

**REGISTRATION PURSUANT TO SECTION 49 OF  
THE ENVIRONMENTAL PROTECTION ACT**

**NAME OF UNDERTAKING:**                      **Galloway Beef Farm**

**PROPONENT:**

**(i)     *Name of Incorporate Body:*    Viking Fur Inc.**

**(ii)   *Address:*                                160 Main Road  
    Cavendish, NL  
    A0B 1J0**

**(iii) *President and Vice President:*    Peter Noer                      Erik Dalsager  
    160 Main Road                160 Main Road  
    Cavendish, NL                Cavendish, NL  
    A0B 1J0                            A0B 1J0  
    709-588-2820                 709-588-2820**

**(iv) *Contacts:*                                Peter Noer                      Renee Gilbert  
    160 Main Road                160 Main Road  
    Cavendish, NL                Cavendish, NL  
    A0B 1J0                            A0B 1J0  
    709-588-2820                 709-588-2820**

**(v)     *Date:*                                        January 30, 2019**

## THE UNDERTAKING:

(i) ***Name of the undertaking: Galloway Beef Farm***

(ii) ***Purpose/Rationale/Need for the Undertaking:***

Viking Fur Inc. has been in operation since 2004 and has maintained stable employment to its 45 regular employees and 40 seasonal employees. The company has plans to diversify its agricultural business and raise Beef Cattle, with a focus on raising Belted Galloway Beef Cattle to market in Newfoundland and Labrador at the present time. Producers help drive the local economy and Viking Fur Inc., being an established agricultural business in Trinity Bay, is interested in diversifying and expanding into a new market (Beef Cattle) to further contribute to the growth of the local economy. Viking Fur Inc. purchased eleven cows and 1 bull in December 2016 with the intension of eventually expanding its herd size to 100 beef cattle. This expansion will contribute to the availability of locally-raised beef within the province.

The reasoning behind this Environmental Assessment is strictly to diversify the current business and establish a beef cattle industry in the area. This will include acquiring and developing agricultural land to be utilized for pasture grazing and forage production. Viking Fur Inc. has continued to grow and expand in recent years putting much needed money back into the economy in rural communities specifically in Trinity Bay.

We will require approximately an additional 150 acres of arable land to meet the feeding and waste management requirements for the beef animals. This will include land for pasture and forage production. 1.5 acres per animal unit of good quality pasture/forage land is recommended to successfully bring the cattle to a marketable weight.

We have submitted applications to Crown Lands to identify the proposed land for development; this can be reviewed on the attached map, *Figure 7*. The land that is applied for is much larger than what is required because of the unique soil structure in the province. Soil in the province is categorized to determine its usage, *see Figure 6*. Land in Newfoundland and Labrador has many restrictive properties but when managed correctly can become very productive. To ensure that there is sufficient land for feed and forage production Viking Fur Inc. has applied for 290 acres with the confidence that 150 of these acres will be suitable for pasture and forage production. Viking Fur Inc. is pursuing a goal to become self-sufficient by using the forage (hay) produced from the mink operation to feed the pastured cattle. By doing this, Viking Fur Inc will contribute to the reduction of greenhouse gases by eliminating the transportation of produced forage for their operation.

This land will be cleared, seeded and developed into pasture for grazing and forage production. Viking Fur Inc. already has some of the appropriate equipment such as tractors, manure spreader, and baler to develop and harvest forage fields. The nutrient rich liquid manure readily available through Viking Fur Inc. and the manure from the cattle will be utilized as fertilizer to produce a sufficient and healthy crop for bedding for the mink farm and feed for the cattle. A suitable shelter will be constructed in the fall of 2019 to provide cattle with necessary housing as required in the Code of Practice for care and Handling of Beef Cattle. Currently the compost dome is being used as shelter for the cattle located on Viking Fur Inc lease #125326.

For information on care and acceptable practices for cattle the *Code of Practice for Care and Handling of Beef Cattle* can be found through the following link: [www.nfacc.ca/beef-cattle-code](http://www.nfacc.ca/beef-cattle-code). For information on the current beef breed on the farm, *Belted Galloway*, please refer to: [www.thatsfarming.com>news>belted-galloway](http://www.thatsfarming.com/news/belted-galloway). Other breeds of cattle may be introduced at a later time.

Of the current 278 acres of leased land held by Viking Fur Inc. for its mink farm, we have cleared and enhanced only 106 acres for forage production. 40 of these 106 acres will now be used for pasture. An additional 42 acres of existing leased land will also be put in production for pasture. To reach the 150 acre requirement, we have applied for an additional 68 acres of arable land for pasture under application numbers 147191 and 138154. *See Figure 4 for map of proposed pasture.* This map includes existing pastureland, land under application and access.

66 acres of remaining cleared land will stay in production for forage. An additional 100 acres of arable land has been applied for. This is slightly higher than the required 150 acres to ensure applications approved by the Department of Fisheries and Land Resources, Crown Lands meets the minimum 150 acres needed. *See Figure 5 of map of proposed forage.* This map includes existing forage, land under application and access. This land is a requirement for the operation of the mink farm for waste management; the harvested crop is used for mink bedding. According to a Farm Industry Review Board report completed in February 2015, Viking Fur Inc. is required to have 150 acres of land developed to meet the current needs of the mink farm. *See Appendix A for copy of the Farm Industry Review Board Report.*

## DESCRIPTION OF UNDERTAKING:

(i) ***Geographical Location:***

Viking Fur Inc. is located on Route 80 within the boundaries of Cavendish, NL. The current farm consists of approximately 278 acres of leased agriculture land with approximately 106 acres cleared and in production. It is proposed that the new applications for land on the West side of highway, Route 80 near the farm will be used for pasture land and forage for cattle and the Eastside of Route 80 near the farm will continue to be used for forage for the mink. *See Figures 4 & 5 for proposed location of forage vs pasture. See Figures 1 & 2 for Provincial and Municipal maps.*

(ii) ***Physical Features:***

This undertaking will involve the rough clearing of any vegetation from the requested site followed by soil enhancement, which includes rock clearing, lime application, fertilization with liquid manure and seeding. Grazing pasture for existing cattle currently have an electric fence to ensure they are kept in appropriate area. Some of the parcel of land is a treed area which will require some cutting however under the Codes of Practice for Care and Handling of Beef Cattle, [www.nfacc.ca/beef-cattle-code](http://www.nfacc.ca/beef-cattle-code) it is necessary to maintain a level of treed area to provide protection and shelter from the elements for both heat and winter conditions.

Vegetation in this area consists mainly of Spruce and Fir trees as well as typical alders. There are already 2 manmade waterholes for cattle. Soil varies from good to moderate to poor. The soil suitability can be seen in *Figure 6*. There are no residential structures located in the proposed area and no transmission lines of concern. *Refer to Figure 3 for proximity of neighboring physical features.*

(iii) ***Construction:***

Land clearing and development will be required if approval of this project is granted. Land clearing involves the harvesting of trees, the removal of stumps and brush and the removal of rocks. The removal of trees normally occurs in the winter months, the other land clearing activities occurs in the spring. Viking Fur Inc. obtains a Commercial Cutting Permit from The Department of Fisheries and Land Resources - Forestry Branch which is applied for annually. Local residents who express interest to clear the land under this permit are given a letter from the company and can use the wood they cut for their own personal use with the company paying the royalties. The second phase in preparing land for seed is the land development stage, this includes rock removal, plowing, harrowing, liming, fertilizing and seeding. Viking Fur Inc. has the ability to clear and develop 30 acres per year, this is dependent on weather conditions. *See Appendix B, Land Use Tables for Land Development Parcel Numbers.*

Table 1: Land Development Plan 2019-2023

	2019	2020	2021	2022	2023
Acres Developed (Acres)	30	60	90	120	150

Any pending land applications will not require new road construction as it is adjacent to or connected to existing leases held by Viking Fur which already has access. We anticipate no resource conflicts since there is no mining, forestry or drilling in the area.

Construction of a suitable shelter for cattle will be constructed in the Fall of 2019 to provide additional shelter from elements in keeping with the *Code of Practice for the Care and Handling of Beef Cattle*: [www.nfacc.ca/beef-cattle-code](http://www.nfacc.ca/beef-cattle-code)

Viking Fur Inc. has necessary infrastructure required to store the hay produced on the fields on its farm property. Equipment necessary to enhance the fields, apply liquid manure, cut and bale hay is already owned by Viking Fur Inc. This project will require no new practices only more hay fields to be cultivated.

**(iv) Operations:**

Annual maintenance is required for a successful crop. A normal yearly schedule would include the application of lime in the spring and fall, manure application in the spring and after each harvest, harvesting two to three times per year (weather dependent), and seeding when required.

Beef cattle farming operations will be as follows:

- Calves are typically born in the spring to coincide with the availability of fresh pasture.
- Calves are weaned in the fall.
- Cows and calves are maintained on pasture until the fall.
- Cows are rebred by natural mating with a bull in the fall.
- Cattle will stay on pasture and have access to shelter in the winter months, and will be 100% grass fed.

Table 1: Anticipated expansion numbers 2019-2023

	2019	2020	2021	2022	2023
Galloway Cow (number)	26	39	59	89	100

The farm plans to expand to a herd size of 100 beef cattle for the production of locally-raised beef. These animals will be complementary to the current business model, as manure produced will be utilized to meet the nutrient requirements in the production of forage and pasture land.

Animals will be transported to a local provincially-licensed abattoir for harvesting.

(a) **Pollutants:**

Viking Fur Inc. complies with all environmental guidelines for livestock producers

[https://www.faa.gov.nl.ca/agrifoods/land/envseries/pdf/fs\\_livestock.pdf](https://www.faa.gov.nl.ca/agrifoods/land/envseries/pdf/fs_livestock.pdf)

Emission pollution: Tractor, excavator and any other cultivation equipment emissions would be present during the construction phase and annual maintenance of the crop. Equipment used onsite is certified according to provincial requirements and annual emissions inspection completed as required.

Water pollution: The farm is compliant with all buffer restrictions pertaining to water and agriculture inputs. There are water sources on the farm; two waterholes and bog land located on the current agriculture lease.

