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Dear Planning Commission,

RE: Dawson Regional Planning – Commission Draft Plan

I am an individual geologist with a long history of work in the Yukon. I have found the information provided in the land use plan difficult to manage and interpret. Although you have produced many reports and lovely maps they are static and in order to truly evaluate the interaction of the many values a more user friendly platform should have been provided. Thankfully there are some organizations and companies that have the resources to do a deeper evaluation of draft plan than an individual such as myself can perform. I am concerned many people within the mining and exploration industry may not comment on the report as they have not had the time or experienced frustration with the amount of effort required to truly evaluate the Plan.

Please accept this letter as a formal commentary on the Dawson Regional Planning Commissions (DRPC) Draft Land Use Plan (June 2021) and supporting documents. We appreciate the challenges associated with the DRPC's mandate, the scope and the many years of work that have culminated in the 2021 DRLU Draft Plan. As this plan is part of fulfilment of the §11 (Land Use Planning) of the Umbrella Final Agreement (dated July 16, 1998) we are grateful to be part of the discussions for planning the future and the stewardship of land management and resources of the Dawson Region in Tr'ondëk Hwëch'in (THFN) Traditional Territory.

Recognizing that the documents are first drafts, the intention is nonetheless to utilize these documents as the basis for refining, developing, and finalizing a more balanced and defensible Regional Land Use Plan. A high-level summary of process and technical issues identified through reviewing the Draft Plan are provided below:

1. Publicly available information and timeframe provided for comment

- i. The Draft Plan was released June 2021 with November 1st comment closure. Industry is most active during the snow-free months. As a result, the allotted timeframe provided for comment left little time to provide adequate review and constructive input.
- ii. Limited information was released to outline the basis for many of the current Draft Plan proposals, including important maps for wildlife habitat and migration corridors, heritage areas, wetland mapping, watershed boundaries, as well as datasets and scientific studies that support the basis for the proposed disturbance thresholds.
- iii. **More time and information are required to properly assess and comment on this important Regional Planning framework.**

2. Land Use Designations Methodology

- i. The methodology described in §1.6.2.5 (Priority Criteria for Candidate Conservation Areas) do not appear to match Draft Land Management Units (LMU's) and currently proposed Land Use Designations (LUD's). Based on the methodology described in the Draft Plan, high-protection LMU's should be defined by high-density overlap of high-value features, such as habitat and heritage, and thus result in a more restrictive LUD's. High potential economic areas with low heritage and habitat values should be classified as less restrictive LUD's.

- ii. Simplifying the number of LUD's Integrated Stewardship Areas (ISA's) to three categories (low, moderate, and high development) and a singular Special Management Area zoning delineating full protection (SMA 1) should reduce potential management challenges in implementation and the need for increased capacity within YG and THFN.
- iii. Transitions from higher-protection LMU's to higher-development ones should be more gradational. Higher protection LMU's should logically cover areas with high habitat and/or high cultural values. Areas with high economic potential and lower habitat and cultural heritage values should allow for future economic development with corresponding higher disturbance thresholds, with such thresholds based on sound scientific studies for species and habitats.
- iv. Implementation of Integrated Stewardship Practises could provide excellent holistic, opportunities for the Planning Region. However, no concrete examples or techniques for connecting various land-users from seemingly different usage backgrounds, is provided.
- v. Some high protection LMU's partly or wholly enclose areas of high historic and current placer and hard rock mining activity (LMU's 19, 21 and 22). These areas have significant potential future economic value, have extensive mining claims within them and have already seen substantial disturbance. **Designating these active mining and exploration areas as high protection LMU's will result in land use conflict and the potential need for economic compensation to mineral rights holders. These areas should be recognized for the current and future economic value and placed into more appropriate LMU designations.**

3. Cumulative Disturbance Thresholds Methodology

- i. It is unclear in the Draft Plan if the Cumulative Disturbance Thresholds are based off of Ecological derived habitat needs or are more arbitrary Management thresholds.
- ii. The Draft Plan does not appear to draw from the referenced Land Use Planning Conservation Thresholds (Environmental Law Institute, 2003). **Threshold values presented are very low compared to other land use plans in comparable sub-arctic, low-density populated areas and particularly relative to ecologic thresholds from scientific studies which generally indicate threshold preservation of >60% of habitat or perhaps 80% for rare species.** This compares with preservation of 95%, 97.5% and 99% of habitat for the high, medium and low development LUD's that are proposed.
- iii. §3.5.1 (Cumulative Effects Indicators) specifies that surface disturbance does not include areas deemed as recovered. This could be interpreted to align with in-place regulatory practises which incentivize restoration efforts in economically developed areas. However, it is unclear whether this means industry could operate in net-zero land disturbance if areas are progressively recovered, thus lowering the LMU's active disturbance threshold.
- iv. On October 12th 2021, the DRPC released 'Analysis of "Current" Disturbance Levels'. The outdated 2014 dataset provided was indicated to be the result of a lack of information, however figures from the document show recent satellite images mapping disturbance. If current disturbance levels are not defined, how can thresholds be proposed for each land management unit, especially if the thresholds are arbitrary management levels and not based on habitat needs or species criteria?
- v. How Disturbance Classes (Industry, Forestry, Agriculture, Road-development including aggregate resource extraction) are categorized and monitored is not described in the Draft Plan. Would future disturbance totals include all categories? The draft document states that only mining related disturbances were utilized in the development of thresholds.
- vi. In ISA areas that are open for development the thresholds need to allow for future economic activity; it is unclear based on "current" disturbance whether that would be the case for the 5%, 2.5% and 1% disturbance thresholds that are proposed in the Draft Plan.
- vii. The Draft Plan states that existing mineral rights will be honored in the LMU's but unless these areas are removed from the calculation of disturbance in the LMU's this may not be achievable.

Likewise, the Draft Plan states that there would be no new disturbance of some classes of wetlands. If those wetlands cover existing mineral rights, then either the mineral rights have been lost, or no net loss would only apply outside of the existing mineral rights. The Draft Plan is unclear on both of those points.

- viii. **Recommend the establishment of science-based ecological habitat disturbance thresholds for the regional planning area. This could be achieved with the formation of an objective special technical working group who can advise on suitable disturbance thresholds to ensure the integrity of key values (ecological habitat and heritage) whilst allowing for sustainable economic development.**

4. Wetlands

- i. Outlined thresholds could have serious economic development consequences (in particular to placer mining which occurs in wetland areas) but are unclear in the Draft Plan.
- ii. The Federal Policy on Wetland Conservation (Government of Canada, 1991) describes no net loss of socioeconomic or ecological wetland function. Restoration of wetland function has been demonstrated globally on various projects in various biogeoclimatic ecozones. Therefore, it is recommended that criteria be developed for habitat and functional wetland restoration.
- iii. Why is there no development allowed in undisturbed bogs and marshes throughout the region within only specified SMAs and ISAs? Why is there inconsistent policy towards specified habitats? Placer mining often occurs in marshes, fens and bogs, as may hard rock exploration and development. **A blanket restriction on disturbance rather than providing criteria for functional restoration would effectively shut down economic activity in these areas.**
- iv. What are the factors included in the scientific basis considered with allowing development of an arbitrary 25-75% range for fens in each applicable LMU?
- v. The Draft Plan states that effective restoration of wetlands is impossible. This is inconsistent with results from a number of successful wetland restoration projects in Canada. It also contrasts with the surface disturbance recovery objectives and may discourage Operators from implementing costly best management restoration practices.
- vi. **Recommend the development of agreed upon wetlands restoration guidelines that could allow for uniform best management practices in these important ecological habitats.**

5. Economic Plan

- i. Plans to maintain the economic health of the region are not discussed in detail. Management intent is unclear throughout the document and certain proposals could have far reaching negative economic impacts on the region.
- ii. §'s 4.1.9 and 4.3.3 on Traditional Economy recommends buffers and avoiding or reducing the level of land-use activities in areas identified as having cultural value. Map 5 (Appendix A) shows virtually the entire area as having traditional-use value. It is unclear what exactly this would mean for stakeholder-use in the entire planning area.
- iii. Sustaining a healthy placer mining industry is key for the economic security of the Planning Region as the single largest economic sector. While this natural resource has been developed in the region for over a century, many placer deposits have been depleted in the heavily developed areas. While there are opportunities to reclaim and restore these historically disturbed areas, the industry will continue to move into adjacent prospective areas that share the same geologic settings. This movement into adjacent areas needs to be accommodated to allow for a healthy placer mining industry and regional economy. For instance, in LMU 12 the natural progression is to move further eastward to the Upper Indian River (LMU 19), which has same geological setting, and is demonstrating comparable economic placer values. This area is the economic future for the Klondike Goldfields.
- iv. Though the focus in LMU's such as 12 and 19 have mostly been on placer mining, these placer mining areas are also highly prospective for future hard rock developments - as the source of the

alluvial gold. **Accommodation should be made for such future potential in these types of areas with extensive placer and hard rock exploration and development to allow for sustainable economic activity in this important sector of the planning region's economy.**

- v. The Mining industry generates significant economic benefits for communities that are often not well understood. A substantiated figure used in the mineral industry shows that typically every dollar spent in mining generates \$5 in the local economy including indirect supporting industries & local-work force (hotels, restaurants, equipment sales and maintenance, supplies, fuel, *etc.*). A similar multiplier value relates to jobs supported by indirect and induced economic activity. A recent study of mining related jobs in British Columbia indicates that for each (1) mining related job, 4.6 jobs indirect, or induced, jobs are created. The DLUP Resource Assessment Report does not accurately reflect economic contributions from these types of economic activity (refer to PWC 2012, Mining Industry Economic Impact Report). **Maintaining a healthy mineral resource economy is key to ensuring long-term socioeconomic health of the Planning Region.**

