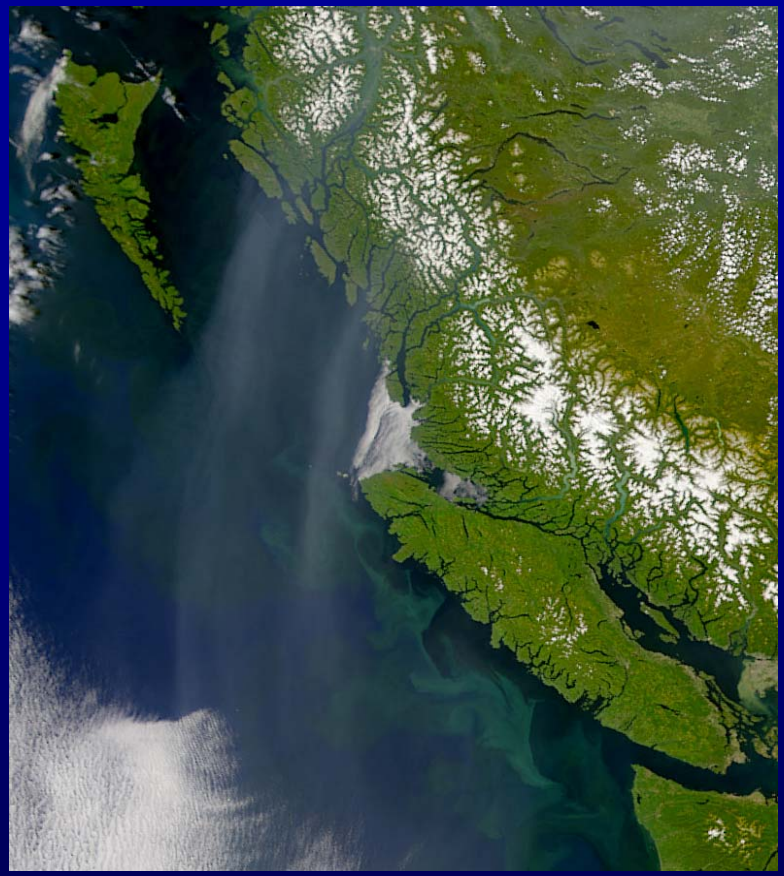


Fisheries and Offshore Seismic Operations: Interaction, Liaison and Mitigations

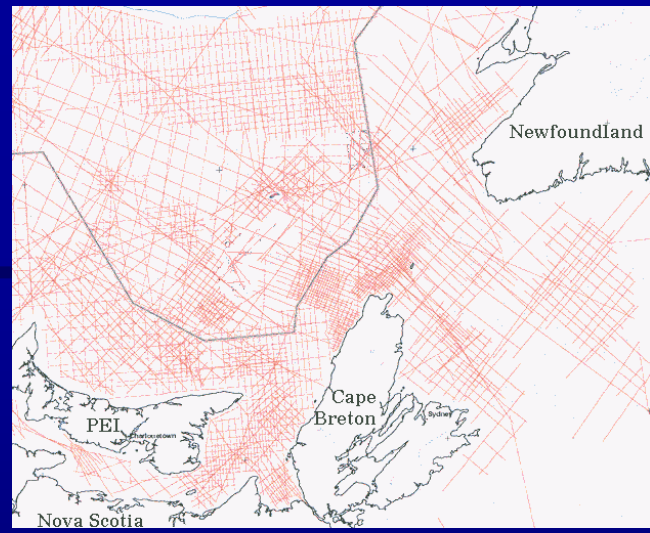
The East Coast Experience

CANNING & PITT ASSOCIATES

Outline

1. Context / background
2. Industry-to-industry liaison (Accord areas)
3. Issues identified
4. Regulatory approaches
   (Newfoundland and Nova Scotia Accord areas)
5. Fisheries compensation
6. Elements of a seismic survey plan (for fisheries)

1. Context/Background
Seismic Surveys ~ Fisheries



- In Atlantic Canada, active surveying in fishing areas since the 1960s
- GSC hydrocarbon database has more than a million records from eastern Canada: more than a 1000 surveys over 30 years
- 1.4 million line kilometres of seismic (CMP) offshore Newfoundland since 1964 - about 600,000 km since 1999.
- In 1987 (NL) and 1988 (NS), the federal-provincial Accords were enacted; include responsibilities for O&G operators ~ the fishing industry and aboriginal peoples
- Petroleum Boards established by the Accords (CNOPB and CNSOPB) have developed guidelines and protocols for seismic surveys / fisheries

• Canning & Pitt Associates started dealing with impacts on fisheries during Hibernia GBS construction; worked on Sable Offshore, Hibernia and Terra Nova liaison and planning, as well as for CAPP, and all of the survey companies active in Atlantic Canada

• Our usual role in seismic programs is to work as a link between the two industries: e.g. providing information (both directions), plans to avoid conflicts / impacts, gear damage claims

• Have seen improved relationships between seismic and O&G operators and fishing industry – both have participated and become more comfortable with communication and consultation protocols

• Examples draw mainly on the NS and NL experience

2. Industry-to-Industry Liaison

Some differences in organization within the fishery (NS *vs.* NL) have implications for liaison and communications:

- **In Newfoundland: Fish, Food and Allied Workers Union (FAWU/CAW) represents nearly all fishers and fish plant workers in the province – it is therefore an effective means to communicate on most fisheries issues**

- **In NS: many organizations: based on different species fisheries, gear sectors and/or regions ~ more difficult to communicate with "the industry", or establish industry perspective. Consequently, views / approaches are more varied in NS.**

- **The BC Seafood Alliance, bringing together many participants and all aspects of the industry, and with a vision of cooperation and joint management, would seem to be a good forum for continuing inter-industry liaison / communication**

➢ Newfoundland: One Ocean

- Purpose is to facilitate "an ongoing cooperative relationship between these two critical industries, which operate in a common marine environment"
- Works to enhance mutual knowledge and understanding of each other's operations
- Forum to enhance communications and information exchange between the two industries
- Aims to addresses issues between the industries and/or issues on which the industries have common positions, to solve conflicts, to provide independent expert analysis of the issues
- Advisory Board has reps from both industries: FFAWU, the Fisheries Association, Canadian Association of Petroleum Producers (CAPP), and major O&G operators (e.g. Petro-Canada, Husky, Exxon-Mobil)
- It has organized conferences, fact-finding visits (e.g. to the North Sea), and training and plans for emergency response, with the fishing industry

➢ Nova Scotia: Petroleum-Fisheries Liaison Group (PFLG)

PFLG

- Developed out of Project-specific liaison groups (e.g. SOEP)
- Mandate is "to ensure a broad regional (Nova Scotia Accord Area) perspective for the operation of both commercial fisheries and oil and gas operations in a safe, environmentally responsible, and mutually respectful manner”
- Promote the development of consistent procedures and practices within the Nova Scotia Accord Area
- Consider and address inter-industry policy issues and ensure good industry-to-industry communications and information exchange
- Deal with region-specific (Nova Scotia Accord Area) issues and procedures in a manner consistent with overall (East Coast) policy and protocols
- Members include fishing organizations, CAPP, O&G operators
- A major task in the recent past has been the development of a fisheries non-attributable damage compensation program; and an oil spill compensation plan

3. Issues Identified

- Main issues and fishing industry concerns have been
  - ❖ Use conflicts (interference / interactions, gear damage)
  - ❖ Biological impacts (on eggs and larvae and adult species)
  - ❖ Behavioural effects (catchability, migration, spawning)

- The issues of use conflicts and damage to fishing gear have been largely addressed by mechanisms (describe below)

- Biological impacts have been discussed by John Christian

- In most areas, the main issues have shifted from concerns about direct physical impacts to concerns related to behaviour (see ESRF Halifax Workshop 2000)

- Aquaculture has not been an issue for Atlantic seismic: most surveys are not close to shore

- In terms of fisheries interactions, 2D surveys have been the most significant ~ much more wide ranging than 3D

4. Regulatory Approaches (Seismic~Fisheries)

Newfoundland and Nova Scotia regulators (CNOPB and CNSOPB) have protocols in common, but have also adopted some different approaches to seismic and O&G / fisheries issues, in key areas

Common (fisheries):

