

# 3.7 Nunatsiavut Nuluak: Baseline Inventory and Comparative Assessment of Three Northern Labrador Fiord-based Marine Ecosystems

## Summary

### Project Leader(s)

Reimer, Ken  
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In partnership with the Nunatsiavut Government, the Royal Military College, Parks Canada, the Department of National Defence, Environment Canada, the Department of Fisheries and Oceans, and Voisey's Bay Nickel Company Ltd., this project will conduct a baseline inventory and comparative assessment of three northern Labrador fiord-based marine ecosystems. The purpose of the project is to address Inuit concerns regarding the ecological integrity of the marine environment of northern Labrador by acquiring a better understanding of the effects of climate change, modernization and contaminants. An integrated regional approach has been initiated to ensure concerns from all stakeholders, including major industrial and governmental organizations are adequately addressed. The three marine ecosystems that will be studied are Anaktalak Bay (the shipping route to the Voisey's Bay nickel mine), Saglek Bay (affected by a historical source of PCB contamination) and Nachvak fiord (a pristine ecosystem adjacent to the Torngat Mountains National Park Reserve). These studies complement each other and, with the addition of northern Labrador to the ArcticNet program, provide good comparative data for other systems currently being investigated by ArcticNet. The study involves the use of the CCGS Amundsen as well as shore based sampling operations (from longliner) in each of the fiords. The study integrates Inuit and Inuit Knowledge throughout the entire process including selection of indicators, analyzing and interpreting data and conducting field research, and will help build capacity among Inuit in Labrador and strengthen partnerships through collaboration.

## People

### Network Investigators

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### Collaborators & Research Associates

Andersen, Toby  
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### PhD Students

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## **Technical Staff**

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## **Project Staff**

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## **Partners**

Vale Inco Newfoundland and Labrador Limited  
Nunatsiavut Government  
National Defence - North Warning System Office  
Nasivvik Centre for Inuit Health and Changing Environments  
Fisheries and Oceans Canada - Oceans Sector  
Environment Canada - Canadian Wildlife Service - Atlantic Region  
Voisey's Bay Nickel Company Limited  
Parks Canada - Torngat Mountains National Park Reserve  
National Defence - Director General Environment  
Nunatsiavut Department of Lands and Natural Resources

## **Publications**

### **Non-Refereed Contributions**

Biasutti, M. and Reimer, K., 2006, Understanding the Effects of Climate Change and Modernization on Three Fiord Marine Ecosystems in Northern Labrador: ArcticNet Project 3.7, 2006 ArcticNet Annual Conference Proceedings, Victoria, BC, 12-15 December, p.19, Accepted

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Simpson, A., Rowell, J., Knight, T.W., Cote, D. and Merkuratsuk, J., 2006, Building Partnerships, Establishing Baseline Inventory, and Developing a Long-Term Marine Monitoring Program for Nachvak Fiord, Northern Labrador: ArcticNet Project 3.7, 2006 ArcticNet Annual Conference Proceedings, Victoria, BC, 12-15 December, p.100, Accepted

Reimer, K., Kuzyk, Z., Solomon, S., Furgal, C., Sheldon, T. and Laing, T., 2006, The Investigation and Management of Local PCB Contamination in the Marine Environment at Saglek Bay: ArcticNet Project 3.7, 2006 ArcticNet Annual Conference Proceedings, Victoria, BC, 12-15 December, p.95, Accepted

Sheldon, T.A., Burgess, N.M. and Brown, T.M., 2007, Assessing ecosystem recovery from a local historical PCB source in a northern marine environment: a living case study, 2007 ArcticNet Annual Conference Proceedings, 1, Published

Brown, T.M. and Sheldon, T.A., 2007, Zooplankton composition and abundance; a comparison of three fiords along the Labrador coast, 2007 ArcticNet Annual Conference Proceedings, 1, Published

Simpson, A., Barbour, W., Rowell, J., Baikie, G., Knight, T.W., Merkuratsuk, J., and Sheldon T.A., 2007, Parks Canada Base Camp 2007: Connecting Inuit and researchers, 2007 ArcticNet Annual Conference Proceedings, 1, Published

Copeland, A. and Bell, T., 2007, Mapping of Nachvak and Saglek Fiords, northern Labrador, 2007 ArcticNet Annual Conference Proceedings, 1, Published

Richerol, T., Pienitz R., and Rochon, A., 2007, Paleoceanographic studies of the impacts of natural and anthropogenic perturbations in three Labrador Fiord ecosystems (Nachvak, Saglek and Anaktalak): preliminary results, 2007 ArcticNet Annual Conference Proceedings, 1, Published

Davies, H., Furgal, C., Sturman, S., Biasutti-Brown, M., and Reimer K., 2007, observations of environmental change and effects of change in Anaktalak Bay, Labrador, 2007 ArcticNet Annual Conference Proceedings, 1, Published

Bastick, J., Reimer, K., Knight, T.W., 2007, Monitoring for Ecological Integrity in a Northern Labrador Fiord-Based Ecosystem: Nachvak and Saglek Fiords, 2007 ArcticNet Annual Conference Proceedings, 36, Published

Sturman, S., Small, J., Spencer, C., Solomon, K., Muir, D., 2007, Influence of Seasonal Variability on Tissue Distribution and Whole Body Burden of Polyfluorinated Compounds in Ringed Seal (*Phoca hispida*) from the Canadian Arctic, 2007 ArcticNet Annual Conference Proceedings, 90, Published

Reimer, K.A., T.A. Sheldon, and T.M. Brown, 2008, Ecological Risk Assessment and the decision-making process: using a model to understand logic., Department of Fisheries and Oceans Federal Contaminated Sites Action Plan Workshop, Ottawa, ON, 1, Published

### **Specialized Publications**

Davies, H. and Laing, T., 2006, A Description of the Anaktalak Bay Ecosystem Based on Existing Scientific Information and Inuit Knowledge, Environmental Sciences Group, Pp. 1-29, Accepted

Brown, T.M. and Sheldon, T.A., 2008, Assessing marine ecosystem recovery from a local historical PCB source in Saglek, Labrador, Technical Report, Department of National Defence, 1, Published