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APPENDIX A

Additional Marine and Migratory Birds Information

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

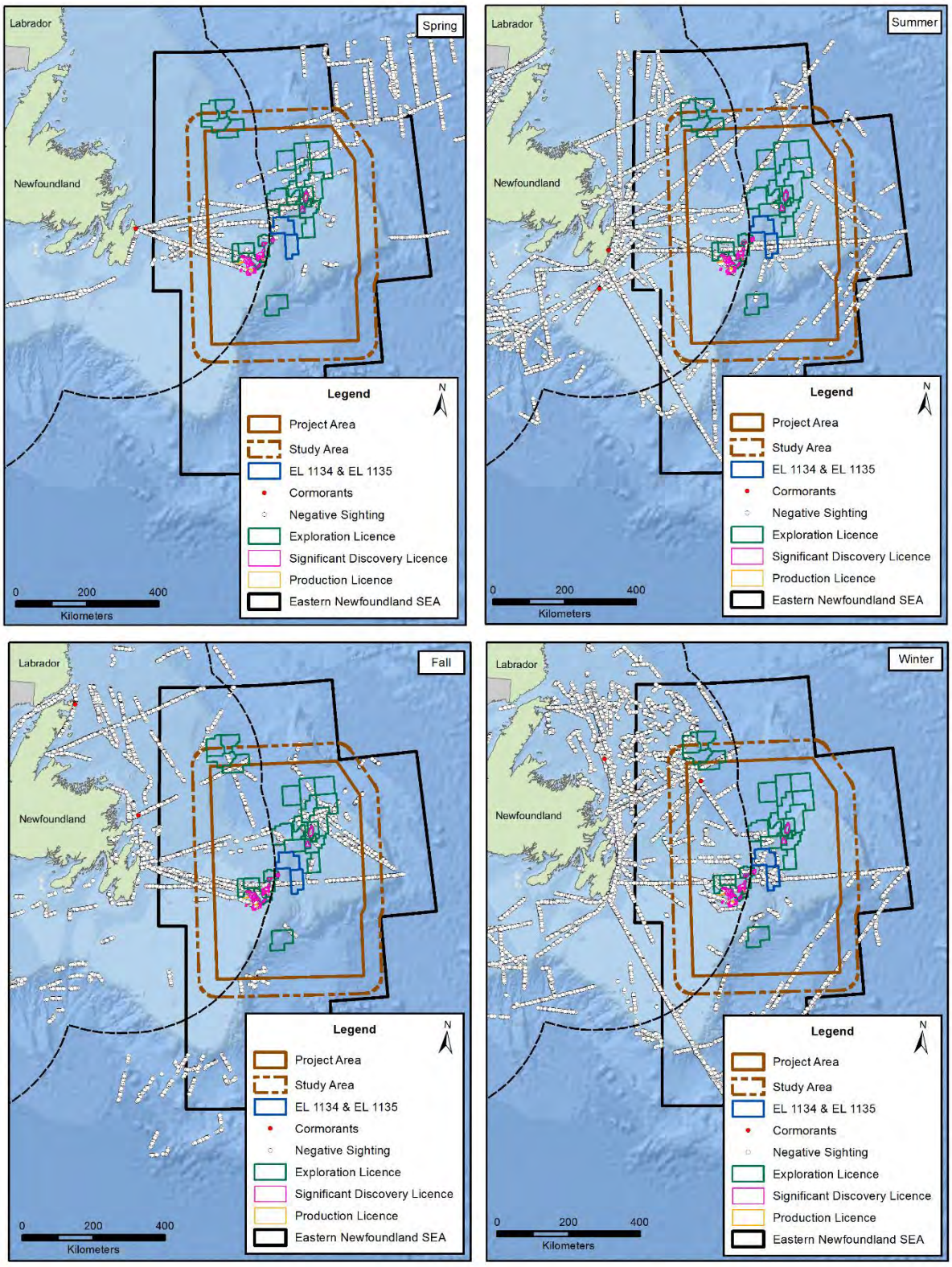


Figure A.2 Seasonal Distribution of ECSAS Northern Gannet Observations in the Waters off Eastern Newfoundland (2001 – 2017)

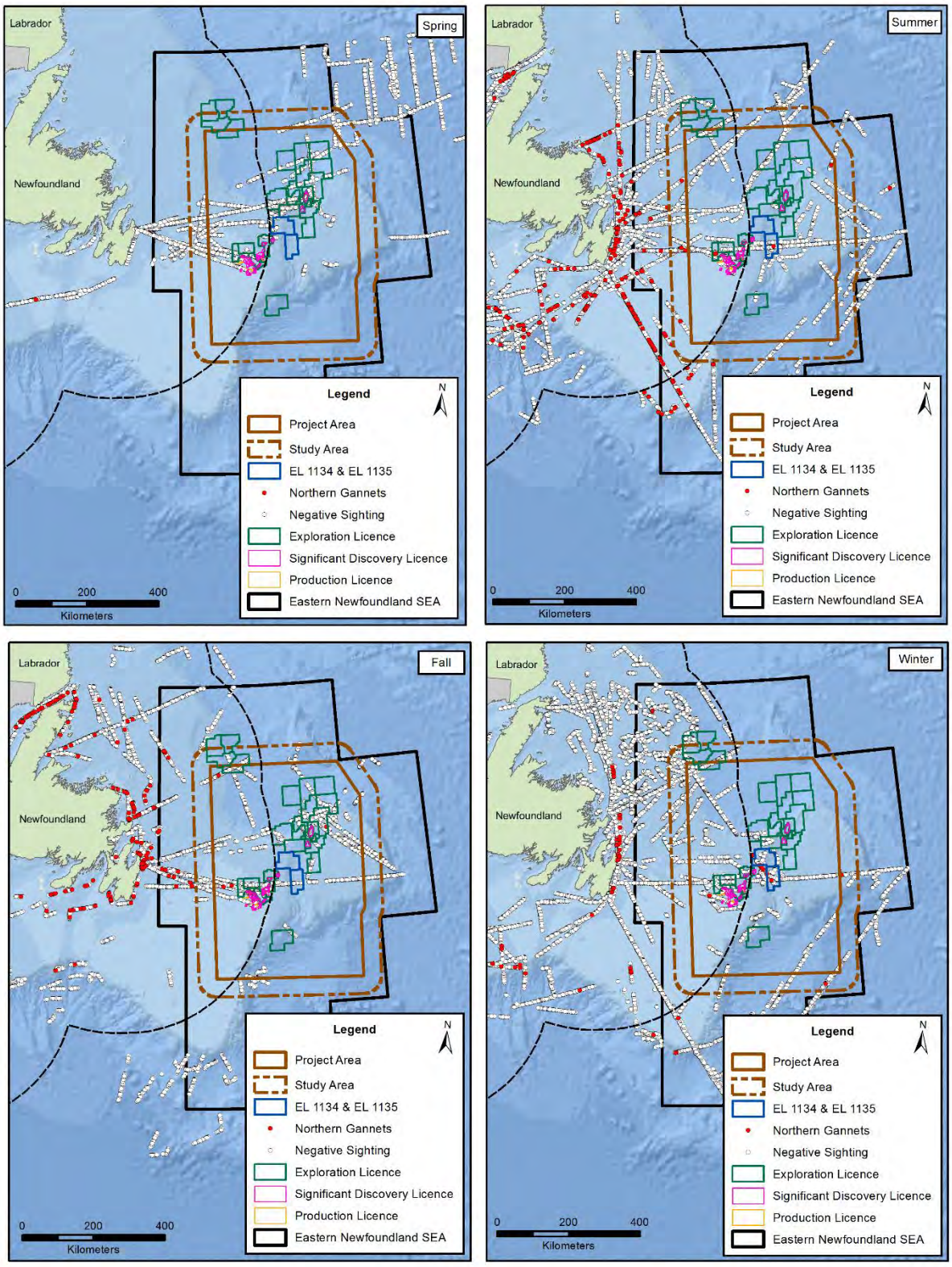


Figure A.3 Seasonal Distribution of ECSAS Phalarope Observations in the Waters off Eastern Newfoundland (2001 – 2017)

