

Petroleum Research Atlantic Canada
Atlantic Petroleum R&D Forum

**Petroleum Activities Offshore NL
and
Environmental R & D**

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Presentation Outline

1. Activities in NL Offshore Area: What's New?
2. Activity Outlook
3. Issues and Research Implications



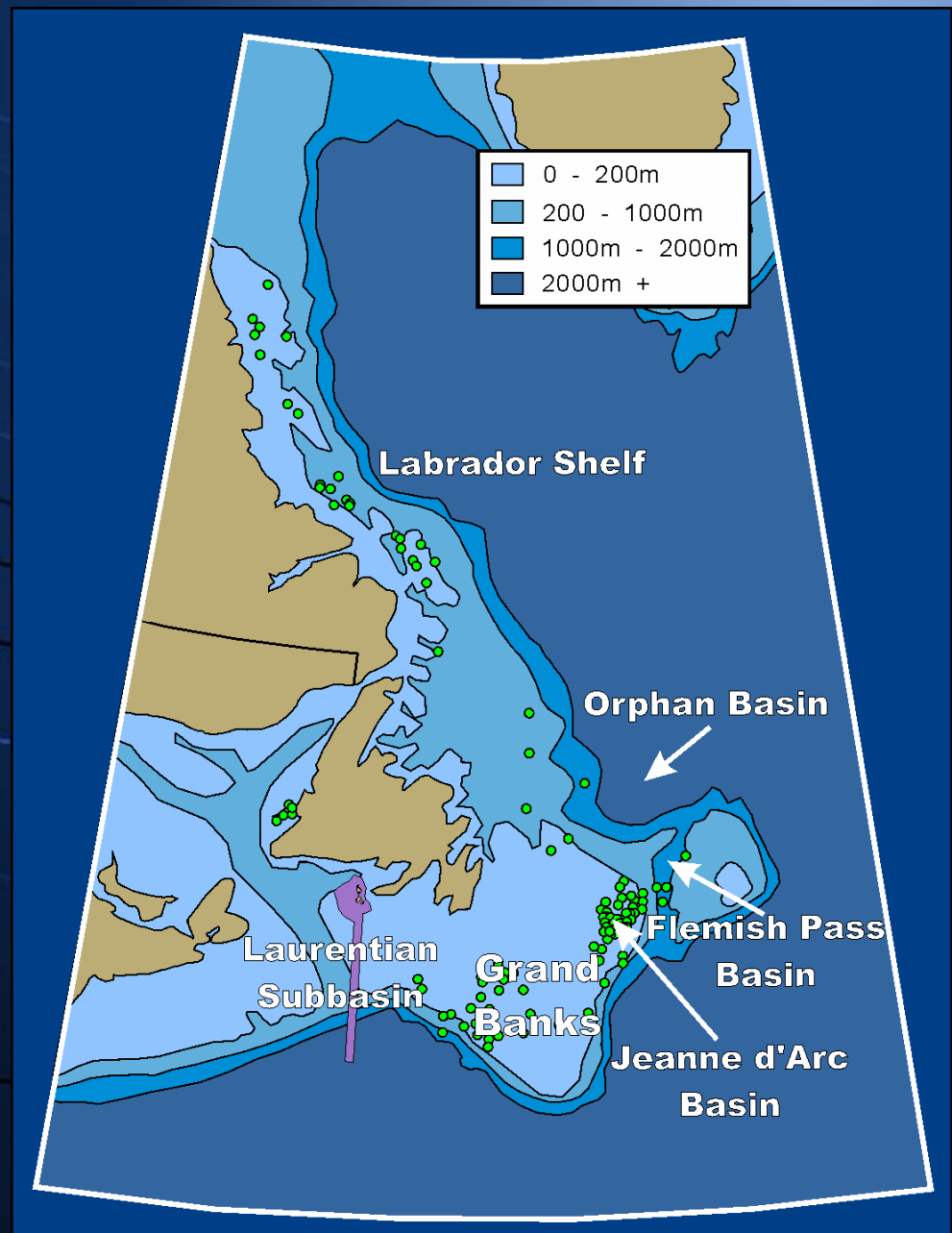
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Newfoundland and Labrador Offshore Area

- Potentially prospective area >200,000 sq. miles
- Wells spudded: 317 (as of December 31, 2006)
- 1.9 million km of Seismic Data (2D and 3D CMP)
- 23 Significant Discoveries
- 3 Commercial Discoveries
- 765 million barrels crude produced [to end March 2007]



What's new for us?

- ❖ Use of jack-up drilling unit on Grand Banks (2005-2006)
- ❖ First East Coast Remote Reservoir Resistivity Mapping (R3M) survey (2006)
- ❖ Creation of Nunatsiavut Government following signing of Labrador Inuit Land Claims Agreement (2005)
- ❖ Tightening of international MODU market



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Activity Outlook

- ❖ Grand Banks development/production
 - Continuation of Hibernia, Terra Nova, White Rose
 - Hebron
 - Satellite developments
 - Gas
- ❖ Exploration drilling outside NE Grand Banks
 - Orphan Basin
 - Laurentian Subbasin
 - West Coast NL
 - Labrador Shelf?



Regulatory Framework Outlook

- ❖ Performance-based vs. prescriptive regulation
 - Continues to evolve
 - Issues are not primarily scientific
- ❖ Regulatory streamlining
 - Continues as a competitiveness issue
 - Issues are not primarily scientific
- ❖ *Offshore Waste Treatment Guidelines* review
 - Likely to begin late 2007 / early 2008
 - Experience since 2000 (national / international)
 - Potential shift in focus from drilling to production wastes
- ❖ Seismic surveying *Statement of Canadian Practice*
- ❖ Continuation of *Species at Risk Act* implementation
- ❖ Climate change / air emission initiatives



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Issues and Research Implications: Physical Environment

- ❖ Maintenance / updating of sound, credible design parameters
- ❖ Continued focus upon ice design, management
 - Optimizing design (Hebron)
 - Ensuring prudent operations (Jack-ups on Grand Banks)
 - Alternative subsea protection concepts (Small fields?)
 - Reducing ice scour uncertainties (Small fields, Labrador?)
- ❖ Activity in Orphan Basin
 - Deepwater currents
- ❖ Activity in Laurentian Subbasin
 - Currents, seabed hazards



Issues and Research Implications: Biological Environment

- ❖ Effects of marine seismic surveying
 - International issue (esp. marine mammals)
 - Fish / invertebrate effects of keen interest in NL
 - Invertebrate research virtually unique to Canada
- ❖ R3M surveying hitherto unknown in Canada
 - Early days - but interest in the technique likely to remain
 - Some potential effects may require investigation
- ❖ Effects of production discharges
 - Produced water
- ❖ Effects upon marine birds
 - Mortality estimates subject to wide uncertainty
 - High public attention, exacerbated by chronic ship-source oiling



And Finally . . .

- ❖ Many areas have little baseline biological information (except certain fishery-related information)
- ❖ Constrains usefulness of strategic environmental assessments
- ❖ Increases risk of “missing” areas of sensitivity
- ❖ Increased expectations for proponents: a disincentive?



Thank You