6. Regulatory Policy and Implementation

- i. There is currently no implemented monitoring of disturbance or impact assessment in the Dawson Planning Region.
- ii. **It is imperative that the Plan reflects the current, effective, in-place regulatory regime for permitting. This process incentivizes concurrent restoration efforts and includes permitting conditions that guide land-users to mitigate potential impacts whenever possible.**
- iii. The Senior Liaison Committee should encourage YG to use more consistent policy towards both Placer and Quartz operations. Pre- and Post-Season reporting should be conditions of Mining Land Use Permits (MLUPs). Presently, quartz operations are given thresholds of allowable disturbance within their projects. This incentivizes operators to progressively reclaim. Implementation of appropriate thresholds for placer operations with permitting conditions outlining reasonable allowable open disturbances, would allow for tracking disturbance and avoid LMU's from reaching critical thresholds of cumulative disturbance.
- iv. Understanding the current level of disturbance in the LMU's is critical to avoid potential for ceased operations and operators having large areas of open disturbance and no incentive to reclaim.
- v. Creation of wetland restoration policies outlining acceptable industry practises are required to provide a clear path for economic development in regions within, and proximal to wetlands (*i.e.*, placer mining, road management). Policies concerning wetland restoration should be consistent regardless of LUD and should be standardized for consistent stewardship in the Planning Region and follow sound scientifically based criteria.
- vi. The view that restoration of functional wetland habitat is effectively impossible is not backed by science and negates the incentive for land-users to implement best possible management practices in reclamation efforts. It is imperative for maintaining function of these ecosystems that wetland restoration policy encourages incentivized restoration efforts. Historic disturbances in wetlands would see little industry investment if the messaging presented is discouraging towards restoration of wetland function. Although a bog cannot be restored to be a bog, there is no scientific basis that effective wetland functions cannot be restored in disturbed areas.
- vii. **Current regulatory processes within the hard-rock industry, should be extended to placer mining, to incentivize habitat restoration of modern disturbance, but also historic disturbances. Additionally, these processes ensure that land-users abide by specific conditions that reflect habitat preservation of ecological sensitivities. Implementing restoration procedures through permitting conditions across the industry, as a whole, is key to successful execution of the Plan ecological goals and integrated stewardship practises.**

It is our belief that a balanced final plan would set the tone for future land use planning and inspire other Yukon First Nations and Land Use Planners to see this as an opportunity for the Yukon Territory and its future.

I have reviewed the following information contained in this letter and it outlines many concerns I have with the plan. Modern well-regulated mining and exploration businesses can co-exist with many land uses. I believe that the negative effects of mining and exploration are overstated in the report and reflected in the plan.

Sincerely,

Mike Burke, BSc, P. Geo

October 31, 2021

To:

Dawson Regional Land Use Planning Commission

From:

Lois and Sandy Johnston
Whitehorse. Yukon.

RE: Comments on the Draft Dawson Regional Land Use Plan

The final Dawson Regional Land Use Plan must reflect and give priority to the aspirations, advice and direction provided by Tr'ondëk Hwëch'in First Nation for the long-term future of the region. Not only is this a Treaty obligation, but in these times, the Plan must also demonstrate a genuine commitment towards Reconciliation. The Tr'ondëk Hwëch'in Final Agreement recognizes the need to *“protect a way of life that is based on an economic and spiritual relationship between Tr'ondëk Hwëch'in and the land.”*

We applaud the Planning Commission for expressing their desire to create a plan that safeguards the ecological and cultural values of the Dawson Region. In its vision statement, the Commission writes that *“sustaining lands and waters, living things and natural processes is the fundamental priority. If the integrity of ecosystems is lost, societies and economies cannot be sustained.”*

However, if the plan is to achieve these objectives, it must be understood that the past and present ad hoc, and often destructive, land uses must not define the final plan. Significant changes will be required to collectively realize the goals of the Tr'ondëk Hwëch'in and the Planning Commission's.

To realize the goals of the Tr'ondëk Hwëch'in and the Planning Commission's vision, there is a need **to strengthen conservation throughout the plan.**

That means:

1. **providing better protections for wetlands.** Wetlands need the best possible level of protection. These ecosystems are natural carbon reservoirs and help to buffer the effects of climate change. They provide unique habitats for wildlife and cannot be restored after being disturbed. Limits on development in some areas are too high and allow development to be concentrated within sensitive habitats like river valleys. The Commission should use Traditional Knowledge and conservation science to set limits that ecosystems can tolerate. It is likely that some of these limits have already been exceeded and the plan should include direction to restore habitats to preserve ecological integrity.

2. **safeguarding critical Fortymile caribou habitat.** In spite of great efforts to recover the population of the herd since the 1980s, 32% of the Fortymile Caribou Corridor Landscape Management Unit (as shown in the draft plan) is already staked for mining, and open to the highest levels of development. The herd's need to access vital habitats must take precedence over mining interests if "*sustaining lands and waters, living things and natural processes*" is truly the "*fundamental priority*" as stated in the plan's vision. I would encourage Commissioners to view "*Memory Trap*", a recent film by Allan Code to learn more about the history and importance of the herd.
3. **providing better protection for river corridors.** All adult Yukon River drainage salmon (chinook, chum and coho) that migrate upstream of the Canada/U.S. border near Eagle, Alaska pass into and/or through this planning region - as do all of their progeny! It is therefore imperative that water quality not be degraded by human activities. What happens on the land within the drainage basin, has the potential to impact water quality and quantity. The plan should therefore include direction on the monitoring of surficial and ground water quality and quantity throughout the planning region. For example, the Plan *could* propose monitoring be accomplished by a Stewardship Program directed by the Tr'ondëk Hwëch'in First Nation. Such a program should also include monitoring of terrestrial habitats, and air quality in industrialized areas.
4. **providing enduring protections by upgrading Special Management Area 2s (SMA2s) into Special Management Area 1s (SMA1s).** This would provide lasting protections for conservation areas, and provide certainty for Tr'ondek Hwech'in in the management of their traditional territory.
5. **keeping industrial development within thresholds that ecosystems can tolerate.** Some areas will remain open to developments like mining, but the health of lands, waters and wildlife needs to be prioritized in these places too. Limits on development in some areas are too high and allow development to be concentrated within sensitive habitats like river valleys. The Commission should use traditional knowledge and conservation science to set limits that ecosystems can tolerate. The plan should call for cumulative impact assessments to ensure that future developments do not exceed these thresholds.
6. **provide direction to ensure developers are aware of, and operate in consideration of, the Calls for Action of the Truth and Reconciliation Commission of Canada, 2015.** In particular, Call 92 states...

"We call upon the corporate sector in Canada to adopt the United Nations Declaration on the Rights of Indigenous Peoples as a reconciliation framework and to apply its principles, norms, and standards to corporate policy and core operational activities involving Indigenous peoples and their lands and resources. This would include, but not be limited to, the following:

- i. Commit to meaningful consultation, building respectful relationships, and obtaining the free, prior, and informed consent of Indigenous peoples before proceeding with economic development projects.*
- ii. Ensure that Aboriginal peoples have equitable access to jobs, training, and education*

opportunities in the corporate sector, and that Aboriginal communities gain long-term sustainable benefits from economic development projects.

iii. Provide education for management and staff on the history of Aboriginal peoples, including the history and legacy of residential schools, the United Nations Declaration on the Rights of Indigenous Peoples, Treaties and Aboriginal rights, Indigenous law, and Aboriginal–Crown relations. This will require skills based training in intercultural competency, conflict resolution, human rights, and anti-racism.”

Thank-you for the opportunity to comment.

Regards,

Lois Johnston

Sandy Johnston



Dear Dawson Regional Land Use Planning Commission,

RE: Draft Dawson Regional Land Use Plan Input

As a ~~Citizen of Tr'ondëk Hwëch'in~~ ^{person living in Dawson} First Nation, I am writing in response to the Draft Plan. The Planning region is 75% of my Traditional Territory. Please consider my concerns as you develop a Recommended Plan.

Obligations under the Final Agreements

Our past leaders negotiated our Final Agreement in order to ensure the health of our land and waters. Our Final Agreement is legally binding under the Canadian Constitution. We expect that it be honoured.

We are caretakers of this land, and have the right and responsibility to act as co-managers of these lands. The land cannot speak for itself, therefore we must.

We ask the Commission to:

- Guarantee our Treaty Rights in relation to have on-going access to healthy fish and wildlife populations.
- Ensure protection and connectivity of habitat so that birds and wildlife have access to the healthy land and clean water that they need to survive.
- Ensure the sacrifices made, as a community, to allow the Fortymile Caribou herd to recover is not lost. Please protect core summer and winter habitat for this herd.
- Water is Life. Clearly reflect our understanding of what stewardship is in relation to water by increasing protection for all significant waterways and riparian areas; and wetlands;
- Decisions on what is and is not allowed to happen on our lands has to include our values, and be tied to our Treaty rights that ensure healthy populations of fish, moose, caribou, birds, sacred plants, and clean water.

Protection of Land and Natural Resources

Tr'ondëk Hwëch'in Citizen knowledge informed our Conservation Priority map. That map represents our understanding of what is needed to ensure the health of the region, our culture and the people who live here, in the long term. That map proposed 60% protection. The Draft map suggests 3.8% of the planning region to receive full protection. This is inadequate and not acceptable and does not uphold our Final Agreement. I call on the Commission to significantly increase the amount of protected and conserved areas to ensure the health of future generations.

We Are In a Climate Emergency

The Yukon First Nations Climate Change Emergency Declaration states "there is no greater threat today to our culture and way of life and the wellness of our citizens and communities than the impacts of climate change."

Currently, the Draft Plan does almost nothing to effectively address the causes of climate change or its impacts on First Nation Citizens. The Commission needs to consider how the land is changing and how climate change is affecting our way of life. I call upon the Commission to effectively consider the impacts climate change is having on our Traditional Territory and what we need to do to reduce its causes and effects.

I would also like to add:

Mähsj,

Name and Signature:

Address:

Charles Sheppard
Chm Amf



Dear Dawson Regional Planning Commission,

RE: Climate Change Recommendations for the DRLP.

I am writing to express the need for the Commission to address Climate Change more fulsomely in the Draft Plan.

The Yukon First Nations Climate Change Emergency Declaration states "there is no greater threat today to our culture and way of life and the wellness of our citizens and communities than the impacts of climate change". The North is warming two to three times faster than anywhere else in Canada, and our region is projected to experience some of the highest increases in temperature anywhere on the planet.

We have already seen significant changes in our Traditional Territory - including increased snow an rainfalls, rivers not freezing, melting permafrost, erosion and landslides, flooding, damage to infrastructure, and extreme weather events. These impacts are contributing to distribution and depletion of migration of wildlife, fish, and plant species.

I call on the Commission to integrate considerations of climate change and its impacts throughout the Plan. The Recommended Plan needs to:

Conserve more land: Disturbing the natural environment, especially wetlands, releases CO₂ and reduces the region's capacity to absorb harmful emissions. Conserving as much land and water as possible will help all species adapt to changes.