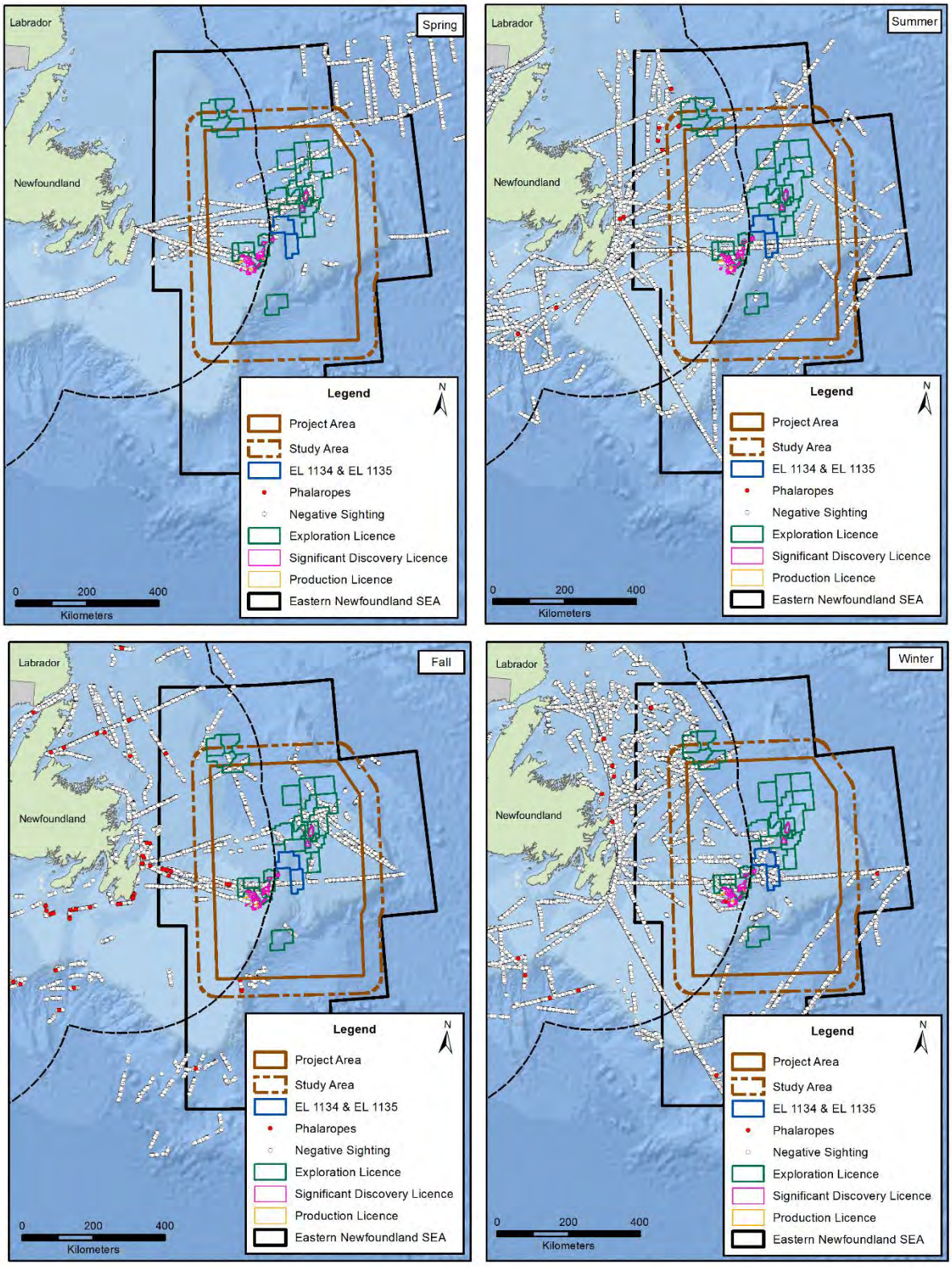


Figure A.4 Seasonal Distribution of ECSAS Black-legged Kittiwake Observations in the Waters off Eastern Newfoundland (2001 – 2017)

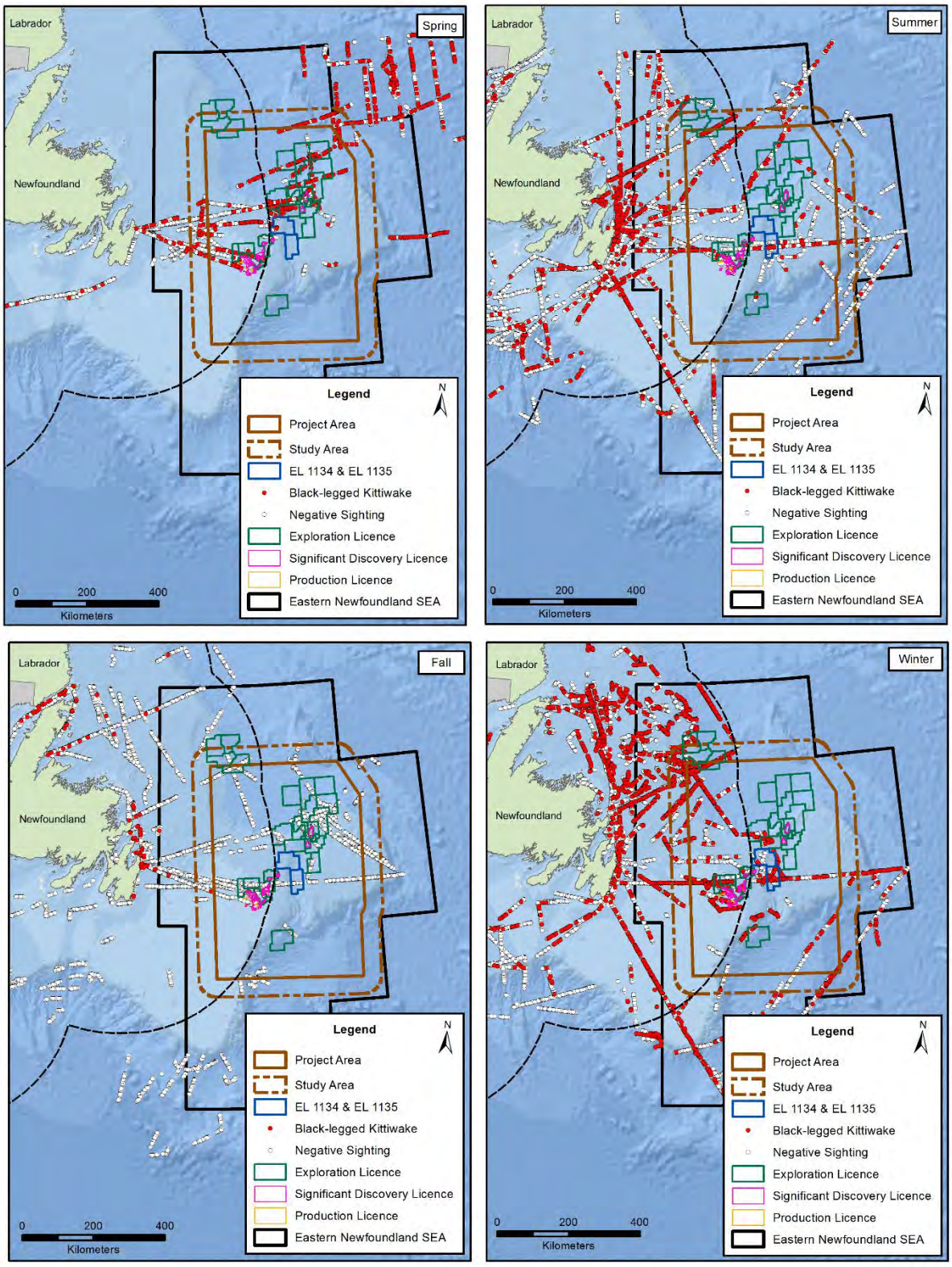


Figure A.5 Seasonal Distribution of ECSAS Large Gull Observations in the Waters off Eastern Newfoundland (2001 – 2017)