- A project-specific Environmental Assessment (screening) is required for each seismic survey which considers fish and fisheries
- Both Boards are now Regulatory Authorities (RAs) under CEAA, so the EA process is now essentially the same
- Each EA: describes the environment and the issues; assesses the environmental impacts; describes specific mitigations
- Both areas encourage consultation with the fishing industry, and have encouraged industry-to-industry solutions
- A permit may then be issued with conditions, restrictions and mitigations required (mitigation examples below)

CNSOPB (Nova Scotia) Fisheries Liaison:

- **Fisheries and Environmental Advisory Committee (FEAC)**
  - **Being re-formed as "FAC"**
  - **Has an advisory function, to the Regulator**

FEAC Membership (fisheries):

- **Fishing industry ~ large and smaller organizations are represented**
- **Aboriginal groups**
- **Nova Scotia Department of Fisheries**
- **Federal Department of Fisheries and Oceans**
- **No O&G / seismic representatives**

FEAC Objectives:

- To provide the CNSOPB with expertise and knowledge to help protect the marine environment
- A forum for the exchange of information about the fishing industry and provide advice on proposed O&G exploration & development
- Advise the CNSOPB on draft environmental regulations and policies
- Address fisheries compensation policy issues
- Provide information to the Board on the location, seasons and gear types of marine fisheries, so as to avoid conflicts at sea
- Provide information (location, seasons, resources at risk) to the Board on fish habitat and sensitive ecosystems
- Address other matters related to the interaction of oil and gas and fishing

CNSOPB (Nova Scotia) Fisheries Liaison:

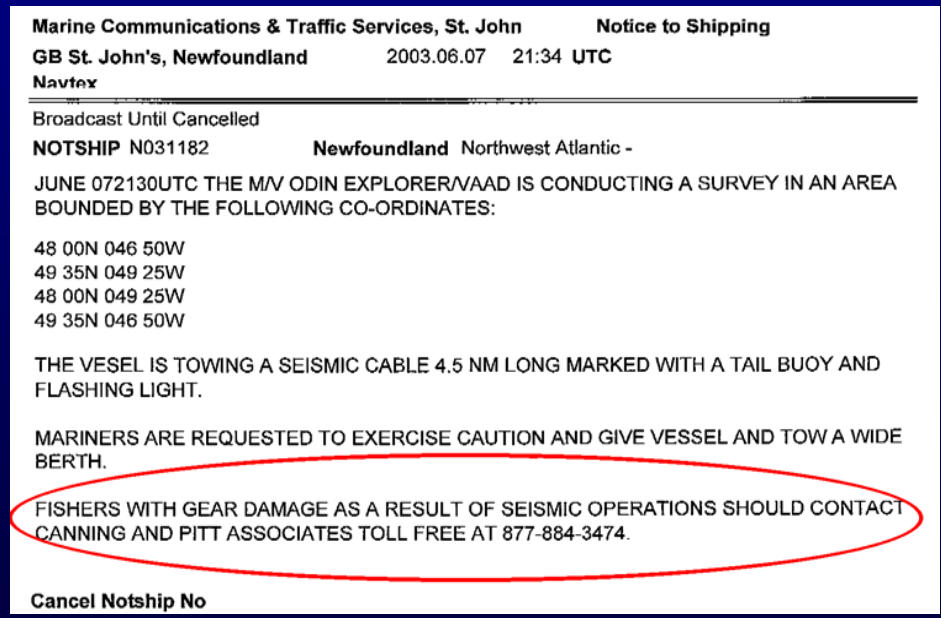
- **Fisheries Observers (required by CNSOPB)**

  - **Required for all seismic surveys**
  - **Serve as a fisheries representative on board the survey ship**
  - **Monitor the conduct of the survey (to protect fisheries)**
  - **Communicate with fishing boats at sea**
  - **Advise the captain / party manager**
  - **Most Observers have been supplied by a group established by one of the NS fisheries organizations (Seafood Producers Association of Nova Scotia, SPANS)**

CNOPB (Newfoundland) Fisheries Liaison:

- No FEAC equivalent

- A requirement for a "Single Point of Contact" (SPOC) between surveys and fishers instead of Observers
  - Most seismic survey programs
  - Serves as a contact and source of information in both directions
  - Files NotShips with contact info for gear damage (CMB, Navtex)
  - Deals with compensation claims



Marine Communications & Traffic Services, St. John **Notice to Shipping**

GB St. John's, Newfoundland 2003.06.07 21:34 **UTC**

Navtex

Broadcast Until Cancelled

NOTSHIP N031182 **Newfoundland** Northwest Atlantic -

JUNE 072130UTC THE M/V ODIN EXPLORER/VAAD IS CONDUCTING A SURVEY IN AN AREA BOUNDED BY THE FOLLOWING CO-ORDINATES:

48 00N 046 50W
49 35N 049 25W
48 00N 049 25W
49 35N 046 50W

THE VESEL IS TOWING A SEISMIC CABLE 4.5 NM LONG MARKED WITH A TAIL BUOY AND FLASHING LIGHT.

MARINERS ARE REQUESTED TO EXERCISE CAUTION AND GIVE VESSEL AND TOW A WIDE BERTH.

FISHERS WITH GEAR DAMAGE AS A RESULT OF SEISMIC OPERATIONS SHOULD CONTACT CANNING AND PITT ASSOCIATES TOLL FREE AT 877-884-3474.

Cancel Notship No

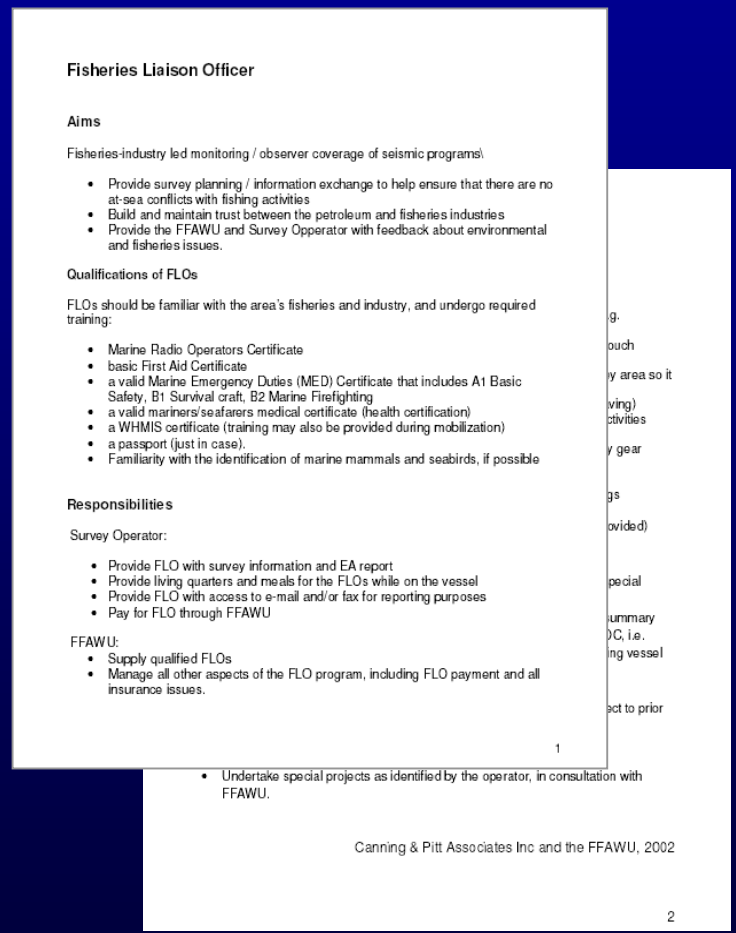
➢ **Although there is no regulatory requirement for an Observer in the Newfoundland Offshore, since 2002 we have worked with the FFAWU to place "Fisheries Liaison Officers" (FLO) on seismic survey vessels**

- **A voluntary process, worked out "industry-to-industry"**

- **Demonstrated value to both the seismic operators and the fishing industry**
  - **protecting fisheries**
  - **more efficient survey production**

- **Has greatly enhanced understanding of operations & issues, in both directions**

- **FLOs have been FFAWU members and Labrador Inuit Association reps**



Fisheries Liaison Officer

Aims

Fisheries-industry led monitoring / observer coverage of seismic programs\

- Provide survey planning / information exchange to help ensure that there are no at-sea conflicts with fishing activities
- Build and maintain trust between the petroleum and fisheries industries
- Provide the FFAWU and Survey Opperator with feedback about environmental and fisheries issues.

