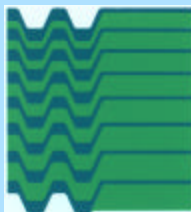


Regulation of Oil and Gas Exploration and Development on the East Coast of Canada:

Early Observations on the CNSOPB Becoming a Full-
fledged CEAA Agency

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CEF Consultants Ltd.



Michael Coolen
Canadian Superior Energy Inc.



This Presentation

An overview of Nova Scotia
Oil and Gas Operations

A description of exploration
activities – seismic surveys
and exploratory drilling

Environmental Regulatory
(CEAA) Requirements

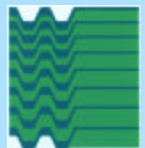
The Current Process Review

Decision-making and the
role of the Private Sector



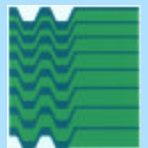
What's it Worth?

- Total spending over \$9.5 billion (US)
- More than 66% spent in Canada; about 44% of total (over \$4 billion) spent in N.S. and Newfoundland
- 4,800 companies in Nova Scotia and Newfoundland have won contracts
- Employment in region: over 2,500 people directly; 3,000 more indirectly



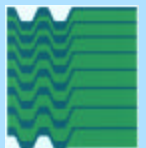
Fields and Production

- Eastern Canada's Gross Production close to 400,000 barrels of oil and 500 million cubic feet of gas per day
- Hibernia: over 200,000 barrels per day
- Terra Nova: over 160,000 barrels per day
- Sable: over 500 million cubic feet per day



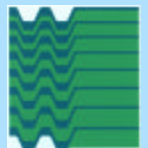
Sable Downgrade

- Recently, the reserve estimates for Sable were reduced by 40% to about 1.3 trillion cubic feet of gas
- The field is still considered significant, and other nearby fields may start to produce in next few years.



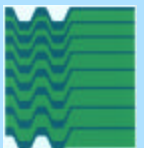
Drilling Forecast

- **Mariner:** Canadian Superior with partners El Paso, drilled with the Rowan Gorilla V. Abandoned, with results under evaluation
- **Weymouth:** EnCana with partners Shell, currently being drilled with Eirik Raude
- **Cortland:** deepwater exploration well to be drilled by Marathon later this year



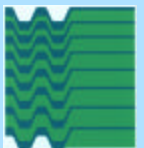
Issues in Offshore Exploration

- Harsh environments – cold weather, sea states, isolation
- Geology – complex and uneven subsea terrain, mud content, etc.
- “Dry Holes” – rate of successful exploration wells offshore N.S. is on par with other jurisdictions worldwide