Odor/ noise pollution: The farm is aware that odors and noise are a natural occurrence on an agricultural premise. Mitigation of these pollutants is very important in all operation activities. The farm will be bounded by the Atlantic Ocean on the west, cabins are located 550 meters north of the proposed pasture land. The nearest residence is 220 meters and a campground 400 meters south of proposed pasture land. Viking Fur Inc has met with the Town Council of Hearts Delight-Islington (community to the North of the existing farm) to discuss spreading of liquid manure on the fields. From this meeting there was an agreement to conduct spreading, whenever possible, when winds and weather conditions are favorable to do so. We also have agreed to provide the Town Council of advanced notification when spreading of liquid manure begins. A second meeting in December 2018 was held to advise the Town Council of Viking Fur Inc plans to diversify its operation into Beef Cattle, revisiting and confirming the previous agreement.

Land Pollution: The farm consists of approximately 278 acres of leased agriculture land with 106 acres currently cleared and in production. 14 acres is used for the barnyard. In addition to this we are applying for 290 acres with plans to clear and cultivate 168 acres, as explained on page 3.

(b) **Waste Collection:**

Pasture land will be naturally fertilized by grazing of cattle year round allowing for an even distribution of their manure across the pasture. By not housing cattle in barns during winter months there will be no accumulation or collection of large volumes of manure

during winter months that would require a constructed area for proper storage of manure until spring.

(v) **Occupations:**

The proposed project will require contracts to be given to several local businesses as well as the hiring of at least three fulltime laborers (NOC 7611) for construction phase of the project, this phase is projected to be five years. And two fulltime permanent laborers (NOC 8431) for work generated by the addition of cattle. Besides direct employment, the Trinity Conception region will benefit from spin off to the local area's economy. As well the company is contributing to producing a feed source (locally raised beef) and bringing this product to consumers in this province.

(vi) **Project-Related Documents:**

- Figure 1: Provincial Map
- Figure 2: Farm Location, Municipal Boundaries Map
- Figure 3: Physical Features Map
- Figure 4: Proposed Pasture Land Map
- Figure 5: Proposed Forage Land Map
- Figure 6: Soil Suitability Map
- Figure 7: Farm Map of Viking Fur
- Appendix A: copy of Farm Industry Review Board Report, Feb. 2015
- Appendix B: Land Use Tables showing the following applications to be expanded and/or pending:

147191	138154	140108
153421	125326	130252
153423		

**Approval of Undertaking:**

- Crown Land Agricultural Leases currently held by Viking Fur Inc. are:

125326	140108
147191	127790
129118	140107
134202	138154
- Environmental Farm Plan; Department of Fisheries and Land Resources
- Environmental Certificate of Approval; Department of Municipal Affairs and Environment
- National Certification under the Mink Care Assessment Program
- Commercial Cutting Permit; Department of Fisheries and Land Resources
- Fur Farm Operation License; Department of Fisheries and Land Resources

- Valid Pesticide Applicators Licenses; Department of Municipal Affairs and Environment
- First Aid Certification
- Forklift Operators Certification
- WHMIS

(vii) **Funding:**

Company Investment – Viking Fur Inc. will be utilized for funding sources. Currently no outside funding sources are required however future program initiatives such as the Provincial Agrifoods Assistance Program and the Canadian Agricultural Partnership Program may be considered.

January 30/19  
Date

Peter Now  
Signature of Chief Executive Officer



**Figure 1**  
**Provincial Map**

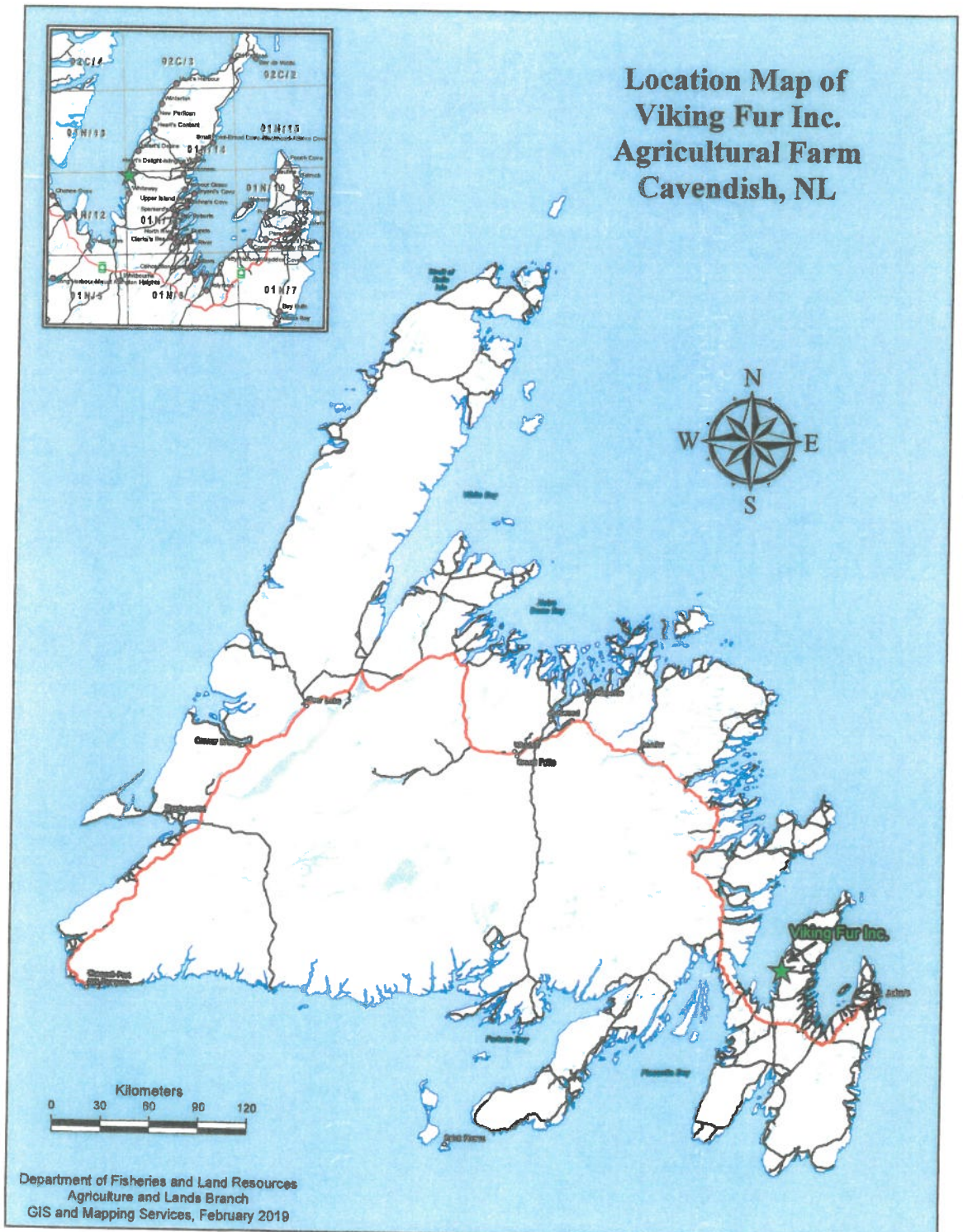


FIGURE 1: LOCATION MAP

**Figure 2**  
**Farm Location, Municipal Boundaries**



# Viking Fur Inc. & Heart's Delight-Islington Municipal Boundary

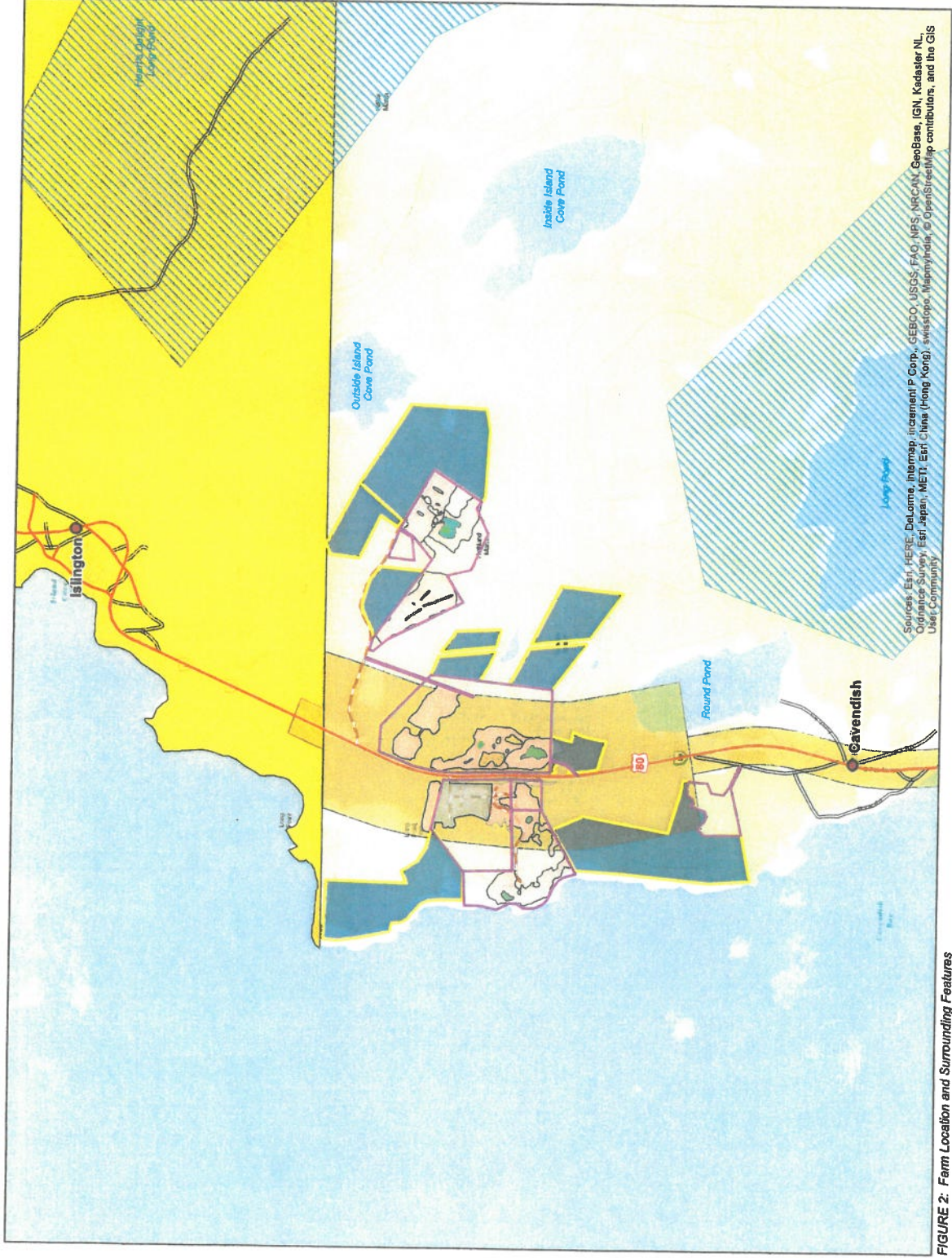


**Legend**

- Protected Water Supply
- Protected Road Zone
- Municipal Planning Area
- Municipal Boundary
- Town
- Paved Road
- Unpaved Road
- Farm Road
- Lease Boundary = 278.1 ac/112.5 ha
- Application Boundary = 280.4 ac/117.5 ha
- Landuse
- Bamyard = 14.18ac (5.7ha)
- Cleared Land = 106.56ac (43.1ha)
- Rock Area = 2.68ac (1.1ha)
- Tree Island = 2.23ac (0.9ha)
- Windrow = 2.76ac (1.1ha)