Qualifications of FLOs

FLOs should be familiar with the area's fisheries and industry, and undergo required training:

- Marine Radio Operators Certificate
- basic First Aid Certificate
- a valid Marine Emergency Duties (MED) Certificate that includes A1 Basic Safety, B1 Survival craft, B2 Marine Firefighting
- a valid mariners/seafarers medical certificate (health certification)
- a WHMIS certificate (training may also be provided during mobilization)
- a passport (just in case).
- Familiarity with the identification of marine mammals and seabirds, if possible

Responsibilities

Survey Operator:

- Provide FLO with survey information and EA report
- Provide living quarters and meals for the FLOs while on the vessel
- Provide FLO with access to e-mail and/or fax for reporting purposes
- Pay for FLO through FFAWU

FFAWU:

- Supply qualified FLOs
- Manage all other aspects of the FLO program, including FLO payment and all insurance issues.

1

- Undertake special projects as identified by the operator, in consultation with FFAWU.

Canning & Pitt Associates Inc and the FFAWU, 2002

2

(see Handout)

5. Fisheries Compensation Mechanisms (Gear Conflicts)

Gear and Vessel Damage Compensation Plan

- Developed between fishing industry reps and large production projects (SOEP and Hibernia) for attributable damage

- Includes the concepts of compensating actual loss to fishing enterprises, aquaculturalists - also plant impacts

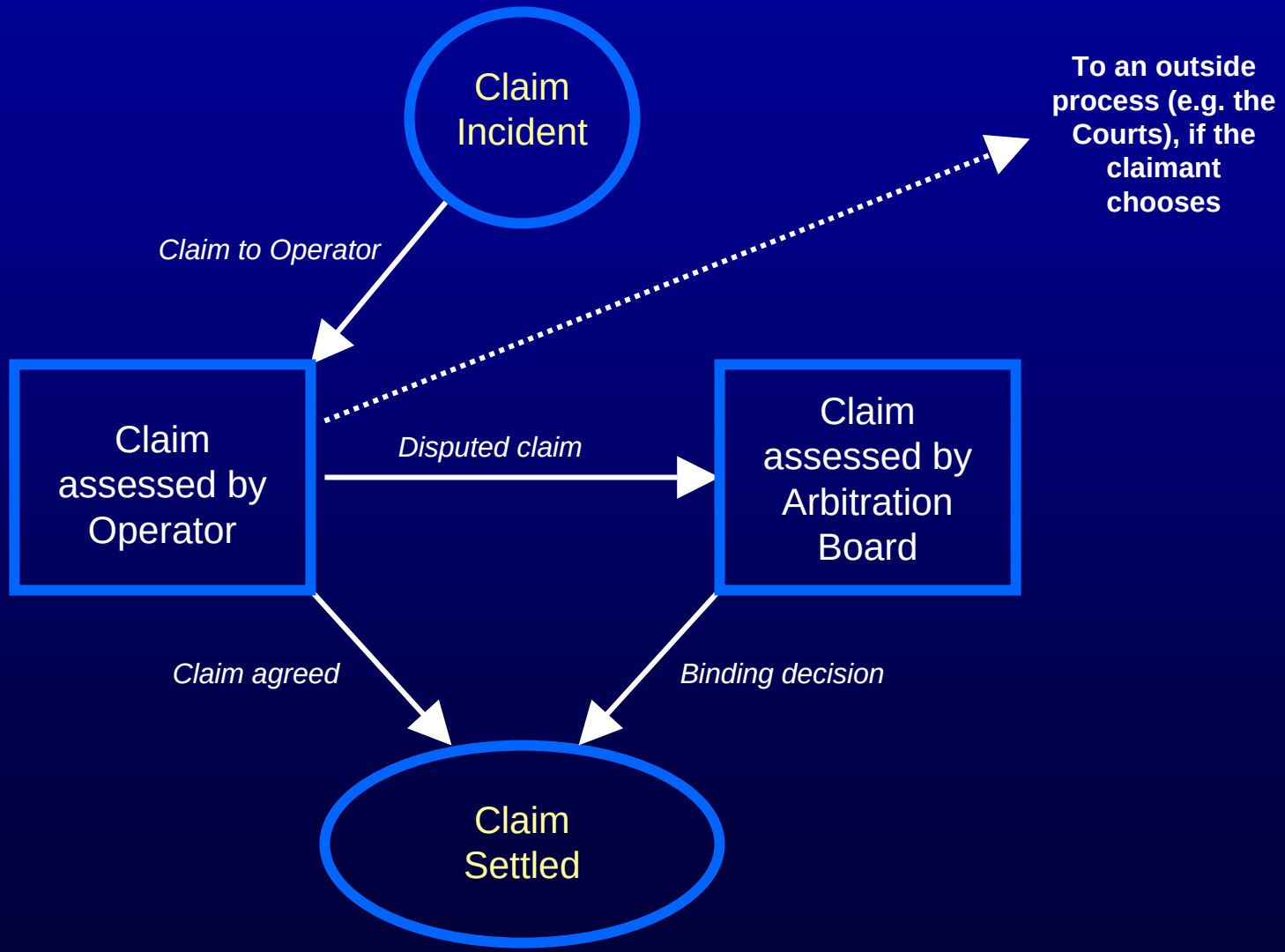
- Covers lost or damaged gear, lost or deteriorated catch, damage to boats

- It since has been generally adopted as a model by other operators, including for the CAPP Non-Attributable program

- Most seismic operators have agreed to follow a similar model

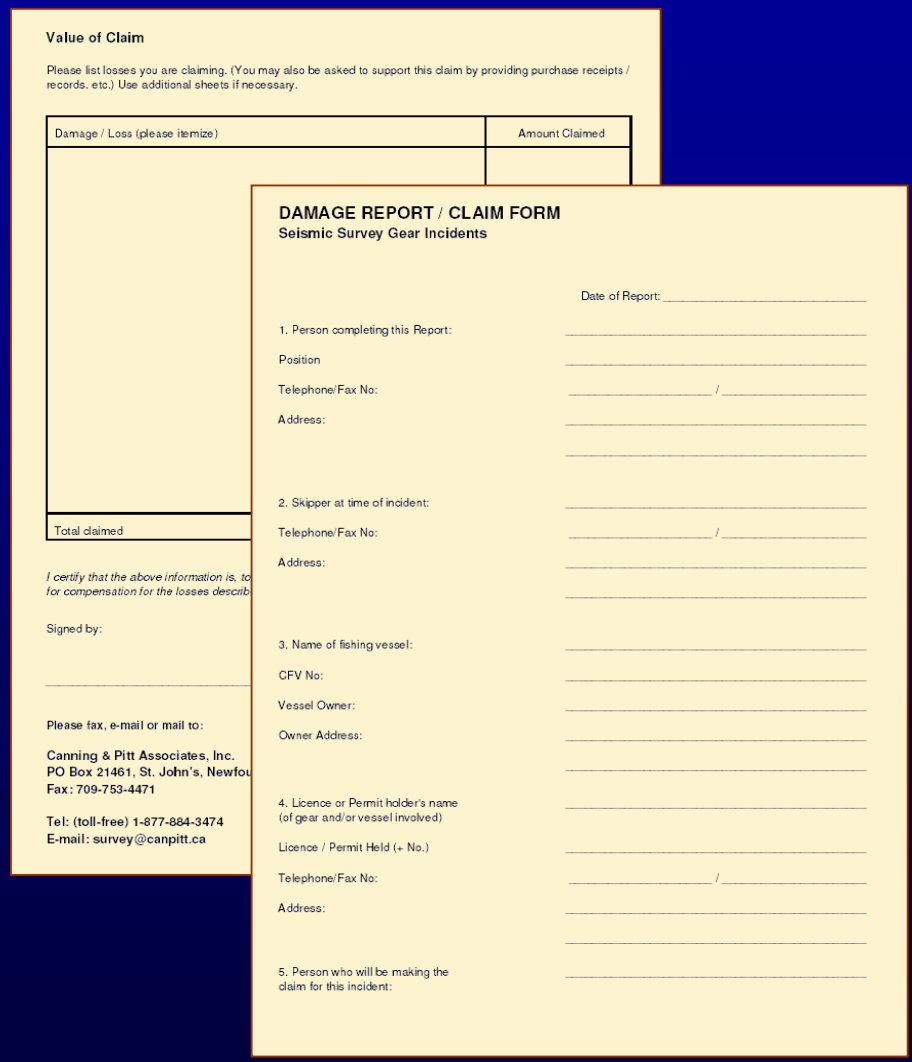
- Seismic operators are as anxious to avoid gear as the fishing industry – a significant cost in time and equipment

Main Components of Gear and Vessel Damage Program



Gear and Vessel Damage Compensation

- For seismic surveys, damage claims (2 - 4 per year, fixed gear) have always been settled in the first phase
- Contact made through SPOC, fisher organization or directly with fisher (by CFV number ID)
- Ship completes report, fisher does the same and makes claim, we assess and recommend payment



Value of Claim

Please list losses you are claiming. (You may also be asked to support this claim by providing purchase receipts / records. etc.) Use additional sheets if necessary.

