Yukon Water Board

Office des eaux du Yukon

Information Bulletin

May 16, 2022

Public Input on the Draft *Wetland Information Guidelines for Placer Applications*

The Yukon Water Board is in the process of developing new *Wetland Information Guidelines for Placer Applications*. These *Guidelines* aim to provide a brief and practical guide for applicants when providing wetland information supporting their placer undertaking application. The draft *Guidelines* are available now at www.yukonwaterboard.ca and attached to this bulletin.

What are the new *Guidelines* and how will they be used?

The new *Guidelines* aim to provide placer undertaking applicants a brief and practical guide when providing wetland information to the Board. They complement the information gathered by the Water Licence and Class 4 Mining Land Use Approval application form.

Placer applicants will use the guidelines to provide the necessary information with their application when their project overlaps with or otherwise may affect wetlands. The Yukon Water Board Secretariat Licensing Officers will look for the necessary wetland information during the application completeness and adequacy review at the time of application.

Why is the Board developing new *Guidelines*?

The Board held a public interest hearing about placer mining in wetlands in October, 2020 and drafted a What We Heard Report (August, 2021). The Board heard in "Theme 3: Information Requirements for Water Licensing" that there is a need to balance providing standard templates and guidance, with gathering detailed site-specific information for the regulatory decision-making process. The *Guidelines* attempt to meet this need by providing clarity and direction to all participants in the regulatory process.

How can I provide input?

You can provide input by submitting your comments by email to ywb@yukonwaterboard.ca by **June 15, 2022 at 4:00 PM**. For more information on the Guidelines and their development, please contact the Yukon Water Board directly at ywb@yukonwaterboard.ca or 867-456-3980.

How will my input make a difference?

Your feedback will help inform the drafting of the final version of the *Guidelines*. This will ensure that the new *Guidelines* services the best interests of placer applicants and participants in the regulatory process.

Suite 106, 419 Range Road, Whitehorse, Yukon Y1A 3V1 Ph: 867-456-3980 Fax: 867-456-3890
419, chemin Range, bureau 106, Whitehorse (Yukon) Y1A 3V1 Tél: 867-456-3980 Téléc: 867-456-3890
ywb@yukonwaterboard.ca www.yukonwaterboard.ca

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WETLAND INFORMATION GUIDELINES FOR PLACER MINING APPLICATIONS

March, 2022

Suite 106 - 419 Range Road, Whitehorse, YT, Y1A 3V1, P: (867) 456-3980

Fax: (867) 456-3890 Email: ywb@yukonwaterboard.ca Website: www.yukonwaterboard.ca

Yukon Water Board
Suite 106, 419 Range Rd. (A419)
Whitehorse, Yukon
Y1A 3V1

Inquires may also be directed to
867-456-3980 or ywb@yukonwaterboard.ca

Table of Contents

Purpose

This document details the requirements for the site-specific wetland information an applicant is to submit to the Yukon Water Board (Board) in support of their water licence and Class 4 Mining Land Use approval application.

Overview

The Board has responsibilities under the *Waters Act* (*WA*) and also under Chapter 14 of the Yukon First Nations Final Agreements (YFNFA). The *WA* and the YFNFAs confirm that the Board is the sole regulator in Yukon for the use of water and deposit of waste into water. The Board's main responsibilities are to issue, renew, cancel, amend and assign water licences. As the regulator of water in Yukon, the Board also has obligations under the *Yukon Environmental and Socio-economic Assessment Act* (*YESAA*) and has responsibilities under the *Placer Mining Act* (*PMA*) as a result of a transfer of authority from Government of Yukon. The transfer of authority under the *PMA* enables the Board to act as Chief for the purposes of approving Class 4 placer mining operating plans, among other responsibilities.

This document details the wetland information an applicant is to provide the Board in support of their water licence and Class 4 Mining Land Use approval application. Applicants are to use this document to provide site-specific wetland information to support their application when wetlands are identified during the assessment or licensing process. Applicants that provide the information consistent with this document help the Board to efficiently review applications.

Each section in this document specifies required wetland information an applicant is to provide to the Board. Applicants are expected to provide information about the following:

1. Wetlands in the project area
2. Impacts to wetlands
3. Mitigation of Impacts
4. Project Closure

The information that applicants provide is evidence that supports the application for a water licence and approval. The Board also uses the information to fulfill its statutory and common law obligations during the licensing and approval process. Some of the information may also be required by assessors in the Yukon Environment and Socio-Economic Assessment Board's assessment process or may be useful when preparing a progressive wetland reclamation plan.

Reference Documents

Supplemental information about the Board's roles and responsibilities as both a regulator under the *WA* and as Chief, for certain functions, under the *PMA* can be found in the Board's *Operation and Administration Manual*.

General guidelines for wetland information and additional resources that may be helpful in providing wetland information can be found in the Board's *Draft Wetland Information Guidelines (Version 2)*. These documents are available on the Board's website at www.yukonwaterboard.ca.

