

Avifauna Control and Management 4.3.3

Component Study
Environmental Impact Statement
Cavendish Cattle Farm
Registration # 2002

Volume 3

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Table of Contents

1) Rationale/Objectives	4
2) Study Area	4
3) Methodology	4
4) Site Selection Based on Habitat Assessment	5
5) Steps of the Field Count	8
6) Study Outputs	8
7) Birds at Risk	13
8) Migratory Bird Management Plan Background	15
9) Best Management Plan to Reduce the Risk to Migratory Birds	17
10) Plans to Reduce the Attraction of Migratory Birds to the Farm; notably Gulls	18
11) Processing and Handling of Feeds	19
12) Proposed Farmland Expansion/Bird Access	20
13) Resources	21
14) Other Resources	21
Appendix A, Incidental Avifauna Observations	22
Appendix B, Nesting Periods	23

Figures

A) Study Area	5
B) Avifauna Survey Sites	7

Tables

1) Location of Avifauna Survey Sites	6
2) Bird Numbers by Survey Dates	9
3) Summary of Bird Numbers and Type	11
4) Bird Type numbers by Habitat	12
5) Status of Avifauna	14
6) Sensitive Life Histories of Avifauna	14

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Component Study

Environmental Impact Statement

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1) Rationale/Objectives

The Environmental Impact Statement Guidelines (Guidelines) for the Cavendish Beef Farm require the preparation of component study as per Section 12 of the Environmental Assessment Regulations. Section 4.3.3 *Avifauna Control and Management* of the Guidelines states the proponent must complete a survey to:

- Identify and characterize the presence of migratory birds and avian species (birds) at risk;
- develop and implement a migratory bird management plan and species at risk bird management plan that includes preventative measures to minimize the risk of impacts on migratory birds and to reduce the attraction of migratory birds to the study area.
- Whereas the project may attract certain species of wildlife and migratory birds, such as gulls, the management plan should explain how the proponent intends to reduce the attraction of wildlife and migratory birds to the farm as well as plans for the potential exclusion/deterrence of migratory birds from the farm area.

2) Study Area

The study area is approximately 6.0 square kilometres, rectangular in shape, bordering Trinity Bay and including the existing farm, Crown Land which the farm has applied to expand its agricultural land base, Route 80, hydro lines, abandoned rail line, and adjacent lands, most of which are Crown, with small amounts of private land. Figure A illustrates the location of the Study Area within which avifauna surveys were conducted on three days in the spring and early summer of 2020. Figure B identifies the survey sites.

