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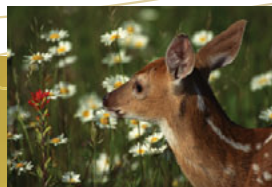
*Your health and  
safety... our priority.*

*Votre santé et votre  
sécurité... notre priorité.*

First Nations and Inuit Health Branch

**RESEARCH AND  
MONITORING SECTION  
ENVIRONMENTAL HEALTH  
RESEARCH DIVISION**

**ANNUAL SUMMARY REPORT  
2009-2010**



Canada




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2009-2010**



Research and Monitoring Section  
Environmental Health Research  
Division  
Primary Health Care and Public  
Health Directorate  
First Nations and Inuit Health Branch  
Health Canada



*Health Canada is the federal department responsible for helping the people of Canada maintain and improve their health. We assess the safety of drugs and many consumer products, help improve the safety of food, and provide information to Canadians to help them make healthy decisions. We provide health services to First Nations people and to Inuit communities. We work with the provinces to ensure our health care system serves the needs of Canadians.*

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For further information or to obtain additional copies, please contact:

Publications  
Health Canada  
Ottawa, Ontario K1A 0K9  
Tel.: (613) 954-5995  
Fax: (613) 941-5366  
E-Mail: [info@hc-sc.gc.ca](mailto:info@hc-sc.gc.ca)

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# INTRODUCTION

The key objectives of the Environmental Health Research Division (EHRD), First Nations and Inuit Health Branch (FNIHB) are to conduct, coordinate and fund environmental contaminants-related research in collaboration with First Nations and Inuit organizations, FNIH regions and the Department of Indian and Northern Affairs Canada (INAC). To support these objectives, the Research and Monitoring Section (RMS) coordinates and funds community-based environmental health research aimed at assisting First Nations and Inuit in assessing the extent of potential health impacts resulting from exposure to environmental pollutants; facilitates knowledge transfer, risk assessment and risk communication related to environmental health research for Aboriginal communities, health authorities and stakeholders; and provides advice to Health Canada's senior management on environmental health research issues.

## MISSION

TO HELP FIRST NATIONS AND INUIT IMPROVE THEIR HEALTH AND WELL-BEING BY BUILDING AND SUPPORTING THEIR CAPACITY TO IDENTIFY, UNDERSTAND AND, WHENEVER POSSIBLE, REDUCE THE IMPACT OF EXPOSURE TO ENVIRONMENTAL CONTAMINANTS THROUGH COMMUNITY-BASED RESEARCH, RISK ASSESSMENT AND EDUCATION.

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## ACTIVITIES

IMPROVING ENVIRONMENTAL  
HEALTH RISK AWARENESS  
AND COMMUNITY HUMAN  
RESOURCES CAPACITY  
THROUGH COMMUNITY  
RESEARCH AND MONITORING  
PROJECTS

### ENVIRONMENTAL CONTAMINANTS RESEARCH

RMS focuses on community-based research and knowledge development on the extent of First Nations exposure to environmental contaminants of concern such as persistent organic pollutants and heavy metals, as well as emerging chemical contaminants. RMS conducts research and participates in two national research programs: the First Nations Environmental Contaminants Program and the Northern Contaminants Program. RMS analyzes the outputs generated from this research and works on the synthesis and knowledge translation of this information for First Nations, Inuit, senior management and the general public.

#### First Nations Environmental Contaminants Program

The First Nations Environmental Contaminants Program (FNECP) was established in 1999 to assist Canada's First Nations people in assessing the extent of their exposure to environmental contaminants and the potential for associated risk to their health and well-being. The FNECP consists of two components:

##### Regional component

**Regional First Nations Environmental Contaminants Program (RFNECP).** The RFNECP is administered by the Regional Environmental Health Managers and is designed to address local and regional environmental contaminants issues.



### National component

#### The National First Nations Environmental Contaminants Program (NFNECP).

The NFNECP is national in scope and is co-administered by the First Nations University (FNU) of Canada. The Assembly of First Nations (AFN) participates in the NFNECP as a member of the Steering Committee, and as champion of the program. FNU, on behalf



*NFNECP Selection Committee*

of the NFNECP Steering Committee issues the annual call for proposals. Received proposals are reviewed and undergo a selection process. Proposals that meet the requirements are then evaluated by the First Nations-led Selection Committee. RMS enters into funding agreements with successful NFNECP applicants to implement their research projects. Project results are communicated back to the communities through various media.

