

REVIEW COMMENTS

Environment Canada

Regulatory Requirements

Fisheries Act

The proponent should be aware of the general applicability of Section 36(3) of the *Fisheries Act* which states: “no person shall deposit or permit the deposit of a deleterious substance of any type in water frequented by fish or in any place under any conditions where the deleterious substances or any other deleterious substance that results from the deposit of the deleterious substance may enter any such water”. Environmental protection and mitigation measures should reflect the need to comply with Section 36(3) of the Fisheries Act. For example, measures should be taken to prevent substances such as lubricating fluids, fuels, etc. from being deposited into water frequented by fish, and drainage from construction and operational drainage must not be harmful to fish.

Migratory Birds Convention

Migratory birds, their eggs, nests, and young are protected under the *Migratory Birds Convention Act* (MBCA). Migratory birds protected by the MBCA generally include all seabirds except cormorants and pelicans, all waterfowl, all shorebirds, and most landbirds (birds with principally terrestrial life cycles). Most of these birds are specifically named in the Environment Canada (EC) publication, *Birds Protected in Canada under the Migratory Birds Convention Act*, Canadian Wildlife Service Occasional Paper No. 1.

Under Section 6 of the Migratory Birds Regulations (MBR), it is forbidden to disturb, destroy or take a nest or egg of a migratory bird; or to be in possession of a live migratory bird, or its carcass, skin, nest or egg, except under authority of a permit. It is important to note that under the current MBR, no permits can be issued for the incidental take of migratory birds caused by development projects or other economic activities.

Furthermore, subsection 5.1 of the MBCA describes prohibitions related to deposit of substances harmful to migratory birds:

- (1) No person or vessel shall deposit a substance that is harmful to migratory birds, or permit such a substance to be deposited, in waters or an area frequented by migratory birds or in a place from which the substance may enter such waters or such an area.
- (2) No person or vessel shall deposit a substance or permit a substance to be deposited in any place if the substance, in combination with one or more substances, results in a substance — in waters or an area frequented by migratory birds or in a place from which it may enter such waters or such an area — that is harmful to migratory birds.

It is the responsibility of the proponent to ensure that activities are managed so as to ensure compliance with the MBCA and associated regulations.

Species at Risk Act

The Responsible Authority should be reminded that the Species at Risk Act (SARA) amends the definition of “environmental effect” in subsection 2(1) of the Canadian Environmental

Assessment Act (CEAA) to clarify, for greater certainty, that EAs must always consider impacts on a listed wildlife species, its critical habitat or the residences of individuals of that species.

SARA also requires that the person responsible for a federal EA must, without delay, notify the competent minister(s) in writing if the project being assessed is likely to affect a listed wildlife species or its critical habitat. Notification is required for all effects, including adverse and beneficial effects, and the requirement to notify is independent of the significance of the likely effect. The person must also identify adverse effects of the project on listed species and their critical habitat. And if the project is implemented, the person must ensure that measures are taken to avoid or lessen adverse effects and that effects are monitored. Mitigation measures must be consistent with recovery strategies and action plans for the species.

The complete text of SARA, including prohibitions, is available at www.sararegistry.gc.ca. For guidance on SARA and EA, the proponents may wish to make use of the *Environmental Assessment Best Practice Guide for Wildlife at Risk in Canada* available at: www.sararegistry.gc.ca/virtual_sara/files/policies/EA%20Best%20Practices%202004.pdf

Canadian Environmental Protection Act

The proponent should also be aware of the potential applicability of the *Canadian Environmental Protection Act* (CEPA). The *Canadian Environmental Protection Act* enables protection of the environment, and human life and health, through the establishment of environmental quality objectives, guidelines and codes of practice, and the regulation of toxic substances, emissions and discharges from federal facilities, international air pollution, and disposal at sea.

Migratory Birds & Species at Risk

The Canadian Wildlife Service of Environment Canada (EC-CWS) has reviewed the above documents and offers the following specific and general comments.

Considerations Specific to Migratory Birds

Migratory birds, their eggs, nests, and young are protected under the federal *Migratory Birds Convention Act* and the complementary regulations (Migratory Bird Regulations, Migratory Bird Sanctuary Regulations). Certain species are recognized to be at risk under the federal *Species at Risk Act* (SARA), provincial endangered species legislation, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) or by the Atlantic Canada Conservation Data Centre.