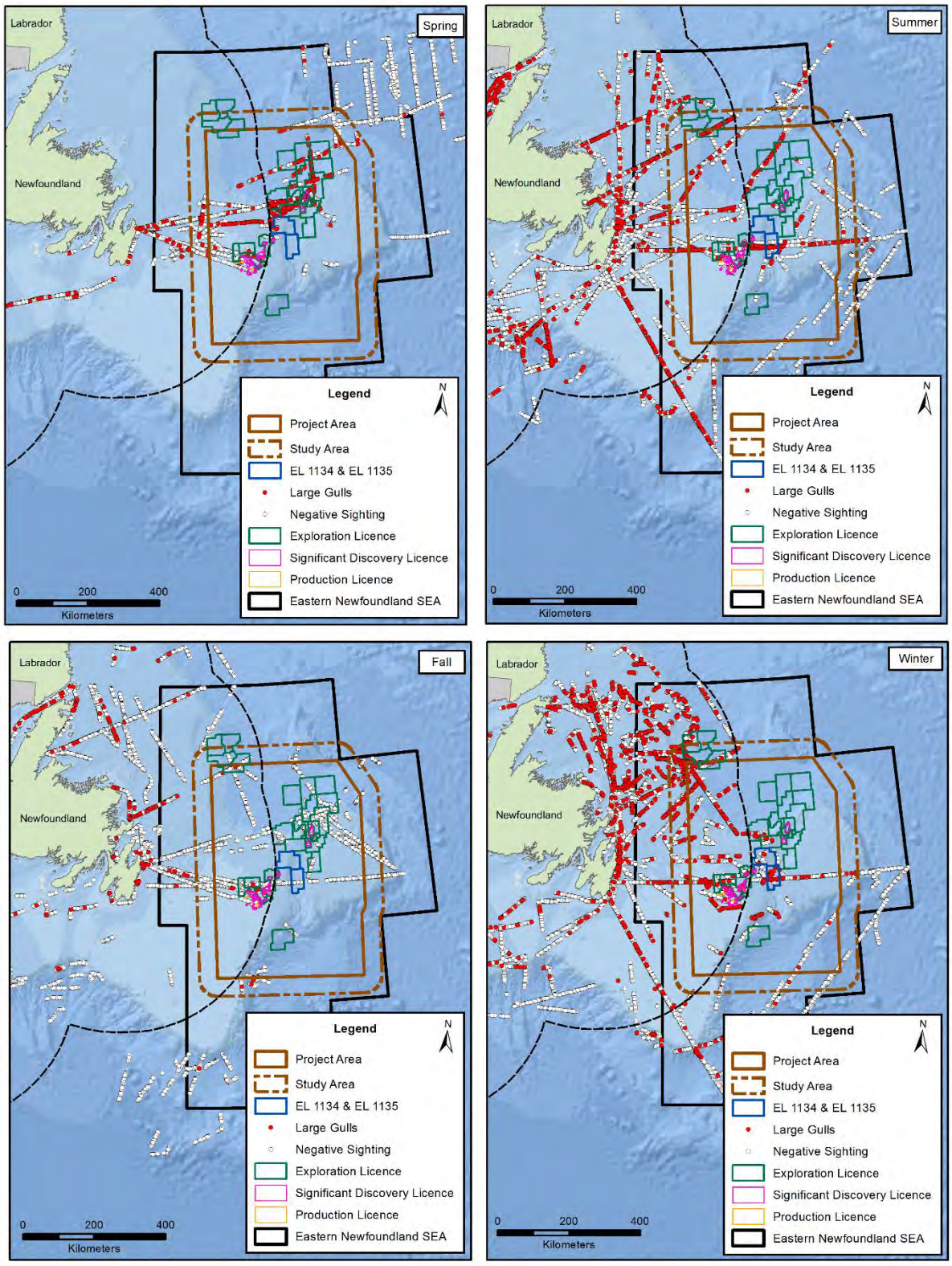


Figure A.6 Seasonal Distribution of ECSAS Tern Observations in the Waters off Eastern Newfoundland (2001 – 2017)

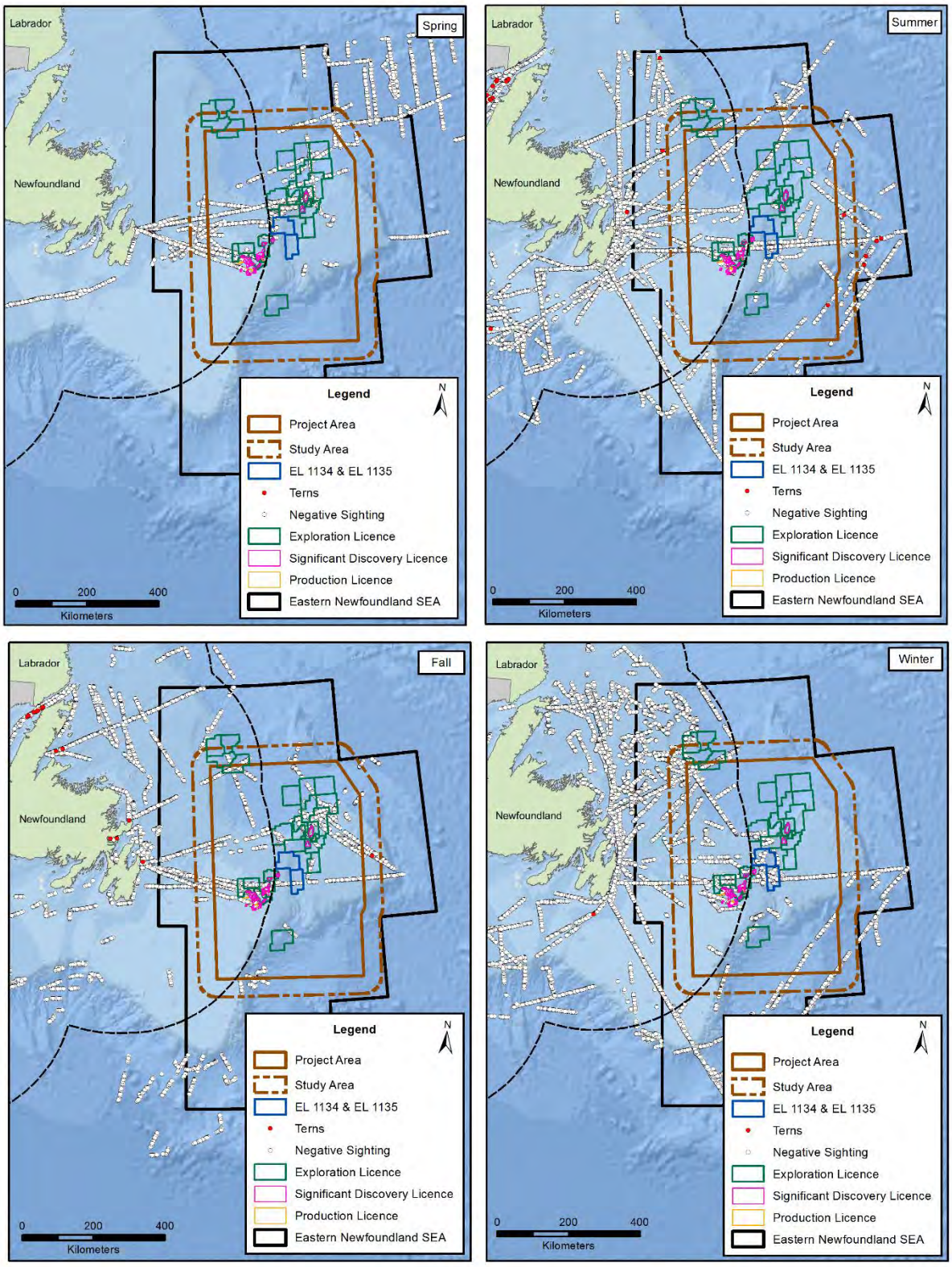


Figure A.7 Seasonal Distribution of ECSAS Dovekie Observations in the Waters off Eastern Newfoundland (2001 – 2017)

