



# **Advancing Effective Integrated Coastal and Ocean Management (ICOM): Recognizing the Critical Role of Marine Information Use and Influence**

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

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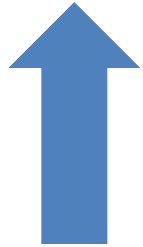
Social Sciences and Humanities Research Council  
of Canada

*Images credits:* S.S. Soomai and P. Wells

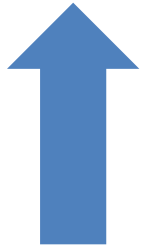
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# The Information Challenge



**Seriousness of  
issues facing the  
oceans**



**Understanding  
of the oceans**



**Ability to solve  
problems  
(management)**

## ICOM

- is being established too slowly.
- requires constant interaction between many disciplines.
- the availability and use of marine information plays a critical role in ICOM.
- the challenge is resolving the disconnect between availability and potential use of information, and problem resolution.

# What does this talk cover?

1. Highlights key results of our research on information (grey literature) produced by marine governmental and intergovernmental groups.
  - Multiple communication methods.
  - Variety of versions of documents.
  - Complexity at the science-policy interface demands multiple measurement tools (barriers and enablers) .

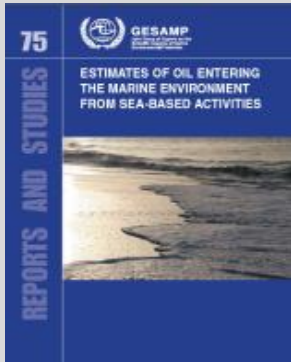


# What does this talk cover?



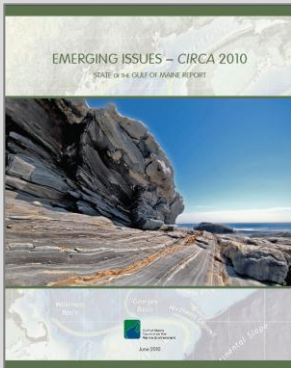
2. Presents questions to challenge ICOM practitioners:
- Does information reach policy makers in a timely manner?
  - How can we characterize information flow at the science-policy interface?
  - Has information related behavior within marine organizations changed with regard to its production and use?

# Our Case Studies



## State of the Ocean & Marine Pollution Reports

UN Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection



## State of the Environment Reports

The Gulf of Maine Council on the Marine Environment  
Nova Scotia Department of Fisheries and Aquaculture

