



**Affaires autochtones et  
Développement du Nord Canada**

**Aboriginal Affairs and  
Northern Development Canada**



# **Information Management Working Group Beaufort Regional Environmental Assessment**

**BREA Results Forum, Inuvik  
February 20, 2013**

**Tara Paull**

**Northern Petroleum and Mineral Resources Branch**



## Goal

Make BREA information available to everyone

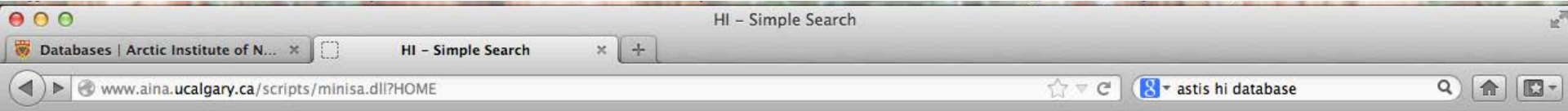


## Information Management

- Make BREA information available at [www.BeaufortREA.ca](http://www.BeaufortREA.ca)
- Develop the Data and Information Management Policy
- Work with researchers to ensure that data and information are accessible
- Catalogue BREA publications on the Hydrocarbon Impacts Database
- Make project information and data available on BREA the Polar Data Catalogue (PDC)
- Link to other initiatives (BSP, ERMA, etc...)



# The Hydrocarbon Impacts Database



## Simple Search

Your search will find records that satisfy **all** the conditions you specify.

**Record Type**

**Words in Title or Abstracts**

**Subject Code**

**Geographic Code**

**Author**   
(Examples: **day, t.j.**; **day, t**; **day,**; **lgl**)

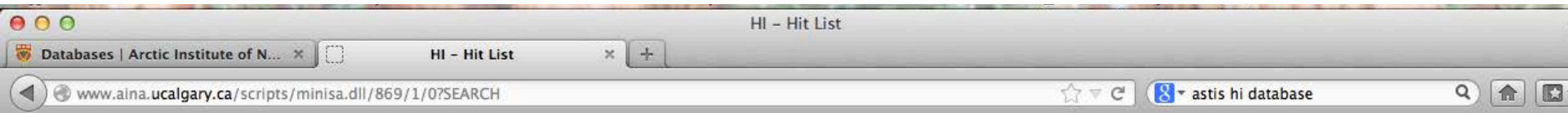
**Year**

**Report Group**

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[Key Publications](#) [Obtaining Publications](#)  
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# Results from Search: Report Group = BREA



## Hit List for Search: TAG BREA\*

Sorted by Year [Click to Sort by Author](#)

Records 1 to 10 of 85. [Next](#) [Last](#) [New Search](#)

[Évaluation environnementale régionale de Beaufort - rapport annuel sur les activités 2011-2012](#) / Beaufort Regional Environmental Assessment 2012 [Web Link](#)

[Beaufort Regional Environmental Assessment annual progress report 2011-2012](#) / Beaufort Regional Environmental Assessment 2012 [Web Link](#)

[Overwintering of barges in the Beaufort - assessing ice issues and damage potential](#) / Barker, A. Timco, G. Beaufort Regional Environmental Assessment [Sponsor] 2012 [Web Link](#)

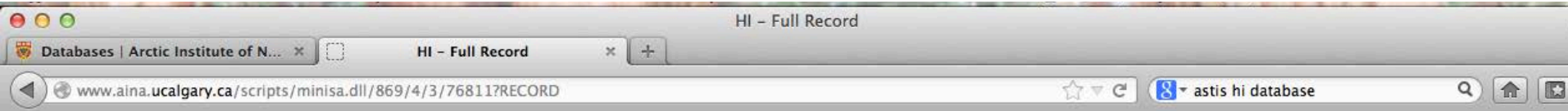
[Delineation of extreme ridges in high resolution satellite-based radar imagery](#) / Memorial University of Newfoundland. Centre for Cold Ocean Resources Engineering Beaufort Regional Environmental Assessment [Sponsor] 2012 [Web Link](#)

[2011 Beaufort Sea active acoustics survey for marine mammal and pelagic fish detection : final report, May 21, 2012](#) / Geoffroy, M. Rousseau, S. Pyc, C. BP Exploration Operating Company Limited [Sponsor] Kongberg Maritime AS [Sponsor] ArcticNet Inc. [Sponsor] Beaufort Regional Environmental Assessment [Sponsor] Imperial Oil





# Example of a publication record



**Overwintering of barges in the Beaufort - assessing ice issues and damage potential** / [Barker, A.](#) [Timco, G.](#) [Beaufort Regional Environmental Assessment](#)

[Sponsor]

Ottawa : National Research Council of Canada, 2012.

iv, 37, A-1, 21, B1-B3, C1-C8 p. : ill., maps ; 28 cm.