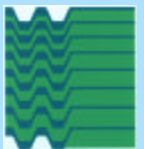
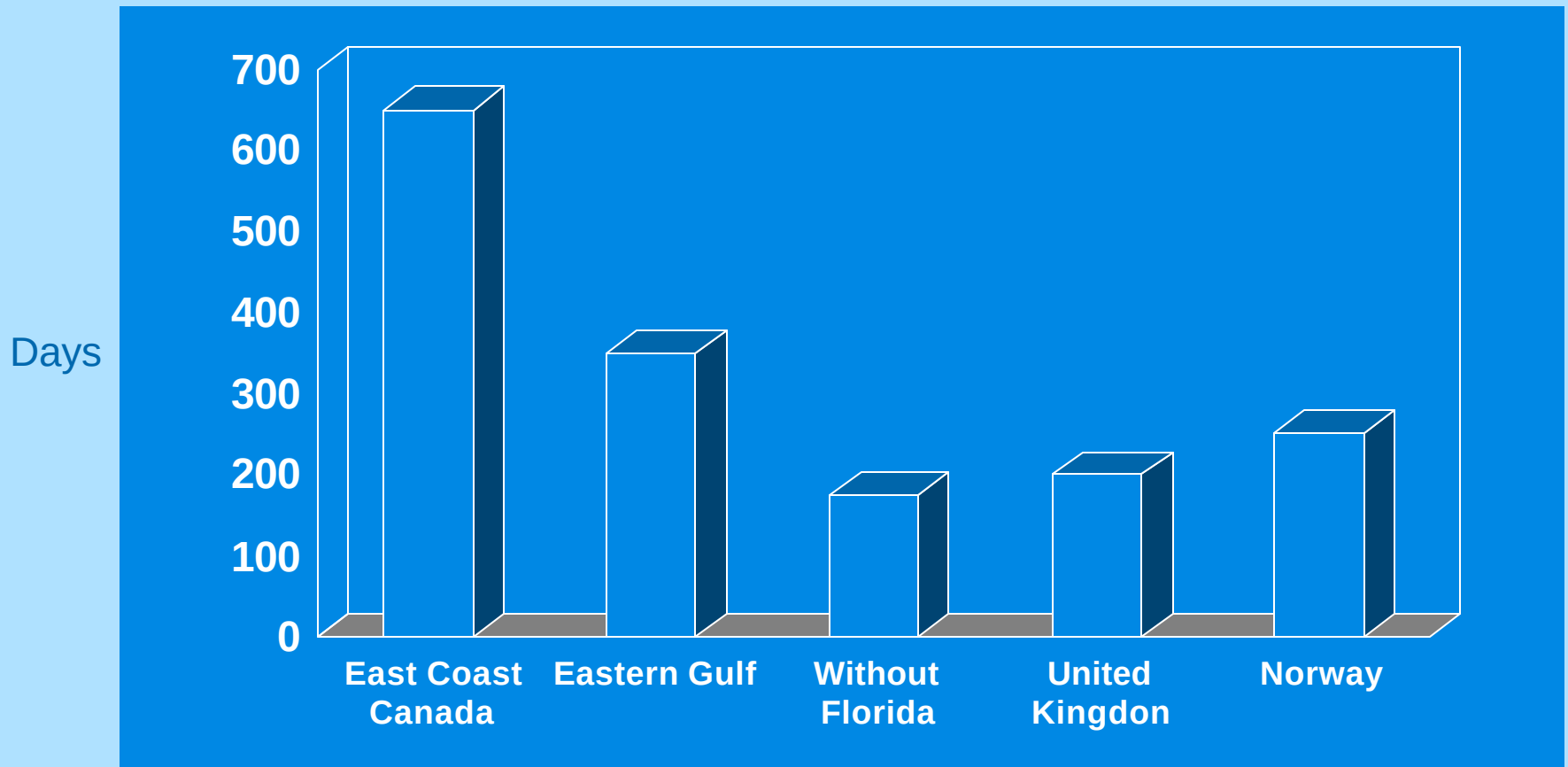


Regulatory Issues

- Key issues include:
- Multiple overlapping authorities; 20 in total, 16 Federal and 4 Provincial
 - Approval timetable up to 3x longer than other jurisdictions (U.K., Norway, etc.)

