Husky Energy REPORT

REPORT TITLE

Husky Energy Atlantic Region
Newfoundland and Labrador Offshore Area
Environmental Assessment Review for 2015

SUBMITTED TO

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Additional Comments

Revised to address review comments from DFO.

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1.0 Introduction

Offshore oil and gas exploration and production programs generally encompass long periods of time and multiple, successive, operational steps. As a consequence, environmental assessments of these programs address a variety of activities undertaken over a number of years.

Annual Environmental Assessment reviews are conducted to assist the C-NLOPB in fulfilling its responsibilities under the *Canadian Environmental Assessment Act* by ensuring that the scope of the assessment(s) and the mitigations committed to therein remain technically valid.

Table 1 lists Husky Energy's environmental assessments that have been approved by the C-NLOPB.

Table 1 Current Environmental Assessment Approvals for Husky Energy

Screening Determination Reference	EA Report Title	Husky Document Number
CEAR No. 06-01-17410	Husky White Rose Development Project: New Drill Centre Construction and Operations Program Environmental Assessment & Addendum	WR-HSE-RP-4003 & WR-HSE-RP-0167
CEAR No. 07-01-28877	Husky Delineation/Exploration Drilling Program for Jeanne d'Arc Basin Area, 2008-2017	ED-HSE-RP-0016
CEAR No. 11-01-65302	Jeanne d'Arc Basin Flemish Pass Regional Seismic Program 2012-2020	AR-HSE-RP-0110

Husky does not anticipate any activities assessed under the Jeanne d'Arc Basin Flemish Pass Regional Seismic Program 2012-2020 in 2015, specifically seismic or wellsite surveys.

The following sections are organized by individual environmental assessments under which activities are planned in 2015. Each section provides the necessary information to confirm the ongoing validity of the assessment in question or note any changes that need to be addressed.

2.0 Husky White Rose Development Project: New Drill Centre Construction and Operations Program Environmental Assessment

2.1 Project Description and Scope

2.1.1 Activities Covered

In 2007, Husky Energy proposed to develop up to five new drill centres within the White Rose field to 2015. Two of the five have been excavated to date, the North Amethyst Drill Centre and the South White Rose Extension. Additional drill centres contemplated in 2007 were one drill centre for the North White Rose Extension (NWRX) and two drill centres for the West White Rose Extension (WWRX). There were a total of 54 wells proposed for these five drill centres.

Construction activities proposed also include installation of drilling templates and other subsea equipment in the drill centres to support eventual production operations. Subsea flowlines would also be installed to connect new drill centres with existing ones which in turn connect to the *SeaRose FPSO*. Routine maintenance of drill centres may also be required.

The Project includes the use of mobile offshore drilling units, construction and diving vessels, marine support vessels, helicopter support and existing shore based facilities in St. John's Harbour.

Geohazard/well site surveys and vertical seismic profiling (VSP) using an airgun array may be required on an as-needed basis at any time of the year. Geotechnical surveys (i.e. core drilling) may also occur year round.

2.1.2 Geographic Scope

The geographic (spatial) scope of the Drill Centre assessment is portrayed in the inset map in Figure 2-1. Planned activities for 2015 will occur throughout the Project Area.

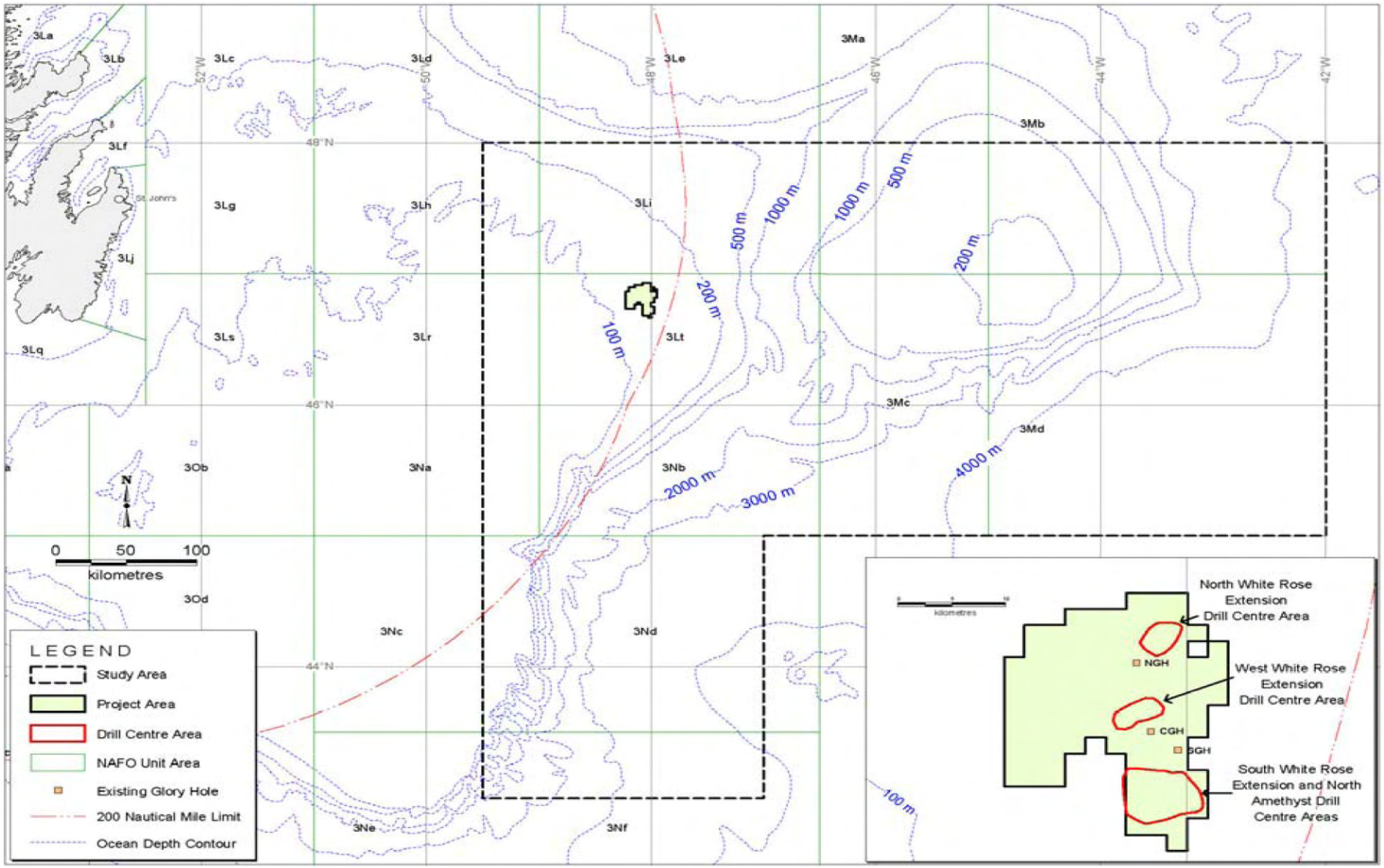

Figure 2-1 Geographic Scope of Project Area for CEAR No. 06-01-7410

2.1.3 Temporal Scope

The temporal scope of New Drill Centre construction activities is from 2007 to 2015. Production operations associated with these five new drill centres would occur between 2009 and 2020.

Drilling and construction related activities are scoped for year round operations, however placement of subsea equipment to support drilling and production operations and installation of flow lines in drill centres will most likely occur during the summer and fall weather windows.

To date, development drilling activities carried out under the scope of this environmental assessment involved drilling at the North Amethyst Drill Center (NADC) and South White Rose Extension (SWRX). A total of 14 of the 54 wells estimated for up to five potential drill centres scoped under this environmental assessment have been started or completed.

2.1.4 Planned Activities for 2015

The current well schedule indicates the GSF Grand Banks will continue drilling and completion of wells at SWRX from February to June 2015. The MODU is then planned to move to NADC to resume drilling and completion of a well until August, 2015. Drilling schedules are subject to slight modification however, based on operational requirements and conditions.

SWRX will utilize well templates and wellhead systems similar to those used on the White Rose and North Amethyst developments, with the exception that a larger conductor string may be used in future wells. White Rose and North Amethyst drilling practices employed to drill conductor and surface hole sections will be applied to SWRX wells to mitigate the impact of drill cuttings and cement spillage into the drill centre. Specifically, guar gum sweeps, cuttings transport systems and reduced excess cement will be used. Synthetic-based muds will be used to drill the intermediate and production hole sections. Best available technology will continue to be used to minimize synthetic drill mud on cuttings. Advanced directional drilling tools and systems will continue to be used to drill the deviated and horizontal wells required to develop this region of the field. Existing White Rose and North Amethyst cementing practices will also be applied to SWRX. Conductor and surface casing strings will be cemented to the seafloor, and subsequent strings will be cemented in such a manner to ensure that the movement of formation fluids in the casing annulus is prevented and the reservoir zone is isolated.

SWRX well completions will be designed to maximize well productivity while maintaining the necessary standard of risk and well integrity. Detailed design of the drilling and completions program for the SWRX wells will be addressed in the individual Approval to Drill a Well (ADW) applications.

2.2 Environmental Aspects

2.2.1 Fisheries

Consultations specific to this EA update were held with the Fish Food and Allied Workers Union and One Ocean on February 26, 2015 and with the Association of Seafood Producers on February 27, 2015. Attempts to meet with Ocean Choice International were not successful, but an outline of Husky's planned activities for 2015 was sent in via email. There is also ongoing liaison with the fishing industry through the regular meetings of the One Ocean Technical Working Group that involves representatives from the various operating oil and gas companies and fishing interests.

Figure 2-2 provides a map of fishing activity from 2005 to 2010 and Figures 2-3 to 2-5 depict fishing activity from 2011 to 2013. Fisheries data post-2010 cannot be compared with previous data due to changes in the information released by DFO. Fishing activities in the Study Area have not changed significantly since the initial environmental assessment. This compilation is derived from Fisheries and Oceans Canada (DFO) databases including research vessel and underutilized species information.

