

6 ENVIRONMENTAL ASSESSMENT SUMMARY AND CONCLUSIONS

Nexen is planning and proposing to conduct an oil and gas exploration program offshore Eastern Newfoundland between 2018 and 2027, which may involve several types of survey activities over its existing and any forthcoming ELs and other areas of interest in the Project Area. These may include 2D, 3D and possibly 4D seismic data acquisition, as well as associated geochemical, environmental, geotechnical and wellsite survey activities.

The Project requires authorizations from the C-NLOPB pursuant to the *Accord Acts*. This document provides an EA of the proposed marine exploration program in accordance with the requirements and processes of the Board and the Project-specific Scoping Document (Appendix A). This includes information and analysis related to each of the following:

- Project purpose, rationale and alternatives;
- Project description (equipment, activities, location, schedule);
- Existing environment (biophysical and socioeconomic);
- Environmental issues scoping and consultation activities;
- The predicted environmental effects of the Project on the identified VECs;
- Proposed mitigation measures to avoid/reduce any adverse effects;
- The significance of the Project's predicted (residual) environmental effects;
- Cumulative environmental effects; and
- Environmental monitoring and follow-up.

Each of the potential environmental changes and resulting effects that could be associated with the proposed Project can be avoided or otherwise mitigated through the use of good planning and proven operational practices and procedures. These operational practices and procedures are supported by Project-specific and industry standard mitigations that are well established and outlined in relevant regulatory procedures and guidelines, and which have been identified by Nexen as part of this EA. Overall, the proposed Project will entail very localized, short-term and transient disturbances in the marine environment at any one location and time throughout the operational life of the exploration program. It is therefore not anticipated to displace or otherwise affect marine fish, birds, mammals, turtles, fisheries or other marine activities in such a way that causes negative and detectable effects to populations, species at risk or human activities in the region. The proposed Project is therefore not likely to result in significant adverse environmental effects.

Nexen is committed to obtaining all required permits, approvals and authorizations for the proposed Project, and the company and its contractors will comply with these and all relevant regulations and guidelines in planning and implementing the proposed marine exploration program that is the subject of this EA. This includes the various mitigations identified and committed to in the proceeding sections, the implementation and effectiveness of which will be directed, managed and monitored in accordance with Nexen's applicable policies and procedures. No additional or augmented mitigative measures have been identified or are considered necessary in relation to the Project, and in particular, to prevent it from resulting in significant adverse environmental effects.

Nexen will develop and implement an operational monitoring program for marine birds and mammals throughout the course of the Project. A qualified and experienced Environmental Observer will be onboard the seismic vessel(s) to record marine bird and marine mammal sightings during Project

operations, which will be undertaken in accordance with applicable requirements and guidelines. Reports from these monitoring programs will be submitted to the relevant government authorities as required.

Nexen will also prepare and submit annual EA Updates to the C-NLOPB in relation to this multi-year exploration program. These reports will describe the previous year's Project activities, recent and on-going consultation activities and their outcomes, as well as outlining the proposed survey work for the coming year and evaluating the continued applicability and validity of the EA predictions and associated mitigations.

7 REFERENCES

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APPENDIX A

Table of Concordance with C-NLOPB Environmental Assessment Scoping Document

Table of Concordance with C-NLOPB EA Scoping Document

| EA Scoping Document Sections/Requirements | Where/How Addressed in the EA Report |
|---|---|
| <p>Purpose</p> <p>This document provides scoping information for the Environmental Assessment (EA) of geophysical, geochemical, environmental, and geotechnical programs in the eastern Newfoundland offshore and all other related activities (the Project). Nexen Energy ULC (Nexen) is proposing to conduct a ship-borne geophysical program that includes two dimensional (2D), three dimensional (3D), four dimensional (4D) seismic, wellsite, geochemical, geotechnical and environmental survey programs in one or more years within the 2018 to 2027 timeframe. The primary objectives of the Project are to: acquire data to image structural and stratigraphic trends; define and assess prospects for potential drilling and development; and assess overall hydrocarbon potential.</p> <p>Included in this document is a description of the scope of the project that will be assessed, the factors to be considered in the assessment, and the scope of those factors.</p> | <ul style="list-style-type: none"> Understood and acknowledged, and referenced throughout the EA Report. |
| <p>Regulatory Considerations</p> <p>The Project will require authorizations pursuant to Section 138 (1) (b) of the <i>Canada-Newfoundland and Labrador Atlantic Accord Implementation Act</i> and Section 134(1) (b) of the <i>Canada-Newfoundland and Labrador Atlantic Accord Implementation Newfoundland and Labrador Act (Accord Acts)</i>.</p> <p>The C-NLOPB formally delegates the responsibility for preparation of an acceptable environmental assessment report and any supporting documents to Nexen Energy ULC, the project proponent.</p> | <ul style="list-style-type: none"> Understood and acknowledged, and referenced in Sections 1.3 and 3.1 of the EA Report |
| <p>Scope of the Project</p> <p>The project to be assessed consists of the following components:</p> <p>The conduct of 2D, 3D, and/or 4D seismic, wellsite, geochemical, geotechnical and environmental surveys between April 1 and November 30 in one or more years between 2018 and 2027 within the Project Area; and</p> <p>Operation of a program vessel and picket/escort/scout/supply vessel associated with the above activities.</p> | <ul style="list-style-type: none"> The scope of the Project for EA purposes is as specified here, as referenced and described in Sections 1.1, 2.1 to 2.6, 3.1 and throughout the EA Report. The EA has been carried out for each of the Project components and activities listed here. |
| <p>Factors to be Considered</p> | |
| <p>The EA shall include a consideration of the following factors:</p> | |
| <p>The purpose of the project;</p> | <ul style="list-style-type: none"> Section 2.1 |
| <p>The environmental effects of the Project, including those due to malfunctions or accidents that may occur in connection with the Project and any change to the Project that may be caused by the environment, whether any change occurs within or outside Canada. Environmental effect is defined as: any change that the project may cause in the environment, including any effect of any such change on health and socioeconomic conditions, on physical and cultural heritage, on the current use of lands and resources for traditional purposes by aboriginal persons, or on any structure, site or thing that is of historical, archaeological, paleontological or architectural significance;</p> | <ul style="list-style-type: none"> Chapters 3 and 5 |
| <p>Cumulative environmental effects of the Project that are likely to result from the project in combination with other projects or activities that have been or will be carried out;</p> | <ul style="list-style-type: none"> Sections 3.4.7 and 5.4.4, 5.5.4, 5.6.4, 5.8.4, 5.9.4 |
| <p>The significance of the environmental effects described in 4.2 and 4.3;</p> | <ul style="list-style-type: none"> Sections 3.4.4, 5.4, 5.5, 5.6, 5.7, 5.8, 5.9, and 6.0 |

| EA Scoping Document Sections/Requirements | Where/How Addressed in the EA Report |
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| Measures, including contingency and compensation measures as appropriate, that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the project; | <ul style="list-style-type: none"> Sections 2.7 and 5.3 |
| The significance of adverse environmental effects following the employment of mitigative measures, including the feasibility of additional or augmented mitigative measures; and | <ul style="list-style-type: none"> Sections 3.4.4, 5.4, 5.5, 5.6, 5.7, 5.8, 5.9, and 6.0 The mitigation measures outlined and considered in an integrated manner throughout the environmental effects assessment will be implemented to avoid or reduce adverse environmental effects, and all of those proposed are considered to be technically and economically feasible. |
| Report on consultations undertaken by Nexen with interested other ocean users who may be affected by program activities and/or the general public respecting any of the matters described above. The One Ocean documents Fact Sheet for Non-One Ocean Petroleum Members and One Ocean Protocol for Consultation Meetings: Recommendations for the Fish and Petroleum Industries in Newfoundland and Labrador can assist in planning these consultations. | <ul style="list-style-type: none"> Section 3.2 |
| Scope of the Factors to be Considered | |
| Nexen will prepare and submit to the C-NLOPB an EA for the above-described physical activity, and as described in “Eastern Newfoundland Offshore Geophysical, Geochemical, Environmental and Geotechnical Program (2018 - 2027) Environmental Assessment Project Description” (Amec Foster Wheeler February 1, 2017). The EA will address the factors listed above; the issues identified in Section 5.2 (following), and document any issues and concerns that may be identified by the proponent through regulatory, stakeholder, and public consultation. | <ul style="list-style-type: none"> Addressed throughout the EA Report |
| Program activities are proposed for the eastern portion of the Canada-Newfoundland and Labrador Offshore Area which has been studied in recent EAs and the Eastern Newfoundland & Labrador Offshore Area Strategic Environmental Assessment (August 2014) (Eastern SEA). For the purposes of this assessment, the information provided in the Eastern SEA should support the EA to avoid unnecessary duplication of information. Appropriate references should be included in the EA. | <ul style="list-style-type: none"> Relevant information from other EAs and SEAs has been incorporated into the EA Report, and referenced appropriately See Section 4.0 in particular for an overview of this approach |
| It is recommended that the “valued environmental component” (VEC) approach be used to focus its analysis. A definition of each VEC (including components or subsets thereof) identified for the purposes of environmental assessment, and the rationale for its selection, shall be provided. | <ul style="list-style-type: none"> The VEC approach has been used, as described in Section 3.3 and as illustrated throughout Chapter 5 |
| The scope of the factors, to be considered in the EA, will include the components identified in Section 5.2 - Summary of Potential Issues, setting out the specific matters to be considered in assessing the environmental effects of the project and in developing environmental plans for the project, and the “Spatial Boundaries” identified below (Section 5.1). Considerations relating to definition of “significance” of environmental effects are provided in the following sections. | <ul style="list-style-type: none"> These concepts and requirements are addressed throughout the EA Report |
| Discussion of the biological and physical environments should consider the data available from recent EAs and the Eastern SEA for the Project and Study Areas. Where data gaps exist, the EA should clearly identify the lack of data available. | <ul style="list-style-type: none"> The information sources used are described and referenced throughout the EA Report. In some cases, a lack of environmental baseline information for certain environmental components is |

| EA Scoping Document Sections/Requirements | Where/How Addressed in the EA Report |
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| | <p>referenced (e.g., in Fish and Fish Habitat).</p> <ul style="list-style-type: none"> Although there are examples of less than complete baseline information on some aspects of the environment, no data gaps have been identified which have prevented the assessment and evaluation of environmental effects and the identification and proposal of mitigation for this Project and its EA. |
| <p>Boundaries</p> <ul style="list-style-type: none"> The EA shall consider the potential effects of the proposed program within spatial and temporal boundaries that encompass the periods and areas during and within which the project may potentially interact with, and have an effect on, one or more VECs. These boundaries may vary with each VEC and the factors considered, and should reflect a consideration of: the proposed schedule/timing of the program and related activities; the natural variation of a VEC or subset thereof; the timing of sensitive life cycle phases in relation to the scheduling of survey activities; interrelationships/interactions between and within VECs; the time required for recovery from an effect and/or return to a pre-effect condition, including the estimated proportion, level, or amount of recovery; and the area within which a VEC functions and within which a project effect may be felt. | <ul style="list-style-type: none"> The EA study areas (spatial and temporal) are clearly defined, including general and VEC-specific boundaries, and the rationale for them is described (see Sections 2.2, 3.4.3, and 5.2) This includes consideration of each of the factors listed here, as referenced in Section 3.4.3 |
| <p>The proponent shall clearly define, and provide the rationale for the spatial and temporal boundaries that are used in its EA. The EA report shall clearly describe the spatial boundaries (e. g. Study Area, Project Area) and shall include figures, maps and the corner-point coordinates. Boundaries should be flexible and adaptive to enable adjustment or alteration based on field data. The Study Area will be described based on consideration of potential areas of effects as determined by the scientific literature, and project-environment interactions. A suggested categorization of spatial boundaries follows</p> | <ul style="list-style-type: none"> The EA study areas (spatial and temporal) are clearly defined, including general and VEC-specific boundaries, and the rationale for them is described (see above). The Project Area and Study Area are illustrated in Figures in Chapters 1 and 3, including corner point coordinates (Figure 2.1). |
| <p>Spatial Boundaries</p> | |
| <p><u>Project Area</u> The area in which project activities are to occur, including the area of the buffer zone normally defined for vessel turning activities.</p> | <ul style="list-style-type: none"> Each of these types of study areas are defined for each VEC (see Sections 3.4.3, and 5.2). |
| <p><u>Study Area</u> The area which could potentially be affected by project activities beyond the "Project Area."</p> | |
| <p><u>Regional Area</u> The area extending beyond the "Study Area" boundary. The "Regional Area" boundary will also vary with the component being considered (e.g., boundaries suggested by bathymetric and/or oceanographic considerations).</p> | |
| <p>Temporal Boundaries The temporal scope should describe the timing of project activities. Scheduling of project activities should consider, at a minimum, the timing of sensitive life cycle phases of the VECs in relation to physical activities and the timing (and location) of</p> | <ul style="list-style-type: none"> Temporal boundaries are defined, which include consideration of each of these factors (see Sections 3.4.3 and 5.2). |

| EA Scoping Document Sections/Requirements | Where/How Addressed in the EA Report |
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| active commercial fishing activities and other marine users. | |
| Summary of Potential Issues | |
| The EA shall contain descriptions and definitions of EA methodologies employed in the assessment of effects. Where information is summarized from existing EA reports, the sections referenced should be clearly indicated. Effects of relevant Project activities on those VECs most likely to be in the defined Study Area shall be assessed. Discussion of cumulative effects within the Project area and with other relevant marine projects shall be included. Issues to be considered in the EA shall include, but not be limited to, the following: | <ul style="list-style-type: none"> • Section 3.4 and Chapter 5 |
| <u>Physical Environment</u> | |
| <p>The Eastern SEA provides information on the Newfoundland and Labrador offshore physical environment. Only new information for the Study Area that has become available since the publication of the above noted document, and that is relevant to the consideration of environmental effects, should be provided in the EA. The EA shall provide a description of:</p> <ul style="list-style-type: none"> • Meteorological and oceanographic characteristics, including extreme conditions; and • Submarine landslide potential. | <ul style="list-style-type: none"> • Section 4.1 |
| <u>Biological Environment</u> | |
| The Eastern SEA provides information on the Newfoundland offshore biological environment. The Eastern SEA provides descriptions of: marine birds; fish and fish habitat; marine mammals and sea turtles; species at risk; sensitive areas; and human activities, including marine fisheries. Only relevant new information for the Study Area that has become available since the publication of the above noted document should be provided in the EA, in particular species at risk, sensitive areas, and marine fisheries. The project EA shall note/acknowledge data gaps identified in the Eastern SEA relative to marine fish/fish habitat, species at risk, sensitive areas, and marine fisheries, and describe the relevance of such gaps for the conduct of the project EA. | <ul style="list-style-type: none"> • Section 4.2 |
| Marine and/or Migratory Birds | |
| The EA shall provide only new or updated information, where applicable, to address any changes to the following and any data and/or information gaps noted with respect to marine and/or migratory birds within the Eastern SEA: | |
| Spatial and temporal species distributions (observations from prior programs should be included); | <ul style="list-style-type: none"> • Section 4.2.2 |
| Species habitat, feeding, breeding, and migratory characteristics of relevance to the Study Area; | <ul style="list-style-type: none"> • Section 4.2.2 |
| Noise disturbance from equipment, including both direct effects (physiological), or indirect effects (foraging behaviour or prey species); | <ul style="list-style-type: none"> • Section 5.5.3 |
| Physical displacement as a result of vessel presence (e.g. disruption of foraging activities); | <ul style="list-style-type: none"> • Section 5.5.3 |
| 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; | <ul style="list-style-type: none"> • Section 5.5.3 |
| Nocturnal disturbance from light (e.g. increased opportunities for predators, attraction to vessels and subsequent collision, disruption of incubation); | <ul style="list-style-type: none"> • Section 5.5.3 |