(Technical report, OCRE-TR-2012-008)

Indexed a PDF file from the Web.

Appendix A: Western Arctic winter layup of marine equipment / D.O. Connelly - Appendix B: Letter from Frank Pokiak to Environmental Impact Screening Committee (EISC) regarding overwintering of fuel for CCG Amundsen - Appendix C: Thermal load calculation methods.

References.

ASTIS record 76811.

Languages: English

Web: <http://www.beaufortrea.ca/wp-content/uploads/2012/10/Overwintering-of-Barges-in-the-Beaufort-August-20121.pdf>

EXECUTIVE SUMMARY: Overwintering of vessels and barges has been carried out in the Arctic for many years, in the Beaufort as well as in other regions of the Arctic and southern Canada. Draft guidelines from Transport Canada exist for this practice. However, there is uncertainty concerning the damage potential for structures that may be left to freeze-in within the landfast ice region of the Beaufort Sea, particularly those that contain petroleum products. This is a great concern for the Inuvialuit, among others. There is evidence that this freeze-in could be (and has been) done safely but it is not clear how often this has been done or the conditions required to ensure safe overwintering of vessels in the Beaufort Sea. No information exists on the likelihood of damage due to ice or its possible effects. A detailed study focused on the conditions of the Beaufort Sea would greatly aid many stakeholders on the magnitude of this problem and its possible impact. This study brought together different types of relevant data and information to resolve this important issue, with a focus on the ice loading considerations. As such, the objective of this project was to assess the damage potential for vessels or barges overwintering in land-fast ice. The project will inform the Inuvialuit and Regulators on the likelihood of damage and provide information on the best-available means of reducing the likelihood of damage to vessels overwintering in ice in the nearshore region of the Beaufort Sea. The report steps through illustrative scenarios, in order to provide examples of the types of ice loads that could occur in representative overwintering



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**Building a strong knowledge base for informed decisions on oil and gas activity.**

## Who We Are

The Beaufort Regional Environmental Assessment (BREA) is a multi-stakeholder initiative to sponsor regional environmental and socio-economic research that will make historical information available and gather new information vital to the future management of oil and gas in the Beaufort Sea.

## How We Help

BREA funds targeted research projects that will improve management of oil and gas activities in the Beaufort Sea. Projects may fall under different categories such as research

## Working Groups

The BREA Working Groups implement specific program components and ensure that information contributes to the regulatory requirements for offshore oil and gas activity



## Research

The following research projects are funded by BREA to build upon the regional information base for the Beaufort Sea. *Click on the project listings below to learn more. To view projects by topic, use the filters in the right-hand menu.*

### Active Acoustic Mapping of Fish in the Beaufort Sea

Arctic cod is the main food source for seals, whales and birds in the Beaufort Sea Region. This cutting-edge project, led by ArcticNet, will use state-of-the-art fisheries sonar technology to map the distribution and abundance of Arctic cod and other fish in the offshore Beaufort Sea during the summer months. This new information will supplement existing research into the winter distribution patterns of Arctic cod.

### Beaufort Sea Environmental Database

Over the years, a significant amount of environmental data has been collected in the Beaufort Sea, but it is widely scattered. Searching for the best available datasets is often difficult. Downloading, extracting and visualizing the information from various sources and file formats is even more challenging and time consuming. The Canadian Hydraulics Centre of the National Research Council of Canada will develop an integrated database for the storage, query and visualization of all key relevant environmental data for the Beaufort Sea. This single-window information source will give regulators access to definitive regional environmental information. Specific applications will be developed to determine design ice loads for offshore platforms and marine operations.

### Biological Data to Assess the Net Environmental Benefits and Costs of Dispersants and In-Situ Burning in Oil Spill Response

An important part of oil spill response planning is to develop tools to assist in assessing the risks from oil spills and the benefits of countermeasures (e.g., dispersants, burning) used to fight them. This project will examine traditional knowledge to identify Inuvialuit environmental protection priorities in the Canadian Beaufort Sea. Traditional knowledge will be combined with scientific data to:

- a) describe Inuvialuit harvesting and other activities;
- b) describe the fish, bird and marine mammal populations upon which these activities depend; and

## Filters

Update the options below to filter the content on the left.

