

SUMMARY OF COMMENTS/RECOMMENDATIONS

PROPONENT: Sun Gro Horticulture Canada Ltd.
PROPOSAL NAME: Evergreen Bog Peat Harvesting
CLASS OF DEVELOPMENT: 2
TYPE OF DEVELOPMENT: Mines
CLIENT FILE NO.: 628.10

As part of the [environmental assessment and licensing process](#), the purpose of this document is to summarize comments received from the public and government Technical Advisory Committee (TAC), and how they were addressed. It includes a recommendation to inform the director's licensing decision.

1.0 OVERVIEW

Sun Gro Horticulture Canada Ltd. submitted an Environment Act proposal dated October 15, 2020, to expand their existing peat mining development at the Evergreen Bog. The proposed expansion is located on Crown lands on portions of Sections 16 and 17, Township 13, Range 10 EPM, all within the Rural Municipality of Lac du Bonnet.

Environment Act Licence No. 305 R approved the Evergreen Bog sub-areas 2 and 3 (Evergreen 2 and Evergreen 3). This proposal is for expansion of the development into Evergreen Bog sub-area 1 (Evergreen 1), identified in Attachment A of this document. Activities include clearing, draining, harvesting, and restoring the new area.

To learn local concerns and invite public participation, the department advertised the proposal in the Beausejour-Lac du Bonnet Clipper on November 5, 2020, and posted in the following public registries:

- Online: <https://www.gov.mb.ca/sd/eal/registries/628.1/index.html>
- Legislative Library (Winnipeg)

The department distributed the proposal to TAC members on November 4, 2020, for their expert comments.

The closing date for comments from members of the public and TAC members was December 5, 2020.

2.0 COMMENTS FROM THE PUBLIC

Three hundred and forty individuals and organizations submitted comments opposing peat mining. The public comments are provided in full in the online Public Registry; following is a summary of the comments received:

- the effects on climate change from the release of sequestered carbon from the peat
- peat mining is an un-necessary industry because there are gardening alternatives
- buying carbon credits is not an acceptable solution
- peat moss is not a renewable resource, as it takes thousands of years to accumulate
- the benefits of job creation do not outweigh the impacts of climate change

- loss of wildlife habitat
- loss of a diversity of flora
- loss of water and nutrient storage benefits of peat bogs

Disposition:

- The effects assessment and mitigation measures outlined in the proposal in relation to wildlife, vegetation, and surface water are sound and acceptable.
- The majority of the public comments centred on peat mining and its impact on climate change. The Government of Manitoba has addressed these concerns through creation of The Peatlands Stewardship Act and the Made-in-Manitoba Climate and Green Plan.
- The Peatlands Stewardship Act ensures that the commercial developments of peat in Manitoba are sustainable, while supporting economic opportunities for rural communities. The Act allows for the designation of provincially significant peatlands to protect water quality and biodiversity, enhance carbon stores, and facilitate research. The legislation requires that the developers restore all areas after harvesting is complete.

3.0 COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE

TAC responses are listed in Table 1 below. Substantive comments and their dispositions follow the table. TAC comments are provided in full in the online public registry.