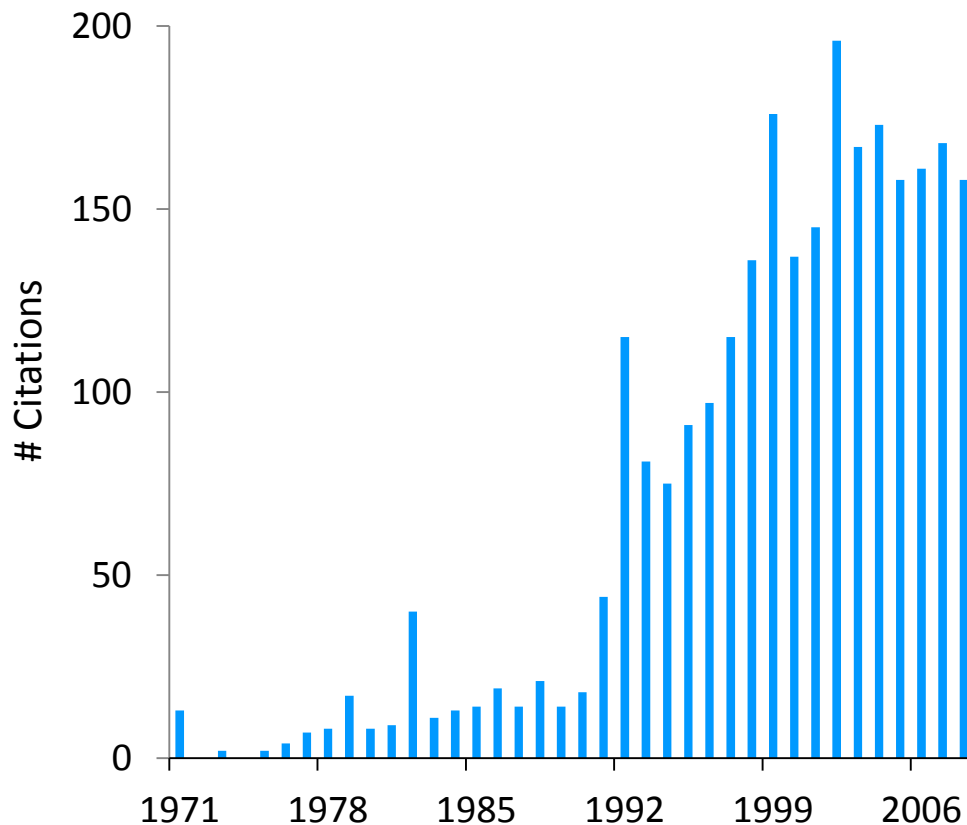


## Fisheries Technical Reports

UN Food and Agriculture Organization  
Caribbean Regional Fisheries Mechanism

# State of the Ocean & Marine Pollution Reports: Case Study

## UN Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP)



### Citation data

- Web of Science
- Google
- Google Scholar

### Web link searches

- Google searches to identify websites linked to [www.gesamp.net](http://www.gesamp.net)



# State of the Environment Reports: Case Studies

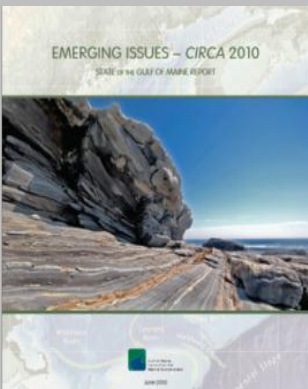
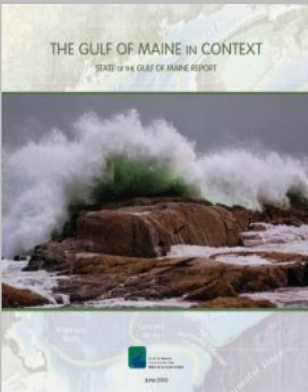
## Gulf of Maine Council on the Marine Environment

Create Bibliographic Database of GOMC Publications and Conduct Citation study

Interview Working Group members

Conduct Assessment of Awareness and Use of *The State of the Gulf of Maine Report*

- Survey of Council Members.
- Survey of Working Group Members.
- Survey of readers of the *Gulf of Maine Times*.





# State of the Environment Reports: Case Studies

## *The 2009 State of Nova Scotia's Coast Report*

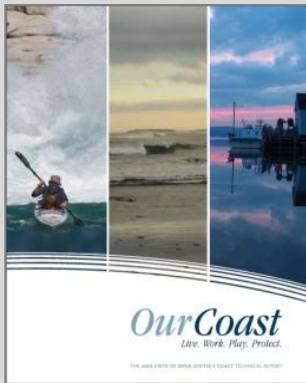
### Direct Observations & Questionnaires