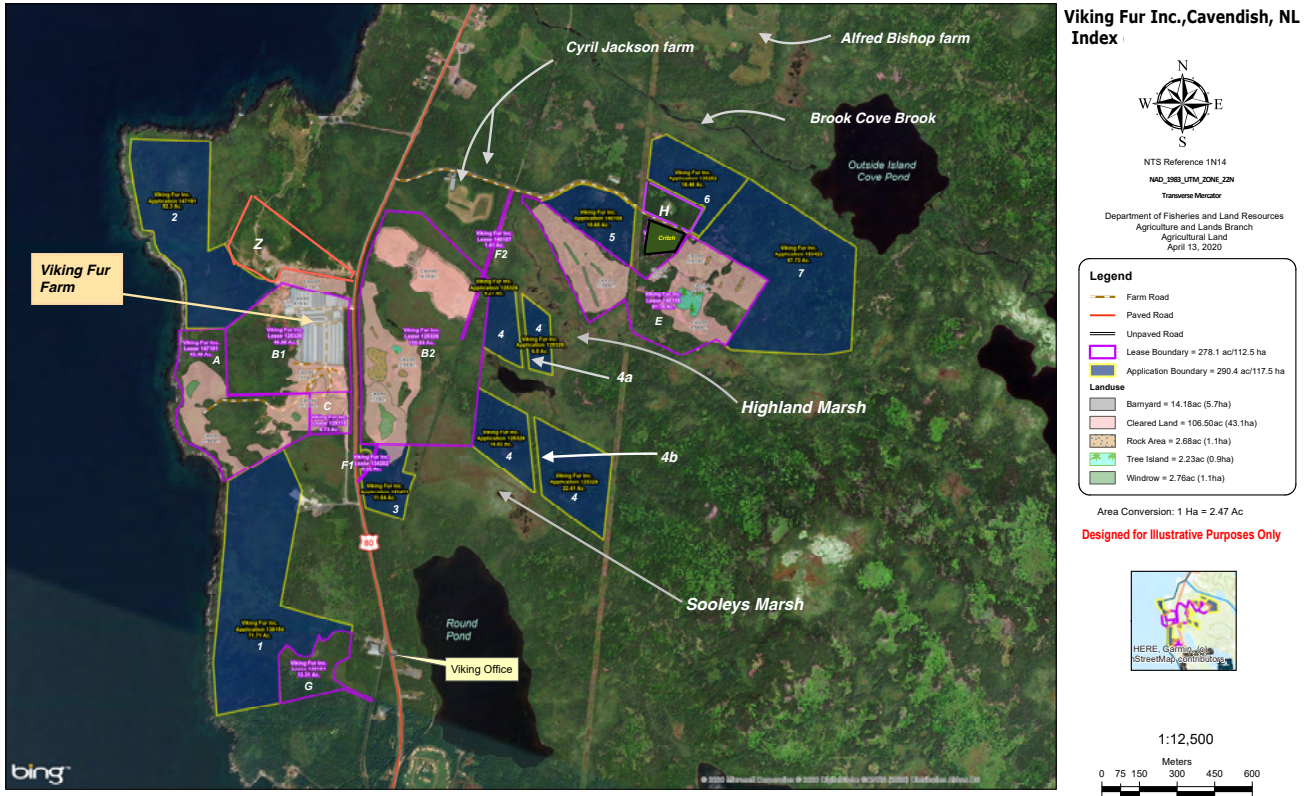
3) Methodology

Environment Canada's bird conservation strategy for the Island portion of Newfoundland and Labrador includes a planning unit which applies to this study: the terrestrial unit of Bird Conservation Region 8 (BCR 8NL) (1).

The strategy explains the BCR 8, the Boreal Softwood Shield, is covered by: "a combination of coniferous forest, and transitional or mixed wood forests, with wetlands, barrens, rock out crops and coastal landforms." The principal tree species are balsam fir and black spruce. This description closely matches forest and landscapes of the study area with the exception there are

Figure A

**Existing Agricultural Leases (letters) and applications for leases (numbers)
Detailed Study Area**



no extensive barren areas. The transitional forest of the Study Area is a reflection of the history of wood harvesting and the subsequent succession of the forest cover which is varied throughout the area as a result of the time since cutting. The study area borders approximately 1500 metres along Trinity Bay.

4) Site Selection Based on Habitat Assessment

The study area is typical of much of the eastern coast of Trinity Bay. The balsam fir dominates on the deeper, better drained soils, with black spruce on poorly drained soils. The organic (peatland) deposits are located in depressions between and amongst ridges of mineral soils. In several cases the wetlands/organic soils include open water. The other dominant features of the area include: the coastline, farmland including buildings, pastures and forage fields.

The survey was based on Canadian Wildlife Service’s (CWS) Newfoundland and Labrador Boreal Bird Monitoring Protocol (Protocol) which includes “habitat identifiers” which were used to select observation sites within the Study Area (2). The sites represent the diversity of the

landforms, vegetation and uses of land in the Study Area. The timing of the surveys was also based on the Protocol and consultation with the Canadian Wildlife Service (3).

Avifauna bird counts were made in the following habitats as adapted from the Protocol:

Avifauna Survey Sites
Table 1

Habitat	Location
Hay (forage) fields	1
Hay (forage) fields	2
Cutover	3
Cutover	4
Sloped bog/fen/watercourse	5
Sloped fen/watercourse	5
Dome bog (peatland)	8
Dome bog (peatland)	9
Forested	7
Forested	10
Pasture	14
Pasture	15
Ocean	11
Ocean	12
Farm Buildings	13
Transect	a and b

Location of Avifauna Survey Sites May/June 2020

Figure B



Numbers correspond to Table 1

Transects are identified in orange as a and b.

5) Steps of the Field Count

The survey was designed and implemented as follows:

- The survey took place between ~ 6:00 am and 10:00 am. With the exception of the coastal sites which took place between 10 and 11:00.
- As per CWS's SOP #3, the survey took place to coincide with peak level of singing activity for most species, which for the island of Newfoundland is between June 4th and July 7th. Following consultations with the Canadian Wildlife Service, it was agreed to conduct three surveys on the following dates: May 16th, June 6th and June 26th. In addition, a transect was conducted during each of the surveys.
- Site selection was based on two sites for the range of habitats in the study area. The site selection varied depending on the habitat. In the case of wooded/forested sites, there were very few undisturbed sites so selection was based on well forested sites. In the case of forage, a field was randomly selected; and then 'survey' sites within the field were randomly selected. Ocean sites were selected based on access to the coast with the two sites spread out as much as possible. Existing pasture is located on the ocean side of the highway; counting locations were randomly selected with consideration to a minimum separation from other sites of 200 metres. One site was selected for the barns. It was concluded five sites in a 'fairly small area' was sufficient to identify avifauna in the area adjacent to the existing mink farm. The watercourse/ sloped fen and the dome bog were chosen as being reflective of different habitats. Sampling sites within these areas were randomly selected with consideration to minimum separation distances. Transect 'a' was used for the first and third surveys while transect 'b' was used for the second survey. The transects were chosen as they were in the area of multiple habitats. In addition, incidental siting's were identified in the various areas.
- Site surveys were conducted for a period of ten minutes.
- All birds were recorded on the Time of Detection Survey Form
- The intent was to identify as many species as possible.
- Weather conditions impact bird activity and the ability of the observer to detect birds. Surveys were conducted in above freezing temperatures in wind conditions of less than 25 kph. (mostly less than 15 kph) The surveys were done in clear conditions.