As noted in previous updates, a directed fishery for American Plaice and Atlantic Cod has not existed for some time and this has not changed as of 2015. If in the future, a directed fishery is authorized then previous fishing patterns for these species may be re-established in areas in and near the Jeanne d'Arc basin.

Husky understands that it is important to recognize that harvesters fish a resource, and not fixed points from year to year. Licenses are issued for large areas (e.g. NAFO subdivisions 3K or 3L) and fishing activity could take place anywhere within these areas and not just at the pattern of locations fished in recent years indicated by DFO data. Hence this requires that Husky continue to consult with the fishing industry on a regular basis to keep up-to-date with trends in fishing from year to year.

With regard to the conduct of its operations, Husky will continue to keep fishing interests informed of these activities during the operational planning phases. This will be done through the established One Ocean contacts and others as deemed necessary or as advised.

Since the approval of the aforementioned environmental assessment, the fishing and oil and gas industries, through One Ocean, have completed two initiatives to help enhance communication and collaboration between the two industries. The first is a communication protocol that has been distributed to fishers and members of the petroleum industry. The protocol recommends communication procedures between fish harvesters and offshore installations and petroleum-related vessels during operational activities. The second is a risk-based decision matrix that defines the conditions under which oil and gas operators could employ either or both a Fisheries Liaison Officer or a guide vessel in support of certain oil and gas operations that have a potential to affect fisheries activities offshore.

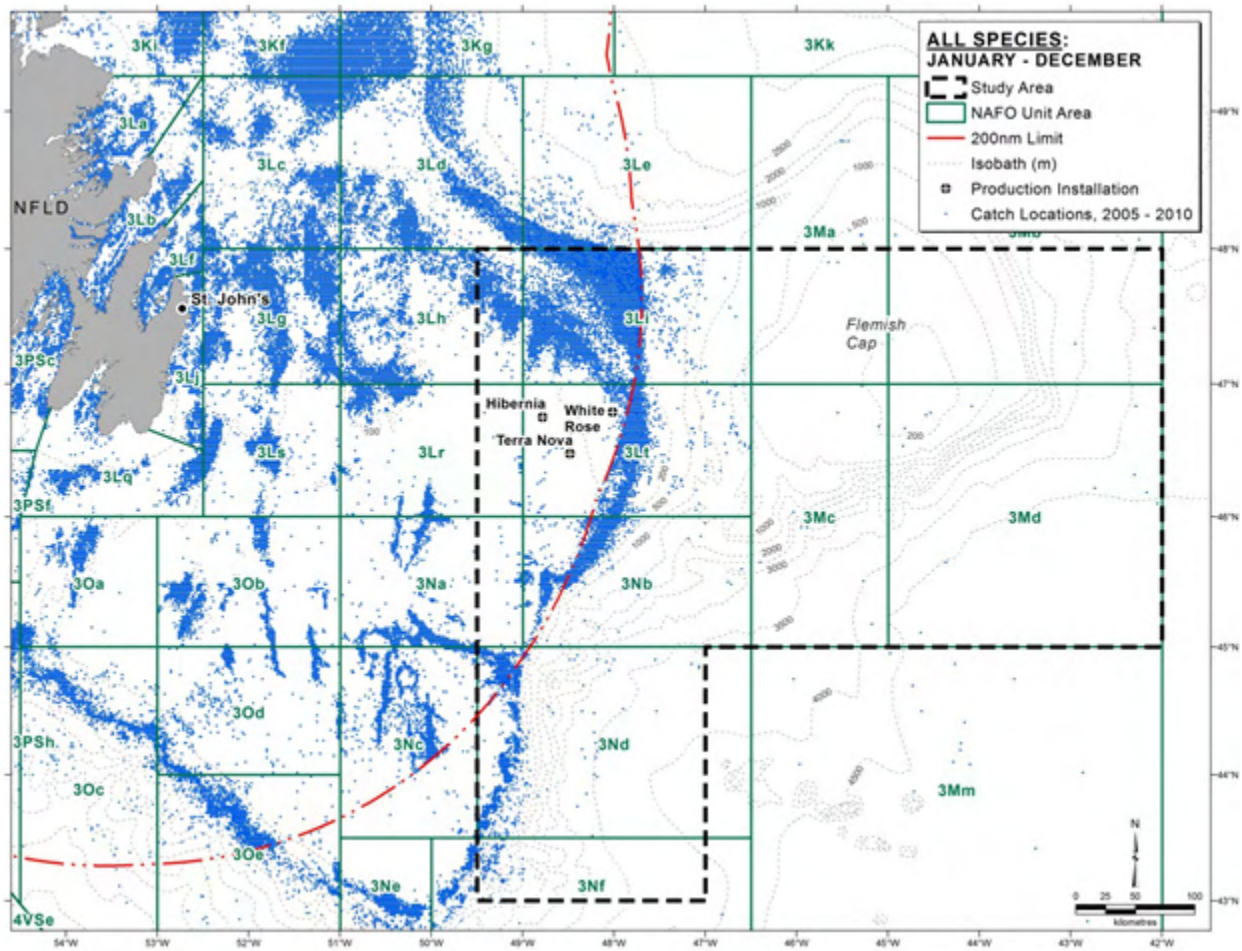

Figure 2-2 Cumulative Pattern of Fishing Activity from 2005 - 2010 in Relation to EA Study Area