- 8 Public Open Houses
- Multi-stakeholder Workshop

### Multi-stakeholder Interviews

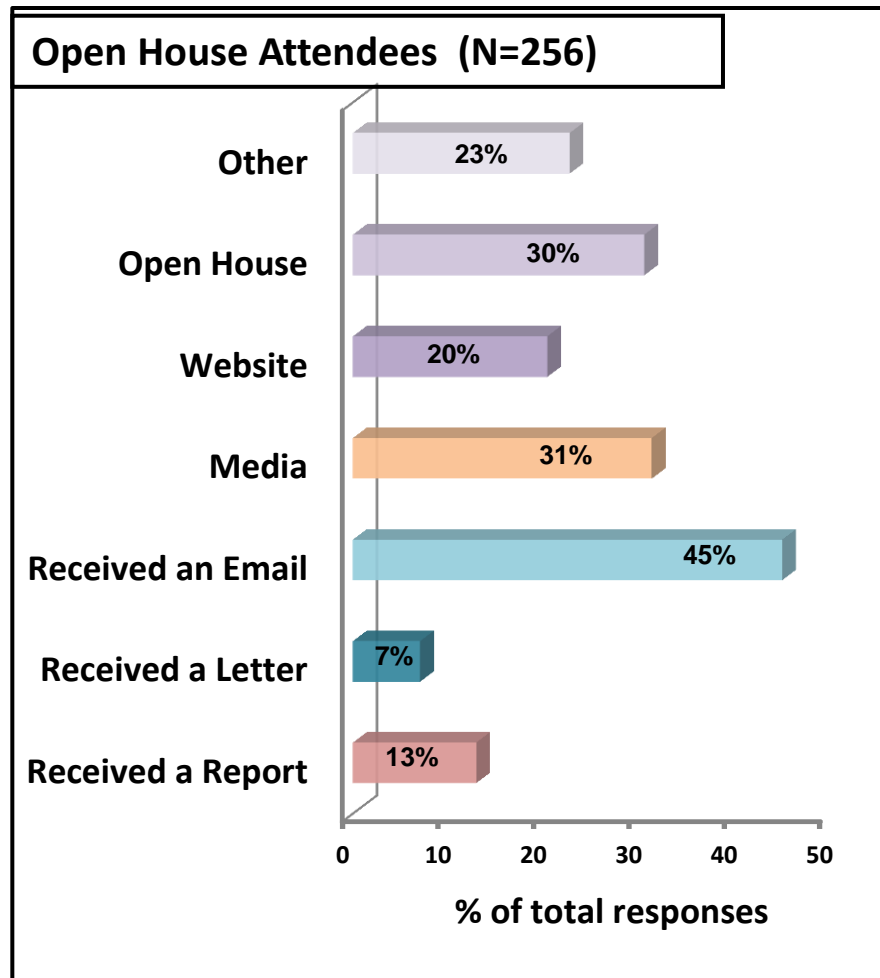
### Web site Access to the Report

### Province-wide telephone survey



# State of the Environment Reports: Case Studies

## Awareness of the Reports



Electronic means were critical to promoting awareness (government & NGO email networks, Web).

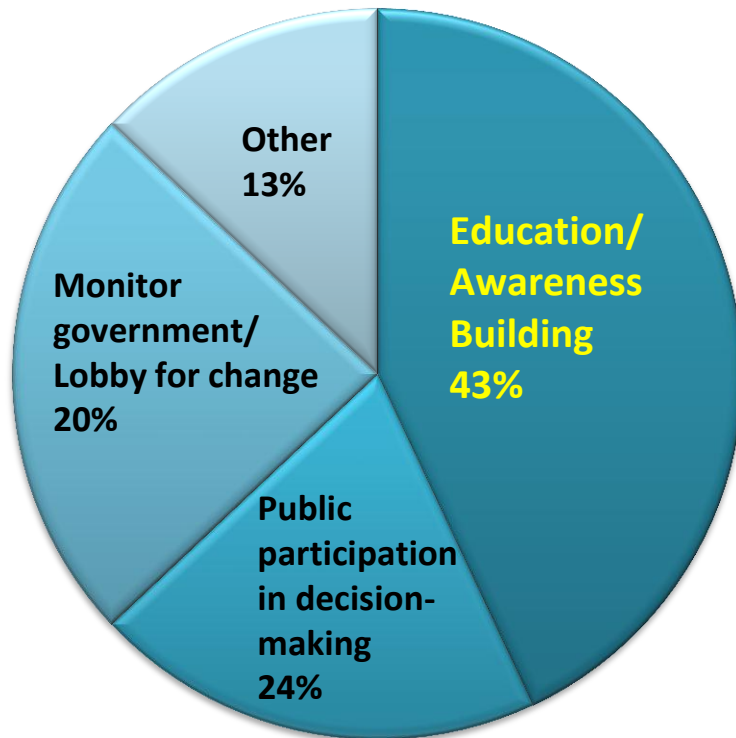
“web accessible reports are an ideal format for such information”

(Council Member 1)

