

**ConocoPhillips Canada
2005 Laurentian
3D Seismic Survey
(Nova Scotia)**

Project Description

**Prepared for ConocoPhillips
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Proposed ConocoPhillips 3-D Seismic Survey

ConocoPhillips proposes to conduct a 3-D seismic survey within the area regulated by the CNSOPB in the waters of the southern Laurentian Channel during the period June - November 2005. The survey will occur at a location within the boundary shown on the following maps. The 2005 survey area is within the Project Area previously assessed in 2004 for ConocoPhillips' 2D program that year. An adjacent program is planned for Newfoundland in 2005 (see Map 2).

Regulatory Context

Geophysical programs (seismic surveys) in the jurisdiction proposed for this project require authorization from the Canada-Nova Scotia Offshore Petroleum Board (CNSOPB). The *Canadian Environmental Assessment Act (CEAA)* requires federal authorities to conduct environmental assessments (EAs) before issuing regulatory permits for certain projects (Section 5(1)d). The CNSOPB is a federal authority as defined in the *CEAA* (Federal Authorities Regulations, SOR/2001-44).

The *Canadian Environmental Assessment Act* Inclusion List Regulations (as amended, SOR/2003-280) specify (Section 19.1) that 'Physical activities that require an authorization referred to in paragraph ... 142(1)(b) of the *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act* and relate to (a) a marine or freshwater seismic survey during which the air pressure measured at a distance of one meter from the seismic energy source is greater than 275.79 kPa (40 psi)" are among the physical activities that are prescribed for the purpose of paragraph (b) of the definition of a "project" in subsection 2(1) of the *Canadian Environmental Assessment Act*.

Because seismic surveys are included in the Inclusion List Regulations but are not in the Comprehensive Study List Regulations (SOR/94-638 *et seq.*), the *CEAA* requires that the responsible authority "ensure that (a) a screening of the project is conducted; and (b) a screening report is prepared" (Section 18(1)).

Purpose of the Project Description

The Canadian Environmental Assessment Agency's Operational Policy Statement (OPS - EPO/5 - 2000) describes the purpose of the project description as twofold:

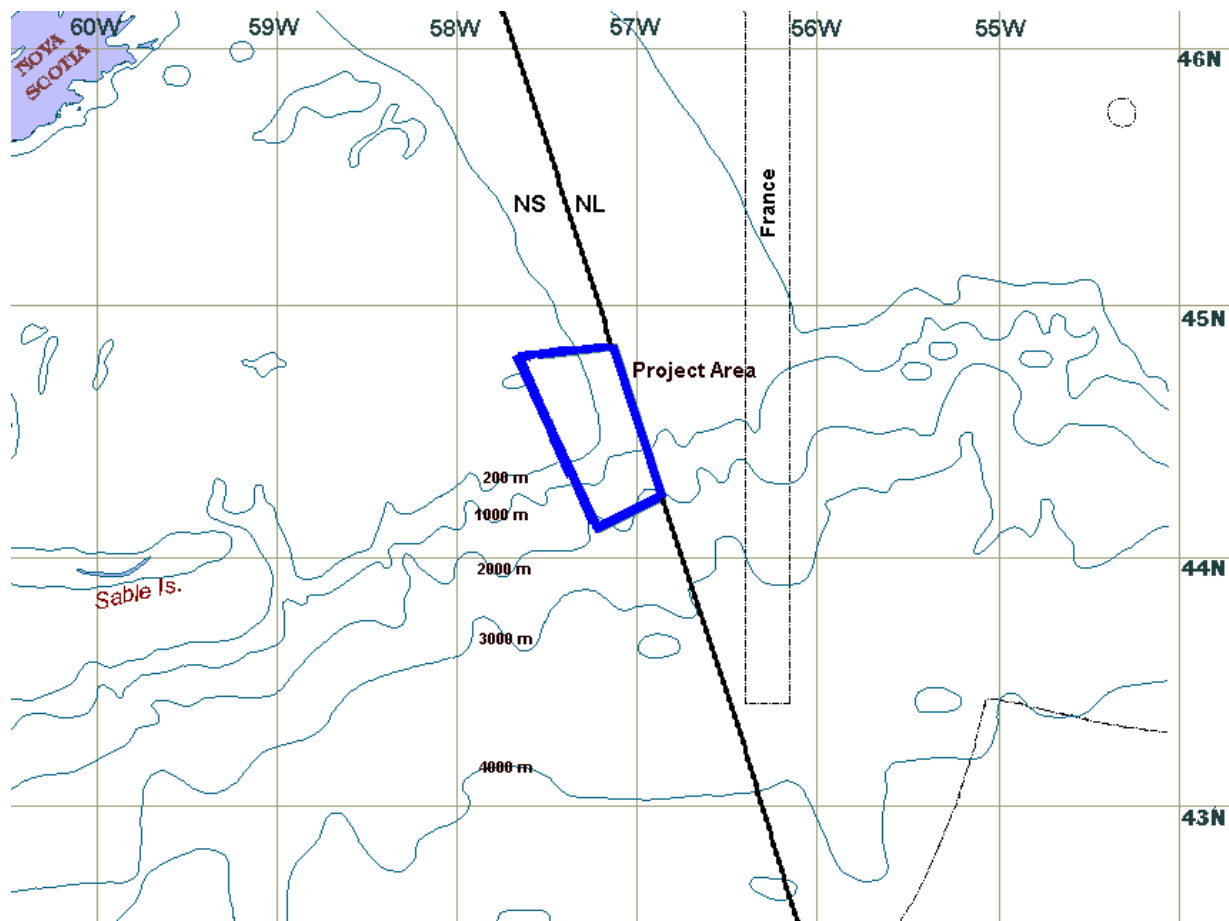
1. To determine the need for an environmental assessment: i.e. the project description assists a federal authority to determine whether it has a decision-making responsibility (e.g. to issue a permit) that triggers the need for an assessment of the project. Since the CNSOPB is a federal authority that must issue an authorization for the work, and this type of project is on the *CEAA* Inclusion List Regulations, but not on the Comprehensive Study List Regulations, the Board is required to ensure that a screening is conducted for the proposed survey(s).