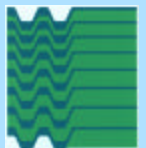


Development Approval Timing

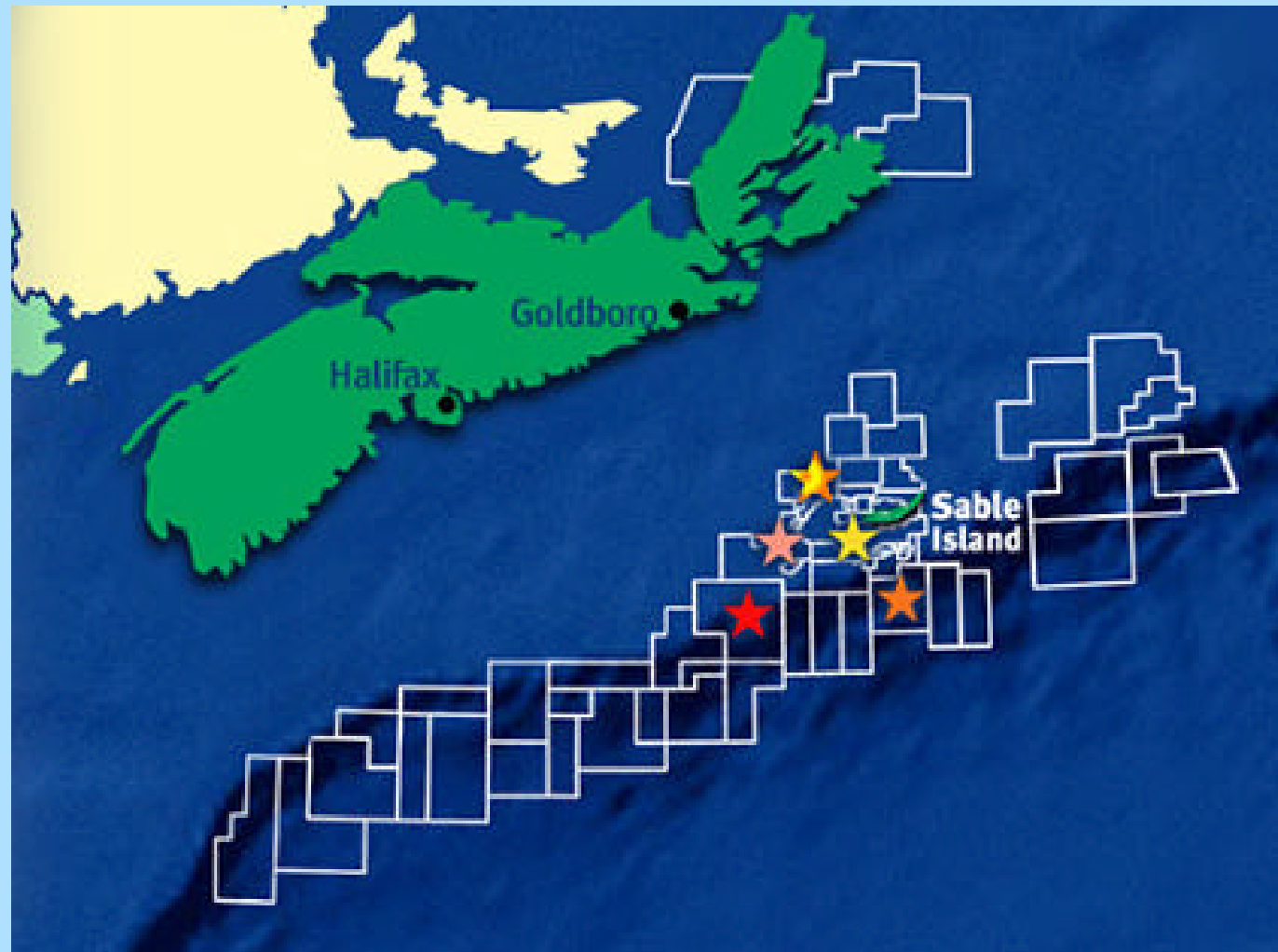


Key Regulatory Issues include:

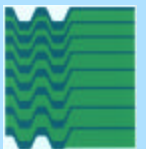
- Environmental assessments
- Occupational health & safety
- Drilling costs, including abandonment
- Development approval process
- Streamlining regulation overlap, duplication



Exploration off Nova Scotia

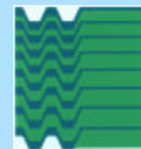


Recent Activity



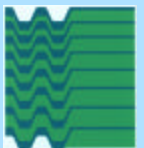
Exploration Involves

- Seismic surveys – 2D or 3D – involve detonation of air guns and receiver arrays trailing 6 km behind vessels
- Seismic is a fraction of the cost of drilling and needed to identify prospects
- Exploratory drilling costs \$50 - \$100 millions; more in deep water



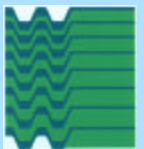
Canada-Nova Scotia Offshore Petroleum Board

- The relationship between CNSOPB and the CEA Act changed in 2003
- Regulatory process changed from Board policy to meet the *CEA Act*
- The review process lengthened
- A project description step, required to identify RAs and Expert Departments, was added
- Exploratory Drilling in new areas moved to comprehensive studies, rather than screening



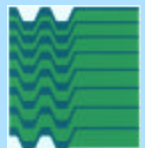
CEAA Requirements

- 4 to 6 weeks to identify Responsible Authorities and Experts (RAs)
- Up to 3 months to determine track (comp. study or panel) for exploratory drilling (project description, scoping, and ministerial review)
- DFO and Environment Canada need time to coordinate a science response
- Options to improve efficiency are currently being examined by regulators



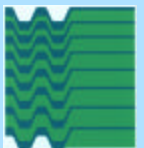
Impediments to Efficiency

- Some CEAA process timelines are legislated
- Key federal agencies, DFO and Environment Canada, have many conflicting priorities
- Process dominates, may limit time devoted to improvements in Environmental Protection
- Internal management issues within big departments complicate things