Address cumulative effects of climate change: Include indicators the Cumulative Effects Framework to track and monitor the impacts of climate change in the region to ensure our subsistence rights are protected in the Recommended Plan.

Improve monitoring and information: Make a strong recommendation for robust monitoring, reporting, and adaptive management, including community-based approaches. This information will be useful to Citizens when making informed choices about where, and when, to harvest. Support community based approaches to increase local capacity and stewardship.

Promote self-sufficiency: Recommend the highest level of conservation in both SMA I and SMA II to help assure the continuation of traditional practices. Promote sustainable agriculture and renewable energy development for the region.

If the Commission is to meet its commitments to the Final Agreement, we must be assured of our right to continue our Way of Life. If that is at risk due to Climate Change as one of the contributors, the Commission must consider how to best protect our Rights this in this difficult and uncertain time.

Mähsj Cho for considering more fully the impacts climate change on First Nations rights and traditional ways of being.

Name:

Address:

Charles Slappad
P.O. Box 1634

Dear the Dawson Regional Planning Commission,

RE: Wetland Recommendations for the DRLUP

I am writing you today to urge the Dawson Regional Planning Commission (the Commission) to provide greater certainty in the protection of all wetland habitat, as they play a significant role in the overall health of the land.

Wetlands provide critical habitat for moose, waterfowl, fish, and unique plants, and play a crucial role in cleaning and purifying water, flood prevention, and carbon storage. Importantly, wetlands are of immense cultural value to the Tr'ondëk Hwëch'in in their intact state.

I understand that the Commission has asked for feedback from the public as to how much fen wetland habitat can be disturbed, and has offered a range of between 25% and 75% for our consideration.

Fens, more than most wetlands, are defined by the groundwater that moves through them. Anything that interrupts this slow creeping groundwater flow fundamentally alters the fen. It is like removing the wings from a bird and expecting the bird to fly and to survive. Fens are like a living organism that cannot lose vital parts without the remainder dying. In this way, fens are heavily impacted by disturbances that occur directly to them, as well as around them. Even small changes at the headwater source of a fen can destroy the remainder of the fen. In this way, fens are not as amendable to change as marshes and swamps.

Because of this, I urge the Commission to provide equal consideration to fens as is recommended for bogs and marshes. All wetland is important, and we need to protect as much of it as possible in its intact state. As such, I urge the Commission to allow no more than 25% of fen habitat to be disturbed in the Dawson planning region.

Wetland are too ecologically, and culturally important to receive any disturbances, at all. It is good to see recognition of the Upper Indian River wetlands and the Scottie Creek wetlands as Conservation Areas for this purpose. However, I urge the Commission to expand the boundaries of the Upper Indian River wetland complex so that the entire expanse of this important wetland habitat be offered the same level of protection. In addition to the Flat Creek and Tintina Wetlands.

Mähsj Cho

Name:
Address:

Charles Sapp
PO Box 1634

Dear Dawson Regional Planning Commission,

Re: Water Preservation and Protection for the DRP Region

I am writing to encourage the Commission to strengthen the protection for water in the Recommended Plan.

One of the Chapter 11 Tr'ondëk Hwëch'in Final Agreement (THFA) Objective states the Commission is to: "consider the knowledge and experience of Yukon Indian [sic] people to achieve effective land use planning."

As a Tr'ondëk Hwëch'in Citizen, I understand that water to be the life force of all creation and our collective survival depends upon it. Water is essential for the health of every part of the land and for every aspect of survival, and is central to our culture and traditional activities. For these reasons, many of our TH Settlement Land parcels are located in major river corridors. Ensuring the protection of major water will uphold Tr'ondëk Hwëch'in rights under Chapter 14, Chapter 5 and Chapter 16 of the THFA.

I urge the Commission to develop specific Management Directions for water, that include, at a minimum, the protection of water quality, quantity, and rate of flow through and adjacent to Settlement Land as per Chapter 14 of the THFA. Additionally, I request that the Commission provide the highest level of conservation for important waterways riparian areas, such as, but not limited to, the Yukon, Klondike, North Klondike, Fortymile, Stewart, and Chandindu Rivers including creek tributaries stemming from these rivers and creeks in the Dempster region, not limiting Wolf Creek, Antimony Creek.

Mähsj Cho

Name: Charles Sheppard

Address: PO Box 1634

2021 Dawson Draft Plan Engagement Submission

Type: email ref 049

From: [REDACTED]

Date: Nov 01 2021

To the Dawson Regional Planning Commission,

I love the Yukon. I love the land, the mountains and rivers. Living here has changed me from the bones out. It has given me new perspectives on the world, on community, and on myself. I am a visual artist and filmmaker working with issues related to northern ecology and experience with the land. My interests lie in shifting perspectives towards a more sustainable way of being in the world. First Nation culture, knowledge and values inform my work, as do the experiences that have been shared with me, such as First Hunt and TH 101. I write this letter first and foremost as a Yukon Resident who takes the responsibility of upholding the Umbrella Final Agreement, as well as working towards Truth and Reconciliation, very seriously.

First, I do want to acknowledge the work that has gone into producing the Draft Plan thus far, especially the challenge of navigating land use issues that are at direct odds with one another. I recognize this document is immense in complexity and scope, and there will be no Plan that makes everyone happy. I can not, however, speak in support of this document as it relates to the spirit and context of the Umbrella Final Agreement, nor my perspectives on land use as a Yukon Resident living in the Dawson area. I believe there is a fundamental problem with the document from which many of my questions arise and are left unanswered.

In this letter I will speak to my main concerns. And will also write some of my questions as I was unable to attend the Dawson meetings.

1. I do not believe the Draft Plan upholds the spirit and context in which the UAF was written and signed.

The Umbrella Final Agreement was so carefully worded to protect TH culture and heritage. It actually breaks my heart to read this Draft Plan, as it feels like lip-service to the UFA, while placating YG economic interests and the mining industry.

The fundamental issue I see with the draft plan, is that it protects what is currently in place in terms of economic interests, but fails completely to recognize the power imbalances between Economic Development and TH Culture and Heritage that have persisted since the signing of the UFA. These power imbalances have allowed the mining industry to thrive without consideration of the UFA for 20+ years.

It is my understanding that TH made several requests to suspend staking in the planning area during the drafting of the Plan, yet staking continued. It is also my understanding that YG nonetheless offered incentives through Mineral Exploration Program grants. This exemplifies the power imbalance I believe is upheld in the Plan.

Sustainable development is defined in the Umbrella Final Agreement as “beneficial socio-economic change that does not undermine the ecological and social systems upon which communities and societies are dependent.” Regarding the objectives of Chapter 11, paragraph 11.1.1.6 states:
to ensure that social, cultural, economic and environmental policies are applied to the management, protection and use of land, water and resources in an integrated and coordinated manner so as to ensure Sustainable Development.

The plan needs to ask more of mineral exploration and extraction practices in the Yukon. I do not believe we can truly uphold the UFA unless we account for, and adjust for the existing power imbalance, and hold the mining industry to the necessary standards.

We need legislation in place that actually upholds Sustainable Development as per the UFA. Without it, this land use plan reads as empty recommendations. As it's currently written, 55% of the land is open to some level of industrial development and the current development on 35% of the land is allowed to continue. As we know, the ecologies of the LMUs are interconnected, so without holding the mining industry accountable to meet the definition of Sustainable Development, every other section of the Draft Plan loses meaning.

2021 Dawson Draft Plan Engagement Submission

I am also curious about how effective Adaptive Management is, and how it will play out if this power imbalance isn't addressed. I think about how many recommendations there were for further research into things that seem integral to decision-making on land use and land use policies. (re. fish habitat, caribou, bears, wetlands, migratory birds etc.)

2. I do not believe the Draft Plan protects enough land from development to uphold the UFA or the objectives of the Plan itself.

As I understand: 55% of the land is open to some level of industrial development, and 35% of the land has some protections but current development is allowed to continue with no assurances to maintaining the health of the land. 3.8% is fully protected.

I have learned that in a submission to the Commission, TH proposed 60% of the region for full protection. The draft plan's proposed 3.8% is far below this.

If TH's recommendation for land protection in order to assure protection of culture and heritage is met with a percentage so drastically smaller, I do not see how this upholds the objectives in Chapter 11, paragraph 11.1.1.4: to utilize the knowledge and experience of Yukon Indian People in order to achieve effective land use planning.

3. I do not believe the Draft Plan addresses Sustainable Development and the Mining Industry in any meaningful way.

This is a question that kept coming up for me, for which I kept thinking I would encounter answers as I continued to read. The Plan does not address how current and future activities tied to mineral exploration and extraction will align with this definition. What does a Sustainable Mine look like? How do we get the mining community on board? How do we develop updated legislation and implement compliance? What is a reasonable timeline? What happens in the meantime? If Sustainable Mining is not economically viable... then what?

I spoke to many community members in regards to this aspect of the plan and no one was able to offer me any insight on this. I would like the Plan to reflect what Sustainable Development means for existing and future development activities, recommendations on how the Parties can achieve this, recommendations for timelines and what happens in the meantime.

4. I am confused about the designation "Integrated Stewardship Management Area"

Considering everything, I think the designation "Integrated Stewardship Management Area" is a stretch, when there doesn't seem to me any requirements for mineral development to be stewards of the land nor outlines on how to do so.

If the true spirit of the UFA and the Plan is that we all must act as stewards to this land, yet a whole industry, and industry practices, are not actually held to stewardship, I really think it's out of line to call it an Integrated Stewardship Area.

5. Questions about SMA II's

It is hard to fully understand these areas as I don't understand the scope of what is already in place and allowed to continue or to develop further. Nor do I understand the timelines, or what can continue to happen before studies are completed and measures put in place.

I am also nervous about the lack of assurance that the ecological integrity of these areas will be protected. Will there be any assurance that the existing land users will be held to the standards in the treaty? If continued mineral extraction in these areas will threaten or damage these areas of ecological and cultural value, what standards will they be held to mitigate the damage? Actually... why are we even accommodating these interests if they are happening in ecologically and culturally significant areas? It seems the value system that puts economic interests over upholding the UFA and protecting the land, fish, wildlife and ecosystems is privileged.

But again, I am not clear on the scope of what is already happening. In the context of the Dawson Planning area, and currently happens on mining claims, I read this designation with red flags.