Damage / Loss (please itemize)	Amount Claimed
Total claimed	

I certify that the above information is, to
for compensation for the losses describ

Signed by:

Please fax, e-mail or mail to:

Canning & Pitt Associates, Inc.
PO Box 21461, St. John's, Newfou
Fax: 709-753-4471

Tel: (toll-free) 1-877-884-3474
E-mail: survey@canpitt.ca

DAMAGE REPORT / CLAIM FORM
Seismic Survey Gear Incidents

Date of Report: _____

1. Person completing this Report: _____
Position _____
Telephone/Fax No: _____ / _____
Address: _____

2. Skipper at time of incident: _____
Telephone/Fax No: _____ / _____
Address: _____

3. Name of fishing vessel: _____
CFV No: _____
Vessel Owner: _____
Owner Address: _____

4. Licence or Permit holder's name (of gear and/or vessel involved) _____
Licence / Permit Held (+ No.) _____
Telephone/Fax No: _____ / _____
Address: _____

5. Person who will be making the claim for this incident: _____

6. Elements of a Seismic Survey Plan

Steps and Considerations (Fisheries Issues)

1. Project-Specific Consultations:

• Meetings with fisher organizations, key fishers, fishing companies harvesting in the area of the proposed survey (as well as DFO managers)

• Purpose

- Provide information about the survey
- Collect information about fishing methods and plans
- Document issues / concerns
- Identify methods of communication / possible mitigations

Examples ~

Communications

- Identify usual radio channels
- Document fisher contacts
- Protocols for providing gear locations to the survey
- Notices to Shipping
- appropriate FLO / Observer

Mitigations

- Avoiding identified fixed gear area
- Curtailing / moving survey lines
- Scheduling around fisheries
- Syncing with fishing practices (e.g. swordfishing)

Steps and Considerations (Fisheries Issues)

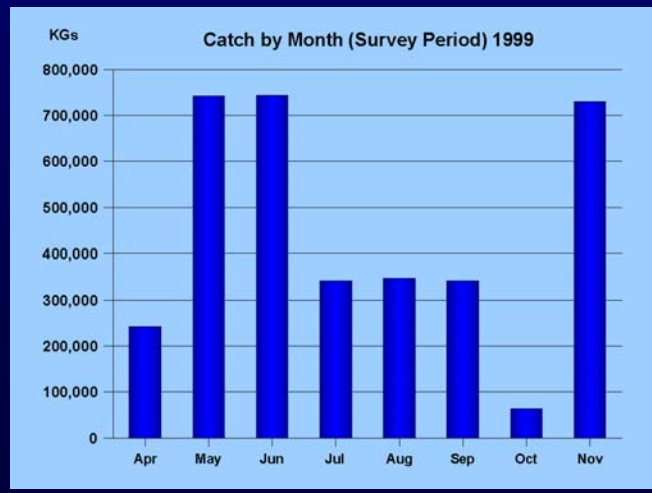
2. Fisheries Data Analysis

- Analysis and mapping of georeferenced DFO catch data

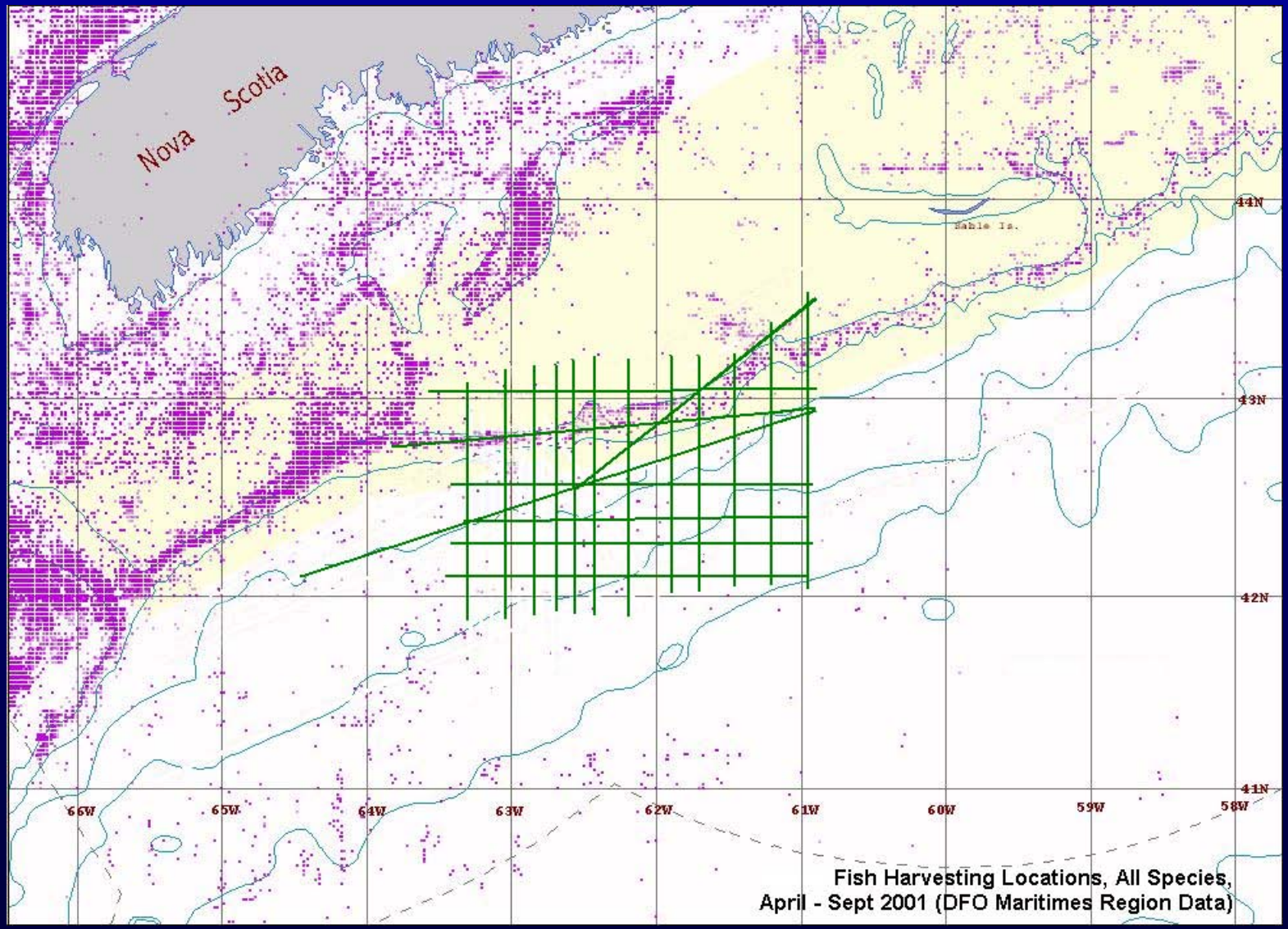
- Data on location, time, species, gear used ~ shows good consistency from year to year for most fisheries

- Purpose
  - identifies fisheries / gear in the area
  - indicates timing of fisheries for planning
  - Indicates location for avoiding fisheries / conflicts (sometimes mapped into survey ship's computers)