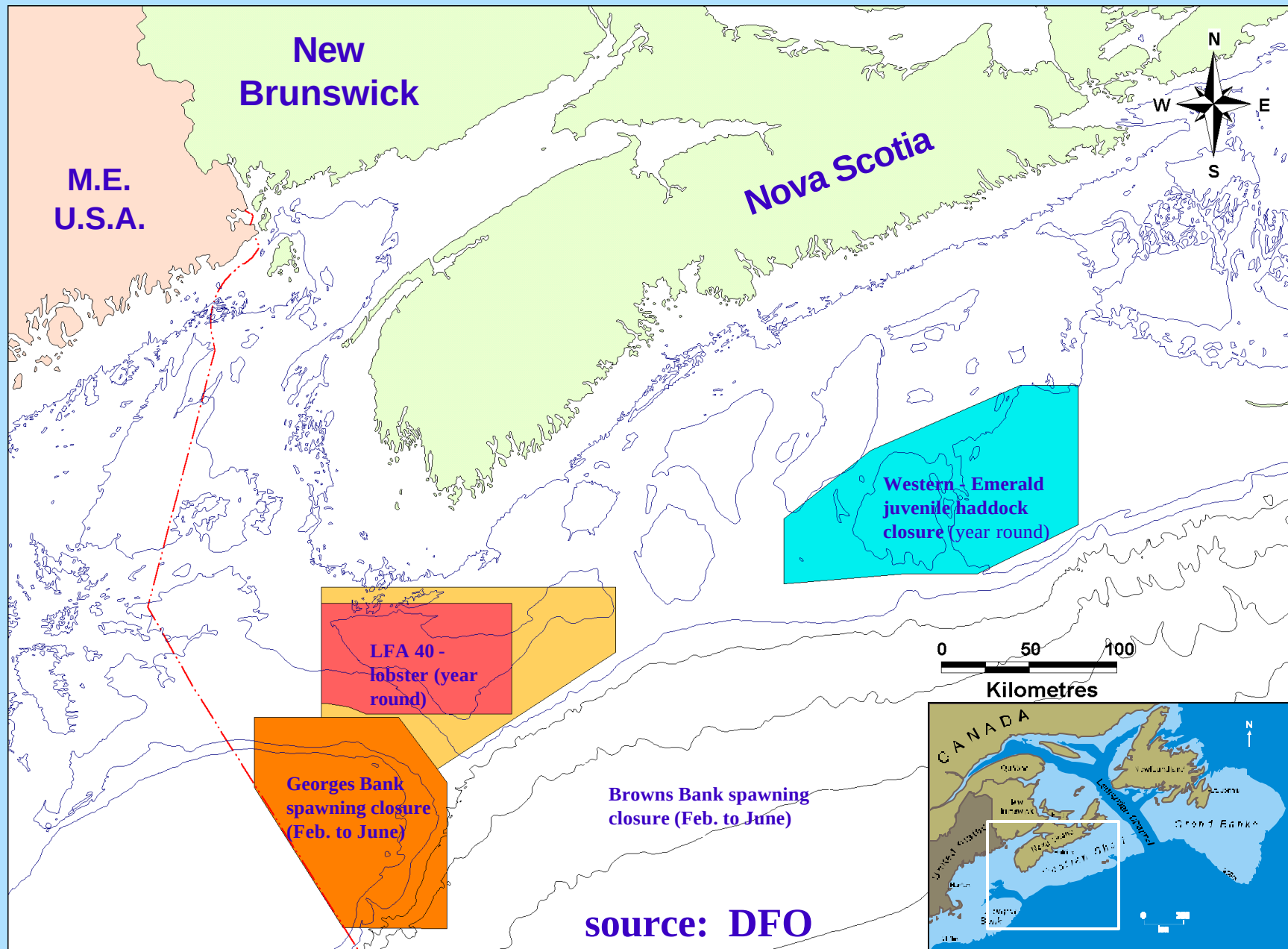


Possible Improvements

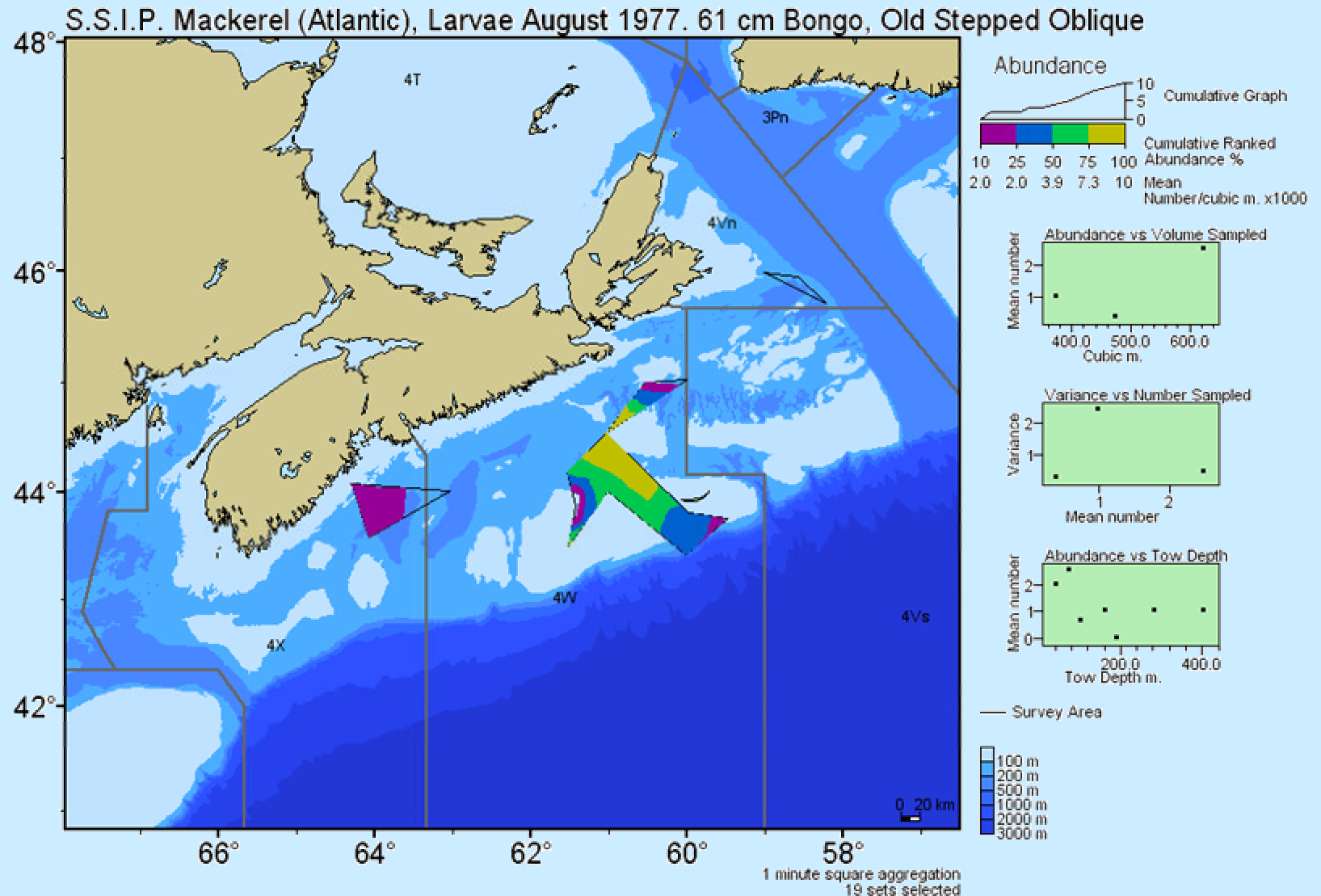
- Recognition that time lines are critical to industry
- Looking for agreement on core issues
- Common background summary material has been prepared (e.g., eggs & larvae)
- Some processes can be concurrent (EIA can be prepared during review of the project description or while awaiting comprehensive study decision)
- Identify sensitive areas



Selected Spawning/Juvenile Closures (Groundfish and Lobster)