### Arctic Monitoring and Assessment Programme

The Arctic Monitoring and Assessment Programme (AMAP) is one of the six working groups of the Arctic Council – a high-level intergovernmental forum which addresses issues faced by the Arctic governments and the indigenous people of the Arctic. AMAP was established in 1991 in order to implement components of the Arctic Environmental Protection Strategy agreed upon by Ministers of the eight Arctic countries: Canada, Denmark/Greenland, Finland, Iceland, Norway, Russia, Sweden and the United States.

AMAP's primary function is to provide advice on threats to the Arctic region from pollution and associated issues. AMAP is supported by a permanent Secretariat located in Oslo, Norway. The secretariat coordinates AMAP's activities and productions.

RMS participates in AMAP via its Human Health Assessment Group, established in 1992, which is responsible for the assessment of human health risks from environmental pollution of Arctic environments.

*AMAP/HHAG meeting, Reine, Norway.*





### **Northern Contaminants Program**

The NCP was established in 1991 in response to concerns about human exposure to elevated levels of contaminants in fish and wildlife species that are important to the traditional diets of northern Aboriginal people. The program's key objective is working to reduce and, wherever possible, eliminate contaminants in traditionally harvested foods, while providing information that assists informed decision making by individuals and communities in their food use.

The NCP work is Canada's contribution to the eight circumpolar nations' Arctic Monitoring and Assessment Programme (AMAP) initiative. The NCP is directed by a Management Committee that is chaired by Indian and Northern Affairs Canada (INAC), and includes representatives from four northern Aboriginal organizations; the Yukon, Northwest Territories and Nunavut Territorial Governments; the Nunavik Nutrition and Health Committee; and four federal departments (Environment, Fisheries and Oceans, Health, and Indian and Northern Affairs).

RMS contributes funding to the human health component of the NCP which conducts environmental contaminants research in the arctic ecosystem.

The Chief of RMS co-chairs the Human Health Technical Review Team.

### **COMMUNITY EXPOSURE ASSESSMENTS/ TARGETED RESEARCH**

RMS contributes to and participates in community exposure assessments and targeted research studies in collaboration with First Nations communities and provides expert technical assistance on research projects for regional environmental health offices and stakeholders. Assessments are conducted on an ad hoc basis, when determined to be important by the community and other stakeholders, with consideration of the priority of the issue and available funding. Assessments conducted to date have focused on exposure to environmental contaminants such as mercury and polychlorinated biphenyls (PCBs) and often include the collection of eating pattern/diet surveys and human biomonitoring samples.

PROMOTING THE CONSUMPTION  
OF TRADITIONAL FOODS WHILE  
PROVIDING INFORMATION ON THE  
POTENTIAL RISKS OF EXPOSURE TO  
ENVIRONMENTAL CONTAMINANTS  
IN SOME TRADITIONAL FOODS



## TRADITIONAL FOODS SAFETY PROGRAM

The Primary Health Care and Public Health Directorate's involvement in nutrition and food safety is built on collaborative activities including participation in the Food and Nutrition Safety Initiative. Work undertaken as part of this initiative includes providing information on environmental contaminants in country/traditional foods. Traditional foods provide nutritional benefits and are also culturally, socially and economically important for many First Nations communities. However, issues such as avoidance of some traditional foods due to potential exposure to environmental contaminants are a concern. As well, the growing trend of Aboriginal populations to decrease consumption of traditional foods in favour of market foods could contribute to increased health problems such as heart disease and diabetes.

To help address these concerns, RMS works towards effective knowledge translation and education by holding regional workshops on environmental contaminants and traditional foods for First Nations health directors, leaders, nurses and community designates. The goal of the workshops is to promote the importance and benefits of a traditional diet and to provide information regarding the potential health risks associated with consuming some traditional foods affected by environmental contaminants. The workshops also address risk perception and risk communication issues and provide a forum for local community-based research to be presented and discussed.

The Traditional Foods Safety Program also involves conducting or supporting targeted research and risk assessments of chemical exposure to contaminants of concern through consumption of various traditional/country food sources.

### First Nations Food, Nutrition and Environment Study

The First Nations Food, Nutrition & Environment Study (FNFNES) is a 10-year study that will develop a portrait of the total diets of First Nations, and baseline information on environmental

contaminant levels in traditional foods. Initiated by RMS in 2007, FNFNES is a multi-year study that will address the knowledge gap that currently exists on consumption rates, nutritional composition and environmental safety of traditional foods on First Nations reserves, south of the 60th degree parallel.