Potential Licence or Approval Conditions

If the Board decides to issue a water licence and approval, either authorization may contain conditions relating to the following:

- A requirement to submit a progressive wetland reclamation plan that aligns with the operating plan and final site decommissioning plan in the application. This may include a requirement to provide reclamation cost estimates as circumstances warrant.
- A requirement to furnish and maintain security.
- A requirement for additional monitoring, in addition to any monitoring proposed in the application. This additional monitoring may track the overall performance of the project and identify emerging problems in their early stages. For example, measuring and monitoring receiving water quality and biological and physical impacts.
- A requirement to submit new, or provide updated, plans to the Board.

Applicant Information Requirements

1 Wetlands in the Project Area

In this section, identify and classify wetlands in accordance with the *Canadian Wetland Classification System* (National Wetlands Working Group, 1997) and available guidance in the Yukon's Ecological and Landscape Classification System, when possible. The Board uses the wetland classification information to evaluate your projects impacts to wetlands in the context of the class of wetlands present on the landscape. Definitions for each wetland class is round in Appendix A.

1.1 Wetland Classification

- **Provide a description of the location and class of wetlands that are:**
  - **Located within the project area (within the claim boundaries)**
  - **Located outside the project area (adjacent to or downstream of claim boundaries).**
- **Tabulate the area (in hectares) of each wetland class.**
- **Illustrate the location, area and class of wetlands on a map.**

Describe and classify each wetland. Indicate the location, boundaries and classification of each wetland on a map. Specify the area (hectares or square metres) of each wetland class and the measurement method. Consider providing representative photographs to support the description and classification of each wetland. If you are mapping wetlands in your project area, complete the identification to the class-level (i.e. bog, fen, swamp, marsh, shallow open water).

1.2 Water Flows and Water Quality

- **Describe water flows of each wetland area.**
- **Provide a description of water quality for each wetland area.**

Use this section to describe the wetland's source of water, any flow patterns and water quality. In your description of water flows and water quality, consider including:

- Flow measurements, site photographs, mapping or site surveys.

- The source of surface and groundwater and how it passes through the wetland on a seasonal basis.
- The location and quality of any open water, surface inflows or outflows.
- Locations and timing of observations so that seasonal variability can be understood.

In certain circumstances, applicants may consider using a trained person for the collection and analysis of specific field observations. Examples of specific field water quality measurements can include:

- total settleable solids (using an Imhoff Cone) or total suspended solids (laboratory analysis).
- water temperature,
- pH,
- conductivity, and
- dissolved oxygen.

Measurements should also support the analysis of your project's impact wetlands (Section 2) and inform site monitoring plans to verify the effectiveness of any mitigation plans (Section 3).

2 Impacts to Wetlands

Use this section to describe and illustrate your project's impacts to wetlands. Consider impacts to wetlands from:

- Mining activities in the proximity to, or overlap with, wetlands. For example, excavation of overburden through a wetland.
- Direct or indirect deposit of waste. For example, discharges from settling pond water or sediment-laden water from site runoff.
- Direct or indirect use of water. For example, management of excavation sump water, thawing of permafrost, draining adjacent wetlands from excavation or stripping, or watercourse diversions.

2.1 Within the project area

- **Identify the project footprint in relation to wetlands on a map.**
- **Describe the impacts and provide a rationale for siting project components within wetlands in the project area.**

Identify the project footprint on a map and illustrate any overlap with wetlands within the claim boundaries. Provide a rationale for siting project components within the wetlands. This includes the location of cuts, trenches, access roads, and overburden and tailings stockpiles.

2.2 Outside the Project Area

- **Identify and describe potential wetland impacts adjacent to or downstream of the project.**

Mining activities may impact wetlands adjacent to or downstream of your project. Identify and describe any potential impacts to wetlands that are adjacent to the claim boundaries or to those that may be downstream in the receiving environment. Include any supporting evidence or rationale that supports the description of the impact or lack of impact to wetlands.

3 Mitigation of Impacts

Activities that use and follow a mitigation hierarchy with clear rationale, help the Board in:

- Evaluating the impacts from the project; and
- If the activities promote the maintenance of water in a natural condition and provide for its sustainable use.

The hierarchy for managing impacts to wetlands from placer mining activities consists of:

1. Avoidance - avoid impacting wetlands;
2. Minimization – reduce to the extent practicable unavoidable impacts;
3. Reclamation - reclaim impacted wetlands.

Provide a description of the mitigations for impacts to wetlands from your project. Include details about any plans or measures to monitor the success of the mitigations.

Provide a description of any mitigations that are part of your project and how the mitigation avoids, minimizes or reclaims the impacts to wetlands. In your description, consider the impacts identified in the previous section and how your operation considers the mitigation hierarchy.

When mitigations consider the use of buffers (a no-disturbance set back from a wetlands' boundary) around each wetland area, provide a clear rationale and description of their sizes. The size of buffers should consider:

- The type of wetland that you are avoiding.
- The existing site characteristics including landforms, slope, geology, and permafrost.
- The type, timing and duration of disturbance.
- The post-mining landscape that your project will achieve.

