flying training areas, and to maintain its obligation to the MTGB EMS.

Recommendation

Discuss and clarify the interrelationship, responsibilities and obligations between the D Air CFG and 5 Wing Goose Bay as currently described in the DND/IEMR MOU.

OPI: D Air CFG

Objective 3: Foster inclusion or incorporation of Aboriginal environmental knowledge and cooperation in research and monitoring activities amongst DND, scientific establishments, research institutions, consultants and universities interested in the mandate and objectives of the IEMR.

The IEMR has a principal focus to work with all parties affected by military training in the LLTA. The IEMR Chairperson has successfully developed an atmosphere of trust and mutual respect amongst the disparate voting and non-voting members of the Board of Directors, who often share different values and objectives.

Aboriginal environmental knowledge has been incorporated into IEMR research and monitoring through:

- Aboriginal recommendations, at IEMR Board meetings, for species to be studied;
- Aboriginal companies conducting species research;
- Aboriginal knowledge being incorporated at the workshop and technical committee levels;
- IEMR Board members (voting members) being Aboriginal community representatives; and
- IEMR consultations with community "Committees of Elders."

The IEMR Board members agreed that Aboriginal knowledge is highly appreciated within the IEMR, and the intent to incorporate Aboriginal knowledge is strong. They noted that the IEMR has been very successful in involving the various affected communities and in seeking Aboriginal knowledge. While the opportunity for inclusion of Aboriginal knowledge is encouraged at the Board of Directors and Technical

Committee meetings in support of IEMR research activities, the IEMR Board members indicated that there is still considerable room for improvement by research companies, consultants or institutions to properly incorporate Aboriginal knowledge into their research. Aboriginal Board members emphasized that this requirement is of critical importance to them and that Aboriginal traditional knowledge (ATK) must be incorporated in all studies.

Presently, pre-qualified contractors have the opportunity to submit proposals to conduct IEMR research, with the SRC providing oversight to ensure the scientific accuracy and integrity of research proposals and activities. While there is intent by the IEMR to incorporate Aboriginal knowledge into research contracts, the Aboriginal Board members indicated there was a perception that the requirement to include ATK was not always taken seriously. Some examples included:

- Companies appeared to exploit loopholes in the contracts to disregard or diminish the requirement for ATK;
- Companies appeared to be more interested in receiving the funding than conducting accurate research;
- Companies seemed to feel there was no obligation to define the extent of Aboriginal knowledge within their reports; and
- Aboriginal participation within a research group was often interpreted as being the same as the incorporation of ATK into reports.

To progress the inclusion of ATK into IEMR studies, the Aboriginal Board members met in 2008 to discuss how the Request for Proposal (RFP) process could identify criteria for the incorporation of Aboriginal issues in future research.

The discussion with the IEMR Board Members about this outcome objective resulted in a wide range of scores. There was a consensus that the incorporation of Aboriginal environmental knowledge and cooperation in research and monitoring activities is improving; however, the level of satisfaction by the Aboriginal members of the present situation ranged from (2) through (6) on a 7-point scale, while the community and regional representatives rated it a (7).

Recommendation

Establish criteria or mechanisms to ensure ATK is incorporated into the conduct and results of IEMR sponsored research and IEMR-sponsored conferences.

OPI: D Air CFG in discussion with IEMR

Objective 4: Promote a solid understanding and flow of information with the public on the work of the IEMR.

The IEMR communications strategy is based on information availability and community outreach. The dissemination of information by the IEMR has fostered a level of trust and understanding among the various groups and communities affected by the military training activities in the LLTA. All IEMR publications are available in French and English on the IEMR website or from the IEMR Head Office. While the IEMR Annual

Report is the primary source for information about IEMR projects, activities and research, the IEMR website includes several library databases of previous IEMR research and reports. Photo galleries from the annual IEMR Photo Contests, which include entries from government employees, researchers and members of the general public are also included on the IEMR website.

The IEMR has directly engaged affected communities throughout Labrador and northeastern Quebec. During the past year, Aboriginal Board members held workshops in their respective communities to gather input on VECs and to identify the associated Aboriginal connection. Various data-sharing MOUs between IEMR and Aboriginal, federal and provincial stakeholder organizations also contribute to increasing the level of understanding of the IEMR's work.

The Board members unanimously agreed that the IEMR has an excellent website which it uses to share its research and information with others. In addition, the Aboriginal Board members indicated that the Institute has an active and effective outreach program which includes activities at schools, engagement with scientists, funding of workshops and interviews with the media. The IEMR was also praised by the Board members for holding meetings within the various communities and their engagement with the Aboriginal youth. Special mention was made by the Board members that the Chair and the staff of the Institute are competent and helpful.