| EA Scoping Document Sections/Requirements | Where/How Addressed in the EA Report |
|---|---|
| Procedures for handling birds that may become stranded on survey vessels; Means by which bird mortalities associated with project operations may be documented and assessed; | <ul style="list-style-type: none"> Sections 5.3, 5.5.3 |
| Exposure to contaminants from accidental spills (e.g., fuel, oils) and operational discharges (e.g. deck drainage, gray water, black water); | <ul style="list-style-type: none"> Section 5.5.3 |
| Means by which potentially significant adverse effects upon birds may be mitigated through design and/or operational procedures; and | <ul style="list-style-type: none"> Section 5.3 |
| Environmental effects due to the Project, including cumulative effects. | <ul style="list-style-type: none"> Section 5.5 |
| Marine Fish and Shellfish The EA shall provide only new or updated information, where applicable, to address any changes to the following and any data and/or information gaps noted with respect to marine fish and shellfish within the Eastern SEA: | |
| Distribution and abundance of marine fish and invertebrate species utilizing the Study Area with consideration of critical life stages (e.g., spawning areas, overwintering, juvenile distribution, migration); | <ul style="list-style-type: none"> Section 4.2.1 |
| Description, to the extent possible, of location, type, diversity and areal extent of marine fish habitat in the Study Area. In particular, those indirectly or directly supporting traditional, aboriginal, historical, present or potential fishing activity, and including any essential (e.g. spawning, feeding, overwintering) habitats; | <ul style="list-style-type: none"> Sections 4.2.1, 4.3.1 |
| The means by which potentially significant adverse effects upon fish (including critical life stages) and commercial fisheries may be mitigated through design, scheduling, and/or operational procedures; and | <ul style="list-style-type: none"> Section 5.3 |
| Environmental effects due to the Project, including cumulative effects. | <ul style="list-style-type: none"> Section 5.4 |
| Marine Mammals The EA shall provide only new or updated information, where applicable, to address any changes to the following and any data and/or information gaps noted with respect to marine mammals within the Eastern SEA, | |
| Spatial and temporal distribution; | <ul style="list-style-type: none"> Section 4.2.3 |
| Description of marine mammal life stages/life histories relevant to the Study Area; | <ul style="list-style-type: none"> Section 4.2.3 |
| Disturbance to/displacement of marine mammals due to noise and the possibility of ship strikes; | <ul style="list-style-type: none"> Section 5.6 |
| Means by which potentially significant adverse effects upon marine mammals (including critical life stages) may be mitigated through design, scheduling, and/or operational procedures; and | <ul style="list-style-type: none"> Section 5.3 |
| Environmental effects due to the Project, including cumulative effects. | <ul style="list-style-type: none"> Section 5.6 |
| Sea Turtles The EA shall provide only new or updated information, where applicable, to address any changes to the following and any data and/or information gaps noted with respect to sea turtles within the Eastern SEA: | |
| Spatial and temporal distribution; | <ul style="list-style-type: none"> Section 4.2.3 |
| Description of sea turtle life stages/life histories relevant to the Study Area; | <ul style="list-style-type: none"> Section 4.2.3 |
| Disturbance to/displacement of sea turtles due to noise and the possibility of ship strikes; | <ul style="list-style-type: none"> Section 5.6 |
| Means by which potentially significant adverse effects upon sea turtles (including critical life stages) may be mitigated through design, scheduling, and/or operational procedures; and | <ul style="list-style-type: none"> Section 5.3 |
| Environmental effects due to the Project, including cumulative effects. | <ul style="list-style-type: none"> Section 5.6 |
| Species at Risk (SAR) The EA shall provide only new or updated information, where applicable, to address any changes to the following and any data and/or information gaps noted with respect to Species at Risk within the Eastern SEA: | |
| | <ul style="list-style-type: none"> Section 4.2 |

| EA Scoping Document Sections/Requirements | Where/How Addressed in the EA Report |
|--|---|
| A description of SAR as listed in Schedule 1 of the Species at Risk Act (SARA), and those under consideration by COSEWIC in the Study Area, including fish, marine mammal, sea turtles, and seabird species. It is advised that the SARA Registry and COSEWIC website be referred to for the most recent information; | <ul style="list-style-type: none"> Section 4.2 |
| A description of critical habitat (as defined under SARA), if applicable, to the Study Area; | <ul style="list-style-type: none"> Section 4.2 |
| Monitoring and mitigation, consistent with recovery strategies/action plans (endangered/threatened) and management plans (special concern); | <ul style="list-style-type: none"> Section 4.2 |
| A summary statement stating whether project effects are expected to contravene the prohibitions of SARA (Sections 32(1), 33, 58(1)); | <ul style="list-style-type: none"> Section 5.7.6 |
| Means by which adverse effects upon SAR and their critical habitat may be mitigated through design, scheduling, and/or operational procedures; and | <ul style="list-style-type: none"> Section 5.3 |
| Assessment of effects (adverse and significant) on SAR and critical habitat, including cumulative effects. | <ul style="list-style-type: none"> Section 5.7 |
| “Sensitive” Areas The EA shall provide only new or updated information, where applicable, to address any changes to the following and any data and/or information gaps noted with respect to sensitive areas within the Eastern SEA: | |
| A description, to the extent possible, of any “Sensitive” Areas in the Study Area deemed important or essential habitat to support any of the marine resources identified, particularly descriptions of Ecologically and Biologically Significant Areas (EBSAs) and NAFO Vulnerable Marine Ecosystems (VMEs) that occur within the project/study area; | <ul style="list-style-type: none"> Section 4.2.4 |
| Environmental effects due to the project, including cumulative effects, on those “Sensitive” Areas identified; and | <ul style="list-style-type: none"> Section 5.8 |
| Means by which adverse effects upon “Sensitive” Areas may be mitigated through design, scheduling and/or operational procedures. | <ul style="list-style-type: none"> Section 5.8 |
| <u>Marine Use</u> | |
| Noise/Acoustic Environment The EA shall provide information on the following: | |
| Disturbance/displacement of VECs and SAR associated with survey activities; | <ul style="list-style-type: none"> Sections 5.5 to 5.8 |
| A description of sound levels that may be expected from the source throughout the water column and how these may affect pelagic and benthic fish, shellfish, species at risk and marine mammals. | <ul style="list-style-type: none"> Sections 2.7.1, Chapter 5 |
| Means by which potentially significant effects may be mitigated through design, scheduling and/or operational procedures; and | <ul style="list-style-type: none"> Section 5.3 |
| Effects of program activities (direct and indirect) including cumulative effects, on the VECs and SAR identified within the EA. Critical life stages should be included. | <ul style="list-style-type: none"> Chapter 5 |
| Presence of Program Vessel(s) The EA shall provide information on the following: | |
| Description of project-related traffic, including routings, volumes, scheduling and vessel types; | <ul style="list-style-type: none"> Sections 2.3, 2.4, 2.5, 2.6 |
| Effects upon access to fishing grounds; | <ul style="list-style-type: none"> Section 5.9 |
| Effects upon general marine traffic/navigation, including fisheries research surveys, and mitigations to avoid research surveys; | <ul style="list-style-type: none"> Sections 5.3, 5.9 |
| Means by which potentially significant effects may be mitigated through design, scheduling and/or operational procedures; and | <ul style="list-style-type: none"> Section 5.3 |
| Environmental effects assessment, including cumulative effects. | <ul style="list-style-type: none"> Chapter 5 |

| EA Scoping Document Sections/Requirements | Where/How Addressed in the EA Report |
|---|---|
| Fisheries and Other Ocean Users | |
| The EA shall provide only new or updated information, where applicable, to address any changes to the following: | |
| A description of fishery activities (including traditional, existing and potential commercial, recreational and aboriginal/subsistence, foreign fisheries) in the Study Area; | <ul style="list-style-type: none"> Section 4.3.1 |
| Consideration of underutilized species and species under moratoria that may be found in the Study Area as determined by analyses of past DFO research surveys and Industry GEAC survey data, with emphasis on those species being considered for future potential fisheries, and species under moratoria; | <ul style="list-style-type: none"> Section 4.3.1 |
| Traditional historical fishing activity, including abundance data for certain species in this area, prior to the severe decline of many fish species (e.g., a general overview of survey results and fishing patterns in the survey areas for the last 20 years); | <ul style="list-style-type: none"> Section 4.3.1 |
| An analysis of the effects of Project operations and accidental events upon the foregoing. The analysis should include consideration of recent scientific literature on effects of program activity (e.g. seismic), including identified data gaps; | <ul style="list-style-type: none"> Section 5.9 |
| Fisheries liaison/interaction policies and procedures; | <ul style="list-style-type: none"> Sections 5.3 and 5.9 |
| Program(s) for compensation of affected parties, including fisheries interests, for accidental damage resulting from project activities; | <ul style="list-style-type: none"> Sections 5.3 and 5.9 |
| Means by which adverse effects upon commercial fisheries may be mitigated through design and/or operational procedures; and | <ul style="list-style-type: none"> Sections 5.3 and 5.9 |
| Environmental effects due to the Project, including cumulative effects. | <ul style="list-style-type: none"> Section 5.9 |
| Accidental Events | |
| Environmental effects of any accidental events arising from accidental releases from the program vessels (e.g. seismic, support). Cumulative effects in consideration of other oil pollution events (e.g., illegal bilge disposal) should be included. | <ul style="list-style-type: none"> Sections 2.7.4, 5.1, 5.3, 5.5 to 5.9 |
| Mitigations to reduce or prevent such events from occurring. | <ul style="list-style-type: none"> Sections 2.7 and 5.3 |
| Contingency plans to be implemented in the event of an accidental release. | <ul style="list-style-type: none"> Sections 2.7 and 5.3 |
| <u>Environmental Management</u> | |
| The EA shall outline Nexen's environmental management system and its components, including, but not limited to: | |
| Pollution prevention policies and procedures; | <ul style="list-style-type: none"> Sections 2.7 and 5.3 |
| Fisheries liaison/interaction policies and procedures; | <ul style="list-style-type: none"> Sections 5.3 and 5.9 |
| Program(s) for compensation of affected parties, including fishery interests, for accidental damage resulting from project activities; and | <ul style="list-style-type: none"> Sections 5.3 and 5.9 |
| Emergency response plan(s). | <ul style="list-style-type: none"> Sections 2.7 and 5.3 |
| <u>Biological and Follow-up Monitoring</u> | |
| Discuss the need for and requirements of a follow-up program to verify the accuracy of the EA, to verify the effectiveness of any mitigation measures identified in the EA, or both. The discussion should also include any requirement for compensation monitoring (compensation is considered mitigation). | <ul style="list-style-type: none"> Sections 3.4.8, 5.4.5, 5.5.5, 5.6.5, 5.8.5, 5.9.5 |
| A review and evaluation of best mitigation practices should be undertaken with the view of incorporating new and/or existing techniques into programs. Discuss how the proposed mitigations in the EA Report will be undertaken. Clearly describe the monitoring and reporting aspects on the implementation and effectiveness of the mitigation measures contained in the EA Report. | <ul style="list-style-type: none"> Sections 5.3, 6.0 |

| EA Scoping Document Sections/Requirements | Where/How Addressed in the EA Report |
|---|--|
| Details regarding the monitoring and observation procedures, including others identified during the initial review phase of the project description, to be implemented regarding marine mammals, sea turtles and seabirds (observation protocols should be consistent with the C-NLOPB “Geophysical, Geological, Environmental and Geotechnical Program Guidelines” (June 2016). | <ul style="list-style-type: none"> Sections 5.3, 5.5 and 5.6 |
| Significance of Adverse Environmental Effects | |
| <p>The Proponent shall clearly describe the criteria by which it proposes to define the “significance” of any residual adverse environmental effects that are predicted by the EA. This definition should be consistent with the November 2015 CEAA operational policy statement “Determining Whether a Designated Project is Likely to Cause Significant Adverse Environmental Effects under the Canadian Environmental Assessment Act, 2012”, and be relevant to consideration of each VEC (including components or subsets thereof) that is identified. SARA species shall be assessed independent of non-SARA species. The effects assessment methodology should clearly describe how data gaps are considered in the determination of significance of effects.</p> | <ul style="list-style-type: none"> Sections 3.4.4 and 5.4.1, 5.5.1, 5.6.1, 5.8.1, 5.9.1 The definition and determination of significance is consistent with the referenced guide. Individual assessments and environmental effects conclusions are provided for each SARA listed species in Section 5.7. Mitigation measures and significance definitions for SARA listed species are the same as for the Marine Fish and Fish Habitat, Marine/Migratory Birds and Marine Mammals and Sea Turtles VECs themselves. No data gaps have been identified which have prevented the assessment and evaluation of environmental effects and the identification and proposal of mitigation for this Project and its EA, nor which would lead to a conclusion that the Project is likely to cause significant adverse environmental effects. |
| Cumulative Effects | |
| <p>The assessment of cumulative environmental effects should be consistent with the principles described in the December 2014 (Draft) CEAA “Technical Guidance for Assessing Cumulative Environmental Effects under the Canadian Environmental Assessment Act, 2012” and in the March 2015 CEAA operational policy statement “Assessing Cumulative Environmental Effects under the Canadian Environmental Assessment Act, 2012”. It should include a consideration of environmental effects that are likely to result from the proposed project in combination with other projects or activities that have been or will be carried out. These include, but are not limited to: proposed oil and gas activities under EA review (listed on the C-NLOPB Public registry at www.cnlopb.ca); other seismic activities; fishing activities, including Aboriginal fisheries; and marine transportation. The C-NLOPB website lists all current and active offshore petroleum activity within the Canada-NL offshore area. It should include consideration of how the project will contribute to existing impacts from other activities.</p> | <ul style="list-style-type: none"> Sections 3.4.7 and 5.4.4, 5.5.4, 5.6.4, 5.8.4, 5.9.4 The cumulative effects assessment approach and methods are consistent with the referenced guides Each of the noted “other projects and activities” have been considered in the cumulative effects assessment. |

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APPENDIX B

Consultation Materials

(Sample Cover Letter and Project Overview)

[Contact person name and address, date]

Dear -

RE: Nexen Energy ULC – Eastern Newfoundland Offshore Exploration Program

Nexen Energy ULC (Nexen) is proposing to undertake an offshore petroleum exploration program in the eastern portion of the Canada - Newfoundland and Labrador Offshore Area, with activities taking place during 2018 to 2028. This will include a regional program of planned geophysical, geochemical, environmental and geotechnical survey activities in this area, as well as exploration drilling and associated activities within its two existing Exploration Licences (ELs 1144 and 1150) offshore Eastern Newfoundland. These proposed geophysical and exploration drilling projects are subject to Environmental Assessment (EA) review and required approval by the Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB) under the relevant provisions of the *Accord Acts* and under the *Canadian Environmental Assessment Act* (CEAA) 2012, respectively.

An important component of these EAs and the on-going planning and implementation of these projects will be consultation and engagement with government departments and agencies, communities, stakeholder organizations, Aboriginal groups and the general public. Nexen is seeking to engage with organizations and individuals, providing opportunities for interested parties to receive and review information, and provide information and their views on the projects and their potential environmental effects. This input would have consideration in the respective EA reviews.

A short Project Overview document is enclosed, and provides an overall description of the proposed offshore oil and gas exploration projects, based on the current stage of the planning and design of this multi-year program. The Project Overview has been developed and is being provided to give an initial introduction to the projects, and to provide a basis for further discussion and engagement as the EA reviews move forward.

Should your group have an interest in this marine area and in the future conduct and potential environmental effects of the offshore petroleum exploration activities being proposed, Nexen would value the opportunity to discuss this further with you, to provide further information if requested, and to receive your input. Nexen regional point-of-contact information is provided below:

Andrew Hamilton⁵
General Manager, Nexen Energy ULC
701A – 215 Water Street, St John's, Newfoundland Canada A1C 6C9
Email. Andrew.Hamilton@nexencnoocld.com

Nexen will attempt to accommodate engagement methods and processes that work best for your group, including a potential meeting to discuss this matter further if requested. Thank you in advance for your participation and input.

Sincerely; [Original signed by]
Erin Thomson, P.Eng.
Environment and Regulatory Affairs
Erin.Thomson@nexencnoocld.com
403-699-4510
Nexen Energy ULC

⁵ Note: Nexen's regional point-of-contact for Project-related communications has since changed, and will be updated for all future consultation activities (see EA Report, Section 1.2)

NEXEN ENERGY ULC
Eastern Newfoundland Offshore Exploration Program
Project Overviews
March 2017

1.0 Introduction

Nexen Energy ULC (Nexen) is planning to undertake an offshore petroleum exploration program in the eastern portion of the Canada - Newfoundland and Labrador Offshore Area. This will include a regional program of planned geophysical, geochemical, environmental and geotechnical survey activities in this area, as well as exploration drilling and associated activities in its two existing Exploration Licences (ELs) offshore Eastern Newfoundland.

This document provides a brief introduction to Nexen and an overview description of these proposed offshore oil and gas exploration projects, based on the current stage of the planning and design of this multi-year program. It has been developed and is being provided to agencies and organizations to give an initial introduction to the projects as the basis for further discussion and engagement as the environmental assessment (EA) reviews move forward.

2.0 Nexen and its Eastern Newfoundland Interests and Planned Activities

Nexen is an upstream oil and gas company that is responsible for managing its energy resources in Canada and providing management services and oversight to its affiliates including in the UK North Sea, offshore West Africa, and the United States (“manages”). A wholly-owned subsidiary of CNOOC Limited, Nexen manages three principal lines of businesses: 1) Conventional oil and gas, 2) Oil sands, and 3) Shale gas / oil. Although Nexen manages onshore production in several areas around the world, the largest component of the conventional business it manages occurs offshore, with approximately half of the production coming from offshore facilities in the UK North Sea, West Africa, and the Gulf of Mexico. The company is also a significant player in Canada’s oil sands industry, and produces shale gas in northeastern British Columbia while also managing working interests in several shale projects in the United States. Further information on Nexen can be found at www.nexencnooc ltd.com.

Nexen’s current interests off Eastern Newfoundland include ELs 1144 and 1150, which were issued by the Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB) in early 2016 and 2017, respectively. Nexen is currently developing its plans for an oil and gas exploration program in this region, which will involve several types of exploration activities over these ELs and other areas of interest off Eastern Newfoundland (please see attached Figure). Each of these two proposed offshore exploration projects are summarized briefly in Sections 4.0 and 5.0.

3.0 Health, Safety and Environment

Health, Safety and Environmental protection are core values at Nexen and the success of every activity undertaken by Nexen is measured on the ability to execute work safely each and every day. Nexen’s business objectives are to operate safely and responsibly without causing harm to employees, contractors, joint venture partners or the communities in which we operate and to

minimize potential environmental impacts of Nexen's activities. Nexen is committed to promoting a culture of Safety First; striving for best-in-class health, safety and environmental performance.

Nexen has developed an Integrated Management System to enable and assure leading performance in all business units within the organization. The East Coast Canada region's management system will incorporate all of the fundamental elements of the management system, and will include (but is not limited to) specific regional procedures for environmental management (to ISO 14000), ice management, oil spill response, aviation, emergency response and communications.