6) Study Outputs

During the three days of surveys 38 species of birds were identified at 15 locations and three transects. In addition, counts were made of incidental observations made between survey locations

In Bruce Mactavish's Winging It Column, *The Telegram*, of May 23, 2020, it was reported May had been a cool month and the temperatures failed to reach average highs posted on the Environment Canada's website. He further explained the cool spring was experienced in the Maritimes and the northeast United States. He reported birdwatchers in these regions noted an exceptionally slow pace to bird migration (4)

In early June, in the same column, Mr. Mactavish explained warm temperatures during the end of May, combined with “constant flow from the west and southwest brought all our migratory birds back on time.” Mr. Mactavish further explained by mid-June the spring migration will be finished and the song birds will have returned (5) The three bird surveys from May 16th to June 26th were appropriately timed to capture the bird migration.

The number of birds observed on each date, with totals for the three days of observation are listed in Table 1. In total 38 species of birds were identified, with a total of approximately 950 birds. In addition, incidental observations identified an additional four species as listed in the Appendix A. (Ruffed Grouse, Double breasted Cormorant, purple grosbeak and Purple finch)

There were approximately 530 gulls, 50 Corvids, (American Crow, Blue Jay and Canada Jay) and about 50 sightings of European Starling. Consequently, Gulls, Corvids and the European Starling (Starling) accounted for about two thirds of the bird observations. Therefore, other than incidentals, Appendix A, a total of 320 ‘other’ birds were observed during the surveys.

The predominant gull was the herring gull. During the initial survey, approximately 40 gulls were listed as “unidentified “gulls. Subsequent surveys revealed the dominance of the herring gull, with relatively small numbers of other gulls, notably the Greater black-back gull. Initially it was thought there may be some glaucous gulls in the May count, however identification was not confirmed. Glaucous gulls were not identified in the two June counts.

Most of the gulls were observed around the farm buildings and adjacent habitats, notably nearby pasture, ocean and dome bog located approximately 500 metres east of the farm buildings. The manufacture of mink feed from chicken and marine materials attracts the gulls to the

Bird Numbers identified by Survey Dates
Table 2

species	16-May-20	06-Jun-20	26-Jun-20	Total
Black-Legged Kittiwake	2	0	0	2
Ring-Billed Gull	2	0	0	2
Herring Gull	185	178	144	507
Lesser Black-Backed Gull	2	0	0	2
Greater Black-Backed Gull	3	10	2	15
Common Loon	0	0	1	1
Northern Gannet	0	0	1	1
Common Murre	0	0	1	1

Bald Eagle	3	1	1	5
Northern Flicker	4	1	0	5
Yellow-bellied Flycatcher	0	0	7	7
Canada Jay	0	1	0	1
Blue Jay	1	0	0	1
American Crow	34	6	7	47
Black-capped Chickadee	3	3	0	6
Boreal Chickadee	0	7	5	12
Golden-crowned Kinglet	0	0	1	1
Swainsons Thrush	0	2	0	2
Hermit Thrush	0	0	8	8
American Robin	10	6	13	29
European Starling	11	40	0	51
Cedar Waxwing	0	20	0	20
Pine Grosbeak	0	0	1	1
American Goldfinch	4	3	6	13
Savannah Sparrow	2	0	7	9
Lincoln Sparrow	0	2	0	2
Fox Sparrow	14	10	14	38
Song Sparrow	7	5	2	14
Swamp Sparrow	7	3	6	16
White-throated Sparrow	11	2	16	29
Crown Junco	1	0	0	1
Dark-eyed Junco	19	9	3	31
Ovenbird	0	3	0	3
Northern Waterthrush	2	1	13	16
Black-and-white Warbler	0	25	0	25
Yellow-rumped Warbler	0	1	3	4
Blackpole Warbler	0	3	12	15
Yellow Bellied Fly Catcher	0	0	9	9
Totals	327	342	283	952

farm. The reduction of about 20% of gulls from June 6th to June 26th was a result of the availability of other food sources, associated with the spring fisheries in the area.

The most common Passerines, generally referred to as song (perching) birds, were as follows:

- 1) Fox Sparrow (38)
- 2) Dark Eyed Junco (31)
- 3) Robin, White Throated Sparrow (29)

- 4) Black and White warbler (25)
- 5) Cedar Waxwing (one flock) (20)
- 6) Swamp Sparrow, Northern Water Thrush (16)
- 7) Black and White Warbler (15)
- 8) Song Sparrow (14)
- 9) American Goldfinch (13)
- 10) Boreal Chick a dee (12)

The six sparrow types were observed 108 times which represent about one third of all birds, other than gulls, corvids and starlings.

The Dark-eyed Junco was identified in all the counts with the largest numbers identified in May. The Northern Waterthrush and the Blackpole warbler were most notable at the end of June. All the Black and White Warblers were observed in early June.

The American Robin was observed in all counts, including several incidental observations. Other than gulls, Corvids and starlings, the Robin was tied with the White-throated sparrow, as the third most common bird with 29 observations; behind the Fox Sparrow at 38 and the dark eyed junco at 31.

