



June 30, 2020

Yukon Mineral Development Panel
PO Box 372
108 Elliott St.
Whitehorse, YT
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Dear Ms. Alatini, Mr. Robertson, and Mr. Eaton,

Thank you for your time during Ducks Unlimited Canada's presentation on May 21, 2020. This submission serves as a follow up that provides more detail on the issues raised and recommendations we provided as well as response to the questions the Panel asked.

Introduction:

Ducks Unlimited Canada (DUC) has been active in the Yukon since the 1980's working to conserve wetlands and waterfowl habitat through a variety of processes including land use planning, First Nation final agreement implementation, and policy development. We achieve conservation through a mixture of protection and sustainable land use practices using our science-based approach to find pragmatic solutions for the issues at hand.

Yukon wetlands are diverse. One can find all five classes of wetlands described in the Canadian Wetland Classification System including bog, fen, swamp, marsh, and shallow open water in the Yukon. These wetlands range in appearance from open water to covered in trees and shrubs. Through this diversity, wetlands provide numerous benefits to people. Wetland functions include water filtration, water storage, biodiversity, and carbon storage. These functions provide value to people such as clean water, flood and drought mitigation, plant and animal habitat for subsistence and enjoyment, and climate change mitigation.

However, wetlands are susceptible to negative impacts by mineral development activities. For example, placer mining operations commonly occur in wetlands as there is a correlation between where the gold and wetlands are found – namely in valley bottoms and on old flood plains. Many of the wetlands are fens or swamps. Reclamation endpoints are currently a mixture of marsh or shallow open water and upland habitats. This changes the functions and values that are available for people. Access roads for mineral development almost invariably will cross a wetland along their route and if not constructed appropriately can negatively impact wetlands.

Below we provide five topics that we believe should be addressed by the Yukon Mineral Development Strategy (YMDS). We suggest adoption of these recommendations will greatly aid in the conservation of wetlands as well as allow a responsible mining industry to provide the needed economic benefit the Yukon desires.



Wetland Policy:

One of the main issues affecting the mining industry in the Yukon today is how to balance the impacts of mining, predominantly placer mining, in wetlands. This issue has resulted in difficulties for miners to get permits and the negative impacts on wetlands continues once permits are issued. The lack of clear goals and direction regarding working in wetlands has created this uncertainty which has nearly paralyzed the industry, particularly in the Indian River watershed.

DUC believes that a robust wetland policy that is based on the mitigation sequence – avoid, minimize, and offset any negative impacts – to achieve no-net-loss of wetland function and/or value can play a major role in removing this uncertainty. However, this wetland policy needs to be in place prior to implementing many of the other aspects this YMDS will provide recommendations on. We believe that without a wetland policy in place, the YMDS will not be successfully implemented.

Currently, there is an interim policy in place to guide placer mining in wetlands for the Indian River watershed. We have concerns with this policy and suggest that it is a bad example of a wetland policy and should not be incorporated in any manner within the YMDS. The Panel asked for more detail on what our concerns are and why this policy should not be used. We provide these details here.

The stated goals of the Interim Wetland Policy for Placer Mining in the Indian River are to minimize the effects of placer mining in wetland areas and provide more effective licensing of placer mining. DUC believes this policy has a pro-development orientation that does not adequately address wetland conservation and therefore will not achieve either of its stated goals – if the wetland goals are not achieved this will subsequently result in the failure to improve the licensing process. This policy also does not address issues regarding waterfowl including the loss of natural open water and marsh habitats that is allowed and reclamation guidelines that do not maximize productive waterfowl habitat. This policy will be unsuccessful and/or poorly suited for balancing broader environmental concerns due to the lack of consideration of development impacts to wetland hydrology and permafrost maintenance, improper advice on the usage of existing mapping products, poor reclamation guidelines, built in time lags for monitoring, and loss of natural waterfowl habitat. For more details on the reasons we believe this policy will be unsuccessful please see Appendix 1.

Recommendation #1: Urgent completion of the Wetland Policy as an integral component of implementing the YMDS

Recommendation #2: The Indian River Interim Wetland Policy for Placer Mining should not be used as a guide for any recommendations within the YMDS

Land Use Planning:

Land use planning provides the guidance necessary for making land use decisions. Opportunities for conservation and responsible mining can often be improved under the context of a well considered land use plan. A well considered land use plan will bring forward all information and viewpoints to allow transparent decisions to be made. In the Yukon, this format has occurred with the North Yukon and Peel Watershed land use plans. While these processes may not have gone as smoothly as they should, our

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hope is that lessons have been learned that will ensure future processes occur in a transparent manner. Completing land use plans across the Yukon would provide the guidance necessary to balance conservation with a strong mining economy.