4 Project Closure

In this section, describe the wetland-specific project closure activities. The description does not comprise a progressive reclamation plan; however some of the information may be useful in its preparation if required by a licence or approval. The description should not be a summary of best practices for reclamation and must be specific to your project. The Board uses this information to evaluate the conditions of the project area that the operator intends to achieve at the end of the operating plan.

4.1 Wetland Reclamation

Provide a schedule for progressive wetland reclamation consistent with your operating plan.
Illustrate the location, area and class of reclaimed wetlands on a map.

Provide a site-specific schedule to demonstrate your operations progressive wetland reclamation and its feasibility through the life of the licence and approval. Illustrate and identify the wetland class areas that your operation will achieve, at closure, on a map. Be sure to specify the areas of wetlands that are reclaimed to:

- A non-wetland condition.
- The same wetland class.
- A different wetland class.

- A new (constructed) wetland.

4.2 Tabulate Reclaimed Wetland Areas

Tabulate wetland areas (by class) at the completion of reclamation.

Tabulate the proposed wetland areas (by class) to summarize wetland areas for when reclamation is complete at the end of the licence and approval. The table will detail (in square metres or hectares) the wetland areas that ground conditions at closure intend to achieve.

References Cited

National Wetlands Working Group, 1997. The Canadian Wetland Classification System, 2nd Edition. Warner, B.G. and C.D.A. Rubec (eds.), Wetlands Research Centre, University of Waterloo, Waterloo, ON, Canada, 68 p.

Department of Environment. 2017. Field Manual for Describing Yukon Ecosystems. Department of Environment, Government of Yukon. Whitehorse, Canada.

Wetland Information Requirements Checklist

1 - Wetlands in the Project Area

- ☐ Provide a description of the location and class of wetlands that are:
  - Located within the project area (within the claim boundaries)
  - Located outside the project area (adjacent to or downstream of claim boundaries).
- ☐ Tabulate the area (in hectares) of each wetland class.
- ☐ Illustrate the location, area and class of wetlands on a map.
- ☐ Describe water flows of each wetland area.
- ☐ Provide a description of water quality for each wetland area.

2 - Impacts to Wetlands

- ☐ Identify the project footprint in relation to wetlands on a map.
- ☐ Describe the impacts and provide a rationale for siting project components within wetlands in the project area.
- ☐ Identify and describe potential wetland impacts adjacent to or downstream of the project.

3 – Mitigation of Impacts

- ☐ Provide a description of the mitigations for impacts to wetlands from your project. Include details about any plans or measures to monitor the success of the mitigations.

4 - Project Closure

- ☐ Provide a schedule for progressive wetland reclamation consistent with your operating plan.
- ☐ Illustrate the location, area and class of reclaimed wetlands on a map.
- ☐ Tabulate wetland areas (by class) at the completion of reclamation.

Appendix A: Wetland Class Definitions

Wetland Classes

The following five wetland classes are defined in the Canadian Wetland Classification System and are depend on their developmental characteristics and the environment in which they exist. Table 1, below presents a description of each of the five wetland classes.

Table 1: Wetland class definitions

1. Bog

Bogs are peat-covered wetlands (peatlands), in which the vegetation shows the effects of a high water table and a general lack of nutrients. The bog surface is often raised relative to the surrounding landscape and isolated from mineralized soil waters. The surface waters of bogs are strongly acid and the upper peat layers are generally nutrient poor. At least 40 cm of peat are present. The plant community is dominated by cushion forming Sphagnum mosses (peat mosses), ericaceous shrubs and black spruce trees.

2. Fen

Fens are peatlands characterized by a high water table, but with very slow internal drainage by seepage. Similar to bogs, the surface water in fens is also generally nutrient poor and the peat layer is at least 40 cm thick. The vegetation in fens usually reflects the water quality and quantity available, resulting in three basic types: graminoid fens without trees or shrubs, shrub fens, and treed fens. Dominant plants include black spruce, tamarack, sedges, grasses, and various mosses.

3. Swamp

Swamps are wetlands where standing or gently moving waters occur seasonally or persist for long periods, leaving the subsurface continuously waterlogged. The water may also be present as a subsurface flow of mineralized water. The water table may drop seasonally below the rooting zone of the vegetation, creating aerated conditions at the surface. Their substrate consists of mixtures of mineral and organic materials, and peat deposited may be present. The vegetation may consist of dense coniferous or deciduous forest, or tall shrub thickets.

4. Marsh

Marshes are wetlands that are periodically inundated by standing or slowly moving water and hence are rich in nutrients. Marshes are mainly wet, mineral-soil areas, but shallow, well-decomposed peat may be present. Marshes are subject to a gravitational water table, but water remains within the rooting zone of plants for most of the growing season. They are characterized by an emergent vegetation of reeds, rushes or sedges and the absence of woody vegetation.

5. Shallow open water.

Shallow open water wetlands, also known as ponds or sloughs, are relatively small bodies of standing water, representing a transition stage between lakes and marshes. The surface waters impart an open aspect, free of emergent vegetation, but floating, rooted, aquatic plants may be present. The depth of water is usually less than 2 metres in mid-summer.