<https://www.gov.mb.ca/sd//eal/registries/628.1/index.html>

Table 1: Technical Advisory Committee Comments

| No | Technical Advisory Committee Member | Response Provided |
|-----------|--|---|
| 1 | Formerly Manitoba Conservation and Climate | |
| | Environmental Approvals Branch | |
| | <ul style="list-style-type: none"> • Air Quality Management | No response |
| | Environmental Compliance and Enforcement Branch | December 8, 2020 |
| | Office of Drinking Water | November 4, 2020 |
| | Drainage and Water Use Licensing Branch | November 25, 2020 |
| | Climate and Green Plan Implementation Office | January 18, 2021 and January 28, 2022 |
| | Parks and Protected Spaces Branch | No response |
| 2 | Formerly Manitoba Agriculture and Resource Development | |
| | Agri-Resource Branch | No response |
| | Wildlife and Fisheries Branch (wildlife) | December 4, 2020 |
| | Wildlife and Fisheries Branch (fisheries) | No response |
| | Forestry Branch - Peatlands Program | November 18, 2020 and May 7, 2021 |
| | Lands Branch | No response |
| | Forestry Branch – Eastern Region | December 4, 2020 |
| | Regional Land Manager / Integrated Resource Management Team | No response |
| | Water Branch | |
| | <ul style="list-style-type: none"> • Water Quality Management Section | No response |
| | <ul style="list-style-type: none"> • Groundwater Management Section | No response |
| | Mines Branch | No response |
| | Petroleum Branch | No response |
| 3 | Formerly Manitoba Sport, Culture, and Heritage – Historic Resources Branch | No response |
| 4 | Formerly Manitoba Municipal Relations | |
| | Community and Regional Planning Branch | December 4, 2020 |
| 5 | Formerly Manitoba Infrastructure – Highway Planning and Design Branch, Environmental Services | November 27, 2020 |
| 6 | Formerly Manitoba Health, Seniors and Active Living – Environmental Health Unit | No response |
| 7 | Impact Assessment Agency of Canada | November 26, 2020 |

3.1 Formerly Manitoba Conservation and Climate – Climate and Green Plan Implementation Office

- A full life-cycle analysis of greenhouse gas (GHG) emissions is required for all stages of the project, from peat cultivation (land use change), extraction, processing, transport to market, and on-site decomposition of extracted peat.
- The project's estimated total GHG emissions relative to Canada's and Manitoba's annual total GHG emissions is required to provide a more robust assessment of impacts and identification of mitigation actions.
- The Climate and Green Plan Implementation Office recommended the following to minimize the project's carbon footprint:
 - Include the mitigation and adaptation measures proposed in section 6.4 of the proposal into the project's Environmental Protection Plan.
 - Include an emissions reduction strategy, developed in accordance with the Certification for Responsibly Managed Peatlands, as part of the Environmental Protection Plan.
 - Update the emissions reduction strategy periodically.
 - Report annual GHG emissions to the province.
 - Implement enhanced mitigation measures to lower GHG emissions such as improved management of the site hydrology.
 - The Environmental Protection Plan must include considerations for climate adaptation in the proposed protection measures.
- Tree clearing and peatland draining (land use change) has been estimated to be responsible for 15 per cent of total life cycle GHG emissions of the Evergreen Bog peat mining operations. This is more than peat harvesting and processing (4 per cent) and transportation to market (10 per cent) combined. Land use change is therefore the biggest GHG-generating activity that is directly under the control of the peat-mining company.
- Drainage of peatlands can greatly increase N₂O emissions, a potential GHG. Therefore, restoration of peatlands is important to mitigate GHG emissions.
- Sun Gro should consider Canada's net-zero aspirations as part of an emissions reduction plan. The proposal alludes that the annual emissions from the peat mine will be insignificant as compared to the total annual emissions for the country. In fact, the project could have a material impact on Canada's goals considering the 17-year life of the project, five-years of restoration (to 2044), and Canada's bid for net-zero emissions by 2050.
- The proposal states that GHG emissions from decomposition should not be attributed to the project. However, it is including the carbon stored as a result of plant growing by the end user. Either the end use and total life cycle of the project is considered in the GHG assessment or it isn't; it can't be both.

Information Request and Responses

A full life-cycle analysis of GHG emissions and removal was requested from the proponent. The proponent responded that the estimated GHG emissions are a total of 97,908 t - CO₂ eq over the project lifetime, or 5,759 t - CO₂ eq/yr for the 17 years of operation. This is 0.0008 per cent of annual Canadian emissions.

A more detailed summary of the information requests and the proponent's responses are provided in section 4.0 of this document.