The five components to the study include:

- household interviews aimed at determining food consumption patterns,
- drinking water sampling for trace metals,
- surface water sampling for pharmaceuticals and their metabolites,
- hair sampling for mercury, and
- traditional food sampling for contaminants and some nutrients (as required)

Primary funding of this study is provided by RMS through its Traditional Food Safety Program. The Community Programs Directorate, FNIHB is also contributing funds to facilitate assessment of nutrient intake and food security. FNFNES partners include the AFN (Dr Donald Sharp), UNBC (Dr. Laurie Chan) and Université de Montréal (Dr. Olivier Receveur). The FNFNES is housed at the UNBC, under the leadership of Dr. Laurie Chan, who holds the B.C. leadership Chair in Aboriginal Environmental Health.

## OTHER CORE ACTIVITIES

RMS also works with other health protection branches of Health Canada and other government departments on a variety of issues such as:

- Health Canada Mercury Issues Task Group
- Interdepartmental Food Security Reference Group
- Participation in risk assessments of traditional food practices in collaboration with the Bureau of Chemical Safety, Health Products and Foods Branch
- Canadian Environmental Assessment Act Review process (upon request)
- Canadian Environmental Protection Act Review process (upon request)

# 2009–2010 ACCOMPLISHMENTS

## NATIONAL FIRST NATIONS ENVIRONMENTAL CONTAMINANTS PROGRAM



- Six community-based research projects were selected and funded through the NFNECP in 2009–2010 for a total of **\$911,821**
- In 2009–2010, the NFNECP website was launched by the NFNECP Coordinator at the First Nations University of Canada:  
<http://www.environmentalcontaminants.ca/>
- During the year, the RMS Research Analyst and Grants & Contributions Coordinator visited the Mi'gmaq community of Listuguj, Québec, one of the community-based projects that were funded for the 2009–2010 year.



*Mi'gmaq community, Listuguj, Québec*

## Overview of 2009–2010 NFNECP Project Funding

PROJECT TITLE	COMMUNITIES/ ORGANIZATIONS	AMOUNT FUNDED (\$)
Studying the effects of Electro-Magnetic Fields on the health and well-being of Sto:lo individuals, families and communities.	Sto:lo Tribal Council & Seabird Island FN	\$150,000.00
The use of traditional knowledge to identify key cultural resources to be tested for contamination and the link to human health.	Swan River & Driftpile First Nations	\$56,508.00
Benefits, Risks and Viability of an Ecosystem Food and Health Model in Wapekeka and Kasabonika First Nations.	Wapekeka & Kasabonika First Nations	\$210,480.00
Assessment of northern development and quality of traditional foods (blueberries, wild rice and moose meat) and effects on health and socio-cultural traditions: A risk management strategy and guidelines for traditional food consumption.	Aroland & Eabametoong First Nations	\$184,444.00
Baseline Biomonitoring Studies and a Survey of Child-Youth Health as Prerequisites to Epidemiological Studies to Assess the Health Risk of the Attawapiskat First Nation and Walpole Island First Nation Communities from Exposure to Environmental Contaminants.	Walpole Island & Attawapiskat First Nations	\$227,487.00
Environmental contaminants and its impacts on wild Atlantic salmon in relations Mi'gmaq communities.	Gespe'gewaq Mi'gmaq Resource Council	\$82,902.00
<b>Total NFNECP Project Funding for 2009–2010</b>		<b>\$911,821.00</b>

- Environmental contaminants research conducted by these community-based project teams include assessing the extent and impact of different environmental contaminants in various media and included research on: risks and benefits of traditional marine and traditional off-the-land resources; contaminants assessment in freshwater fish; and investigation into the potential impacts of landfill emissions on human health.
- Technical support was offered to project teams in attaining research ethics approval for projects, as well as in data analysis when required. All 2009–2010 NFNECP projects requiring research ethics approval were approved by Health Canada's Research Ethics Board.
- Calls for Proposals were developed and issued for the NFNECP in conjunction with FNUnev, and the Funding Application Guide updated.





## REGIONAL FIRST NATIONS ENVIRONMENTAL CONTAMINANTS PROGRAM

- RMS contributes up to a total of **\$1,200,000** annually to the RFNECP, depending on the number of proposals received from each region. The funding amount allocated to each region is based on the total First Nations population per region and the number of communities per region. In addition, many regions contribute funds from their own budgets to enable more communities to participate in the program.
- Additional funding is provided to the regions (\$28,500 per region) for local administrative costs associated with the program.

