# DEPARTMENT OF NATURAL RESOURCES

## RECORD OF DECISION

**In the Matter of the Determination of the Need for an Environmental Impact Statement for the Wright Bog Horticultural Peat Project in Beseman Township, Carlton County, Minnesota**

**FINDINGS OF FACT, CONCLUSIONS, AND ORDER**

## FINDINGS OF FACT

1. Premier Horticulture, Inc. proposes to develop approximately 316 acres of the Wright Bog in Carlton County for horticultural peat extraction. The proposed site would be cleared and ditched, with drained water discharged into Little Tamarack River. *Sphagnum* moss peat would be collected using the milled peat vacuum harvesting method. Mined areas would be restored back to *Sphagnum* moss using material sourced from an adjacent Donor Site.

2. The proposed project requires preparation of a State Environmental Assessment Worksheet (EAW) for development of a facility for the extraction or mining of peat that will result in the excavation of 160 or more acres of land during its existence. *See* Minn. R. 4410.4300, subp. 12A.

3. The Minnesota Department of Natural Resources (DNR) is the Responsible Governmental Unit (RGU) in the preparation and review of environmental documents related to the Wright Bog Horticultural Peat Project (Project). *See* Minn. R. 4410.0500, subp. 1.

4. The DNR prepared an EAW for the Project. *See* Minn. R. 4410.1400.

5. The EAW was filed with the Minnesota Environmental Quality Board (EQB) and a notice of its availability was published in the EQB *Monitor* on December 11, 2017. A copy of the EAW was sent to all persons on the EQB Distribution List, to those persons known by DNR to be interested in the proposed project, and to those persons requesting a copy. A statewide press release announcing the availability of the EAW was sent to newspapers, and radio and television stations. Copies of the EAW were also available for public review and inspection at the DNR Northeast Regional Office, the DNR Central Office library, the Minneapolis Public Library, the Duluth Public Library, the Carlton Public Library, and the McGregor Public Library. The EAW was also made available to the public via posting on the DNR's website. *See* Minn. R. 4410.1500.

6. The 30-day EAW public review and comment period began December 11, 2017 and ended January 10, 2018. Written comments on the EAW could be submitted to the DNR by U.S. Mail, by facsimile, or electronically via email. *See* Minn. R. 4410.1600.

7. During the 30-day EAW public review and comment period, the DNR received written comments on the EAW from the agencies and individual listed below. The comment letters are included in Attachment A of this Record of Decision.

   A) Carlton County Soil and Water Conservation District, David Demmer (December 12, 2017)
   B) Goshke, Kally (December 22, 2017)
   C) Minnesota Pollution Control Agency, Karen Kromar (January 9, 2018)
   D) Minnesota State Historic Preservation Office, Kelly Gragg-Johnson (December 20, 2017)

   DNR's responses to substantive public comments on the EAW are provided in Findings of Fact paragraph 8.

8. Comments from the submissions listed in Findings of Fact paragraph 7 are provided alphabetically and verbatim as practical, with DNR's response following each comment.

   A. Commenter – Carlton County Soil and Water Conservation District (SWCD), David Demmer

   Comment A1: Thank you for the opportunity to comment on the Environmental Assessment Worksheet (EAW) for the Wright Bog Horticultural Peat Project in Carlton County. As the Board of Water and Soil Resources (BWSR) Wetland Specialist assigned to Carlton County, I submit these comments with the understanding the applicant intends to submit a joint application to the County for impacts that are within the scope of the Wetland Conservation Act.

   Response A1: EAW Item 8, Permits and Approvals, indicates the project would require a Wetlands Conservation Act (WCA) approval from Carlton County before construction would commence. EAW Item 11b.iv.a identifies the acreage of impacted wetlands subject to WCA regulations as well as likely replacement ratios under current WCA replacement standards. The project would also require a U.S. Army Corps of Engineers (USACE) Clean Water Act Section 404 Permit (Section 404 Permit).

   Comment A2: The EAW describes the hydrologic monitoring outcomes from the Black Lake Bog operation. On page 22 the sponsor makes the statement that "ditching is expected to cause a similar effect on water levels at the Wright Bog and adjacent areas." Does the sponsor plan on conducting groundwater monitoring to determine baseline water tables and post restoration groundwater levels at the Wright Bog site?

   Response A2: Groundwater modeling would be a requirement of the DNR Water Appropriation Permit and Permit to Mine for areas that are mined. The monitoring would identify baseline conditions and then occur over complete project operations through site reclamation and restoration until wetland mitigation requirements are satisfied. A similar requirement could be a condition of the USACE Section 404 Permit.

   Project-related drawdown effects are subject to the DNR Water Appropriation Permit and Permit to Mine. Development of a monitoring plan would be required as a condition of the appropriation permit. Installing transects of piezometers/wells to monitor drawdown conditions is a likely permit monitoring condition; the number and location of such transects would be determined in permitting. Water levels in the piezometers would be measured at a frequency required to monitor operational

drawdown conditions or identify potential impacts. Installation of a background well would be required. Adaptive management conditions would be added to the permit as determined appropriate.

The USACE reports groundwater table and/or hydrology monitoring could be required as part of the special conditions of a Section 404 Permit. Hydrology monitoring is usually necessary within approved restoration sites to determine whether hydrology standards are being met; it can also be required within adjacent aquatic resources to determine whether additional impacts are occurring. Development and approval of a project-specific hydrologic monitoring plan would occur during permitting.

Premier Horticulture, Inc. (Proposer) anticipates that the groundwater monitoring program for the proposed project would be similar to monitoring requirements for the 2005 Black Lake Bog project expansion. The specific types and means to accomplish groundwater monitoring at the Black Lake Bog operation were detailed in a USACE-approved hydrologic monitoring plan (2005). A monitoring plan specific to the proposed Wright Bog project would be developed to comply with both DNR and USACE approvals.

B. Commenter – Goschke, Kally

Comment B1: Please accept this comment on the destruction of Wright Bog.

We Need Peat Bogs! We need more wetlands and bogs not less. There are fabulous sustainable alternatives to horticulture peat moss like coconut coir, so it is not needed.

Response B1: Comment noted. Although the approved EAW form requires an explanation of the project purpose to be provided in Item 6d, the EAW only discloses the project purpose but does not evaluate it. EAWs are also not required to address alternatives to the proposed action.

Comment B2: Our general water quality in Minnesota is abysmal and this will further degrade it no matter what precautions they claim they will make.