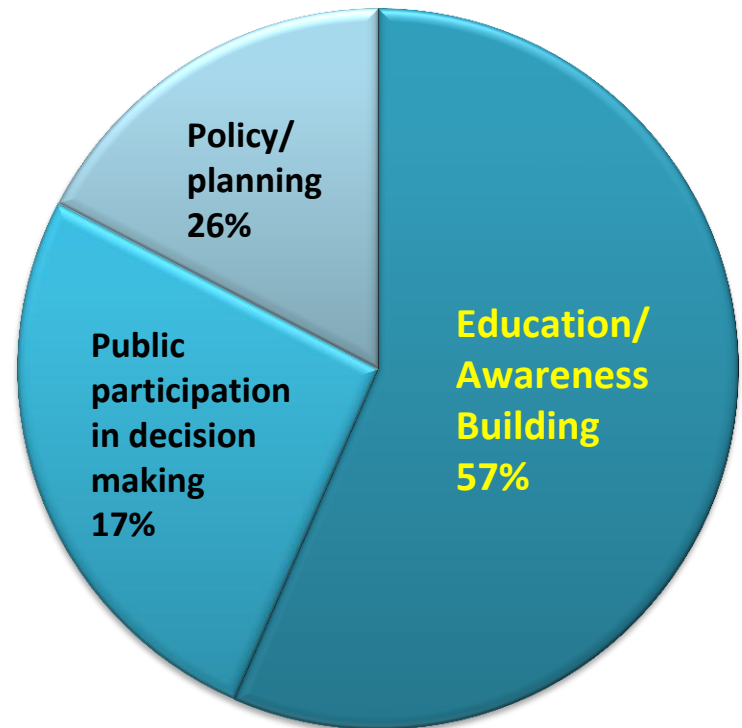
# State of the Environment Reports: Case Studies

## Use of *The 2009 State of Nova Scotia's Coast Report*

Open Houses (N=256)