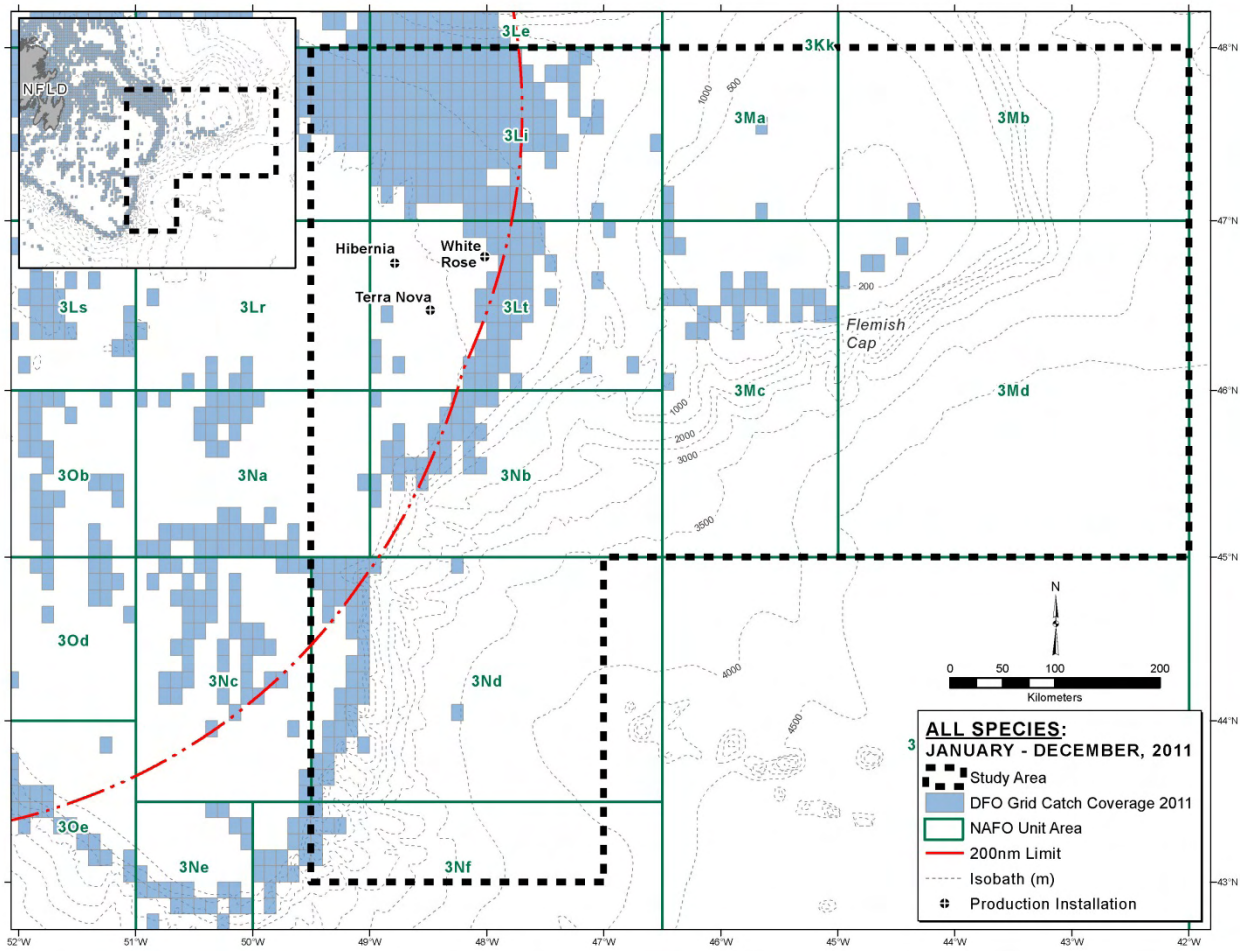

Figure 2-3 Pattern of Fishing Activity in 2011 in Relation to the EA Study Area

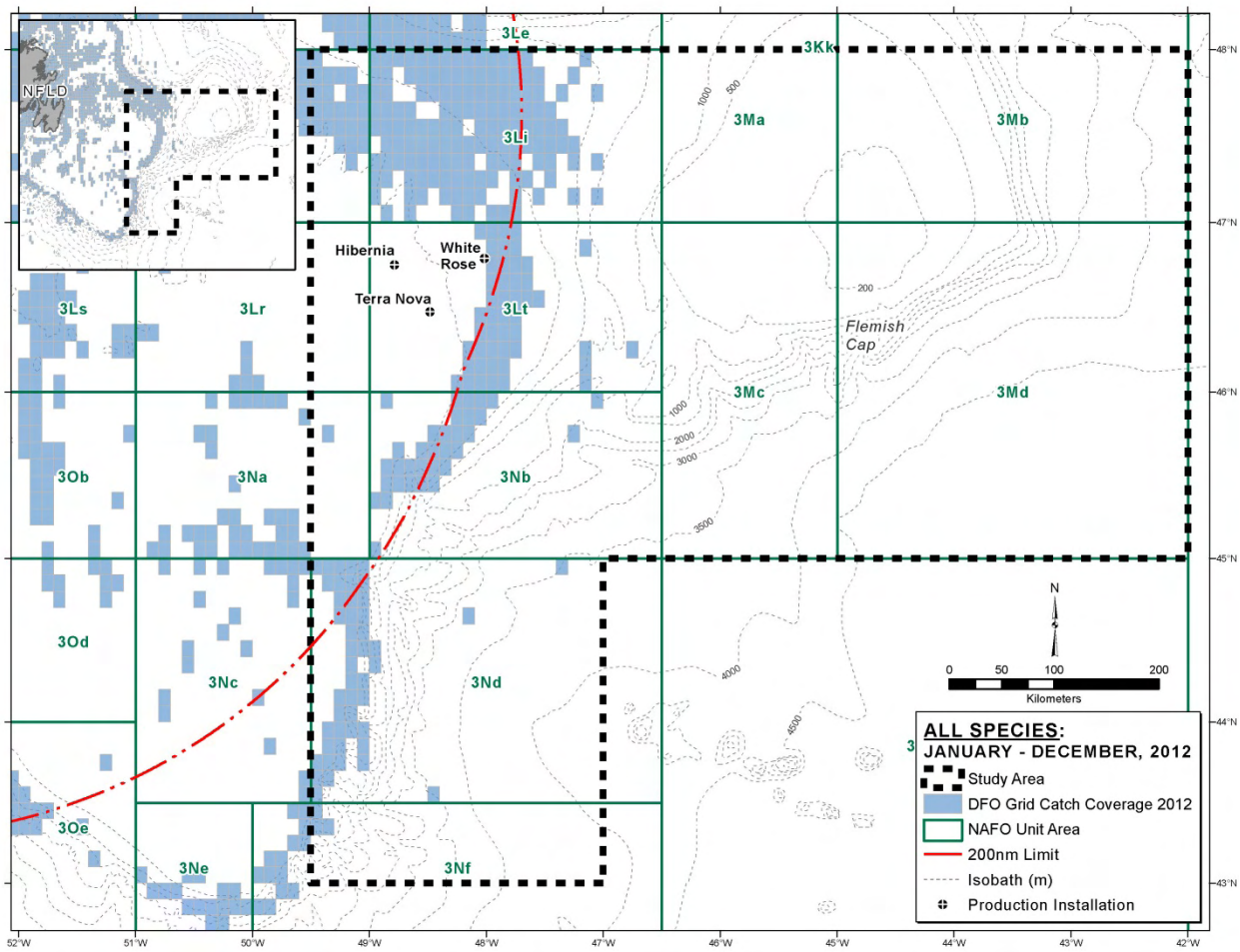

Figure 2-4 Pattern of Fishing Activity in 2012 in Relation to the EA Study Area

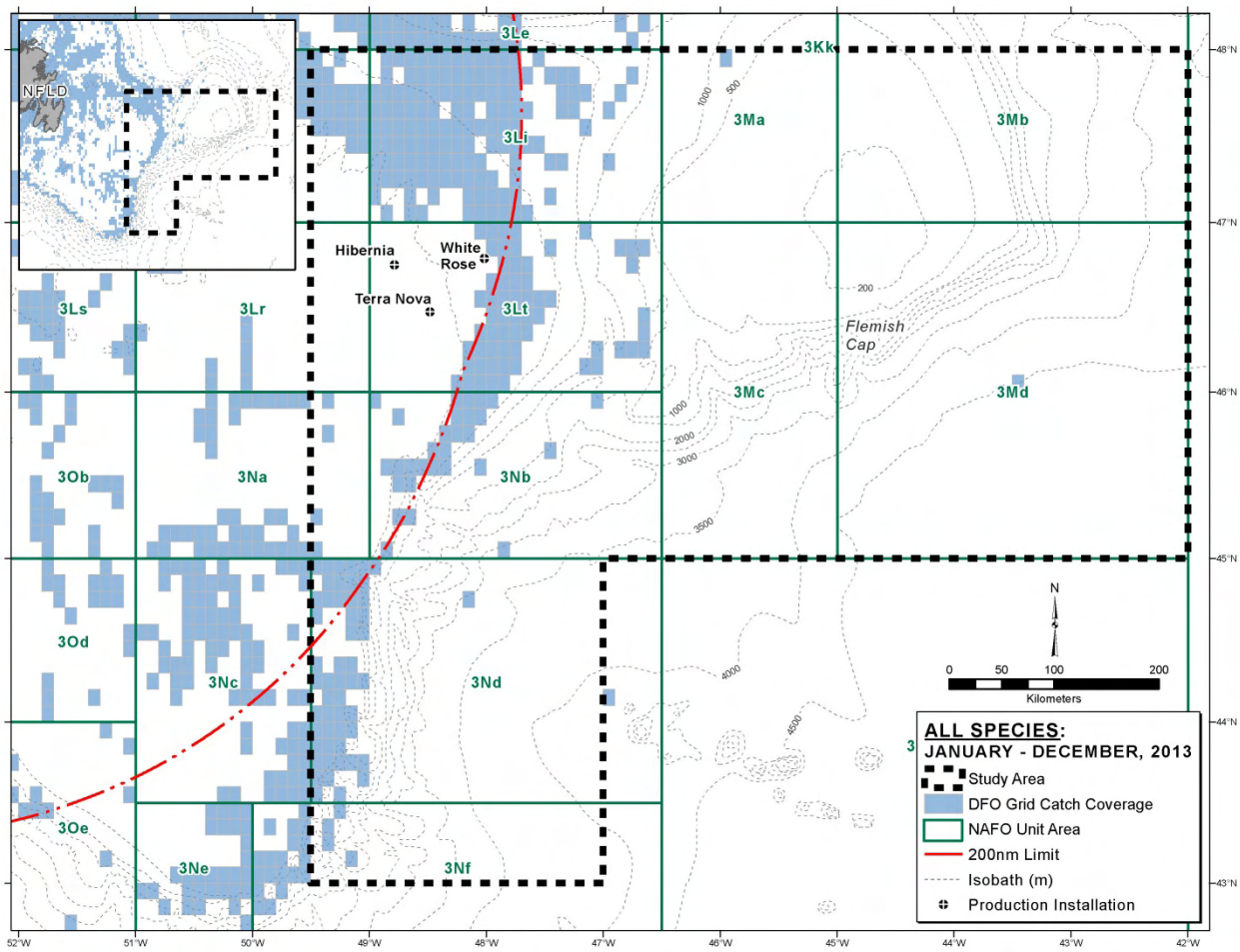

Figure 2-5 Pattern of Fishing Activity in 2013 in Relation to the EA Study Area

2.2.2 Species at Risk

An updated listing under SARA (Species at Risk Act) and COSEWIC (Committee on the Status of Endangered Wildlife in Canada) species for the Grand Banks area of relevance to this assessment is provided in Appendix 1. SARA-listed species with final recovery strategies in place are noted. None of the SARA-listed species relevant to the spatial scope of this assessment has an overlapping critical habitat description or an action plan in place. Appendix 1 also provides the COSEWIC candidate species under consideration.

There are two cetacean species (blue whale, and North Atlantic right whale), one sea turtle species (leatherback), one seabird species (Ivory Gull), and three fish species (white shark, northern wolffish and spotted wolffish) that are legally protected under Schedule 1 of SARA and have potential to occur in the Study Area. Atlantic wolfish, the Atlantic population of fin whales and Sowerby's beaked whale are designated as special concern on Schedule 1 of SARA.

Final recovery strategies have been prepared for six species currently designated as either endangered or threatened under Schedule 1 of SARA and potentially occurring in the Study Area: the Ivory Gull, the leatherback sea turtle, the spotted wolffish, the northern wolffish, the blue whale, and the North Atlantic right whale. A management plan

has also been prepared for the Atlantic wolffish, currently designated as special concern on Schedule 1 of SARA.

None of the recovery plans for SARA-listed species in place materially change the mitigation measures currently committed by Husky for the scope of the operations addressed by the environmental assessment because critical habitat has not been identified within the Study Area.

2.2.3 Mitigations

Husky regards the environmental predictions and consequent mitigations cited in the environmental assessment and subsequent significance determination that relates to CEAR No. 06-01-7410 as still valid and re-commits to implementing these mitigation measures for the activities to be carried out under the scope of this assessment this year.

The potential environmental effects of drilling activities as described in Section 2.1.4 are assessed to be *not significant* when evaluated against the assessment definitions and criteria applied to the valued ecosystem components addressed in the original assessment.

3.0 Husky's Delineation/Exploration Drilling Program for Jeanne d'Arc Basin Area, 2008-2017

3.1 Project Description and Scope

3.1.1 Activities Covered

This environmental assessment addressed Husky Energy's proposal for drilling 18 delineation and/or exploration wells from semi-submersible or jack-up mobile drilling units or drill ships within any current or future Husky land holdings in the Jeanne d'Arc Basin area during 2008 to 2017. To date 10 of these 18 wells have been drilled as follows:

- White Rose K-03 - Delineation (Spud 21 Nov 2007 to Jan 2008)
- North Amethyst E-17 - Delineation (Spud 9 Aug, 2008)
- White Rose E-28 - Delineation (Spud 13 Oct 2008)
- Glenwood H-69 - Exploration (Spud 25 Jan 2010)
- North Amethyst H-14 - Delineation (Spud 21 Mar 2010)
- Searcher C-87 - Exploration (Spud 8 Aug 2012)
- White Rose H-70 - Delineation (Spud 19 Aug 2013)
- White Rose H-70Z – Sidetrack (Commence 26 Sep 2013)
- North Amethyst E-18 12A - Delineation (Spud 6 Dec 2013)
- Aster C-93A – Exploration (Spud 19 Dec 2014)

In support of drilling operations, the project includes marine support vessels for shipping goods and personnel to the MODU, helicopter support, shore-based facilities using existing facilities in St. John's Harbour, and abandonment. Vertical Seismic Profiling (VSP) and testing, and geohazard/well site surveys may be required for any of the 18 wells drilled.

