

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

**NAME OF UNDERTAKING:**                      **Expansion of existing farm to construct  
new cold storage and develop additional  
land for future farm needs.**

**PROPONENT:**

- (i)    *Name of Incorporate Body:*    **Viking Fur Inc.**
- (ii)   *Address:*                              **160 Main Road  
Cavendish, NL  
A0B 1J0**
- (iii)   *President and Vice President:* **Mr. 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:*                              **Renee Gilbert              Peter Noer  
160 Main Road              160 Main Road  
Cavendish, NL              Cavendish, NL  
A0B 1J0                              A0B 1J0  
709-588-2820                  709-588-2820**
- (v)    *Date:*                                      **July 12, 2017**

## **THE UNDERTAKING:**

### **(i) *Nature of the Undertaking:***

Viking Fur Inc. has been in operation since 2004. The farm currently houses 15,000 female mink breeders, with 21 sheds, feed kitchen and cold storage facility, pelting shed, barn, shaving shed, storage shed, composting building, and a liquid manure system comprised of 2 large storage tanks, a separator and piping system.

Viking Fur Inc. has plans to construct a new cold storage adjacent to the existing one to provide sufficient storage space onsite. Viking Fur Inc. also plans to develop additional land to meet the land application of manure requirements of the “Environmental Guidelines for Livestock Producers” and for pasture and forage production.

The farm has purchased eleven cows and one bull which will contribute to the availability of locally-raised beef in the province.

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

Viking Fur Inc. has continued to grow and expand over the past few years. With the addition of a liquid manure system, an adequate land base is needed to spread the liquid manure produced by the farm. The farm currently requires 150 acres of cleared and suitable agricultural land in order to utilize this manure. We currently have approximately 73 acres of cleared and developed agricultural land suitable for forage. *See Appendix A for map of current leases.*

With the addition of cattle to the business, the farm requires an additional 150 acres for pasture and forage land. Therefore, a total of 300 acres of developed land suitable for forage production is needed. According to a Farm Industry Review Board report completed in February 2015, Viking Fur Inc. is required to develop additional land to meet the needs of the farm. *See Appendix B for report.*

The growth experienced within the business has also led to the requirement of additional cold storage space for feed ingredients and complete feed. Viking Fur Inc. has utilized all available space in the current cold storage, and has exhausted all options within the province to rent additional space. The farm must accept product when it is readily available in order to ensure the mink are fed a balanced diet formulated from fresh, high quality ingredients to ensure good animal health and welfare. Fish offal, chicken offal and other products are often available; however, with space currently limited, it is not always possible to accept

these products. As a result, this leads to offal not being utilized for feed and instead becoming waste product.

Viking Fur Inc. has expanded into beef production with the introduction of eleven cows and one bull to the farm. In the spring of 2017, five calves were born. All beef cattle are pastured at Viking Fur Inc. In 2018, the farm anticipates expanding the herd size to 20-30 cattle and will require additional pasture land to ensure animal welfare. Approximately 1.5 acres/animal of good quality pasture will be needed to provide cattle with sufficient feed to meet their nutritional requirements. In addition to the need for quality pasture land, the farm will also require sufficient land to harvest forage for winter feed. We anticipate expanding to approximately 50 cows and 45-50 calves grazing yearly in addition to bulls for breeding stock; therefore, we will be applying for additional agricultural land for development to meet this need. This land will be cleared, seeded and developed into pasture for grazing and forage production.

Viking Fur Inc. has the appropriate equipment to develop and harvest forage fields. A suitable shelter for beef cattle will need to be constructed. For information on the beef breed, Belted Galloway, please refer to: [www.thatsfarming.com>news>belted-galloway](http://www.thatsfarming.com/news/belted-galloway).

## **DESCRIPTION OF UNDERTAKING:**

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

Viking Fur Inc. is located on Route 80 within the boundaries of Cavendish, NL. The farm consists of approximately 160 acres of leased agriculture land with 73 acres currently cleared and in production. Of the remaining 87 acres, only some will be suitable for agricultural production. A topographic and aerial map can be viewed in Appendix A for identification purposes. The aerial map shows highlighted in Pink the boundaries of Viking Fur Inc. existing leases. Next to the farm location on this map is a black square identifying the location of the new cold storage, which is being constructed on privately owned land belonging to Viking Fur Inc.