In past land use planning processes, not having an interim land withdrawal in place while the planning occurred caused conflict as areas that may potentially be most valuable for conservation could have mineral claims added. New claims further predispose the area for mining making the ability to determine whether an area is better suited for mining or some other land use such as conservation more difficult. An interim land withdrawal while a plan is being written would allow decisions to be made without the status of the land being changed through new mineral claims.

Recommendation #3: Land use planning to guide where and how responsible mining will take place should be initiated as soon as possible

Recommendation #4: Consideration should be given for interim land withdrawals if deemed necessary as planning begins

Best Management Practices:

Best Management Practices (BMPs) are practices that can be applied to avoid or minimize adverse effects and that represent the best current knowledge and methods. BMPs are recommendations that are intended to support key environmental values such as wetlands. While regulations do set the minimum standard to gain a permit for development activity, to achieve the goals of government policy or land use plans the use of BMPs is usually required. As land use plans and other policies, including a wetland policy, come online over the next number of years in the Yukon, there will be a need for Yukon specific BMPs that take into account the unique circumstances of the Yukon including the climate, the geology, and the social considerations. Currently there are few BMPs, at least for wetlands, that can be used with confidence of achieving the desired outcome. Creation of new BMPs is necessary to allow the mining industry to move forward. However, there are some very generalized BMPs that can be adopted right away such as avoidance and minimization of negative impacts.

As BMPs are adopted and implemented, it should be done under an adaptive management framework where each BMP is monitored, evaluated, and adapted. The Yukon has its own set of challenges for land development and it is unlikely that any BMP will be perfect at the outset. There will be room for improvement and determining how well a BMP is performing and adapting the aspects that are not working well will lead to better environmental outcomes over time.

Additionally, provision of a suite of BMPs can promote voluntary changes to the way companies do business. Use of BMPs can enhance market access for products mined in a sustainable manner. Programs such as third-party eco-certification, such as Initiative for Responsible Mining Assurance (IRMA), can lead to improved environmental and often economic outcomes as seen in other industries like forestry.



The Panel asked for examples of BMPs that are working in other jurisdictions. DUC has been involved in partnerships with industry to create BMPs around road construction and incidental mortality of waterfowl due to development activities. Roads crossing wetlands is a common occurrence and will be for any resource access road constructed in the Yukon. In partnership with FPInnovations, we produced a document (<https://boreal.ducks.ca/publications/resource-roads-and-wetlands-a-guide-for-planning-construction-and-maintenance/>) describing how to plan, construct and maintain roads, primarily for forestry, that is in use across Canada. Unfortunately, this document does not address road construction in permafrost areas. We produced a document (<https://boreal.ducks.ca/publications/forestry-and-waterfowl-assessing-and-mitigating-risk-practitioner-guide/>) in partnership with a number of forestry companies that provides guidance to aid industry to meet their requirements under the Migratory Birds Convention Act. Although geared towards meeting regulatory requirements, adoption of the enhanced measures provided within this document can be considered BMPs. An approach such as this could be adapted to fit the needs of the mining industry in the Yukon. As well, the Manitoba government released a codes of practice document for work that occurs in or around boreal wetlands (https://gov.mb.ca/sd/pubs/forestry_peatlands/boreal_codes_practice.pdf) that is in the process of being implemented (see below for detail in the Legislative Modernization section).

Recommendation #5: Establishment of, and investment in, environmental best management practices for all aspects of mineral development including exploration, construction, operation, reclamation, and decommissioning

Recommendation #6: Adopt relevant generally accepted and proven BMPs from other jurisdictions such as avoid negative impacts first or use methods that minimize negative impacts

Recommendation #7: BMPs should be monitored, evaluated, and adapted

Recommendation #8: Consider third party eco-certification (e.g. IRMA)

Ecological Knowledge:

Unfortunately, the Yukon is a data poor jurisdiction with respect to ecological data due in part to its remoteness, small population, and limited resources. This results in land use decisions being made in the absence of Yukon relevant data and knowledge. When decisions can be made with adequate data it leads to more informed and balanced decision making as well as certainty within industry. Acquisition of data and knowledge of what ecological resources exist (e.g. a wetland inventory), how the environment functions (e.g. wetland assessment), and how the environment responds to development (e.g. ecological tipping points) prior to projects entering the proposal phase is needed for many reasons.

Provision of ecological knowledge to all stakeholders allows for equitable information sharing. When all sides of an issue have the same information, it promotes conversations regarding how to balance differing values. It also streamlines the permitting process as critical information is available at the beginning of the environmental assessment process thereby limiting delays caused by requests for data to be collected. Investing in ecological knowledge can also reduce costs and time for all levels of

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government and industry as there is an economy of scale if knowledge is collected at a regional or territorial level versus project specific.