In regards to Mr. Mactavish’s comments regarding the timing of the arrival migratory birds in the Province, the following tables show the numbers of birds observed on the three dates during the prime migratory season excluding, Gulls, Corvids and starlings. The numbers are reflective of Mr. Mactavish’s expectations for a slow start to bird migrations followed by an increase in migration with the changing (warming) weather across North America.

Table 3
Summary of Bird Numbers and Type

Date	Number of birds	Number of Species
May 16	87	14
June 6	108	21
June 26	132	22

Excluding gulls, corvids and starlings, the habitats with the lowest number of birds identified in the surveys were the ocean (18) and the farm (buildings) (7) habitats. The highest numbers were observed on the hay fields (54) and the sloped bog (60). The cutover, dome/water course, forest and pasture (excluding a flock of 40 cedar waxwings) averaged 40 birds. Combined, with hay and sloped bog, excluding the ocean and farm sites the average number of sightings, over the three surveys, was 46, excluding gulls, corvids and starlings. It is apparent bird counts were highest along habitat boundaries, notably hay/forest and hay/sloped bog.

The surveys did not identify any ‘birds at risk’ as ‘defined’ by Federal or Provincial Agencies. This is further discussed in the following section.

Table 4

Bird Types, Numbers by Habitat

species	Hay	Cut Over	Sloped Bog	Dome/ Water course	Forest	Pasture	Ocean	Farm	Transect
Black-Legged Kitiwake	0	0	0	0	0	0	0	2	0
Ring-Billed Gull	0	0	1	0	0	0	0	0	1
Herring Gull	3	0	6	33	0	14	59	380	12
Lesser Black-Backed Gull	0	0	0	0	0	0	0	2	0
Greater Black-Backed Gull	0	0	0	0	0	0	2	13	0
Common Loon	0	0	0	0	0	1	0	0	0
Northern Gannet	0	0	0	0	0	0	1	0	0
Common Murre	0	0	0	0	0	0	1	0	0
Bald Eagle	0	0	0	0	0	0	4	0	1
Northern Flicker	0	1	2	0	1	0	1	0	0
Yellow-bellied Flycatcher	3	1	2	1	0	0	0	0	0
Canada Jay	0	0	0	0	1	0	0	0	0
Blue Jay	0	0	0	0	1	0	0	0	0
American Crow	0	0	3	7	6	3	18	8	2
Black-capped Chickadee	0	2	0	1	2	0	1	0	0
Boreal Chickadee	0	3	2	0	2	1	0	1	3
Golden-crowned Kinglet	0	0	0	0	0	1	0	0	0
Swainsons Thrush	2	0	0	0	0	0	0	0	0
Hermit Thrush	2	2	1	0	1	0	0	0	2
American Robin	8	3	6	5	3	3	0	1	0
European Starling	0	0	0	0	0	48	2	1	0
Cedar Waxwing	0	0	0	0	0	20	0	0	0
Pine Grosbeak	0	1	0	0	0	0	0	0	0
American Goldfinch	0	0	1	3	4	4	0	1	0
Savannah Sparrow	0	0	1	8	0	0	0	0	0
Lincoln Sparrow	0	1	0	0	0	0	0	0	1

Fox Sparrow	2	6	7	5	4	7	2	1	4
Song Sparrow	2	0	5	0	0	6	0	0	1
Swamp Sparrow	0	0	12	4	0	0	0	0	0
White-throated Sparrow	10	4	2	2	3	1	1	0	6
Crown Junco	0	0	0	0	0	1	0	0	0
Dark-eyed Junco	8	2	5	5	4	6	1	0	0
Ovenbird	0	2	0	0	0	1	0	0	0
Northern Waterthrush	5	1	3	2	2	3	0	0	0
Black-and-white Warbler	6	4	3	3	2	5	1	1	0
Yellow-rumped Warbler	0	2	0	0	0	0	0	0	2
Blackpole Warbler	3	0	2	3	2	1	1	1	2
Yellow Bellied Fly Catcher	3	1	2	1	1	0	0	0	1
Totals	57	36	66	83	39	126	95	412	38

7) Birds at Risk

The Wildlife Division of the Provincial Department of Fisheries, Forestry and Agriculture has identified a list of 15 “birds at risk” in the Province. Of these 15, based on factors including habitat, geographical range and likely extinction, it was unlikely the following birds/owl would be found in the study area: Eskimo Curlew, Peregrine falcon, Common Nighthawk, Piping plover, Red Knot and the Short-Eared Owl. The remaining birds: Ivory Gull, Barrow Goldeneye, Bobolink, Chimney Swift, Newfoundland Gray-Cheeked Thrush, Olive-sided Flycatcher, Harlequin duck and the Red Crossbill may visit the study area, however whereas numbers are small, the likelihood of identifying these birds in the study area was low (6). The Study did not identify these birds/owls; however, the study was particularly vigilant in determining if these birds were present.