Disposition

- The GHG emissions assessment includes the emissions from decomposition as part of a full life-cycle analysis.
- The estimated greenhouse gas emissions for this project are 5,759 tonnes of carbon dioxide equivalents per year for the 17 years of operation. This is 1.3 per cent of Manitoba's annual peat harvesting emissions, 0.02 per cent of Manitoba's total annual emissions, and 0.0008 per cent of Canada's total annual emissions.

The draft licence includes conditions for the proponent to:

- Submit an Environmental Protection Plan including all of the mitigation and adaptation measures outlined in Table 15 of the proposal, and climate change adaptation measures.
- Develop and submit an emissions reduction strategy following the Certification for Responsibly Managed Peatlands prior to construction, and update the strategy at least every five years.
- Submit an annual GHG emissions report following the Certification for Responsibly Managed Peatlands.
- Decommission and restore the development following the Peatland Recovery Plan approved in accordance with The Peatlands Stewardship Act.

The following was sent to the proponent for their information:

- Sun Gro should consider Canada's net-zero aspirations as part of their emissions reduction plan.
- The Evergreen 1 sub-area could have a material impact on the total annual emissions for the country. Sun Gro should reassess their benefit proposition in relation to life-cycle peat emissions reductions.

3.2 Formerly Manitoba Agriculture and Resource Development – Forestry Branch – Peatlands Program

- The proposal states that peat harvesting only accounts for 0.02 per cent of Canada's total peatland area. More recent data shows the actual value is closer to 1 per cent .
- The calculations of carbon dioxide (CO₂) emissions should include the carbon contained in the peat, therefore the reported emissions from the project were underestimated.
- The proposal states that decomposition of the harvested peat should not be included in the GHG emission estimates. However, this contradicts the industry's position that GHG reduction from the plants grown in the harvested peat should be considered.
- The Environment Act Licence should include a clause requiring the proponent to follow the Boreal Wetlands Conservation Codes of Practice for all resource and access roads and crossings to achieve a no-net-loss of wetland benefits.
- Permits are required for the access road.
- The proponent was asked for the following information:
 - the nearest groundwater well to the site,
 - the minimum depth of peat to remain in the harvested areas, and
 - the overall increase in harvested peat each year for Peat Harvest Licence #3.

Information Request and Responses

Environmental Approvals Branch requested additional information from the proponent related to:

1. Clarification on percentage of horticultural peat harvesting with respect to Canada's total peatland area
2. The proposed depth of peat harvest
3. The net increase in harvested peat considering all of Peat Harvest Licence #3
4. The distance of the groundwater well from the Evergreen 1 sub-area

The proponent responded that:

1. Manitoba's horticultural peat harvesting accounts for 12 per cent of Canada's total peatland area.
2. Harvesting will occur to the minimum proposed depth of 0.5m.
3. The proposed Evergreen 1 sub-area will result in a one-time increase of 60 hectares (ha) of peat harvest area.
4. The closest groundwater well to Evergreen 1 sub-area is a test well located 1.5 km west, which was noted as being dry in the well log, and that the next nearest groundwater well is a production well located 3.4 km east.

A more detailed summary of the information request and the proponent's response are provided in section 4.0 of this document.

Disposition

- The draft licence includes a condition requiring the proponent to adhere to the mitigation sequence of avoid, minimize, or offset outlined in the Boreal Wetlands Conservation Codes of Practice to achieve a no-net-loss of wetland benefits.
- The proponent's responses to the information request related to peat harvesting is satisfactory.
- The information regarding permit requirements was provided to the proponent for their information.
- Refer to the disposition in section 3.1 related to the requested GHG life-cycle analysis.

3.3 Formerly Manitoba Agriculture and Resource Development – Forestry Branch – Eastern Region

- This area is within the Agassiz Provincial Forest and is within an approved area for harvesting within the Eastern Region, Forest Management Unit 24 Timber Sale Plan. A forest harvesting plan will need to be developed in conjunction with Regional Forestry which takes into consideration Provincial Forest timber values within and adjacent to the application area. With seasonal access and winter harvesting within peatland areas as a main driver, it may require a full season or more to accomplish the harvesting plan.
- A Timber Damage Assessment and Timber Permit may be required based on the forest harvesting plan developed.