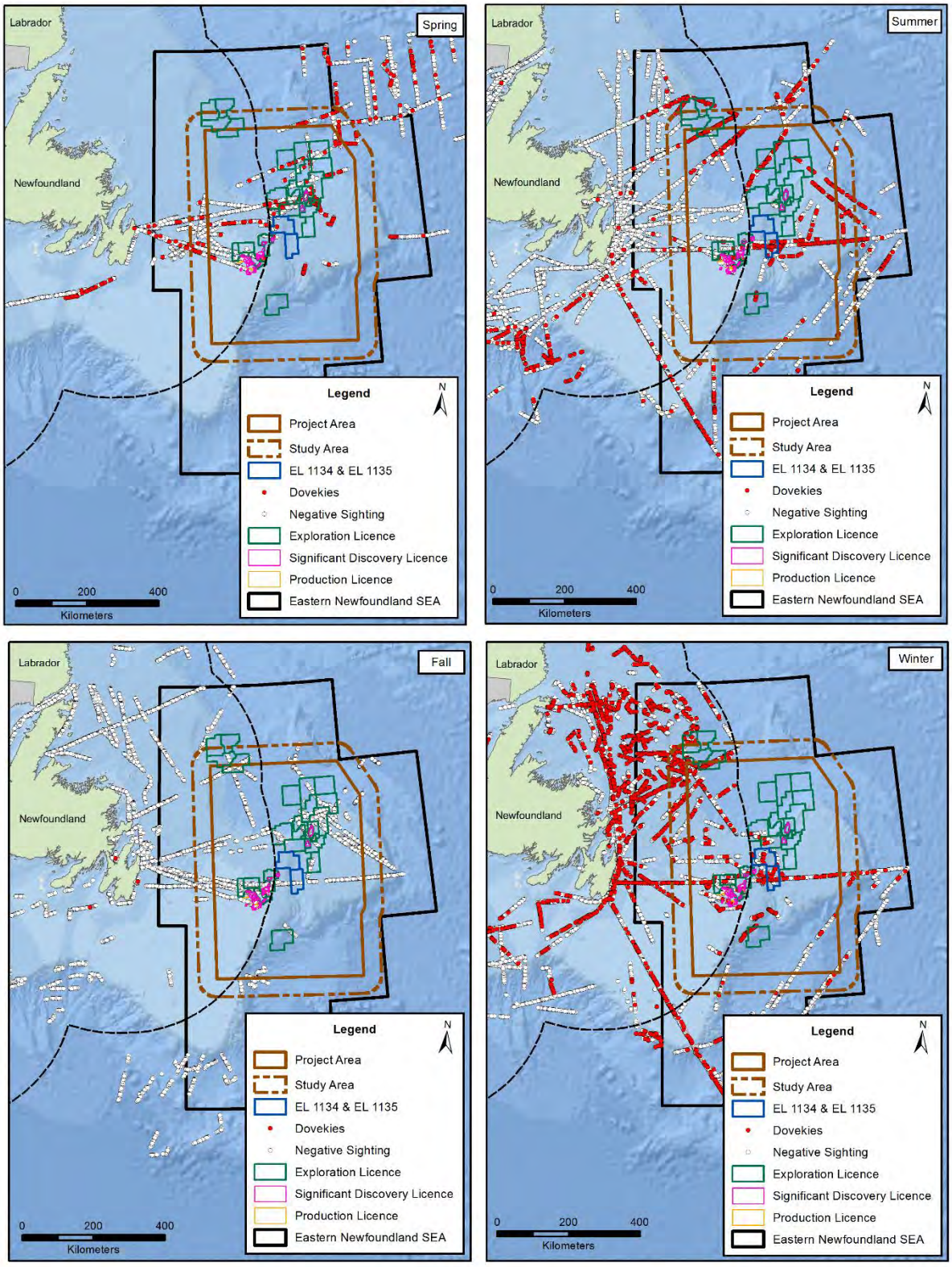


Figure A.8 Seasonal Distribution of ECSAS Murre Observations in the Waters off Eastern Newfoundland (2001 – 2017)

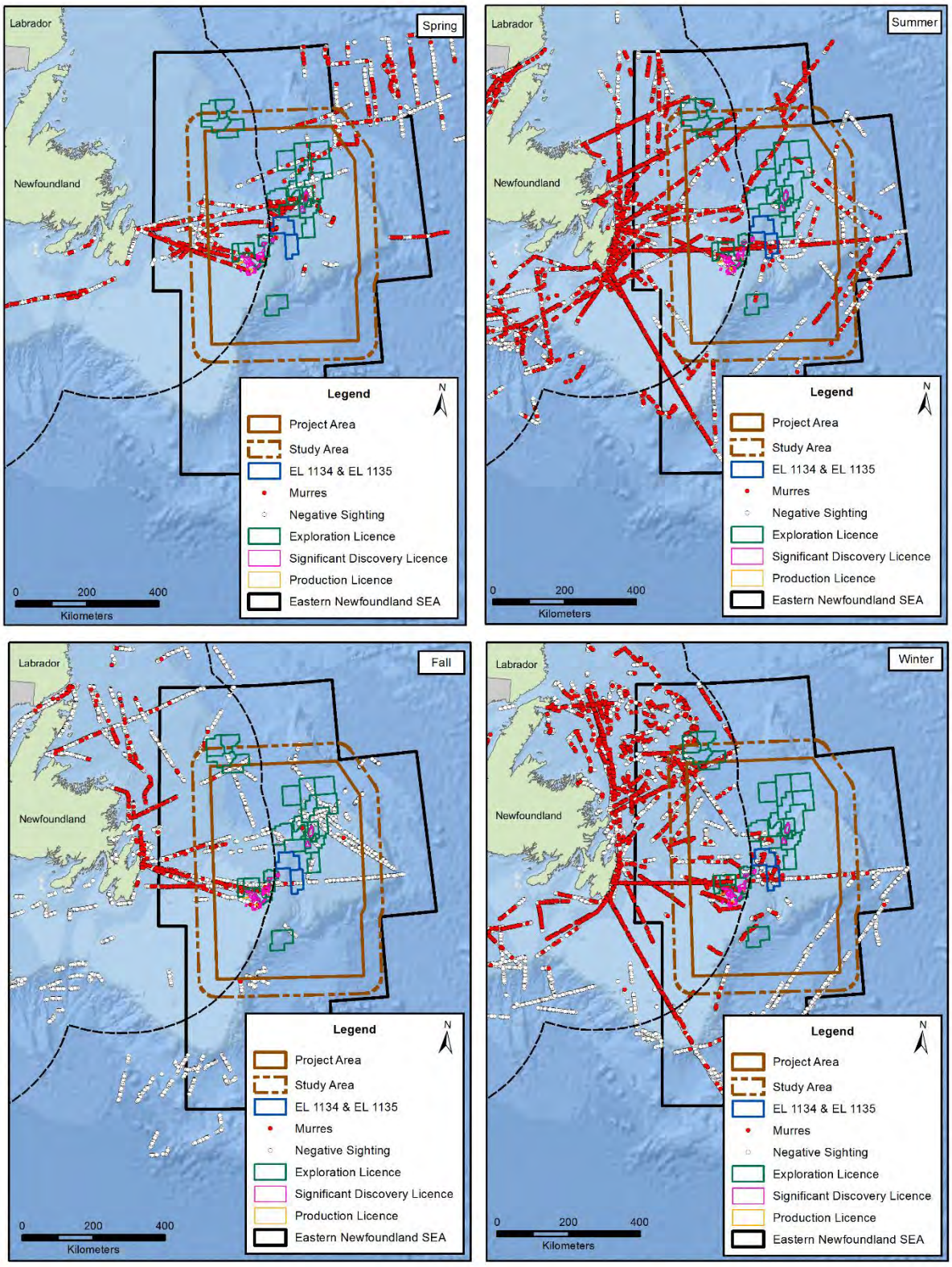


Figure A.9 Seasonal Distribution of ECSAS Other Alcid (including Razorbill, Black Guillemot and Atlantic Puffin) Observations in the Waters off Eastern Newfoundland (2001 – 2017)