3.1.2 Geographic Scope

The geographic (spatial) scope of the environmental assessment is depicted in Figure 3-1. The project area is depicted by the red rectangle.

3.1.3 Temporal Scope

Drilling and support activities associated with the drilling program as outlined above may be carried out year round from 2008 through 2017.

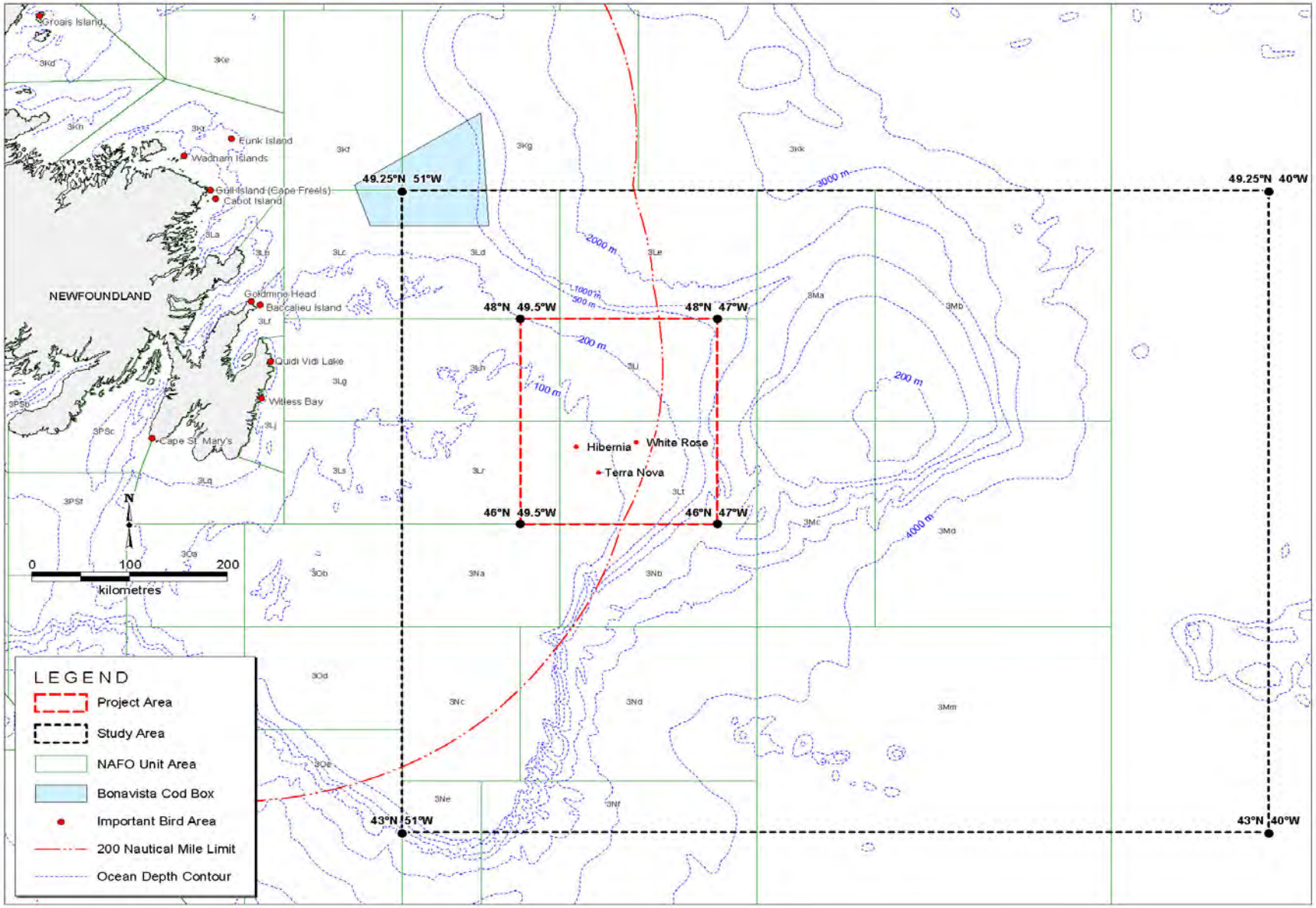

Figure 3-1 Geographic Scope of Project Area CEAR No. 07-01-28877

3.1.4 Planned Activities for 2015

A single exploration well called A-78 is planned at SDL 1025 from approximately August to October, 2015. A-78 is approximately 4 nautical miles west of the White Rose Safety Zone and 14.6 nautical miles west of the nearest post-season crab survey location.

Two possible outcomes exist for either an exploratory well or deliniation well; suspension or abandonment. For a suspended well, a suspension cap is installed to protect the wellhead connnector. The suspension cap protrudes above the seabed. Proper notification via Notice to Shipping is made to identify the subsea obstruction until it is removed. To abandon a well, all subsea infrastructure is removed upon completetion of the well, so there are no protubances above the seabed.

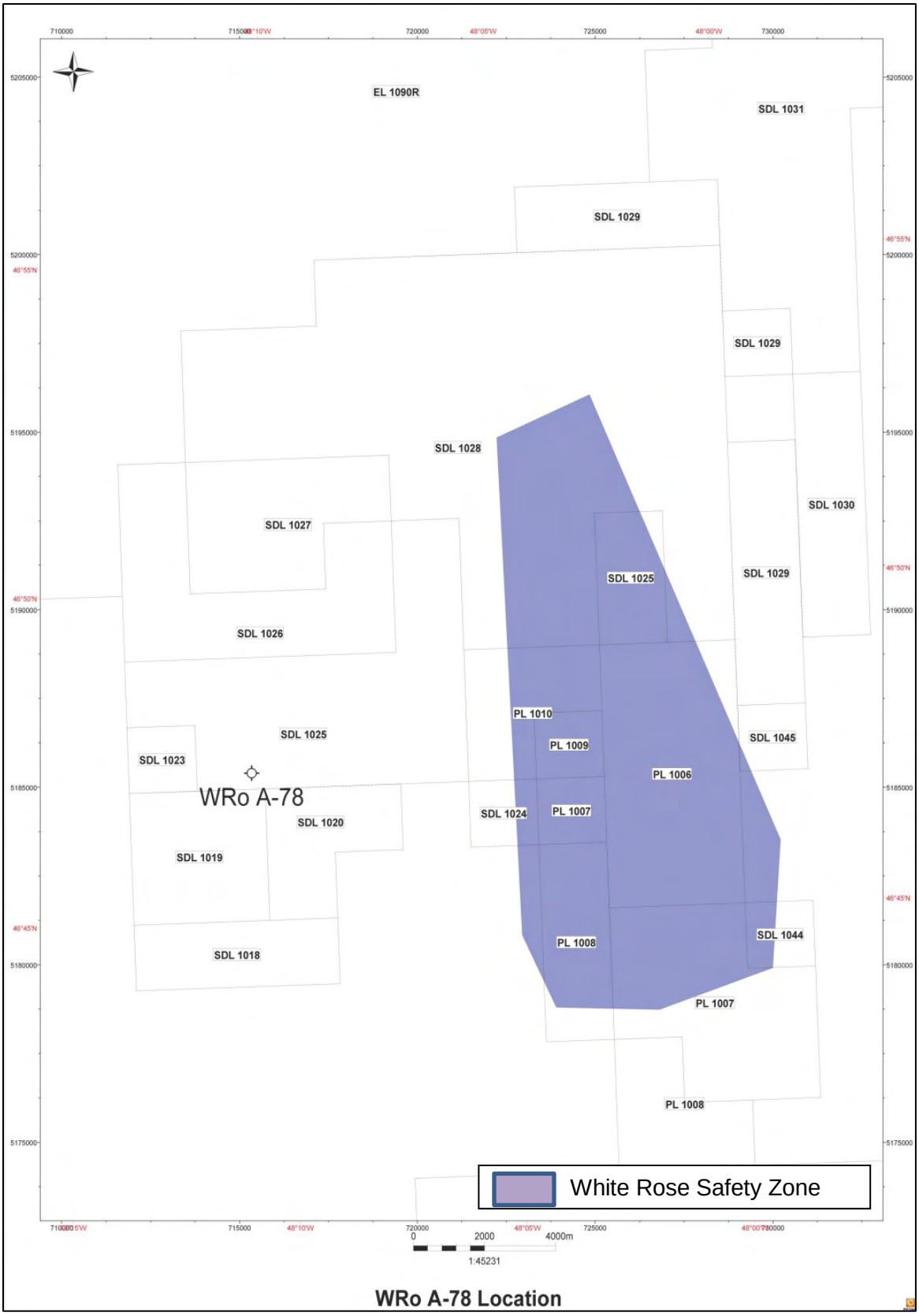

Figure 3-2 Area of Exploration Well

3.2 Environmental Aspects

3.2.1 Fisheries

Consultations specific to this EA update were held with the Fish Food and Allied Workers Union and One Ocean on February 26, 2015 and with the Association of Seafood Producers on February 27, 2015. Attempts to meet with Ocean Choice International were not successful, but an outline of Husky's planned activities for 2015 was sent in via email. There is also ongoing liaison with the fishing industry through the regular meetings of the One Ocean Technical Working Group that involves representatives from the various operating oil and gas companies and fishing interests.

Figure 3-3 provides a map of fishing activity from 2005 to 2010 and Figure 3-4 to Figure 3-6 depict fishing activity from 2011 to 2013, respectively. Fisheries data post-2010 cannot be compared with previous data due to changes in the information released by DFO. Fishing activities in the Study Area have not changed significantly since the initial environmental assessment. This compilation is derived from Fisheries and Oceans Canada (DFO) databases including research vessel and underutilized species information.