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

#### Cold Storage Facility:

The proposed cold storage facility will be constructed on 2.29 hectares of privately owned land with soil characteristics consisting of a loamy texture, exceedingly stony and with a slope of 1-9%. The facility will be approximately 180 ft. X 100 ft. and will be constructed by the most competitive bidder. This facility will be used to hold feed products until

ready for use. The existing cold storage has exceeded its maximum capacity and there is a shortage of additional available storage in the province.

The facility will contain:

- 2 freezer rooms for freezing feed and feed ingredients
- Compressor room
- Electrical room
- Washrooms

Cattle:

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.

Cattle will be pasture raised on A3 soils suitable for pasture and forage production. Approximately 73 acres are cleared and are currently used for pasture and forage production. Continued land clearing is required and will involve tree removal, rough clearing, and soil enhancement (rock clearing, lime application, fertilization by liquid manure, and seeding).

*(iii) Construction:*

Construction of the cold storage facility is proposed to commence in 2017. The building will consist of a wooden structure with metal roof and siding, and concrete foundation.

During the construction stage, minimal pollutants will be produced as only standard building supplies, tools and equipment will be used. All building material waste will be taken to a provincially-approved disposal site.

The proposed cold storage construction will take approximately 8 months to complete. This facility will provide ample space in the future to store feed ingredients used in mink feed production and to ensure that mink receive the highest quality feed for optimal health.

Development of land for forage will be carried out as weather and time permits. This land will be cleared, seeded and developed into pasture for grazing and forage production. Land will be enhanced with limestone and treated with liquid manure according to soil testing results to add required soil nutrients. This product contains no added chemicals and is an environmentally-conscious initiative as all waste is utilized and incorporated into the land. Forage requires this fertilization in the spring

and after first cut when plants require additional nutrients. Forage production will continue throughout the year and will be cultivated for bedding for mink and winter feed for cattle.

Construction of a three-sided structure suitable for protection from adverse weather conditions for cattle is required as per the *Code of Practice for the Care and Handling of Beef Cattle* and will commence in 2017-2018.

(iv) ***Operations:***

Fur farming operations proceed as follows:

- The breeding season for mink commences in early March.
- Whelping begins approximately April 20<sup>th</sup>. The females have an average of 4-6 kits per litter.
- Weaning (separating the young from the dams) begins at 6-8 weeks of age. This will begin late June to early July.
- Kits are vaccinated at 10-12 weeks of age.
- Growth and furring takes place from August to the harvest period.
- Before pelting, grading is done to select additional or replacement breeding stock.
- Pelting begins in late November and continues into early December.

Additional information can be found at: <http://furfarming.ca/>

Beef cattle farming operations are 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 fed forage and grain.

(a) **Pollutants:**

There are no bodies of water on the farm, and the ocean is approximately 1 km away. The nearest neighbor is approximately 1.5 -2 km away. The local Cavendish dump site is located on the upper side of the farm site. The farm consists of approximately 160 acres of leased agriculture land with 73 acres currently cleared and in production. Of the remaining 87 acres, only some will be suitable for agricultural production.

(b) **Waste Collection:**

With the installation of the liquid manure system, the farm is now collecting all mink manure and urine in gutters. The waste is

mechanically transferred to a separator where solid waste is separated from liquid, and all liquid is then transferred to the holding tanks until a suitable time to spread on the land. All larger organic material is composted on-site. Waste water from the feed kitchen and all grey water goes into the septic system.

Manure collected in the shelter over the winter months will be transferred to the compost once per year. Management of the pasture will include rotational grazing and yearly use of the chain harrow.