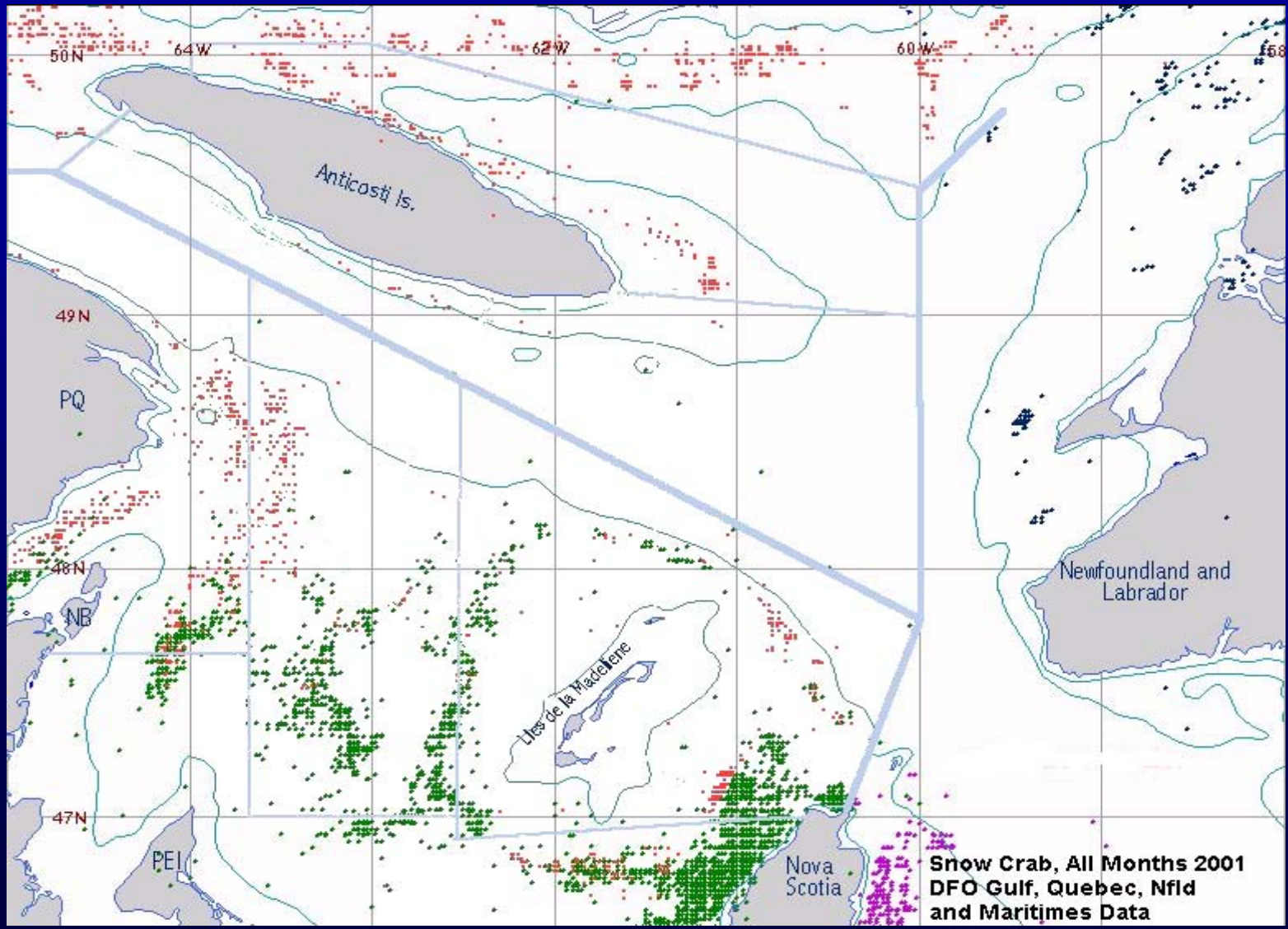
- Typically we map by month, by gear and by species