Nexen is also a participant in the One Ocean initiative, and will implement the One Ocean Risk Management Matrix Guidelines for utilization of Fisheries Liaison Officers and Fisheries Guide Vessels for all proposed petroleum exploration activities.

4.0 Eastern Newfoundland Offshore Geophysical, Geochemical, Environmental and Geotechnical Program (2018-2027)

Nexen is proposing to undertake a program of offshore geophysical, geochemical, environmental and geotechnical survey activities off Eastern Newfoundland over the period 2018 to 2027 (the Seismic Project). Offshore exploration programs such as this are typically conducted to get an overall understanding of regional geology and hydrocarbon potential, and to help identify particular locations that may warrant further investigation, such as through eventual exploration drilling activities.

The proposed Seismic Project Area is located off the eastern coast of the Island of Newfoundland, covering a total area of approximately 147,200 km² with its western edge being approximately 200 km east of St. John's (see attached Figure). All Seismic Project-related survey equipment use and data-acquisition activity will take place within this identified offshore Seismic Project Area. Proposed Seismic Project activities may include two-dimensional (2D), three-dimensional (3D) and possibly four dimensional (4D) seismic data acquisition, as well as associated geochemical, environmental and geotechnical survey activities.

2D Seismic Surveys: It is currently anticipated that the Seismic Project will involve approximately 2,200 to 5,000 km² of 2D survey coverage within the Seismic Project Area per year over the 2018-2027 period. Each 2D survey will involve the collection of approximately 1,000–3,000 line-kilometers of seismic data, and will range from approximately 10-30 days in duration. Seismic survey locations and associated survey line numbers, lengths and layouts will be defined as Seismic Project planning and implementation progress. The 2D seismic surveys will use a single towed (solid or gel filled) streamer, with a length ranging from 6,000 - 10,000 m which will be deployed at a depth of 5 - 80 m.

3D Seismic Surveys: It is also anticipated that a number of 3D surveys will be completed over parts of the Seismic Project Area within this 10 year period. 3D seismic activities are typically more focussed and tend to cover smaller geographical areas than 2D surveys, and may use multiple sound source arrays and streamers which enables a greater data resolution. Although the specific number and size of 3D survey areas and associated line lengths and layouts have again yet to be defined, it is currently expected that the surveys would range in area from 500-3,000 km² full-fold coverage. The duration of each 3D seismic survey would typically range from approximately 30-100 days.

4D Seismic Surveys: It is also possible that 4D activity will be carried out as part of the Seismic Project. Also known as "time lapse seismic", 4D surveys incorporate multiple 3D seismic surveys over the same area at specified intervals.

Geochemical, Environmental, Geotechnical and Wellsite Survey Activities: Geochemical, environmental, geotechnical and wellsite survey activities may also be conducted as part of the Project. This may involve the use of vessels (dedicated or otherwise) and equipment (such as video systems, grabs, corers, cone penetrator testing and vibrocoring equipment, etc) to collect additional information to help determine the hydrocarbon potential of, and/or environmental and seabed conditions within, relevant parts of the Seismic Project Area. As the proposed survey activities are completed and their results are analysed, potential wellsite locations may also be identified and evaluated further through wellsite surveys using 2D high-resolution reflection seismic, sub-bottom profilers, side-scan sonar, multi-beam echosounder and/or magnetometers.

Although the particular survey vessel(s) that will be used for the Seismic Project has yet to be selected and contracted, it will be a fully equipped, modern vessel suited to the operating environment and task, which would be approximately 75-90 m in length. Seismic source arrays, streamers and other equipment are contractor and vessel dependent. Further information about this and other equipment to be used for the Seismic Project will be described in the eventual EA Report.

Standby or guard vessel(s) will be used to scout for hazards and for interacting and communicating with other marine users in the area. Port facilities and suppliers in Eastern Newfoundland are planned to be used for all Seismic Project support activities. Refuelling will take place offshore, utilizing the offshore supply vessel. Crew changes will be either by helicopter, ship-to-ship or ship-to-shore transfer.

Pending the receipt of all required permits and authorizations from relevant regulatory authorities, it is currently anticipated that in-field Seismic Project work will commence in 2018. Survey activity will generally occur within the April to November period for each and all years of the proposed exploration program, which will include activity in one or more years within the 2018 to 2027 timeframe. It is possible that Nexen will concurrently conduct multiple surveys in any given year of the program.

The proposed Seismic Project is subject to EA review and required approval by the C-NLOPB under the relevant provisions of the *Accord Acts*. Nexen is currently finalizing a Project Description document for submission to the C-NLOPB to initiate the EA review, and will develop and submit the required EA Report for the Seismic Project in accordance with the Scoping Document that the regulator will eventually issue to Nexen. As part of EA process, Nexen will engage directly with applicable organizations and individuals, providing opportunities for interested parties to receive and review information and to provide information and perspectives on the Seismic Project and its potential effects.

5.0 Flemish Pass Exploration Drilling Project (2018-2028)

Nexen is also planning to conduct a program of exploration drilling and associated activities in the eastern portion of the Canada-Newfoundland and Labrador Offshore Area over the period 2018 to 2028 (the Drilling Project). The purpose of this Drilling Project is to explore prospective oil and gas targets within Nexen's current licences in this region, in order to help determine the potential presence of hydrocarbons in these areas.

This proposed Drilling Project will take place in a marine area offshore eastern Newfoundland, the western edge of which is over 400 km east of St. John's NL. The Drilling Project Area (see attached Figure) covers approximately 10,634 km² and incorporates a number of recently awarded licences in the Flemish Pass region (ELs 1144 and 1150) for which Nexen is currently the operator and sole

shareholder, and which have not yet been subject to exploration drilling activity to date pursuant to these licences. The Drilling Project Area also includes a 20 km area surrounding those licences to accommodate the location and extent of ancillary activities that are often carried out in support of such drilling activities. The Drilling Project will include exploration drilling within these ELs, possible appraisal (delineation) drilling in the event of a hydrocarbon discovery, vertical seismic profiling (VSP), well testing, eventual well decommissioning and suspension or abandonment procedures, and associated supply and service activities, as summarized below.

Well Drilling: It is currently planned that the Drilling Project will involve drilling between one and possibly up to five wells on each of these two ELs, and it may therefore comprise the drilling of up to 10 wells within the Drilling Project Area over its duration. The specific number, location and type (exploration or appraisal) of these wells will be determined as project planning activities continue based on available geophysical survey data, information from previously drilled wells and other applicable information. Wells may be drilled using either a harsh environment semi-submersible drilling unit and/or a harsh environment drillship.

Vertical Seismic Profiling: A VSP (also referred to as a “check-shot” survey) is undertaken following the completion of drilling to confirm well depth. This usually involves placing receivers in the borehole and deployment of a sound source at a predetermined depth or on a vessel which then moves away while firing the sound source at pre-determined distances from the borehole receiver. VSP acquisition surveys are typically short term activities of several days duration, with seismic source firing often limited to just a few hours.

Well Evaluation and Testing: If there is an indication of significant hydrocarbons being found during an exploration drilling program, formation fluids (which may contain hydrocarbons and/or water) are often obtained and tested. During such testing, produced hydrocarbons are separated from any produced water on the drilling unit and are analysed. Any gas or produced water will be sent to the rig's flare or treated for disposal.

Well Decommissioning, Suspension and/or Abandonment: Once drilling and any associated well testing is completed, cement mixtures or mechanical devices are usually used to plug the well, the casing is cut and removed just below the surface of the seafloor and all equipment including the wellhead is removed. Wells will be monitored and inspected in accordance with applicable regulatory requirements.

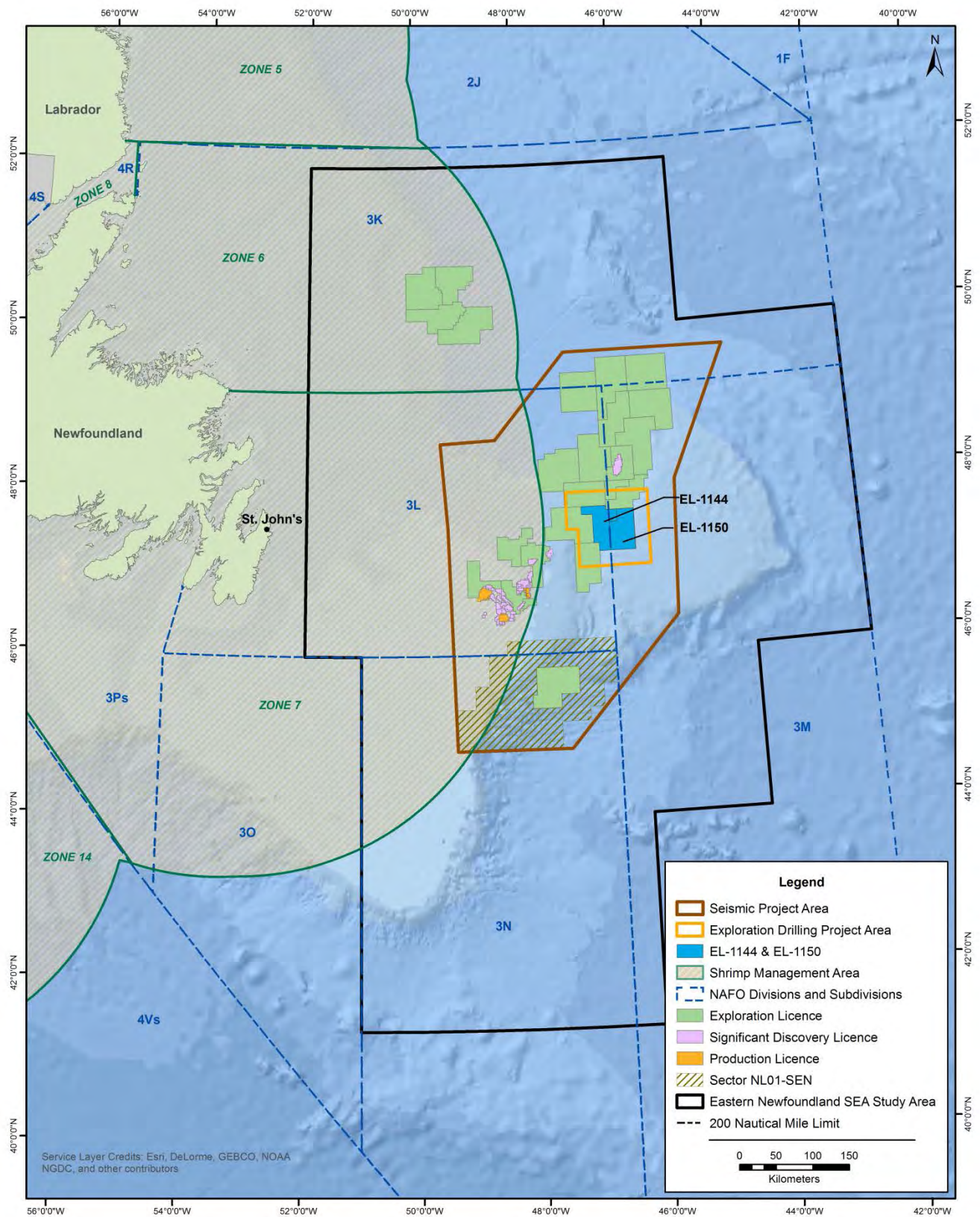
Supply and Servicing: Supply vessels and helicopters will be used to transport personnel, equipment and materials to and from the drilling rig(s) during the Project. It is anticipated that with a single operating drilling unit there will be two to three return transits per month by the supply vessels during the course of the Project. Existing shore-based support facilities in Eastern Newfoundland operated by third party contractors are planned to be used.

Pending the receipt of applicable regulatory and corporate approvals, the identification of suitable drilling targets and other technical, logistical and commercial considerations, exploration drilling could commence on one or both of these ELs in 2018. Upon completion of these first well(s) and based on its results, additional wellsite locations may be identified, for a total of up to 10 wells being drilled as part of the scope of the Drilling Project. It is anticipated that each well will require approximately 75-115 days for drilling and testing, followed by well abandonment. There may at times be multiple drilling units working in different parts of the Project Area simultaneously.

The proposed Drilling Project requires review pursuant to the requirements of the *Canadian Environmental Assessment Act* (CEAA 2012), as it has been determined to constitute a “designated project” under the associated *Regulations Designating Physical Activities*. Nexen is preparing a Project Description document for submission to the Canadian Environmental Assessment Agency for review by it and other relevant departments, agencies, organizations and the public to help inform a governmental decision regarding whether a federal EA review of the Drilling Project is required.

If such an EA is determined to be required, Nexen will plan, prepare and submit the required Environmental Impact Statement (EIS) in accordance with the requirements of CEAA 2012 and its associated Regulations, and in compliance with the EIS Guidelines that will be issued by the Agency following governmental and public review and input. The EIS will provide the required information about the Drilling Project, its existing environmental setting, potential environmental effects, proposed mitigations and any associated residual environmental effects and proposed follow-up initiatives.

Should an EIS be required for the Project under CEAA 2012, Nexen will also design and implement a consultation and engagement program that will provide various mechanisms and opportunities for interested persons and groups to receive and review information, as well as to provide information and perspectives related to the Project and its potential effects.



APPENDIX C

Marine/Migratory Birds Information and Mapping

Table C.1 Cormorant Colony Locations in Eastern Newfoundland

| Colony Name | Colony # ¹ | Colony Size | Survey Unit | Year Surveyed |
|-----------------------------|-----------------------|-------------|-------------|---------------|
| Penguin Island, South | 21 | 60 | Individuals | 2005 |
| Little Shag Rock | 35 | 12 | Individuals | 2005 |
| Big Shag Rock | 36 | 50 | Individuals | 2005 |
| Brown Store Islet | 67 | 300 | Individuals | 2005 |
| Gull Island, Cape Bonavista | 69 | 50 | Individuals | 2005 |
| Harbour Grace Islands | 146 | 50 | Individuals | 2005 |
| Green Island (CB) | 199 | 50 | Individuals | 2005 |
| Renews Island | 222 | 50 | Individuals | 2005 |

Note: Refer to Figure 4.54 for colony locations corresponding to each Colony #.

Source: Data obtained from Atlantic Canada Colonial Waterbird Database (CWS 2017).

Table C.2 Northern Gannet Colony Locations in Eastern Newfoundland

| Colony Name | Colony # ¹ | Colony Size | Survey Unit | Year Surveyed |
|------------------|-----------------------|-------------|-------------|---------------|
| Funk Island | 12 | 10,198 | Pairs | 2014 |
| Baccalieu Island | 120 | 3,241 | Pairs | 2014 |

Note: Refer to Figure 4.54 for colony locations corresponding to each Colony #.

Source: Data obtained from Atlantic Canada Colonial Waterbird Database (CWS 2017).