(c) **Land Application:**

A total of 150 female mink (plus associated kits and males) is equal to 1 animal unit. The “Environmental Guidelines for Livestock Producers” recommends one acre per animal unit for manure spreading. As such, for a 15,000 female mink farm, the recommended minimum acreage for manure spreading would be 150 acres, and for a 100 cow/calf beef herd, the recommended minimum acreage for manure spreading would be 50 acres. Viking Fur Inc. currently has approximately 73 acres of land cleared and suitable for manure application.

(v) ***Occupations:***

The proposed project will require contracts to be given to several local businesses and hiring of at least 3 additional labourers (NOC 7611) for construction and maintain an additional 2 labourers (NOC 8431) for additional work generated by the addition of cattle and the new cold storage operation.

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

Appendix A: Map of Viking Fur Inc land  
Appendix B: copy of Farm Industry Review Board Report, Feb. 2015  
Applications to be expanded are:  
147191  
125326  
140108

(vii) ***Approval of Undertaking:***

- Crown Land Leases currently held by Viking Fur Inc. are:  
125326            140108  
147191            127790  
129118            140107

134202

- Environmental Farm Plan; Department of Fisheries and Land Resources
- Environmental Certificate of Approval; Department of Municipal Affairs and Environment
- Commercial Cutting Permit; Department of Fisheries and Land Resources
- Fur Farm Operation Licence; Department of Fisheries and Land Resources
- Valid Pesticide Applicators Licenses; Department of Municipal Affairs and Environment
- First Aid Certification
- Forklift Operators Certification
- WHMIS

(viii) ***Funding:***

Atlantic Canadian Opportunities Agency  
Business Development Bank of Canada  
Department of Tourism, Culture, Industry and Innovation  
Company Investment – Viking Fur Inc.

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Date

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Signature of Chief Executive Officer