There was strong consensus among the Board members that the IEMR promotes a good understanding of its work and provides sufficient information to the public. The satisfaction ratings by the Aboriginal, community and regional representatives were very high, with the majority rating it a (7) on the seven-point scale.

Recommendation

Discuss with IEMR the feasibility of including a survey on the IEMR website to assess public satisfaction with the information provided on the site.

OPI: D Air CFG

Objective 5: Provide advice and information to stakeholders to ensure that environmental impact of low-level flying and other training in and around the LLTA is minimized to the fullest extent possible.

If environmental research shows that military activities in the LLTA are accruing significant negative environmental impacts that cannot be mitigated or justified, the IEMR can recommend, to both the MND and the Minister of the Environment, that military activities be limited or phased out. Due to the present low number of military training flights, in addition to the monitoring and mitigation measures that have been established within the LLTA, the IEMR has not had a requirement to consider this recommendation during the previous or current Grant Agreement period.

Results of the Work of the IEMR

In addition to the five objectives, the Grant Agreement states that the work of the IEMR must contribute to the following three results:

Result 1. Minimization, to the fullest extent practicable, of the environmental impacts of low-level flying training at Goose Bay.

For a discussion of this result, refer to [Objective 5](#).

Result 2. The development of knowledge of the people, flora and fauna of Quebec and Labrador.

The wide range of research studies and public relations outreach conducted by the IEMR has contributed to the achievement of this result. Examples of the types of studies carried out by IEMR are provided in Table 2:

Species	Activities	Reports
Woodland Caribou	Population surveys/censuses. GPS–satellite hybrid collars.	Red Wine Woodland Caribou Recollaring. Joir River Woodland Caribou Classification. Lac Joseph Woodland Caribou Classification.
George River Caribou Herd	Feasibility analysis on continued collection of data. Analysis of migratory patterns.	
Habitat Data	Collected for many projects. High-resolution Ikonos imagery datasets.	
Harlequin Duck	Population trend surveys.	Surveys for Monitoring Trends of Harlequin Duck in Labrador and Nfld
Osprey	Long-term monitoring program. Comparison of nest occupancy success and reproductive output inside and outside LLTA.	Osprey Monitoring in the LLTA of Labrador. Statistical Review of Osprey Monitoring in the Labrador and Eastern Quebec LLTA.
Boreal Owls	3-year study to assess effect of low-level flying. Studies contributed to development of devices and methods that could be exportable.	River Valley Ecosystems Study–Boreal Owl Component.
Bats	Project to evaluate effects of low-level flying.	
Small Mammals	Hosted a workshop to explore possibility of developing a permanent small mammal monitoring network for Labrador.	
Small Mammal Trapping Program	Training sessions held to introduce trapping protocol and ensure data collected and comparable across all study sites.	Small Mammal Data Compilation Project. Small Mammal Monitoring Network.
Barrow's Goldeneye	Preliminary assessment conducted of nesting within proposed supersonic training area.	Barrow's Goldeneye Habitat Identification and Population Survey.
Sea Ducks		Assessment of Distribution and Abundance of Surf and Black Scoters Breeding–Eastern Section of Labrador LLFT area.

Species	Activities	Reports
Golden Eagles and Bald Eagles	Survey and monitoring programs to collect baseline observations in anticipation of supersonic training.	Baseline Monitoring of Golden Eagle in the LLTA.
Field Testing of Nest Monitors	To obviate the need for visual observations, thereby reducing biases induced by researcher disturbances.	Field Testing of Nest Monitors–Bald Eagle and Osprey Component. Field Testing of Nest Monitors–Canada Goose Component.
Assessment of Supersonic Flights	Environmental assessment conducted. Model (Boom Cast) developed to implement an effective monitoring program. Defined noise thresholds for each of the VECs. Risk assessment thresholds determined.	
Moose Survey	Aerial Moose survey and statistically reliable estimates of moose densities.	Late Winter Aerial Surveys for moose in Central Labrador.

Table 2. Environmental Monitoring and Research 2006-2008 provides a summary of the research activities and completed reports, for both species of interest and research areas of importance.

Result 3. The development of a level of trust among various Aboriginal and other stakeholder groups, that DND’s operations are non-detrimental to the interest of these stakeholders.

IEMR Board members indicated that before the IEMR was created there was a high level of mistrust between the various Aboriginal groups and DND. However, due to the work and effort of the IEMR, there is now a strong level of trust and a positive relationship between the Board members and there appears to be an open dialogue between all groups affected by military activities in the LLTA.