Area Conversion: 1 Ha = 2.47 AC  
**Designed for Illustrative Purposes Only**  
 Department of Fisheries and Land Resources  
 Agriculture and Forestry  
 GIS and Mapping Services  
 January 2019

File Location: M:\CRB\A\Area\Agriculture\LR\GIS  
 Land Management\Area\Overview\Map\Viking Fur Inc  
 Viking Fur Inc\_Surrounding Features.mxd

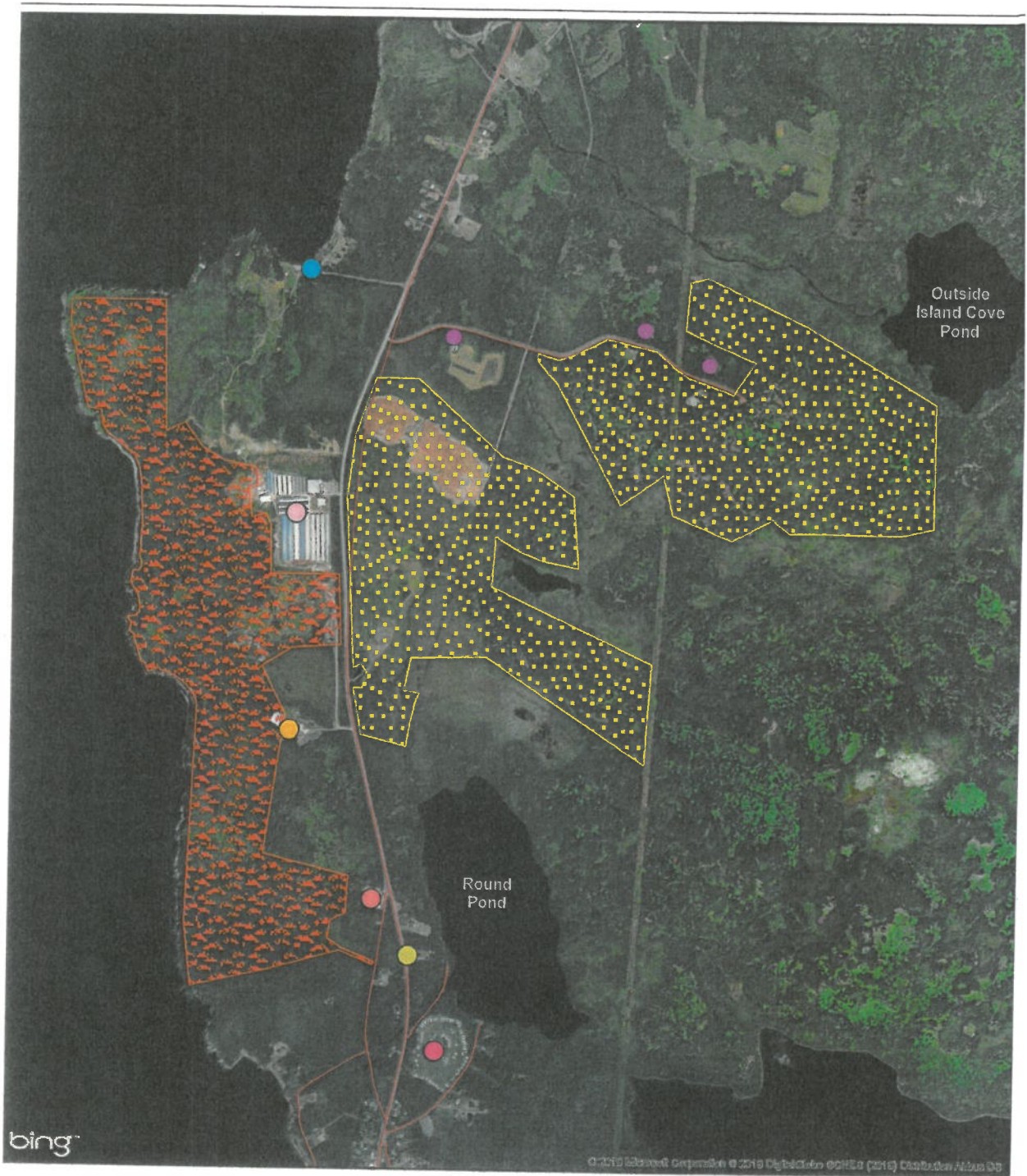


Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri, Japan, METI, Esri, China (Hong Kong), Swisstopo, MapboxIndia, © OpenStreetMap contributors, and the GIS User Community

FIGURE 2: Farm Location and Surrounding Features

**Figure 3**  
**Physical Features Map**



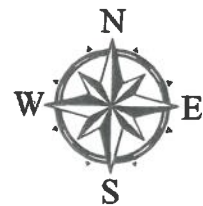


**Legend**

- Previous Fox Farm
- Eastern Waste Management Site
- Viking Fur Barns
- Viking Fur Office
- Nearest Residence
- Campground
- Cabins
- Forage
- Pasture

*Figure 3 Physical Features Map*

**Viking Fur Inc.**



**Figure 4**  
**Proposed Pasture Land Map**

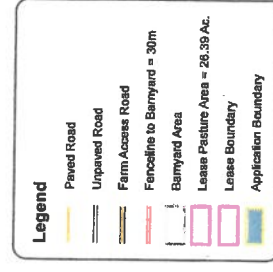


# Viking Fur Inc.

## Properties Proposed for Pasture



1:10,000



Area Conversion: 1 Ha = 2.47 Ac

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 Agriculture and Lands Branch  
 GIS and Mapping Services  
 February 2019

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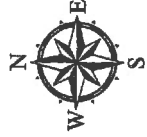


FIGURE 4: Farm Areas Proposed for Pasture



**Figure 5**  
**Proposed Forage Land Map**

# Viking Fur Inc. Properties Proposed for Forage



1:10,000



**Legend**

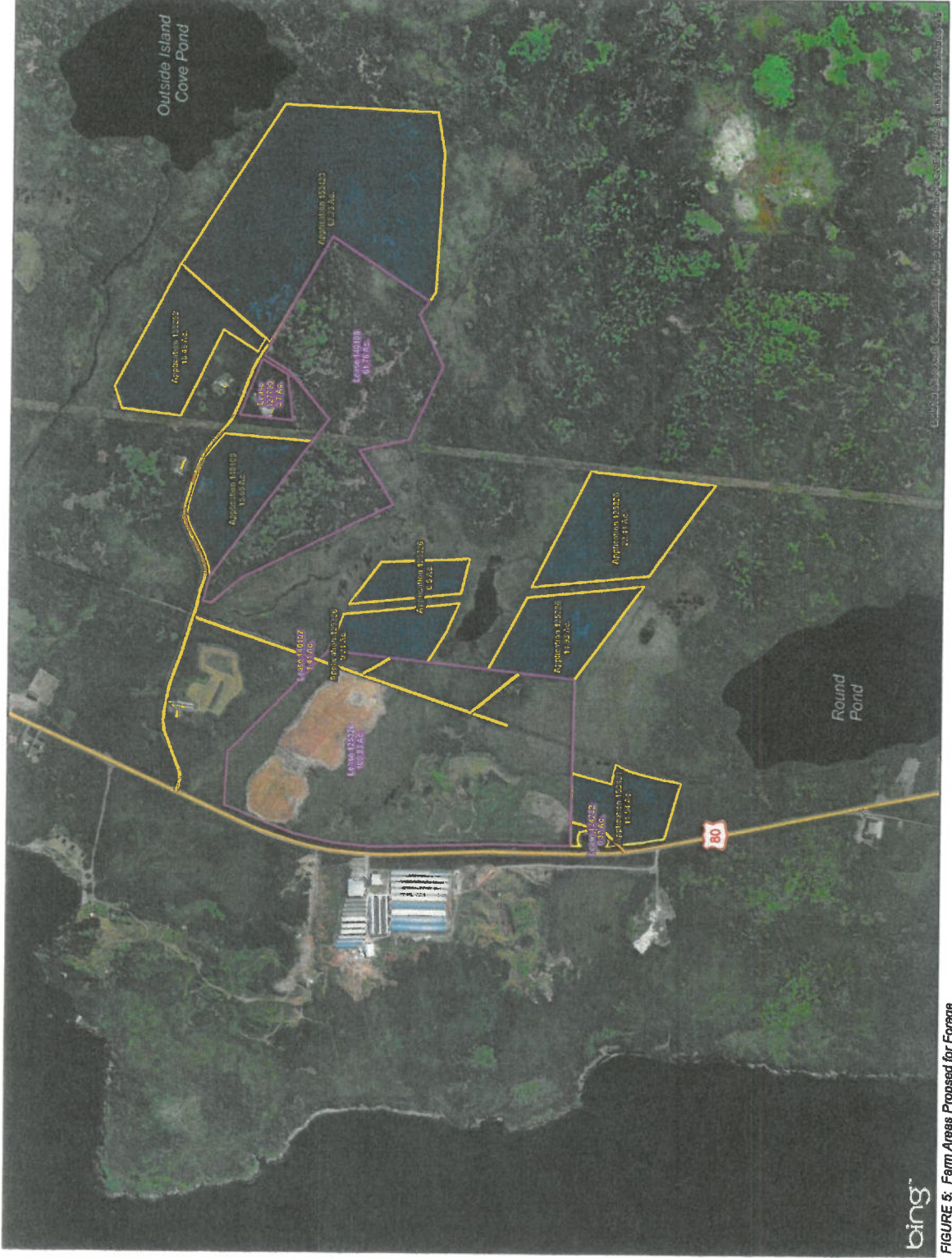
- Paved Road
- Unpaved Road
- Farm Access Road
- Lease Boundary
- Application Boundary