6. I do not think the Draft Plan ensures effective protection of our waterways.

2021 Dawson Draft Plan Engagement Submission

After reading the material I am still unclear of the level of protection our waterways will receive, when they will receive it, and what will be put into place to protect those waterways at risk due to current land use.

I would really love to see a full-stop to further development activities along the Yukon and Klondike Rivers until a subregional plan is completed and the necessary management processes are implemented.

7. I'm not sure consultation was accessible to the whole community.

Personally, I was unable to attend the two Dawson community meetings. On top of my own work, I have been helping out a friend nearly full-time in her hotel, due to the labor shortage and a busy season that extended far into October — much longer than usual. Both meetings fell on times I was needed to support the business.

I have read through the materials, spoken to community members and brought up the Plan in conversation with friends. Everyone had something interesting to say. Most of them were unable to attend the meetings as well (one was housebound due to health issues, others were out at camp). Another friend couldn't read the plan because it was too complex and commented that the video and summary didn't really say enough to comment on. They also said they couldn't really write out their thoughts in a letter or the survey either — it was too difficult and not their skillset. I assume many other folks in this community were in similar situations. I wish I had time to sit together and write down their concerns for them.

Anyway. Not sure two community meetings a couple months apart, and a survey that requires a high level of reading comprehension and writing skills is adequate community consultation.

8. Suggestions for Culture and Tourism responsibilities

I would really like to see a recommendation for YG Culture and Tourism / the tourism industry to integrate TH and Gold Rush history.... or rather, reframe the Gold Rush with a critical lens.

We have so, so much that celebrates this history without any criticality. If we are moving towards promotion of joint stewardship, the story we tell about our region should reflect this. This includes acknowledging the negative stuff, what we've learned, and how we hope to move forward.

9. Dawson Land Stewardship Trust

After everything I've written it won't be a surprise that I am truly excited by this.

Thank you for your time,



Dawson City, Yukon

Dear Dawson Regional Planning Commission,

RE: Climate Change Recommendations for the DRLP.

I am writing to express the need for the Commission to address Climate Change more fulsomely in the Draft Plan.

The Yukon First Nations Climate Change Emergency Declaration states "there is no greater threat today to our culture and way of life and the wellness of our citizens and communities than the impacts of climate change". The North is warming two to three times faster than anywhere else in Canada, and our region is projected to experience some of the highest increases in temperature anywhere on the planet.

We have already seen significant changes in our Traditional Territory - including increased snow an rainfalls, rivers not freezing, melting permafrost, erosion and landslides, flooding, damage to infrastructure, and extreme weather events. These impacts are contributing to distribution and depletion of migration of wildlife, fish, and plant species.

I call on the Commission to integrate considerations of climate change and its impacts throughout the Plan. The Recommended Plan needs to:

Conserve more land: Disturbing the natural environment, especially wetlands, releases CO₂ and reduces the region's capacity to absorb harmful emissions. Conserving as much land and water as possible will help all species adapt to changes.

Address cumulative effects of climate change: Include indicators the Cumulative Effects Framework to track and monitor the impacts of climate change in the region to ensure our subsistence rights are protected in the Recommended Plan.

Improve monitoring and information: Make a strong recommendation for robust monitoring, reporting, and adaptive management, including community-based approaches. This information will be useful to Citizens when making informed choices about where, and when, to harvest. Support community based approaches to increase local capacity and stewardship.

Promote self-sufficiency: Recommend the highest level of conservation in both SMA I and SMA II to help assure the continuation of traditional practices. Promote sustainable agriculture and renewable energy development for the region.

If the Commission is to meet its commitments to the Final Agreement, we must be assured of our right to continue our Way of Life. If that is at risk due to Climate Change as one of the contributors, the Commission must consider how to best protect our Rights this in this difficult and uncertain time.

Mähsj Cho for considering more fully the impacts climate change on First Nations rights and traditional ways of being.

Name:  Oct 31 2021

Address: 302 2119 Palm Road South
Lethbridge AB
T1K 3N1

Dear Dawson Regional Planning Commission,

Re: Water Preservation and Protection for the DRP Region

I am writing to encourage the Commission to strengthen the protection for water in the Recommended Plan.

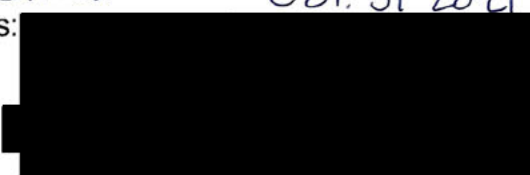
One of the Chapter 11 Tr'ondëk Hwëch'in Final Agreement (THFA) Objective states the Commission is to: "consider the knowledge and experience of Yukon Indian [sic] people to achieve effective land use planning."

As a Tr'ondëk Hwëch'in Citizen, I understand that water to be the life force of all creation and our collective survival depends upon it. Water is essential for the health of every part of the land and for every aspect of survival, and is central to our culture and traditional activities. For these reasons, many of our TH Settlement Land parcels are located in major river corridors. Ensuring the protection of major water will uphold Tr'ondëk Hwëch'in rights under Chapter 14, Chapter 5 and Chapter 16 of the THFA.

I urge the Commission to develop specific Management Directions for water, that include, at a minimum, the protection of water quality, quantity, and rate of flow through and adjacent to Settlement Land as per Chapter 14 of the THFA. Additionally, I request that the Commission provide the highest level of conservation for important waterways riparian areas, such as, but not limited to, the Yukon, Klondike, North Klondike, Fortymile, Stewart, and Chandindu Rivers including creek tributaries stemming from these rivers and creeks in the Dempster region, not limiting Wolf Creek, Antimony Creek.

The waters must be protected because all living things require water to live. When the water gets contaminated, all life around it and those who drink it will also be contaminated and poisoned. The waters all connect and provide life to all. The Tr'ondëk Hwëch'in people need the water to be protected for future generations.

Mähsj Cho

Name: *Emmett Cho* Oct. 31 2021
Address: 

We Are In a Climate Emergency

The Yukon First Nations Climate Change Emergency Declaration states "there is no greater threat today to our culture and way of life and the wellness of our citizens and communities than the impacts of climate change."

Currently, the Draft Plan does almost nothing to effectively address the causes of climate change or its impacts on First Nation Citizens. The Commission needs to consider how the land is changing and how climate change is affecting our way of life. I call upon the Commission to effectively consider the impacts climate change is having on our Traditional Territory and what we need to do to reduce its causes and effects.

I would also like to add: that because of human impact climate change is so unpredictable in the sense that any natural disaster may happen at any moment. Not only will taking climate change matters seriously in the plan help save the environment and all the organisms living amongst, but this topic will improve the Dawson Regional Land use Plan. global warming is happening all around us, and it is inevitable.

Mähsj,

Signed:  Oct. 31 2021

Dear the Dawson Regional Planning Commission,

RE: Wetland Recommendations for the DRLUP

I am writing you today to urge the Dawson Regional Planning Commission (the Commission) to provide greater certainty in the protection of all wetland habitat, as they play a significant role in the overall health of the land.

Wetlands provide critical habitat for moose, waterfowl, fish, and unique plants, and play a crucial role in cleaning and purifying water, flood prevention, and carbon storage. Importantly, wetlands are of immense cultural value to the Tr'ondëk Hwëch'in in their intact state.

I understand that the Commission has asked for feedback from the public as to how much fen wetland habitat can be disturbed, and has offered a range of between 25% and 75% for our consideration.

Fens, more than most wetlands, are defined by the groundwater that moves through them. Anything that interrupts this slow creeping groundwater flow fundamentally alters the fen. It is like removing the wings from a bird and expecting the bird to fly and to survive. Fens are like a living organism that cannot lose vital parts without the remainder dying. In this way, fens are heavily impacted by disturbances that occur directly to them, as well as around them. Even small changes at the headwater source of a fen can destroy the remainder of the fen. In this way, fens are not as amendable to change as marshes and swamps.

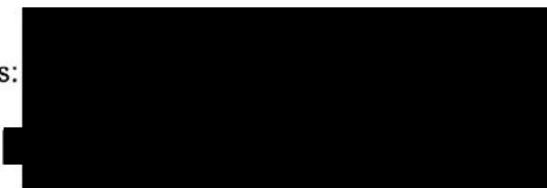
Because of this, I urge the Commission to provide equal consideration to fens as is recommended for bogs and marshes. All wetland is important, and we need to protect as much of it as possible in its intact state. As such, I urge the Commission to allow no more than 25% of fen habitat to be disturbed in the Dawson planning region.

Wetland are too ecologically, and culturally important to receive any disturbances, at all. It is good to see recognition of the Upper Indian River wetlands and the Scottie Creek wetlands as Conservation Areas for this purpose. However, I urge the Commission to expand the boundaries of the Upper Indian River wetland complex so that the entire expanse of this important wetland habitat be offered the same level of protection. In addition to the Flat Creek and Tintina Wetlands.

The wetlands are a key ecosystem and vital to all life. The wetlands are rich in biodiversity. There are many fish and aquatic insects and vegetation that all depend on these lands. It is vital to protect the environment and all that lives in it, as it is a traditional food source for the Tr'ondëk Hwëch'in and needs to stay healthy for the future generations.

Mähsj Cho

Name:
Address:



We Are In a Climate Emergency

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I would also like to add:

I would highly recommend you assess your decision's. To destroy these lands is to destroy your future and your children's future. The lifestyle and the Traditional Territory of the Trondek Hwechin First Nation. negative Impact's on the Animal's & Insects That live on and off these lands. The water you drink the food you eat off these land's the plant's that heal you. and the very air you breath. The effect's will be irreversible so please let's protect these land's and our home not the greedy exploitation our Home.

Mähsj,

Signed:  Oct, 31/2021

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If the Commission is to meet its commitments to the Final Agreement, we must be assured of our right to continue our Way of Life. If that is at risk due to Climate Change as one of the contributors, the Commission must consider how to best protect our Rights this in this difficult and uncertain time.

Māhsj Cho for considering more fully the impacts climate change on First Nations rights and traditional ways of being.

Climate change is taking a toll on how people & animals live on the land. all the effects of climate change now we interact with the land, water and Air are irreversible.