In conducting the environmental assessment (EA), the vulnerability of individual species/groups of migratory birds to seismic programs must reflect a consideration of the following basic factors:

- distribution and abundance of species during scheduled project activities;
- impact pathways;
- mitigation;
- cumulative effects; and
- provisions for follow-up on assessment accuracy and mitigation effectiveness.

The following impact pathways influencing migratory birds must be considered in the analysis of any seismic survey:

- noise disturbance from seismic equipment including both direct effects (physiological), or indirect effects (foraging behaviour or prey species);
- physical displacement as a result of vessel presence (e.g., disruption of foraging activities);
- nocturnal disturbance from light (e.g., increased opportunities for predators, attraction to vessels and subsequent collision, disruption of incubation);
- exposure to contaminants from accidental spills (e.g., fuel, oils, streamer fluids) and operational discharges (e.g., deck drainage, gray water, black water); and
- attraction of, and increase in, predator species as a result of waste disposal practices (i.e., sanitary and food waste) and the presence of incapacitated/dead prey behind the vessel.
- Considerations Specific to Species at Risk
- If a migratory bird species is listed under Schedule 1 of SARA and could be affected by seismic activities, steps must be taken to ensure compliance with both SARA and the *Canadian Environmental Assessment Act* (CEAA).
- Under Section 79 (1) of SARA, "Every person who is required by or under an Act of Parliament to ensure that an assessment of the environmental effects of a project is conducted, and every authority who makes a determination under paragraph 67(a) or (b) of the *Canadian Environmental Assessment Act, 2012* in relation to a project, must, without delay, notify the competent minister or ministers in writing of the project if it is likely to affect a listed wildlife species or its critical habitat."

Ivory Gull

The **Ivory Gull** (*Pagophila eburnea*) is listed as Endangered (Schedule 1) under the **Species at Risk Act** (SARA). The Ivory Gull is usually associated with pack ice and may be found in the project area during winter months. This species must be considered in the environmental assessment.

Cumulative Effects to be included in the EA

The discussion of cumulative effects must be shaped primarily by the valued ecosystem components under consideration. While an accounting of past, present and future projects and activities is a starting point in a cumulative effects assessment, the analysis must consider how impacts from the proposed project will combine with impacts from other projects and activities. In the context of marine birds, for example, the proponent must consider how the project will contribute to existing impacts (e.g., increase in predation, loss of foraging habitat) on birds from other activities (e.g., other oil and gas activities, fishing, shipping).

Information Sources to be included in the EA

The proponent should be aware of Environment Canada's Eastern Canadian Seabirds at Sea (ECSAS) program. This program has conducted over 4000 surveys covering 7800 km of ocean track in the Newfoundland and Labrador offshore area since 2006. The most up to date data for the study area must be included in the EA. This information is available by contacting Carina Gjerdrum (EC-CWS) at carina.gjerdrum@ec.gc.ca.

The ECSAS program can be cited as follow: Gjerdrum, C., D.A. Fifield, and S.I. Wilhelm. 2011. Eastern Canada Seabirds at Sea (ECSAS) standardized protocol for pelagic seabird surveys from moving and stationary platforms. Canadian Wildlife Service Technical Report Series No. 515. Atlantic Region. vi + 36 pp.

While proponents are also encouraged to employ peer-reviewed literature to support their conclusions, few studies on the interactions between birds and seismic survey activities have been conducted¹, and none have been conclusive. It is important to recognize the limited applicability of available research findings in the discussion of impacts (i.e., conclusions likely do not apply to interactions with large concentrations of birds). It must also be noted that, while the ECSAS dataset contains the most recent seabird data available for the Newfoundland and Labrador offshore area, surveys have not been dedicated to determining impacts of seismic survey activities on seabirds, but rather are distribution data collection exercises.

While an EA may conclude that the overall impact of a seismic survey on seabirds is relatively small, it remains important that the opportunity for this activity to impact federally-protected avian species be properly acknowledged in the EA. Accordingly, it is also expected that the proponent commit to all reasonable measures to mitigate the potential for such impacts to occur. These measures are outlined below.