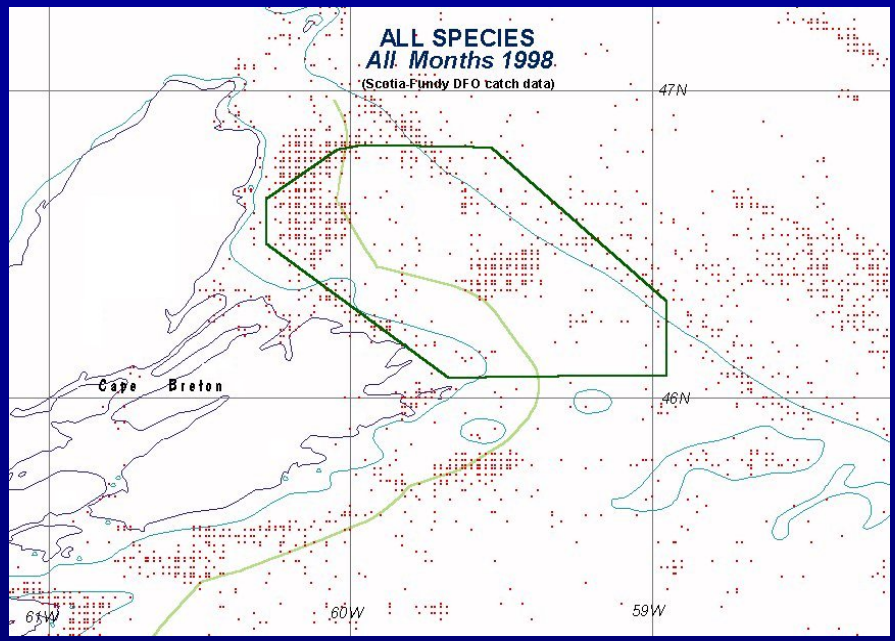


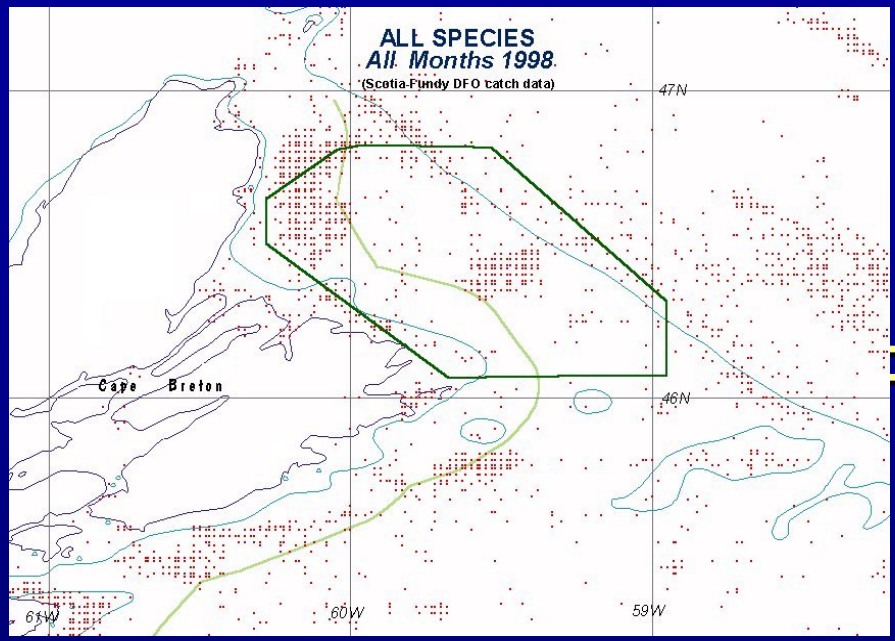
Fisheries data mapping

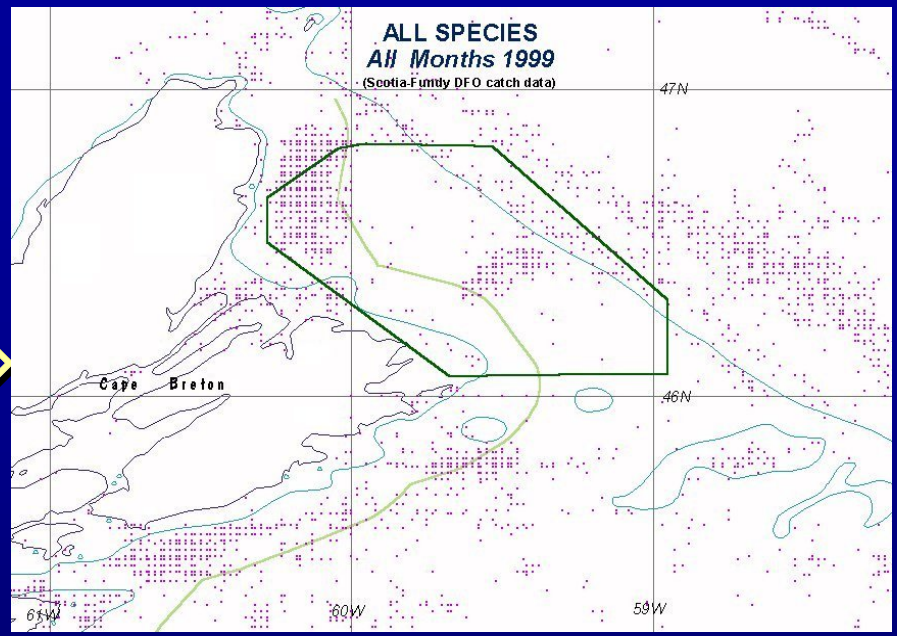


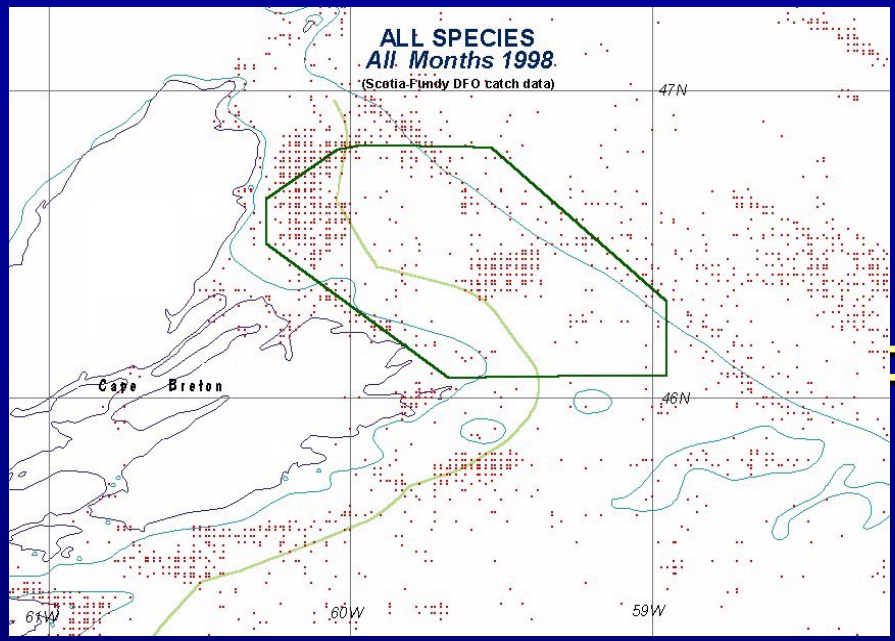
Fisheries data mapping

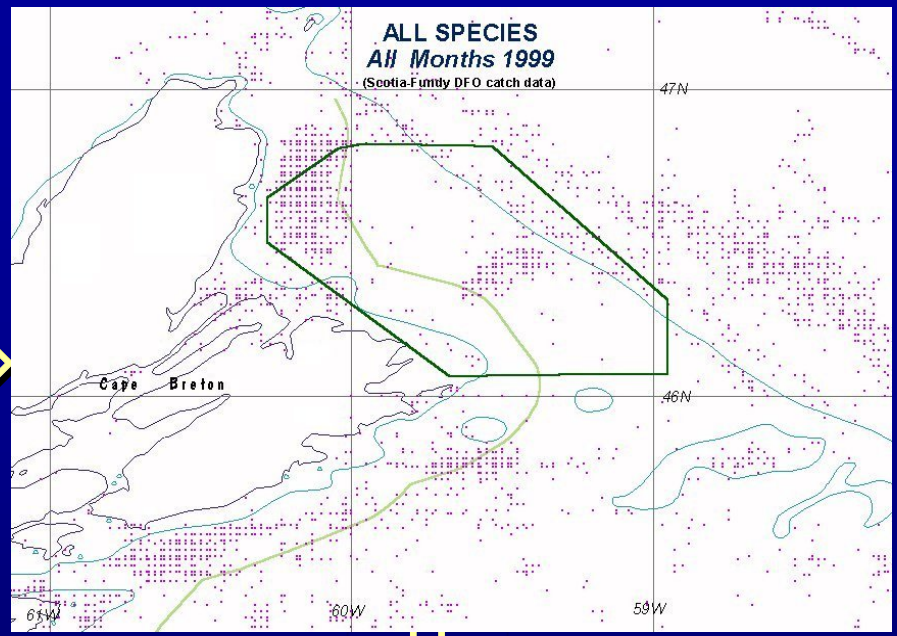


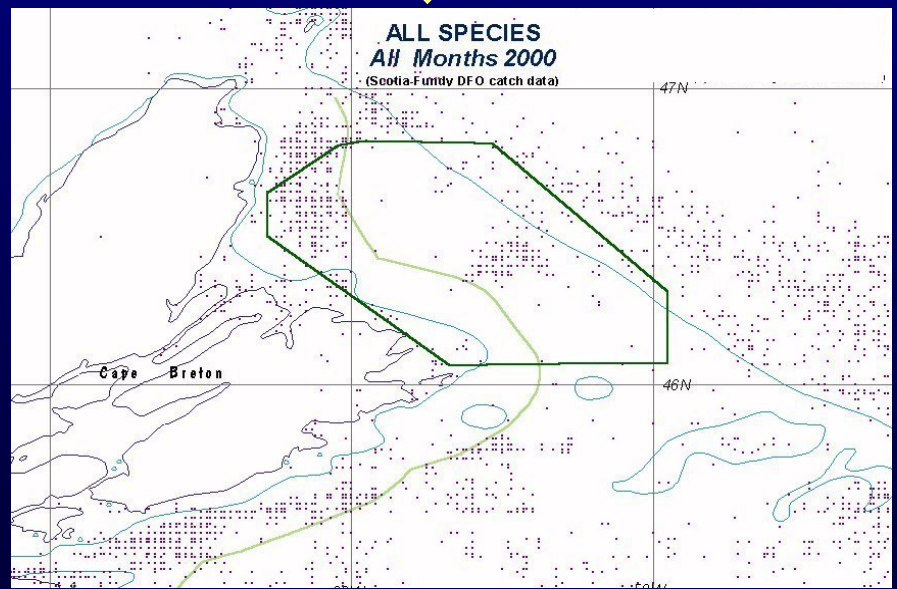

ALL SPECIES
All Months 1998
(Scotia-Fundy DFO catch data)
47N
46N
Cape Breton
61W
60W
59W