During the studies, it was determined there were several reports of the Red Crossbill at various locations on the Avalon Peninsula, including the Trinity Bay Area. Whereas the Wildlife Division’s website states the last recording of a nest siting was in 1977; that juvenile birds were seen in 2005, the Wildlife Division was asked if there was a rebound in populations. The Wildlife Division acknowledged there were many reports of red crossbill activity at bird feeders which they would continue to monitor.

The Migratory Bird Convention Act, 1994 (MBCA) and associated Regulations, was designed to protect and conserve migratory birds, their nests and eggs anywhere they are found in Canada. The Act includes song birds, waterfowl and seabirds but does not include grouse, ptarmigan,

hawks, eagles, owls, crows or jays. Furthermore, the Act prohibits the dumping of substances harmful to birds in waters or areas where birds visit.

The Species at Risk Act (SARA) was established to provide wildlife species additional protection against extirpation, extinction or endangerment. Species at Risk are classified by the Committee on the Status of Endangered Wildlife in Canada. (COSEWIC) as extirpated, endangered, threatened or of special concern depending on the level of risk.

Provincially, wildlife species at risk are managed under the Newfoundland and Labrador Endangered Species Act. (NLESA) designed to complement the Federal SARA legislation. The NLESA protects wildlife species, subspecies or populations which are considered, endangered, threatened or vulnerable.

Status of Avifauna

Table 5

Species	COSWIC Status	SARA Schedule	SARA Status	NLESE Status	Presence in Study Area (Breeding)
Barrows Goldeneye	Special Concern	Schedule 1	Special Concern	Vulnerable	No recent records on the island
Eskimo Curlew	Endangered	Schedule 1	Endangered	Endangered	No specimens collected since 1960s
Piping Plover	Endangered	Schedule 1	Endangered	Endangered	Not in the study area
Red Knot	Endangered	No schedule	No Status	Endangered	No recent records
Chimney Swift	Threatened	Schedule 1	Threatened	Threatened	No records
Ivory Gull	Endangered	Schedule 1	Endangered	Vulnerable	No records
Peregrine Falcon	Non-active	Schedule 1	Threatened	Threatened	Unlikely in Newfoundland
Common Nighthawk	Threatened	No Schedule	No Status	Threatened	Uncommon in Newfoundland

Schedule 1 is the official list of species that are classified as extirpated, endangered, threatened and of special concerns.

(7)

Species	COSWIC Status	SARA Schedule	SARA Status	NLESE Status	Presence on the Avalon Peninsula
Gray - Cheeked Thrush	N/A	N/A	N/A	Vulnerable	yes
Bobolink	Threatened	Schedule 1	Threatened	Vulnerable	unlikely
Olive sided Fly catcher	Special Concern	Schedule 1	Threatened	Threatened	yes
Red Crossbill (percna)	Threatened	Schedule 1	Threatened	Endangered	yes
Rusty Blackbird	Special concern	Schedule 1	Special Concern	Vulnerable	yes
Harlequin Duck	Special concern	Schedule 1	Special Concern	vulnerable	-
Short Eared Owl	Special concern	Schedule 1	Special Concern	Vulnerable	yes

(3), (7),

8) Migratory Bird Management Plan; Background

The proponent's proposal is to obtain Agricultural Crown Land leases to approximately 120 hectares of land, of which about 60 hectares will be develop, over a six-year period, for forage (hay) land and pasture. The 60 hectares which will *not* be developed, will be left in its natural state. This land consists of soils not suitable for agricultural purposes, buffers for the protection of water courses, buffers to other uses of land, such as the former landfill site in Cavendish and peat (bog/wetland) sites.

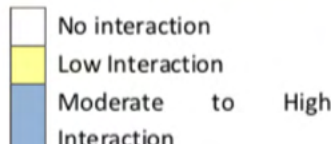
In order to develop the land for farm use, trees will be removed to the satisfaction of the Provincial Forestry Branch, including non- merchantable wood, which will be pushed into windrows. These windrows will remain in place until the organic material breaks down. The soil and organic material (principally wood) will be conserved and may be spread on the fields to improve soil quality and depth of soil.

In Canada the principal nesting season, starts as early as mid-March and extends until the end of August and as further described in Appendix B which includes nesting dates for a wide variety of birds. As illustrated in Table 5 the nesting season is the most sensitive time of the year for avifauna.

Table 5.

Sensitive Life History Stages of Avifauna

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Early Nesting Waterfowl					Blue	Blue	Blue	Yellow	Yellow	Yellow		
Late Nesting Waterfowl					White	Blue	Blue	Blue	Yellow	Yellow		
Forest Avifauna	Yellow	Yellow	Yellow	Yellow	Blue	Blue	Blue	Blue	Yellow	Yellow	Yellow	Yellow
Raptors					Blue	Blue	Blue	Blue	Yellow	Yellow		



(7)

Environment and Natural Resources Canada states nesting periods for the island of Newfoundland is from mid-April to mid-August. The implementation of a period of no wood cutting would reduce the chance of interference to breeding birds. The farm acknowledges Environment Canada’s Guidelines: To Reduce Risk to Migratory Birds, that the removal of vegetation (chainsaw) represents a significant amount of noise in a natural environment (9).