Mitigations - General

Mitigation measures related to adverse effects, including cumulative effects, must be identified. Measures must be consistent with the *Migratory Bird Convention Act* and SARA and with applicable management plans, recovery strategies and action plans. Mitigation must reflect a clear priority on impact avoidance opportunities. The following specific measures must be among those which are considered in preparing a mitigation strategy:

- Should storm-petrels or other species become stranded on vessels, the proponent is expected to adhere to the protocol *The Leach's Storm-Petrel: General Information and Handling Instructions* (attached). A permit will be required to implement this protocol and the proponent must be advised that such a permit must be in place prior to the initiation of proposed activities. Please note that MBCA permit applications can be obtained from EC-CWS via email at Permi.atl@ec.gc.ca.
- Ramping-up the air gun array over a 30-minute period - a procedure typically used for other animal groups - may encourage marine birds to leave the survey area and may reduce the potential for adverse interactions between the project and marine birds accordingly.
- It is expected that the proponent demonstrate how they will minimize or prevent the release of hazardous substances onboard the seismic vessel (e.g. streamer fluid, chemicals for streamer repairs, fuels, lubricants) into the marine environment. Attention must be paid to impact avoidance and pollution prevention opportunities and a contingency plan must be developed to enable a quick and effective response in the event of a spill. Other

¹ These studies include: Lacroix *et al* (2003), Stemp (1995), Turnpenny and Nedwell (1994), Evans *et al* (1993).

management practices and preventative maintenance plans must be outlined such as a protocol to prevent streamer-associated spill events. This protocol must describe conditions that will allow the seismic program to be conducted without spill incidents (e.g., the range of environmental conditions within which streamers can operate, monitoring to detect leaks or tears).

Mitigations - Data Collection

EC-CWS has developed a pelagic seabird monitoring protocol (attached) that is recommended for use by experienced observers on all offshore projects. A guide for pelagic seabirds of Atlantic Canada has also been attached, for assistance in identifying pelagic seabirds in the area.

A report of the seabird monitoring program, together with any recommended changes, is to be submitted to EC-CWS on a yearly basis. In an effort to expedite the process of data exchange, EC-CWS recommends that the data (as it relate to migratory birds or Species at Risk) collected from the monitoring program be forwarded in digital format to the EC-CWS office following completion of the study. These data will be centralized for EC-CWS's internal use to help ensure that the best possible natural resource management decisions are made for these species in Newfoundland and Labrador. Metadata will be retained to identify source of data and will not be used for the purpose of publication. EC-CWS will not copy, distribute, loan, lease, sell, or use of this data as part of a value added product or otherwise make the data available to any other party without the prior express written consent.

Mitigations - Oil Pollution Incidents

Strategies to minimize or prevent accidental or chronic releases must be emphasized in a mitigation program. Proponents are required to demonstrate response preparedness and to identify provisions for ensuring measures are implemented to eliminate or minimize resulting sheens or slicks in the event of accidents and malfunctions involving the release of oil. The following considerations are requested to be factored into the development of a response plan that would help reduce impacts on seabirds:

- measures for containing and cleaning up spills (of various sizes) either at the drill site or during transport;
- equipment that would be available to contain spills;
- specific measures for the management of large and small spills (e.g., breaking up sheens);
- mitigation measures to deter migratory birds from coming into contact with the oil;
- mitigation measures to be undertaken if migratory birds and/or sensitive habitat becomes contaminated with the oil; and
- the type and extent of monitoring that would be conducted in relation to various spill events.
- In order to assist proponents in preparing a plan for dealing with an oil spill which would potentially threaten birds, EC-CWS has prepared a guidance document (attached), as well as a sample protocol document used for oiled birds on beaches (attached). A protocol for handling non-oiled but dead birds found on the vessel is also attached.

Effects of the Environment on the Project

Seismic operations will be somewhat sensitive to environmental conditions (e.g., wind, waves, ice). The EA should include considerations on how such conditions acting on the project could have consequences for the environment (e.g., increased risk of spills and impacts on valued ecosystem components). Marine weather information can be found on the Meteorological Service of Canada website at www.weatheroffice.gc.ca/marine. Additional information on regional climatology can be found at www.climate.weatheroffice.ec.gc.ca, or by contacting Environment Canada directly. Also, ice information can be found on the Canadian Ice Service website at www.ice-glaces.ec.gc.ca.