Table C.3 Gull Colony Locations in Eastern Newfoundland

| Species | Colony Name | Colony # ¹ | Colony Size | Survey Unit | Year Surveyed |
|------------------------|---|-----------------------|-------------|-------------|---------------|
| Black-legged Kittiwake | Funk Island | 12 | 95 | Pair | 2012 |
| | Gull Island, Cape Freels | 24 | 300 | Individual | 2005 |
| | Grassy Shag Rock, Offer Gooseberry | 46 | 750 | Individual | 2005 |
| | Double Shag Island | 48 | 50 | Individual | 2005 |
| | Gull Island, Cape Bonavista | 69 | 1001 | Individual | 2005 |
| | Stone Island | 74 | 300 | Individual | 2005 |
| | Little Denier Island | 78 | 300 | Individual | 2005 |
| | South of Spillars Point | 79 | 750 | Individual | 2005 |
| | North Bird Island | 81 | 50 | Individual | 2005 |
| | Black Head | 83 | 300 | Individual | 2005 |
| | Bird, South | 84 | 50 | Individual | 2005 |
| | Unnamed I. in from Ragged rocks | 103 | 300 | Individual | 2005 |
| | Ragged Islands, North | 104 | 300 | Individual | 2005 |
| | Ragged Islands, Middle | 105 | 50 | Individual | 2005 |
| | Green Island | 108 | 50 | Individual | 2005 |
| | Unnamed I. inside Green Island (off Salvage Head) | 109 | 300 | Individual | 2005 |
| | Maiden Island | 110 | 208 | Pair | 2005 |
| | Green Island, Trinity Bay | 112 | 51 | Pair | 2005 |
| | Cliff west of Red Head | 115 | 50 | Individual | 2005 |
| | Baccalieu Island | 120 | 5,096 | Pair | 2012 |

| Species | Colony Name | Colony # ¹ | Colony Size | Survey Unit | Year Surveyed |
|--------------|--------------------------------------|-----------------------|-------------|-------------|---------------|
| | Copper Island, south of Verge Island | 121 | 300 | Individual | 2005 |
| | Green Islands, north of Long Island | 125 | 50 | Individual | 2005 |
| | Unnamed I. in St. Jones Harbour | 130 | 750 | Individual | 2005 |
| | Bradley's Cove | 131 | 1001 | Individual | 2005 |
| | Copper Island, Trinity Bay | 133 | 300 | Individual | 2005 |
| | Spout Cove | 134 | 50 | Individual | 2005 |
| | West Shag Islands, Bull Arm | 140 | 43 | Pair | 2005 |
| | East Shag Islands, Bull Arm | 141 | 300 | Individual | 2005 |
| | Goose Island, south | 142 | 788 | Pair | 2005 |
| | Carbonear Island | 143 | 300 | Individual | 2005 |
| | Unnamed I. in Rantem Harbour | 145 | 300 | Individual | 2005 |
| | Harbour Grace Islands | 146 | 1001 | Individual | 2005 |
| | Red Rocks | 147 | 300 | Individual | 2005 |
| | Church Cove | 150 | 1333 | Pair | 2012 |
| | Torbay, Sculpin Point | 152 | 218 | Pair | 2012 |
| | Hopeall Island | 153 | 50 | Individual | 2005 |
| | Brigus Lookout cliff | 170 | 300 | Individual | 2005 |
| | Freshwater Bay | 172 | 820 | Pair | 2006 |
| | Deadmans Bay | 173 | 2866 | Pair | 2006 |
| | Blackhead | 174 | 350 | Individual | 2005 |
| | Miners Point | 196 | 1001 | Individual | 2005 |
| | Gull Island | 200 | 3,052 | Pair | 2016 |
| | Green Island | 201 | 2,188 | Pair | 2007 |
| | Great Island | 205 | 6,547 | Pair | 2015 |
| | Goose Island, Ferryland | 211 | 50 | Individual | 2005 |
| | Cape Ballard | 223 | 50 | Individual | 2005 |
| | The Drook/Mistaken Point | 226 | 4,170 | Pair | 2009 |
| | Cape Pine | 228 | 575 | Pair | 2005 |
| Herring Gull | Funk Island | 12 | 150 | Pair | 2011 |
| | Penguin Island, North | 20 | 50 | Individual | 2005 |
| | Penguin Island, South | 21 | 300 | Individual | 2005 |
| | Southern Cat Island | 22 | 300 | Individual | 2005 |
| | Middle Bill Island | 23 | 300 | Individual | 2005 |
| | Gull Island, Cape Freels | 24 | 50 | Individual | 2005 |
| | Cape Island | 25 | 5 | Individual | 2005 |
| | Cabot Island, North | 27 | 50 | Individual | 2005 |
| | Pouch Island | 28 | 50 | Individual | 2005 |
| | Butterfly Islets | 33 | 50 | Individual | 2005 |
| | Bennetts Low Island | 34 | 50 | Individual | 2005 |
| | Little Shag Rock | 35 | 50 | Individual | 2005 |

| Species | Colony Name | Colony # ¹ | Colony Size | Survey Unit | Year Surveyed |
|---------|---|-----------------------|-------------|-------------|---------------|
| | Big Shag Rock | 36 | 300 | Individual | 2005 |
| | Southwest Island | 42 | 50 | Individual | 2005 |
| | Small unnamed I. northeast of Deer Island | 43 | 300 | Individual | 2005 |
| | Double Shag Island | 48 | 50 | Individual | 2005 |
| | Small unnamed I. west of Lockers Flat Island | 51 | 50 | Individual | 2005 |
| | Great Black Island, unnamed I. north and west of Gulch Island | 54 | 50 | Individual | 2005 |
| | Black Island, St. Brendan's | 58 | 50 | Individual | 2005 |
| | Puffin Island | 59 | 50 | Individual | 2005 |
| | Shag Rock, Varket Channel | 60 | 50 | Individual | 2005 |
| | Brown Store Islet | 67 | 300 | Individual | 2005 |
| | Gull Island, Cape Bonavista | 69 | 50 | Individual | 2005 |
| | Green Island, Cape Bonavista | 73 | 750 | Individual | 2005 |
| | Unnamed I. east of Sailors Island | 75 | 300 | Individual | 2005 |
| | Little Denier Island | 78 | 50 | Individual | 2005 |
| | North Bird Island | 81 | 300 | Individual | 2005 |
| | Elliston Point Island | 82 | 300 | Individual | 2005 |
| | Bird, South | 84 | 300 | Individual | 2005 |
| | North unnamed I. in Castle Cove | 85 | 300 | Individual | 2005 |
| | South unnamed I. in Castle Cove | 87 | 300 | Individual | 2005 |
| | South of Fish Point Gulch | 89 | 50 | Individual | 2005 |
| | Middle Long Island | 90 | 50 | Individual | 2005 |
| | Copper Island | 91 | 50 | Individual | 2005 |
| | Red Cliff Island | 94 | 300 | Individual | 2005 |
| | Mouse Island, Sweet Bay | 98 | 50 | Individual | 2005 |
| | Lakeman Island | 101 | 50 | Individual | 2005 |
| | Unnamed I. in from Ragged Rocks | 103 | 50 | Individual | 2005 |
| | Ragged Islands, North | 104 | 50 | Individual | 2005 |
| | Unnamed I. northeast of Wolf Island | 107 | 50 | Individual | 2005 |
| | Green Island | 108 | 50 | Individual | 2005 |
| | Unnamed I. inside Green Island (off Salvage Head) | 109 | 300 | Individual | 2005 |
| | Ragged Islands, west | 111 | 300 | Individual | 2005 |
| | Green Island, Trinity Bay | 112 | 1,001 | Individual | 2005 |
| | Duck Island (TB) | 114 | 2 | Individual | 2005 |
| | Verge Island | 119 | 1,001 | Individual | 2005 |
| | Baccalieu Island | 120 | 46 | Pair | 2012 |
| | Perlican Island | 124 | 750 | Individual | 2005 |
| | Green Islands, N of Long Island | 125 | 50 | Individual | 2005 |
| | Hants Head | 126 | 50 | Individual | 2005 |
| | Unnamed I. rock off of Kings Head | 127 | 50 | Individual | 2005 |

| Species | Colony Name | Colony # ¹ | Colony Size | Survey Unit | Year Surveyed |
|---------|--|-----------------------|-------------|-------------|---------------|
| | Sugar Loaf | 129 | 50 | Individual | 2005 |
| | Unnamed I. in St. Jones Harbour | 130 | 50 | Individual | 2005 |
| | Copper Island, Trinity Bay | 133 | 300 | Individual | 2005 |
| | Pigeon Island | 135 | 300 | Individual | 2005 |
| | Stack in Shoe Cove | 138 | 50 | Individual | 2005 |
| | Goose Island, South | 142 | 300 | Individual | 2005 |
| | Carbonear Island | 143 | 750 | Individual | 2005 |
| | Duck Island, East | 144 | 300 | Individual | 2005 |
| | Harbour Grace Islands | 146 | 1,001 | Individual | 2005 |
| | Unnamed I. east of Grassy Island | 148 | 50 | Individual | 2005 |
| | Grassy Island | 149 | 300 | Individual | 2005 |
| | Woody Island, Southern Harbour | 151 | 300 | Individual | 2005 |
| | Hopeall Island | 153 | 300 | Individual | 2005 |
| | Salls Island | 154 | 5 | Individual | 2005 |
| | Unnamed I. off Bellevue Beach PP | 155 | 300 | Individual | 2005 |
| | Logy Bay | 156 | 50 | Individual | 2005 |
| | Stearin Island (off Corbin Head) | 158 | 50 | Individual | 2007 |
| | Little Harbour Island | 159 | 300 | Individual | 2005 |
| | The Bell | 160 | 50 | Individual | 2005 |
| | Fergus Island | 161 | 750 | Individual | 2005 |
| | Dildo Islands, north | 166 | 1 | Pair | 2005 |
| | Shag Roost | 167 | 1 | Pair | 2005 |
| | Little Bell Island | 168 | 750 | Individual | 2005 |
| | Kelly's Island | 171 | 50 | Individual | 2005 |
| | Freshwater Bay | 172 | 3 | Individual | 2010 |
| | Deadmans Bay | 173 | 21 | Individual | 2010 |
| | Fair Haven Island | 176 | 50 | Individual | 2005 |
| | Trinny Cove Islands, off Trinny Cove [1] | 178 | 300 | Individual | 2005 |
| | Trinny Cove Islands, off Trinny Cove [2] | 180 | 50 | Individual | 2005 |
| | Grassy Islands, Brine Islands, West | 183 | 50 | Individual | 2006 |
| | Unnamed I. west of Woody | 185 | 50 | Individual | 2005 |
| | North Green Island | 187 | 300 | Individual | 2005 |
| | Harbour Island | 188 | 750 | Individual | 2005 |
| | Graves Island | 189 | 300 | Individual | 2005 |
| | Harbour Island, Iona Islands | 191 | 750 | Individual | 2005 |
| | Unnamed I. off Graves Island | 192 | 50 | Individual | 2005 |
| | Hole in the Wall Island | 194 | 50 | Individual | 2005 |
| | Fox Island | 197 | 750 | Individual | 2005 |
| | Green Island (CB) | 199 | 5 | Individual | 2005 |
| | Gull Island | 200 | 1,608 | Pair | 2011 |

| Species | Colony Name | Colony # ¹ | Colony Size | Survey Unit | Year Surveyed |
|-------------------------|---|-----------------------|-------------|-------------|---------------|
| | Green Island | 201 | 100 | Pair | 2011 |
| | Ship Island | 203 | 300 | Individual | 2005 |
| | Pee Island | 204 | 77 | Pair | 2012 |
| | Great Island | 205 | 358 | Pair | 2012 |
| | Goose Island, Ferryland | 211 | 300 | Individual | 2005 |
| | Wrens Island | 212 | 50 | Individual | 2005 |
| | Costellos Island | 213 | 50 | Individual | 2005 |
| | Bois Island | 214 | 300 | Individual | 2005 |
| | Crow Island, near Ferryland Head | 216 | 300 | Individual | 2005 |
| | South Head | 217 | 50 | Individual | 2005 |
| | The Drook/Mistaken Point | 226 | 12 | Pair | 2005 |
| | Cape Pine Head | 229 | 7 | Pair | 2005 |
| Great Black-backed Gull | Funk Island | 12 | 75 | Pair | 2011 |
| | Small Island | 14 | 50 | Individual | 2006 |
| | Coleman Island | 15 | 50 | Individual | 2006 |
| | Penguin Island, North | 20 | 50 | Individual | 2005 |
| | Penguin Island, South | 21 | 50 | Individual | 2005 |
| | Southern Cat Island | 22 | 300 | Individual | 2005 |
| | Middle Bill Island | 23 | 5 | Individual | 2005 |
| | Gull Island, Cape Freels | 24 | 50 | Individual | 2005 |
| | Cape Island | 25 | 5 | Individual | 2005 |
| | Honey Pot Island | 26 | 5 | Individual | 2005 |
| | Cabot Island, North | 27 | 50 | Individual | 2005 |
| | Pouch Island | 28 | 300 | Individual | 2005 |
| | Green Island, Wesleyville | 31 | 50 | Individual | 2005 |
| | Butterfly Islets | 33 | 50 | Individual | 2005 |
| | Big Shag Rock | 36 | 50 | Individual | 2005 |
| | Main Rock, Greenspond | 38 | 50 | Individual | 2005 |
| | Horse Island | 39 | 5 | Individual | 2005 |
| | Copper Island | 40 | 50 | Individual | 2005 |
| | Small unnamed I. NE of Deer Island | 43 | 5 | Individual | 2005 |
| | Grassy Shag Rock, Offer Gooseberry | 46 | 50 | Individual | 2005 |
| | Deer Shag Islets | 47 | 5 | Individual | 2005 |
| | Flat Rock, Lockers Reach | 49 | 50 | Individual | 2005 |
| | Unnamed Is. inside Inner Gooseberry Islands, East | 50 | 50 | Individual | 2005 |
| | Small unnamed I. west of Lockers Flat Island | 51 | 5 | Individual | 2005 |
| | small unnamed I. outside Great Content Cove | 53 | 50 | Individual | 2005 |
| | Unnamed I. north of Great Black Island and west of Gulch Island | 54 | 5 | Individual | 2005 |
| | Unnamed I. south of Lakeman Island, | 56 | 5 | Individual | 2005 |

| Species | Colony Name | Colony # ¹ | Colony Size | Survey Unit | Year Surveyed |
|---------|---|-----------------------|-------------|-------------|---------------|
| | Black Island, St. Brendan's | 58 | 50 | Individual | 2005 |
| | Puffin Island | 59 | 50 | Individual | 2005 |
| | Shag Rock, Varket Channel | 60 | 50 | Individual | 2005 |
| | Lackington Rock | 62 | 50 | Individual | 2005 |
| | Unnamed I. northeast of Long Reach Island | 64 | 5 | Individual | 2005 |
| | Unnamed I. southwest of Ship Island | 65 | 5 | Individual | 2005 |
| | Brown Store Islet | 67 | 50 | Individual | 2005 |
| | Gull Island, Cape Bonavista | 69 | 50 | Individual | 2005 |
| | Green Island, Cape Bonavista | 73 | 5 | Individual | 2005 |
| | Unnamed I. east of Sailors Island | 75 | 50 | Individual | 2005 |
| | Little Denier Island | 78 | 50 | Individual | 2005 |
| | Bird, South | 84 | 5 | Individual | 2005 |
| | North unnamed I. in Castle Cove | 85 | 50 | Individual | 2005 |
| | Long Island, Middle | 90 | 50 | Individual | 2005 |
| | Copper Island | 91 | 50 | Individual | 2005 |
| | Red Cliff Island | 94 | 50 | Individual | 2005 |
| | Unnamed I. north of Chance Head | 95 | 50 | Individual | 2005 |
| | Southern Den | 96 | 50 | Individual | 2005 |
| | Mouse Island, Sweet Bay | 98 | 50 | Individual | 2005 |
| | Gull Island, Sweet Bay | 100 | 5 | Individual | 2005 |
| | Unnamed I. in from Ragged Rocks, | 103 | 50 | Individual | 2005 |
| | Ragged Islands, North | 104 | 50 | Individual | 2005 |
| | Ragged Islands, South | 106 | 50 | Individual | 2005 |
| | Unnamed I. northeast of Wolf Island | 107 | 50 | Individual | 2005 |
| | Green Island | 108 | 5 | Individual | 2005 |
| | Unnamed I. inside Green Island (off Salvage Head) | 109 | 50 | Individual | 2005 |
| | Ragged Islands, West | 111 | 300 | Individual | 2005 |
| | Green Island, Trinity Bay | 112 | 50 | Individual | 2005 |
| | Duck Island | 114 | 5 | Individual | 2005 |
| | Red Head, cliff west of | 115 | 50 | Individual | 2005 |
| | Verge Island | 119 | 50 | Individual | 2005 |
| | Baccalieu Island | 120 | 2 | Pair | 2012 |
| | Perlican Island | 124 | 50 | Individual | 2005 |
| | Green Islands, north of Long Island | 125 | 300 | Individual | 2005 |
| | Copper Island, Trinity Bay | 133 | 5 | Individual | 2005 |
| | Spout Cove | 134 | 5 | Individual | 2005 |
| | Goose Island, South | 142 | 50 | Individual | 2005 |
| | Duck Island, East | 144 | 50 | Individual | 2005 |
| | Unnamed I. east of Grassy Island | 148 | 5 | Individual | 2005 |
| | Woody Island, Southern Harbour | 151 | 50 | Individual | 2005 |

| Species | Colony Name | Colony # ¹ | Colony Size | Survey Unit | Year Surveyed |
|------------------|--|-----------------------|-------------|-------------|---------------|
| | Hopeall Island | 153 | 50 | Individual | 2005 |
| | Salls Island | 154 | 5 | Individual | 2005 |
| | Unnamed I. off Bellevue Beach PP | 155 | 300 | Individual | 2005 |
| | Stearin Island (off Corbin Head) | 158 | 50 | Individual | 2007 |
| | Little Harbour Island | 159 | 50 | Individual | 2005 |
| | The Bell | 160 | 50 | Individual | 2005 |
| | Fergus Island | 161 | 50 | Individual | 2005 |
| | Little Bell Island | 168 | 50 | Individual | 2005 |
| | Freshwater Bay | 172 | 6 | Individual | 2005 |
| | Deadmans Bay | 173 | 6 | Individual | 2005 |
| | Fair Haven Island | 176 | 5 | Individual | 2005 |
| | Trinny Cove Islands, off Trinny Cove [1] | 178 | 5 | Individual | 2005 |
| | Trinny Cove Islands, off Trinny Cove [2] | 180 | 5 | Individual | 2005 |
| | Grassy Islands, Brine Islands, West | 183 | 50 | Individual | 2006 |
| | Unnamed I. west of Woody | 185 | 50 | Individual | 2005 |
| | East Green Island | 186 | 300 | Individual | 2005 |
| | North Green Island | 187 | 300 | Individual | 2005 |
| | Unnamed I. off Graves Island | 192 | 50 | Individual | 2005 |
| | Little Island (Iona Islands) | 193 | 1 | Pair | 2005 |
| | Hole in the Wall Island | 194 | 50 | Individual | 2005 |
| | Green Island (CB) | 199 | 50 | Individual | 2005 |
| | Gull Island | 200 | 32 | Pair | 2011 |
| | Green Island | 201 | 20 | Pair | 2011 |
| | Ship Island | 203 | 50 | Individual | 2005 |
| | Pee Pee Island | 204 | 7 | Pair | 2012 |
| | Great Island | 205 | 9 | Pair | 2012 |
| | Kerwan Point, Newbridge | 207 | 2 | Individual | 2005 |
| | Goose Island, Ferryland | 211 | 50 | Individual | 2005 |
| | Wrens Island | 212 | 5 | Individual | 2005 |
| | Bois Island | 214 | 50 | Individual | 2005 |
| | Crow Island, near Ferryland Head | 216 | 50 | Individual | 2005 |
| | Cape Pine Head | 229 | 1 | Individual | 2005 |
| Ring-billed Gull | Coleman Island | 15 | 300 | Individual | 2006 |
| | Pouch Island | 28 | 50 | Individual | 2005 |
| | Tinker Rocks | 30 | 148 | Pair | 2005 |
| | Bennetts Low Island | 34 | 300 | Individual | 2005 |
| | Unnamed I. in Willis Reach | 55 | 300 | Individual | 2005 |
| | Green Island, Cape Bonavista | 73 | 6 | Pair | 2005 |
| | Red Cliff Island | 94 | 17 | Pair | 2005 |
| | Mustard Bowl Island | 99 | 50 | Individual | 2005 |

| Species | Colony Name | Colony # ¹ | Colony Size | Survey Unit | Year Surveyed |
|--|-------------------------------------|-----------------------|-------------|-------------|---------------|
| | Goose Island, South | 142 | 304 | Pair | 2005 |
| | Grassy Islands, Brine Islands, West | 183 | 300 | Individual | 2006 |
| | Crawley Island | 190 | 992 | Pair | 2005 |
| | The Neck at Isaac Heads | 198 | 300 | Individual | 2005 |
| | Kerwan Point (Newbridge) | 207 | 2 | Pair | 2005 |
| | ODonnells | 209 | 321 | Pair | 2005 |
| | Biscay Bay Pond | 224 | 23 | Pair | 2005 |
| Note: Refer to Figure 4.54 for colony locations corresponding to each Colony #. | | | | | |
| Source: Data obtained from Atlantic Canada Colonial Waterbird Database (CWS 2017). | | | | | |