Name: Joshua Moses Oct, 31/2021

Address:



Dear the Dawson Regional Planning Commission,

RE: Wetland Recommendations for the DRLUP

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Wetlands provide critical habitat for moose, waterfowl, fish, and unique plants, and play a crucial role in cleaning and purifying water, flood prevention, and carbon storage. Importantly, wetlands are of immense cultural value to the Tr'ondëk Hwëch'in in their intact state.

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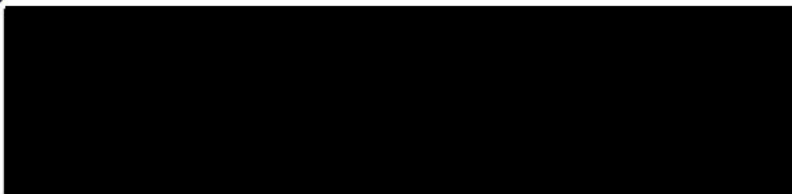
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To tear the wetlands apart is to condemn the animals, water, plants, fish, air & other life forms that depend on these wetlands. It is vital that these wetlands are at least fully protected for our children's children. The animals of the land, air & waters. The plant and insects that depend on the wetlands and to keep it going for they take care of us and we should take care of them. Let's protect our children Mähsj Cho and lifeforms. It is vital we respect the wetlands & protect.

Name:
Address:

Joshua Masses Oct, 31/2021



Dear Dawson Regional Planning Commission,

Re: Water Preservation and Protection for the DRP Region

I am writing to encourage the Commission to strengthen the protection for water in the Recommended Plan.

One of the Chapter 11 Tr'ondëk Hwëch'in Final Agreement (THFA) Objective states the Commission is to: "consider the knowledge and experience of Yukon Indian [sic] people to achieve effective land use planning."

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To Contaminate the water is to poison the land animal's, Fish, Bird's, Insect's, plant's and all living organisms. My Great Great Grandparent's, Great Grandparent's and Grandparent's once told me water is life. To poison the water is to condemn all living organism's to disease the eventually death.
--

Mähsj Cho

Name: John Moses Oct, 31/2021
Address: 

Dear Chair Debbie Nagano and Dawson Regional Land Use Plan Commissioners,

Please accept these following comments in support of a strong and carefully considered

Dawson Regional Plan

As a 35 year community member of the Dawson region, I have read and considered the draft plan with interest. I recognize the issues and values of the region and the people who live and work within the planning area. I understand the impact the finished plan may have on regional development, through all sectors in the next 20 years and beyond.

I am sympathetic to the planning board members struggle to propose a plan that a significant portion of the community can come on side with support. I also know that it is crucial to write a plan that actually serves the regional community members well to the extent that it can, while respecting the traditional values of the land and the natural environment as it exists today. This is all the more challenging under the emerging climate change situation that we are only beginning to come to terms with and evolve our thinking and actions to match the situation as we understand it. At such a time it is important to apply the precautionary principal broadly and decisively to ensure vulnerable lifeforms are provided with space to live and redundant capacity to promote survival under a rapidly changing environment subject to increasing levels and intensity of wildfires.

A plan that follows that status quo does not step up to the challenge ahead and fails to serve its purpose. Therefore the final plan must be bold, forward thinking in approach and display in its conclusions an attempt to anticipate outcomes that may not be discerned readily but that are likely, and propose adaptations to mitigate the worst scenarios.

With this in mind, I support Tr'ondëk Hwëch'in's conservation priorities for the Dawson Region, and urge the Commission to safeguard the health of the lands, waters, wildlife and people living within the area. The draft plan provides a good primary vision for the region, but proposed recommendations and suggested protections fall short of meeting the vision in some areas and need to be strengthened. This is particularly necessary because of the strength and abundance of placer mining claims and operations in the region that have not grown up with dynamic upgrading of industry practices and code amendments. This has lead to an industry governed by legislation and utilizing practices, widely recognized as antiquated and vulnerable to attack for being out of step with the times especially in the light of the climate change fiasco we all live under presently.

So while the plan seeks to be fair in regard to balancing local mining practices with the other values, particularly related to wildlife, it appears as though the lens being used to evaluate the situation is focused too closely in space and time.

If one looks beyond the Yukon to other jurisdictions worldwide to see how poorly large mammals are fairing, particularly migratory herd animals, in the presence of even sparsely situated industrial development where management practices are being employed, the evidence paints a clear picture that the allowances made for industry fail time after time to safeguard sufficient territory to a sufficiently high level of integrity for the survival of the herds within the regions subject to development. These unfortunate, but all too common outcomes make those remaining wild spaces that contain large numbers of wildlife in functioning habitats all the more valuable and worthy of special consideration and evaluation. These high value features exist within the Dawson planning region and the extra effort must be made to weigh them accordingly. If the mining community feels unfairly targeted in the final

plan for being advised to remove itself from some areas or is placed under restrictive conditions that are 'new', so be it. Miners are not moose, they have adaptive responses and resources at their disposal wildly beyond that of the native wildlife and many people in the world for that matter, so they will figure something out and make a new plan for themselves. The Dawson Regional Plan must speak well, for that which cannot.

Specifics:

The principle of sustainable development as defined in the THFA:

Beneficial socio-economic change that does not undermine the ecological and social systems upon which communities and societies are dependent.

Keeping this in mind is key and a standard to be held to, along with the Precautionary Principal. The use of this should be proactive where needed to protect critical habitats.

Canadian and international policy now is to protect 30% of lands by 2030. This plan steers well clear of that figure which, given the significant opportunities that the lands within the region offers is problematic and needs revision in my mind. Designations of SMA2 LMUs fail to help achieve the 30 % goal and opportunities exist in LMUs to be upgraded to protect caribou habitat in particular.

Economic growth that supports healthy societies and ecosystems should be supported.

Wetlands need more extensive protection. These natural carbon reservoirs support greater ecosystem diversity and help to buffer the effects of climate change. Wetlands are not extensively found in the region and so they are of particular merit as they provide varied, critical habitats for wildlife that cannot be restored after being altered.

I am happy that some areas should remain open to developments like mining and tourism, but the health of the ecosystems needs to be prioritized where these activities take place too. Limits on development in some areas are too high which allows development to be concentrated within sensitive habitats. The Commission should review additional conservation science and examine traditional knowledge to set limits that ecosystems can tolerate.

The Tr'ondëk Hwëch'in Final Agreement speaks about needing to “protect a way of life that is based on an economic and spiritual relationship between Tr'ondëk Hwëch'in and the land.” The Commission has expressed a similar desire to safeguard the ecological and cultural values of the Dawson Region, and I fully support this.

However, meeting these ambitions — and living up to our treaty obligations — requires bolder action than what's in the draft land use plan. I encourage the Commission to go further, and create a plan that makes these visions a reality.

Sincerely,
John Lenart

2021 Dawson Draft Plan Engagement Submission

Type: email ref 053

From: Julie Frisch

Date: Nov 1 2021

I was on page 6 of the survey and wanted to look back at the Peel Plan LMU designations; which I did but then when I tried to get back to the survey it had disappeared!

Same thing happened to my daughter this afternoon - she lives in the bush and said the wind sometimes causes a brief lack of power to the WiFi - she lost her survey comments twice and had to start over again before she was able to finish.

Too late to start again. I didn't much like trying to answer the survey anyway so here are a few brief comments.

- Cumulative effects/impacts: who is responsible for keeping track, for doing the measuring and what happens when a threshold is passed?

- Stewardship Trust Recommendations: (p106) change the word 'should' to 'must' and add time frames.

- Why not just use the Peel Plan designation for a Conservation Area: Special Management Area and Wilderness Area? Wouldn't it be good to keep the terminology as similar as possible throughout the different planning regions?

- LMU #2 needs a bit more of an explanation since it literally does not fit in the region. (Oil and Gas exploration is a thing of the past not the future.)

- LMU # 10 states that maintaining the Tintina Trench as a major migratory corridor for birds is a Primary Objective. To be clear about why this is not mentioned as an objective in all the units the Trench passes through maybe add a bit about the many rest-stop lakes the birds use in this particular LMU.

- LMU #23 seems unrealistic. The development of Special Management Directions for that area will be difficult if even possible. Key Wildlife Areas are not static - especially now. As the climate changes so will the vegetation. Greater use of the Precautionary Principle is required here.

- For further comments from me on other LMU designations for the portion of the planning region north of the Tintina Trench please see the letter from The Friends of the Dempster Country Society I helped draft and sent earlier today.

Thanks for all the effort put into the Draft Plan. I very much appreciate the time spent researching and fine-tuning and listening and rewriting etc it took to create it. Great work. Hope it reflects the quality we can expect in the Recommended Plan to come.

Julie Frisch,

(Answer to Survey Page 1: I am a seasonal resident of the planning region)

The Draft map suggests 3.8% of the planning region to receive full protection. This is totally inadequate and not acceptable and does not uphold our Final Agreement. I call on the Commission to significantly increase the amount of protected and conserved areas to ensure the health of future generations.

We Are In a Climate Emergency

The Yukon First Nations Climate Change Emergency Declaration states "there is no greater threat today to our culture and way of life and the wellness of our citizens and communities than the impacts of climate change."

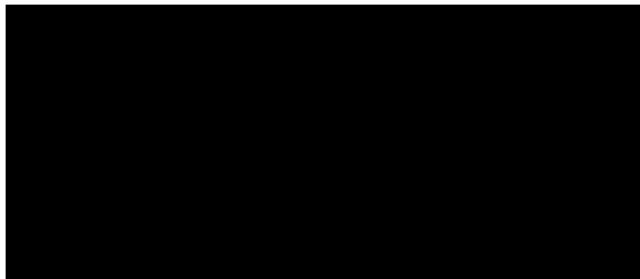
Currently, the Draft Plan does almost nothing to effectively address the causes of climate change or its impacts on First Nation Citizens. The Commission needs to consider how the land is changing and how climate change is affecting our way of life. I call upon the Commission to effectively consider the impacts climate change is having on our Traditional Territory and what we need to do to reduce its causes and effects.

I would also like to add:

Mähsj,
Signed:

  Sophie Noel

Address:



2021 Dawson Draft Plan Engagement Submission

Type: Email ref 055

From: Kate and Ian Warrick (Moosehorn Exploration)

Date: Nov 4 2021


Previously, we sent you a submission regarding Area 22, in which we have been actively mining for the last 40 years.

In order to avoid future conflicts within this area of the Dawson Land Use Plan, would it be possible to adjust the boundaries so that our upland mountain top gulches and claim groups (that do not fit any definition of wetland) be included within the adjacent area 21?