Response B2: Comment noted. EAW Item 11b.i.3 details how the project's industrial discharges are likely to affect water quality over the course of operations. Project-related water quality effects are subject to Minnesota Pollution Control Agency (MPCA) authority under the National Pollutant Discharge Elimination System Program/State Disposal System (NPDES/SDS) Permit, with the following individual permits required: Multi-Sector General Industrial Stormwater Permit; Individual Wastewater Permit; and Construction Stormwater Permit. Project-related discharges must also comply with the Total Maximum Daily Load (TMDL) approved for Big Sandy Lake. For wetlands subject to a USACE Section 404 Permit, anticipated changes to wetland water quality must undergo an MPCA Clean Water Act Section 401 Certification (401 Certification) to ensure compliance with state water quality standards. Any cumulative water quality impacts are limited to the 3-5 year overlap that would occur early in project operations with the neighboring Black Lake Bog peat operation.

Comment B3: The company should put their money into processing coconut coir, most gardeners have environmental concerns so would not be buying it anyway. So tired of all the economic

destruction in the name of jobs for a quick buck. We live here! DNR please protect our water quality – or lack thereof. Please step it up.

Response B3: Comment noted.

C. Commenter – Minnesota Pollution Control Agency (MPCA), Karen Kromar

Comment C1: Thank you for the opportunity to review and comment on the Environmental Assessment Worksheet (EAW) for the Wright Bog Horticultural Peat Project (Project) in Carlton County, Minnesota. The Project consists of 316 acres of horticultural peat extraction. Regarding matters for which the MPCA has regulatory responsibility or other interests, the MPCA staff has the following comments for your consideration.

Response C1: No response necessary.

Comment C2: Water Resources (Item 11). Regarding wetlands, the MPCA reviews temporary loss on a case by case basis and uses the requirements of Minn. R. 7050.0275, subp. 2, to determine if a project will qualify for an exemption from the antidegradation rule. Antidegradation defines temporary impacts as those lasting less than 12 months from the time the water is initially impacted. It is likely that mitigation will be required for the temporary wetland impacts resulting from the Project.

Response C2: EAW Items 8 and 11 identify the project must receive an MPCA Individual 401 Water Quality Certification for work in aquatic resources to proceed. The certification procedure includes an antidegradation assessment that considers the measures proposed to mitigate not only the proposed project's permanent surface water impacts, but also any temporary loss component. The antidegradation assessment would determine whether the project qualifies for an exemption to the rule. If not exempt, mitigation could take a number of forms, for example the purchase of wetland credits, constructing new wetlands at a different site, or water quality control measures. For temporary loss, MPCA would consider a ratio less than 100% but greater than zero; this would be developed in conjunction with the USACE as part of the permitting process (for the Section 404 Permit). If the applicant can show impacted wetlands are being restored on a graduated scale, then it is possible that the amount of mitigation would be reduced.

EAW Item 11b.iv.a details the mitigation proposed to date for permanent, temporary, and temporal wetland impacts subject to the USACE Section 404 Permit. The Proposer anticipates the draft permit application to address mitigation of permanent and temporal wetland impacts via an approved wetland bank in Wetland Bank Service Area 5, and if possible within Major Watershed 9 (i.e., Mississippi-Grand Rapids). The Proposer expects temporal loss of wetland functions requiring mitigation to be 10% of the temporary impacts. The credits purchased would be a combination of Type 2 (wet) meadow and Type 8 (open/coniferous bog) wetlands. This information would be considered in permitting.

The Proposer has been notified of MPCA's comments on the likely need for mitigation for the temporary wetland impacts resulting from the project. The notification included supplying MPCA's

form "Antidegradation Assessment for Section 401 (7.18.17)" developed to support the certification process. MPCA is willing to work with the Proposer prior to initiation of the permitting process.

Comment C3: We appreciate the opportunity to review the Project. Please provide your specific responses to our comments and notice of decision on the need for an Environmental Impact Statement. Please be aware that this letter does not constitute approval by MPCA of any or all elements of the Project of the purpose of pending or future permit action(s) by the MPCA. Ultimately, it is the responsibility of the Project proposer to secure any required permits and to comply with any requisite permit conditions. If you have any questions concerning our review of this EAW, please contact me by email at karen.kromar@state.mn.us or by telephone at 651-757-2508.

Response C3: These responses will be provided to MPCA through this Record of Decision. *See* Minn. R. 4410.1700, subp. 5.

D. Commenter – Minnesota State Historic Preservation District (SHPO), Kelly Gragg-Johnson

Comment D1: We have received a copy of the Environmental Assessment Worksheet (EAW) for the Wright Bog Horticultural Peat Project in Carlton County (SHPO No. 2017-2174). We have no further comments on the EAW, as you have adequately addressed our comments and recommendations within the public document. The Unanticipated Discoveries Plan (UDP) is good to have and is appropriate for this type of project. A copy of the UDP will be kept with our project file for future reference.

Response D1: No response necessary.

9. The following commenters expressed opposition to the Project: 7B. DNR acknowledges these comments. These comments did not address the accuracy and completeness of the material contained in the EAW, potential impacts that may warrant further investigation before the project is commenced, or the need for an EIS for the project. *See* Minn. R. 4410.1600. These comments will be provided to the Proposer and to permitting and/or approval entities and/or authorities for their consideration as part of further decisions about whether to permit, approve, and/or implement the project.

10. Based upon the information contained in the EAW and received as public comments, the DNR has identified the following types of potential environmental effects associated with the Project:

    a. Project Construction
    b. Land Cover Types
    c. Water Quantity
    d. Water Quality
    e. Stormwater
    f. Wetlands
    g. Local Water Table Drawdown
    h. Hazardous Materials
    i. Fisheries Resources
    j. Wildlife Resources and Habitat

k. Rare Species and Significant Natural Features
l. Invasive Plant Species
m. Historic Properties
n. Air Emissions
o. Dust
p. Cumulative Potential Effects

Each of these environmental effects is discussed in more detail below.

a. Project Construction

This topic was addressed in EAW Items 6, 10, 11, and 13.

Construction would be necessary to prepare the bog for mining. Activities include initial site clearing followed by the construction of settling basins, drainage ditches, culverts, and various access roads. The settling basins, culverts, drainage outlet ditch, and main access road would be constructed at the start of Phase 1 and operate over the entire project. Field and perimeter ditches, and corduroy-type gravel access roads into the harvest area, would be constructed over both Phases 1 and 2 as areas are drained to support mining. Parking areas, storage pads, and field structures would also be constructed as needed over the life of the project. Once mining is complete, site reclamation includes decommissioning and revegetating harvest area roads, with the filling of the ditches, settling basins, and drainage outlets to pre-project contours as necessary to stabilize the hydrology of the site.