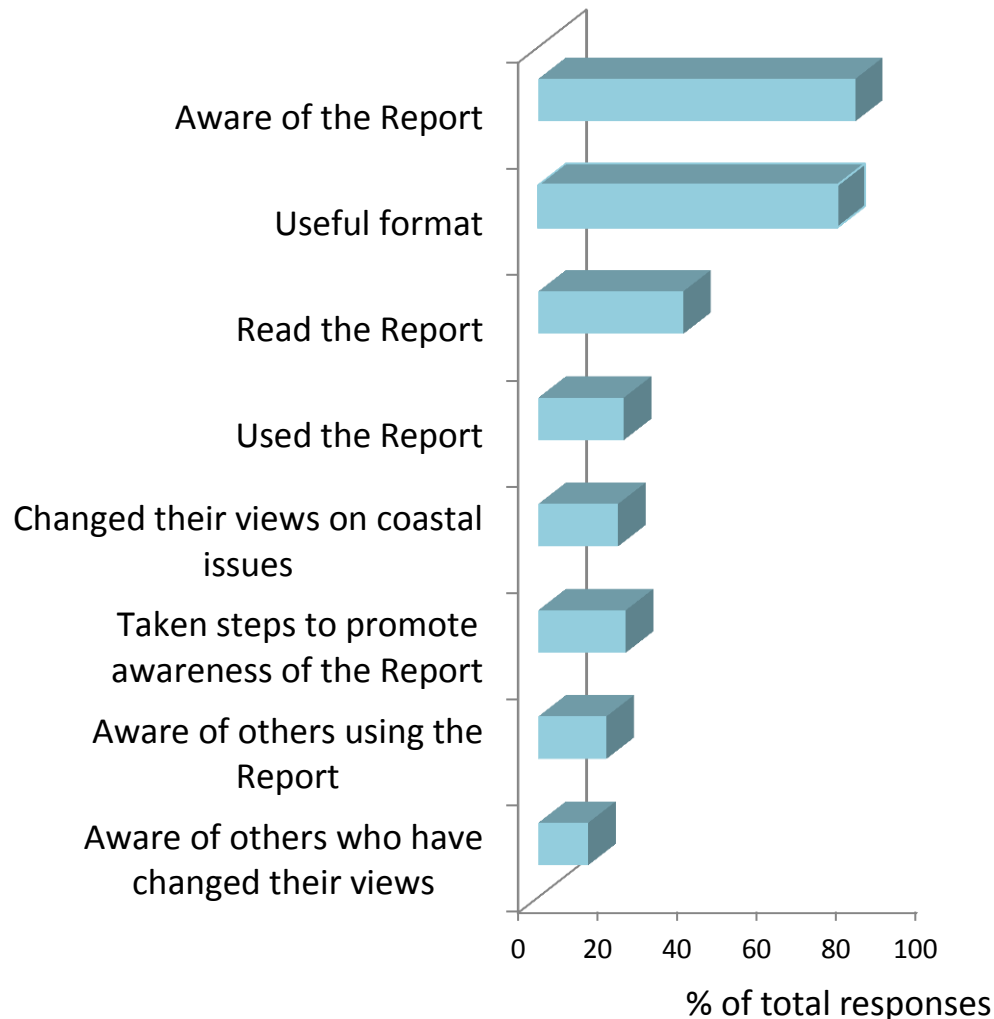


Multi-stakeholder Meeting (N=24)



# State of the Environment Reports: Case Studies

## Use and Influence of *The Gulf of Maine Report*



*“The papers **bring together useful information** ... normally scattered in various places...the **concise format** is good...the papers present the **latest thinking of the experts** and get that thinking out to a **broad audience**”*