### Overview of 2009–2010 RFNECP projects and funding from RMS

A total of 25 projects from the different regions were funded by RMS.

REGION	NO. OF PROJECTS FUNDED	TOTAL FUNDING
Alberta	1	\$122,600
Atlantic	1	\$62,100
Manitoba	3	\$151,900
Ontario	2	\$175,860
Pacific	15	\$350,522
Quebec	3	\$162,000
Saskatchewan	0 projects submitted	\$0
<b>Total</b>	<b>25</b>	<b>\$1,024,982</b>

## NORTHERN CONTAMINANTS PROGRAM

- RMS participated in the NCP proposal review and selection process. Total funding contribution for the health component of the research projects totalled **\$400,000**.
- RMS Contributed to the development of the Canadian Arctic Contaminants and Health Assessment Report: Human Health 2009 released during the International Circumpolar workshop in Iqaluit, in June 2009.
- Reports on the work of the Northern Contaminants Program, including research synopsis and project summary reports as well as Canadian Arctic Contaminants Assessment reports can be accessed on the NCP website at: <http://www.ainc-inac.gc.ca/nth/ct/ncp/pub-eng.asp#il>.

## ARCTIC MONITORING AND ASSESSMENT PROGRAMME — HUMAN HEALTH ASSESSMENT GROUP (AMAP-HHAG)

- The Chief of RMS is a key national expert and member of the AMAP- HHAG since 2004.
- The 3rd AMAP Human Health Assessment Group (HHAG) report was released during the International Circumpolar workshop in Iqaluit, in June 2009. The report presented an update on the circumpolar human health assessment.
- RMS contributed funding to support the AMAP secretariat.

Publications produced by AMAP can be accessed at <http://www.ainc-inac.gc.ca/nth/ct/ncp/pub-eng.asp#amap>



## Traditional Foods & Environmental Contaminants Workshop

The Assembly of Manitoba Chiefs (AMC) held a Traditional Foods and Environmental Contaminants Workshop in Winnipeg, Manitoba in March, 2010. The workshop was funded by RMS in the amount of **\$90,000**.

The workshop discussed the access and food security of traditional foods, as well as the nutritional concerns that arise from the consumption of little to no consumption of traditional foods. The workshop brought together 48 participants from 30 First Nation communities.

RMS has been providing funding for a Traditional Foods and Environmental Contaminants Workshop since 2002. To date, a total of 11 workshops have been funded.

## Summary of past Traditional Foods and Environmental Contaminants Workshops.

YEAR	PROVINCE
April 2002	Halifax, Nova Scotia
December 2002	Winnipeg, Manitoba
March 2003	Nanaimo, British Columbia
September 2003	Kamloops, British Columbia
February 2004	Thunder Bay, Ontario
September 2004	Prince George, British Columbia
November 2005	Québec, Québec
January 2007	Edmonton, Alberta
November 2007	Whitehorse, Yukon
March 2009	Saskatoon, Saskatchewan
March 2010	Winnipeg, Manitoba



## The First Nations Food, Nutrition and Environment Study

FNFNES completed the first year of data collection in the 8 randomly selected B.C. First Nation communities and initial data analysis was finalised. The mercury testing in the hair component of the study was carried out by the EHRD accredited laboratory.

Preliminary results of the study were presented to the communities in the fall of 2009.

A methodology workshop for the 13 B.C. communities that will participate in the study for Year 2 took place in April 2009. Data collection for Year 2 also began in the fall of 2009.

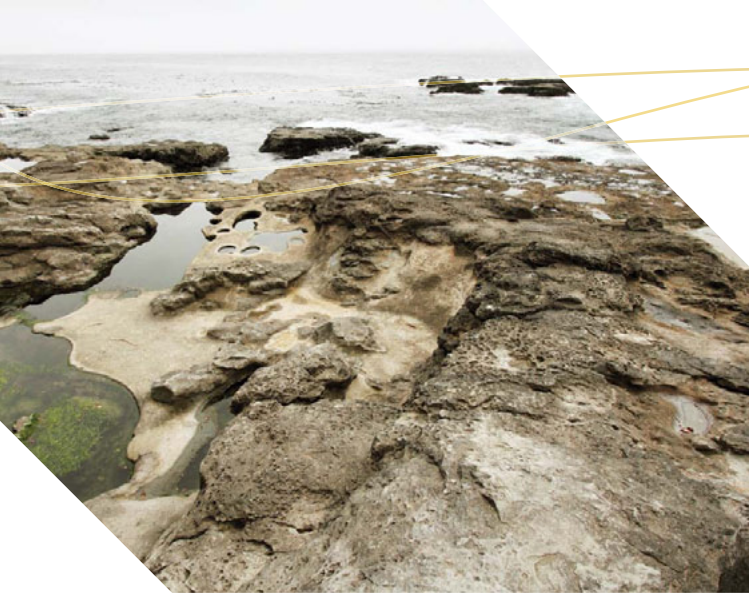
The FNFNES website can be accessed at:  
<http://www.fnfnes.ca/>