In recent years, there has been an increased awareness of cumulative impacts and a desire to manage the ecosystem as a whole rather than examining individual projects in isolation. This approach requires more data to adequately analyze impacts from multiple developments and for multiple ecosystem components. If the data is available, it also allows project assessment to occur at a landscape level through processes such as Regional Strategic Environmental Assessment (RSEA). The Panel asked for more detail regarding this approach. An RSEA looks at future scenarios to aid in planning development activities. As part of this approach, it can include data gathering to inform the modelling required to assess what a given scenario would look like. An RSEA can also be a process that brings together knowledge holders from both the science and traditional knowledge realms to ensure all knowledge is included. An example of this is the ongoing RSEA for the Beaufort region (<https://rsea.inuvialuit.com/>).

Recommendation #9: Strategic investment in scientific and indigenous ecological knowledge is required to guide planning and aid environmental assessment in a number of key areas

Legislative Modernization:

The current legislation that governs mining activities is dated and limits the ability to incorporate approaches such as RSEA. Since the Yukon's mining legislation has been enacted, changes in other pieces of legislation, regulations, and policies that are more modern and representative of how society functions have led to land use conflicts and subsequent uncertainty for all those affected by mineral development. Other factors have changed over the years as well that contribute to the inefficiencies of current mining legislation including the implementation of First Nation Final Agreements, more consideration provided to Aboriginal Rights and Title, increased environmental standards and expectations, reliance on social licence to undertake a project, and technological advancements in all aspects of mining. A specific example of how legislation is inflexible to new environmental approaches is regulations applying to a claim block that prevents an ecosystem approach from being used to manage mining activities.

As mentioned above, there are policies and regulations currently underdevelopment that need to be finished to guide the modernization of current mining legislation including the Wetland Policy and Resource Access Road Regulations. Completion of these processes will provide a framework for some of the changes that are required for mining legislation.

DUC suggests new legislation can address the factors defining the modern regulatory landscape and incorporate newly completed companion policies by modernizing legislation regarding free entry staking, royalties, security bonds, reclamation requirements, and compliance monitoring and enforcement to name a few. New legislation can also provide an opportunity to not only encourage but also ensure implementation of policies and BMPs. The Panel asked specifically about this and we can point to an example. In Manitoba's *Environment Act*, section 1(1)a explicitly enables policy and planning mechanisms as the Act "is complementary to, and support for, existing and future provincial

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planning and policy mechanisms". This includes BMPs that are part of policies or codes of practice such as the recently released *Boreal Wetlands Conservation Codes of Practice* (https://gov.mb.ca/sd/pubs/forestry_peatlands/boreal_codes_practice.pdf). The legislation therefore mandates the BMPs created as part of the codes of practice, a type of policy, are followed.

Recommendation #10: Modernize mining legislation including completion of legislation, regulations, and polices currently underdevelopment including Wetland Policy and Resource Access Road Regulations

DUC thanks the YMDS Panel for their consideration of these recommendations. We are happy to follow up with any further questions you may have on the topics we have presented here or any other questions related to wetlands and waterfowl conservation.

Sincerely,

A handwritten signature in black ink that reads "Jamie Kenyon". The signature is fluid and cursive, written over a light grey rectangular background.

Jamie Kenyon
Yukon Manager
Ducks Unlimited Canada



Appendix 1: Indian River Interim Wetland Policy for Placer Mining – DUC rationale for why it is inadequate

Wetland hydrology and permafrost maintenance:

With respect to hydrology, water moves through fens and across the landscape. Removing portions of a fen can significantly alter water movement, cutting off source water to, or draining, portions of a fen as well as impacting connected wetlands and other habitats. This change in water levels and availability of nutrients will impact vegetation communities resulting in likely impacts to animal communities. It is very possible that portions of the fen will cease to be wetlands and will convert to upland habitat. Additionally, wetlands may span multiple claim blocks. Given that the interim policy works at the claim block level, mining activity in adjacent claim blocks can further impact an individual wetland and/or the hydrological linkages between wetlands leading to greater impacts to a wetland via cumulative impacts.

Fens and bogs in the Indian River are underlain by and have an inextricable linkage with permafrost. Impacts to one will impact the other. A positive feedback cycle is expected where disturbance to the surface will lead to changes to wetland hydrology that will lead to permafrost melt that will cause more changes to wetland hydrology and so on, resulting in a broadening of the impact beyond the boundaries of the mine site. Similarly, despite the prohibition of mining in bogs, we expect lateral thaw to occur from the mining activity adjacent to the bog which will cause permafrost degradation and an eventual reduction in size or complete loss of the bog.