Area Conversion: 1 Ha = 2.47 Ac

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Department of Fisheries and Land Resources  
Agriculture and Lands Branch  
GIS and Mapping Services  
February 2019

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FIGURE 5: Farm Areas Proposed for Forage

**Figure 6**  
**Soil Suitability Map**

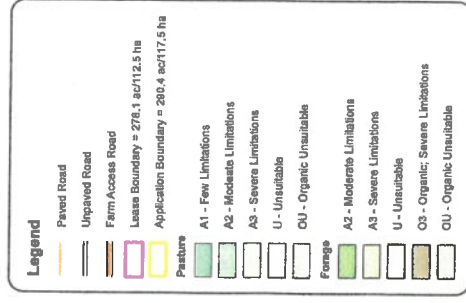


# Viking Fur Inc.

## Soil Suitability



1:10,000



Area Conversion: 1 Ha = 2.47 Ac

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Department of Fisheries and Land Resources  
Agriculture and Lands Branch  
GIS and Mapping Services  
February 2018

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FIGURE 6: Farm Areas Proposed Pasture & Forage Suitability

**Figure 7**  
**Farm Map of Viking Fur**



# Viking Fur Inc. Cavendish, NL



1:10,000



**Legend**

- Farm Access Road
- Paved Road
- Unpaved Road
- Lease Boundary = 278.1 ac/112.5 ha
- Lease ID Number
  - L-1 = 135226
  - L-2 = 138118
  - L-3 = 147191
  - L-4 = 138154
  - L-5 = 134292
  - L-6 = 140102
  - L-7 = 140106
  - L-8 = 127780
- Application Boundary = 280.4 ac/117.5 ha
- Application ID Number
  - A-1 = 147191
  - A-2 = 138154
  - A-3 = 140108
  - A-4 = 130252
  - A-5 = 153423
  - A-6 = 125326
  - A-7 = 153421

**Landuse**

- Barnyard = 14.18ac (5.7ha)
- Cleared Land = 106.50ac (43.1ha)
- Rock Area = 2.68ac (1.1ha)
- Tree Island = 2.23ac (0.9ha)
- Windrow = 2.70ac (1.1ha)

Area Conversion: 1 Ha = 2.47 Ac

**Designed for Illustrative Purposes Only**

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Agriculture and Lands Branch  
GIS and Mapping Services  
February 2019

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FIGURE 7: Or-Farm Map of Viking Fur Inc.

**Appendix A**  
**Farm Industry Review Board Report**  
**February 2015**

# Assessment of Farm Practices at Viking Fur Inc. Cavendish, NL

Presented To: Peter Noer and Erik Dalsager  
Owners, Viking Fur Inc.

Presented By: Farm Industry Review Board

February 27, 2015



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## INTRODUCTION

The following report has been prepared in response to a request from Viking Fur Inc. to have the Farm Industry Review Board carry out section 16 of the *Farm Practices Protection Act*.

The Farm Industry Review Board is a quasi-judicial appeal body with additional responsibilities for the general supervision of marketing boards operating in agricultural sectors. The mandate of the Board is set out in two statutes, one of which is the *Farm Practices Protection Act*. Under this Act, the Board is responsible for hearing complaints from persons aggrieved by odor, noise, dust or other disturbances arising from agriculture operations, and also for studying and reporting on farm practices. The Board is accountable to Government for its administrative operations, but is independent of government in its decision-making.

Viking Fur has sought out the Farm Industry Review Board to make a determination as to whether or not the farm is operating according to acceptable farm practices. Section 16 of the *Farm Practices Protection Act* states that:

- (1) A person may apply to the board for the designation of a farm practice as an acceptable farm practice under this Act.
- (2) Upon receipt of an application under subsection (1), the board shall require the applicant to publish notice of that application in the manner determined by the board.
- (3) The board shall recommend to the minister whether the farm practice, or any part of that farm practice is an acceptable farm practice, and the minister may designate that farm practice as an acceptable farm practice.

Under section 2 of the Act, an "acceptable farm practice" means a farm practice that is conducted in a prudent and proper manner that is consistent with:

- (i) accepted customs and standards followed by similar farm operations under similar circumstances,
- (ii) the farm practices guidelines prescribed by the minister, and
- (iii) a policy directive issued by the minister,

and includes the use of innovative technology in a manner consistent with acceptable farm practices.

In the preparation of this document, members of the Farm Industry Review Board travelled to Viking Fur to perform a visual inspection of the entire farm operation and property. This allowed members to see the extent and state of the operation, observe the management systems present on the farm, and ask any questions directly to the owners. Furthermore, the inspection served as a reference point for all subsequent discussions amongst members of the Board. In addition to the farm visit, all pertinent information was gathered to assist in making a determination. The following is a listing of the documentation used in the development of this report:

- Environmental Assessment (Cavendish (Long Pt.) Mink Fur Farm Expansion- Reg. 1275), Environmental Assessment Division, Government of Newfoundland and Labrador
- Environmental Certificate of Approval (No. A-WMS11-04-2010D), Government Service Centre, Government of Newfoundland and Labrador
  - Certificate of Approval Documentation, Viking Fur Inc.
- Environmental Farm Plan for Viking Fur Inc., Agrifoods Development Branch, Government of Newfoundland and Labrador
- Environmental Guidelines for Livestock Producers, Agrifoods Development Branch, Government of Newfoundland and Labrador
- Environmental Best Management Practices (BMPs) for Mink Production in Newfoundland and Labrador, Agrifoods Development Branch, Government of Newfoundland and Labrador
- Review of Waste Management Options for Fur Farming in Newfoundland and Labrador, School for Resource and Environmental Studies, Dalhousie University, Nova Scotia
- Fly Monitoring Program, Agrifoods Development Branch, Government of Newfoundland and Labrador
- Farm Inspection Reports, Government Service Centre, Government of Newfoundland and Labrador
- Overview of Environmental/Health Programs in Newfoundland and Labrador (Agriculture Related), Agrifoods Development Branch, Government of Newfoundland and Labrador

In order to assess the status of Viking Fur's farm practices, a thorough analysis of the above information was undertaken by the Farm Industry Review Board. The following sections of this report outline the agri-environmental requirements and recommendations for mink farmers in the province of Newfoundland and Labrador, and present the findings and opinions of the Farm Industry Review Board with regards to the current state of Viking Fur's agricultural practices.

#### **OVERVIEW OF VIKING FUR FARM OPERATION**

Viking Fur Inc. (Viking Fur) was incorporated in 2003 and began commercial mink farming operations in Cavendish, Newfoundland and Labrador in 2004 with the importation of bred female mink from Denmark. The owners of Viking Fur, Peter Noer and Erik Dalsager, came to the Province as part of a Collaborative Expansion Initiative. The Provincial Fur Strategy Working Committee, which consisted of several Government departments, consultants, industry representatives and funding agencies, was established to assist in the development and diversification of the fur industry, following increasing prices and demand for furs. Given the history and extent of the mink farming industry in Denmark, Government sought out expertise in the area to assist in the development local industry. As a result of this Initiative, Viking Fur and four other Danish proponents have established commercial operations in the Province.

The site, which was originally built and operated as a fur farm (fox/mink), currently houses 15,000 female breeders, and includes the following structures: 22 mink sheds, feed plant, cold storage facility, pelting shed, shavings shed, compost facility, manure separator, 2 liquid manure tanks, drainage system and septic field (Appendix B'). Since its inception, the owners have made major investments in several

areas including the addition of new mink sheds, waste management, drainage and septic systems, and development of a major feed kitchen operation with a cold storage capable of holding several million pounds of raw feed materials. A major component of mink feed includes fish offal, which is a by-product of the fishing industry, and thus abundantly available in the Province. In addition to fish, Viking Fur has an agreement in place with Country Ribbon Inc. which permits them to receive chicken waste to be used for mink feed.

Viking Fur currently employs an average of 45 permanent full-time employees and during peak season (mid-November to late December), employs approximately 85 people. The management team consists of the two owners and five managers, as well as five lead hands that are responsible for all daily activities and operations under the direction of the management team. Managers are dedicated to specific operations of the farm; they include a general manager, mink/farm manager, feed kitchen/compost/manure manager, maintenance manager and office manager.

The permitting requirements for Viking Fur and all agricultural enterprises in general, are considerable, with the involvement of three levels of Government, including several departments and agencies (Newfoundland and Labrador, Department of Natural Resources, 2009). The following report is particularly focused on the requirements and recommendations consistent with the Provincial Government, namely the Department of Environment and Conservation (Pollution Prevention and Environmental Assessment Divisions), Service NL (Government Service Centre), and the Department of Natural Resources via the Agrifoods Development Branch.

#### **ENVIRONMENTAL ASSESSMENT**

The *Environmental Protection Act* requires anyone who plans a project, which has the potential for significant impact on the natural, social or economic environment, to submit the project for examination. Under the *Environmental Protection Act* (the Act), SNL 2002 cE-14.2 and *Environmental Assessment Regulations*, 2003, all major projects must be registered. The purpose of the environmental assessment process is to ensure that projects proceed in an environmentally acceptable manner. The Department of Environment and Conservation's Environmental Assessment Division administers the process which includes: (i) consulting with interested government departments and public at every stage, (ii) evaluating submissions by proponents and reviewers, (iii) advising the Minister on potential environmental effects prior to decisions, and (iv) monitoring approved undertakings to ensure compliance and effectiveness of mitigation. Projects are released or rejected based on anticipated acceptable or unacceptable environmental effects respectively. Currently, the Minister for the Department of Environment and Conservation is requiring that all new or expanding mink operations undergo an environmental assessment. Furthermore, the Minister announces all events pertaining to environmental assessment in the Environmental Assessment Bulletin.