For most migratory bird species, removing (or losing) the nest after the breeding season will have no effect on the ability of birds to nest again as the majority build or occupy new nests each year (9). Some species use the same nests, such as in older trees. (cavity nesters in snags) The proponent will attempt to identify any such nests, around which buffers will be established. Overall, it is recognized that passerine nests are difficult to identify, hence the importance of avoiding the activities in the sensitive times of the year.

As stated, windrows will be established as a result of normal farm development. These windrows, will be placed along the edge of fields or in the case of a larger fields, typically greater than five acres, windrows may be left in the ‘middle’ of the field. The windrows will be removed after a period of about five years following the breakdown of organic materials. In the interim it is recognized these windrows, may become nesting/perching sites.

The closest marine bird colony is on the Shag Rocks, located approximately 4.5 kilometres from the farm. Considering the wide buffer, it is not anticipated the development of the farmland will

have an impact on this colony, however the proponent was not able to identify a source to support this assumption. As stated, land clearing of 60 hectares of land represents a small change to the overall area. Furthermore, the farmland development will be spread over a six-year period, which further reduces the likelihood of conflict.

9) Best Management Practices to Reduce the Risk to Migratory Birds

The 2020 bird survey and the preparation of the component study has resulted in a greater awareness and interest by the proponent as to the variety and number of migratory birds which visit the Study Area and the Region. Furthermore, this appreciation, will improve the likelihood that Viking will recognize birds which are not ‘typical’ of the area. Indeed, birds which may be rare and/or considered birds at risk.

Viking would encourage domestic wood harvesters to cut trees outside of this sensitive nesting period from April 15th to August 15th. The most common period for domestic wood cutting on the Avalon Peninsula is the fall and winter, hence scheduling wood cutting outside of the nesting season is consistent with the normal times of year for harvesting firewood (8). The proponent is not aware of any other cases where a similar commitment has been made in developing farmland in this province.

Before any permits are issued for cutting, the farm will do a walkover of the parcels to identify any snag trees which may be used by birds for nesting. There were sittings of Northern Flicker which nest in tree cavities, hence there is potential for such nest sites (10). The existence of raptors nests would be reported to Provincial wildlife.

The proponent also recognizes nests, other than cavity nests in snag trees, are difficult to find, hence avoiding noisy tree cutting is the best way to protect them. If cavity nests are found, a buffer will be placed around the tree and all activities will be stopped until the young leave the nest. The buffer, not the tree will be clearly marked. The setback distance will vary depending on the circumstances, however whereas there is minimal human activity in the area, the proponent recognizes the setback should be enough that the birds do not flush in response to farm activity. The requirement to maintain the cavity nest will depend on the circumstances of the situation, such as the condition of the tree, and the opinions of CWS or the provincial department responsible for wildlife.

No vegetation would be cleared within 800 metres of a bald eagle or osprey nest during the nesting season and 200 metres for the rest of the season. A 200-metre buffer would be applied to other raptor nests (e.g., Northern Goshawk, Sharp-shinned Hawk, Merlin, American Kestrel, Great-Horned Owl, Boreal Owl, Northern Saw-whet Owl) (11).

Once the land is cleared, rocks removed, farm practices including liming, manure spreading, seeding and in the case of hay fields, harvesting will take place. These activities, accepted as normal and typical farm practises in the Province, are of short duration. (half day in any given area;) Manure spreading will take place in May, late summer and in the fall on the interior of Route 80 and in May and Fall on the oceanside of Route 80. Hay/forage will be harvested in June and in the fall. Consequently, the only farm activity which will take place in the nesting

period is manure spreading in May and hay harvest in July. These activities would be for a short duration on each field. The management of noise from farm equipment is done by maintaining equipment and avoiding unnecessary revving of the engines.

The proposal does not include the construction of buildings, hence once the fields are developed farm activity will be limited to grazing and the applications of manure and harvesting of hay.

10) Plans to Reduce the attraction of Migratory birds, notably Gulls from the Farm

Background

It is generally understood that no single technique or tool will deter birds from accessing food sources and habitats which suit their requirements. Successful dispersion involves a combination of tools and the timing of use. Furthermore, no single device will be effective against all species.

There are many approaches including ‘exclusion techniques’, such as mechanical means, notably sharp spikes to deter birds from ledges. Overhead wires, mesh/screen, nylon strings etc. may be used to prevent birds from using specific areas. The exact reason why lines can be effective is unknown, however the placement in grid, parallel or random patterns has worked to prevent bird access to food, loafing or nesting areas.

There are a variety of acoustic and visual tools and methods to frighten birds such as alarm or distress calls. How a bird reacts depends on the time of year in relation to breeding, frequency of predation risk, type of habitat, distance to cover and behaviour of the flock. However, birds habituate to repeated alarm and distress calls in the absence of a threat. Calls (noise) are more effective when used in combination with other methods such as pyrotechnics and limited lethal control. Common pyrotechnics such as screamers and bird bangers are most effective when mixing different types of systems, however eventually most birds become habituated to the noise. Research has shown limited lethal control works well against gulls, however permitting to shoot gulls may not be available for this alternative.