The eastern portion of the Project Area is beyond the Canadian EEZ. These fisheries are managed by NAFO, are predominantly conducted using trawling gear, and principally occur in the region delineated as the NAFO fishing footprint (Figure 3-7). The majority of the portion of the Project Area outside of the Canadian EEZ is within the fishing footprint; therefore, foreign fishing activities may occur in proximity to the delineation/exploratory drilling activity outside of the EEZ.

As noted in previous updates, a directed fishery for American Plaice and Atlantic Cod has not existed for some time and this has not changed as of 2015. If in the future, a directed fishery is authorized then previous fishing patterns for these species may be re-established in areas in and near the Jeanne d'Arc basin.

NAFO has identified 'Vulnerable Marine Ecosystem (VME) Elements' (topographical, hydrophysical or geological features which potentially support VMEs, including slopes, summits and flanks of seamounts and knolls, and canyons) and areas of significant coral and sponge concentrations within the NAFO Regulatory Area. Based on these identifications, NAFO seamount closure areas and coral/sponge closure areas were delineated and declared closed to all bottom fishing activities until at least 31 December 2020 (NAFO 2015). While no seamount closure areas occur within the Project Area, one coral/sponge closure area occurs partially within the southeast portion of the Project Area (Figure 3-8). The nearest seamount closure area and other coral/sponge closure areas have also been included in Figure 3-8 to provide an indication of their distances from the Project Area.

Husky understands that it is important to recognize that harvesters fish a resource, and not fixed points from year to year. Licenses are issued for large areas (e.g. NAFO subdivisions 3K or 3L) and fishing activity could take place anywhere within these areas and not just at the pattern of locations fished in recent years indicated by DFO data. Hence this requires that Husky continue to consult with the fishing industry on a regular basis to keep up-to-date with trends in fishing from year to year.

With regard to the conduct of its operations, Husky will continue to keep fishing interests informed of these activities during the operational planning phases. This will be done through the established One Ocean contacts and others as deemed necessary or as advised.

Since the approval of the aforementioned environmental assessment, the fishing and oil and gas industries, through One Ocean, have completed two initiatives to help enhance communication and collaboration between the two industries. The first is a communication protocol that has been distributed to fishers and members of the petroleum industry. The protocol recommends communication procedures between fish harvesters and offshore installations and petroleum-related vessels during operational activities. The second is a risk-based decision matrix that defines the conditions under which oil and gas operators could employ either or both a Fisheries Liaison Officer or a guide vessel in support of certain oil and gas operations that have a potential to affect fisheries activities offshore.

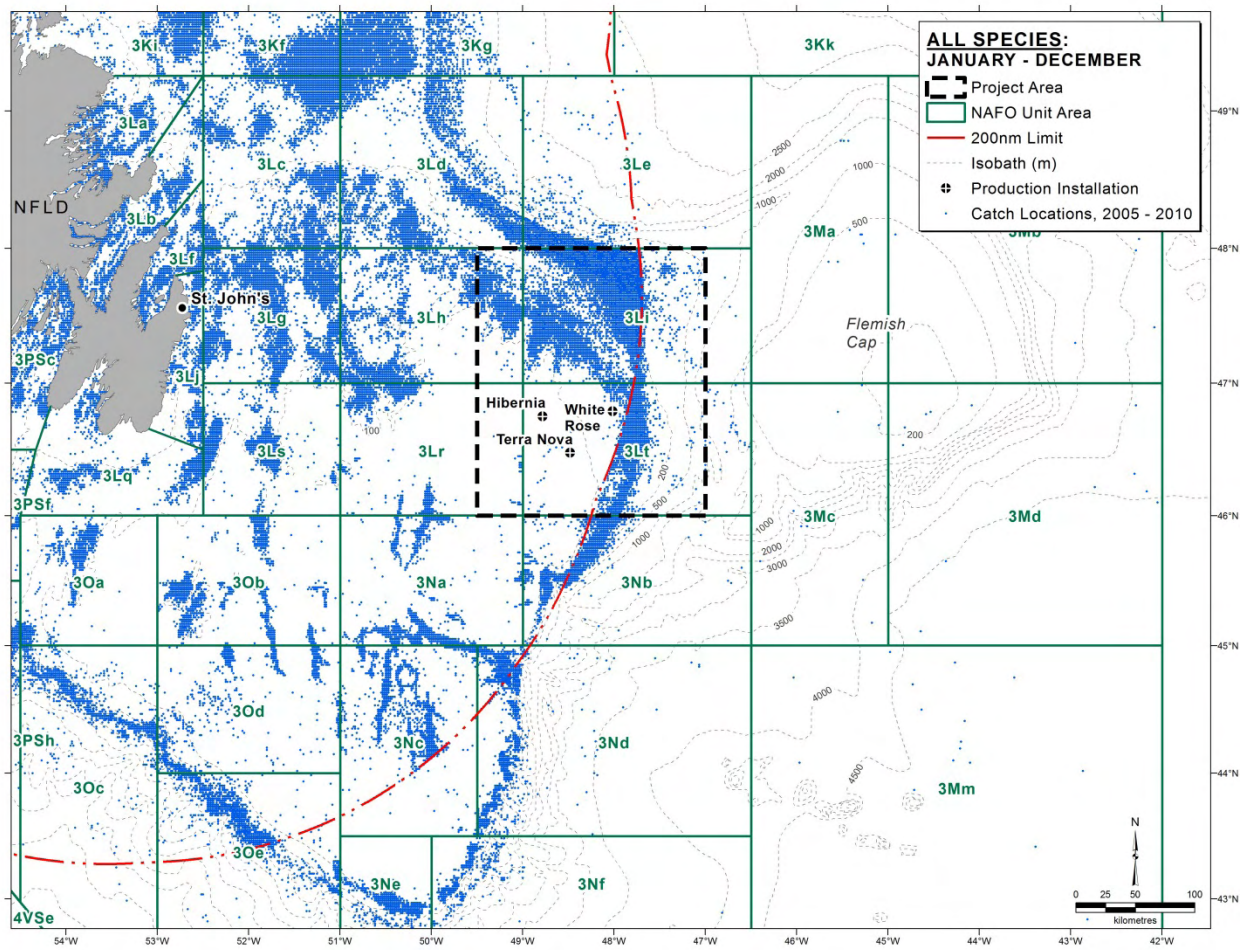

Figure 3-3 Cumulative Pattern of Fishing Activity to 2005 - 2010 in Relation the EA Project Area