Viking Fur Inc. registered an undertaking in 2006, whereby the proponent proposed an expansion of the existing mink fur farm from 5,000 female breeders to 15,000 female breeders. The undertaking was released from further environmental assessment review subject to conditions (Newfoundland and Labrador, Department of Environment and Conservation, 2006). In particular, the farm was required to

submit proposals to the Department of Environment and Conservation that would put measures in place to reduce fly and odour problems, and monitor the effectiveness of those measures to reduce flies and odours to acceptable levels as defined by the Department of Environment and Conservation.

In response to the above conditions that were placed on the release of the Environmental Assessment, a Fly and Odour Control Program was submitted (Appendix B<sup>1</sup>). The framework of this Program was based around the *Environmental Best Management Practices (BMPs) for Mink Production in Newfoundland and Labrador*, a document which was undertaken in collaboration with the Province's fur industry. Viking Fur proposed many practices to be used on the farm to assist in the control of flies and odour. Above all, regular manure removal, particularly during warmer months, was foremost. Proper manure management also included regular spreading of manure on land, spreading of hydrated limestone underneath pens to deter infestation, scraping of false bottoms during post-whelping, tarping of manure piles during warmer months, and monitoring of manure build up during breeding and whelping. Another potential source of odour and flies, the feed kitchen, was to be washed down daily and disinfected once per week; all containers were to be cleaned immediately; and all containers used to store and transport feed were to be securely covered at all times to prevent fly intrusion. Products used to directly control flies included hydrated limestone, and registered pesticides, which were sprayed on the outside of the sheds and around the ground outside the sheds. Viking Fur also proposed that the on-farm composting of mink carcasses, bedding and manure be considered as an alternative to disposal, given that the results of the pilot project with the Agrifoods Development Branch were positive.

As part of the conditions, and to fulfill the monitoring requirement for the Department of Environment and Conservation, Viking Fur participated in a Fly Monitoring Program. The Fly Monitoring Program was prepared in conjunction with staff of the Department of Natural Resources' Agrifoods Development Branch to monitor fly abundance and activity on- and off-farm at three separate farm locations on the island. Program results show that the main fly species found on-farm was the lesser housefly. It was also found that weather/temperature and fly populations are directly related. Abundance of flies increased as temperature increased, and population increases began around mid-June and increased abundance in July with populations tending to spike in August and decrease during September and October. The temperatures spiked approximately one week prior to the fly outbreaks, indicating the presence of optimal fly breeding conditions, as a result of temperature, humidity, and potential food sources. This observation was provided to producers as a cue to the time of year when the use of Integrated Pest Management (IPM) due diligence is necessary (Madore and Madore, 2010).

Upon demonstration that the aforementioned conditions were satisfactory and accepted by the Department of Environment and Conservation, the project was released.

#### **ENVIRONMENTAL CERTIFICATE OF APPROVAL**

All waste management systems must receive prior environmental approval from the Government Service Centre, whether they are new construction or enlargement of existing facilities. Waste disposal facilities associated with farms are treated separately by the Government Service Centre. The application concerning waste management facilities associated with farms is pursuant to the

*Environmental Protection Act, SNL 2002 cE-14.2, Section 78, and requires information and plans specific to a farming operation. The main elements of the application include: manure containment/handling, carcass disposal, land base and fuel storage. Both the Government Service Centre and the Agrifoods Development Branch require that new or expanding operations obtain a ministerial Environmental Certificate of Approval before a farm with more than five animal units is permitted to operate. Through the Environmental Certificate of Approval process the Government Service Centre carries out environmental permitting and investigation of farm operations on behalf of the Department of Environment and Conservation; Environmental Protection Officers are required to complete one inspection of the operations per year, or as required.*

Viking Fur's most recent Environmental Certificate of Approval (No. A-WMS11-04-2010D), which was issued on April 17, 2014 has given approval for the operation of a mink farm, not to exceed 15,000 breeding females (100 animal units), and associated manure waste management system, subject to terms and conditions (Appendix A). The Approval for Viking Fur includes the conditions as well as additional documentation which as submitted to the Government Service Centre by Viking Fur (Appendix B'). The current Approval expires in three years, at which time a written request would have to be submitted to the Government Service Centre for renewal of the Approval, allowing the proponent to continue to operate.

Recent farm inspection reports, as carried out by the Government Service Centre's Environmental Protection Officer, and based on the current Environmental Certificate of Approval, determined that Viking Fur was complying with the terms and conditions set out in the Approval (Appendix C). Details of the terms and conditions within the Environmental Certificate of Approval are described and assessed in tandem with explanations of acceptable farming practices, in the proceeding sections.

#### **ENVIRONMENTAL FARM PLAN PROGRAM**

The Environmental Farm Plan (EFP) Program is an educational tool which is recognized as an integral component of the agricultural policy in Canada. The intent of the EFP process is to assist producers in completing an agri-environmental risk assessment and subsequent action plan in order to increase their knowledge and awareness of the risks and benefits associated with their farming operation, thus it is essentially a self-assessment. There are two components of an Environmental Farm Plan, the Environmental Farm Scan, and the Environmental Farm Plan which encompasses a workbook and action plan. The Scan provides an outline of the farm property/resources and an introduction of the EFP Program and workbook to the producer. The comprehensive workbook covers all facets of a farm operation: farmstead and homestead management, livestock operations, soil and crop, and ecological resources. Within these categories are specific questions that have the potential to affect the environment. Answers are based on a risk rating value which is entered into the action plan. Those items that are considered as environmental risks are addressed by proposing solutions to reduce their impact through the adoption of Beneficial Management Practices, which encompasses the action plan portion of the process. Altogether, the EFP is carried out through interactions with support personnel (EFP

Planner and Technician), technical experts (agricultural staff) and support materials (EFP workbook, reference materials, and factsheets).

The process is voluntary, however, environmental farm plans are required as part of the Growing Forward 2 Program for producers who are looking to gain access to funding for various operations on their farms under any one of the three Growing Forward 2 programs/priority areas.

Viking Fur's most recent Environmental Farm Plan, which was completed in 2011, did not have any significant issues, thus the results were satisfactory.

### ACCEPTABLE FARM PRACTICES

For the purposes of this report, acceptable farm practices for the Newfoundland and Labrador mink industry are derived from two sources: *Environmental Farm Practices Guidelines for Livestock Producers in Newfoundland and Labrador, 2001*, and *Environmental Best Management Practices (BMPs) for Mink Production in Newfoundland and Labrador, 2007*. The former deals mainly with agri-environmental management for livestock production in more general terms, while the latter focuses specifically on mink production, and the operational BMPs that reduce the risk of pollution and minimize the likelihood of nuisances, such as odours and flies for neighbors and farm workers. In addition to these two sources, 'acceptable farm practices' can be considered as those required to obtain a Fur Farm Operation Licence under the *Animal Health and Protection Act and Regulations*. This licence is issued upon annual inspection by the Agrifoods Development Branch, Department of Natural resources, and is aligned with the National Farm Animal Care Council's Code of Practice for the Care and Handling of Farmed Mink (National Farm Animal Care Council, 2013). Viking Fur's Fur Farm Operation Licence can be seen in Appendix D.

The *Environmental Farm Practices Guidelines for Livestock Producers in Newfoundland and Labrador, 2001* (the *Guidelines*) describe management systems and practices that reduce the risk of pollution to the environment. Their purpose is multi-faceted and serves to:

- assist livestock producers in their efforts to prevent pollution and minimize odour;
- provide a standard that may be used by industry and government in determining normal, acceptable farming practice;
- provide local governments with a basis for evaluation of livestock operations;
- provide information to the general public and government officials who evaluate livestock operations for their potential effects on the surrounding areas;
- explain farm practice to the general public with the objective of increasing the public's appreciation of the agriculture industry and an understanding of how farms operate; and
- act as a basis for evaluating compliance with the Provincial Environmental Certificate of Approval.

The *Guidelines* concentrate on more traditional livestock operations in Newfoundland and Labrador such as dairy, swine, poultry, sheep and horse, as these comprised the majority of the industry at the time of publication. The *Environmental Best Management Practices (BMPs) for Mink Production in*

*Newfoundland and Labrador, 2007* (the *BMPs*) were developed to supplement the *Guidelines*, given the rapid expansion of the mink industry in the Province, and the need for more detailed guidelines tailored to this commodity.

The following subsections which are considered part of the broader "Acceptable Farming Practices" section, cover the aspects of the *Guidelines* that are applicable to a mink operation, as well as the more recent *BMPs*. It should be noted that the descriptions are mostly generalized and based on more detailed information which can be found in the *Guidelines* (Newfoundland and Labrador, Department of Natural Resources, 2002) and *BMPs* documents (Appendix B<sup>1</sup>).

### ***Separation Distances***

In many cases, residential properties exist in close proximity to farms, which increases the likelihood of conflict between the two. The most effective means of avoiding such conflict is separation. Since most producers did not select the location of their farms, they did not have the opportunity to ensure that their operations met minimum separation distances from neighbours, water sources, public roads, or other public facilities. Relocation is not a feasible alternative for a farm operation; however, following prescribed management practices, such as those outlined in the material used in the development of this report, considerably reduces the risk of environmental degradation and dictate normal farming practice.

Minimum separation distance can be calculated using appendix D of the *Guidelines*. The recommendations for minimum separation distances between livestock operations and single residences, residential, recreational or public areas vary, and are based on the size and type of a farm, land use considerations and type of manure system. The concept of buffers between livestock operations and other land uses is an acceptable practice throughout the country; however, determining the appropriate widths is challenging, as it depends not only on the abovementioned, but many other uncontrollable factors specific to a particular site (climatic/topographic influences etc.). A separate review of separation distance standards across Canada and in other countries revealed that separation distances in this province are at least equivalent if not larger than other jurisdictions. Based on the recent review, it has been determined that a buffer of 1,400 metres be set for a mink farm with greater than 10,000 breeders such as Viking Fur.