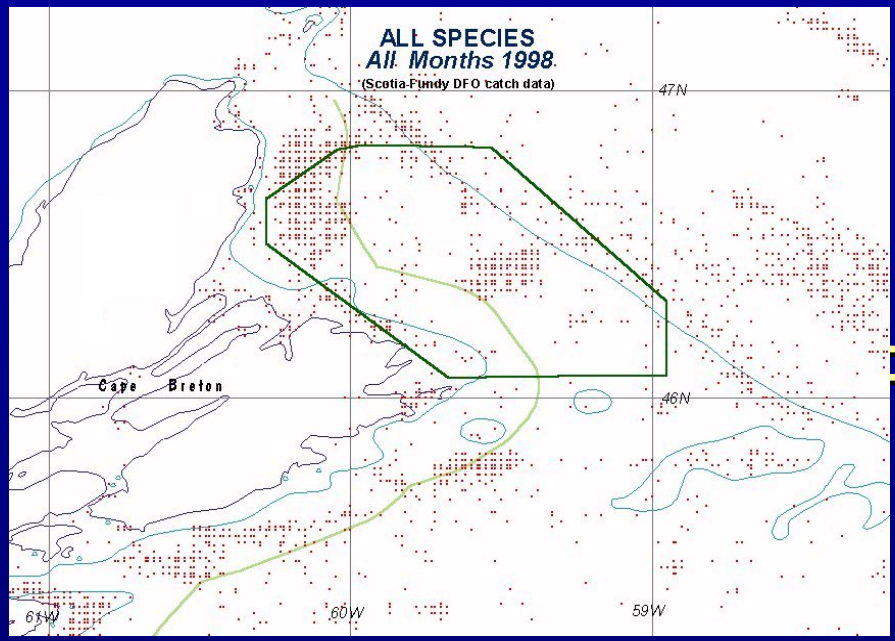


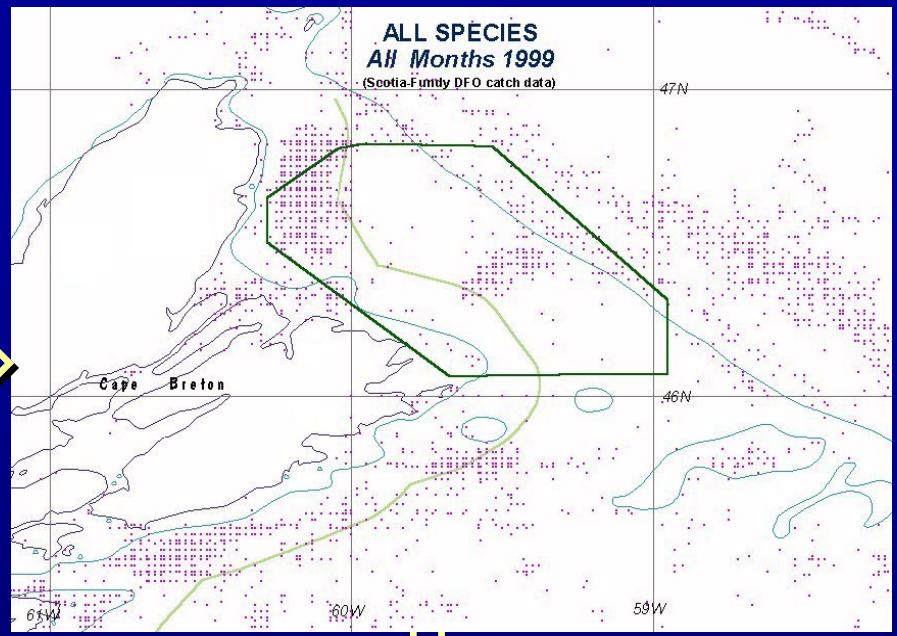


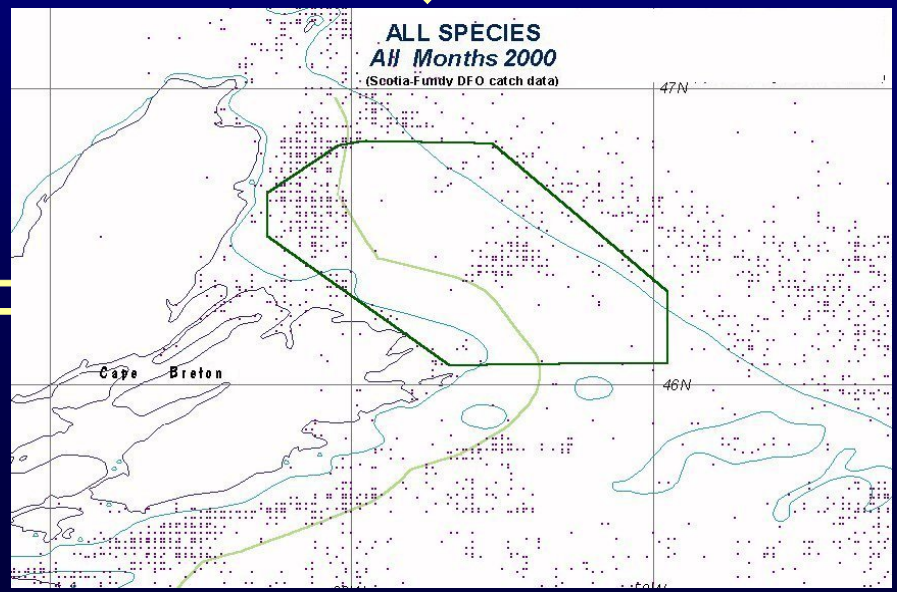


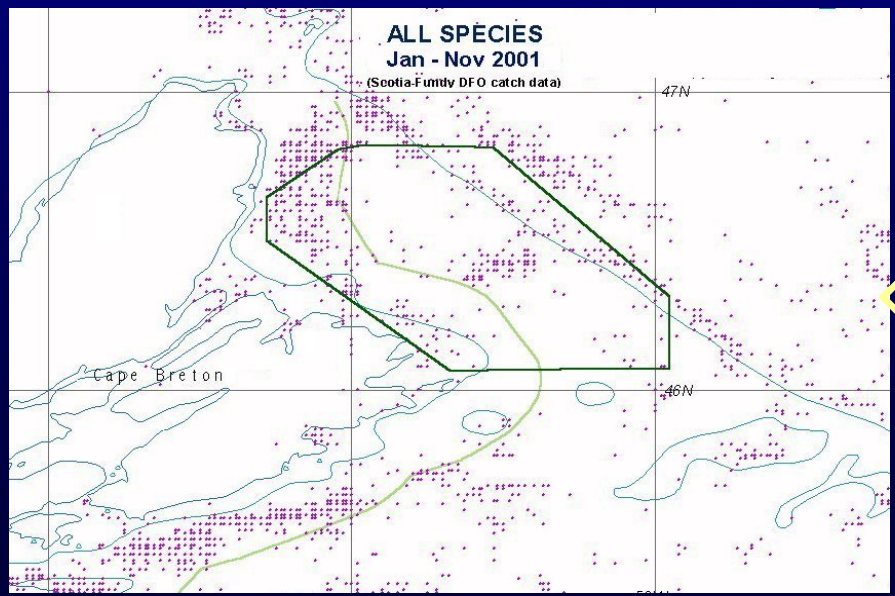




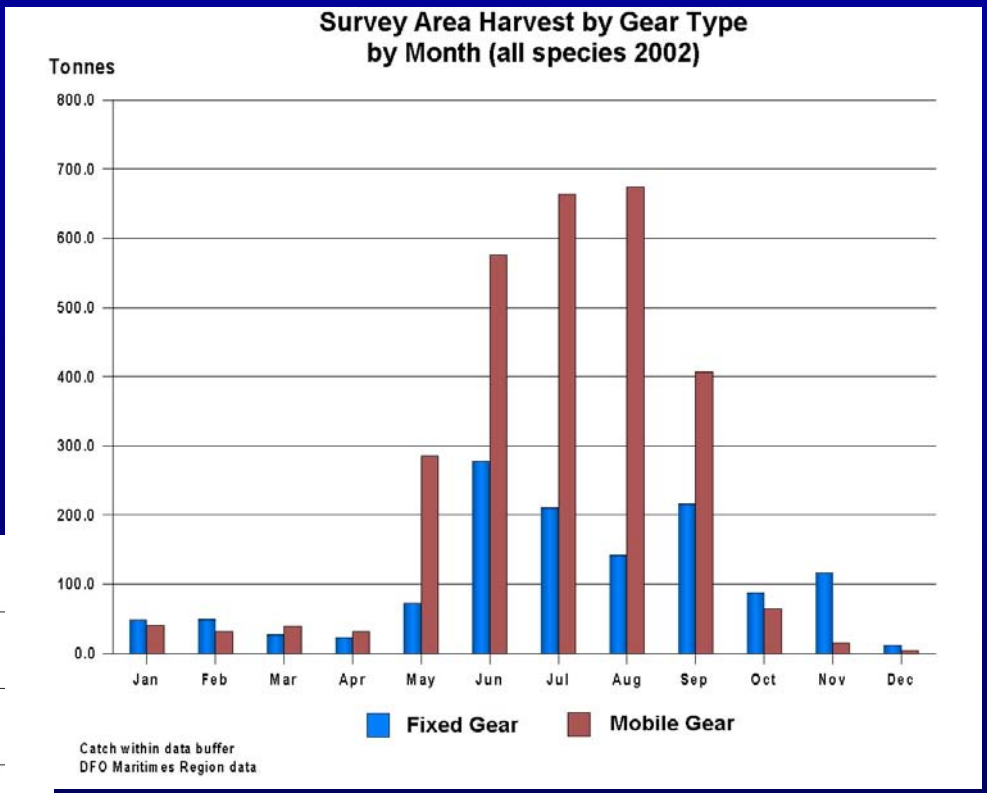


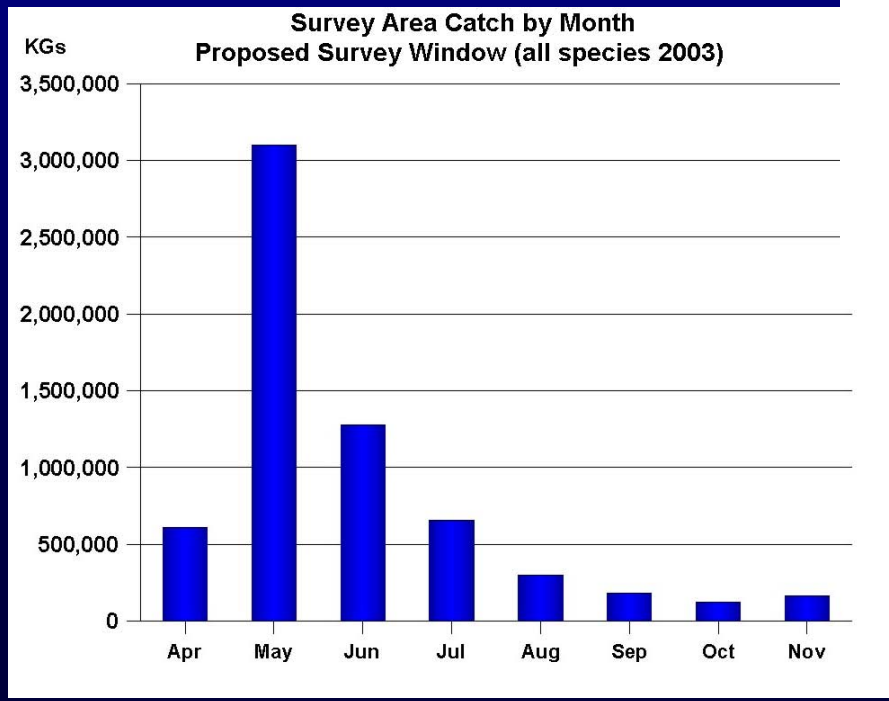






Fisheries data uses





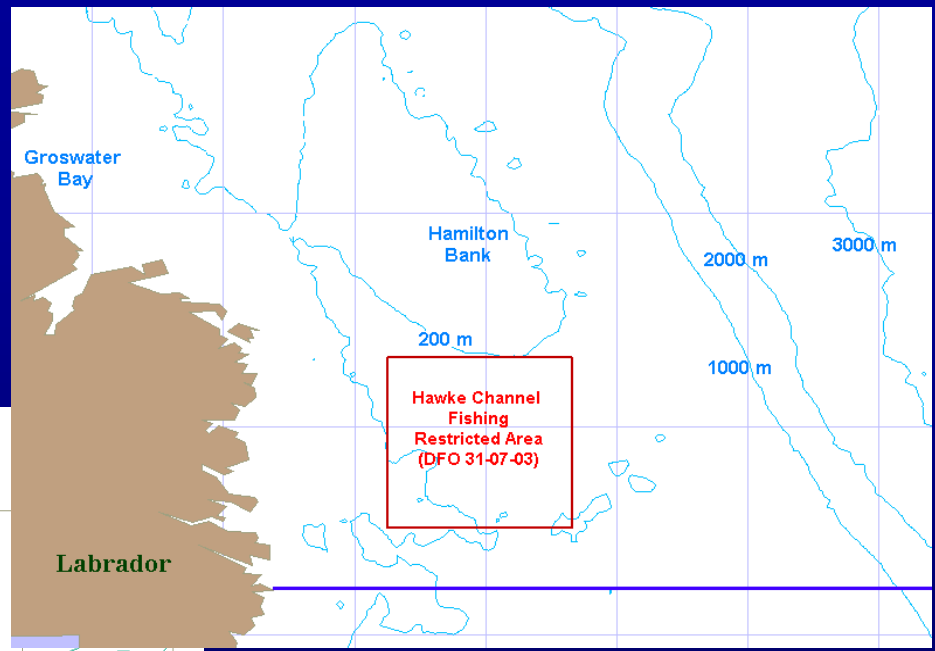
Steps and Considerations (Fisheries Issues)

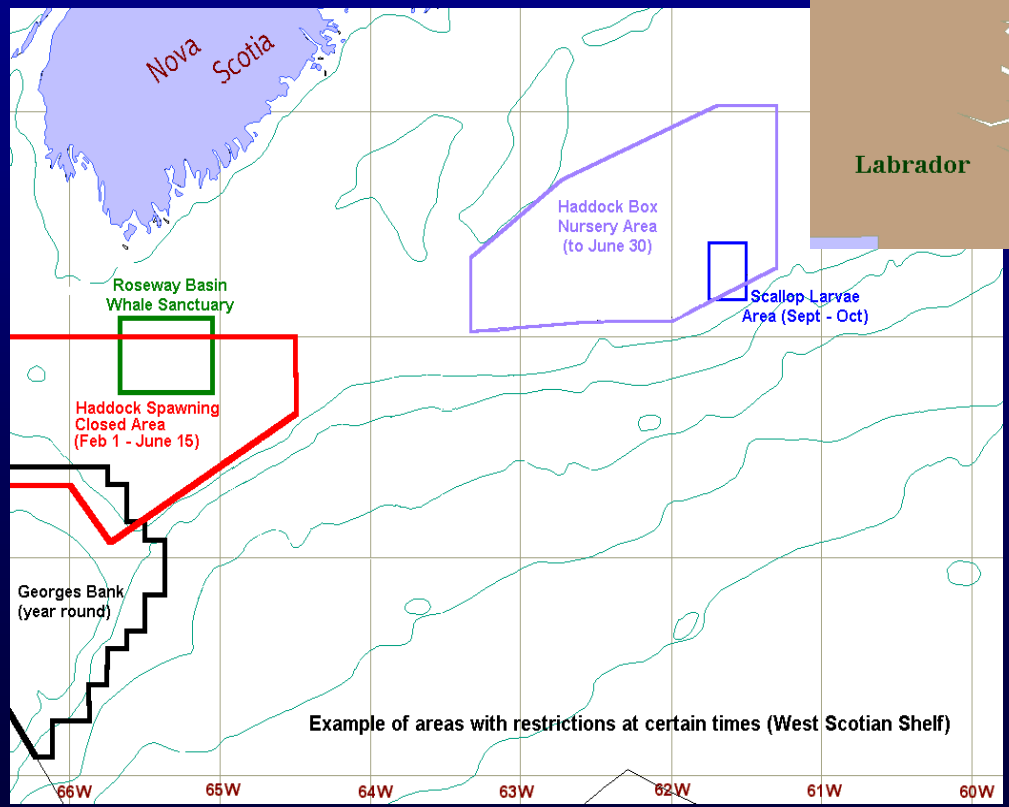
3. Resource Considerations

- Identify sensitive areas and times (DFO, fishers)
  - Spawning
  - Nursery areas
  - Larval concentrations
  - Migration

- DFO Science / Industry stock assessment surveys
  - Since behavioural responses are likely, a developing consideration has been avoiding research and stock assessments
  - Have been developing a protocol with DFO (NS and NL) for separation/avoidance

Identifying sensitive areas and times





Example of areas with restrictions at certain times (West Scotian Shelf)

Steps and Considerations (Fisheries Issues)

4. Mitigation Plan (typical elements ~ fisheries)

- Avoid active fixed gear areas
- Avoid sensitive areas at sensitive times
- Fisheries Observer / FLO on board (at-sea communications)
- SPOC (Newfoundland sector)
- Notices to Shipping (CMB / Navtex)
- Get gear set locations from fishing industry (via protocol)
- Plot fishing locations on survey ship GIS
- Protocol for DFO / industry science surveys
- Scout boat (some surveys)
- Gear compensation plan in place
- Array ramp-up (finfish avoidance)
- Monitor progress of the fisheries / quotas during the survey