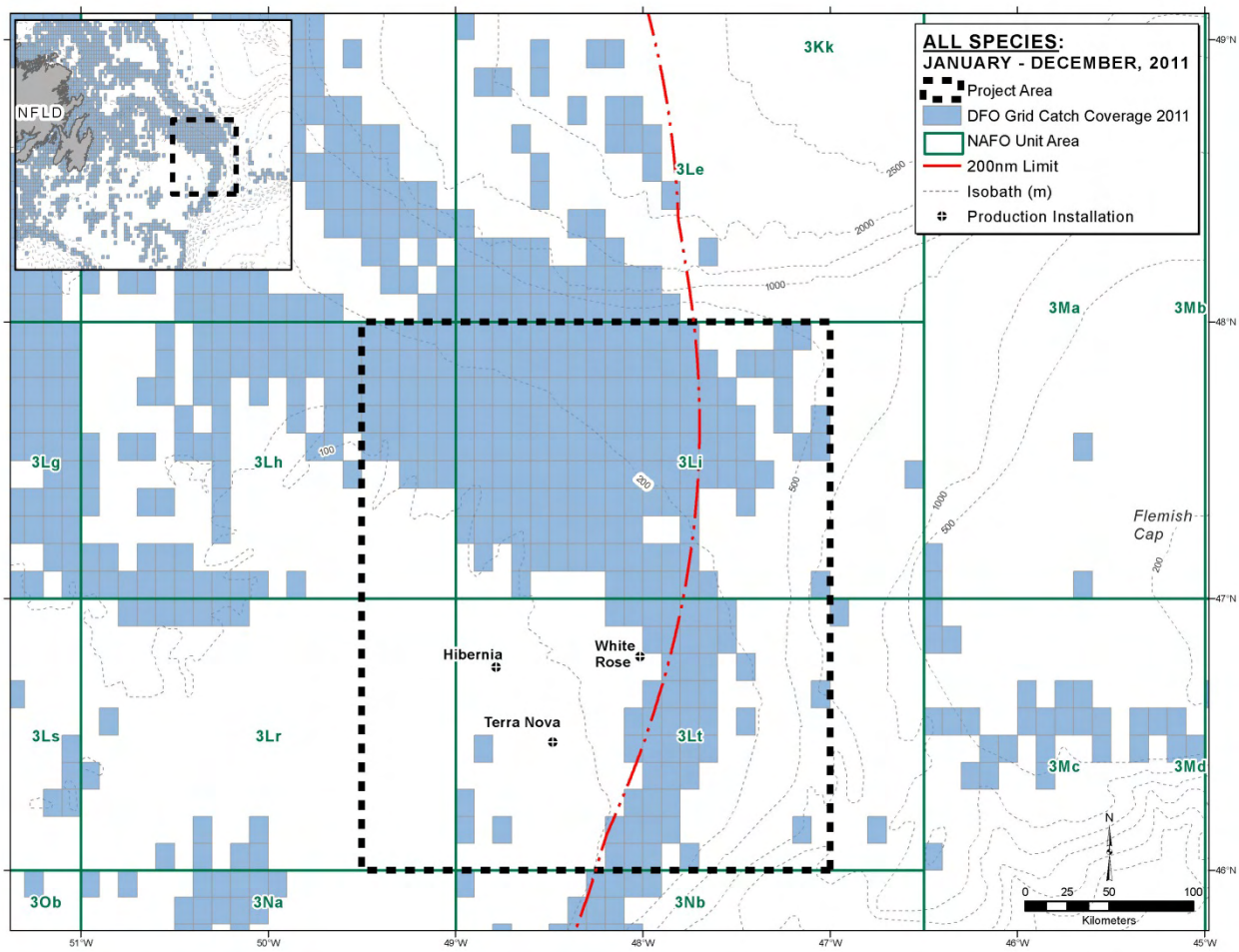

Figure 3-4 Pattern of Fishing Activity in 2011 in Relation the EA Project Area

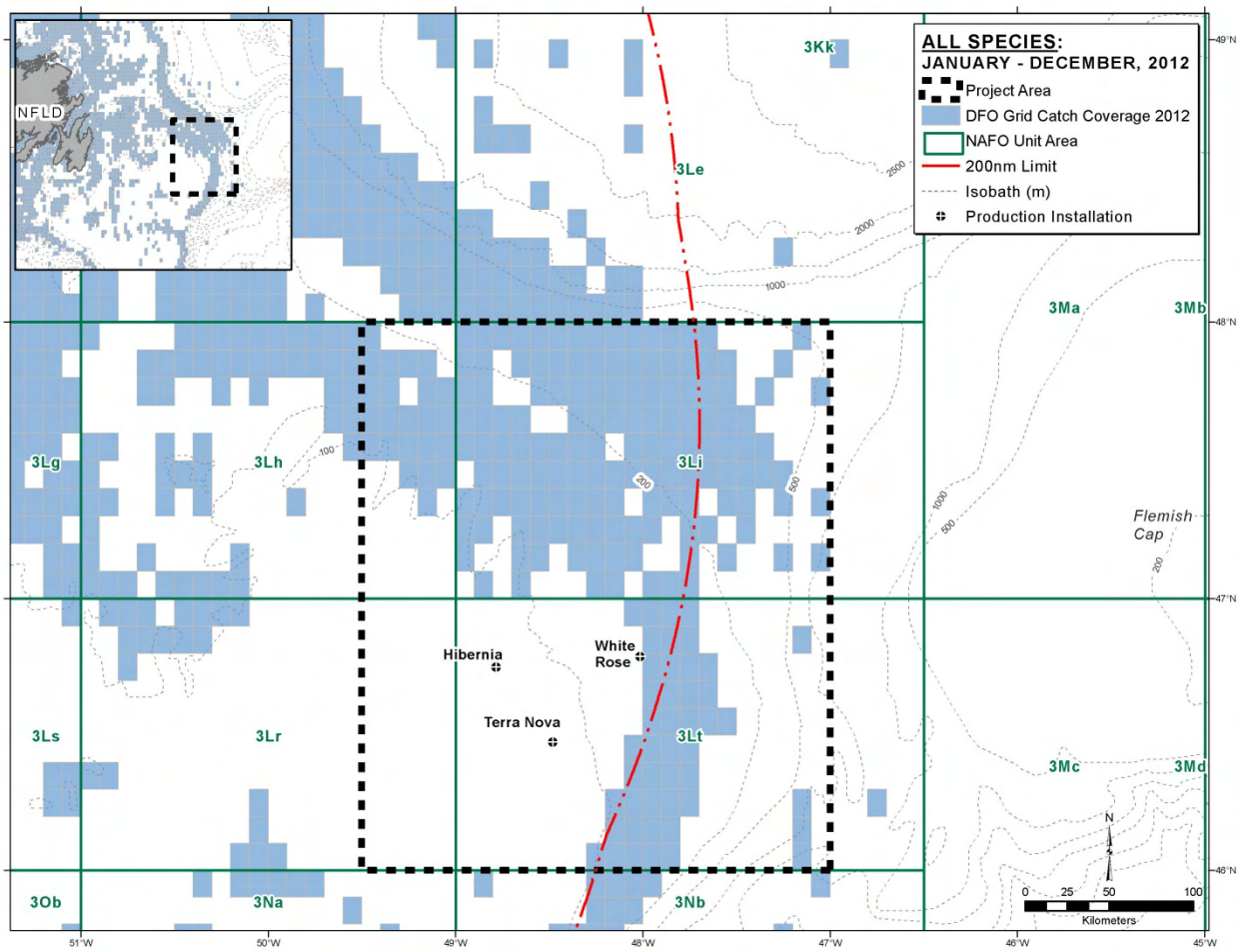

Figure 3-5 Pattern of Fishing Activity in 2012 in Relation the EA Project Area

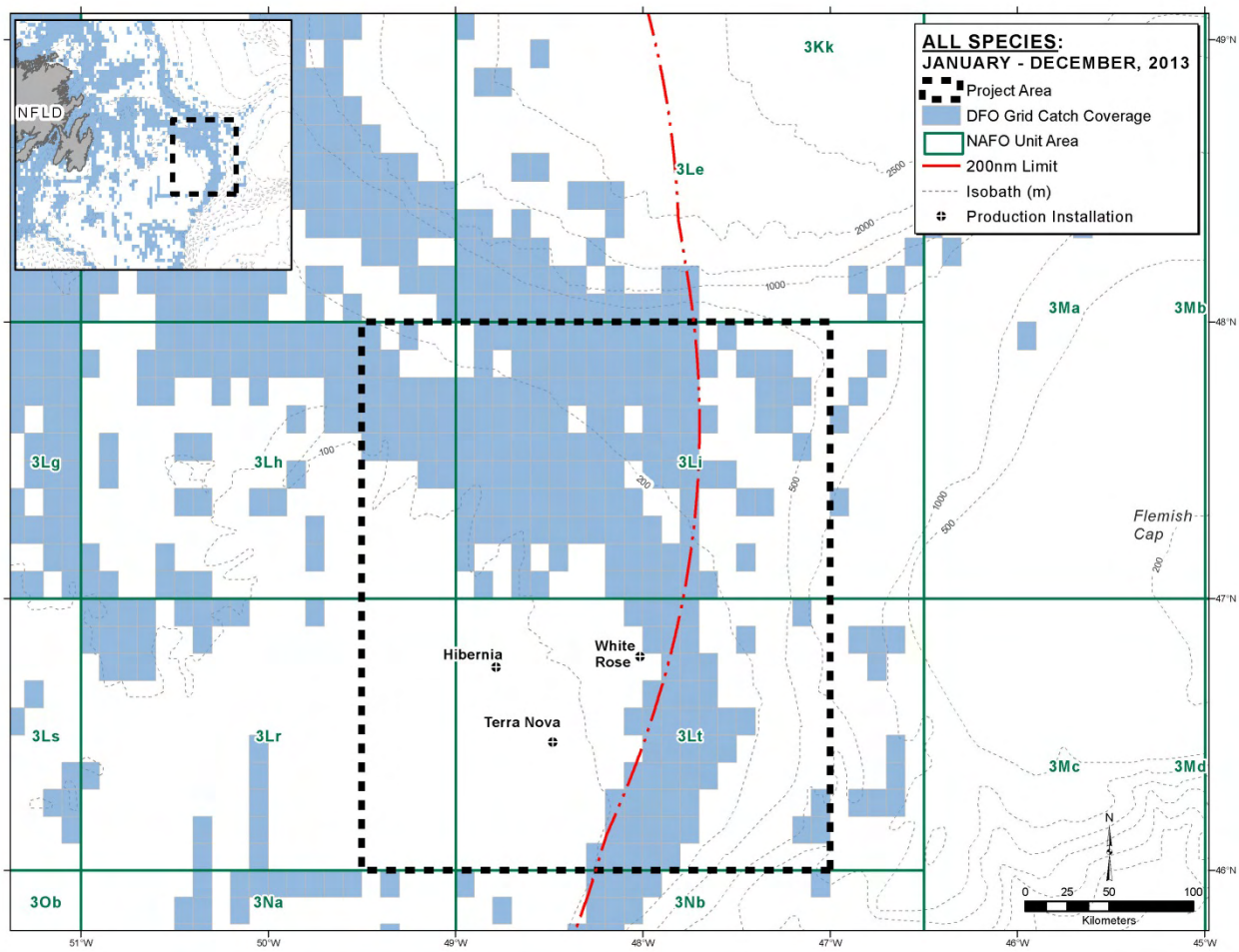

Figure 3-6 Pattern of Fishing Activity in 2013 in Relation the EA Project Area

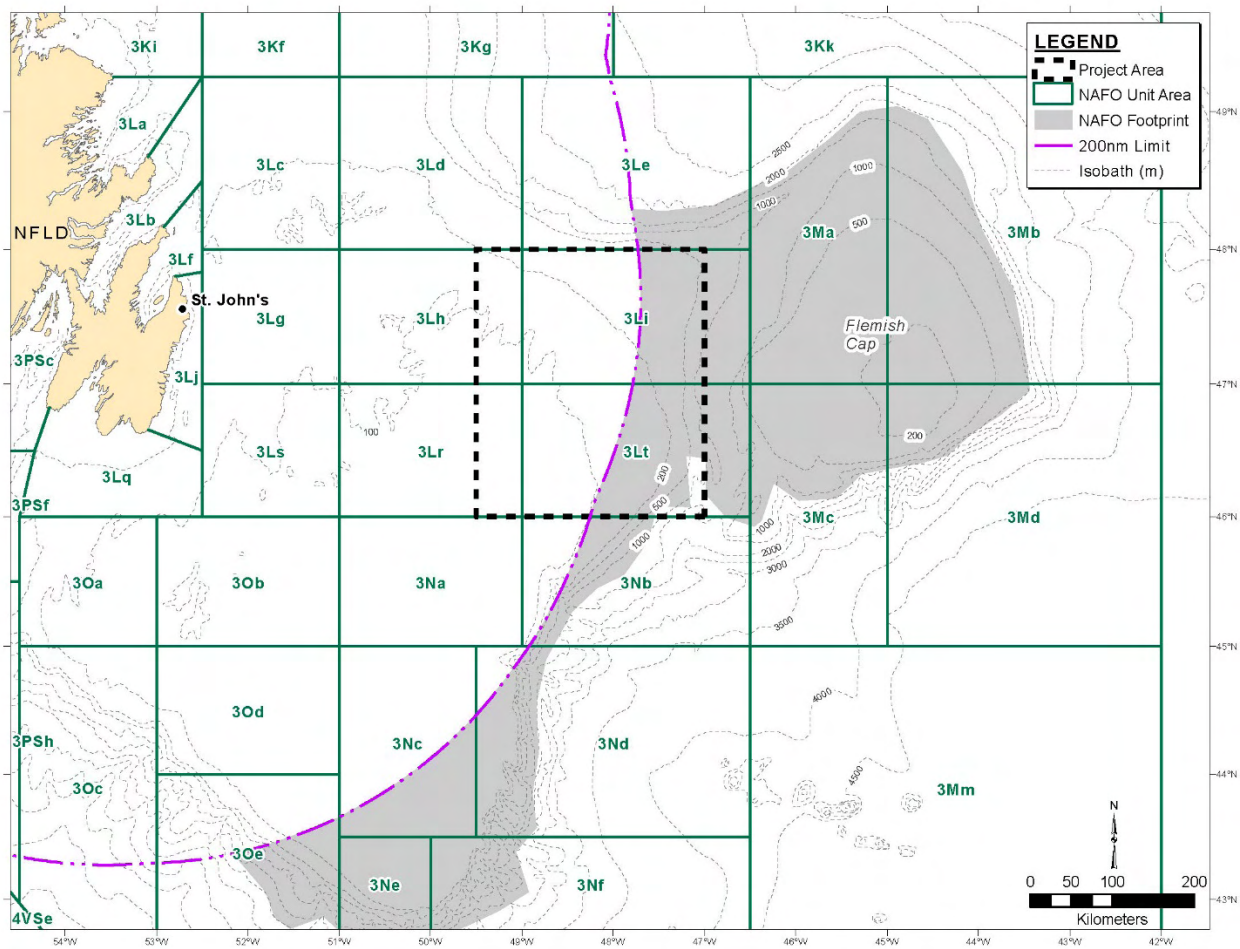

Figure 3-7 NAFO Fishing Footprint in Relation to the EA Project Area

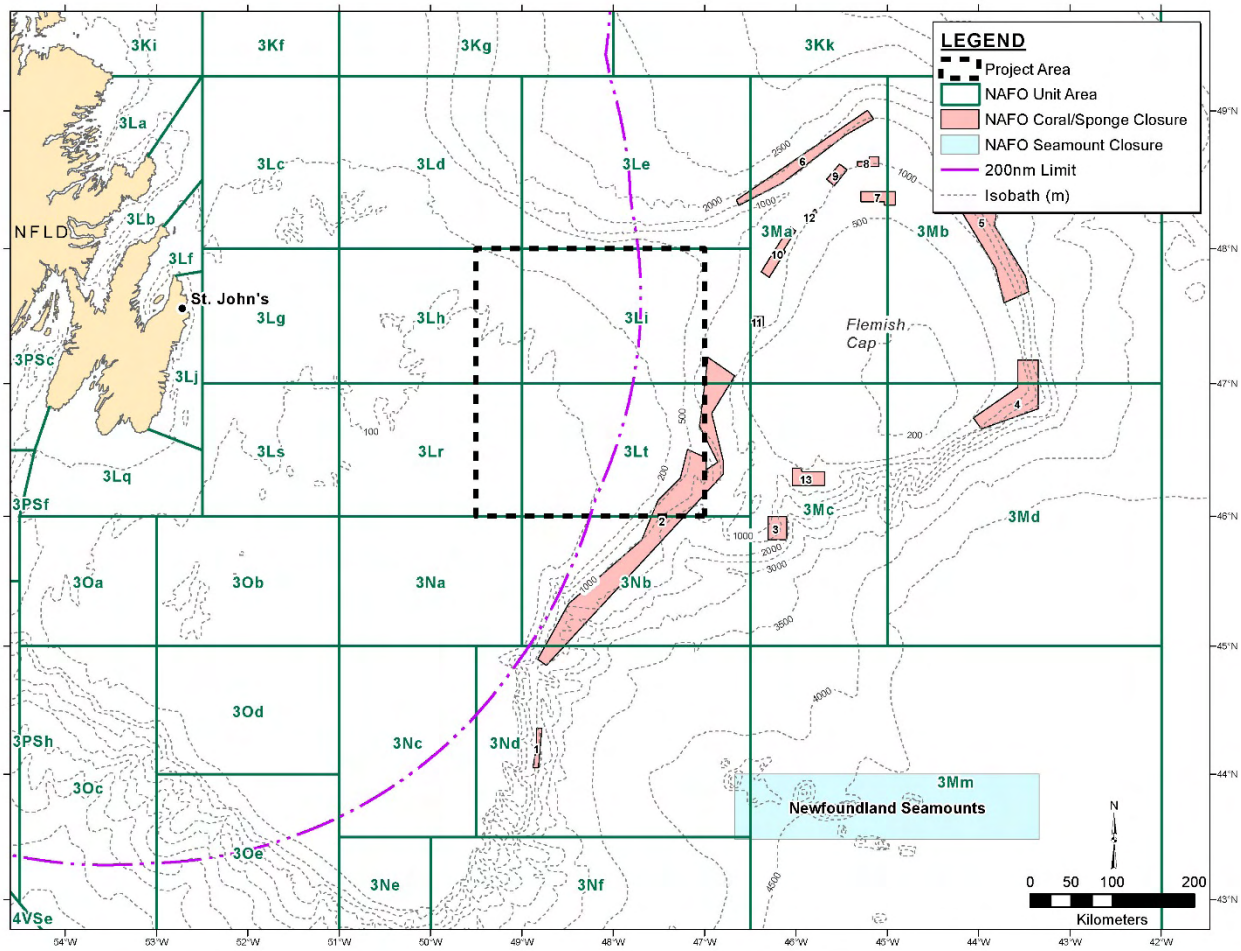

Figure 3-8 NAFO Coral/Sponge Closure Areas and Nearest NAFO Seamount Closure Area in Relation to the EA Project Area

3.2.2 Species at Risk

An updated listing of SARA and COSEWIC species for the Grand Banks area of relevance to this assessment is provided in Appendix 1. SARA-listed species with final recovery strategies in place are noted. None of the SARA-listed species relevant to the spatial scope of this assessment has an overlapping critical habitat description or an action plan in place. Appendix 1 also provides the COSEWIC candidate species under consideration.

There are two cetacean species (blue whale, and North Atlantic right whale), one sea turtle species (leatherback), one seabird species (Ivory Gull), and three fish species (white shark, northern wolffish and spotted wolffish) that are legally protected under Schedule 1 of SARA and have potential to occur in the Study Area. Atlantic wolfish, the Atlantic population of fin whales and Sowerby's beaked whale are designated as special concern on Schedule 1 of SARA.

Final recovery strategies have been prepared for six species currently designated as either endangered or threatened under Schedule 1 of SARA and potentially occurring in the Study Area: the Ivory Gull, the leatherback sea turtle, the spotted wolffish, the northern wolffish, the blue whale, and the North Atlantic right whale. A management plan has also been prepared for the Atlantic wolffish, currently designated as special concern on Schedule 1 of SARA.

None of the recovery plans for SARA-listed species in place materially change the mitigation measures currently committed by Husky for the scope of the operations addressed by the environmental assessment because critical habitat has not been identified within the Study Area.

3.2.3 Mitigations