In Newfoundland and Labrador, applications for crown land are referred by the Lands Branch to other Government departments or agencies who may have an interest or concern relating to the land being applied for. Generally, an application is only approved upon determination by all applicable regulatory authorities that the said development does not constitute a land use conflict. Similarly, this method can, and should be reciprocated, thus providing a recommended minimum separation distance between new or expanding non-agricultural developments and existing livestock facilities. Municipalities require permits for all types of development within their jurisdiction. A municipality may develop a municipality plan and corresponding development regulations whereby development can be directed, such that zoning may permit certain types of development. Otherwise, a municipality should make every effort to inform the proponent that they may be subject to farm operations within existing buffers.



Viking Fur took possession of an existing agricultural area in 2003, which was originally established as a fur farm in the late 1970's. Existing farms that were established without regulation under the authority of the *Environmental Protection Act, 2002*, are not subject to the interim rules governing minimum separation distances.

### ***Manure Management***

The elements of a manure management system include collection, storage, transfer and land application. Livestock manure can be classified as either solid, semi-solid or liquid, all of which make use of differing equipment and processes. Regardless of the type of manure being handled, it is important that the proper equipment is used and maintained to carry out its intended purpose. In terms of processes, the *Guidelines* propose several recommendations to reduce the risk of pollution, odours, flies and thus neighbor dissatisfaction. In particular, it is recommended that manure collection and transfer take place frequently; and that many practices be employed to ensure that buildings are kept dry and clean.

A manure storage system is an integral part of a farm operation. Consistent with the *Guidelines*, an adequate system should prevent runoff, protect groundwater and surface water, minimize odour and air pollution, provide sufficient manure storage until it can be safely applied to the land, and minimize nutrient losses during storage. Producers are advised to enlist the expertise of an agricultural engineer for complete design information. All manure storage systems must be assessed to ensure that they are environmentally sound, and that the facility meets the requirements under Provincial legislation. In order to minimize the potential for pollution, all manure storages are required to meet the minimum separation distances described in the *Guidelines* (Newfoundland and Labrador, Department of Natural Resources, 2002); furthermore, groundwater and soil conditions must be evaluated to ensure that the site is suitable for the type of storage that is planned.

Appendix 1 of the *BMPs* provides a table for determining the volume of manure produced by mink operations of various sizes (based on breeder number). A manure storage must provide adequate storage capacity for all manure removed from the mink sheds during the period when the ground is frozen and immediate land application is not an option (approx. a 6 month period). The appropriate capacity must account for many factors as described in the *Guidelines* (Newfoundland and Labrador, Department of Natural Resources, 2002). A minimum storage of 180 days is required by the Department of Environment and Conservation, although 200 days or more is recommended.

The method used for manure collection on Viking Fur's farm is currently in the process of being modernized. As is the case on most mink farms, manure at Viking Fur has traditionally been removed from the barns using shovels/prongs and motorized dump carts, and transported to storage bins where it was tarped and capped with clean wood chaff to prevent adult flies from laying eggs, and killing existing eggs in the pile. From storage, the composted manure was transported to land off-site for spreading.

Viking Fur is in the process of installing a total waste management collection and containment system. This system will consist of three primary components:

- 1) An in-barn collection system for mink wastes
- 2) A containment system for the mink wastes, and
- 3) A containment system for the composting of other farm wastes

It will function as an automated system, enabling mechanical manure collection and back flushing, which will keep conditions inside the sheds as clean and dry as possible. Once collected from the barn, the manure/fluid is channeled through a separator system that separates the solid matter from the liquid, and from there the liquid is pumped into the holding tanks, and the solids are transferred onto the concrete pad for composting. Manure removal from the sheds will occur every 1 to 3 days depending on the density of the mink per pen. Currently, all mink are housed in sheds containing the gutter system. All of the barns will be upgraded to include the automated gutter system by the time the farm is populated with kits. Based on female volume and litter size, the solid and liquid quantities produced are calculated at 9000 cubic metres annually (15,000 x 0.6 cubic metres). Thus, the calculation and subsequent recommendation provided by engineers to Viking Fur, based on needs and farm size, is 7000 cubic metres of storage. The two liquid manure tanks are of 3500 cubic metre capacity each, which is of sufficient size to safely store the liquid manure. This capacity will satisfy approximately nine months, and so exceeds the Provincial requirement.

The updated manure management system is highly efficient with little chance of environmental contamination throughout the various stages of collection, storage and transfer. The liquid manure tanks are constructed of concrete, which provides safe and secure containment. Furthermore, the system includes emergency shut off valves and safety mechanisms in the event of a spill. Excessively wet conditions are not conducive to fly breeding, thus the liquid manure storage will not support fly populations.

There are also guidelines for minimum separation distances between manure storages, watercourses and private wells (Newfoundland and Labrador, Department of Natural Resources, 2002). The Environmental Certificate of Approval application requires that a map be submitted which identifies the location of barns, watercourses, nearest residence, manure storage, water supply, pesticide storage, access road and main road, as well as distances between the following features:

- manure storage and watercourse(s)
- manure storage and nearest off-farm residence
- manure storage and public buildings
- manure storage and wells
- property boundaries of farm

These distances are received and examined through inspection by the Government Service Centre.

### ***Land Application of Manure***

Manure is a necessary by-product of the livestock industry. Since farm animals void most of the nitrogen, phosphorous and potassium that is present in their food, manure constitutes an enormous fertility resource. For this reason, manure on farms is viewed and managed as a resource rather than a

waste. As such, spreading manure on the land for crop production is a part of every livestock operation. Livestock manure can only pose environmental risk when mismanaged. In order to properly manage the resource, soil assay tests must be carried out before manure spreading is undertaken to ensure that the nutrients applied do not exceed the soil and crop requirements, thus entering the environment. These tests determine the proper rate for manure spreading so as to avoid soil and water pollution. The rate is a function of many variables, and requires a specific area of land on which to spread the manure. The *Guidelines* contain methods for calculating acceptable manure application rates and minimum land area required for manure applications.

Further to this, spreading of manure on land is regulated by the Government Service Centre under the *Sanitation Regulations* under the *Public Health Act*. Viking Fur's Environmental Certificate of Approval states that manure cannot be spread or stored within 30 metres of the nearest water body or watercourse, or within 90 meters of any well or public water supply.

The *BMPs* recommend that at least one acre of cleared farm land be available for spreading manure associated with one animal unit. Viking Fur currently accommodates 15,000 female breeders. On an annual basis, a 15,000 breeder female mink farm would produce approximately 75,000 kits. In terms of animal units, 150 mink (including 4 kits and 1 male) is equivalent to 1 animal unit (Table C.1 in the *Guidelines*). This translates into 100 animal units on Viking Fur farm, meaning that 100 acres would be the minimum land area required to spread the manure generated at Viking Fur.

Viking Fur has access to approximately 231 acres of leased agriculture land, 23 acres of which is cleared, and 24 acres of which is cleared/enhanced and prepared for forage crop production. Presently, Viking Fur spreads manure on fields other than their own via agreements with farmers outside of Viking Fur's property boundaries. The plan is to spread manure twice per year, and as part of the implementation of the liquid manure system, have purchased a tanker and manure spreader in order to transport and spread manure for crop production which is used as bedding for the mink.

### ***Carcass Disposal***

Similar to manure management, proper disposal of dead livestock is important for the protection of human and animal health, as well as the environment, and is effective for the control of flies and odour on mink farms. Currently, the only approved option for disposal of mink carcasses in Newfoundland and Labrador is composting on-farm since, as of 2008, the Department of Environment and Conservation has required that burial at waste disposal sites will not be permitted. Finished compost must be applied to existing agricultural land as a soil amendment, although when an alternate end use is identified for the compost, approval must be granted by the Department of Environment and Conservation in consultation with the Government Service Centre. Composting drastically reduces the negative environmental consequences associated with burying carcasses in landfills, as the properly finished compost product is odourless and biologically sound. Viking Fur's Environmental Certificate of Approval permits the composting of mink carcasses as per their Carcass Disposal Plan submitted to the Government Service Centre; this is the preferred means of disposal for the carcasses. The Carcass Disposal Plan submitted as part of the Environmental Certificate of Approval describes the specifics of

the composting process and provides details on each aspect of the procedure (Appendix B<sup>1</sup>). In addition to carcass composting, Viking Fur composts manure solids and other farm wastes, which are discussed in the next section.

### *Compost*

Compost is used as a soil conditioner, which when applied to the land adds organic matter, improves soil structure, reduces fertilizer requirements and reduces potential for soil erosion and pollution. The composting process converts nitrogen contained in the waste into a more stable organic form, which is less susceptible to leaching and ammonia losses, thus a properly managed composting operation lessens environmental risk and generates fewer odours and flies.

As stated in the Environmental Certificate of Approval, the proponent is permitted to spread manure or finished compost on land. The proponent is also permitted to compost carcasses and manure subject to the approval of a plan detailing the process of each item. The said Plan, approved by the Government Service Centre, involves details of the composting process being carried out on-farm including the design, analysis, storage, handling and end use (Appendix B<sup>1</sup>). The Approval also requires that specific separation distances between non-compatible uses be maintained from the compost facility.

A new composting containment building has been constructed at Viking Fur to provide full containment of all wastes produced on the farm (manure, carcasses/mortalities, leftover/spoiled feed, fish offal and regular farm waste). It consists of a concrete pad with a domed steel roof. The pad ensures water quality protection, while the roof keeps the compost dry, further reducing the risk for increased runoff from the compost piles. On-farm composting records are taken daily and kept on file for review by the Department of Environment and Conservation, to ensure that environmental risks and odour are minimized.

Compost product is only able to be moved from the compost facility to the land after the results from CCME tests are received and considered as satisfactory. Compost managed during the winter would be spread on fields in the spring, while compost managed during the summer would be used in the fall. Currently, Viking Fur has made arrangements, via agreements with other producers, to have their compost transported off-site to be used on lands other than those associated with Viking Fur.

The feedstock for the Viking Fur's compost consists of mink carcasses, bedding, mink manure (solids), leftover/spoiled feed, and fish offal, which is composted via the windrow system. This method has been successfully used on mink farms in several provinces, including Newfoundland and Labrador, and is considered to be the most effective.