Project-related construction activities are considered temporary and limited to the project site. These actions are subject to ongoing public regulatory authority by the DNR Permit to Mine, MPCA's Construction Stormwater Permit, and Carlton County's Building Permit. The Proposer is committed to conduct site reclamation of the mined areas according to the "Canadian Approach" advocated by the Canadian Sphagnum Peat Moss Association. All other reclamation is subject to the provisions of the DNR Permit to Mine. Financial assurance is required under both state and federal regulations.

b. Land Cover Types

This topic was addressed in EAW Items 9 and 11.

Land cover reflects vegetation and land uses within and surrounding the project site, which for the proposed project include a mix of forest, wetlands, and farmland. Forage hay harvesting and livestock production are the primary agricultural activities for the farmlands. The majority of project-related cover type change is due to draining and subsequent mining of peat-type wetlands in the Wright Bog. Some upland impacts are proposed but no changes to farmland are expected. Approximately 12.5 acres of wetlands would be converted to a non-wetland, less pervious surface cover type from the project.

Project-related cover type change to wetlands would be reversible through site restoration activities consistent with the "Canadian Method" advocated by the Canadian Sphagnum Peat Moss Association. Site reclamation for both wetlands and other upland disturbed areas is subject

to ongoing public regulatory authority under the conditions of the DNR Permit to Mine, with any balance of wetland impacts subject to provisions of WCA and USACE Section 404 Permit.

c. Water Quantity

This topic was addressed in EAW Item 11.

Dewatering and subsequent drainage of peat-bearing wetlands is required to achieve project objectives. Analog data obtained from existing dewatering occurring at the neighboring Black Lake Bog was used to estimate potential project flows off the Wright Bog during proposed operations. The estimated mean flow off the Wright Bog would be 36,542,343 gallons of water per year, using the Black Lake Bog data. Maximum flow from the Wright Bog is estimated at approximately 115,640,082 gallons per year. No discharge would be expected over the winter months when the drainage ditches are frozen. These levels of flow are not expected to result in a noticeable change in streamflow in the Little Tamarack River. No downstream environmental effects are anticipated.

Project-related dewatering is subject to ongoing public regulatory authority under a DNR Water Appropriation Permit. Flow monitoring is likely to be required as a condition of the permit, with the actual frequency determined in permitting. Use of a data logger to record continuous data is likely to be recommended or required. Stage monitoring of downstream receiving waters may also be considered to confirm no adverse effects to receiving waters.

d. Water Quality

This topic was addressed in EAW Items 11 and 13 and Comment B2.

Project-related soil disturbance within the peatland has the potential to increase sedimentation and alter downstream water quality over the life of the project. Pollutants of interest include: total suspended solids (TSS); pH; phosphorus; mercury; and sulfate. Based on analog water quality data collected from the Black Lake Bog, it is projected that the water quality of Wright Bog discharges would be comparable to the Black Lake Bog and within applicable water quality standards. Maximum mercury loading is projected to be 2.66 grams per year. Sulfate concentrations are expected to be at or below 2 mg/l. Acidity or pH is expected to be less than 4.2. Based on the Black Lake Bog data, TSS could range as high as 45-85 mg/l for limited periods, levels for which there could be adverse effects to macroinvertebrates.

Drainage water discharge from the Wright Bog site is classified as industrial process wastewater that is subject to ongoing regulatory authority under an MPCA National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) Industrial Wastewater Permit. Phosphorus discharges would be subject to the completed Total Maximum Daily Load (TMDL) for Big Sandy Lake, while mercury discharges would be subject to the Statewide TMDL for mercury. Discharging into an impaired water, which is Big Sandy Lake in the case of the project, would require strict adherence to NPDES permit discharge limits. Mercury monitoring would be required and a reasonable potential analysis for mercury would be conducted as part of the permitting process. The facility may be subject to a mercury limit that is assigned in permitting based on

these assessments. For sulfate, the project may be subject to sulfate monitoring, or a potential sulfate limit, once ongoing wild rice rulemaking is complete. MPCA has identified the project would be subject to a pH effluent limit, while for phosphorus the project would be subject to a wasteload allocation for total phosphorus consistent with the TMDL. The permit would include a TSS limit and monitoring requirements, where TSS would be controlled through use of sedimentation basins designed and constructed to the specifications of Appendix A in the 1998 New Brunswick guidelines for peat mining. Drainage basins also provide a degree of TSS treatment prior to water reaching the sedimentation basins.

e. Stormwater

This topic was addressed in EAW Item 11.

Precipitation falling on the project site would generate stormwater runoff that enters into the drainage ditches and sedimentation basins before being conveyed offsite by the Drainage Outlet. Potential impacts from stormwater quantity and quality are essentially synonymous with impacts from site dewatering. Erosion and sedimentation potentials are low, given the relative flatness of the site; however, the margins of the access roads exhibit slopes conducive to limited soil movement.

Project-related construction is subject to ongoing regulatory authority under an MPCA Construction Stormwater Permit, while operations would be subject to an MPCA NPDES/SDS Multi-Sector General Industrial Stormwater Permit. A Stormwater Pollution Prevention Plan (SWPPP) would be developed for erosion and sediment control during the construction and post-construction phases of the project. Best Management Practices or BMPs would be applied at the equipment yard and access roads. BMPs could include: silt fence; routine inspection and maintenance pollution prevention measures; revegetation of disturbed surfaces; and post-project removal of erosion and sediment controls. MPCA would likely require benchmark monitoring for industrial stormwater generated from non-mining areas of the project site. Final requirements would be determined in permitting.

f. Wetlands

This topic was addressed in EAW Items 11 and 13 and Comment C2.

The project involves development of 312.5 acres of wetlands, with 284.5 acres altered from peat mining and establishment of supporting infrastructure, with the balance of 28.0 acres used as a restoration Donor Site. Wetlands in the development areas would be cleared of all vegetation and ditched, with drainage water subsequently conveyed offsite through the ditch system. Nine different types of wetland communities would be affected by the project. Permanent impacts would result from development of the access road, harvest area roads, and the drainage outlet. Temporary wetland impacts would result from Phase 1 and 2 extraction activities and would be subject to restoration. Distinct from temporary impacts, losses of ecological functions between the initiation of mitigation and actual re-establishment of these functions post-mitigation are considered *temporal* wetland losses by the USACE. Although the Project does affect the Donor

Site, no conversion is anticipated because no wetlands at this location would be ditched, drained, or filled with the project.