2. To promote efficient coordination of the environmental assessment: i.e. to identify the federal authorities that will be involved in the environmental assessment, either in a decision-making role or as an expert department.

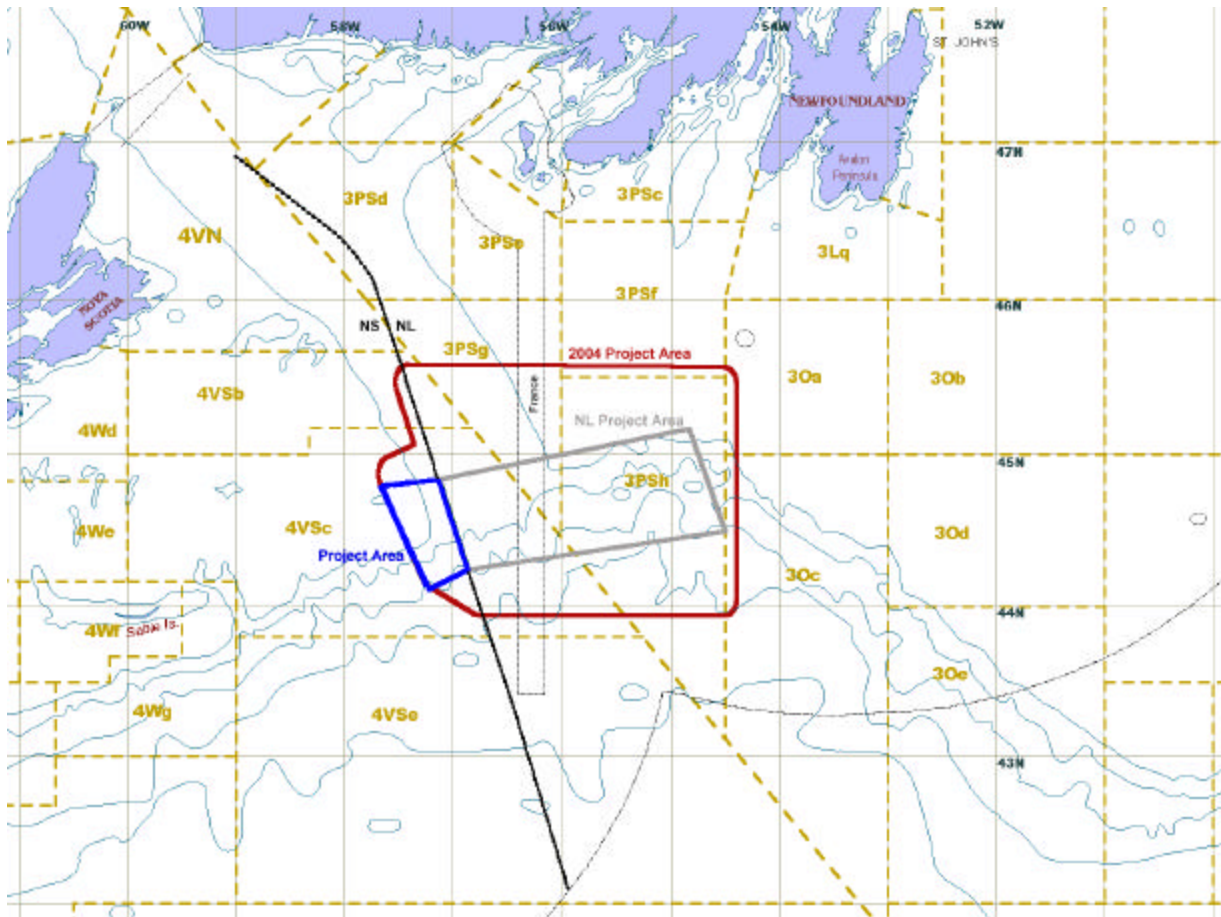
In addition to determining whether it will likely require an environmental assessment of the project under the CEAA, the federal authority receiving the project description (in this case, the CNSOPB) distributes the description to other federal authorities that may also have a responsibility or interest, and therefore need to be notified under the Regulations.