### Research Types

Select All / None

- Biogeochemical Flux
- Birds
- Chemical Oceanography
- Climate
- Fish
- Geohazards
- Marine Mammals
- Ocean Circulation
- Ocean-Ice-Atmosphere Models
- Sea Ice
- Vessels



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- a) describe Inuvialuit harvesting and other activities;
- b) describe the fish, bird and marine mammal populations upon which these activities depend; and
- c) assess the vulnerability of all of these to effects of spills and countermeasures.

Using realistic spill scenarios, this information will be used to illustrate the use of net environmental benefit analysis to assess the merits dispersant and in-situ burning in responding to oil spills in the Beaufort Sea.

### Coastal and Marine Bird Usage of the Beaufort Sea Region

The Beaufort Sea Region provides marine and coastal habitat for hundreds of thousands of migrating and breeding birds. Environment Canada will lead this project to identify important nearshore and coastal nesting, feeding and migration areas. The study will compile existing information on coastal bird usage and will identify species, numbers and distribution of birds. A digitized Geographic Information System will be used to identify bird sensitivity areas in the Beaufort Sea based on available information. The information will be valuable to oil and gas developers and regulators through the environmental assessment process to ensure that negative impacts of development on birds are minimized.

### Database and Atlas of the Birds of the Canadian Beaufort Sea

This project will synthesize existing information on offshore bird populations in the Beaufort Sea into a geo-referenced database. The database will include information on the offshore occurrence of birds, species, gender, age, date, location, movement and the data source.

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- Ocean Circulation
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- Vessels



## Active Acoustic Mapping of Fish in the Beaufort Sea

### Lead : Louis Fortier, ArcticNet

Arctic cod is the main forage fish for seals, whales and birds in the Beaufort Sea. Previous research has documented the winter distribution and ecology of Arctic cod, but little is known about its summer offshore distribution.

The Beaufort Sea Active Acoustic Program, led by ArcticNet, will use cutting-edge fisheries sonar to map the distribution and abundance of Arctic cod for the first time in the offshore Beaufort Sea. The SIMRAD SX90 fish finding sonar will be deployed from the research icebreaker Amundsen to detect fish populations. During a six-week survey in 2011, acoustic transects will cover the Mackenzie Shelf and its slope, including: areas licensed for oil exploration; a region of enhanced biological productivity NE of Cape Bathurst; and, the deeper Amundsen Gulf.

A Rectangular Midwater Trawl and gillnets will be used to collect, identify and measure the fish species that are detected by the sonar. To further validate the acoustic signal, the study will be repeated in 2012 in conjunction with a fish population program led by Fisheries and Oceans Canada. The data will enable scientists to describe the distribution and migration of Arctic cod and other fish in relation to temperature, salinity, sea ice, sea bottom type, and the abundance of prey and predators. Information will help assess fisheries resources in the offshore Beaufort Sea and the potential impacts of oil and gas exploration on fish ecology as well as the effects of future changes linked to climate warming.

The research results will inform decision-making for offshore oil exploration and development by: (1) Assessing the importance the summer ecology of the species in offshore oil and gas license blocks; and, (2) Providing missing information about the summer distribution of Arctic cod and other fish needed to gauge the impacts of a potential future oil spill in the license blocks.

### Reports

[2011 Beaufort Sea Active Acoustics Survey for Marine Mammal and Pelagic Fish Detection](#)

#### Resources

Access web links to conferences, datasets and databases, programs and

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The BREA Annual Progress Report for 2011-2012 is now available.

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## Publications

- [Overwintering of Barges in the Beaufort - August 2012](#)
- [BREA Program Overview Poster \(September 2012\)](#)
- [Delineation of Extreme Ridges in High Resolution Satellite-Based Radar Imagery. March 2012](#)
- [BREA Summary Progress Report 2011-2012 \(English\)](#)
- [BREA Summary Progress Report 2011-2012 \(French\)](#)
- [Oil and Gas Exploration & Development Activity Forecast: Canadian Beaufort Sea 2012-2027](#)
- [2011 Beaufort Sea Active Acoustics Survey for Marine Mammal and Pelagic Fish Detection](#)
- [BREA Dispersant Workshop Final Report - October 2011](#)

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## For more information....

[www.BeaufortREA.ca](http://www.BeaufortREA.ca)

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