Impacts to wetlands are subject to ongoing regulatory control under the DNR Permit to Mine, the Carlton County WCA approval, the USACE Section 404 Permit, and the MPCA 401 Certification. The DNR Permit to Mine requires progressive reclamation of the 275.9 acres of the site temporarily removed from wetland status over the course of the project. The DNR Permit to Mine has specific targets that are required to be met for site revegetation and water levels in open areas. The Carlton County SWCD implements WCA, and its authority applies to impacts on 7.1 acres of the project site. WCA requires a wetland replacement ratio of 1.5:1 at the project location, but this ratio can be reduced to a 1:1 replacement ratio under specific conditions. The USACE Section 404 Permit applies to all wetland impacts, with mitigation banking preferred over project-specific compensation. The basic compensation ratio of 1.5:1 can be reduced to 1:1 under specific conditions. The USACE permit addresses temporal losses of wetland/aquatic resource functions through requirements for additional mitigation. Details on final mitigation ratios are determined in permitting. The MPCA 401 Certification includes an antidegradation assessment, which would specify mitigation for both permanent and temporary wetland impacts.

The Proposer anticipates mitigating permanent impacts through the purchase of credits from an approved wetland bank in Wetland Bank Service Area 5. The Proposer also expects temporary impacts would apply to the majority of the site, with the required restoration based on the "Canadian Approach" to establish *Sphagnum* mosses and associated peatland species with mitigation as 1:1 on-site, in-kind bog restoration. This restoration would be phased, with areas restored as they are taken out of production. The Proposer anticipates temporal mitigation would be mitigated through the purchase of wetland credits at an amount equal to ten percent of the total temporary wetland impacts, or whatever amount is determined through the USACE Section 404 Permit process.

Details on all mitigation and ratios would be determined in permitting across all required approvals. No mitigation is required for activity at the Donor Site.

g. Local Water Table Drawdown

This topic was addressed in EAW Items 11 and 13 and Comment A2.

Project-related drawdown of the local water table resulting from ditching has the potential to affect wetland plant communities in areas immediately adjacent to the proposed mining operation. Lowered water tables can cause a loss of wetland area, or induce changes in wetland plant community type and structure while retaining wetland characteristics. Wetland and other plant communities outside the project boundary could be affected by lateral drawdown effects that would increase as a function of increased ditch depth. Plants more tolerant of high water tables could be affected to the point of being outcompeted by species more tolerant of drier conditions. Effects on hydrology beyond the site are expected to be limited in extent with a duration likely restricted to the 25 years of active drainage and peat mining. When mining ceases, return of water levels to pre-project conditions should allow new opportunities for more water-tolerant plant species to re-establish along the perimeter of the site.

Project-related drawdown effects are subject to ongoing public regulatory authority under the DNR Water Appropriation Permit and Permit to Mine. Development of a monitoring plan would be required as a condition of the appropriation permit. Installing transects of piezometers/wells to monitor drawdown conditions would be a likely permit monitoring condition; the number and location of such transects would be determined in permitting. Water levels in the piezometers would be measured at a frequency required to monitor operational drawdown conditions or identify potential impacts. Installation of a background well would be required. Adaptive management conditions can be added to the permit as determined appropriate. In addition, groundwater table and/or hydrology monitoring could be required under the USACE Section 404 Permit, which would be codified in an approved Hydrologic Monitoring Plan.

h. Hazardous Materials

This topic was addressed in EAW Item 12.

During construction, operations, and closure the project would require an above-ground diesel fuel tank to be located at the storage yard. The Proposer expects to use a 2,600 Westeel brand double-wall model for diesel storage. A second tank would be used for oil and also located at the storage yard; it would be an above-ground, 300 gallon Westeel brand double-walled model. Gasoline would be stored at the storage yard using three 2-5 gallon portable plastic cans. Other petroleum products, such as hydraulic oil, motor oil, and lubricants would be stored at the storage yard in a contained area; no above-ground tanks would be used for these products. Used oil and other similar waste materials would be present at the project site. These would be stored in an enclosed area with a concrete or other impermeable floor until used for other purposes or removed from the site by a licensed operator.

Storage of fuel and other petroleum and similar products is subject to ongoing regulatory authority under MPCA regulations. The 2,600 gallon tank would comply with Minn. Rules Chapter 7151 in lieu of a permit; this includes the proposer submitting an Above-Ground Tank Notification after tank installation. The U.S. Environmental Protection Agency requires non-transportation-related facilities with a total above-ground storage capacity of greater than 1,320 gallons that could cause spills into navigable waters or shorelines to meet Spill Prevention, Control, and Countermeasure requirements; the project may have to comply with these regulations. Storage of used oil and related waste materials would be subject to MPCA guidelines as codified from Minn. Rules Chapter 7045.

i. Fisheries Resources

This topic was addressed in EAW Item 13.

No fisheries resources are present at the project site; however, project-related discharges could affect the downstream fishery in the Little Tamarack River. Potential effects include increased acidity (i.e., reduced pH), or uncontrolled flushes of sediments within streams. Acidic discharges (pH <4.2 assumed for water leaving the Wright Bog) can kill fish and aquatic life as well as limit fish egg production and hatching. Releases of peat-type sediments can take the form of increased

turbidity and TSS, with the former reducing light penetration to the detriment of some species and the latter filling in critical instream habitat used for reproduction and foraging. Deposition of solids can also deplete instream oxygen levels as the material decomposes.

The project is subject to ongoing public regulatory authority under MPCA permitting. To address potential acidity (or pH) effects, the MPCA has identified the project would be subject to a pH effluent limit under the NPDES/SDS Multi-Sector General Industrial Stormwater Permit. Acidified drainage would receive some treatment by flowing into an un-named creek (via the drainage outlet) that flows through a mineral upland serving to moderate pH concentrations. Monitoring for pH would be required and additional measures could be prescribed to prevent pH from dropping below the established regulatory standard. For sediment, the proposed project is designed to prevent sediment flushes by routing all drainage water through maintained settling basins with controlled outlets as regulated under the NPDES/SDS Multi-Sector General Industrial Stormwater Permit. The SWPPP would require treatment of all project-related stormwater, including minimizing potential erosion and sedimentation. Given these measures the proposed project is not expected to affect fisheries resources in the Little Tamarack River.

j. Wildlife Resources and Habitat

This topic was addressed in EAW Item 13.

The project site provides habitat for a variety of mammals, birds, amphibians, and reptiles. Some of these animals are specially adapted to bog-type areas, with other species occurring in adjacent upland forests and brushlands in the vicinity of the Wright Bog. Wildlife present at the Wright Bog use the wetlands to varying degrees as primary or seasonal habitat depending upon the needs of individual species. Project-related site clearing and infrastructure development would eliminate most wildlife use of the site over the course of the project. For any wildlife that may remain at the site, increased human activities and noise associated with mining equipment and operations would create disturbance further displacing wildlife to adjacent or nearby habitats if present. These areas may not be as suitable for all species affected, or may increase competition for feeding, resting, and breeding habitat where habitat is available.