Visual techniques such as bright lights, strobe lights, flashing lights can be used to disperse birds for a short time. Lasers have also been used, however conflicts with aircraft require careful use of such systems. Flagging tape, notably mylar-style flagging has been useful in loafing areas for gulls but ignore it in nesting colonies. Bird “repellent Scare tapes” (Holographic/Reflective) are readily available at reasonable costs. The use of dead gulls or ‘models’ of dead gulls could also be one of several approaches to deterring gulls. As mentioned, the harvesting of a gull(s) requires a permit.

Scare crows have been used for centuries and there has been some success with a variety of effigies, however birds soon recognize they are not a threat and therefore soon lose their effectiveness.

There are other systems including chemical repellents, water canyons, dogs and falconry, however they are not considered options in NL. Furthermore, research states birds quickly

habituate to these techniques as well. For example, the sound of a compressor is soon learned to be a precursor to a water gun.

The control of birds on the farm is an important safety consideration and secondly, it is not the Farm's desire to provide an alternate source of shelter and feed to birds, to the point where they rely on the farm. It is apparent no single technique can deter birds and the use of some systems, most notably acoustic approaches are not appropriate on the mink farm as it would stress the animals and would result in a stressful environment for the workers. An integrated approach of multiple techniques is typically recommended as the most effective means in deterring birds. Combined with the deterrent techniques described, the Farm has and will work towards decreasing the attractiveness of the farm by the removal of any feed which is accessible to the birds. In addition, the removal of standing water and shelter are important objectives. Detailed Best Management Practices, as described below, are the most practical and effective means of controlling birds, notably gulls (12,13)

11) Processing and Handling of Feed

The manufacture of mink feed at Viking Fur Farm (Viking) is based on the conversion of waste offal from Country Ribbon Inc. chicken processing plant in St. John's and marine products from fish plants and fishers. Occasionally, the company sources egg laying hens and other waste food products for the processing of mink feed.

Similar to fish processing facilities, restaurants and other facilities where food is handled, gulls are attracted to these feed sources. The attraction of gulls to the farm cannot be prevented, however the farm has established procedures to deter gulls from the farm. These procedures are described below along with additional actions which have been implemented or are under consideration for introduction by the farm:

- Raw product is transported directly from the delivery trucks to an enclosed hopper for transfer to the feed kitchen/refrigeration (not accessible to gulls)
- Access to the barns, feed kitchen and refrigeration is restricted through the use of doors, tarps and screens.
- Employees minimize the opportunity for spillage when transporting the feed from the feed kitchen to the barns by not overfilling the carts. Any spillage is collected and stored in containers not accessible by birds.
- Leftover feed is collected from the barns and fed to female mink
- The farm has installed an underground drainage system which has virtually diminished standing water on the farm., thereby removing an attraction to gulls. The farm will continue to improve drainage where it identifies standing water.

The following are new initiatives which have been implemented or are being evaluated to determine applicability and effectiveness in controlling bird access.

- Whereas the ends of the composting shed are open, strips of materials such as plastics, mylar etc. commercially referred to as: Bird Repellent Scare tapes will be suspended to

deter birds from entering the shed. Alternatives, such as wire will also be considered. This initiative will be discussed with available Government expertise while alternatives are reviewed.

- The cap on compost piles, shall be at least 0.5 metre thickness and recapped following the turning of the compost, or as required, to deter gulls from searching for carcasses, notably during the early establishment of compost piles. The thickness of the cap and the effectiveness type of cap, typically bedding, shall be monitored (and recorded) to determine success in limiting gull's access to feed.
- Mechanical means, such as spikes will be assessed on an experimental basis to determine effectiveness on reducing the congregation of gulls on buildings where observations of high numbers are most frequent.
- The farm will conduct an overall assessment of the exterior of all buildings including access points, such as doors. Feed handling practices will be reviewed and adjusted to reduce access by gulls. An integrated Bird Management Audit Program will be prepared to ensure farm management and employees understand all protocols developed to control access by gulls.

The audit will be conducted on an annual basis in consultation with farm workers. The audit will include an estimate of gulls in the area of farm buildings along with specific locations of congregation. The feed processing area, access points, such as doors, gaps which provide access of the birds to inside the buildings, water sources, feed handling, especially transportation from the feed kitchen to the mink cages, composting facility, effectiveness of bird control devices and applicable management practices to limit the birds access to food will be reviewed during the audit (14).

The audit will be documented and all findings recorded. The review and evaluation will result in the preparation of an integrated bird management plan. The plan will be implemented in a fashion to ensure farm workers understand and recognize the importance of managing the farm to deter gulls as much as possible.

12) Proposed Farmland Expansion/ Bird Access

The farm land expansion, mainly to grow more hay and the establishment of a cattle farm as proposed in the EIS is not expected to attract more birds, most notably what could be referred to as nuisance gulls. The cattle will be pastured and fed hay (no grains) Hay is not recognized as a feed source for birds.