## **Appendix A**

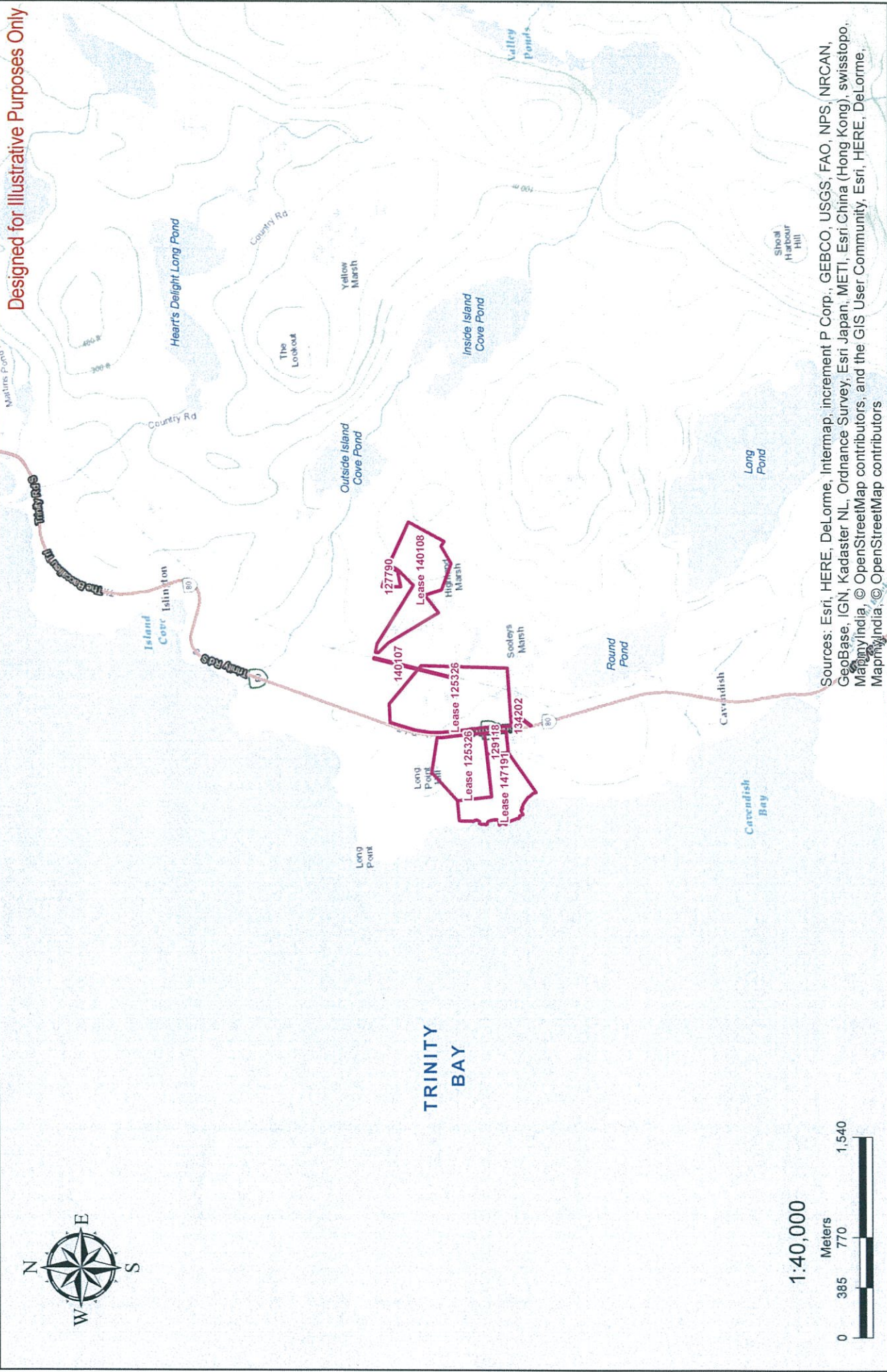


# Viking Fur Inc. Cavendish, NL

Department of Fisheries and Land Resources  
Agriculture and Lands Branch  
GIS and Mapping Services  
August 2017

## Legend

 Lease Boundary



Designed for Illustrative Purposes Only

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, Mapbox India, © OpenStreetMap contributors, and the GIS User Community, Esri, HERE, DeLorme, Mapbox India, © OpenStreetMap contributors



# Viking Fur Inc. Cavendish, NL



1:10,000



## Legend

- Farm Road
- Paved Road
- Unpaved Road
- Viking Fur Boundary = 264.7ac/107ha

## Landuse

- Barnyard = 14.18ac (5.7ha)
- Cleared Land = 38.23ac (15.47ha)
- Rock Areas = 2.35ac (0.95ha)
- Tree Island = 0.21ac (0.09ha)
- Windrow = 2.08ac (0.84ha)

**Cold Storage Location**  
  
**Measure Tanks**  
 Area Conversion: 1 Ha = 2.47 AC

**Designed for Illustrative Purposes Only**

Department of Fisheries and Land Resources  
 Agriculture and Lands Branch  
 GIS and Mapping Services  
 August 2017

File Location: M:\CRBA\Share\Agriculture\GIS\GISLand Management\Farms\Farm Maps\Viking Fur Inc\_Aug2017.mxd



## **Appendix B**

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

## TABLE OF CONTENTS

INTRODUCTION .....	3
OVERVIEW OF VIKING FUR FARM OPERATION .....	4
ENVIRONMENTAL ASSESSMENT .....	5
ENVIRONMENTAL CERTIFICATE OF APPROVAL.....	6
ENVIRONMENTAL FARM PLAN PROGRAM .....	7
ACCEPTABLE FARM PRACTICES .....	8
<i>Separation Distances</i> .....	9
<i>Manure Management</i> .....	10
<i>Land Application of Manure</i> .....	11
<i>Carcass Disposal</i> .....	12
<i>Compost</i> .....	13
<i>Fly and Odour Management</i> .....	14
DISCUSSION.....	14
CONCLUSION .....	18
REFERENCES .....	20
APPENDICES	
Appendix A- Environmental Certificate of Approval (No. A-WMS11-04-2010D)	
Appendix B- Certificate of Approval Documentation 2014	
Appendix C- Farm Inspection Report 2014 Farm Inspection Report 2015	
Appendix D- Fur Farm Operation Licence	



## 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<sup>1</sup>). 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<sup>1</sup>). 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<sup>i</sup>).

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 and 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.

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