It is reasonable to expect that wildlife suited to early-successional bog conditions would re-inhabit the site once operations cease and the site is reclaimed under the provisions of the DNR Permit to Mine. Once the site is reclaimed and post-restoration bog habitat values re-emerge, the types, varieties, and numbers of wildlife at the bog would be expected to increase over time with establishment of a new population dynamic for each species. What would exactly happen is speculative but it reasonable to expect a species assemblage at the site similar to adjacent bog and upland areas over time in a process expected to take decades to unfold.

*Habitat*. The Wright Bog occurs in a general landscape made of intermixed patches of peatlands, upland forest, and areas of brushland and grassland. Vegetation at the bog site is a mixture of open and forested areas with a dense cover of *Sphagnum* moss throughout. Because all vegetation would be removed, any cover habitat value to wildlife from existing surface vegetation, for example shrubs and stunted trees, would be lost during site preparation. Such a loss of cover can be expected to reduce structural diversity as well as forage diversity. This habitat

loss would persist over the course of mining operations for both the mined areas and the restoration Donor Site. Road construction would also alter both bog and upland habitats over the course of the project, some of which would result in permanent habitat loss.

Post-project restoration of habitat values is subject to ongoing public regulatory authority under the DNR Permit to Mine and other wetlands regulations. Once the project is complete, site reclamation required under the DNR Permit to Mine would restore wildlife habitat values favoring early successional species with restoration measures in place. This would apply to both the mined and unmined parts of the former bog areas. Habitat provided by a *Sphagnum* moss dominated peatland plant community would be in place within 5-10 years of project completion. The post-project site would again provide bog-type habitat as the assemblage of trees, shrubs, mosses, and lichens re-establishes over time. Trees such as black spruce and tamarack would take additional time to establish and mature to pre-mining size and abundance. What would exactly happen is speculative but it is reasonable to anticipate a habitat condition similar to pre-project conditions, which would unfold over several decades. Other project features such as open water in ditches and sedimentation basins would provide limited habitat benefit for generalist species such as muskrat and mallards, but would not approach the quality of pre-project conditions.

k. Rare Species and Significant Natural Features

This topic was addressed in EAW Item 13.

The Minnesota Natural Heritage Program review for rare species and significant natural features did not identify any records for rare plants or animals within a one-mile radius of the project site. The review did, however, identify the following items relevant to the project's location: Minnesota Biological Survey (MBS) designated Sites of Biodiversity Significance; rare natural communities; old growth forest; state-listed mussels; and northern long-eared bat.

*MBS Sites of Biodiversity Significance*. The project site lies within a MBS-designated Site of Moderate Biodiversity Significance that covers 5,123 acres. Sites with a "moderate" ranking could contain occurrences of rare species and/or moderately disturbed native plant communities, and/or landscapes that have strong potential for recovery. This site's "moderate" designation was based on photo interpretation during the MBS assessment of Carlton County. The Natural Heritage Program recommended that site disturbance be minimized and measures taken to limit impacts to the surrounding native plant communities. Any ecological functions and values of the embedded natural communities would be lost on the acreages subjected to project development.

Post-project reclamation of the mined areas to a restored *Sphagnum* moss dominated bog is expected to eventually establish the ecosystem values of an early-successional bog and associated habitat. Site restoration is subject to the DNR Permit to Mine. Re-establishment of the bog would take decades after the project ceases. Whether the restored site would ever exhibit qualities meriting future classification as a Site of Biodiversity Significance is uncertain. If the surrounding natural communities are retained in the immediate area, and other adjacent Sites of Biodiversity are retained on the landscape too, then the restored site would contribute similar functions within the mosaic of more climax-status successional natural communities and related habitats.

*Old Growth Forest*. A designated Old Growth Forest stand lies within the Site of Moderate Biodiversity Significance in close proximity to the proposed discharge ditch. The Natural Heritage Program recommended the project be designed to avoid impacts to this natural feature. Because the drainage outlet would follow an established small stream channel, changes in hydrology that might affect the trees in the Old Growth Forest stand are not anticipated. If the project does raise the local water table in this area, then there could be some limited mortality to the surrounding lowland species, such as black spruce, tamarack, and cedar. Any impacts would persist over the course of the project and end with project completion and return of the water table to the pre-project condition.

*Rare Natural Communities*. The Site of Moderate Biodiversity Significance contains good quality examples of the following native plant communities: Northern Spruce Bog; Northern Open Bog; Northern Poor Fen; Northern Poor Conifer Swamp; Northern Rich Fen; Northern Wet Meadow; and Northern Shrub Swamp. One or more of the wetland communities noted above could also constitute a "rare natural community" under WCA. The Natural Heritage Program advised that disturbance within the Site of Biodiversity Significance be minimized, with measures taken to avoid/minimize disturbance to the surrounding native plant communities. Because all vegetation would be removed from the Phase 1 and 2 peat harvest zones leaving a bare mineral peat substrate, this would eliminate any acreage of these native plant communities that are present in the mining zone. Any native plant communities present where supporting infrastructure is proposed would be lost, but in a more limited, dispersed extent than anticipated in the mining areas.

Post-mining restoration under the DNR Permit to Mine would re-establish a layer of *Sphagnum* moss and associated peatland plants to completely cover harvested areas. Whether the restored condition results in a new species assemblage and wetland conditions that would be defined as a previous or new type of rare natural community in this part of the Wright Bog is unknown. What is likely is that an assemblage of trees, shrubs, persistent emergent, and emergent mosses or lichens would re-establish over time. Trees such as tamarack and black spruce would take additional time to establish and mature under a process taking decades to unfold. If the current native plant communities adjacent to the mining site persist into the future, then these areas could influence what eventually unfolds. Regarding project compliance with WCA's provisions governing impacts to rare natural communities, approval must be denied for wetland replacement plans for project activities determined to permanently adversely affect such a resource. The presence of a rare natural community and the potential for permanent adverse effect would be addressed during the WCA approval process.

*State-listed Mussels*. Although mussels are not expected to occur at the project site, the Natural Heritage Program noted that project-related discharges would eventually reach the Tamarack River. State-listed mussel species of special concern are known to occur in the Tamarack River. Mussels may be adversely affected by changes in water flow or deterioration in water quality, including sedimentation or siltation. No impacts to state-listed mussels are anticipated because conditions under the MPCA NPDES/SDS Permits would be protective of the water quality necessary for these species.

