

FUGRO - OFFSHORE SEAFLOOR AND SEEP SAMPLING PROGRAM (2017-2027) ENVIRONMENTAL ASSESSMENT – ADDENDUM #2

Fisheries and Oceans Canada (DFO)

Original comment:

Section 3.7 Sensitive Areas, pg 33 - A brief description and/or summary of the characteristics of sensitive marine areas within the study area should be included and Section 3.7 amended accordingly.

Fugro Response:

Section 3.7 is amended as follows:

The Study Area contains a number of sensitive and special areas, including Ecologically and Biologically Significant Areas (EBSAs), Vulnerable Marine Ecosystems (VMEs), NAFO identified coral and sponge closure areas, seamounts, Bonavista Cod Box, Marine Protected Areas and Areas of Interest, and preliminary Representative Marine Areas (Figure 3-10).

Ecologically and Biologically Significant Areas

EBSAs are identified according to pre-established criteria (DFO 2004a). DFO has identified five EBSAs in the area: Southeast Shoal and Tail of the Banks; Southwest Shelf Edge and Slope; Northeast Shelf and Slope; Lily Canyon-Carson Canyon; and Virgin Rocks.

- The Southeast Shoal and Tail of the Banks EBSA notable for having the warmest bottom water temperatures on the Grand Banks and a well-defined gyre that drives high rates of primary production (CPAWS 2009) and supports reproducing populations of groundfish and capelin (Walsh et al. 2001; Fuller and Myers 2004).
- The Southwest Shelf Edge and Slope EBSA is an area of high productivity due to upwelling processes, and is an important marine area on the Grand Banks because of the high coral species richness, groundfish biomass, and seabird diversity (Kulka and Miri 2003; Ollerhead et al. 2004; Edinger et al. 2007). Cetaceans and leatherback sea turtles are known to congregate in the area to feed (CPAWS 2009).
- The Northeast Shelf and Slope EBSA is not considered unique but supports spotted wolffish and Greenland halibut populations, contains two important coral areas at Tobin's Point and Funk Island Spur, and is a known feeding area for marine mammals, particularly harp seals, hooded seals, and pilot whales (CPAWS 2009).
- Lily Canyon-Carson Canyon EBSA is variably productive, but at times can be highly productive and is strongly influenced by the Labrador Current. The area is

FUGRO - OFFSHORE SEAFLOOR AND SEEP SAMPLING PROGRAM (2017-2027) ENVIRONMENTAL ASSESSMENT – ADDENDUM #2

biologically important due to the abundance of Iceland scallop, as well as feeding and overwintering of marine mammals (Ollerhead et al. 2004; CPAWS 2009).

- The Virgin Rocks EBSA supports several fish species (Ollerhead et al. 2004) as well as marine birds. An estimated 1,000 to 2,000 common eiders commonly overwinter near the Virgin Rocks (CPAWS 2009). The site has high plankton productivity as well as dense kelp beds in the rocky shallow subtidal (CPAWS 2009).

Vulnerable Marine Ecosystems

NAFO has identified the following VMEs with the goal of managing deep-sea fisheries and the potential environmental effects that such fishing could have:

- Canyons - NAFO has identified 13 canyons: Denys Canyon; Cameron Canyon; Jackman Canyon; Guy Canyon; Hoyles Canyon; Kettle Canyon; Clifford Smith Canyon; Lilly Canyon; Carson Canyon; and Unnamed Canyons 1, 2, 3, and 4. These deep-water areas support a rich, diverse community (Gordon and Fenton 2002), ranging from corals and sponges to deep-water fishes and marine mammals (Whitehead et al. 1997; Strain and Yeats 2005; Edinger et al. 2010).
- Seamounts and Knolls – include the Newfoundland Seamounts and Beothuk Knoll. Seamounts support habitat-structuring communities such as coral and sponges, and attract aggregations of deep-sea fishes, as well as their predators.