While the IEMR has developed a level of trust amongst all Board members and their constituent communities, the Board membership does not necessarily represent all groups affected by the military activities in the LLTA. Some Board members proposed that the Innu of Schefferville and the Inuit should be invited to participate, and the present rotation between the Makivik Corporation and the Naskapi Nation of Kawawachikamach should cease, making each representative a full-time Board member.

There was consensus that the level of trust developed by IEMR was high. The ratings by the Aboriginal Board members were at the (5) and (6) level out of 7, with the majority rating it a (6). Community and regional representative Board members rated this component higher, at a (7) level. They felt that a very high level of trust now exists—very much due to the abilities of the Chairperson—and that the IEMR staff members provide an atmosphere of mutual respect to all stakeholders.

Issue 5: Demonstration of Efficiency and Economy. Assessment of resource utilization in relation to the production of outputs and progress toward expected outcomes.

By functioning as an independent research organization, the IEMR has been fundamental to achieving the necessary cooperation and trust of the aboriginal representatives and their communities within the Labrador and northeastern Quebec regions affected by military training activities in the LLTA. The use of a Grant program to deliver IEMR’s funding has provided the federal government control of its funding contribution, oversight of how the funding is spent and the ability to monitor progress toward achieving expected results.

To effectively draw on existing resources, expertise and data to support the achievement of IEMR objectives, MOUs and efficient cost-sharing arrangements with various Aboriginal, scientific, provincial and federal organizations have been initiated. In 2006, in accordance with the principles of accountability established by the federal government, a call for Statements of Interest was conducted to identify qualified companies which might conduct activities in support of the IEMR’s research plan. In 2008, pre-qualified contractors were provided an opportunity to submit proposals and conduct research for the IEMR.

The amount of Grant Funding actually spent on an annual basis is shown in Table 3. The maximum payable to IEMR is \$7,500,000 over the five-year period.

Year-End	Revenues	Expenses	Expenses over Revenues
March 2006	1,540,570	1,382,708	157,862
March 2007	1,566,794	1,408,595	158,199
March 2008	1,569,188	2,013,781	(444,593)
March 2009	1,531,559	1,976,733	(445,174)
March 2010	TBD	TBD	TBD
Total to Date	6,208,111	6,781,817	(573,706)

Table 3. Annual IEMR Expenditures 2006-2010 provides the revenues, expenditures and expenses over revenues, for each fiscal year during the current five-year grant period.

The IEMR does not duplicate the work of other research organizations, associations or groups. Respondents to the CRS interview questions remarked that IEMR has been noted by other organizations and communities as a model of consultation, cooperation and environmental stewardship. Only one other organization, the “Hunting, Fishing and Trapping Coordination Committee,”⁷ involves similar multi-level government and Aboriginal group consultations within a different mandate, in the Labrador and Quebec areas.

⁷ <http://www.cccpp-hftcc.com/eng/n-origin.htm>

Noting the circumstances of why the IEMR was originally created and the continued military use of the LLTA, the engagement of an independent, arm's length, not-for-profit corporation is deemed to be an effective approach for the conduct of environmental research and the review and validation of monitoring and mitigation activities within the LLTA. Based on its relevance and performance, the IEMR has demonstrated value for money.

Other Issues

Harmonization and Clarification of Key Documentation and Terminology

There is a lack of standardization of terminology, definitions and references in and between the IEMR Constitution, Mandate, Mission, the DND/IEMR MOU, the MND/IEMR Grant Agreement and Annual Reports. For example:

- The IEMR Constitution, IEMR Mandate and IEMR Mission refer interchangeably to “military training,” “military flight training program,” low-level training (LLT), and “low-level flying program;”
- The designation “Military Training Area” is now used in all 5 Wing Goose Bay EMS-related documentation, and the term “LLTA” and “Training Area” is used throughout most other documentation; and
- The definition of “Military Training” in the IEMR Constitution excludes CF or NORAD activities.

Recommendation

Standardize terminology used in all formal documentation including the revision of “low level flying training” to a more generic term such as “military training.”

OPI: D Air CFG

Annex A—Management Action Plan

Relevance

CRS Recommendation

1. Conduct a joint review of the Mission statement, Mandate and Grant Agreement of the IEMR to ensure all military-related training activities in the LLTA are included.

Management Action

There is potential for developing new military training opportunities in the LLTA (other than low-level flying activities) such as Close Air Support /Forward Air Controller (CAS/FAC), supersonic flight and ground forces training. In consultation with the IEMR, the present Grant Agreement is being reviewed and the new Grant Agreement will incorporate the potential additional military training activities in the LLTA.