*Northern Long-eared Bat*. Habitat for the northern long-eared bat (*Myotis septentrionalis*) can be found throughout Minnesota. It is a state-listed species of special concern and federally-listed as threatened under the Endangered Species Act. In their active season, these bats roost under bark, in cavities, or in crevices in both live and dead trees. Activities typical to a peat mining operation that may affect this species include any disturbance of hibernacula and destruction/degradation of habitat, including tree removal. There are no known records of hibernacula for northern long-eared bats at the project site, so impacts of this type are not anticipated. Project-related tamarack removal would eliminate potential roosting sites if used by the species.

If the site is subject to potential use as habitat for northern long-eared bats, conducting tree harvest activity outside the June-July period, when young, pre-flight bats could be using the trees as nursery roosts, is the main means to avoid direct mortality. Conducting tree harvest mainly during the fall and winter months should reduce potential impacts, along with the measure of minimizing tree removal to only that level needed to meet project objectives. Sequencing tree removal over several seasons can also serve to mitigate habitat losses. If bogs do provide habitat for northern long-eared bats, then it would be decades before tamarack or other tree species grow to a size large enough to provide future potential roosting sites.

*Sharp-tailed Grouse*. Although not identified by the Natural Heritage Program database review, habitat for the bird species sharp-tailed grouse (*Typanuchus phasianellus*) is present at the site; this is also a Species of Greatest Conservation Need identified in the 2015 Minnesota Wildlife Action Plan. This species requires open landscapes that exhibit a mix of meadow, open bogs, and brushland. The larger this mix of habitats becomes, the more valuable it is as sharp-tailed grouse habitat. In addition, notable declines in sharp-tailed grouse populations have been observed in east-central Minnesota.

The project site exhibits habitat suitable for sharp-tailed grouse. This is evidenced by the presence of two historic leks or dancing grounds within 1.5 miles of the project site. The Wright Bog is located centrally between the two leks, with dancing activity recorded as recently as April 2017. The Wright Bog is a critical habitat connection between known bird populations in eastern Aitkin County and other populations in the Cromwell area of western Carlton County. Project-related clearing and disturbance would make the project site unsuitable as nesting, brood rearing, and foraging habitat over the course of project operations. The project is also likely to influence east-west movement of the species between the historic leks, and likely reduce movement of birds between the greater eastern Aitkin County and western Carlton County populations. Extirpation is unlikely but there may be local reductions in populations due to the project.

Limiting the duration of actual mining, coupled with progressive site restoration, would be the principal means of mitigating adverse effects to sharp-tailed grouse. Once mining is complete and the site is restored, the arrival of early successional bog conditions may provide habitat conditions suitable for the species as long as the species' other habitat requirements are met in adjacent areas. Elimination of human disturbance effects when mining is complete could also benefit the species. Because the project limits work to the north-central part of the Wright Bog, there is some east-west habitat connectivity across the southern end of the bog, allowing migration between the Aitkin and Cromwell sharp-tailed grouse populations over the course of the project.

l. Invasive Plant Species

This topic was addressed in EAW Item 13.

Project-related soil disturbance associated with road construction, and clearing of upland areas and vegetation, would expose mineral soils that could provide conditions conducive to the introduction or spread of invasive plant species. Examples include reed canary grass and narrow-leaved/hybrid cattail. Potential sources of invasive plant species include animals, birds and wind, operator clothing, or equipment or trucks entering the site from infested areas offsite. Gravel and clay used for road construction could provide a source of invasive seedstock. If invasive plant species do become established, then there is the potential for spread to adjacent non-bog areas such as uplands or along roadsides. Invasive plant species are not expected to establish on bog sites because of low tolerance for the acidic, low-nutrient soil conditions on the bog.

The Proposer commits to use only clean fill in project-related road construction consisting of felled trees from the site, and clay and gravel from established pits. Invasive plants would be manually or mechanically removed should an infestation occur, with application of wetland-approved herbicides as an available measure. The USACE Section 404 Permit requirement of a minimum of 15 cm of acidic, nutrient-poor peat over 35 cm of sedge peat would also help prevent invasive plant species infestations after site restoration.

m. Historic Properties

This topic was addressed in EAW Item 14 and Comment D1.

SHPO identified the project site as an area with the potential to contain archaeological sites. Because there are no current methods for conducting an archaeological survey in wetlands, SHPO recommended the preparation of an Unanticipated Discoveries Plan (UDP) for the project. The Proposer prepared a UDP for the project. SHPO reviewed the UDP, reported it as appropriate for this type of project, and placed it in their project file for future reference. The Proposer commits to implement the UDP over the life of the project.

n. Air Emissions

This topic was addressed in EAW Item 16.

The project would generate greenhouse gas (GHG) emissions in the form of carbon dioxide, methane, and/or nitrous oxide. These gases would be emitted by: 1) production machinery and processing plant operations; and 2) *in situ* decomposition of organic peat material. For fuel and energy used to harvest and process the peat resource, it is estimated the project would emit an average of approximately 1,799 tons of $CO_2$ equivalents per year from harvest of 3,000,000 cubic feet of peat annually. *In situ* peat decomposition from drained areas, ditches, and stockpiles is estimated to generate 2,366 tons of $CO_2$ equivalents per year. A one-time set of GHG emissions would result from land biomass clearing at the start of the project; this is estimated to be 1,172 tons $CO_2$ equivalents. If the one-time and annual emissions are limited to the 25-year duration of the project and summed, then this results in the emission of 105,284 tons of $CO_2$ equivalents over the life of the project.

It is anticipated that GHG emissions would decline as project activities terminate. Wetland restoration requirements under the DNR Permit to Mine should result in conditions where the bog eventually stores more $CO_2$ as undecomposed biomass than $CO_2$ emitted from plant respiration. Although not specifically assessed it is reasonable to expect it would take decades for the bog to return to the previous condition as a $CO_2$ sink.

o. Dust

This topic was addressed in EAW Item 16.

The project would potentially generate peat dust during site preparation, harvesting under dry and windy conditions, and peat transport (via truck) from the mine site to the processing plant. Potential effects can be addressed by limiting vacuum harvest during high wind conditions and employing covers on trucks when transporting peat. If dust problems are reported from local receptors due to harvesting, additional equipment can be fitted on the vacuum harvesters to reduce dust generation. Liquid dust suppression products would be applied on roadways if dust generation becomes a problem due to truck traffic.

p. Cumulative Potential Effects

This topic was addressed in the EAW under Item 19.

Cumulative potential environmental effects are the combined effects of the proposed project and past, present, and reasonably foreseeable future projects. *See* Minn R. 4410.0200, subp. 11a. Current and near future peat mining operations underway at the neighboring Black Lake Bog site were identified as a reasonably foreseeable project within the environmentally relevant area for the Project.