Project Area

The survey will be within the zone (Project Area) shown on Map 1, in depths of between 100m to 3000m in the eastern Shelf / Laurentian Channel area, from approximately 44 10 00 N to 44 50 00 N latitude, and 056 50 00 W to 057 45 00 W longitude. The area is within Canada's Exclusive Economic Zone (EEZ), and no part of any line will come within 12 NMi (18 km) of the coast. The lines are within NAFO Divisions 4VS. Map 2 shows the Project Area in relation to the fisheries management areas, the 2004 EA Project Area, and the adjacent Newfoundland 2005 Project Area.



Map 1: 2005 3D Project Area



Map 2: 2005 Project Area in relation to coasts, fishing areas, NS Project and 2004 Project Area.

Schedule/Timing

Although it is expected that the full survey will take about 90 to 120 days to complete, assuming no extensive down-time, the period to be assessed in the EA for these surveys are June 1/05 to November 30/05. This is to allow a sufficient "window" for downtime and approval and scheduling uncertainties. The timing of specific portions of the survey area will be conducted in light of fisheries and other considerations, in order to prevent possible conflicts.

Project Components

There are three main project components:

1. a single survey ship, to be determined; it is anticipated that a support vessel / chase boat will also be required.
2. the survey streamers (6 to 10), 8-km long passive "listening" device, containing hydrophones, which float approx. 8 m below the sea surface,
3. the compressed air sound source: a single and /or dual 3500 to 4500 cu inch+ source array.

Survey Vessel. At the time of submitting this Project Description ConocoPhillips Canada is working through the seismic acquisition tender process and will update the Project Description with contractor and vessel selected. The vessel selected will comply with all applicable regulations, as will the support vessel / chase boat, if used.

Streamer. The survey will use a multi-streamer configuration (6 to 10 cables towed behind the vessel containing the hydrophones which record the sound impulses) 8000 m in length, towed at a depth of 8m (+/- 1m). Each streamer will be marked at the end by a tail buoy with a rGPS positioning device, a white strobe light, and radar reflector. It is expected that the vessel will travel at a speed of 4.5 - 5.0 kts (approx. 9 km/hr) while surveying.

Source Array. Characteristics of the proposed array and configurations are provided in the following Table. The array signature and the array signatures to the side, at 10° below the horizon, are to be determined and submitted at a later date.