Effects of Accidents and Malfunctions

The mandatory assessment of environmental effects that result from accidents and malfunctions should include a consideration of potential spill events, such as spills from damaged seismic streamers. The assessment should be guided by the need to ensure compliance with the general prohibitions against the deposit of a deleterious substance into waters frequented by fish (Section 36, *Fisheries Act*) and against the deposit of oil, oil wastes or any other substance harmful to migratory birds in any waters or any area frequented by migratory birds (Section 35, *Migratory Birds Regulations*). In addition, it should be focused on potential worst-case scenarios (e.g., concentrations of marine birds, presence of wildlife at risk). Based on this analysis, the EA should describe the precautions that will be taken and the contingency measures that will be implemented to avoid or reduce the identified impacts.

Proponents are encouraged to prepare contingency plans that reflect a consideration of potential accidents and malfunctions and that take into account site-specific conditions and sensitivities. The Canadian Standards Association publication, *Emergency Preparedness and Response*, CAN/CSA-Z731-03, is a useful reference.

All spills or leaks of petroleum or other hazardous materials, including those from machinery, fuel tanks or streamers, should be promptly contained, cleaned-up and reported to the 24-hour environmental emergencies reporting system (St. John's 709-772-2083; other areas 1-800-563-9089).

Department of National Defence

The Department of National Defence (DND) is likely to be operating in the vicinity of the study area in a non-interference manner during the project timeframe.

A search of the unexploded ordnates (UXO) records was conducted to determine the possible presence of UXO within the proponent's project area. Records indicate there are no wrecks present within the survey area. Given DND's understanding of the survey activities to be conducted, the associated UXO risk is assessed as negligible. Nonetheless, due to the inherent dangers associated with UXO and the fact that the Atlantic Ocean was exposed to many naval engagements during WWII, should any suspected UXO be encountered during the course of the proponent's operations it should not be disturbed/manipulated. The proponent should mark the location and immediately inform the Coast Guard. Additional information is available in the 2012 Annual Edition - Notices to Mariners. Section F, No.37. In the event of activities which may have contact with the seabed (such as drilling or mooring), it is strongly

advised that operational aids, such as remote operated vehicles, be used to conduct seabed surveys in order to prevent unintentional contact with harmful UXO items that may have gone unreported or undetected. General information regarding UXO is available at our website at www.uxocanada.forces.gc.ca.

Transport Canada (TC)

All project vessels must comply with the applicable regulations under the Canada Shipping Act, 2001 (CSA 2001) and applicable International Maritime Organization (IMO) standards. More specifically:

- Project vessels registered in Canada must comply with all applicable provisions of the Regulations pursuant to the CSA 2001. In addition, the operation must comply with provisions under the Maritime Occupational and Health Regulations pursuant to Part II of the Canada Labour Code; and
- Project vessels registered in a foreign country must apply for a Coasting Trade Permit issued under the Coasting Trade Act (CTA). This means that the vessel would comply with all applicable regulations under IMO Conventions. The Coasting Trade Permit is actually issued by Canadian Customs in consultation with CTA and TC.

Newfoundland and Labrador Department of Fisheries and Aquaculture

The proponent is encouraged to continue dialogue with the fishing industry in order to mitigate any potential impacts on fishing operations during the life of the project.

Fish, Food and Allied Workers

The document and its title indicate that this is an Environmental Assessment for a Seismic Program with no time horizon presented, other than the end of production from the Hibernia oil field. This is not a tenable description for the FFAW, as there can be significant changes within relatively short time horizons both within the fishing industry and also within the petroleum industry. For the fishing industry there are indicators of changes in the resource composition, with a move back towards greater groundfish abundance. In light of this it is important for the FFAW that the horizon for the general overview for fishing activity goes back to before the moratoria on Cod and other groundfish species, to provide an indication of the areas where this activity would take place.

The Scoping Document states in 5.1.2 that the Environmental Assessment should have a temporal scope describing the timing of project activities. It would be more appropriate for the Hibernia Management and Development Company to adjust their Project Description to present what is proposed for the immediate future. The FFAW is not comfortable with an approval of the project as described in the Scoping Document and Project Description.

Further looking at the Project Description, 1.7.5 indicates that the Fisheries Liaison Officer will be on the Seismic Vessel; 1.7.4 indicates that a standby or picket vessel will be used for interaction and communicating with other users and working with fishers; and finally 1.6 makes mention of the Fisheries Liaison Officer, but not much on his location in the operation.