Table C.4 Tern Colony Locations in Eastern Newfoundland

| Colony Name | Colony # ¹ | Colony Size | Survey Unit | Year Surveyed |
|---|-----------------------|-------------|-------------|---------------|
| Wadham Island, Offer | 13 | 22 | Pair | 2006 |
| Coleman Island | 15 | 85 | Individual | 2006 |
| Pigeon Island | 16 | 28 | Individual | 2006 |
| Duck Island, N (near Fogo) | 17 | 20 | Individual | 2006 |
| Muddy Shag Island | 18 | 12 | Pair | 2006 |
| Penguin Island, South | 21 | 80 | Individual | 2005 |
| Pouch Island | 28 | 1 | Pair | 2005 |
| Tinker Rocks | 30 | 476 | Pair | 2005 |
| Bennetts Low Island | 34 | 10 | Individual | 2005 |
| Unnamed I. in Greenspond Harbour | 37 | 100 | Individual | 2005 |
| Horse Island | 39 | 8 | Individual | 2005 |
| Unnamed I. southwest of Goodwithy Harbour | 41 | 60 | Individual | 2005 |
| Southwest Island | 42 | 155 | Individual | 2005 |
| Small unnamed I, north of Deer Island | 44 | 70 | Individual | 2005 |
| Deer Shag Islets | 47 | 30 | Individual | 2005 |
| Unnamed Is. inside Inner Gooseberry Islands, East | 50 | 260 | Individual | 2005 |
| Small unnamed I. west of Lockers Flat Island | 51 | 105 | Individual | 2005 |
| Unnamed I. off Hare Bay | 52 | 45 | Individual | 2005 |
| Unnamed I. in Willis Reach | 55 | 25 | Individual | 2005 |
| Unnamed I. rock southwest of Cottel Island | 57 | 18 | Individual | 2005 |
| Small unnamed I. 1km east of Hare Island | 61 | 20 | Individual | 2005 |
| Unnamed I. northeast of Morris Island | 63 | 198 | Individual | 2005 |
| Unnamed I. northeast of Long Reach Island | 64 | 78 | Individual | 2005 |
| Unnamed I. southeast of Shoe Island | 66 | 13 | Individual | 2005 |
| Shag Islands, Outer | 70 | 200 | Individual | 2005 |
| Green Island, Cape Bonavista | 73 | 565 | Pair | 2005 |
| Unnamed I. north of Baldric Head | 76 | 65 | Individual | 2005 |
| North unnamed I. in Castle Cove | 85 | 2 | Individual | 2005 |

| Colony Name | Colony #¹ | Colony Size | Survey Unit | Year Surveyed |
|---|-----------------------------|--------------------|--------------------|----------------------|
| Swale Island Shag Rock | 86 | 23 | Individual | 2005 |
| Long Island | 88 | 225 | Individual | 2005 |
| Little Harbour Gull Rock | 92 | 175 | Individual | 2005 |
| Mermaid Rock | 93 | 35 | Individual | 2005 |
| Red Cliff Island | 94 | 115 | Individual | 2005 |
| Unnamed Is. in Lion's Den, Terra Nova NP | 97 | 125 | Individual | 2005 |
| Mustard Bowl Island | 99 | 100 | Individual | 2005 |
| Unnamed I. northeast of Wolf Island | 107 | 50 | Individual | 2005 |
| Maiden Island | 110 | 3250 | Individual | 2005 |
| Long Harbour, unnamed I. west of | 113 | 15 | Pair | 2005 |
| Sgeir Island | 116 | 325 | Individual | 2005 |
| Grassy Island North of Verge Island | 118 | 9 | Pair | 2005 |
| Copper Island, South of Verge Island | 121 | 2 | Pair | 2005 |
| Rocks northeast of East Random Head | 122 | 10 | Individual | 2005 |
| Unnamed I. in Random Head Harbour | 123 | 15 | Individual | 2005 |
| Gull Island, Conception Bay | 128 | 105 | Individual | 2005 |
| Harbour Rocks, Shoal Bay | 132 | 49 | Individual | 2005 |
| Spout Cove | 134 | 15 | Individual | 2005 |
| Unnamed I. in Salmon Cove | 136 | 83 | Individual | 2005 |
| Bull Island | 137 | 38 | Individual | 2005 |
| Unnamed I. off Islington | 139 | 130 | Individual | 2005 |
| Unnamed I. in Rantem Harbour | 145 | 80 | Individual | 2005 |
| Salls Island | 154 | 3 | Individual | 2005 |
| Spaniards Bay Spit | 162 | 14 | Pair | 2005 |
| Grassy Island, Little Pinchgut | 164 | 4 | Pair | 2005 |
| Rock southwest of Dildo Islands | 169 | 1 | Pair | 2005 |
| Upper Island, Chapel Arm | 175 | 1 | Pair | 2005 |
| Inside Chapel Arm | 177 | 8 | Pair | 2005 |
| Trinny Cove Islands, off Trinny Cove [2] | 180 | 9 | Pair | 2005 |
| Trinny Cove Islands, off Trinny Cove Head | 182 | 51 | Pair | 2005 |
| Phillips Island, southeast Placentia | 202 | 10 | Individual | 2005 |
| Point in Pinchgut Tickle | 206 | 58 | Individual | 2005 |
| Kerwan Point (Newbridge) | 207 | 82 | Pair | 2005 |
| Small unnamed I. in ODonnells lagoon | 208 | 111 | Pair | 2005 |
| ODonnells | 209 | 41 | Pair | 2005 |
| Stone Islands | 210 | 25 | Individual | 2005 |
| Hares Ears | 215 | 18 | Individual | 2005 |
| Riverhead | 218 | 13 | Pair | 2005 |
| Coote Pond | 219 | 90 | Individual | 2005 |
| Renews Harbour | 220 | 125 | Pair | 2005 |

| Colony Name | Colony # ¹ | Colony Size | Survey Unit | Year Surveyed |
|--|-----------------------|-------------|-------------|---------------|
| Point La Haye | 221 | 2 | Pair | 2005 |
| Biscay Bay Pond | 224 | 1 | Pair | 2005 |
| Unnamed I. in Portugal Cove Pond | 225 | 10 | Individual | 2005 |
| Note: Refer to Figure 4.54 for colony locations corresponding to each Colony #. Source: Data obtained from Atlantic Canada Colonial Waterbird Database (CWS 2017) | | | | |

Table C.5 Alcid Colony Locations in Eastern Newfoundland

| Species | Colony Name | Colony # ¹ | Colony Size | Survey Unit | Year Surveyed |
|--------------------|-----------------------------------|-----------------------|-------------|-------------|---------------|
| Atlantic Puffin | Funk Island | 12 | 2,000 | Pair | 1988 |
| | Small Island | 14 | 6,190 | Pair | 2001 |
| | Coleman Island | 15 | 950 | Pair | 1984 |
| | Pigeon Island | 16 | 20 | Pair | 1973 |
| | Penguin Island, South | 21 | 755 | Pair | 2013 |
| | Unnamed I. east of Cape Bonavista | 72 | 350 | Pair | 2011 |
| | Little Denier | 77 | 1,000 | Pair | 2011 |
| | Spillars Point | 80 | 250 | Pair | 1985 |
| | North Bird Island | 81 | 1,000 | Pair | 1987 |
| | Elliston Point Island | 82 | 400 | Pair | 1985 |
| | Bird, South | 84 | 1,000 | Pair | 1985 |
| | Green Island, Trinity Bay | 102 | 1,277 | Pair | 2005 |
| | Duck Island, Trinity Bay | 114 | 3,000 | Pair | 2005 |
| | Baccalieu Island | 120 | 75,000 | Pair | 2005 |
| | Gull Island | 200 | 118,401 | Pair | 2012 |
| | Green Island | 201 | 9,300 | Pair | 1979 |
| | Pee Pee Island | 204 | 1,850 | Pair | 2010 |
| | Great Island | 205 | 174,491 | Pair | 2011 |
| | The Drook/Mistaken Point | 226 | 79 | Pair | 2005 |
| | Cape Pine Head | 229 | 259 | Pair | 2005 |
| Common Murre | Funk Island | 12 | 472,259 | Pair | 2009 |
| | Cabot Island, South | 29 | 9,897 | Pair | 2009 |
| | Baccalieu Island | 120 | 1,441 | Pair | 2012 |
| | Gull Island | 200 | 11,640 | Pair | 2016 |
| | Green Island | 201 | 240,000 | Pair | 2007 |
| | Great Island | 205 | 1,037 | Pair | 2015 |
| | The Drook/Mistaken Point | 226 | 84 | Pair | 2009 |
| | Western Head | 227 | 27 | Pair | 1985 |
| | Cape Pine Head | 229 | 9 | Pair | 2005 |
| Thick-billed Murre | Funk Island | 12 | 250 | Pair | 1980 |
| | Baccalieu Island | 120 | 73 | Pair | 2012 |
| | Gull Island | 200 | 1 | Pair | 2012 |

| Species | Colony Name | Colony # ¹ | Colony Size | Survey Unit | Year Surveyed |
|-----------------|---|-----------------------|-------------|-------------|---------------|
| Razorbill | Green Island | 201 | 242 | Pair | 2004 |
| | Funk Island | 12 | 200 | Pair | 1980 |
| | Small Island | 14 | 273 | Pair | 2001 |
| | Coleman Island | 15 | 10 | Pair | 1984 |
| | Cabot Island, South | 29 | 4 | Pair | 2011 |
| | Puffin Island | 117 | 50 | Pair | 2012 |
| | Baccalieu Island | 120 | 406 | Pair | 2012 |
| | Gull Island | 200 | 524 | Pair | 2016 |
| | Green Island | 201 | 170 | Pair | 1979 |
| | Ship Island | 203 | 12 | Pair | 2015 |
| | Pee Pee Island | 204 | 31 | Pair | 2015 |
| | Great Island | 205 | 201 | Pair | 2015 |
| | The Drook/Mistaken Point | 226 | 72 | Pair | 2009 |
| | Western Head | 227 | 7 | Pair | 1985 |
| | Cape Pine Head | 229 | 189 | Pair | 1985 |
| Black Guillemot | Funk Island | 12 | 1 | Pair | 1988 |
| | Coleman Island | 15 | 25 | Pair | 1984 |
| | Offer Gooseberry Island | 45 | 13 | Pair | 1945 |
| | Brown Store Islet | 67 | 2 | Pair | 1989 |
| | Unnamed I. east of Brown Store Islet | 68 | 3 | Pair | 1989 |
| | Shag Islands | 71 | 20 | Pair | 1974 |
| | South of Spillars Point | 79 | 25 | Pair | 1985 |
| | Puffin Island | 117 | 30 | Pair | 2012 |
| | Baccalieu Island | 120 | 113 | Pair | 2012 |
| | Bull Island | 137 | 8 | Pair | 1945 |
| | Grassy Island | 149 | 4 | Pair | 1974 |
| | Tinker Islet | 163 | 1 | Pair | 1974 |
| | Unnamed I., Little Pinchgut, | 165 | 10 | Pair | 1974 |
| | Little Bell Island | 168 | 125 | Pair | 1984 |
| | Kelly's Island | 171 | 100 | Pair | 1984 |
| | Freshwater Bay | 172 | 30 | Individual | 2006 |
| | Deadmans Bay | 173 | 10 | Individual | 2005 |
| | Trinny Cove Islands, off Trinny Cove | 178 | 36 | Individual | 2015 |
| | Trinny Cove Islands, off Trinny Cove Head | 182 | 2 | Pair | 1974 |
| | Grassy Islands, Brine Islands, East | 184 | 1 | Pair | 1974 |
| | Gull Island | 200 | 7 | Pair | 2016 |
| | Ship Island | 203 | 11 | Individual | 2015 |
| | Pee Pee Island | 204 | 1 | Pair | 2015 |
| | Great Island | 205 | 1 | Pair | 2015 |

| Species | Colony Name | Colony # ¹ | Colony Size | Survey Unit | Year Surveyed |
|---|--------------------------|-----------------------|-------------|-------------|---------------|
| | Bois Island | 214 | 20 | Pair | 1984 |
| | The Drook/Mistaken Point | 226 | 17 | Pair | 2009 |
| | Western Head | 227 | 20 | Pair | 1985 |
| | Cape Pine Head | 228 | 5 | Pair | 2005 |
| Note: Refer to Figure 4.54 for colony locations corresponding to each Colony #. | | | | | |
| Source: Data obtained from Atlantic Canada Colonial Waterbird Database (CWS 2017) | | | | | |

Table C.6 Norther Fulmar Colony Locations in Eastern Newfoundland

| Colony Name | Colony # ¹ | Colony size | Survey Unit | Year Surveyed |
|---|-----------------------|-------------|-------------|---------------|
| Funk Island | 12 | 6 | Pair | 2012 |
| Gull Island | 200 | 12 | Pair | 2016 |
| Green Island | 201 | 1 | Pair | 1988 |
| Ship Island | 203 | 42 | Pair | 2015 |
| Great Island | 205 | 5 | Pair | 2015 |
| Note: Refer to Figure 4.54 for colony locations corresponding to each Colony # | | | | |
| Source: Data obtained from Atlantic Canada Colonial Waterbird Database (CWS 2017) | | | | |

Table C.7 Leach's Storm-petrel Colony Locations in Eastern Newfoundland

| Colony Name | Colony # ¹ | Colony Size | Survey Unit | Year Surveyed |
|-------------------------------------|-----------------------|-------------|-------------|---------------|
| White Islands | 1 | 400 | Pair | 1943 |
| Rouge Island | 2 | 1,000 | Pair | 1943 |
| Isle Aux Canes | 3 | 300 | Pair | 1986 |
| Storehouse Islets | 4 | 100 | Pair | 1984 |
| Single Turr Cliff | 5 | 1,523 | Pair | 2014 |
| Double Turr Cliff | 6 | 2,444 | Pair | 2014 |
| Hennessey Island | 7 | 9 | Pair | 2014 |
| Bakeapple Island | 8 | 2,317 | Pair | 2014 |
| Little Bakeapple | 9 | 113 | Pair | 2014 |
| Wadhams Harbour Island | 10 | 200 | Pair | 2012 |
| Puffin Island (Little Fogo Islands) | 11 | 396 | Pair | 2014 |
| Small Island | 14 | 1,038 | Pair | 2001 |
| Coleman Island | 15 | 5,000 | Pair | 1984 |
| Ladle Island | 19 | 20 | Pair | 1985 |
| Penguin Island, North | 20 | 200 | Pair | 1984 |
| Penguin Island, South | 21 | 7,800 | Pair | 1979 |
| Cabot Island, North | 27 | 100 | Pair | 1945 |
| Flower Island | 32 | 75 | Pair | 1945 |
| Butterfly Islets | 33 | 200 | Pair | 1967 |
| Big Shag Rock | 36 | 1,000 | Pair | 1980 |
| Offer Gooseberry Island | 45 | 100 | Pair | 1945 |

| Colony Name | Colony #¹ | Colony Size | Survey Unit | Year Surveyed |
|--|-----------------------------|--------------------|--------------------|----------------------|
| Shag Islands | 71 | 1,700 | Pair | 1974 |
| Green Island, Cape Bonavista | 73 | 10 | Pair | 1945 |
| Little Denier Island | 78 | 1,300 | Pair | 1975 |
| Bird, South | 84 | 50 | Pair | 1985 |
| Copper Island | 91 | 10 | Pair | 1987 |
| Green Island, Trinity Bay | 112 | 1 | Pair | 2005 |
| Baccalieu Island | 120 | 2,022,000 | Pair | 2013 |
| Wreck Island, Garia Bay | 157 | 100 | Pair | 1944 |
| Ramea Columbier Island | 179 | 1,000 | Pair | 1989 |
| Pass Island | 181 | 100 | Pair | 1978 |
| Penguin Islands | 195 | 100 | Pair | 1978 |
| Gull Island | 200 | 179,743 | Pair | 2012 |
| Green Island | 201 | 20 | Pair | 1979 |
| Great Island | 205 | 134,139 | Pair | 2011 |
| Note: Refer to Figure 4.54 for colony locations corresponding to each Colony #. Source: Data obtained from Atlantic Canada Colonial Waterbird Database (CWS 2017) | | | | |