NAFO Coral, Sponge, and Sea pen Closure Areas

Coral areas can be important habitats providing protection and areas for nurseries, feeding, breeding, and spawning for numerous species. DFO has developed the Coral and Sponge Conservation Strategy for Eastern Canada, which includes the identification of DFO and NAFO closures zones in areas of important coral and sponges (DFO 2015). The coral closures designated by NAFO include the Coral Protection Zone in Division 3O (closed by NAFO in 2007 to bottom-contact fishing gear) and an additional 12 important coral and sponge zones around the Flemish Cap (DFO 2015; NAFO 2016).

Bonavista Cod Box

The Bonavista Cod Box was identified as being important as an Atlantic cod spawning area (AMEC 2014), and was designated as an experimental protected area in 2003.

Marine Protected Areas

The 2.09 km² Eastport Marine Protected Areas on the Bonavista Peninsula, insular Newfoundland, was established in October 2005 and an Area of Interest at Leading

FUGRO - OFFSHORE SEAFLOOR AND SEEP SAMPLING PROGRAM (2017-2027) ENVIRONMENTAL ASSESSMENT – ADDENDUM #2

Tickles, also on the Island of Newfoundland. Both of these areas are outside the Study Area.

The southern Grand Bank has been identified as an area of ecological importance in offshore Newfoundland and Labrador. A large portion of the area has been identified by Parks Canada as a Preliminary Representative Marine Area as it is known as a feeding area for whales, a breeding area of capelin and to have known to have several species of corals present (Fuller and Myers 2004).

Important Bird Areas

Important Bird Areas (IBAs) are discrete areas that support nationally or globally important groups of birds. Although IBAs are not legally protected, they are often found within areas that have been designated as protected areas by federal or provincial authorities. There is a total of 17 IBA sites associated with eastern Newfoundland.

References:

CPAWS (Canadian Parks and Wilderness Society). 2009. Special Marine Areas in Newfoundland and Labrador: Areas of Interest in Our Marine Backyards. Prepared for CPAWS-NL. Available at: http://cpaws.org/uploads/pubs/report_nlmarineguide.pdf.

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Edinger, E., K. Baker, R. Devillers and V. Wareham. 2007. Coldwater Corals off Newfoundland and Labrador: Distributions and Fisheries Impacts. World Wildlife Foundation, Toronto, ON. 31 pp.

Edinger, E.N., O.A. Sherwood, D.J.W. Piper, V.E. Wareham, K.D. Baker, K.D. Gilkinson and D.B. Scott. 2010. Geological features supporting deep-sea coral habitat in Atlantic Canada. *Continental Shelf Research*, 31 (2, Suppl.): S69-S84.

Fuller, S.D. and R.A. Myers. 2004. The Southern Grand Bank: A Marine Protected Area for the World. World Wildlife Fund Canada. Halifax, NS. 99 pp.

Gordon, D.C. and D.G. Fenton (Editors). 2002. Advances in understanding the Gully ecosystem: A summary of research projects conducted at the Bedford Institute of Oceanography (1999-2001). Canadian Technical Report on Fisheries and Aquatic Sciences, 2377: vi + 84 pp.

Kulka, D.W. and C.M. Miri. 2003. The status of thorny skate (*Amblyraja radiata* Donovan, 1808) in NAFO Divisions 3L, 3N, 3O and Subdivision 3Ps. Northwest Atlantic Fisheries Organization Science Council Research Document, 03/57: 86 pp.

NAFO (North Atlantic Fisheries Organization). 2016. 31st Annual Meeting – September 2009: Delineation of Existing Bottom Fishing Areas in the NAFO Regulatory Area. Available at: <http://www.nafo.int/fisheries/frames/fishery.html>. Accessed August 4, 2016.

Ollerhead, L.M.N., M.J. Morgan, D.A. Scruton and B. Marrie. 2004. Mapping spawning times

FUGRO - OFFSHORE SEAFLOOR AND SEEP SAMPLING PROGRAM (2017-2027) ENVIRONMENTAL ASSESSMENT – ADDENDUM #2

and locations for 10 commercially important fish species found on the Grand Banks of Newfoundland. Canadian Technical Report of Fisheries and Aquatic Sciences, 2522: iv + 45 pp.

Strain, P.M. and P.A. Yeats. 2005. Nutrients in the Gully, Scotian Shelf, Canada. *Atmosphere-Ocean*, 43: 145-161.