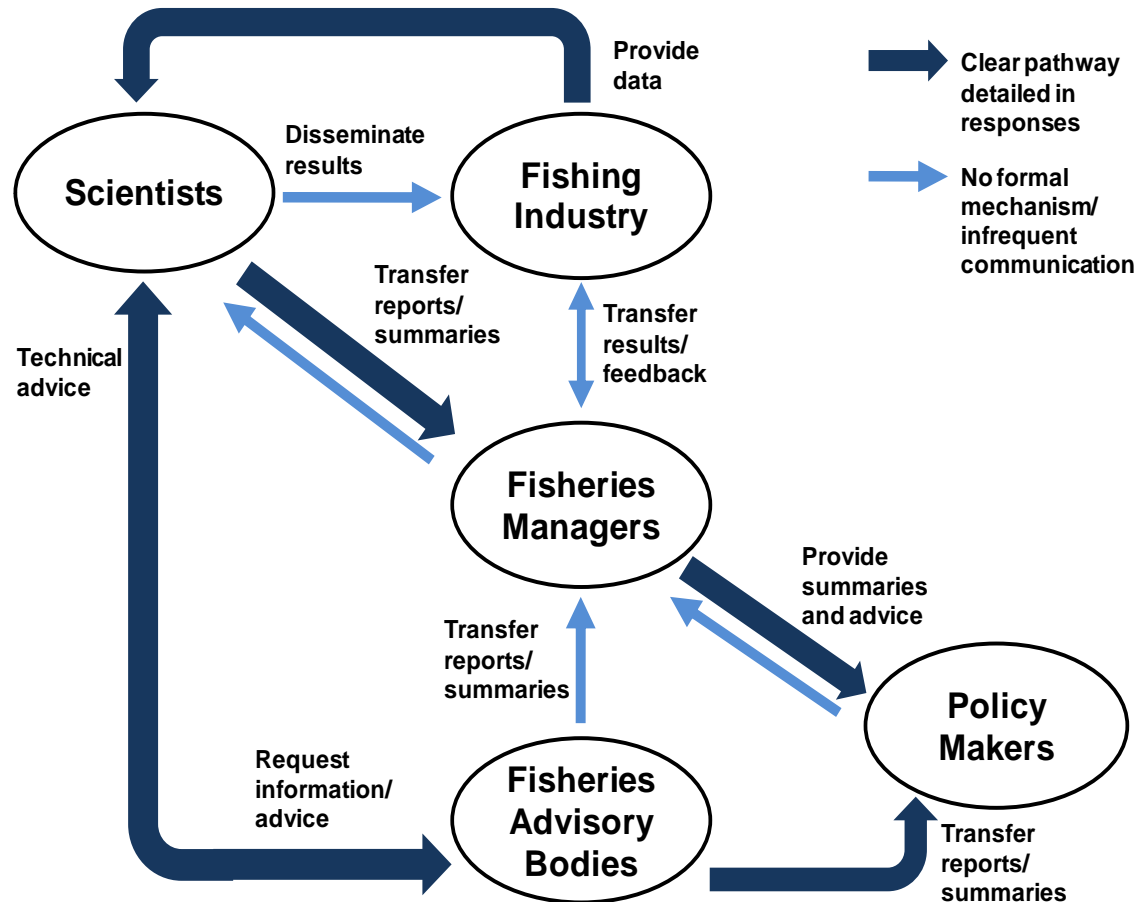
*(Gulf of Maine Times Reader 3).*

# Fisheries Technical Reports: Case Studies

## UN Food and Agriculture Organization (FAO)/ Caribbean Regional Fisheries Mechanism (CRFM)

### Surveys :

- Fishing industry
- Fisheries managers
- Fisheries scientists
- Policy makers
- Fishery advisory bodies (FAO, CRFM)



# Tools for Evaluating Information Use

## Awareness and Use of Reports

Tool/Method	Examples of the Output
<b>Bibliometrics</b> Citation analysis	Number of citations to technical reports. Who is citing the reports and where.
<b>Webometrics</b> Web statistics Web link searches Web content analysis	Evidence of networking within and outside the organisation.
<b>Surveys</b> Semi-structured interviews Online surveys Telephone surveys	Nature of collaboration. Information management actions of stakeholders. Use of the reports in policy contexts.
<b>Media Analysis</b> Print and digital news Social media (e.g., blogs)	Awareness across the public and wide audiences. Inter-relationships of online network members

# Tools for Evaluating Information Use

## Use and Influence of Reports

Tool/Method	Example of the Output
<b>Direct Observation</b> <b>Content analysis</b> <b>Discourse Analysis</b>	Information use in policy contexts. Information pathways and usage. How information sources are used in decisions. Why relevant information sources are missing.
<b>Network Analysis</b>	Inventory of networked/interacting institutions. Network structures



# Does information reach policy makers in a timely manner?



Stakeholders considered environmental reports to be important information on regional coastal issues.



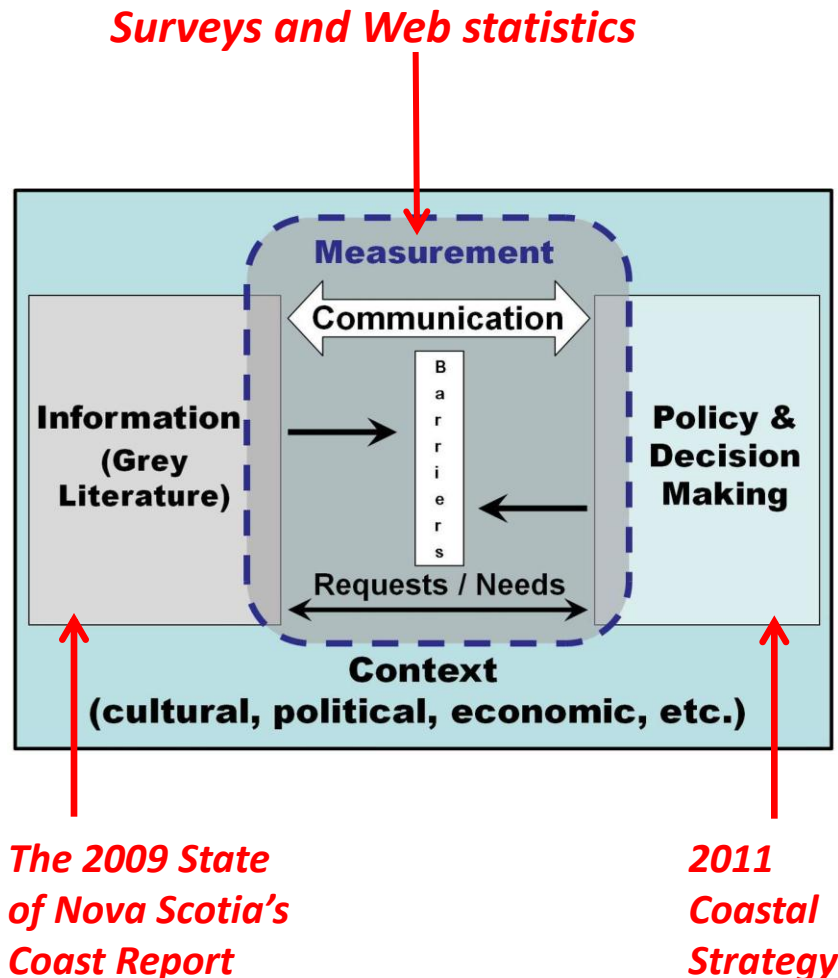
Distribution networks (formal and informal) facilitated awareness and access.