*Cutting a hair sample*



*EHRD laboratory*



## FIRST NATIONS ENVIRONMENTAL HEALTH INNOVATION NETWORK

The First Nations Environmental Health Innovation Network (FNEHIN) is a virtual network that links First Nations communities with environmental health researchers from across Canada. Its main functions are to provide First Nations with a single access point to environmental health researchers, information and research tools; to provide syntheses of the current state of knowledge on First Nations environmental health; and to facilitate knowledge mobilization for both First Nations communities/organizations and government policy makers for better informed decision making.

In 2009–2010, RMS contributed \$102,962 in funding towards the FNEHIN secretariat.

FNEHIN is housed at the UNBC, under the leadership of Dr. Laurie Chan, who holds the B.C. leadership Chair in Aboriginal Environmental Health.

The FNEHIN website can be accessed at:  
<http://www.fnehin.ca/>

## CANADIAN ABORIGINAL SCIENCE & TECHNOLOGY SOCIETY

- RMS provides funding to the Canadian Aboriginal Science & Technology Society (CASTS) to support a national CASTS conference. The primary objective of the CASTS conference is to provide an opportunity for Canadian Aboriginal science and technology researchers to share their work with peers and to network in a national forum.

The CASTS conference was held in Ottawa in February 2010. RMS provided support to the eleven community-based research teams funded through the NFNECP to present the findings of their research. The conference was attended by Elders, Aboriginal researchers and students, as well as representatives from communities, Aboriginal organizations, academia, and government.

More information about CASTS can be accessed at <http://www.casts.ca/>.

## THE LIFELINE GROUP

- RMS continued to work with The Lifeline Group and provided funding to Lifeline Group researchers to develop community-based tools for exposure and risk assessment within Arctic Canada.
- The Lifeline group worked with an advisory group to compile existing data and construct the Arctic Canada Compendium.

BUILDING KNOWLEDGE  
INFRASTRUCTURE TO MANAGE  
AND SHARE NEW RESEARCH  
INFORMATION

## ADDITIONAL ACTIVITIES FOR 2009–2010

### Contribution to EHRD Newsletter

- RMS contributed to Vol. 7 of the *Environmental Research Matters* – Environmental Health Research Division's newsletter, published in June 2009. The newsletters highlighted the Traditional Food Safety Guide that is being developed, together with the Environmental Public Health Division. The guide will be used as a resource material for the Environmental Health Officers and other Health care providers.



## PRIORITIES AND PLANS FOR 2010–2011

- Continue successful collaboration on environmental contaminants research on reserves with the AFN and First Nations across Canada;
- Continue to work with the FNUIniv in the co-administration of the NFNECP;
- Continue efforts to synthesize existing research data and information collected on the impact of environmental contaminants on human health and engage interested and affected parties through the dissemination of research results and identification of gaps in areas of research and information, so that other First Nations communities can benefit from the knowledge derived from the completed projects;
- Through the National First Nations Environmental Contaminants and Northern Contaminants Programs and initiatives such as the First Nations Food, Nutrition and Environment Study, together with First Nations and Inuit partners and researchers, continue to explore ways of assessing the integrity of traditional foods on First Nations reserves and in Inuit communities across Canada with a goal to determining baseline levels of environmental contaminants in traditional foods;
- Work toward effective knowledge translation, education and awareness with respect to the benefits of traditional foods, and to potential exposure to environmental contaminants by contributing to, and participating in, the First Nations Environmental Health Innovation Network; examine the effectiveness of the initiative and the possibility of hosting the Network by a National Aboriginal Organisation.
- Continue to contribute to the human health research components of the NCP and of AMAP;
- Continue to respond to requests for information and action requests that are presented by First Nations, senior management of Health Canada, and other federal departments.

# ORGANIZATIONAL CHART