Figure C.1 Seasonal Distribution of ECSAS Cormorant Observations in the Waters off Eastern Newfoundland (2001 – 2017)

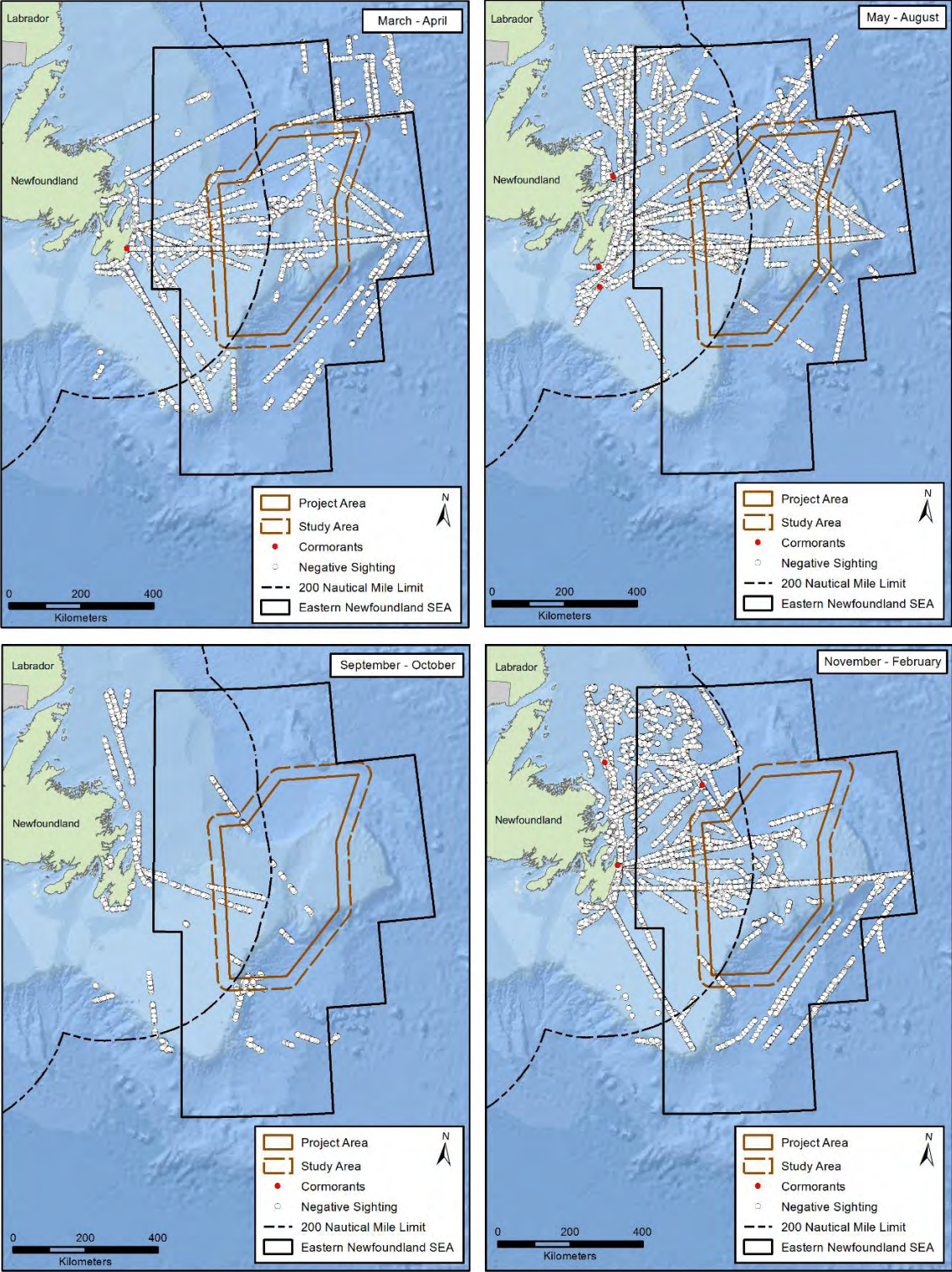


Figure C.2 Seasonal Distribution of ECSAS Northern Gannet Observations in the Waters off Eastern Newfoundland (2001 – 2017)

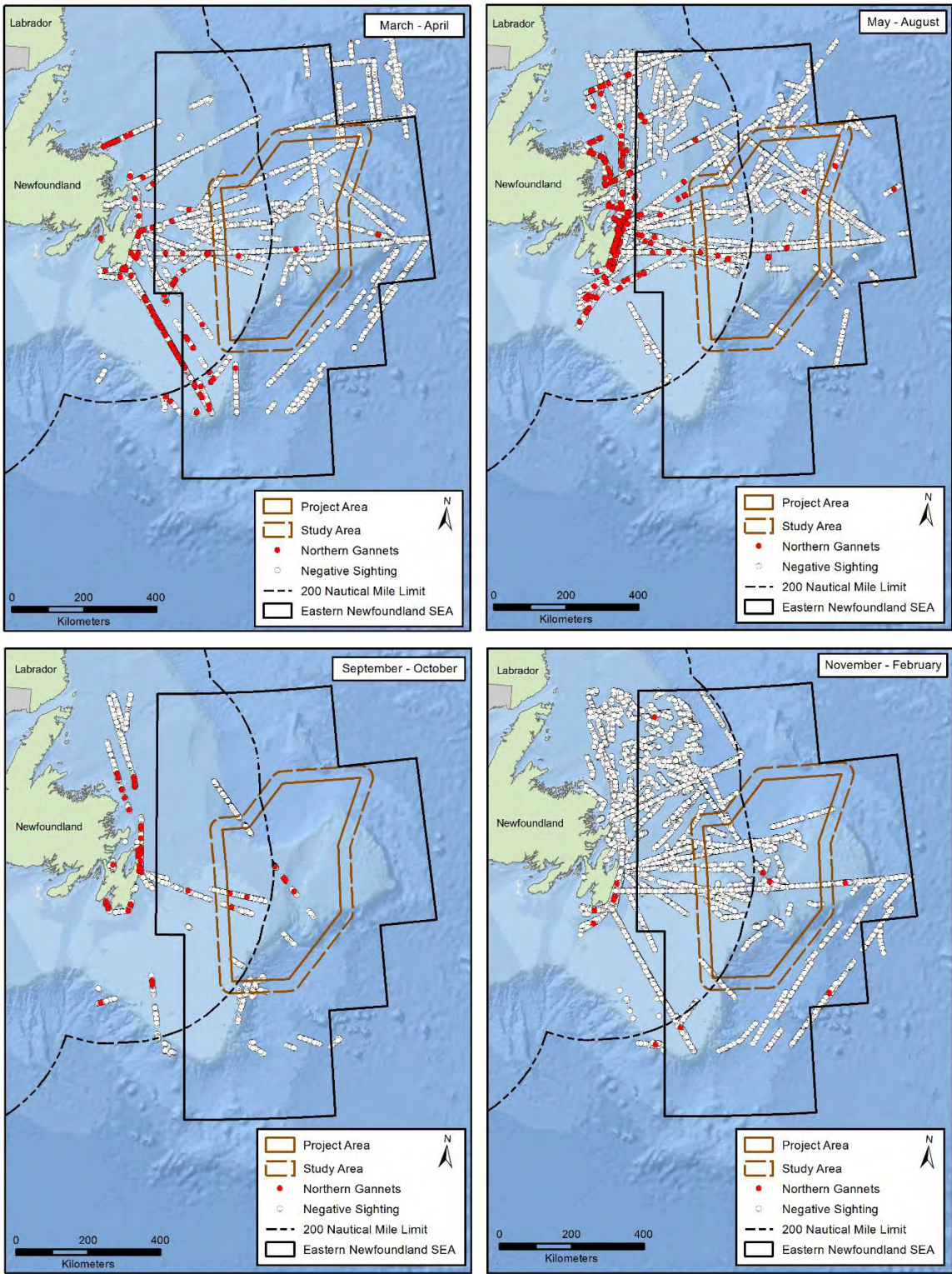


Figure C.3 Seasonal Distribution of ECSAS Phalarope Observations in the Waters off Eastern Newfoundland (2001 – 2017)

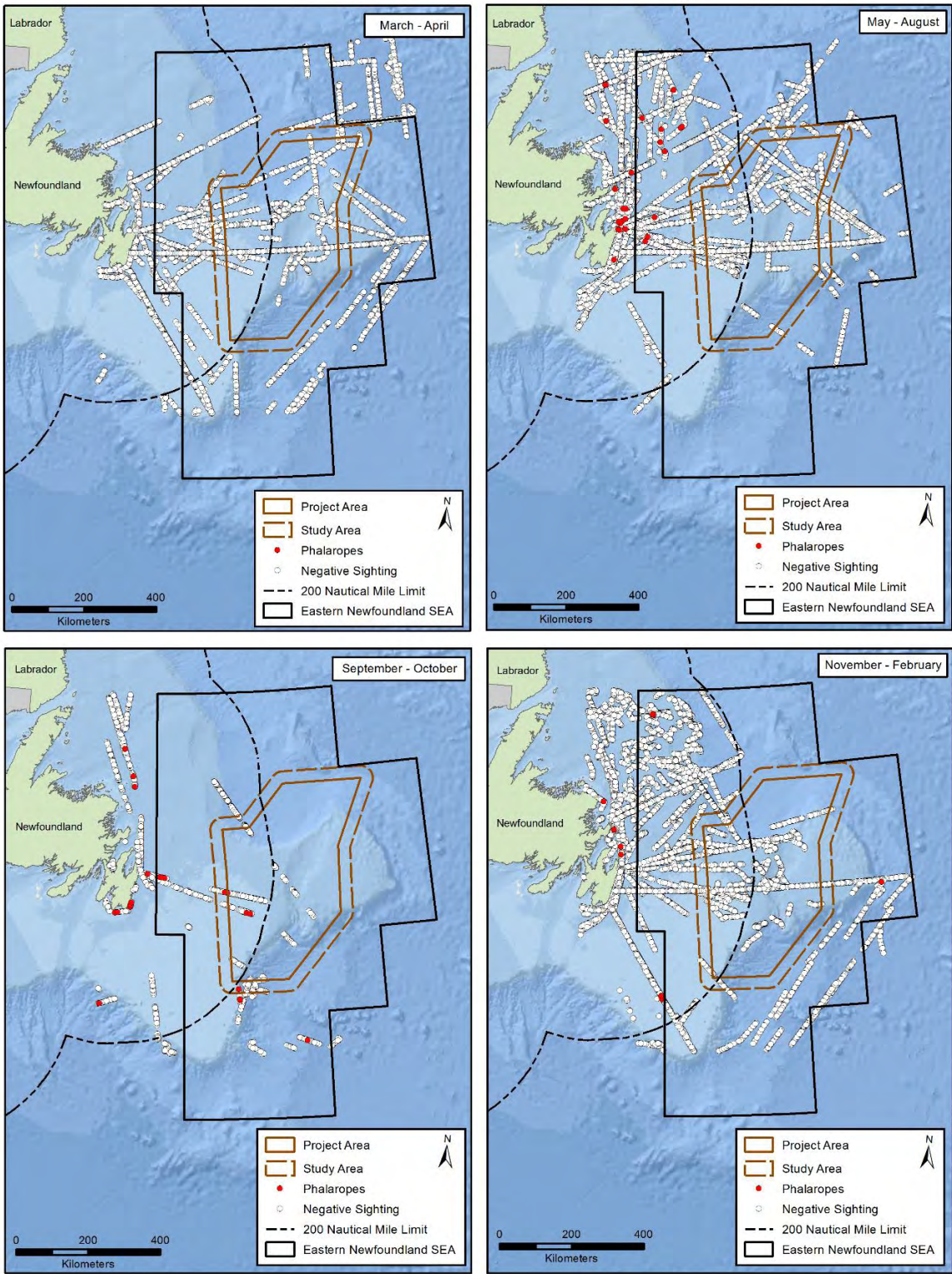


Figure C.4 Seasonal Distribution of ECSAS Black-legged Kittiwake Observations in the Waters off Eastern Newfoundland (2001 – 2017)

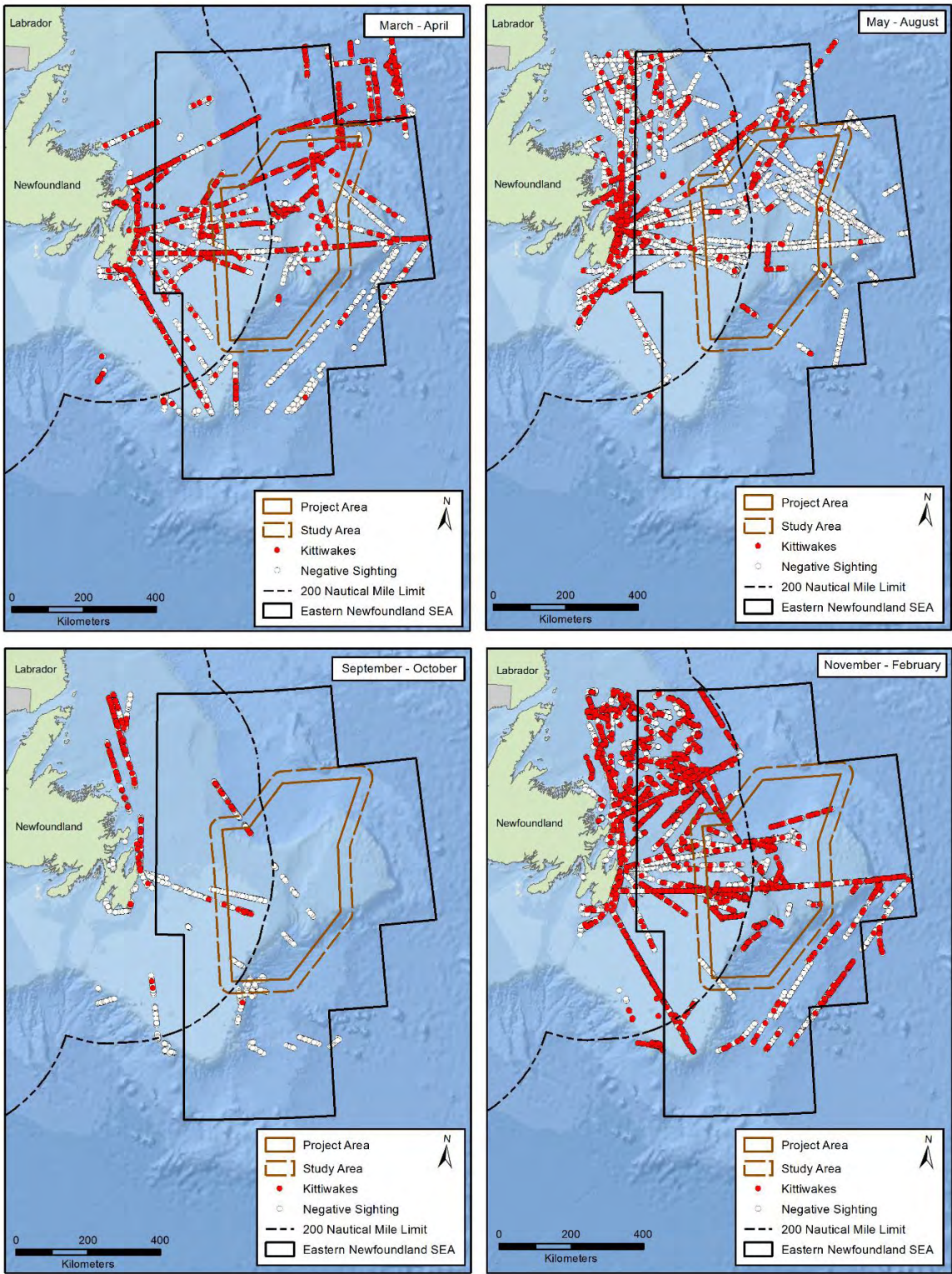


Figure C.5 Seasonal Distribution of ECSAS Large Gull Observations in the Waters off Eastern Newfoundland (2001 – 2017)