Environmental effects from the proposed project that could combine with effects from the Black Lake Bog project have been considered for wildlife habitat, traffic, and water discharges. Consideration of these cumulative potential effects is discussed below.

There would be a cumulative short-term reduction in wildlife habitat due to the removal of surface vegetation at the start of the Wright Bog operation while mining at the Black Lake Bog project continues; this includes habitat used by sharp-tailed grouse. Cessation of mining activity at the Black Lake Bog site, accompanied by the staged restoration of onsite wetlands in closure, would reduce this potential cumulative effect over the course of operations at the Wright Bog. Progressive reclamation, which re-establishes habitat values for both sites, would be a requirement of the DNR Permit to Mine for the Wright Bog facility, and is already a requirement for the Black Lake Bog operation.

Cumulative traffic from both projects would be dispersed over a wider area than present. Although the areal extent of truck traffic would increase, there should be no net increase in truck traffic due to the fixed production capacity of the packaging plant. Truck traffic at the Black Lake Bog site should diminish to zero once mining there ceases, thus eliminating the cumulative effect when that happens.

Water discharged from both the Wright Bog and Black Lake Bog operations would be directed to the Little Tamarack River. The cumulative effect would persist over the initial 4-7 years of operations at the Wright Bog, until the Black Lake Bog operation closes and that site is restored. Available water quality data suggests the cumulative discharge would remain within regulatory limits. Regarding cumulative water quantity from these discharges, the volume of water leaving both the Wright Bog and Black Lake Bog sites would be unlikely to result in a noticeable change in streamflow or downstream impacts. Any cumulative effect would decline and eventually cease with termination of operations at the Black Lake Bog. Water quality effects are subject to MPCA NPDES permitting authority. Water quantity effects are subject to DNR Water Appropriation Permit authority.

No other potential cumulative effects are anticipated for the Project.

11. The DNR requested and EQB granted a 15-day extension for making a decision on the need for an EIS. *See* Minn. R. 4410.1700, subp. 2b.

12. The following permits and approvals are needed for the Project:

| Unit of government | Type of application |
|---|---|
| DNR | Permit to Mine |
| | State Peat Lease |
| | Water Appropriation Permit |
| MPCA | NPDES/SDS Individual Wastewater Permit |
| | NPDES/SDS Multi-Sector General Industrial Stormwater Permit |
| | Construction Stormwater Permit |
| | Clean Water Act Section 401 Certification |
| | Above-Ground Tank Notification |
| | Hazardous Waste Generator License |
| Carlton County | Building Permit |
| | Wetland Conservation Act |
| USACE | Clean Water Act Section 404 Permit |

## CONCLUSIONS

1. The Minnesota Environmental Review Program Rules, *Minnesota Rules* part 4410.1700, subparts 6 and 7, set forth the following standards and criteria to compare the impacts that may be reasonably expected to occur from the project in order to determine whether it has the potential for significant environmental effects.

   *In deciding whether a project has the potential for significant environmental effects, the following factors shall be considered:*

   *A. type, extent, and reversibility of environmental effects;*

B. *cumulative potential effects. The RGU shall consider the following factors: whether the cumulative potential effect is significant; whether the contribution from the project is significant when viewed in connection with other contributions to the cumulative potential effect; the degree to which the project complies with approved mitigation measures specifically designed to address the cumulative potential effect; and the efforts of the proposer to minimize the contributions from the project;*

C. *the extent to which the environmental effects are subject to mitigation by ongoing public regulatory authority. The RGU may rely only on mitigation measures that are specific and that can be reasonably expected to effectively mitigate the identified environmental impacts of the project; and*

D. *the extent to which environmental effects can be anticipated and controlled as result of other available environmental studies undertaken by public agencies or the project proposer, including other EISs.*

2. *Type, extent, and reversibility of environmental effects.*

Based on the Findings of Fact paragraphs 10a to 10o, the DNR concludes that the following types of potential environmental effects, as described in the Findings of Fact, will be limited in extent, temporary, or reversible:

Project Construction
Land Cover Types
Water Quantity
Water Quality
Stormwater
Wetlands
Local Water Table Drawdown
Hazardous Materials
Fisheries Resources
Wildlife Resources and Habitat
Rare Species and Significant Natural Features
Invasive Plant Species
Historic Properties
Air Emissions
Dust

3. *Cumulative potential effects. The RGU shall consider the following factors: whether the cumulative potential effect is significant; whether the contribution from the project is significant when viewed in connection with other contributions to the cumulative potential effect; the degree to which the project complies with approved mitigation measures specifically designed to address the cumulative potential effect; and the efforts of the proposer to minimize the contributions from the project.*

The effects of all past projects comprise the existing condition of the project area. Cumulative environmental effects add the proposed project and reasonably foreseeable future projects to the existing condition.

As described in Findings of Fact paragraph 10p, there is an adjacent peat mining operation located at the Black Lake Bog with the potential to interact with the proposed Project. Both the proposed Project and the Black Lake Bog operation are respectively subject to the approvals that address some of the potential cumulative effects. Potential cumulative habitat effects would be addressed by the progressive reclamation provisions of the DNR Permit to Mine. Potential cumulative water quality effects to the Little Tamarack River would be addressed by the water quality provisions of the MPCA NPDES/SDS Permits. Potential cumulative water quantity effects to the Little Tamarack River would be addressed by the water quantity provisions of the DNR Water Appropriation Permit.

Based on the Findings of Fact above, the DNR concludes that the cumulative potential environmental effects due to habitat loss, traffic, and water quality and quantity discharges to the Little Tamarack River are not significant when viewed in connection with: other contributions; the degree to which the project complies with mitigation measures to minimize project impacts; and/or the efforts the proposer has made to minimize contributions from the project.

4. *Extent to which environmental effects are subject to mitigation by ongoing public regulatory authority.*

Based on the information in the EAW and Findings of Fact above, the DNR concludes that the following potential environmental effects, as described in Findings of Fact paragraphs 10a through 10p, are subject to mitigation by ongoing public regulatory authority:

Prior to initiation of this project, the following permits and approvals would be required: DNR Permit to Mine; DNR State Peat Lease; DNR Water Appropriation Permit; MPCA NPDES/SDS Multi-Sector General Industrial Stormwater Permit; MPCA NPDES/SDS Individual Wastewater Permit; MPCA Construction Stormwater Permit; MPCA 401 Certification; MPCA Above-Ground Tank Notification; MPCA Hazardous Waste Generator License; Carlton County Building Permit; Carlton County WCA Approval; and USACE Section 404 Permit. When applying the standards and criteria used in the determination of the need for an environmental impact statement, the DNR finds that the project is subject to these regulatory authorities to an extent sufficient to mitigate potential environmental effects through measures identified in the EAW and Record of Decision.