This proposal would provide a simple solution, clarity, and avoid the necessity of two separate designations within Area 22.

Thank you for your attention.

Kate and Ian Warrick
Moosehorn Exploration


November 3, 2021

Ms D. Nagano
Chair
Dawson Regional Land Use Planning Commission

Re: Comments re June 2021 draft of the Dawson Regional Land Use Plan

Thanks to you and Commission members and staff for your long days, months and years of work on this draft of the plan. It has taken more time than I expected to study the long document, and to format these comments so your staff and commission members can efficiently handle them.

I start with general comments on reclamation, power generation and human migration, important topics that deserve more attention in the plan, and then get into specific comments referenced by page. I draw your attention to text changes suggested for ecological integrity, regional self-sufficiency, and grizzly and black bears. Finally I am recommending two SMA1's in LMU 1.

Reclamation of placer mined valleys

I recommend that the plan include some practical overarching direction on reclamation of the valleys that have or are being placer mined. These would fit well with the overarching theme of stewardship in the plan, and would help guide the work of assessors in YESAB and the Water Board, and policy/strategy/guideline development. The idea would be to recommend the reclamation be designed at a larger, valley specific scale according to objectives set by the DRRC and others with a stewardship mandate. It would be designed and delivered by reclamation specialists. It would be paid for by the stewardship fund or a fair tax on placer operators. There are 4 reasons for this. First, while it is prudent to set up water control systems to capture soil and silt in terraces, in many areas this was not done and we are left with mounds of boulders and gravel that will end up being of limited value to wildlife or any other use, even after the very prolonged transition from willow and poplar through to spruce. The operators are gone and any reclamation will be expensive. Second, based on drilling data, there are some valleys where there may be gold deposits that are too deep for current machines to get to, that will be mined again at a later time. There is no point in reclaiming these beyond water control to secure silt and soil. Third, it is unrealistic to expect educational approaches will be successful in having operators move thousands or hundreds of thousands of cubic yards of gravel and topsoil into a form that that will grow back to be as useful as it could be. These bulldozer operators are busy and untrained, and unlikely to do more (or be told to do more) than flatten a few mounds and put some overburden on top. Finally, there are some steep or narrow valleys where the orientation and topography may be such that investment in reclamation is unlikely to result in a future form that is useful. Minimal spending on reclamation would be practical there. Valley-specific reclamation plans would guide and coordinate the final location of access roads, the layout of ponds and waterways, the capture of silt, and revegetation according to specific goals and

objectives. This is stewardship. The plan should call for sub-sub regional, valley-specific reclamation planning in all placer-mined valleys.

Power generation

The region imports almost all of its electrical power, fuel for machines and transport, and for most of the residential heating. With the coffee creek mine coming on, the power consumption of this region will (may?) exceed that of the rest of the territory. Yet this version of the plan only mentions power generation in relation to the north Klondike River (a proposal to restore the old flumes?) and a reference to biomass heating. This version of the plan is silent on which ridges would support wind turbines, which valleys would be dammed for low head hydro, and which slopes could be solar farms. Direction on this in the plan is essential. This power generation will use land. Again, this is stewardship. Is it fair that other planning regions should not be expected to deal with this region's heavy energy use and related carbon emissions?

Human migration

The climate change section is limited to physical changes in the landscape. The social changes could be substantial over the next 20+ years. Migration of families to region is very likely, given droughts, famine, conflict related to climate change and changes to work opportunities elsewhere in Canada. This plan should consider where families would live. The text in the climate change section should raise the issue of major increases to the population (or a need for ceilings?) and this topic should be in both the LMU 13 and 14 topics. I see the land area in the Klondike valley LMU encompasses some south facing slopes where housing might be developed.

This plan supercedes the forest plan. The introduction should mention this and refer to the forest and other sub regional and valley-specific land use plans.

P 15 vision for the plan... "integrated use"...Please be careful inserting adjectives that are vague. The plan guides use and management. Adding the word "integrated" does not add anything useful or meaningful here, in fact it adds some confusion because it is not capitalized, which is a term with a specific meaning.

P16 Parks Canada has used the term "ecosystem integrity" for many years. Many ecosystem processes have proven to be very difficult to assess and measure, and the list of indicators that are monitored are often incomplete, and very expensive to measure reliably. For example, teasing apart the effects of development vs. climate variation is problematic with northern caribou herds. It is an important dimension of the plan, but it is a challenge to track.

P 16 "two kinds of economic activities"...there is a third kind of economic activity, that is one that degrades the land and from which the land can not recover...for example a major chemical spill, contamination of ground water, etc. Perhaps you mean there are two kinds of sustainable economic activities.

P 17 appreciate this definition of stewardship.

P 17 Re new land designation system ... “active industrial landscape with high ecological and cultural value”...”Integrated Stewardship Area” ... The text in the box that explains the difference between this designation and the working landscape in the two previous plans is unclear. Both are ‘active’ (does this include regenerating landscapes), and one has high ecological and cultural value. What about working landscapes with high ecological and low cultural value or the opposite? Please work on this text and consider using “and/or” for the 2 values. The paragraph stating the intention of the ISA seems like what the entire plan should be working towards, not just in ISA’s. I liked the idea in the earlier plan about a land designation for renewable resource extraction only...I think it was called a traditional use area or zone.

P 18 Para 1...Please include Federal regulations and Policies

P 18 1.6.2.3 Re Precautionary Principle... para 2 after quote. This text is really weak and does not reflect recent thinking on the topic. A more recent definition than 2007 would be better. The major points in precautionary principle application is that the burden of proof shifts to the proponent, that we delay or be extremely cautious with (not “make sound”) decisions until potential damage/impacts/mitigation technologies are better understood. Please be really careful about jargon. As Commission members, if it feels ok but you are not really sure what it means, then make sure the writers spell it out clearly.

P 18. “Healthy air and water...” Perhaps you mean “clean” or “uncontaminated”

P 19. Re fish and wildlife habitat “...in this submission”...What submission? Do you mean “as candidate Conservation Areas”

P 19. Key habitat areas for moose as candidate conservation areas should include “Feeder Areas”. That is “source landscapes” where moose are reared that supply the moose that move to and are harvested in areas where moose hunting is concentrated “i.e. sink landscapes”. This is important if a plan goal is to secure the supplies of wild meat to citizens of the region (and to citizens from other areas of the Yukon). There are no goals like this in this plan, and there should be. It could be argued that this would be a goal in a moose plan, but this kind of goal is also needed in a plan that identifies conservation areas. Please consider this carefully, and with input from Elders. Protecting harvesting areas is different than securing source areas.

P 19. Re species at risk... A text box would be useful here to define the categories, Threatened, Endangered, and G2S1 etc.

p. 19. Water... good

P 21 Goals. Maybe number them in the final version.

P 21 Goal 1. What is a “sustainable fish and wildlife population?” Moose, birds and salmon are not technically populations. The term ‘sustainable’ here is not clear. Consider ‘maintain...habitats and habitat mosaics...needed by fish and wildlife that live seasonally or throughout the year in the planning region’. You could refer to the excellent definition of Conservation in the TH Final Agreement.

P 21 Goal 2. I like this goal but be careful with the term 'cumulative'. Disturbances accumulate over time and space (zone of influence etc.). Perhaps you should limit the reclamation and restoration to certain habitats and landscapes that have high cultural and /or ecological value. Decisions will be made that permanently alter the landscape.

P 21. Ecological goals generally... I boated down the Stewart River from McQueston airstrip to Dawson several times, and once down the Yukon from Minto to Dawson, all in September. In the Stewart River we could not drink the river water below Wounded Knee Creek, as it was full of silt coming down that and other creeks downstream. Many of the creeks coming down from the north were full of silt, I assume from mining upstream, as the water was fine upstream of this and from the south. The creeks flowing from the north into the Yukon between coffee creek and the white were also full of silt. Shouldn't an important ecological goal in this plan be to maintain clean river, lake and ground water? Unpolluted air? Toxin-free soil?

I'm not sure how to include a goal related to wildfire...a lot of forty mile caribou winter habitat has been burned north of the top of the world highway over to the Yukon River. Perhaps note some habitat mosaics need to be managed (e.g. protection from wildfire) to secure specific habitats (e.g. lichen-rich winter caribou habitat).

Goals 3,4,5. Good

P 21 Goal 6. Promoting land stewardship by upholding and enhancing...values... Consider splitting these, 'Place a very high priority on respecting ...values of... in all land-related decision making' [note there will be conflict in some of these values- this plan needs to provide guidance on how to handle these conflicts] and 'Promote stewardship of lands and resources by all citizens, visitors and businesses through education, patrols, monitoring and enforcement.' The point is that you do not promote stewardship by upholding values. You need to take action, everyone needs to take action, and agencies responsible for land decisions need to be held accountable.

P 21 Goal 7. Rights and activities are...sustained. The continual use of the vague term 'sustained' is getting ridiculous. Please consider more specific verbs like "maintained" or "continue". Please insist that the writers stick with simple clear terms that people understand, rather than seducing readers with nice sounding adjectives.

P 21. Socio-cultural goals generally.... Will the plan encourage the region become more self-supporting and independent in term of food production, lumber, and energy? Consider "Support policies, programs, land and water uses that reduce the reliance of families and business in the region in terms of energy, materials and food produced elsewhere." This type of goal has huge implications, but, at the goal level, the plan should not silent. Please do not assume that this is included in the first economic goal- spell it out.

P21 Socio cultural goals generally (cont)... The Kusawa Park planning process produced a map that included routes (not detailed trail maps) through the area in and around the park. These old routes are important heritage features. As a long-distance backpacker, I would like to see some reference to these routes in the plan, perhaps identification, protection and

limited maintenance, not turning them into quad trails, particularly areas north of the Yukon River and connections to Seela pass, the Blackstone valley, etc. We need more long trails. Note the efforts in BC to recover the old grease trading trails used by indigenous groups. For example Kandik Basin to Tatonduk valley, Fortymile to Seela to Dempster, etc. Much of this could be just connecting old horse and trapping trails... Note the Faro to Ross River heritage route trail, and very very heavy pressure on the Tombstone Park trails.

P22. Designated lands...Please mention there are currently no Special Management Areas, Habitat Protection Areas, no areas zoned for off road vehicle management, and no National Wildlife Areas. Is there any designation for the lands of FN interest at the junction of the Klondike and Yukon Rivers (Tro chek (sp?)?)