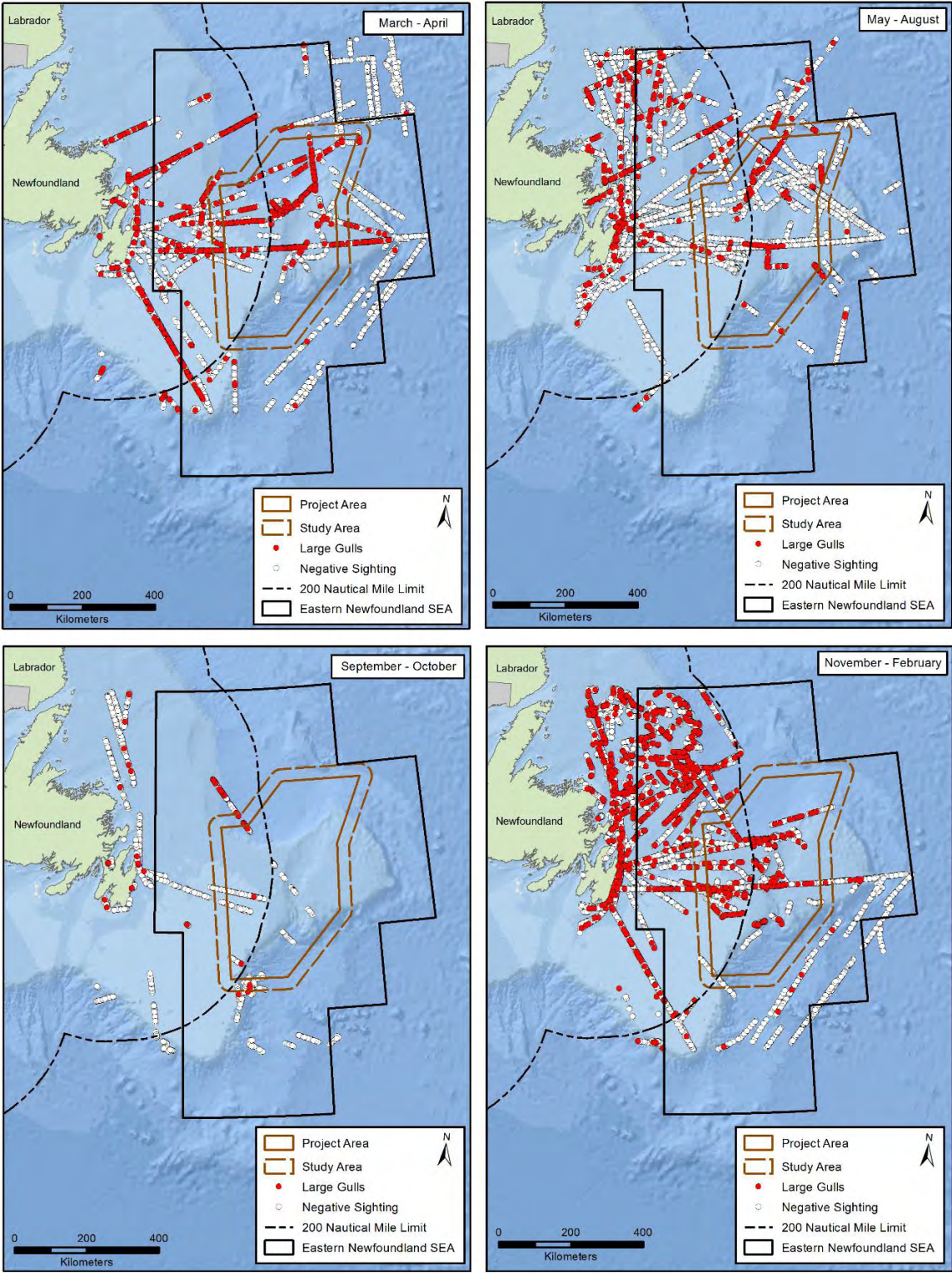


Figure C.6 Seasonal Distribution of ECSAS Tern Observations in the Waters off Eastern Newfoundland (2001 – 2017)

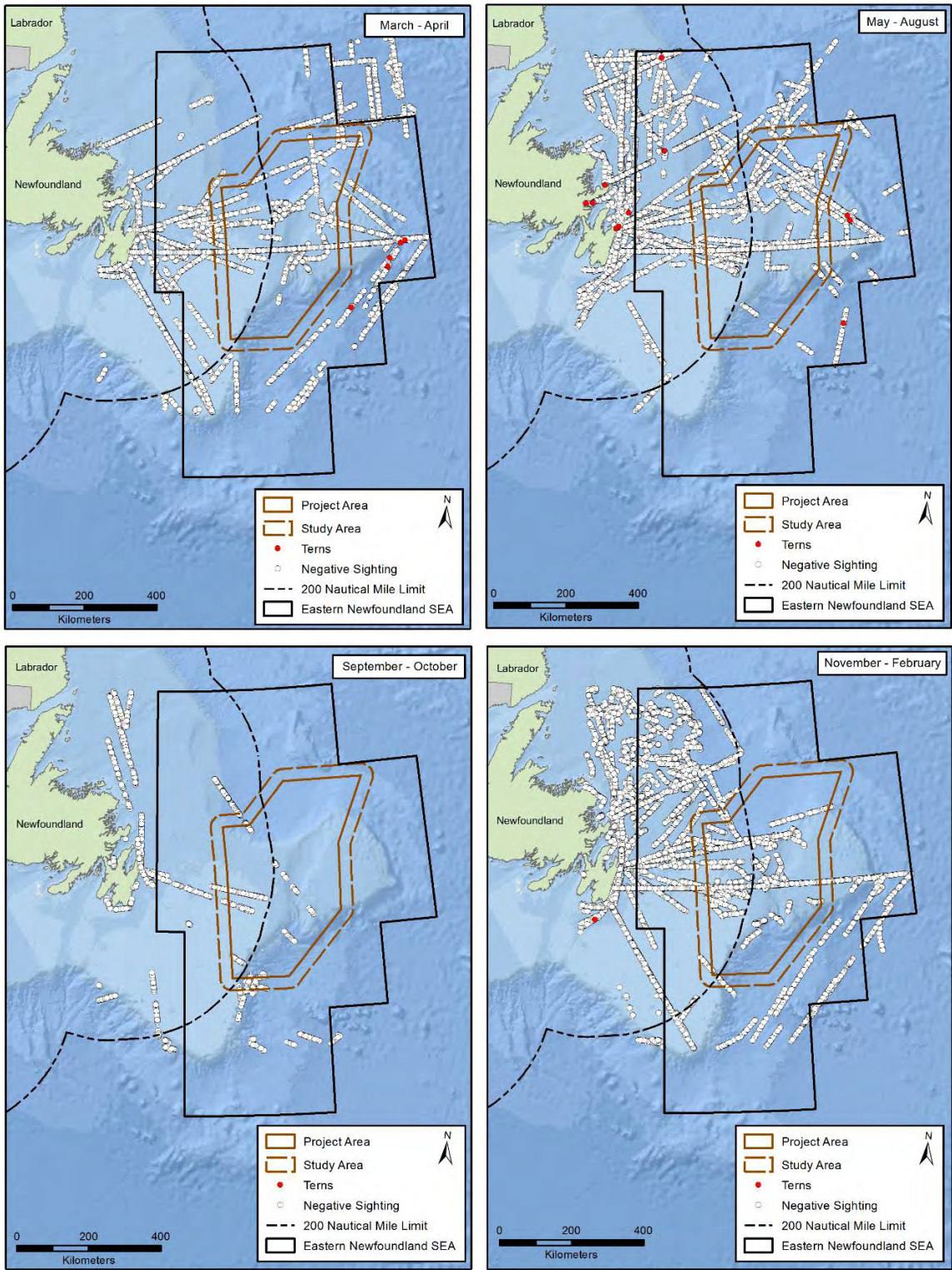


Figure C.7 Seasonal Distribution of ECSAS Dovekie Observations in the Waters off Eastern Newfoundland (2001 – 2017)

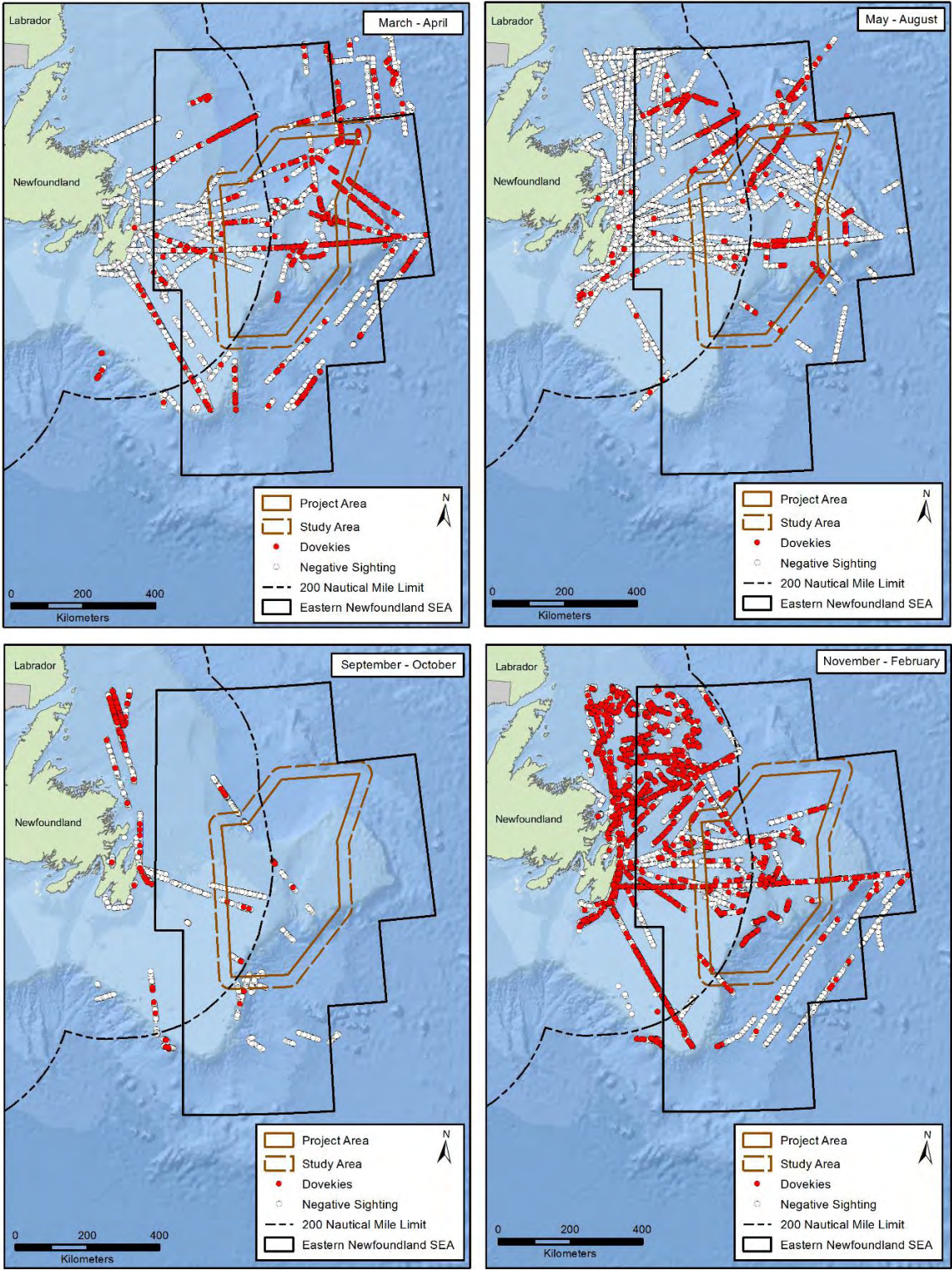


Figure C.8 Seasonal Distribution of ECSAS Murre Observations in the Waters off Eastern Newfoundland (2001 – 2017)

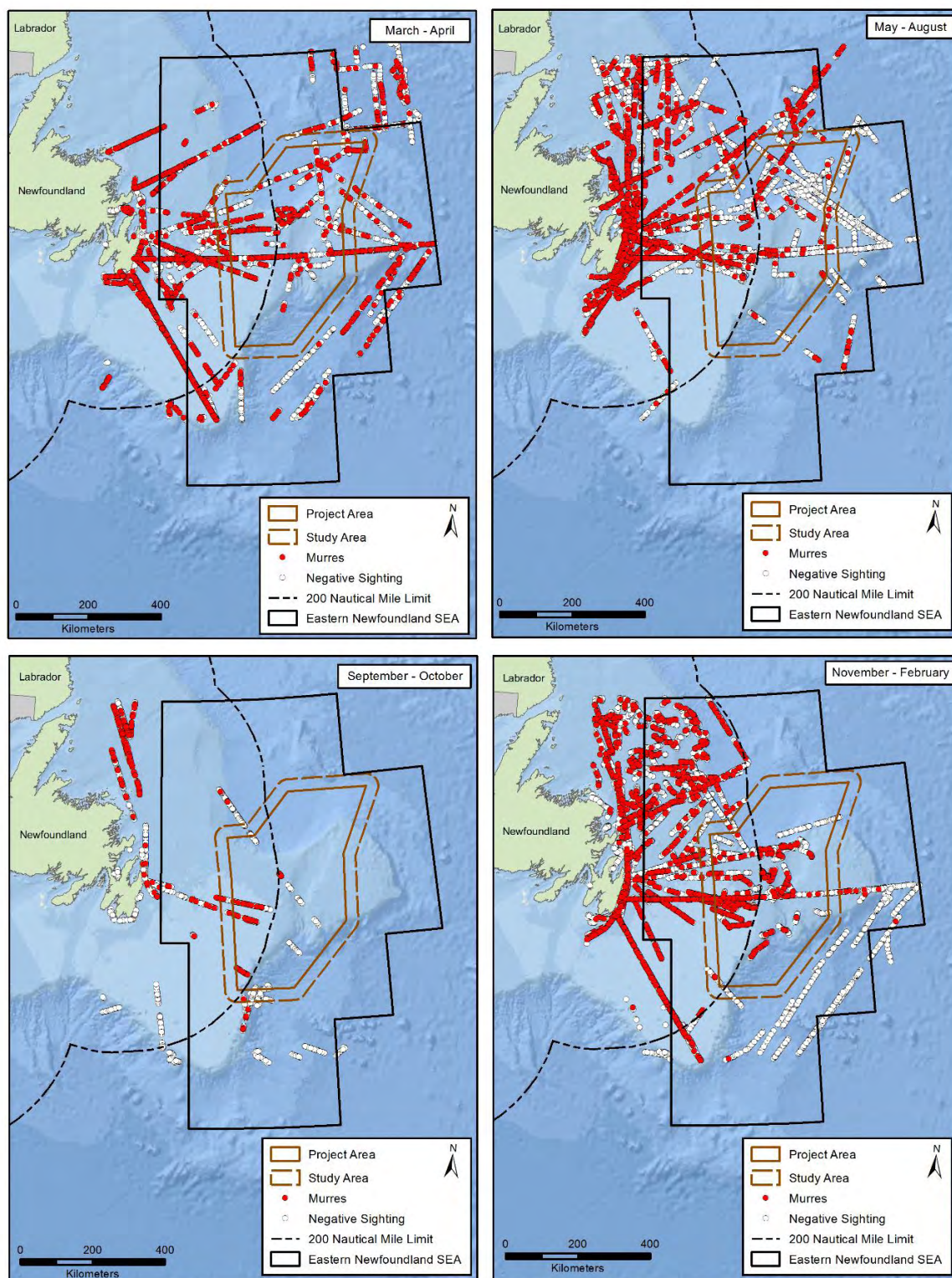


Figure C.9 Seasonal Distribution of ECSAS Other Alcids (including Razorbill, Black Guillemot and Atlantic Puffin) Observations in the Waters off Eastern Newfoundland (2001 – 2017)

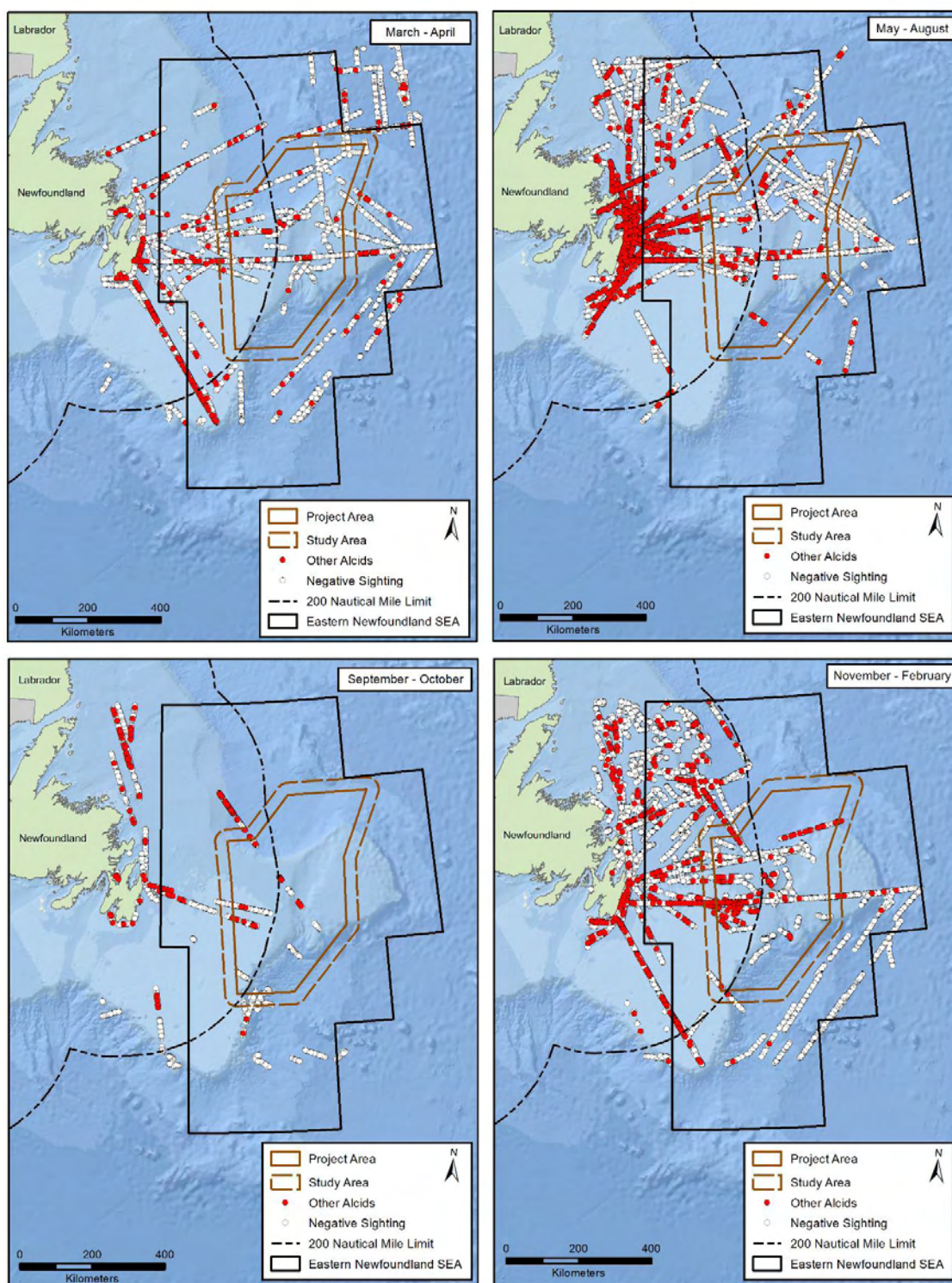


Figure C.10 Seasonal Distribution of ECSAS Jaeger and Skua Observations in the Waters off Eastern Newfoundland (2001 – 2017)