Viking Fur's Environmental Certificate of Approval requires the compost to meet the Canadian Council of Ministers of the Environment (CCME) Guidelines for finished compost to be eligible for spreading, with laboratory analysis submitted to the Department of Environment and Conservation. In addition, it is required that minimum separation distances between the compost facility and various structures, wells and water bodies be maintained. Operations of the composting must be properly monitored and

recorded and kept on file for review by the Department of Environment and Conservation. In particular, windrow temperature, oxygen content, and moisture levels are to be checked on a daily basis.

Overall, the composting process is considered as a safe and effective option for producers, converting waste into a beneficial fertilizer and soil amendment, which ultimately results in on-farm recycling of nutrients and reduces the risk of environmental degradation. Furthermore, the conditions associated with compost are not supportive of fly breeding, and will not contribute to infestations.

### ***Fly and Odour Management***

The key to fly control is Integrated Pest Management (IPM). This method is an effective and environmentally sensitive approach to pest management that relies on a combination of methods used in tandem. In order to reproduce, flies require warm, high moisture environments that are high in organic matter, and thus areas beneath mink cages are ideally suited for fly reproduction. Eliminating the breeding site is the preferred method of controlling flies. The main issues which cause fly development include: poor water drainage, infrequent manure removal, excess water leakage from drinkers, excess wet food waste, and inadequate manure storage facilities. While there are many practices which will help to minimize fly infestations, the most effective means above all is to maintain dry conditions as much as possible. The *BMPs* describe several practices which apply to manure and waste management on mink farms which are not detailed in this report (Appendix B').

Environmental conditions and unforeseen circumstances can cause unexpected fly infestations beyond what preventative measures, such as those mentioned above, can control. Any use of pesticides or herbicides in this Province must be in accordance with the *Environmental Protection Act* and the *Pesticides Control Regulations*. Ensuring proper storage, handling and use of pesticides is important for minimizing threats to human health and the environment. The *Guidelines* and *BMPs* outline many practices for proper use of pesticides.

As set out in their Fly and Odour Control Program, Viking Fur utilizes the *BMP's* to assist in the control of flies and odour through an IPM program. Manure is managed in such a way that removal is as frequent as needed and spread on a bi-annual basis. As part of the total waste management and containment system, the new in-barn collection gutters will greatly reduce moisture and organic matter buildup beneath cages, creating unsuitable conditions for fly breeding and also reducing odours. In addition to the gutter, the liquid storage tanks and compost facility, will also contribute tremendously to reducing fly and odour issues. Similarly, the feed kitchen is washed and disinfected regularly, storage and transport containers are kept covered, and all waste water is disposed of through the septic system. A complete farm drainage system was recently installed to prevent standing water buildup around the farm premises, and where feasible, all areas on the farm property where the ground has been disturbed have been graded and re-vegetated to stabilize the land and prevent runoff.

## **DISCUSSION**

Section 16 of the *Farm Practices Protection Act* allows a person to apply to the Farm Industry Review Board for the designation of a farm practice as an 'acceptable farm practice'. In the case of Viking Fur,

local residents have expressed concern over Viking Fur's farm practices, and question whether the farm is implementing all of the necessary measures to control agri-environmental and nuisance issues on the farm. As a result, it has been requested by Viking Fur, that a determination be made as to whether or not the farm, overall, is operating according to acceptable farm practices, and that all farm practices be designated. In making a determination, the Farm Industry Review Board has considered all aspects of Viking Fur's farm operation and evaluated farm practices as per Government guidelines and requirements for producers. As stated previously, there are many permitting requirements which must be fulfilled by a producer who wishes to operate a commercial farm. For the purposes of this report, the permits of concern serve to ensure that environment and health interests are protected.

Acceptable farm practices are those which are documented in the *Environmental Guidelines for Livestock Producers in Newfoundland and Labrador (the Guidelines)* and the *Environmental Best Management Practices (BMPs) for Mink Production in Newfoundland and Labrador (the BMPs)*. While these documents alone are considered as recommendations for the agriculture industry, they form the basis for all regulatory administration required by commercial producers and contain information which is centered on science-based customs and standards followed by similar farm operations under similar circumstances. The Department of Environment and Conservation governs the *Environmental Protection Act*, which provides the Minister legal authority to require that persons responsible prevent or correct adverse environmental effects. This is achieved primarily by means of enforcement through inspections, monitoring and reporting (which in this case involves the Environmental Certificate of Approval), and approvals of undertakings through the environmental assessment process. The Government Service Centre carries out on-farm inspections on behalf of the Minister of Environment, and the Department of Environment and Conservation carries out the environmental assessment process. The Agrifoods Development Branch provides technical and professional support, and develops best management practices and environmental guidelines for the agriculture industry. The Branch releases the Environmental Certificate of Approval, reviews and provides comments to all agriculture-related environmental assessments.

In taking possession of the original fur farm, the Government Service Centre and the Agrifoods Development Branch required Viking Fur to complete an Environmental Certificate of Approval, which allowed them to operate under specific conditions that dictate the most appropriate means of managing agri-environmental hazards. Upon expansion of the operation, an updated Approval was required to reflect the changes to the farm, and was also subject to numerous terms and conditions, including detailed plans regarding the management of manure, carcasses, flies, and odour, as well as maps of manure spreading. Recent farm inspection reports prepared by the Government Service Centre were satisfactory with no deficiencies; reporting good site conditions, manure management and composting techniques, as well as record keeping, noting that the farm was abiding by the terms and conditions set out in the Environmental Certificate of Approval (Appendix C). It should also be noted that failure to comply with any of the terms and conditions in any Environmental Certificate of Approval may render the Approval null and void, may require the proponent to cease all activities, may place the proponent in violation of the *Environmental Protection Act*, and will make the proponent responsible for taking

remedial measures as prescribed by the Department of Environment and Conservation. Furthermore, the Department reserves the right to modify or revoke the Approval at any time.

The proposal to expand the operation also required registration with the Department of Environment and Conservation for examination as per the environmental assessment process. The registration document submitted by Viking Fur, which outlined the bio-physical and socio-economic implications of the proposed project, was released from further assessment pending additional assurances. In particular, the Department has requested that measures be established to 1) reduce fly and odour issues, and 2) monitor the effectiveness of those measures. In response to these requests, Viking Fur submitted a Fly and Odour Control Program, as well as a Fly Monitoring Program. The Fly and Odour Program submitted, was developed in accordance with the *Environmental Best Management Practices (BMPs) for Mink Production in Newfoundland and Labrador*, and tailored to the specific circumstances of Viking Fur. The Fly Monitoring Program was prepared in conjunction with the Agrifoods Development Branch, Department of Natural Resources, by way of a scientific study. The results of the study, together with the abovementioned *BMPs*, formed the basis of the Program. Upon review of the information submitted, the project was released, and Viking Fur was permitted to proceed with the project, subject to the conditions indicated in the registration.

In regard to the best management practices and guidelines prescribed in the documents, there are many farm practices taking place at Viking Fur which must be considered, including separation distances, manure management, land application of manure, carcass disposal, composting, and fly and odour management. An evaluation and determination regarding each of these farm practices is outlined below.

Viking Fur took possession of a parcel of land which was originally issued as an agricultural lease for the operation of a fur farm. It is not subject to the current minimum separation distances, as the farm was established before legislation came into effect; however, any development that has occurred since Viking Fur has occupied the land has been assessed by the Government Service Centre, and, based on the *Guidelines*, these separation distances have been determined to be satisfactory if not conservative.

It is recommended that a manure management system be designed and installed by an engineer, such that it functions adequately and meets applicable legislation concerning environmental protection. The conventional and accepted method of manure management for a mink operation consists of collection and removal of manure via shovel and wheelbarrow/motorized cart, and subsequent transfer to manure storage bins to be composted. This method of manure management requires intensive removal from the sheds to minimize buildup beneath cages, and inhibit conditions that promote odours and fly production. This is the means by which manure was previously handled at Viking Fur. Currently, installation of a total waste management system is nearing completion. This system involves automated, mechanical manure collection, which is vacuumed through an in-ground piping system to a separator where solid and liquid components are separated and then transferred to storage. Altogether, the total waste management system includes an in-barn collection system, and containment systems for liquid manure, as well as compost for solid manure and other farm wastes. The complete

process is extremely efficient, minimizing any environmental risk, and also creating unfavorable conditions for flies. The system is beyond what is minimally required of a mink producer.

Manure is a valuable source of nutrients and organic matter for soil. As such, every livestock operation makes use of this resource by spreading on available land as fertilizer for crop production, effectively recycling nutrients on-farm. The value of manure as a fertilizer depends on the quantity and form of nutrients present when it is applied to land. The amount of manure produced on a mink farm is relatively small compared to other conventional livestock operations. Also, contrary to general belief, mink manure does not pose greater environmental risk when compared to other livestock manures. It is, however, relatively high in nutrients, making it a rich fertilizer for soil. All manures have differing nutrient levels; a laboratory manure analysis can determine the nutrient content of a particular farm's manure. In conjunction with the manure analysis, manure application rates based on soil characteristics, and nutrient requirements of the crop to be grown, is a process referred to as a nutrient management plan. This is the most accurate means of determining land application rates.

Currently, Viking Fur has agreements in place with other producers for spreading manure on their land. While this arrangement has been sufficient to date, it is tentative. A permanent solution would require that Viking Fur make use of the available acreage of agricultural land issued to them. As stated previously, the *Guidelines* recommend that Viking Fur have access to a minimum of 100 acres of suitable land for spreading manure.

Viking Fur is permitted to compost carcasses and spread on land as per the detailed Carcass Disposal Plan submitted with the Environmental Certificate of Approval (Appendix B<sup>1</sup>). The compost must meet the Canadian Council of Ministers of the Environment (CCME) Guidelines for finished compost and be submitted to the Department of Environment and Conservation to be eligible for spreading. The composting process itself is very technical. For quality assurance/quality control purposes, there is a manager who supervises the composting procedure. Viking Fur's compost containment facility has also been modernized, consisting of an impermeable concrete pad with a domed steel roof. This type of compost facility is considered as state of the art. In addition to mink carcasses, all other wastes generated on-farm, aside from the liquid manure portion, are composted in the compost containment facility. The facility is subject to minimum separation distances and monitoring/reporting requirements as outlined in the Environmental Certificate of Approval, all of which are being adhered to.