P24 Wetlands...are there any lakes in the planning region? I've seen Stan and Gill Lakes.

P24 Interesting projection on wildfire frequency

P24 Please list the species of salmon. Grizzly bears are also important key species.

P25 Note also some families living along the Yukon and Stewart Rivers.

P26 Transportation section is limited to paved roads. Note the planned road connection to Carmacks on the south side of the Yukon River, access roads to coffee creek mine, Matson Ck and south, the mines north of the south Klondike. The maps of the planning region omit many roads- why? Also barge shipping on the Yukon River upstream of Dawson, and extensive use of the rivers for transportation. Ok I see this is covered later.

P26 Dawson mining district [has] the most

P26 This number is [does] not including [include] employment in the tourism sector

P27 Please beef up the traditional economy section with estimates of harvests of moose, salmon, caribou etc.

P27 Please include an estimate of the economic value of various sectors of the renewable resource economy. Note clients of outfitters now pay US\$50,000 for a moose hunt, \$10,000 for a grizzly bear hunt [see websites]. Dawson is a hub for the Tombstone Park visitors. The 200-400 (?) moose harvested annually provide a huge protein input to the region with enduring economic and cultural values.

P27 Climate change- nice to see the model projections. Maybe list some of the challenges and opportunities. Can you refer to land use planning approaches that have done a good job of addressing these considerations, especially beyond a community infrastructure level? Please note my opening comments about including the potential for much greater than expected migration of families into the region.

P29 it would be useful to have some text that defines 'overlay zones'. This sounds like a term that has meaning mostly to computer mappers. If you mean "corridors" then call them

corridors and specify the types (energy, transport, etc). I see on page 3 you are calling them corridor areas.

P30 special management area...conservation area...established ...”under a final agreement”. I thought special management areas could be formed by governments at any time. This is certainly the case with habitat protection areas. Please check if SMA management can involve federal government agencies as you list only First nation and YG.

P30 SMAs have been further categorized...is this through the final agreement or this plan? Please specify who and how. These categories seem reasonable. Are there lands that have been degraded or altered by industrial activity that need to be reclaimed, or are we only talking about pristine areas?

P31. Para 2. Note the period after directions needs to be deleted.

P31. ISAs are divided into distinct sub-zones ...(see section 3.2.2)... please note that section 3.2.2 does not explain these subzones, they are in table 3-1.

P31. 3.2.3 Be careful with this text on corridor areas. You call them areas and zones. I think you need a lot more corridors...like the major river floodplains and viewsapes, as in previous drafts of the plan. By only describing the 3 highway corridors it tends to limit the discussion here.

P32...Other areas... Perhaps there are other areas in the planning region that will not be provided a designation, such as the Rock ck Klondike valley area.

P33 Table 3.1. Please be careful with the ”and”s in the description. I think you mean ecological and/or cultural value, not ecological and cultural value. There will be some places that do not have both values. 5 categories for ISIs may be difficult to implement. Please state the priorities for III and IV.

P34 SMAs these descriptions seem fine. Isn’t a withdrawal a legal designation?

P34 Overlay zones...note only 3 highways are mentioned. I think this category should include the Stewart River valley, White river valley, etc.

P35 SMA direction. This is the only place so far where the plan has talked about access, and you call it access management planning. I think the plan needs highlight access much more. It should be in the corridor section as well, particularly the major routes including unpaved roads. Building roads and improving existing ones, particularly when govts do this, has huge impacts on future uses and development opportunities.

P 36. Results based management framework...this is a weak example. For a goal like this multiple indicators would be needed. I am concerned about “surface disturbance”. It may be readily measurable, but ‘amount’ is not necessarily a good measure of impact. A results based framework puts the burden of proof where?

P 36 Cumulative effects apply to the site and the larger area over time. Please make this clear. Cumulative effects at a particular site over time may not have a measurable impact, but over a larger area, in combination with other impacts might. Cumulative effects also occur from changes like a wildfire- not necessarily a land-use activity. Or a new road creating much better access for harvesters of wildlife. Be really careful to not be too narrow in the consideration of effects...

P37. Surface disturbance defined 3.5.1.1. Is a human caused wildfire ‘an area of land physically disturbed by human activities’? I worry about the size of the ‘given area’ that the percentage is calculated from. In much of the northern part of the planning region, the river floodplain/permafrost free valley floor is probably one of the only places a road could be built, where gravel can be found etc. It might have a small percentage of the area of the Land Management Unit but the impact if most of it was ‘disturbed’ would be huge.

P38. A surface disturbance is not/may not be/may be recovered when vegetation in a forest area is over 1.5 m.... Many old bulldozer tracks/winter roads make permanent alteration to the underlying permafrost, drainage patterns, and the new vegetation may be very different than in adjacent areas. This kind of definition is way too simplistic. Cutlines provide carnivore travel corridors... there are many examples.

Not sure how to measure run off and sediment loading is at pre disturbance levels. The topography change/ contours roughly matching is tricky. When would we say the 1-3 km wide boulder fields in the upper 60-mile valley placer area have recovered? The plan needs to consider some examples for 3-5 landscapes in the planning region- work it through. I do not believe that best practises guidelines will be adequate to realize reclamation under current legislation and policies- the companies can just declare bankruptcy and walk away.

P38. Linear density. Fragmentation is important at many scales. I agree the measurement options need to be thought through, perhaps in the specific landscapes. It is not appropriate to ignore an impact because it can’t be measured from a satellite... We actually did quite a bit of interesting work before satellite imagery came along. You have one of the world’s foremost drone specialists living in this region...

P39 I expect Commission members are weary of the indicator discussions. I certainly am reading this. A plan should state what we want a landscape to look like, how it should function, as we use it or do not use it, and into the future. We may be able to alter landscapes so they function better for a variety of human and natural uses. This may be a more reasonable “results-based” focus than all this measurement activity.

P40. 3.5.2 Cumulative effects thresholds. and 3.5.3 cumulative effects framework
Thresholds and decision frameworks are very important but lie beyond my expertise. I am **very concerned** that these sections

- Rely too much on the two indicators (surface disturbance and linear density),
- Focus too much at the project level or scale,
- Expect too much of the Alces modelling, and
- Get into too much detail into plan implementation and the YESAB project evaluation business.

But I am no land use planner and may not now what I am talking about. What is written here though, in these sections, is not clear enough. I recall reading in the original resource report that the goldfields (not sure how big an area) measured out by EDI at 4% surface disturbance. And this is a lot of disturbance! So the small percentages here are still a lot of disturbance, especially when it is all concentrated on valley floors (placer).

P46 Draft sustainable economy goals...good. Key Planning issues...fine, but you missed energy usage, carbon release, risks with heap leach mining, and costs for clean up with abandoned mines.

P47 objective 2 please add guidance for post mining site rehabilitation.

P49. Please number the policy recommendations in the final version.

P49 I googled the “KPMA education and compliance program” and found only a reference to a safety manual. I think promoting excellence in mining reclamation etc is laudable, but note that the Leckie award for reclamation was given by KPMA to the upper 60 mile ‘moonscape’. I do not believe that industry led initiatives based only on education are adequate, especially in the years when gold has low value, fuel costs are high, and/or water is scarce. There should be a recommendation for the parties that has a legislative base and that can be enforced. And reclamation planning by reclamation specialists, not equipment operators.

P49 economic development... is intrinsically linked to access...don’t need “intrinsically”. Maybe ‘tied’ or ‘dependent’ or simplify sentence and use ‘requires’

P49-60 Access... this is all very good, thank you, good work. Some fuel drums remain and need to be cleaned up in the northern part of the planning region. Old mining roads and lines cleared of trees will be used by hunters and others on quads and other off road vehicles. Some SMAs under the new ORVMA regulations off the Dempster Highway should be considered.

P61 Air access... good.

P61 “robust” opportunities...maybe “many” Some of the riverside camps are heavily used in the summer and human shit and toilet paper nearby leaves an unsanitary mess. Please include some recommendation related to sanitation, clean up, outhouses. I appreciate the jet boat recommendation, I believe these loud boats disturb moose in calf rearing areas and reduce the quality of recreational experiences, so the study should look at this as well. Do LMUs 21 and 15 cover the Stewart River?

P64 Agriculture ...good

P65 Include the Stewart River valley in the major river corridors.

P66 Tourism Please include a research recommendation to identify traditional and historical travel routes and consider the potential for a few of them to be long distance backpacking

trails. I'm thinking of the portion of the planning region north of the Yukon River. I agree we should not be encouraging the ridiculously heavy trail use as seen in Tombstone Park.

P67 Outfitting... replace "summer and fall" with "August 1 to October 31" and the spring bear season (unsure of current dates). Strongly agree with policy and research recommendations.

P 68 4.1.6.1. Good

P71 Forestry... Please broaden this to include forest resource harvesting. I am not sure where wildfire suppression is covered in the plan. I've seen the experimental pine stand by forty mile, this is a good example of a climate change related forest research project.

Note that this plan supercedes the Forest resources plan, so the forest resources zone boundaries may need to change to follow the ISA boundaries. Ok I see this policy recommendation. Moose need big trees for shelter, and the Klondike valley should retain big spruce trees. I have not seen anything related to firewood cutting in burns.

P 73 Aggregate needs for the secondary roads SW of Dawson not addressed, just the highways.

P 74. Some quotes would be nice in this section on the traditional economy so it is similar structure to other values/activities. An important issue is the heavy use of the goldfield roads for hunting by people from outside the region. Are TH families getting enough wild meat? Mayo people have had to implement a radical conservation measure to control harvesting pressure on the roaded lands in their area, and this may be required in this area, especially as moose harvesting opportunities are reduced elsewhere in the Yukon. This is a really important issue that you have missed! It may be implied in the first policy recommendation, but that is very vague. Please note my earlier 'feeder area' comment. Please include the Stewart River in the list of high traditional use areas.

P75 4.1.10 good to see this reference to MMIWG2S. You missed the text on issues, and the quotes though, to make it consistent with the other sections.

P76. 4.2 ecological integrity and conservation... The wording here in the first 4 sentences is really odd, as if the writer is not clear on the terminology. Consider replacing these sentences with

"Clean air and water and soils are critical to maintaining healthy vegetation and the mosaics of habitats important to birds, fish and animals that depend on them seasonally and throughout the year. These in turn support human needs for nutrition and spiritual sustenance. Maintaining this cleanliness, the habitat mosaics and populations, and ecological processes and services in the face of human activities and environmental change and variability is a challenging planning issue. The need for...