Environmental effects due to project construction are subject to mitigation by ongoing public regulatory authority from DNR's Permit to Mine as well as MPCA's Construction Stormwater Permit. Site reclamation is subject to mitigation by ongoing public regulatory authority from DNR's Permit to Mine. The Proposer commits to employ appropriate water quality BMPs for construction of the equipment yard and access roads.

Environmental effects to land cover types are subject to mitigation by ongoing public regulatory authority from DNR's Permit to Mine, including site preparation, mining operations, and site closure and reclamation. The Proposer commits to employ the "Canadian Method" to restore the mined areas to a bog-type condition. The Carlton County Building Permit would also address potential effects from construction of site infrastructure.

Environmental effects to water quantity from site dewatering are subject to mitigation by ongoing public regulatory authority from the DNR Water Appropriation Permit.

Environmental effects to water quality from industrial discharges are subject to mitigation by ongoing public regulatory authority from MPCA's NPDES/SDS Industrial Wastewater Permit and NPDES/SDS Multi-Sector General Industrial Stormwater Permit.

Environmental effects from stormwater are subject to mitigation by ongoing public regulatory authority from MPCA's Construction Stormwater Permit and NPDES/SDS Multi-Sector General Industrial Stormwater Permit.

Environmental effects to wetlands are subject to mitigation by ongoing public regulatory authority from the DNR Permit to Mine, the Carlton County Wetland Conservation Act Approval, the USACE Section 404 Permit, and the MPCA 401 Certification. Proposer commitments to employ the state-of-the-art "Canadian Approach" in wetland restoration efforts also address impacts to wetland resources.

Environmental effects resulting from local water table drawdown are subject to mitigation by ongoing public regulatory authority from the DNR Water Appropriation Permit and USACE Section 404 Permit.

Environmental effects resulting from the use, storage, and/or spills of hazardous materials are subject to mitigation by ongoing public regulatory authority under the MPCA Above-Ground Tank Notification and MPCA Hazardous Waste Generator License.

Environmental effects to fisheries resources are subject to mitigation by ongoing public regulatory authority from the MPCA NPDES/SDS Multi-Sector General Industrial Stormwater Permit and MPCA NPDES/SDS Individual Wastewater Permit.

Environmental effects to wildlife resources and habitat are subject to mitigation by ongoing public regulatory authority from the DNR Permit to Mine, including site reclamation requirements in closure. Conditions of the MPCA Construction Stormwater Permit also address wildlife and habitat impacts. Proposer commitments to employ the "Canadian Approach" in wetland restoration efforts also address impacts to wildlife habitat.

Environmental effects to rare species and significant natural features are subject to mitigation by ongoing public regulatory authority from the DNR Permit to Mine, the DNR Water Appropriation Permit, the MPCA NPDES/SDS Multi-Sector General Industrial Stormwater Permit, and MPCA NPDES/SDS Individual Wastewater Permit. Proposer commitments to control invasive plant species, limit tree harvest to periods outside the June-July nursery roosting period for northern long-eared bat, and restore the site to a *Sphagnum*-dominated wetland community also address potential impacts to rare species.

Environmental effects resulting from invasive plant species are subject to mitigation by ongoing public regulatory authority from the DNR Permit to Mine. Proposer commitments to use only clean fill and

control any plants that may colonize the site also address potential effects due to the establishment and spread of invasive plant species.

Environmental effects to historic properties are subject to mitigation by ongoing public regulatory authority under the oversight of the State Historic Preservation Office. The Proposer had developed and commits to implementing an Undiscovered Properties Plan developed for the project.

Environmental effects from air emissions are subject to mitigation by ongoing public regulatory authority from the DNR Permit to Mine. Proposer commitments to employ the "Canadian Approach" in wetland restoration efforts also address impacts due to air emissions.

Environmental effects due to dust are subject to mitigation by ongoing public regulatory authority from the DNR Permit to Mine. Proposer commitments to control dust also address potential effects.

5. *Extent to which environmental effects can be anticipated and controlled as a result of other environmental studies undertaken by public agencies or the project proposer, or other EISs.*

   Environmental studies undertaken by the Proposer include:

   Annual Report to U.S. Army Corps of Engineers. Premier Horticulture Black Lake Bog. Permit No. 03-06208-TWP. December, 2013.

   Archaeological Assessment of a Proposal to Develop About 315 Acres of the Wright Bog for Horticultural Peat Extraction, Beseman Township, Carlton County, Minnesota. Report by Archaeological Research Services. SHPO File Number: 2006-1868. November, 2006.

   Black Lake Bog Hydrologic Monitoring Plan (HMP). Prepared in compliance with U.S. Army Corps of Engineers 404 Permit No. 03-06208-TWP. 2005.

   Description of Replacement Wetland Construction. Proposer Report. December, 2016.

   Wetland Delineation Report for Premier Peat. Gary B. Walton, Field Botanist. November, 2015.

   Wright Bog Vegetation Assessment and Rare Plant Survey. Gary B. Walton. November, 2005.

   Guidance documents are based on the best available scientific studies that have been tested and approved by regulatory authorities. The Wright Bog Horticultural Peat Project is being designed in accordance with:

   Peatland Restoration Guide – Second Edition. Quinty and Rochefort. 2003. New Brunswick Department of Natural Resources and Energy and Canadian Sphagnum Peat Moss Association. 120 pp.

6. The DNR has fulfilled all the procedural requirements of law and rule applicable to determining the need for an environmental impact statement on the proposed Wright Bog Horticultural Peat Project in Carlton County, Minnesota.

7. Based on consideration of the criteria and factors specified in the Minnesota Environmental Review Program Rules (*Minnesota Rules* part 4410.1700, subparts 6 and 7) to determine whether a project has the potential for significant environmental effects, and on the Findings and Record in this matter, the DNR determines the proposed Wright Bog Horticultural Peat Project does not have the potential for significant environmental effects.

## ORDER

Based on the above Findings of Fact and Conclusions:

The Minnesota Department of Natural Resources determines that an Environmental Impact Statement is not required for the Wright Bog Horticultural Peat Project in Carlton County, Minnesota.

Any Findings that might be properly termed Conclusions and any Conclusions that might be properly be termed Findings are hereby adopted as such.

Dated this 13th day of February, 2018

**STATE OF MINNESOTA**
**DEPARTMENT OF NATURAL RESOURCES**

Barb Naramore
Assistant Commissioner