Since 2015, Viking has handled manure from the mink in the form of liquid manure. The manure is transferred by gutters under the cages and shipped to storage tanks. The liquid manure is spread on fields where it soaks into the ground. The manure is not an attractant to the birds (15).

The cattle pasture will include 'small ponds' which may attract birds, notably ducks. Increasingly, there are many areas on the Avalon Peninsula where water courses in areas of human activity attract waterfowl. This should be no different, however the ponds will be less than 200 square feet and therefore will not sustain many birds. Furthermore, it is not anticipated waterfowl will be a nuisance to the farm, workers or the public. To the contrary, it may provide additional waterfowl habitat. The farm will discuss the establishment of small ponds with

Provincial veterinarians in respect to two cases of avian flu reported in the St. John's area in the fall of 2021 to determine if any precautions or management actions are required in respect to access by wild birds.

13) Resources:

- 1) Environment Canada. Bird Conservation Strategy for Bird Conservation region B in Newfoundland and Labrador: Boreal Softwood Shield. 2013
- 2) Canadian Wildlife Service. Newfoundland and Labrador Boreal Bird Monitoring Protocol. Standing Operating Procedures, 1-4. 2012
- 3) Worthman, Sydney Canadian Wildlife Service. Personal communication. April and May 2020.
- 4) Mactavish, Bruce. The Telegram. Winging it. May 23, 2020.
- 5) Mactavish, Bruce The Telegram. Winging it. June 6. 2020.
- 6) Government of Newfoundland and Labrador. (GNL) Department of Fisheries, Forestry and Agriculture, (DFFA, Wildlife Division) Birds At Risk. Internet.
- 7) Nalcor Energy. Labrador-Island Transmission Link – Avifauna Study- Revised Report. 2012.
- 8) DFFA. Zone 1 Forestry Management Plan 2022-2026. 2021.
- 9) Government of Canada; Guidelines to Reduce Risk to Migratory Birds. 2019.
- 10) DFFA. Problem wildlife, Northern Flicker. Internet.
- 11) GovNL. Department of Environment and Climate Change. (DECC) Environmental Assessment Registration #2173. Cormack Agriculture Area of Interest. Release Letter.
- 12) Madden, Brett. Bird Problems and Control Methods for Food Processing Facilities, October 2019
- 13) Government of Canada, Department of Transportation: Visual Repellents (Birds): Internet, 2020.
- 14) Madden, Brett. How to Prepare an Integrated Bird management Plan. November, 2019.
- 15) Duffett, Brian, retired livestock and poultry farmer. Personal Communication. Spreading of liquid manure; bird interactions.
- 16) Environment and Natural Resources Canada. Nesting Periods. October 2018.

14) Other Resource Materials.

Canadian Electricity Association: Bird Beneficial Management Practices Guide for Utilities. 2018.

Canadian Wildlife Service. A Framework for the Scientific Assessment of Potential Project Impacts on Birds. 2009

Nalcor Energy- Lower Churchill Project: Avifauna Protection and Environmental Affects Monitoring Plan. 2012.

SNC-Lavelin. Mitigation Measures for Working within the General Bird Nesting Season: Options and Effectiveness: SMA Environmental Forum, 2018.

U.S. Department of Agriculture. Animal and Plant Health Inspection Services. Wildlife Services. Bird Dispersal Techniques. 2016

Appendix A

Incidental Bird Observations:

May 16, 2020

- a) Gulls (high altitude) ~40
- b) Ruffed Grouse (1)
- c) Robin, White Throated Sparrow, Fox Sparrow, Woodpeckers (3) Snipe, loon
- d) Black Capped Chic a dee (4)
- e) Junco (3)
- f) Northern Flicker (3)
- g) Bald Eagle (2)
- h) Fox Sparrow
- i) Yellow Thumbed warbler (2)
- j) Loon
- k) Gannets (12)
- l) Lesser black gulls 12
- m) Crows 3
- n) Double breasted cormorant
- o) Ring bill gulls (10)
- p) Unidentified: 5 small 'gulls' dusty behind eyes, short black bills (swimming)

June 6, 2020

- a) Robin
- b) Crows (6)
- c) Purple Finch
- d) Fox Sparrow (2)
- e) Yellow Warbler
- f) Gray Jay
- g) Flicker
- h) Boreal Chic a dee

- i) Junco
- j) Yellow Thumped Warbler (2)
- k) Immature bald eagle chased by crows.

June 26, 2020

- a) Crows (13)
- b) Purple Grosbeak
- c) Robin (2)
- d) Unidentified Kinglet: Golden? Ruby?
- e) Flicker

Appendix B

Nesting Periods

(16)

Nesting calendars in zone D ([map of zone D](#)), technical information for planning purposes covering Quebec-Labrador and Newfoundland sub-zones of Boreal Softwood Shield (BCR 8) and of Taiga Shield and Hudson Plains (BCR 7)