Stakeholder consultation can result in indirect benefits, e.g. increased inter/intra agency cooperation.

- Influence in policy making was not easy to measure.

# How can we characterize information flow at the science-policy interface?



A policy endpoint drives information production and vice versa.

Organizations are interested in learning :

- how their publications are used.
- how awareness of coastal issues has increased.

Organizations have begun to adopt our recommendations.

# Has information related behavior within marine organizations changed with regard to its production and use?

Multiple ways of distribution are being used to reach wide audiences.

Production of various versions and formats facilitate communication of technical information.

Insights from our case studies suggest that the organizations are responding to advances in digital information technology and social media.



# Main Messages

It is important to understand the role of information in ICOM.

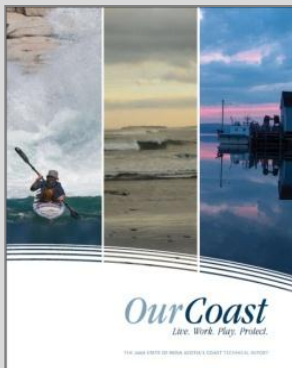
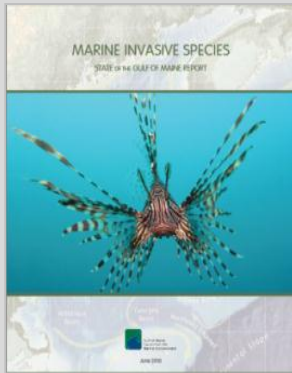
The challenge is overcoming the disconnect between availability and potential use of information.

Understanding the disconnect is complex and worth studying.

Digital developments are driving changes at the science-policy interface.

Studying the science-policy interface demands various methods of measure.

Government organizations continue their involvement in our program.





## Environmental Information: Use and Influence (EI:UI)

[View](#)[Edit](#)

The globe faces serious environmental problems. Climate change, pollution, endangered species, and threats to human health, to name just a few, illustrate the challenges facing individuals, communities, businesses, and governments alike. Governmental and intergovernmental organizations have significant roles in addressing these problems. In seeking solutions, they annually produce thousands of print and digital publications; the information in many having policy implications.

Our research entails detailed case studies of organizations focused on marine environmental concerns. How these organizations publish, disseminate, and promote awareness, access, and use of their [grey literature](#) publications is generally understudied. To manage the environment more effectively, policy makers need to find and make efficient use of this growing body of literature. We are developing an understanding of the extent of this literature, and its information cycle, and developing recommendations so that pertinent information influences decision making processes. An overview of our research initiative is available in our [brochure](#).

**Visit our website at [www.eiui.ca](http://www.eiui.ca)**

### News

Fri, May 25, 2012

[Participation in the Global Conference on Oceans, Climate and Security in May 2012](#)

Fri, April 13, 2012

[Participation in the Planet Under Pressure Conference in March 2012](#)

Sun, January 29, 2012

[Participation in the International Studies Association Annual Conference in April 2012](#)

Sun, January 29, 2012

[Bertrum MacDonald Recieves an Award for Exceptional Interdisciplinary Endeavour in Scholarly Research](#)

Thu, December 8, 2011

[Presentation of case study results at two 2011 Meetings of the Gulf of Maine Council on the Marine Environment](#)

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