OPI: D Air CFG

Target Date: 30 November 2009

Performance (Effectiveness, Efficiency and Economy)

CRS Recommendation

2. Discuss and clarify the interrelationship, responsibilities and obligations between the D Air CFG and 5 Wing Goose Bay as currently described in the DND/IEMR MOU.

Management Action

D Air CFG, the IEMR Chairperson and the Commander 5 Wing have discussed and further clarified the interrelationship, responsibilities and obligations between the three organizations as outlined in the revised IEMR/DND MOU dated 22 October 2008. D Air CFG has advised the Commander 5 Wing to submit his requirements through the business planning process for additional resources to meet his immediate operational requirements and obligations.

OPI: D Air CFG

Target Date: 30 November 2009

CRS Recommendation

3. Establish criteria or mechanisms to ensure ATK is incorporated into the conduct and results of IEMR-sponsored research or IEMR sponsored conferences.

Management Action

The IEMR currently incorporates ATK into research contracts and their RFPs have been amended to incorporate ATK. However, if there is incongruity, science takes precedence over ATK. D Air CFG has, nevertheless, discussed this issue further with the IEMR and suggested a closer monitoring of work performed by contractors to ensure ATK compliance.

OPI: D Air CFG in discussion with IEMR

Target Date: 28 October 2009

CRS Recommendation

4. Discuss with IEMR the feasibility of including a survey on the IEMR website to assess public satisfaction with the information provided on the site.

Management Action

D Air CFG discussed with the IEMR Chairperson the possibility and requirement to post a survey on the IEMR website to assess public satisfaction with the information provided on the site. This is viewed as a good suggestion by the IEMR and a public survey will be included on the IEMR website.

OPI: D Air CFG

Target Date: 1 April 2010

CRS Recommendation

5. Standardize terminology used in all formal documentation including the revision of “low level flying training” to a more generic term such as “military training.”

Management Action

D Air CFG, The IEMR Chairperson and the Commander 5 Wing have agreed to review all formal documentation with the view to standardize the terminology used in all working documents and publications.

OPI: D Air CFG in discussion with IEMR

Target Date: 1 September 2010

Annex B—IEMR Evaluation Matrix

Relevance

Issues

1. Continued Need for Program

- **Evaluation Questions:** To what extent do the specific need(s) that the Program was intended to address continue to exist?
- **Performance Indicators:** Extent to which Program continues to address a demonstrable need.
- **Data Sources:**
 - Annual Reports;
 - Interviews; and
 - Grant Agreement.

2. Alignment with Government Priorities

- **Evaluation Questions:** Have the Government's priorities and the Department's strategic outcomes changed since the implementation of the program and is the Program supportive of them?
- **Performance Indicators:**
 - Linkages to Federal Government priorities; and
 - Linkages to DND's strategic outcomes (PAA).
- **Data Sources:**
 - Environment Canada's mandate and documentation;
 - *Species at Risk Act*;
 - Habitat Stewardship Program for Species at Risk;
 - DND Strategic Plan; and
 - PAA.



3. Alignment with Federal Roles and Responsibilities

- **Evaluation Questions:**
 - Does the federal government continue to have a role and responsibilities in the delivery of the Program?
 - Does the Program duplicate or overlap with other programs, policies or initiatives delivered by other stakeholders?
- **Performance Indicators:** Degree of alignment with the federal roles and responsibilities.
- **Data Sources:**
 - Report on Military Flying Activities in Labrador and Quebec;
 - MOU between Canada and various NATO countries;
 - DAOD 4003-2 Environmental Assessment;
 - *Canadian Environmental Assessment Act*; and
 - Environmental Assessment Regulations under the Newfoundland and Labrador *Environmental Protection Act*.

Performance (Effectiveness, Efficiency and Economy)

Issues

4. Achievement of Expected Outcomes

- **Evaluation Questions:** To what extent have the Program's expected results been achieved and should alternate program design be considered?
- **Performance Indicators:**
 - Number of research papers produced and published by fiscal year;
 - Number and purpose of consultations and meetings organized and held by fiscal year;
 - Level of satisfaction expressed by stakeholders;
 - Enhanced relations among stakeholders; and
 - Reduced environmental impact.
- **Data Sources:**
 - Annual reports;
 - IEMR documentation;
 - Interviews; and
 - Key stakeholder questionnaires.

5. Demonstration of Efficiency and Economy

- **Evaluation Questions:**
 - Are the most appropriate and efficient means being used to achieve the Program's outcomes and could the same results be achieved with less money?
 - Have all the resources originally allocated to this program been used?
- **Performance Indicators:** Evidence that Grant funding was put to good use.
- **Data Sources:**
 - IEMR Financial Reports;
 - IEMR documentation; and
 - Interviews.