Husky regards the environmental predictions and consequent mitigations cited in the environmental assessment and subsequent significance determination that relates to CEAR No. 07-01-28877 as still valid and re-commits to implementing these mitigation measures for the activities to be carried out under the scope of this assessment this year.

The potential environmental effects of drilling activities as described in Section 3.1.4 are assessed to be *not significant* when evaluated against the assessment definitions and criteria applied to the valued ecosystem components addressed in the original assessment.

4.0 Concluding Statement

The activities Husky plan to carry out in 2015 have been reviewed and assessed to be within the spatial and temporal scope of the environmental assessments referenced herein.

The environmental effects predicted in the currently valid assessments are still valid. Husky reaffirms its commitment to implement the mitigation measures proposed in these assessments and in the Screening Decisions made by the C-NLOPB.

5.0 References

5.1 Original Husky Environmental Assessments

1. LGL Limited. 2012. Environmental Assessment of Husky's Jeanne d'Arc Basin/Flemish Pass Regional Seismic Program, 2012-2020. LGL Rep. SA1144. Prepared by LGL Limited in association with Canning & Pitt Associates Inc., St. John's, NL, and Oceans Ltd., St. John's, NL, for Husky Energy, St. John's, NL. 320 p. + appendices.

2. LGL Limited. 2006c. Husky White Rose Development Project: New Drill Centre Construction & Operations Program Environmental Assessment. LGL Rep. SA883. Rep. by LGL Limited, St. John's, NL, for Husky Energy Inc., Calgary, AB. 299 p. + App.

3. LGL Limited. 2007. Husky White Rose Development Project: New Drill Centre Construction & Operations Program Environmental Assessment Addendum. LGL Rep. SA883a. Rep. by LGL Limited, St. John's, NL, for Husky Energy Inc., Calgary, AB. 126 p. + App.

4. LGL Limited. 2007. Husky Delineation/Exploration Drilling Program for Jeanne d'Arc Basin Area, 2008-2017, Environmental Assessment. LGL Rep. SA935. Prepared by LGL, St. John's, NL, in association with Canning & Pitt Associates, Inc., Oceans Ltd., and PAL Environmental Services. Prepared for Husky Energy Inc., Calgary, AB. 231 p. + Appendices.

5. Husky Energy. 2012. Husky Energy East Coast Operations Newfoundland & Labrador Offshore Area Environmental Assessment Review for 2010. Doc. No. WR-HSE-RP-1886.