Disposition

- This information was provided to the proponent for their information.

3.4 Formerly Manitoba Conservation and Climate – Drainage and Water Rights Licensing

- Section 5.1 of the Water Rights Regulation states that a licence or registration under The Water Rights Act is not required for water control works that are also subject to licensing

under The Environment Act. Therefore, separate authorization from the Drainage and Water Rights Licensing Branch is not required for this project.

- The branch has reviewed the proposal and has no concerns.

Disposition

- This information was provided to the proponent for their information.

3.5 Formerly Manitoba Agriculture and Resource Development – Wildlife and Fisheries (Wildlife)

- Both the Wildlife and Fisheries Branch and Eastern Regional Fisheries requested to review the Peat Management Plan, Peat Recovery Plan, and Engagement Plan referenced in section 1.1 of the proposal.

Disposition

- The Peatlands Management Plan, Peatlands Recovery Plan, and Engagement Plan were submitted to the Forestry and Peatlands Branch following The Peatlands Stewardship Act. In the case of the Evergreen Bog, approved plans already existed for the Evergreen 2 and 3 sub-areas. Sun Gro updated the plans to include the Evergreen 1 sub-area and submitted them to Forestry and Peatlands Branch in December 2020, for review and approval following The Peatlands Stewardship Act.

3.6 Formerly Manitoba Infrastructure – Highway Planning and Design Branch

- The traffic generated by this development may have impacts on the traffic operations of PTH 44.
- Preliminary traffic projections are requested from the proponent. Based on this information, our department will determine if a more detailed Traffic Impact Study is required. If required, this study is to be prepared by a qualified engineer and will determine what impact the traffic generated by this development will have on the traffic operations at this location and what, if any, on highway improvements will be required.

Disposition

- This information was sent to the proponent for follow up. The proponent's response indicated that the development will not increase traffic. They will be closing areas on the original bog as new areas are opened.

3.7 Impact Assessment Agency of Canada

- The Project does not appear to meet the definition of a designated project as described in the Physical Activities Regulations under the Impact Assessment Act (IAA). As such, the Agency has determined that the Project, as presented, is not a designated project under the IAA.

Disposition

- No action required.

4.0 INFORMATION REQUESTS

In response to the public and TAC comments, Environmental Approvals Branch sent an Information Request to the proponent on February 18, 2021. Additional information was requested pertaining to peat harvesting, GHG emissions, and sedimentation ponds. The proponent responded on February 25, 2021.

A second Information Request, further to the subject of GHG emissions, was sent on March 22, 2021. The proponent responded on April 20, 2021.

4.1 Peat Harvesting

Information Request

The department asked the proponent to provide the following Information:

- The proposed depth of peat harvest
- The distance of the groundwater well from the Evergreen 1 sub-area
- Confirmation of the statement in the proposal that horticultural peat harvesting only accounts for 0.02 per cent of Canada's total peatland area
- The net increase in harvested peat considering all of Peat Harvest Licence no. 3.

Proponent's Responses to Information Request

Depth of Peat Harvest

Based on the peat quality harvested at the Evergreen 2 and 3 sub-areas, it is anticipated that Evergreen 1 will also have good quality peat. Harvesting will be done to the full depth with only the required 0.5 m peat depth retained.

Distance to Nearest Groundwater Well

The closest groundwater well to Evergreen 1 sub-area is a test well located 1.5 km west, which was noted as being dry in the well log. The next nearest groundwater well is a production well located 3.4 km east.

Proportion of Peat Harvest

The Canadian Sphagnum Peat Moss Association estimates that 31,675 ha of peatland were under harvest in Canada in 2017. This accounts for 0.03 per cent of Canada's total peatland area of 113,600,000 ha. Within Manitoba, the Canadian Sphagnum Peat Moss Association estimates that 3,801 ha were under harvest in 2017, which is 12 per cent of Canada's total peatland under harvest. This accounts for 0.02 per cent of Manitoba's total peatland area of 19,200,000 ha.