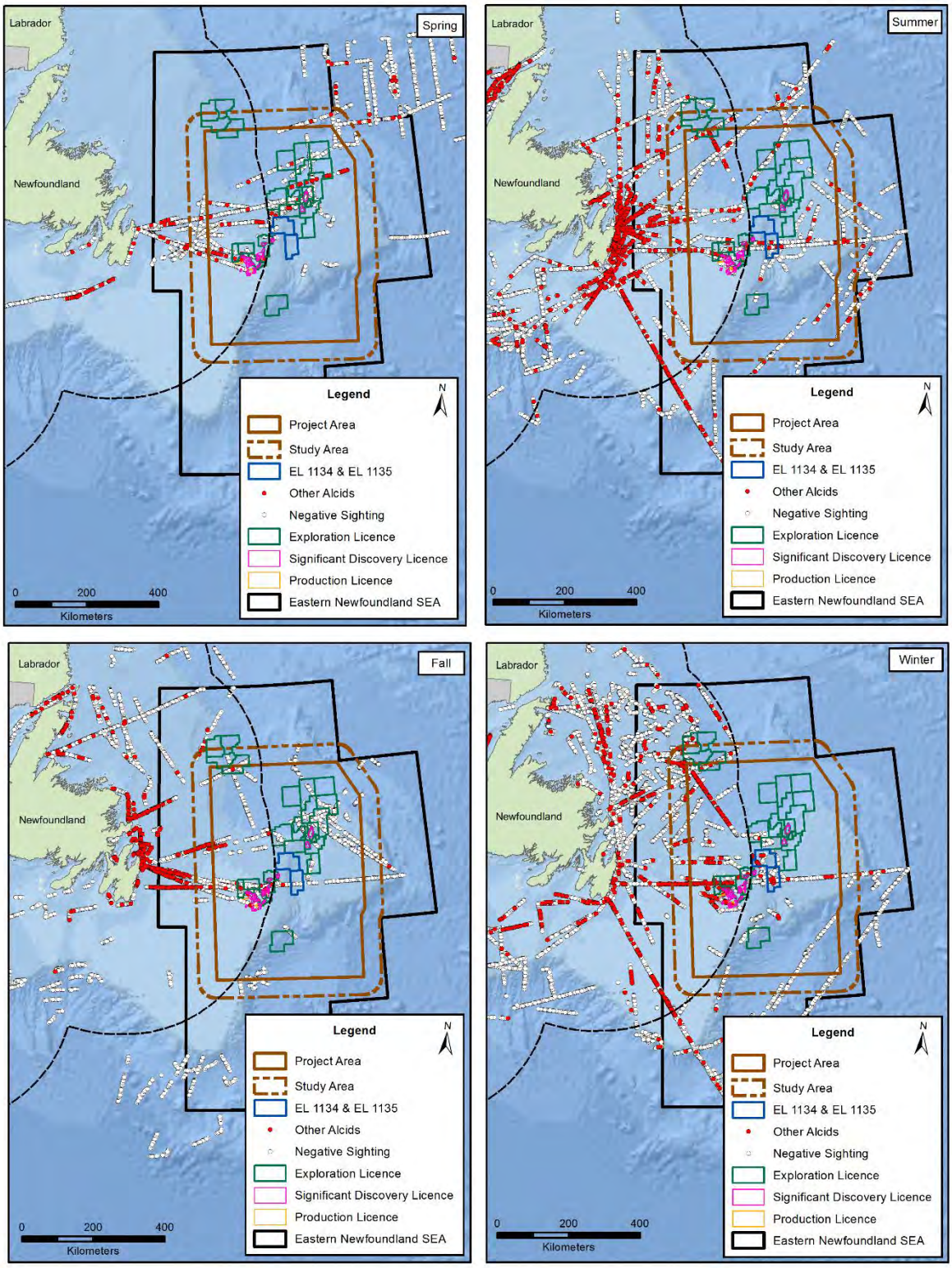


Figure A.10 Seasonal Distribution of ECSAS Jaeger and Skua Observations in the Waters off Eastern Newfoundland (2001 – 2017)

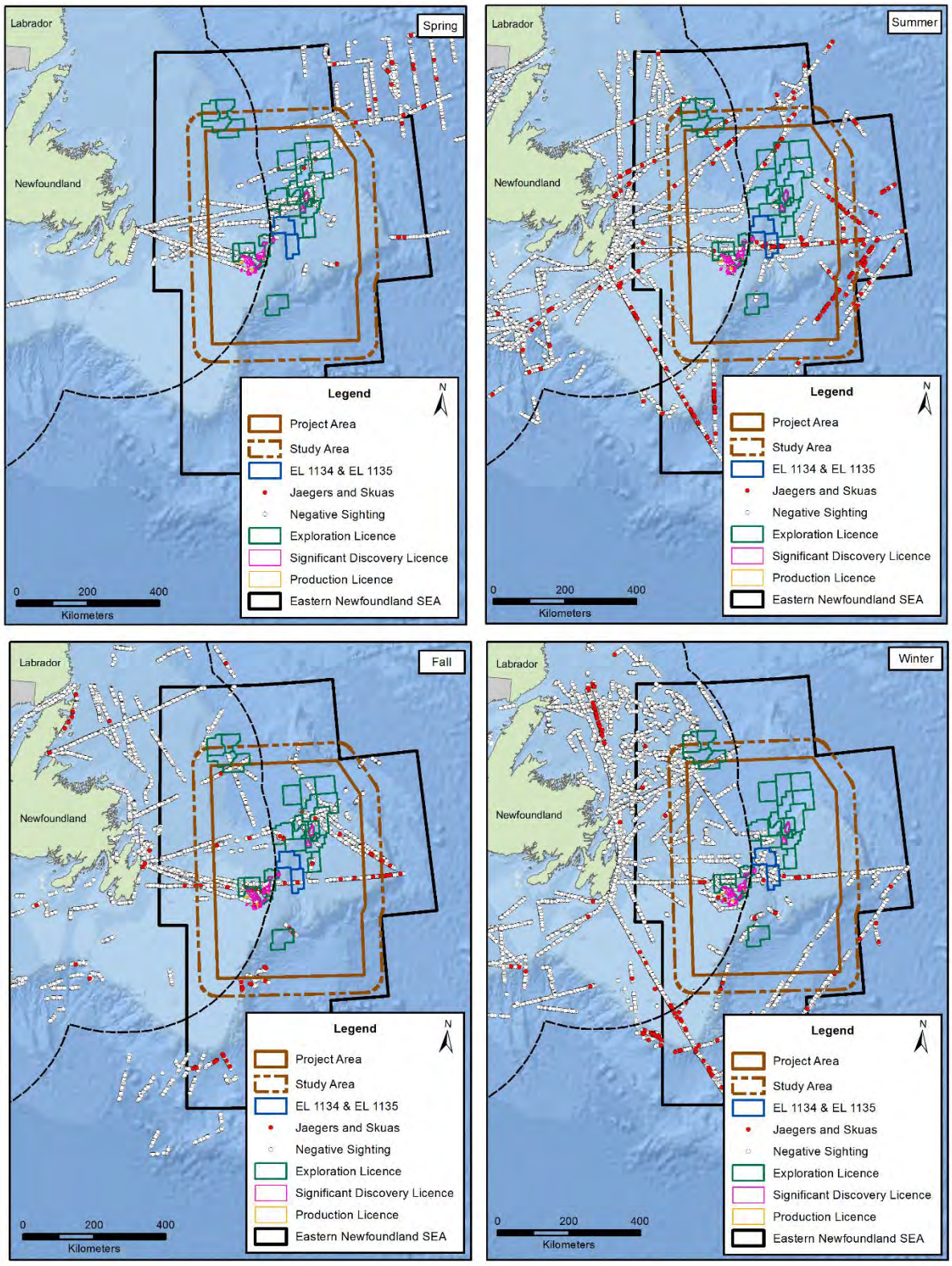


Figure A.11 Seasonal Distribution of ECSAS Northern Fulmar Observations in the Waters off Eastern Newfoundland (2001 – 2017)

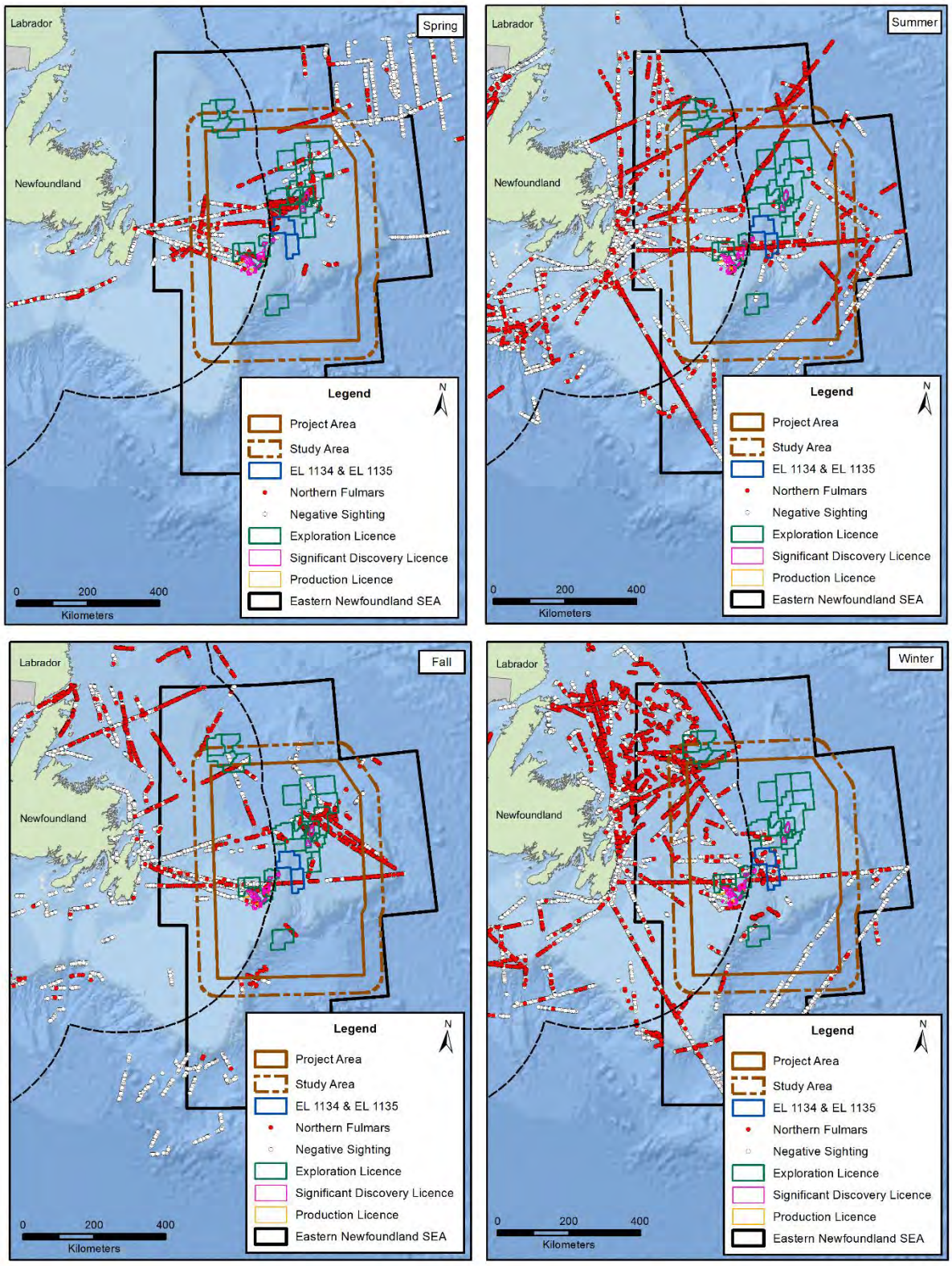


Figure A.12 Seasonal Distribution of ECSAS Shearwater Observations in the Waters off Eastern Newfoundland (2001 – 2017)