5.2 Other References

1. LGL Limited. 2008. Environmental Assessment of StatoilHydro Canada Ltd. Exploration and Appraisal/Delineation Drilling Program for Offshore Newfoundland, 2008-2016. LGL Rep. SA947b. Rep. by LGL Limited, Canning & Pitt Associates Inc., and Oceans Ltd., St. John's, NL, for StatoilHydro Canada Ltd., St. John's, NL. 292 p. + appendices.

2. Christian, John R. 2008. Environmental Assessment of Petro-Canada Jeanne d'Arc Basin Exploration Drilling Program, 2009-2017. LGL Rep. SA993. Prepared by LGL, St. John's, NL prepared for Petro-Canada, St. John's, NL 258 p. + Appendix.

3. Christian, John R. 2009. Environmental Assessment of Petro-Canada Jeanne d'Arc Basin Exploration Drilling Program, 2009-2017 Addendum. LGL Rep. SA993. Prepared by LGL, St. John's, NL prepared for Petro-Canada, St. John's, NL 22 p.

4. Stantec. 2010. Hebron Project Comprehensive Study Report. Prepared by Stantec Ltd. on behalf of ExxonMobil Canada Properties

5. Suncor 2011, Suncor I&O East Coast Operations Newfoundland & Labrador Offshore Area Environmental Assessment Review for 2011. Doc. No. TN-PE-EC15-X00-155.

6. LGL Limited. 2011. Environmental assessment of Statoil's Geophysical Program for Jeanne d'Arc and Central Ridge/Flemish Pass Basins, 2011-2019. LGL Rep. SA1121. Rep. by LGL Limited, in association with Canning & Pitt Associates Inc., and Oceans Ltd., St. John's, NL, for Statoil Canada Ltd., St. John's, NL. 227 p. + appendices.

7. NAFO. 2015. Northwest Atlantic Fisheries Organization conservation and enforcement measures. NAFO/FC Doc. 15/01. Serial No. N6409.

5.3 Species at Risk Recovery Strategies

- DFO. 2013. Report on the progress of implementation of the Recovery Strategy for northern wolffish (*Anarhichas denticulatus*) and spotted wolffish (*Anarhichas minor*), and Management Plan for Atlantic wolffish (*Anarhichas lupus*) in Canada for the period 2008-2013. Species at Risk Act Recovery Strategy Report Series. Fisheries and Oceans Canada, Ottawa. vi + 16 p.

- DFO 2012. Assessment of Leatherback Turtle (*Dermochelys coriacea*) Fishery and Non-fishery Interactions in Atlantic Canadian Waters. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2012/041.

- Environment Canada. 2013. Recovery Strategy for the Ivory Gull (*Pagophila eburnea*) in Canada [Proposed]. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. iv+ 22 pp.

- Kulka, D., C. Hood and J. Huntington. 2007. Recovery Strategy for Northern Wolffish (*Anarhichas denticulatus*) and Spotted Wolffish (*Anarhichas minor*), and Management Plan for Atlantic Wolffish (*Anarhichas lupus*) in Canada. Fisheries and Oceans Canada: Newfoundland and Labrador Region. St. John's, NL. x + 103 pp.

- DFO 2008. Recovery Strategy for the Atlantic walrus (*Odobenus rosmarus rosmarus*), Northwest Atlantic population, in Canada. Species at Risk Act Recovery Strategy Series. Fisheries and Oceans Canada, Ottawa, ON. x + 11 pp.

- Beauchamp, J., Bouchard, H., de Margerie, P., Otis, N., Savaria, J.-Y., 2009. Recovery Strategy for the blue whale (*Balaenoptera musculus*), Northwest Atlantic population, in Canada [FINAL]. Species at Risk Act Recovery Strategy Series. Fisheries and Oceans Canada, Ottawa. 62 pp.

- Brown, M.W., Fenton, D., Smedbol, K., Merriman, C., Robichaud-Leblanc, K., and Conway, J.D. 2009. Recovery Strategy for the North Atlantic Right Whale (*Eubalaena glacialis*) in Atlantic Canadian Waters [Final]. Species at Risk Act Recovery Strategy Series. Fisheries and Oceans Canada. vi + 66p.

6.0 Appendices

Appendix 1 - Current Listing of SARA and COSEWIC Listed Species in the Husky Project Areas.

Appendix 1: Current SARA[1] Listed and COSEWIC Assessed Species in the Husky Project Areas[2]

Species		New Since Last Update			*SARA* Status noted as Schedules 1, 2 or 3			COSEWIC Status			
Common Name	**Scientific Name**	**Drill Centres**	**Exp Drilling**	**Seismic**	**Endangered**	**Threatened**	**Special Concern**	**Endangered**	**Threatened**	**Special Concern**	**Candidate[3]**
Birds											
Ivory Gull	*Pagophila eburnea*				1			X			
Marine Fish											
White shark (Atlantic population)	*Carcharodon carcharias*				1			X			
Northern wolffish[4]	*Anarhichas denticulatus*					1			X		
Spotted wolffish[4]	*Anarhichas minor*					1			X		
Atlantic wolffish	*Anarhichas lupus*						1			X	
Atlantic cod	*Gadus morhua*						3				
Atlantic cod (NL population)	*Gadus morhua*							X			
Bluefin tuna	*Thunnus thynnus*							X			
Porbeagle shark	*Lamna nasus*							X			
Roundnose grenadier	*Coryphaenoides rupestris*							X			
Cusk	*Brosme brosme*							X			
Atlantic salmon (southern NL pop)	*Salmo salar*								X		
Shortfin mako shark (Atlantic population)	*Isurus oxyrinchus*								X		
American eel	*Anguilla rostrata*								X		
American plaice (NL population)	*Hippoglossoides platessoides*								X		
Acadian redfish (Atlantic pop)	*Sebastes fasciatus*								X		
Deepwater redfish (Northern pop)	*Sebastes mentella*								X		

[1] Current as of 3 February 2015. Sources: SARA website (http://www.sararegistry.gc.ca/default.asp?lang=En&n=24F7211B-1) and COSEWIC website (http://www.cosepac.gc.ca/eng/sct5/index_e.cfm), accessed 3 February 2015. The following species, previously included in Appendix 1 of the 2014 EA Update as Mid Priority Candidate species, are no longer being considered by COSEWIC and were removed from the table: capelin (*Mallotus villosus*), haddock (*Melanogrammus aeglefinus*), spiny eel (*Notacanthus chemnitzi*), pollock (*Pollachius virens*), and ocean pout (*Zoarces americanus*).

[2] Green shade means a final Recovery Strategy is in place but no Critical Habitat has been identified nor have Action or Management plans been finalized for these species with the exception of Atlantic wolffish (Management Plan), and North Atlantic right whale and northern and spotted wolffishes (Critical Habitat; see footnote 4). Note that two other species that have recovery strategies, Atlantic walrus and grey whale, have been extirpated from Eastern Canadian waters and therefore are not listed in the above table.

[3] Candidate COSEWIC species are classified as High (H), Medium (M), or Low (L) Priority Candidate (PC) species.

[4] A critical habitat statement exists for North Atlantic right whale; however, the critical habitats are near Nova Scotia and extend south into the U.S., well outside of the Study Areas. Critical habitat for northern and spotted wolffishes in Newfoundland and Labrador waters and the Gulf of St. Lawrence have been established but not yet published; this critical habitat will be included in the updated Recovery Strategy for these species (DFO 2013).

Species		New Since Last Update			*SARA* Status noted as Schedules 1, 2 or 3			COSEWIC Status			
Common Name	**Scientific Name**	**Drill Centres**	**Exp Drilling**	**Seismic**	**Endangered**	**Threatened**	**Special Concern**	**Endangered**	**Threatened**	**Special Concern**	**Candidate[3]**
White hake (Atlantic and Northern Gulf of St. Lawrence population)	*Urophycis tenuis*								X		
Roughhead grenadier	*Macrourus berglax*									X	
Smooth skate (Laurentian-Scotian population)	*Malacoraja senta*									X	
Thorny skate	*Amblyraja radiata*									X	
Blue shark (Atlantic population)	*Prionace glauca*									X	
Spiny dogfish (Atlantic population)	*Squalus acanthias*									X	
Basking shark (Atlantic population)	*Cetorhinus maximus*									X	
Northwest Atlantic lumpfish	*Cyclopterus lumpus*	X	X	X							HPC
Atlantic mackerel	*Scomber scombrus*	X	X	X							MPC
Greenland shark	*Somniosus microcephalus*	X	X	X							MPC
Spinytail skate	*Bathyraja spinicauda*										MPC
American Shad	*Alosa sapidissima*										MPC
Alewife	*Alosa pseudoharengus*										MPC
Marine Mammals											
Blue whale (Atlantic population)	*Balaenoptera musculus*				1			X			
North Atlantic right whale[4]	*Eubalaena glacialis*				1			X			
Sowerby's beaked whale	*Mesoplodon bidens*						1			X	
Fin whale (Atlantic population)	*Balaenoptera physalus*						1			X	
Harbour porpoise (Northwest Atlantic population)	*Phocoena phocoena*					2				X	
Humpback whale (Western North Atlantic population)	*Megaptera novaeangliae*						3				
Killer whale (NW Atl./East Arctic populations)	*Orcinus orca*									X	
Northern bottlenose whale (Davis Strait/Baffin Bay/Labrador Sea)	*Hyperoodon ampullatus*									X	
Sei whale (Atlantic population)	*Balaenoptera borealis*	X	X	X							HPC

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Hooded seal	*Cystophora cristata*										HPC
Harp seal	*Phoca groenlandica*										HPC
Ringed seal	*Pusa hispida hispida*										HPC
Sperm whale	*Physeter macrocephalus*										MPC
Cuvier's beaked whale	*Ziphius cavirostris*										MPC
Bearded seal	*Erignathus barbatus*	X	X	X							MPC
Reptiles											
Leatherback sea turtle (Atlantic population)	*Dermochelys coriacea*				1			X			
Loggerhead sea turtle	*Caretta caretta*							X			