The proposed project consists of 60 ha, which is an increase of 0.19 cent of the total area under harvest in Canada and 1.58 per cent of the total area under harvest in Manitoba. Relative to the overall peatland areas, the proposed project accounts for 0.00005 per cent of peatland areas in Canada and 0.00031 per cent of peatland areas in Manitoba.

Given the proposed project's smaller footprints, our assessment of the potential project's effects on wetlands does not change from that presented in the EAP.

Net Increase in Harvested Peat

The proposed Evergreen 1 sub-area will result in a one-time increase of 60 ha of peat harvest area. Other sub-areas within Sun Gro's Peat Harvest Licence no. 3 where harvesting is currently occurring include Evergreen 3 (14 ha) and South Julius 2 (200 ha). A 60 ha increase would result in a 28 per cent increase in harvesting area relative to other areas under harvest within Peat Harvest Licence no. 3. This increase is partially offset by the 28 ha of peat harvesting at North Julius sub-area that the proponent has recently stopped.

Three other sub-areas within Peat Harvest Licence no. 3 have not undergone harvesting: Julius Lake West, South Julius 1, and Moss Spur 3. Sun Gro has already determined that there is no harvestable quality peat available at South Julius 1 or Moss Spur 3. These sub-areas will not be developed.

Sun Gro is in the process of completing a peat investigation at Julius Lake West to determine if there is sufficient quality and quantity to develop this sub-area in the future. If there is good quality peat, it is estimated that between 70 and 120 ha of the 177 ha sub-area may be developed, following implementation of required buffer areas. If Julius Lake West is proposed to be developed in the future, the proponent will file a new Environment Act proposal. The Peatland Management Plan and Peatland Recovery Plan would be amended accordingly.

Disposition

The proponent's responses are satisfactory.

4.2 Greenhouse Gas Emissions

Information Request #1

A full life-cycle analysis of GHG emissions and removal was requested.

Proponent's Response to Information Request #1

The GHG emissions for this project were estimated based on the research and formulas developed by Cleary et al. (2005). Other literature was also reviewed which cited similar GHG flux rates. The formulas developed by Cleary et al. were used as they are from Canadian peatlands and the department had previously recommended to use these formulas.

Cleary et al. estimated the GHG contributions from each component of the life cycle of peat harvesting as follows: land use change accounted for 15 per cent , peat harvesting and processing accounted for 4 per cent , transport to market accounted for 10 per cent , and decomposition accounted for 71 per cent (Cleary et al. 2005). However, GHG emissions from decomposition are associated with the end use and should not be attributed to the producer. Because the Cleary et al. formulas are based on a life cycle analysis already, conducting a life cycle analysis specific to the Evergreen 1 sub-area is not necessary.

Information Request #2

GHG emissions from decomposition of the extracted peat must be included in the analysis of the potential impacts of the project to climate change. A full life-cycle analysis of GHG emissions is required.

Proponent's Response to Information Request #2

After 17 years of operation and five years post restoration of Sun Gro's Evergreen 1 sub-area the GHG emissions will be as follows;

- Land use change (15 per cent); 14,686 t - CO₂ eq.
- Peat harvesting and processing (4 per cent); 3,916 t - CO₂ eq.
- Transportation to market (10 per cent); 9,791 t - CO₂ eq.
- Decomposition (71 per cent); 69,515 t - CO₂ eq.

This equates to a total GHG emission of 97,908 t - CO₂ eq. over the project lifetime and equivalent to 5,759 t - CO₂ eq/yr for the 17 years of operation.

As presented in the EAP, the 2018 CO₂ emissions in Canada was a total value of 7.29 x 10⁸ t - CO₂ eq (729 Mt). Therefore, an average year of operation at the Evergreen 1 sub-area will account for approximately 0.0008 per cent of the total annual emissions for the country.

Disposition

The proponent is including the end use emissions from decomposition as part of a full life-cycle analysis. Their response is satisfactory.