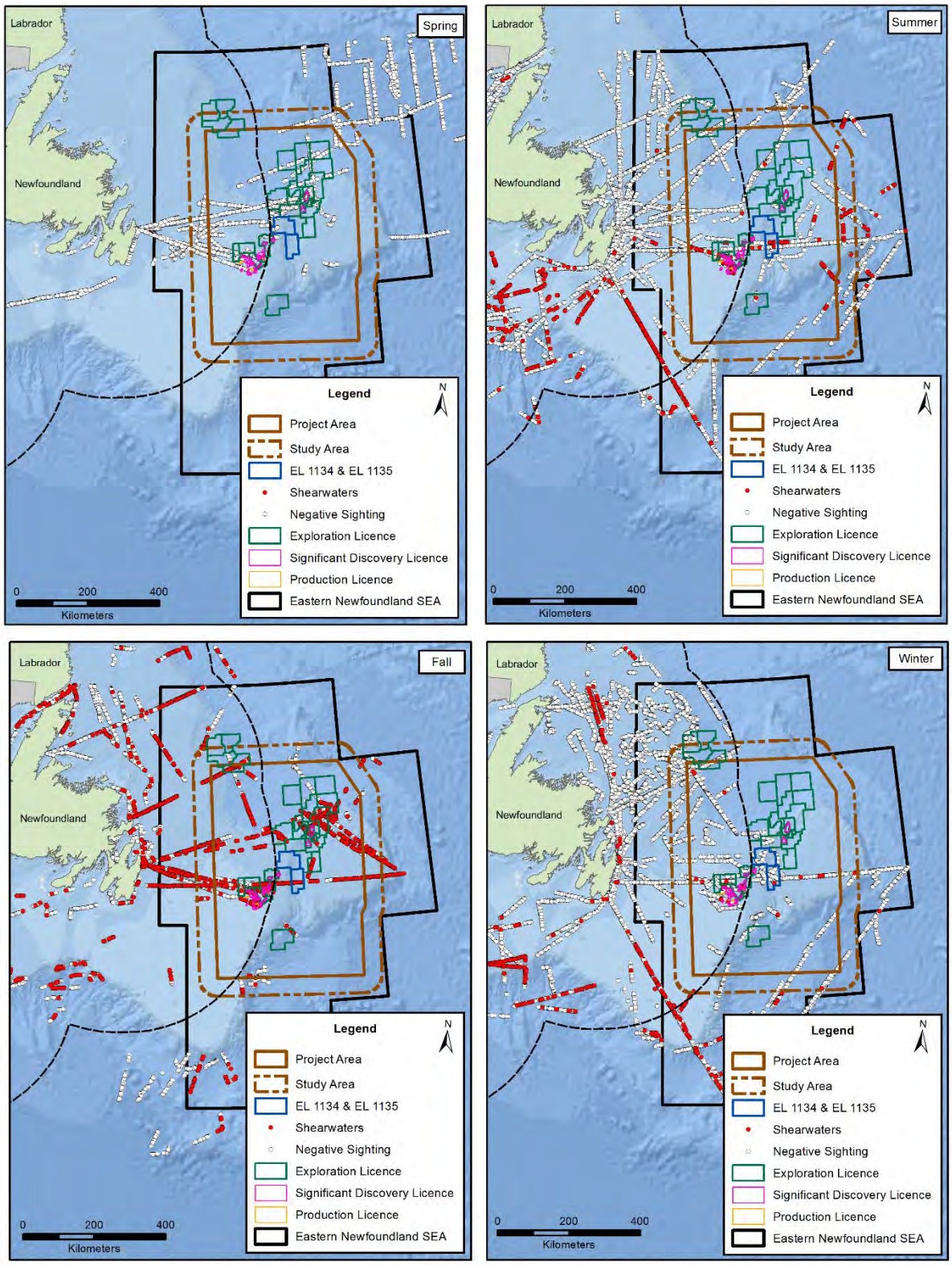


Figure A.13 Seasonal Distribution of ECSAS Storm-petrel Observations in the Waters off Eastern Newfoundland (2001 – 2017)

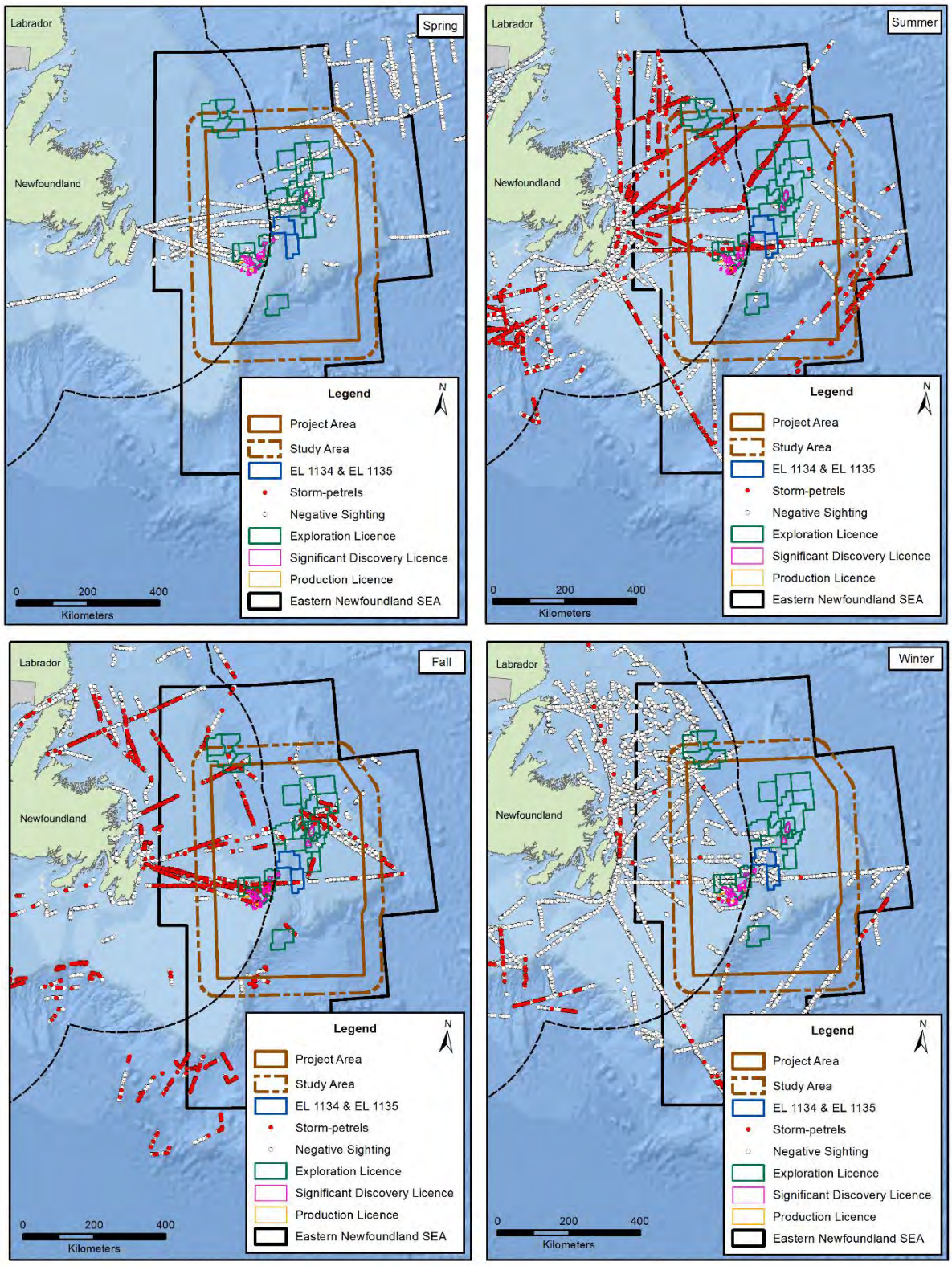


Figure A.14 Seasonal Distribution of ECSAS Waterfowl Observations in the Waters off Eastern Newfoundland (2001 – 2017)