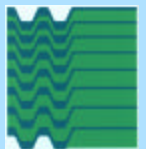


Maps of Eggs and Larvae

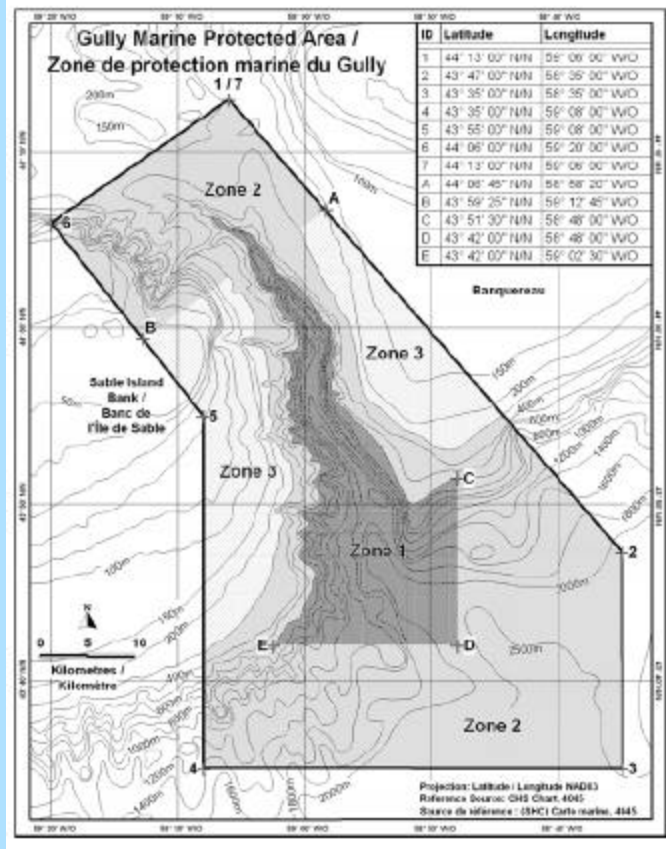


Possible Improvements

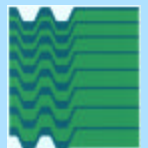
- Develop management plans and areas (e.g., ESSIM, The Gully MPA)
- Better coordinate federal authorities (MOUs)
- Improve regulatory guidance and training specific to oil and gas
- Add more specialized expertise to government expert departments



The Gully MPA

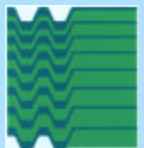


Marine
Protected Areas
with clear
regulations help
reduce
uncertainty



Impediments to Progress

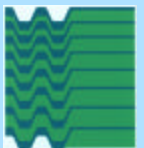
- Scientists and departments push specific interests and mandates
- Concurrent processes can limit scoping of issues
- Emphasis on process may not allow focus on improving environmental protection
- Background research limited in some areas - e.g., spawning, marine mammals
- Public perception of impacts (a seismic survey in the Gulf was sent to panel review)



Industry Input

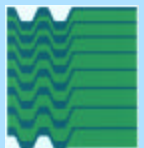
Industry does have input:

1. Regulatory Issues Steering Committee
 - Deals with duplication, overlap and other regulatory concerns
2. Industrial Opportunities Task Force
 - Aims to optimize economic impact of offshore in Atlantic Canada (i.e. Local Benefits)
3. CEA Agency Regulatory Advisory Committee
 - Subcommittee on Oil and Gas trial Opportunities



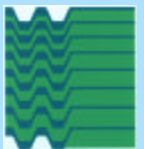
The Role of Consultants

- The project description can form a scoping document
- Consultants can stress key decision-making issues in EIA
- Response to regulatory review questions can increase focus on important issues
- Dealing with last minute changes in projects is sometimes daunting
- More environmental planners and fewer lawyers would help decrease process emphasis



The Role of Industry

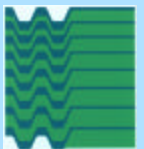
- Oil and gas industry is highly regulated – environment, health and safety with high standards is a key to upper management
- Oil and gas companies have sophisticated environmental management systems
- Systems help deal with shifting priorities and last minute changes in projects
- But, process time requirements may not lead to improved environmental protection



The End Result

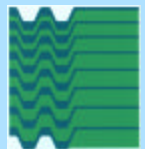
Improved efficiency, with an emphasis on environmental protection, is critical

Sometimes urgency helps get cooperation, but will it be too late



A satellite map of Nova Scotia, Canada, showing the coastline and surrounding waters. The land is green and brown, while the water is blue. The text is overlaid on the map.

**Thanks to the Offshore
Technology of Nova Scotia for
their assistance with the
presentation**



For more information

www.cefconsultants.ns.ca