Table 1: Proposed Array Configuration and Characteristics

Source Depth	7 meters +/- 1 meter
Array size (cu in)	1 or 2 x 3500 to 4500 cu inch+
Air pressure	2,000 psi nominal pressure, but not below 1,800
Configuration	Three or four airgun strings of 875 to 1,500 cu inch (10 guns per string)
Rise time	8-10 ms
Record length	8.5 seconds and 14 seconds
Source interval	25 metres and 37.5 metres
<i>Downward Lobe</i>	
p-p Bar m	152.6
p-p dB re 1µPa @ 1m	263.7dB
RMS “ (over pulse)	215.78 dB
<i>Side, 90° (10° below horiz.)</i>	
p-p dB re 1µPa @ 1m	252.1 dB
RMS “ (over pulse)	206.6 dB

Off-site Land Use & Resource / Material Requirements

Off -Site uses will consist of wharf facilities at St. John's, Fortune and/or Marystown, Newfoundland, for crew changes, any needed repairs, provisioning. Materials are normal ship supplies, fuel, provisions.

Toxic / Hazardous Materials to be Used

Toxic and hazardous materials onboard the proposed vessel are those associated with normal vessel operations (i.e. paints, batteries, fuels, solvents, etc). They will be properly stored, handled and managed. Material Safety Data Sheets (MSDS) are retained onboard and at all pertinent workstations for crew to have easy access to the hazard information for all the chemicals and other potentially harmful substances with which they work. All crew will have appropriate WHMIS training courses.

In addition, the streamer uses Isopar, for buoyancy. Each segment contains on average 150 to 200 litres. Isopar is liquid paraffin; it is biodegradable and evaporates very quickly.

Waste Disposal Procedures

The survey vessel will comply with all applicable regulations concerning management of waste and discharges of materials into the marine environment. The survey will be conducted with a dedicated seismic research vessel. The vessel will have equipment, systems, and protocols in place for prevention of pollution by oil, sewage and garbage in accordance with international standards and certification authorities. The vessel is subject to pre-survey audits by the regulators and the operator in the port of mobilization prior to survey commencement.

A project safety plan will be developed and presented for previous work authorization applications to the CNSOPB. The survey vessel will comply with all applicable regulations concerning discharges of materials into the marine environment. Any spills of oil or other hazardous substances will be reported immediately to the CNSOPB and to the Canadian Coast Guard.

Consultations and Issues Identified

Consultations were undertaken with fishers, relevant fisher organizations and DFO in 2001 and 2004 to exchange information about the ConocoPhillips (Gulf) surveys undertaken those years to identify and scope issues for the environmental assessment. Further consultations will be conducted before the proposed 2005 program.

The chief issues raised by fishers then (and in relation to other surveys) - other than the concern that fishing gear not be damaged - have been about the impacts of marine seismic surveys in general, rather than about the specific program. These include impacts on fisheries resources, and both behavioural and physical impacts on fish, especially as they pertain to "catchability".

As in previous surveys, fishers were also concerned about conflict / interference with fixed gear fisheries in particular.

DFO has identified potential impacts on research surveys as a concern, as well as potential impacts on redfish during "pupping".

Much of the proposed survey area was the subject of a recent joint CNOBPB-CNSOPB Strategic Environmental Assessment (SEA) which describes that area in detail and identifies potential issues related to seismic surveys (*Strategic Environmental Assessment Laurentian Subbasin*, Jacques Whitford Ltd. 2003).

In 2004, ConocoPhillips prepared an EA for an area which includes the proposed 2005 survey Project Area, in support of its 2004 2D program, which was subsequently authorized by both the CNOBPB and the CNSOPB.

Species at Risk Act species

Based on a preliminary review of the proposed Project Area, the following species at risk (SARA Schedule 1) might occasionally be in the area.

Endangered:

Turtle, Leatherback (*Dermochelys coriacea*)

Threatened:

Gull, Ross's (*Rhodostethia rosea*)

Wolffish, Northern (*Anarhichas denticulatus*)

Spotted Wolffish (*Anarhichas minor*)

Special Concern:

Gull, Ivory (*Pagophila eburnea*)

Wolffish, Atlantic (*Anarhichas lupus*)

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