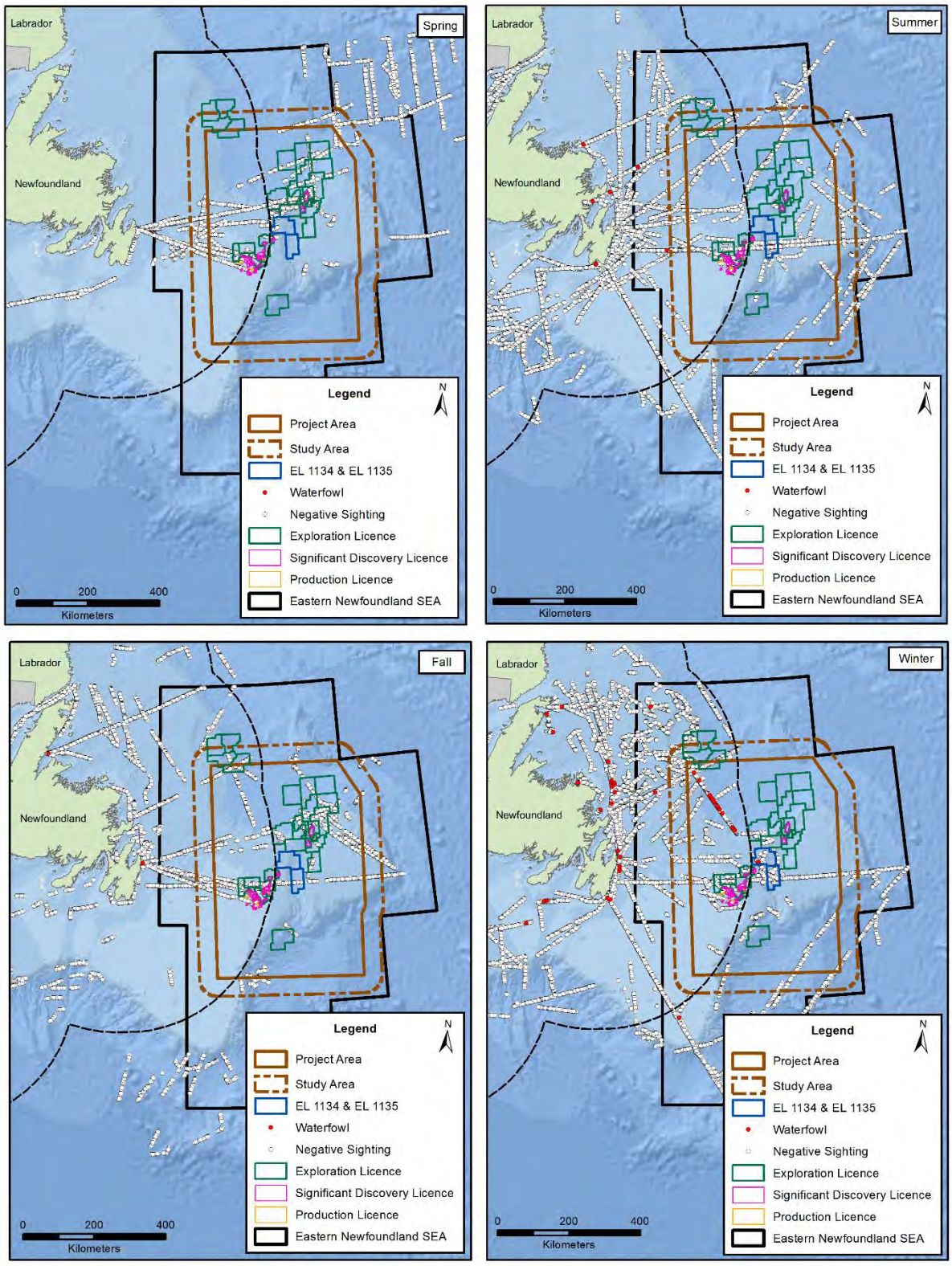


Figure A.15 Seabird Colonies off Eastern Newfoundland

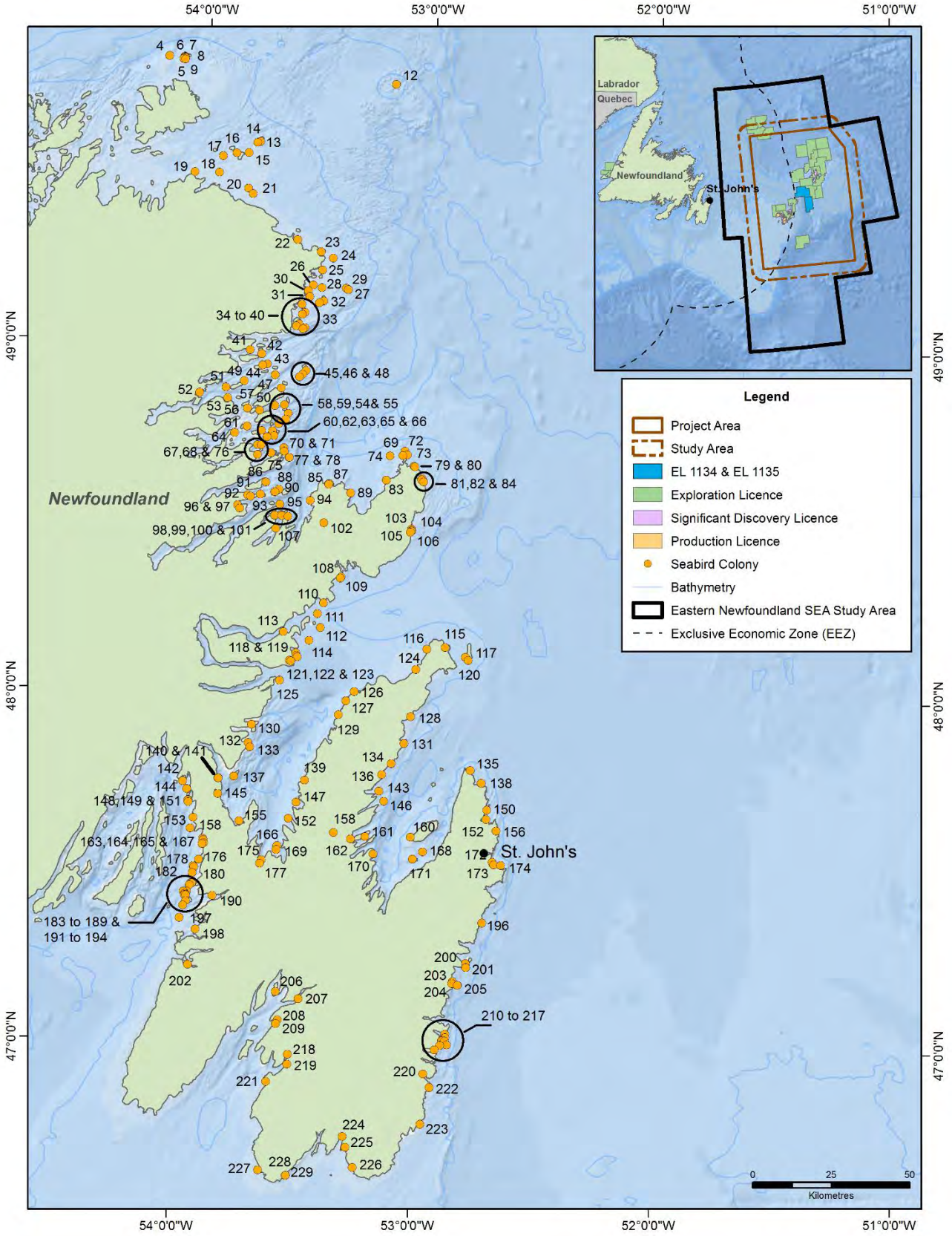


Table A.1 Cormorant Colony Locations in Eastern Newfoundland

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 A.15 for colony locations corresponding to each Colony #.
Source: Data obtained from Atlantic Canada Colonial Waterbird Database (CWS 2017).

Table A.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 A.15 for colony locations corresponding to each Colony #.
Source: Data obtained from Atlantic Canada Colonial Waterbird Database (CWS 2017).