We believe the impacts to wetlands will be much greater than the physical footprint of an individual mining operation, and as such, this interim policy will not achieve its goal of minimizing impacts on wetlands through leaving 40% of intact fens and all bogs. Consequently, the goal of improving the licensing process will therefore not be achieved due to continued concerns by other stakeholders regarding impacts to wetlands that will need to be addressed during the YESAA and Water Board processes resulting in similar delays as currently experienced.

We acknowledge that there may be regulatory directives that require the interim policy to be implemented at the claim block level instead of taking a watershed approach. However, we believe that there could be improvements to this policy that could be consistent with regulatory procedures. Depending on the size of claim blocks, individual fens may wholly reside within a claim block. In situations where this occurs it may be more beneficial to set aside an entire fen(s) from mining activity in an effort to maintain hydrology. Alternatively, by our calculation, 10 claim holders account for over 75% of the wetlands that lie within claims in the Indian River. A regional decision-making or watershed approach could be taken if claim holders were brought together to aggregately map out where mining occurs (and should not occur) to minimize the number of wetlands that are impacted by mining activity.

Protecting natural open water and marsh wetlands:

According to Government of Yukon's wetland mapping inventory for the Indian River, the rarest natural wetland types are marsh and shallow open water, comprising just over 1% total of natural wetlands in the Indian River. These two wetland types are the predominant and most productive habitat used by waterfowl. However, under this interim policy these wetlands are permitted to be mined. Although

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these wetlands may be replaced under the reclamation guidelines associated with this interim policy, natural functionality can not be fully replaced. For example, we have noted that there may be differences in the species that use natural versus reclaimed wetlands based on studies conducted by the KPMA.

Poor reclamation guidelines:

This policy's accompanying reclamation guidelines have a goal of preserving "the wetland functions of an area by minimizing the disturbance footprint and by creating self-sustaining wetland conditions following disturbance, which are similar to pre-disturbance conditions and which perform similar functions". While DUC agrees with the goal, we believe the guidelines to achieve the goal are inadequate. The guidelines provide a decision hierarchy starting with avoiding wetland impacts, followed by reclaiming "like-for-like" wetlands (e.g. a fen reclaimed to a fen), and finally reclaiming the site to a different wetland type (e.g. a fen reclaimed to shallow open water). Unfortunately, reclaiming a fen back to a fen is very difficult and costly, therefore, most reclamation activities will fall under the third option of the decision hierarchy. Additionally, we suggest that conversion to different wetland types will seldom achieve pre-disturbance conditions and will largely result in diminished wetland benefits as different wetland types have different functions. For example, carbon storage is much greater in fens than it is in shallow open water wetlands therefore conversion of fen to shallow open water wetlands will result in a loss of the carbon storage function.

Given that we believe the current reclamation goal is not supported by the reclamation guidelines, we suggest that since open water wetlands are going to be the most likely reclamation endpoint that these open water wetlands are constructed in such a manner to maximize benefit to waterfowl. We acknowledge the reclamation guidelines state that the goal is not to create more habitat for waterfowl and other open water species, however, reclamation guidelines should be more in line with what is possible for reclamation to achieve to maximize benefits to the environment. To that end, we are exploring options for reclamation that provide benefit to waterfowl but may also increase the chances for the vegetation community that was present prior to mining to form over an extended time horizon.

Time lags:

The interim policy calls for a review after five years to determine if the operating plan is causing or likely to cause adverse effects that have not been appropriately mitigated. Due to the inextricable linkage between wetlands and permafrost, negative impacts will likely be long-term if not permanent and only worsen over time due to the positive feedback cycle. Any mitigative measures that could be taken should be taken as soon as negative impacts occur to limit these impacts. To ensure that can happen, and to more quickly adjust and adapt the policy to better serve Yukoners, monitoring of wetland health should be done immediately.

Existing mapping products:

The existing mapping products that are recommended to implement the policy are insufficient in scale, accuracy, and precision, to achieve what is intended. For many mapped wetland polygons, there is more than one wetland type within the polygon boundary. For instance, a polygon may be comprised of bog, fen, and swamp wetland types with a percentage given to each type (e.g. 60% fen, 20% bog, and 20% swamp). However, the boundaries of these are not spatially explicit meaning the map will not provide

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the physical location, or differentiation of a given wetland type on the map or on the ground. Scale issues would also prevent this map from being used to plan the boundaries of a given mining cut as the mapping products are accurate to within a few metres of what is on the land. This could potentially result in mining of greater than 60% of a fen or possibly permit mining within a bog, resulting in the miner being in non-compliance with the policy.