4.3 Sedimentation Ponds

Information Request

The existing Environment Act licence (No. 305R) for the current peat harvesting operation at Evergreen 2 and 3 requires that drainage from the development is directed toward a sedimentation pond(s) designed and constructed to achieve the effluent quality criteria specified in the licence. However, the proposal indicates that a gated culvert will be installed to control water discharge and manage suspended sediment, if required. It does not provide any information on sedimentation ponds. Information on how the licence requirements regarding sedimentation ponds will be met was requested.

Proponent's Response to Information

Evergreen 1 will drain into the existing drainage ditch for the Evergreen 2 and 3 sub-areas. Once drainage water leaves the harvesting area it pools at the end of the drainage ditch, essentially acting like a sedimentation pond, and slowly flows overland into the surrounding peat bog. Drainage water is not discharged directly into another waterbody and there are no waterbodies near the discharge location. As such, there is no concern about water quality and associated potential impacts to fish and fish habitat. Any sediment that is suspended in the drainage water would settle within the bog area near the discharge point.

Additionally, existing water quality monitoring data collected by Sun Gro and provided to the department shows that effluent water quality criteria meet licence conditions. As water is not discharging from the site into another natural water body and because the end of the drainage ditch acts as a sedimentation pond, Sun Gro feels that a formal sedimentation pond with a debris boom is not required and requests that this clause be removed from the licence when it is revised.

Presently, there is a gated culvert at the end of the discharge ditch. A gated culvert would be installed at Evergreen 1. The gated culverts are capable of terminating the discharge of drainage water from the harvest areas whenever required. During site activities which may

generate suspended particulate matter, such as ditch maintenance and ditch deepening, the gated culvert at the harvest area outlet will be closed to stop off-site flow. Essentially making the drainage ditches upstream of the gated culvert functioning as a sedimentation pond that will allow particulate matter to settle within the field drains and main drains before the gated culverts are opened and drainage is resumed.

Disposition

The proposed use of a gated discharge ditch in lieu of a sedimentation pond does not fulfill the objectives of sedimentation ponds. A sedimentation pond allows suspended sediments to continually settle out from the drainage water before releasing it to adjacent natural areas.

The draft licence requires a sedimentation pond with sufficient residence time to allow for settling of suspended sediments during peak rainfall events, a floating debris boom within the pond, and a manual flow measuring device at the discharge location.

5.0 PUBLIC HEARING

A public hearing is not recommended as the concerns expressed from the members of the public and the TAC have been addressed in the responses to the information requests or in the licence conditions.

6.0 CROWN-INDIGENOUS CONSULTATION

The Government of Manitoba recognizes it has a duty to consult in a meaningful way with Indigenous communities when any proposed provincial law, regulation, decision or action may infringe upon or adversely affect the exercise of the Indigenous rights of that community.

The Initial Assessment conducted for this project has concluded that the licensing decision may have the potential to adversely affect the exercise of an Aboriginal or Treaty right. Manitoba conducted a Crown-Indigenous consultation. Following the completion of the consultation process, the Crown-Indigenous Consultation Report with recommendations was provided to the Director of Environmental Approvals Branch.

The consultation process was consistent with the objectives identified in the “Interim Provincial Policy for Crown Consultations with First Nations, Métis Communities and Other Aboriginal Communities” and in accordance with the legal principles.

The draft licence includes conditions in consideration of the information provided in the Crown-Indigenous Consultation Report.

7.0 RECOMMENDATION

Comments received have been addressed through the provision of information and licence conditions. I recommend that the development be licensed under The Environment Act subject to the specifications, limits, terms, and conditions as described on the attached draft Environment Act licence. I also recommend assigning the administration of the licence to the Eastern Region of the Environmental Compliance and Enforcement Branch.

Prepared by:

Bryce Wood
Environment Officer
Environmental Approvals Branch
Environment and Climate Change

December 6, 2023

ATTACHMENT A Evergreen Bog sub-area 1