Walsh, S.J., M. Simpson, M.J. Morgan, K.S. Dwyer and D. Stansbury. 2001. Distribution of juvenile yellowtail flounder, American plaice and Atlantic cod on the Southern Grand Bank of Newfoundland: A discussion of nursery areas and marine protected areas. Northwest Atlantic Fisheries Organization Science Council Research Document, 01/78: 49 pp.

Whitehead H., S. Gowans, A. Faucher and S.W. McCarrey. 1997. Population analysis of northern bottlenose whales in the Gully, Nova Scotia. *Marine Mammal Science*, 13(2): 173-185.

DFO Reply:

Description of Sensitive Areas (pages 21-25 in Addendum) – Based on the Study Area, additional Sensitive Areas should be listed and described, including: Orphan Spur EBSA, Laurentian Channel and Slope EBSA and St. Pierre Bank EBSA under Ecologically and Biologically Significant Areas ; and Laurentian Channel Area of Interest/Proposed Marine Protected Area under MPAs/Areas of Interest.

References:

http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2013/2013_048-eng.html
http://www.dfo-mpo.gc.ca/csas-sccs/publications/resdocs-docrech/2007/2007_052-eng.htm
http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2010/2010_076-eng.html
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FUGRO - OFFSHORE SEAFLOOR AND SEEP SAMPLING PROGRAM (2017-2027) ENVIRONMENTAL ASSESSMENT – ADDENDUM #2

The following new text is added to the Addendum:

Ecologically and biologically Sensitive Areas

- **The Orphan Spur EBSA** The Orphan Spur encompasses an area in NAFO 3K with water depths of 400 to 2,000 m (norther section) and 1,000 m (southern section). In addition to the Orphan Spur, this EBSA includes part of the Trinity Trough Mouth Fan. High concentrations of a number of species (including corals, fish, marine mammals and seabirds, including rare or endangered species) occur in the EBSA (DFO 2013).
- In addition to providing an important juvenile/nursery area for smooth skate (Kulka et al. 2007, in Templeman 2007, the Laurentian Channel and Slope EBSA contains the highest concentration of black dogfish in waters off Canada and is the sole pupping grounds for this species of shark off Canada (Kulka 2006, in Templeman 2007). It is also one of the two known mating grounds in the Northwest Atlantic Ocean for porbeagle shark (DFO 2015b). Other species exclusive to the Laurentian Channel (and Southwest Slope EBSA) include white hake, monkfish, and pollack (Kulka et al. 2003, in Templeman 2007). Marine mammals migrate through the area between the Gulf of St. Lawrence and the Atlantic Ocean (Templeman 2007). This EBSA also contains one of the highest concentrations of sea pens in the Newfoundland and Labrador Shelves Bioregion (DFO 2015b).
- The St. Pierre Bank EBSA contains the only concentration of sea scallop on the Grand Banks, with the highest proportion spawning on St. Pierre bank in spring; this species does not use any other area in the region (F. Cahill, DFO, pers. comm., in Templeman 2007). The western portion of this EBSA also contains the highest concentration of Spiny dogfish (this is their northernmost extent in the Northwest Atlantic) (Kulka 2006, in Templeman 2007). Overwintering and migrating whales use the EBSA area as a spring feeding area (Templeman 2007).

Marine Protected Areas

The Laurentian Channel Area of Interest/Proposed Marine Protected Area covers an area of 11,619 km² on the southwest coast of the Island of Newfoundland. The proposed Laurentian Channel Marine Protected Area Regulations under the Oceans Act were gazetted June 24, 2017 (Government of Canada 2017a) to initiate consultation on the proposed Marine Protected Area. Two management zones would be established under the proposed Regulations, providing different levels of protection, with stringent protection applied to areas that need it most (Government of Canada 2017b). Six indicator species were identified for this Marine Protected Area: sea pens, black dogfish, smooth skate, northern wolffish, porbeagle and leatherback sea turtle (DFO 2015b). Interested parties had until July 27, 2017, to submit comments on the proposed Regulations.