Table A.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
	Copper Island, south of Verge Island	121	300	Individual	2005

Species	Colony Name	Colony #[1]	Colony Size	Survey Unit	Year Surveyed
	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
	Big Shag Rock	36	300	Individual	2005
	Southwest Island	42	50	Individual	2005

Species	Colony Name	Colony #[1]	Colony Size	Survey Unit	Year Surveyed
	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
	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

Species	Colony Name	Colony #[1]	Colony Size	Survey Unit	Year Surveyed
	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
	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

Species	Colony Name	Colony #[1]	Colony Size	Survey Unit	Year Surveyed
	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
	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

Species	Colony Name	Colony #[1]	Colony Size	Survey Unit	Year Surveyed
	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
	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

Species	Colony Name	Colony #[1]	Colony Size	Survey Unit	Year Surveyed
	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
	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 A.15 for colony locations corresponding to each Colony #.
Source: Data obtained from Atlantic Canada Colonial Waterbird Database (CWS 2017).

Table A.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
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

Colony Name	Colony #[1]	Colony Size	Survey Unit	Year Surveyed
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 Pinchhgut 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
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 A.15 for colony locations corresponding to each Colony #.
Source: Data obtained from Atlantic Canada Colonial Waterbird Database (CWS 2017)

Table A.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

Species	Colony Name	Colony #[1]	Colony Size	Survey Unit	Year Surveyed
	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 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
	Green Island	201	242	Pair	2004
Razorbill	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

Species	Colony Name	Colony #[1]	Colony Size	Survey Unit	Year Surveyed
	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 Island	204	1	Pair	2015
	Great Island	205	1	Pair	2015
	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 A.15 for colony locations corresponding to each Colony #.
Source: Data obtained from Atlantic Canada Colonial Waterbird Database (CWS 2017)

Table A.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 A.15 for colony locations corresponding to each Colony #
Source: Data obtained from Atlantic Canada Colonial Waterbird Database (CWS 2017)

Table A.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
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 A.15 for colony locations corresponding to each Colony #.
Source: Data obtained from Atlantic Canada Colonial Waterbird Database (CWS 2017)

APPENDIX B

Mitigation Measures Identified and Committed to in the EA Report and EA Addendum and Amendment

MITIGATION MEASURES IDENTIFIED AND COMMITTED TO IN THE EA REPORT AND EA ADDENDUM AND AMENDMENT	STATUS (Indicates those which are applicable to, and will be implemented during the planned 2018 Project Activities)
Project survey activities are in locations that avoid the potential for adverse interactions with on-land or near shore environmental components or activities.	YES All planned 2018 survey activities will take place several hundred kilometres offshore, east of the 200 nautical mile EEM
Operational planning will also include attempting to avoid any known and observed significant aggregations of marine animals where possible in the planning and conduct of the marine exploration activities that comprise this Project.	YES
Seismic sound levels will be kept at the minimum level possible for the survey, based on the vessel's seismic sound source capability and associated requirements.	YES
A 30 minute observation for the presence of marine mammal will be followed by a gradual "ramp-up" procedure of the seismic source array over a minimum 20 minute period at the commencement of seismic survey activity, to allow any mobile marine animals to move away from the area.	YES As per procedures outlined in the "*Statement of Canadian Practice with respect to the Mitigation of Seismic Sound in the Marine Environment*".
A planned shut-down of the seismic sound sources or reduction to firing the smallest, single source element during survey line changes and maintenance activities. During line turns a single source element will be fired at least once every 30 minutes.	
During the seismic surveys a "safety zone" will be established that will comprise a circle with a radius of at least 500 m as measured from the center of the air source array. During daylight hours a qualified Marine Mammal Observer (MMO) will continuously observe the safety zone starting at least 30 minutes before seismic source array start up when the safety zone is visible, and will maintain a regular watch of the safety zone at all other times when the array is active.	
Once operational, the sound source array will be shut down immediately if either of the following is observed by the MMO within the 500-m safety zone: 1) a marine mammal or sea turtle listed as Endangered or Threatened on Schedule 1 of the *Species at Risk Act*; or 2) any other marine mammal or sea turtle that has been identified in the Environmental Assessment process as a species for which there could be significant adverse effects.	
The Project will be planned and implemented so as to avoid or minimize environmental discharges and emissions from planned operations and activities. This will be achieved through compliance with relevant regulations and standards and company procedures regarding material selection and use, waste management, discharge	YES

MITIGATION MEASURES IDENTIFIED AND COMMITTED TO IN THE EA REPORT AND EA ADDENDUM AND AMENDMENT	STATUS (Indicates those which are applicable to, and will be implemented during the planned 2018 Project Activities)
prevention and management and other potential liquid, solid or air emissions.	
Project equipment selection will include the planned use of gel filled or solid streamers to prevent potential hydrocarbon spills into the marine environment in the event of a streamer tear or break.	YES
The amount, duration and frequency of lighting used on offshore vessels and equipment will be minimized to the degree possible, while at the same time ensuring and maintaining a safe work environment. This will occur particularly during periods when migratory birds are especially vulnerable to disturbance and associated effects (such as during spring and fall migration and in inclement weather).	YES
Protocols and programs will be established and implemented for the collection and release of any marine birds that become stranded on offshore installations, which will be implemented by qualified and experienced personnel and in compliance with associated regulatory guidance and applicable CWS Permit requirements.	YES
Prior to undertaking seabed sampling work in areas that have been identified as having a high probability of occurrence of corals and sponges a representative seabed characterization (reconnaissance) drop camera / video system survey transect will be acquired to investigate the potential presence of these sensitive benthic organisms. Should the above referenced drop camera / video surveys indicate the presence of sensitive benthic organisms within a planned area of seabed sampling (i.e., only those areas identified in Figure 4.24 in the EA Report as high density areas and Protection Zones for corals, seamounts and sponges), the appropriate mitigative response to this finding will depend on a variety of factors, including: the type of organism(s) observed; their relative abundance and overall size of area occupied; the (relatively small) footprint of the seabed sampling equipment and the presence of suitable, alternative sampling locations nearby; the locational precision of the drop camera / video survey (due to water depths, currents, cable lengths and associated sway); and other factors. Should such organisms be observed on-site during the conduct of the field program, the relevant technical crew and ExxonMobil representatives will discuss to determine the appropriate mitigation approach. In any cases where sampling activities are planned to occur within identified high potential areas for the occurrence of such species, ExxonMobil will discuss this with relevant DFO representatives in advance of the	YES

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survey mobilization to discuss and consider potential mitigation approaches in the event that such species are observed at planned sampling locations in the field	
All Project vessels will have spill prevention procedures and materials in place. This will include appropriate equipment and procedures to help prevent such accidental spills into the marine environment, as well as an Oil Spill Response Plan in the unlikely event of a spill.	YES Appropriate equipment and procedures will be in place to help prevent such accidental spills. In the unlikely event of the accidental release of hydrocarbons or other materials during the Project, ExxonMobil and its survey contractor will implement the measures outlined in its Oil Spill Response Plan. In addition, ExxonMobil has an Emergency Response Plan in place which will apply to the activities that are part of this Project
Communications and coordination procedures with regulatory authorities, stakeholders and key ocean users will be used throughout the operational life of the Project. This will include:	
- On-going information gathering on key fishing areas and times and continued monitoring of fishing activity (through the presence on a Fisheries Liaison Officer (FLO) on the acquisition vessel and review of DFO VMS data and other sources) and associated survey and logistical planning to minimize interference with fishing activities;	YES
- The presence, active participation and advice of the FLO on board the seismic ship, and a shore-based Single Point of Contact (SPOC). The FLO will be a FFAW – Unifor member, and will be responsible for communicating with fishing vessels at sea and relaying information to shore as needed. FLOs will serve as the primary at-sea liaison between the commercial fishing industry and the seismic survey program.	YES
- The issuance of Notices to Mariners and other notifications and direct industry communications (e.g., CBC Fisheries Broadcast) throughout the periods of Project operations;	YES
- Regular communication of planned survey activities with key industry representatives, and on-going liaison with FFAW / One Ocean contacts;	YES
- A standby or guard vessel will be used to scout for hazards and for interacting and communicating with other users of the area about the survey and associated equipment	Standby/guard vessel will not be used during site-investigation/geohazard survey One or more standby/guard vessel(s) would be used during any planned 2D, 3D

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(especially streamers), and to assist in communicating and working with active fishers in the area (if any). The guard vessel will also provide a means for towing the seismic vessel in the case of a loss of propulsion.	or 4D exploration surveys undertaken as part of this Project.
- Appropriate spatial and temporal avoidance of active fisheries science survey areas through on-going discussion and coordination with DFO and industry contacts.	YES
Establishment and implementation of a Fishing Gear Damage or Loss Compensation Program and communication of this and its associated procedures (through SPOC and otherwise), should there be gear damage caused by direct interactions with seismic streamers or other Project equipment, or in the unlikely event of an offshore spill.	YES