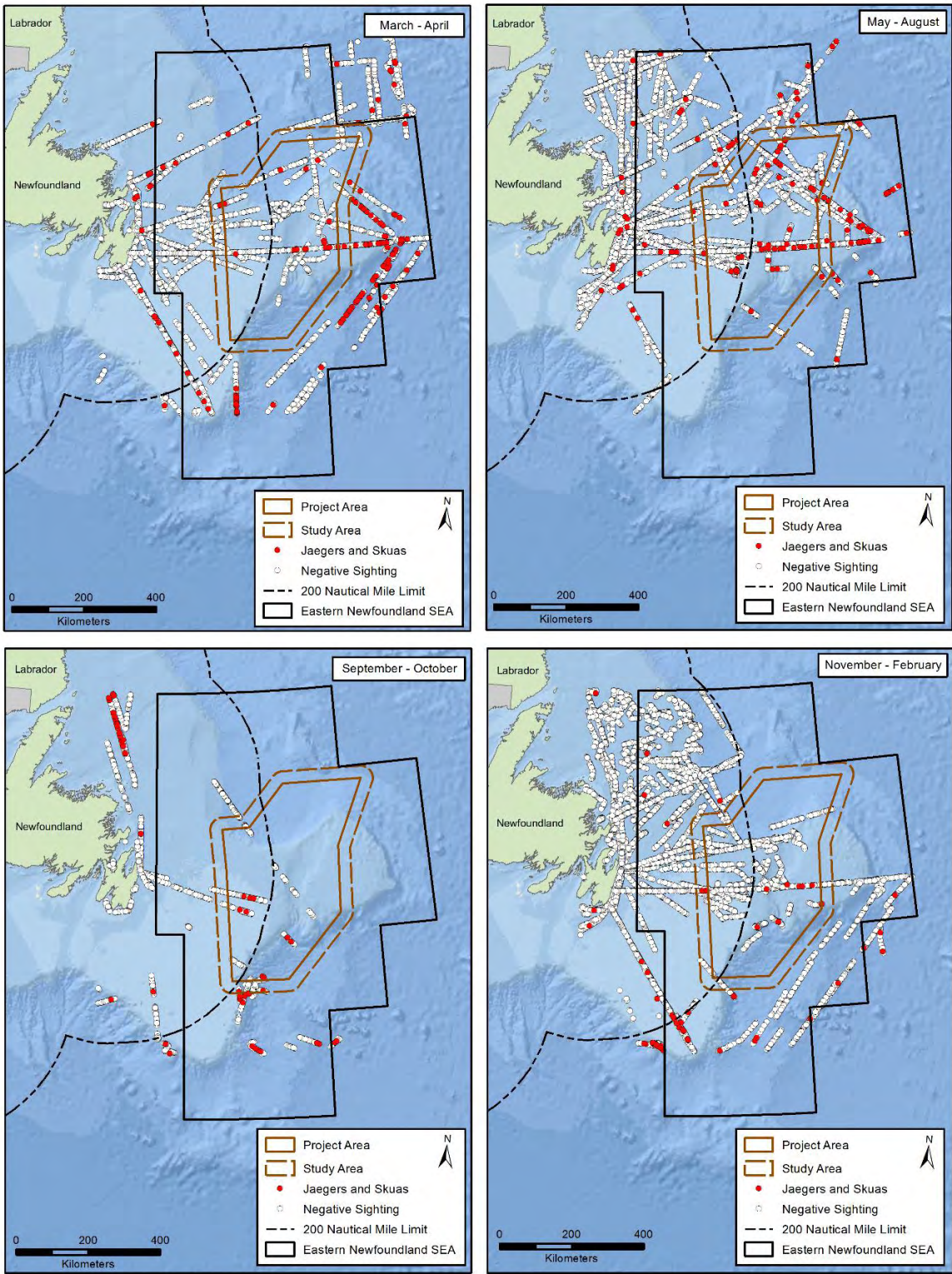


Figure C.11 Seasonal Distribution of ECSAS Northern Fulmar Observations in the Waters off Eastern Newfoundland (2001 – 2017)

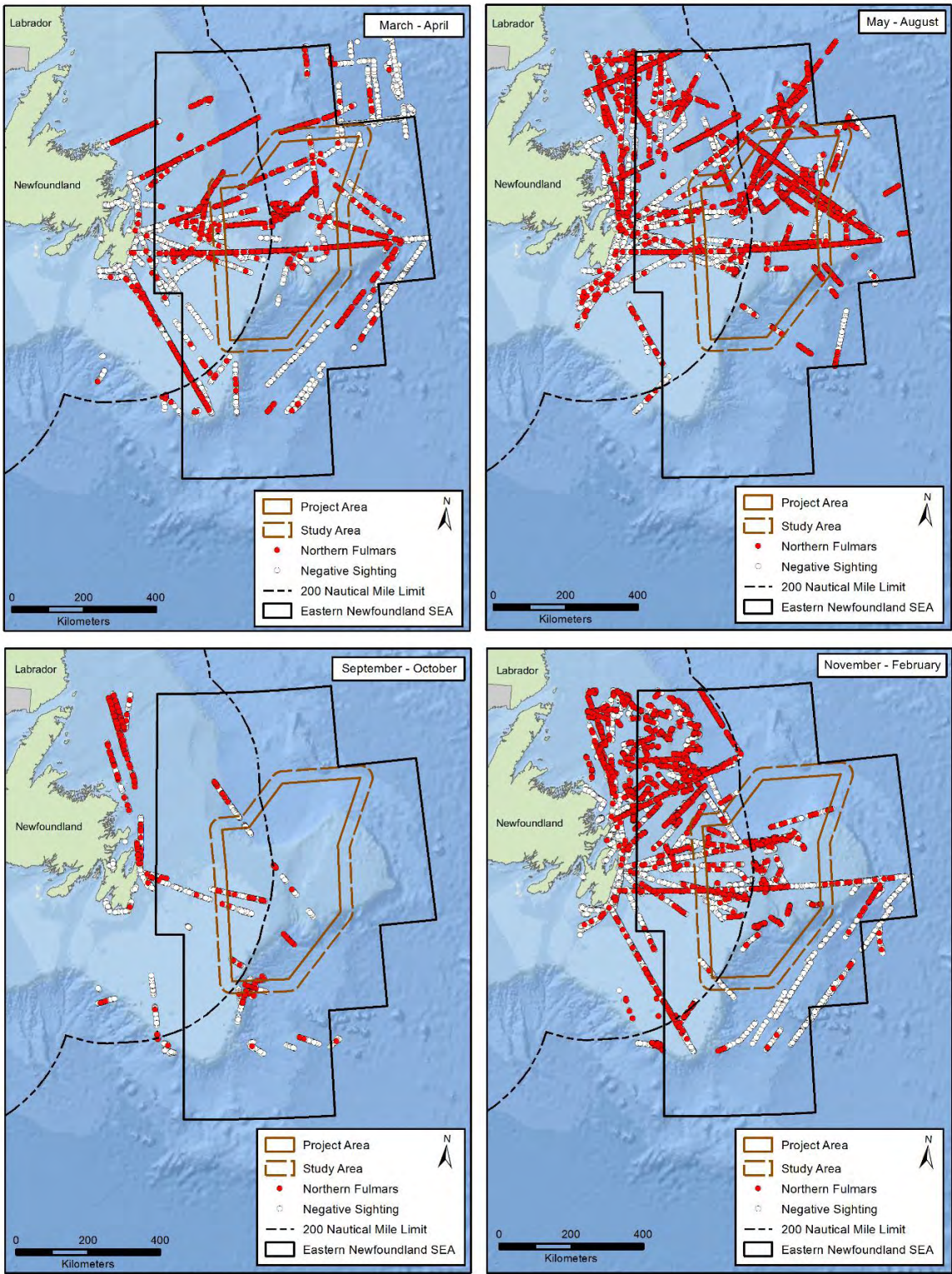


Figure C.12 Seasonal Distribution of ECSAS Shearwater Observations in the Waters off Eastern Newfoundland (2001 – 2017)

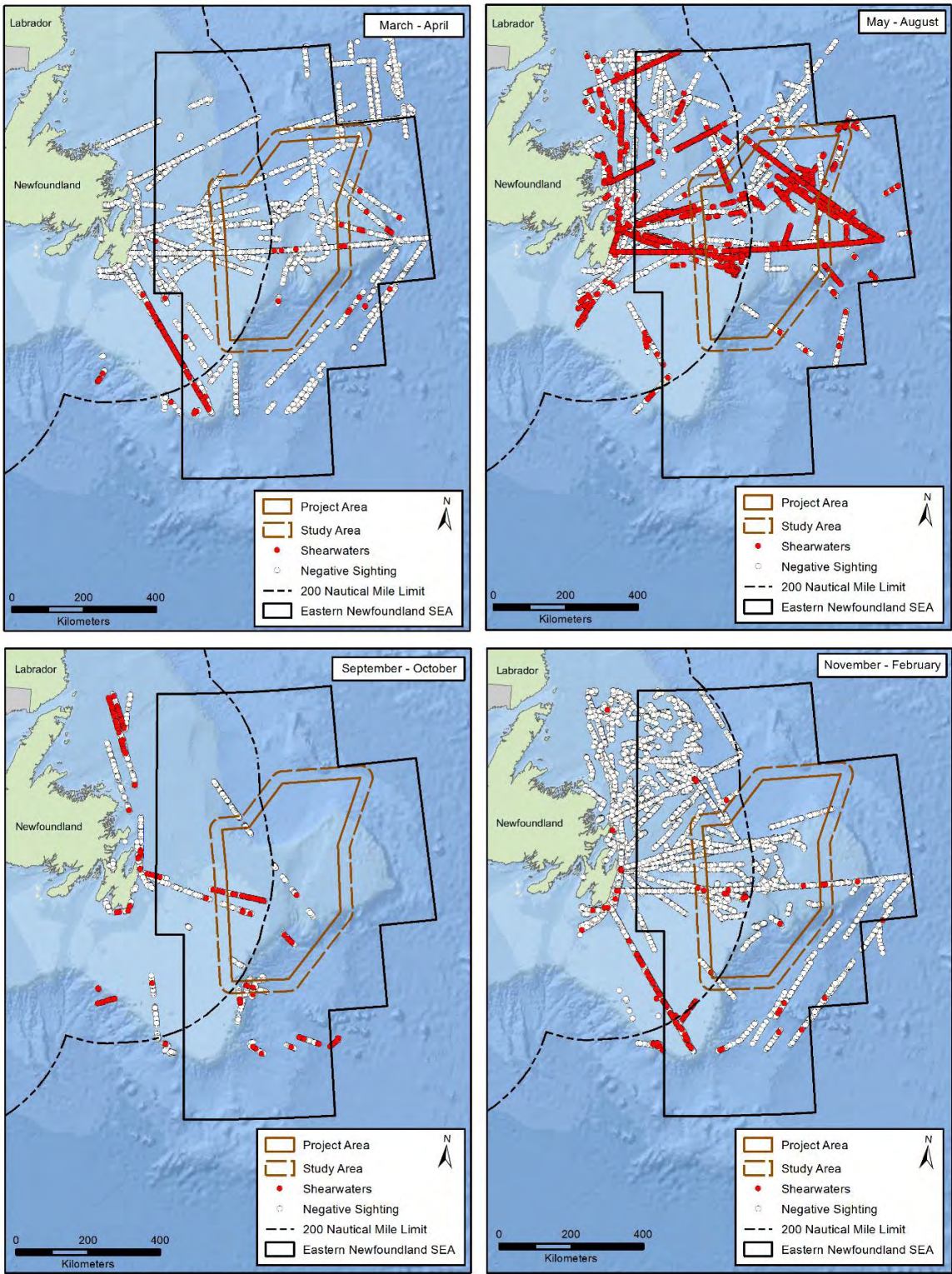


Figure C.13 Seasonal Distribution of ECSAS Storm-petrel Observations in the Waters off Eastern Newfoundland (2001 – 2017)

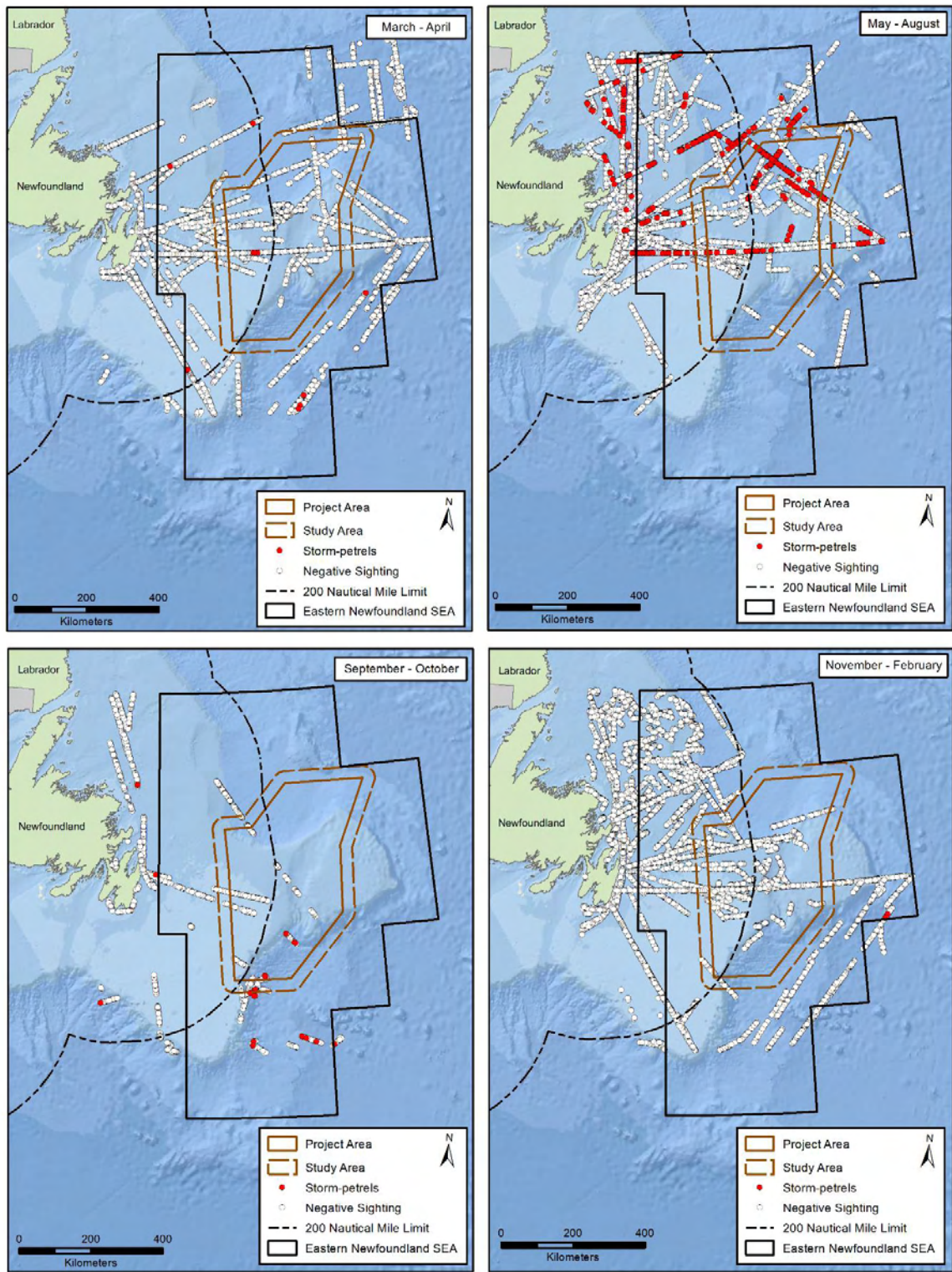


Figure C.14 Seasonal Distribution of ECSAS Waterfowl Observations in the Waters off Eastern Newfoundland (2001 – 2017)