The Fly and Odour Control Program submitted to and approved by the Department of Environment and Conservation, is a comprehensive plan based around the *Guidelines and BMPs* documents. As stated previously, an Integrated Pest Management program is the most effective means of control which makes use of a combination of methods of pest control. Viking Fur has worked closely with the Department of Natural Resources and Agriculture and Agri-food Canada to develop farm-specific management practices for the control of flies and odour. They also invested considerable financial resources in many aspects of the farm including, a total waste management system and associated equipment, septic system, drainage system, and compost containment facility, all of which will significantly improve agri-environmental circumstances of the farm operation.



## CONCLUSION

The fur industry in Newfoundland and Labrador, notably mink, has expanded substantially in recent years in order to capitalize on the growing global demand for mink furs. Today there are approximately 20 ranches that produce such furbearers as mink, silver fox and lynx. In Newfoundland and Labrador mink farms are responsible for the creation of approximately 400 full- and part-time jobs. Fur farming is the third largest contributor to farm cash receipts behind chicken and dairy supply-managed industries. In 2012, there were 241,900 mink pelts produced with a total farm value of \$21,231,000. This province is ideally suited to mink farming, given that it has the appropriate climate, adequate land base, and available workforce. Furthermore, there is an abundance of available mink feed because of by-products generated from the chicken and fishing industries.

While the economic benefits of the mink industry to this Province are apparent, like all other industries, this is a sustainable development issue, and as such, these operations must also consider broader social and environmental implications. Government requirements and recommendations for the industry, which are referenced throughout this report, serve to guide development in such a way that the principles of sustainable development are considered.

It is the opinion of the Farm Industry Review Board that Viking Fur is an advanced and professionally-managed operation, which is progressive in improving farm structures and management systems. The operation itself is quite elaborate, involving many staff who are responsible for a diverse set of farm practices throughout the year. Site visits and monitoring on- and off-farm by Governments departments have been extensive in recent years, in order to closely observe the carrying out of regular farm practices. In terms of legislative requirements, Viking Fur has satisfied and fulfilled both the environmental assessment and environmental certificate of approval processes, which encompass detailed terms and conditions for protection of the environment. Furthermore, the Farm Industry Review Board feels that Viking Fur farm practices are compatible with the *Guidelines* and *BMPs* documents prescribed by the Department of Natural Resources, Agrifoods Development Branch. All things considered, Viking Fur is implementing sound manure, carcass and waste management practices, which are complemented by the construction of non-traditional and highly-efficient systems including a manure storage, compost facility and drainage/septic systems that are above standard. In time, these new additions will help to alleviate nuisance fly and odour issues and improve environmental circumstances on- and off-farm. It is important for the general public to understand that flies and odour are a reality on commercial livestock farms, and cannot be completely eliminated; however, the evolution of measures being taken by Viking Fur is a demonstration of their determination to remedy neighbor dissatisfaction.

After thoroughly examining all of the necessary information, the Farm Industry Review Board has determined that Viking Fur is in compliance with applicable Provincial regulations and guidelines, and is exercising due diligence with regards to all farm practices.

However, two areas of concern for the Farm Industry Review Board are the issues of available land base, and the proper application of liquid manure to this land. It is therefore recommended that Viking Fur develop a minimum of 100 acres of land on their own farm, for the spreading of liquid manure. In addition to this, Viking Fur should undertake a nutrient management plan in order to maximize the benefit of on-farm nutrients available from the liquid manure in a way that minimizes potential loss of nutrients from target application sites, thus reducing environmental risks.

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<sup>i</sup> Refer to the Table of Contents within the "Certificate of Approval Renewal Documentation 2014" for the specific section which is associated with this reference.

## REFERENCES

- Department of Environment and Conservation. (Government of Newfoundland and Labrador, 2006). *Registration Pursuant to Section 49 of the Environmental Protection Act. Cavendish (Long pt.) Mink Fur Farm Expansion- Reg. 1275*. Environmental Assessment Division. Retrieved from: [http://www.env.gov.nl.ca/env/env\\_assessment/projects/Y2006/1275/index.html](http://www.env.gov.nl.ca/env/env_assessment/projects/Y2006/1275/index.html)
- Department of Natural Resources. (Government of Newfoundland and Labrador, 2002). *Environmental Guidelines for Livestock Producers*. Agrifoods Development Branch. Retrieved from: [http://www.nr.gov.nl.ca/nr/agrifoods/land\\_resources/envseries/fs\\_livestock.pdf](http://www.nr.gov.nl.ca/nr/agrifoods/land_resources/envseries/fs_livestock.pdf)
- Department of Natural Resources. (Government of Newfoundland and Labrador, 2009). *Overview of Environmental/Health Programs in Newfoundland and Labrador (Agriculture Related)*. Agrifoods Development Branch. Retrieved from: [http://www.nr.gov.nl.ca/nr/agrifoods/land\\_resources/land\\_use/overview\\_environmental\\_health\\_program.pdf](http://www.nr.gov.nl.ca/nr/agrifoods/land_resources/land_use/overview_environmental_health_program.pdf)
- Madore, L. and Madore, A. Department of Natural Resources . (Government of Newfoundland and Labrador, 2010). *Fly Monitoring Program, Final Report*. Agrifoods Development Branch. Retrieved from: [http://www.nr.gov.nl.ca/nr/agrifoods/research/2010\\_fly\\_monitoring\\_program\\_final.pdf](http://www.nr.gov.nl.ca/nr/agrifoods/research/2010_fly_monitoring_program_final.pdf)
- National Farm Animal Care Council. (2013). *Code of Practice for the Care and Handling of Farmed Mink*. Canada. Retrieved from: [https://www.nfacc.ca/pdfs/codes/mink\\_code\\_of\\_practice.pdf](https://www.nfacc.ca/pdfs/codes/mink_code_of_practice.pdf)
- van der Marel, R.C., Pickthorn, K.E., and Duinker, P.N. (2008). *Review of Waste Management Options for Fur Farming in Newfoundland and Labrador, Final Report*. School for Resource and Environmental Studies. Dalhousie University, Halifax, Nova Scotia. Prepared for the Centre of Environmental Excellence, Sir Wilfred Grenfell College, Memorial University of Newfoundland, and the Agrifoods Development Branch, Department of Natural Resources, Government of Newfoundland and Labrador. Retrieved from: [http://www.fur.ca/files/nl\\_report\\_mar10.pdf](http://www.fur.ca/files/nl_report_mar10.pdf)

**Appendix B**  
**Land Use Tables**

**LAND USE TABLES VIKING FUR INC.**

Lease ID No.	EXISTING APP NO.	TITLE HOLDER	LEASE AREA (HECTARES)	LEASE AREA (ACRES)	LEASE LOCATION	LEASE USE	LEASE CLEARED (HECTARES)	LEASE CLEARED (ACRES)
L-1	12526	VIKING FUR INC.	59.14	146.14	CAVENDISH	PASTURE/ FORAGE/BARNS	4.55/12.66/5.74	11.25/31.3/14.18
L-2	12918	VIKING FUR INC.	2.72	6.73	CAVENDISH	PASTURE	1.74	4.3
L-3	147191	VIKING FUR INC.	17.49	43.47	CAVENDISH	PASTURE	7	18
L-4	138154	VIKING FUR INC.	5.379	13.29	CAVENDISH	PASTURE	0	0
L-5	134202	VIKING FUR INC.	0.13	0.32	ROAD	ROAD		
L-6	140107	VIKING FUR INC.	0.57	1.41	CAVENDISH	ROAD		
L-7	140108	VIKING FUR INC.	25.00	61.77	CAVENDISH	FORAGE	15	38
L-8	127790	VIKING FUR INC.	1.72	4.25	CAVENDISH	FORAGE	1.5	3.7
<b>TOTAL</b>			112.148	277.38			43	106.47

Application ID No.	NEW APP NO.	APPLICANT	AREA APPLIED (HECTARES)	AREA APPLIED (ACRES)	AREA SUITABLE (HECTARES)	AREA SUITABLE (ACRES)	PURPOSE	LAND USE
A-1	147191	VIKING FUR INC.	21.16	52.3	10.59	26.17	Ext. to existing Lease	Pasture
A-2	138154	VIKING FUR INC.	29.02	71.71	16.94	41.86	Ext. to existing Lease	Pasture
A-7	153421	VIKING FUR INC.	4.67	11.54	2.2	5.3	Lease	Forage
A-6	125326	VIKING FUR INC.	21.47	53.05	8.06	19.78	Ext. to existing Lease	Forage
A-3	140108	VIKING FUR INC.	6.33	15.65	5.34	13.19	Ext. to existing lease	Forage
A-4	130252	VIKING FUR INC.	7.47	18.46	3.42	8.45	Lease	Forage
A-5	153423	VIKING FUR INC.	27.41	67.73	22	54	Lease	Forage
<b>TOTAL</b>			117.53	290.44	68.55	168.75		



**LAND USE TABLES VIKING FUR INC.**

ID No.	LAND PROPOSAL FOR PASTURE			Priority No.
	APPLICATION NO.	ACRES	PROPOSED USE	
L-3	147191	18	existing lease/ previously used for forage	N/A
L-1	125326	11.25	existing lease previously used for forage	N/A
L-2	129118	4.3	existing lease previously used for forage	N/A
L-4	138154	6.4	existing lease previously used for xmas trees	2
A-1	147191	26.17	ext. to lease application for pasture	4
A-2	138154	41.86	ext. to lease application for pasture	3
L-3/L-1	147191/125326	42	new land to be cleared in existing leases	1
<b>TOTAL</b>		<b>150</b>		

ID No.	LAND PROPOSAL FOR FORAGE			Priority No.
	APPLICATION NO.	ACRES	PROPOSED USE	
L-1	125326	27.5	existing lease used for forage	N/A
L-8	127790	3.7	existing lease for forage (requires enhancement)	N/A
L-7	140108	38	existing lease used for forage	N/A
A-7	153421	5.3	application for forage	4
A-6	125326	19.78	application for forage	5
A-3	140108	13.19	application for forage	1
A-4	130252	8.45	application for forage	3
A-5	153423	54	application for forage	2
<b>TOTAL</b>		<b>170</b>	<b>Land &gt;150 acres to ensure minimum amount approved by CI</b>	