FUGRO - OFFSHORE SEAFLOOR AND SEEP SAMPLING PROGRAM (2017-2027) ENVIRONMENTAL ASSESSMENT – ADDENDUM #2

References

DFO (Fisheries and Oceans Canada). 2013. *Identification of Additional Ecologically and Biologically Significant Areas (EBSAs) within the Newfoundland and Labrador Shelves Bioregion*. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2013/048: 26 pp.

DFO (Fisheries and Oceans Canada). 2015b. *Monitoring Indicators, Protocols and Strategies for the Proposed Laurentian Channel Marine Protected Area (MPA)*. DFO Canadian Science Advisory Secretariat Science Advisory Report, 2014/049: 22 pp.

Government of Canada. 2017a. *Laurentian Channel Marine Protected Area Regulations*. Available at: <http://www.gazette.gc.ca/rp-pr/p1/2017/2017-06-24/html/reg2-eng.php>

Government of Canada. 2017b. *Laurentian Channel Proposed Marine Protected Area*. Available at: https://www.canada.ca/en/fisheries-oceans/news/2017/06/laurentian_channelproposedmarineprotectedarea.html

Templeman, N.D. 2007. *Placentia Bay-Grand Banks Large Ocean Management Area Ecologically and Biologically Significant Areas*. DFO Canadian Science Advisory Secretariat Research Document, 2007/052: 15 pp.

FUGRO - OFFSHORE SEAFLOOR AND SEEP SAMPLING PROGRAM (2017-2027) ENVIRONMENTAL ASSESSMENT – ADDENDUM #2

Fish, Food and Allied Workers (FFAW-Unifor)

Original Comment:

Section 2.7 Key Mitigation Measures, Table 2.2 Commitment/Mitigation Measures, Interference with fishing activities, pg 9 - The table should read “there will be a FLO onboard the vessel”.

Fugro Response:

Table 2.2 is amended to read:

Requirements for an FLO to be on board the vessels will be agreed with FFAW-Unifor. Requirements will be based on time and location of survey activities of each vessel, and level of likelihood that survey activities will overlap with fishing activity.

FFAW Reply:

The Key Mitigation Measures section (2.7) has been edited in the Addendum to include discussions with FFAW/Unifor regarding the use of Fisheries Liaison Officers (FLOs). The initial document stated that a FLO would be on board the survey vessel. The Addendum indicates that the use of a FLO will be based on time and location of survey activities in relation to the level of fishing activity.

The deployment of Fisheries Liaison Officers (FLO) on offshore petroleum industry survey programs is considered a standard practice of mitigation to prevent potential at-sea conflicts associated with time and space overlap between fishing and petroleum sectors. The use of FLOs for similar seafloor and seep sampling projects in the past has been a key component of their mitigation measures.

The area of interest of the proponent's program is fairly large, although understandably smaller than the area put forward in the EA. As well, more than half of the area extends beyond the 200 mile limit. There is turbot fishing currently ongoing at the southern edge of the program area (inside the 200 mile limit). The real-time data we have available on fishing activity outside the 200 mile limit is very limited. Our groundfish stocks are on the rise and the latest data available is from 2015. (Groundfish fishing activity between 2011 and 2015 is depicted in the EA in the program area in Figure B.3). As such it is difficult to predict the level of fishing activity in the area of interest while the survey program is ongoing this fall.

Due to the spatial scale and uncertainty on the level of fishing activity in the program area at this time it is my recommendation that FLOs be deployed on both vessels for this project. FLOs are experienced in initiating and maintaining communication with fish harvesters at-sea to gain insight on fishing activity and share details of the survey program. This at-sea communication enables the FLO to collaborate with the onboard Client Representative and senior vessel crew to ensure effective planning and mitigate potential conflict on the water.

Fugro's Response:

The text of Section 2.7 was updated to more closely reflect the One Ocean Risk Management Matrix Guidelines for the utilization of Fisheries Liaison Officers and Fisheries Guide Vessels for the Fishing and Petroleum Industries of Newfoundland and Labrador. Fugro is fully committed to mitigating risk to fishing and welcomes a

FUGRO - OFFSHORE SEAFLOOR AND SEEP SAMPLING PROGRAM (2017-2027) ENVIRONMENTAL ASSESSMENT – ADDENDUM #2

consultation process to identify risk and mitigation for each program.