P76 Draft ecological goals- Suggest rewording the text as follows:

Maintain high quality, connected and diverse aquatic and terrestrial habitats throughout the planning region, with particular emphasis on securing the habitat needs of unique and threatened species, and populations of wildlife used by and important to people.

Minimize and/or prevent disturbances that accumulate in time and space from human activities that impact these habitats and species, and restore or reclaim or provide alternative high quality habitats following disturbances.

Maintain connectivity... (As is)

Preserve...(as is)

Promote (as is)

P77 Key Species Habitat good, include grizzly bears. Caribou text is excellent!

P78 the word 'efficacy' in relation to migration could be reworded so it is more easily understood. I think that are a variety of FMCH mitigations needed in their range.

P 80 As mentioned earlier in this letter, spatially concentrated moose hunting is supported by the ingress of moose from particular adjacent areas. For the localized harvesting to be sustained, the moose numbers and productivity in these adjacent areas must be maintained. Characteristics of these adjacent areas need to be studied and mapped, but likely include wetland and riparian habitat mosaics where cows can defend calves from predators by entering water. These calf-rearing cows require seclusion, and quiet, treed areas with nearby chest deep water from June to August. Adding 'key calf rearing areas' to the third issue is important, not just calving.

The second issue about linear features...these can also increase the efficiency of wolf predation, especially if these roads and trails are kept open all year.

Policy recommendations should address the need for better harvest information, and consider early implementation of harvest management regimes that terminate hunting once a particular ceiling for a sub area is reached. The experience, particularly in the southern Yukon, is that once moose populations crash, recovery is prolonged and causes great hardship to families in the region. It is hard to detect with any certainty when it is happening.

P83 Salmon ...The text box on the fish habitat system must mention the DFO work that was referred to previously in the plan. I could not locate it, but it sounded like they found evidence that this system was not working. Is it the Olsen et al 2020 paper?

The salmon issues are worded particularly blandly. Someone who is knowledgeable about salmon should redraft them. For example "sedimentation can affect salmon habitat" but it can also reduce the survival of young salmon. I think an important issue is that there may be a huge potential for restoration of salmon spawning habitats and salmon spawning. This should be studied. The actions look good.

I have some experience with grizzly and black bear management in the planning region. I led a small population study in the south Tatonduk/Coal/Eagle watersheds where we looked at production of young by a group of collared females, and tried to determine reasons why females were so vulnerable to harvest. It was not a full on ecological study with monitoring every week etc. But, we did learn a lot about the bears and certainly appreciated the tremendous knowledge of grizzly bears shared by Stan Reynolds (Dan was just a puppy then, but I am sure he is extremely knowledgeable and I appreciate his input into this plan). I spent time in the fall with outfitting parties in the Nahoni Range, in the Tatonduk study area, Upper Fifteen Mile and have backpacked in this area as well as the Kandik/Nation uplands. I worked with the town of Dawson to install the first perimeter electric fence around a landfill in the Yukon and with Teck mining to install the first perimeter electric fence around the camp. We (including Conservation Officers) did a lot of educational work with placer miners to reduce bear access to garbage from their camps. This was all 1978-1991.

An important planning issue especially in the northern half of the region would be “Grizzly bears, particularly females, are vulnerable to overharvest.” A related action would be “The current no-hunting corridor for grizzly bears along open landscapes along the Dempster highway should be maintained, and public viewing (not close range photography) of these animals should be encouraged.”

Floodplains are important habitats where grizzly bears dig *Hedysarum alpinum* roots in the spring and some autumns as an important source of protein and starch, and where they feed on soapberries mid July to late August, particularly in years when blueberry abundance is limited. These habitats will be important locations for road building and aggregate, especially when the adjacent landscape is underlain by permafrost. These human activities in these floodplains and valley floors will reduce the availability of these foods and increase the vulnerability to harvest of grizzly bears.

So an important planning issue would be “Floodplain feeding habitats are important seasonal and perhaps critical habitats for grizzly bears in parts of the planning region, requiring considerable attention in planning aggregate removal and road building, and in locating campgrounds and trails. ”

These bears are small and are nutritionally stressed much of the year. They are extremely adept at obtaining human food and garbage, which are usually far richer in protein and carbohydrates than wild foods. The windy pass camp operated by GE killed 6 grizzly bears in one summer when their camp was in operation building the Dempster highway. The old dump near the highway south of the Klondike highways camp was used by grizzly bears and many were killed there. Grizzly numbers may be much reduced from the pre gold rush period in the previously placer mined valleys due to conversion of floodplain feeding habitats to boulder terraces, and miners shooting grizzlies at garbage dumps near camps, especially pre 1980. There have been enormous improvements in the handling of garbage along roadside pullouts and in parks and in communities.

So an important planning issue would be “There are many locations in the planning region where access to human food and garbage and other attractants alters bear behaviour, increasing the potential for bear-human conflict, and unnecessary killing of bears. “ The recommended management practise is good.

The loss of salmon feeding opportunities to grizzly and black bears has been a significant loss of protein to bears. This may be an issue for the salmon section- the loss of salmon as a source of nutrients to aquatic and adjacent terrestrial systems has likely been really significant, if never measured or estimated.

I'm not so sure about fragmentation of large tracts of land, but connectivity is important, particularly north and south extending up to Bear cave mountain. A bigger issue is that high quality grizzly bear habitat is limited, especially in the north, where barren limestone mountains rise above huge expanses of tussock tundra. There are pockets of excellent grizzly bear habitat, particularly nursery habitat, that need a high level of protection. Denning habitats may be in short supply in the limestone mountain areas as soil depth there is very limited. I think this issue is covered pretty well in the plan, although it is vague. I am not confident that there are adequate resources to implement the grizzly bear conservation plan, so TH, the DRRC and conservation groups will need to be vigilant.

“Grizzley” should be grizzly [this is ridiculous]

The research recommendation stating “decisions should be developed and promoted as an educational tool to promote stewardship of bear habitat” makes no sense, no sense at all.

P92 Wetlands- Thank you for the excellent presentation and text here. I have not visited the Indian or Scottie wetlands, but did watch the YGS presentation to the Water Board on the Indian River gold mining. The final slide showing an example of the landscape 18 years after mining was telling about the conversion of a wetland to an aspen spruce forest. I believe that it is possible to rebuild some mined wetlands into a wetland with some of the original functions, but it would take decades for the recovery and the earth moving would be expensive and would never happen voluntarily. That this land is now a source of most of the gold may be more telling of how much gold has been removed from other locations that are easier to placer mine.

A box with definitions of the types of wetland habitat would be useful.

I do not know enough about the topic to provide informed comment but I do have some general comments, based on my work with Teck and visits to other placer mines in the 60 mile, Brown, Hunker, Dominion, Moosehorn, etc. The focus in areas that have been and will be placer mined should be practical and designed. If the depth of material removal has not reached down to the bedrock or all the gold rich layers (as determined by drilling), then the site will likely be remined as new technologies come available. This means that spending a lot of money and time on reclamation is pointless- it may be best to simply control the flow of water from the disturbed area to trap sediments until the mining technology is developed that will allow mining deeper. Ducks Unlimited have huge experience designing and automating these kinds of water flow controls. Where the valuable gravel has been accessed and or if bedrock is reached, and if the adjacent topography seems reasonable for a designed reclamation (not a voluntary haphazard levelling or shaping of gravel mounds by a bulldozer operator), then it is worth the money and time to rebuild the valley floor surface so that it functions in a manner that is useful (taking into account upstream disturbances that may contribute silt and / or toxins). Useful can be defined in many ways, but in a designed

approach the potential for different uses would be evaluated and a plan developed. Funding for this could come from a tax applied to all the placer operations (perhaps based on the amount of material they move).

I also believe, following the precautionary principle, that there should be ceiling on the percentage of the original wetlands, by type, in a valley or section of a valley that are to remain undisturbed. This seems consistent with the recommendations from YESAB and the Water Board. Some design regarding the configuration of the undisturbed portion of the wetlands is needed to retain wetland function and prevent too much fragmentation. You have proposed a (high) threshold for fens, but not for swamps, marshes, or bogs.

I have not yet read the wetland policy or seen the guidelines from the water board that you refer to. Generally I do not place much faith in policy or guidelines and prefer legislation and frequent inspections.

I do not agree with the exemptions for areas under pre-existing permits.

Figure 4-1 is a bit confusing, especially the Y axis. A figure is needed where the y axis is a percentage of the wetlands potentially affected- it looks like this is percentage of the land area.

Good luck with this difficult topic.

P 98-102 This climate change section is very good. The issue of responses to increased climatic variability needs more attention as it only applies to major resource development projects. Irruptions of forest-damaging insects as well as increased wildfire frequency may be huge in the next decade or two. Also please note earlier comments about human migration into the region due to climate changes elsewhere.

P103. Note previous comment re draft goal related to promoting land stewardship by upholding...

We should expect that many families will migrate north as climate change intensifies. This has the potential to have a huge influence on the existing culture and heritage. It would not take much additional immigration to reduce the role and influence and economic future of indigenous families in this region.

P105 Avoid the promotion of ancestral trails...I strongly disagree with this recommended management practice. The reclaiming and restoration of the old grease trails from Bella Coola east, led by 6 Indigenous groups, is a wonderful initiative, as opposed to having ancestral trails lost and covered by developments as time goes on. If the concern is damage to graves or overuse of currently used camps, cabins and hunting areas, then these can be controlled by other mechanisms such as trail rerouting, guardians etc. Very strict controls are needed to protect cultural and heritage values. I do not advocate for conversion of these trails for widespread use by tourists, outside tour companies, off road vehicles, but they should be GPSd, marked and accessible to people to ensure safe and continued low levels of use. I appreciate the demand for trails, as evidenced by the heavy/over use of Tombstone

Park trails is alarming, but these routes should not be allowed to die out, be obliterated by roads, and become invisible due to decades of non-use after burns, etc. I believe we need an overarching trail policy in the Yukon. Generally we pay far too little attention to recreation in non-park areas.

P106 The land stewardship trust is a **great** idea!

P107 An issue is that TH families may not now or in the future be getting enough wild source foods due to competition with other harvesters. I made comments earlier about the situation in Mayo. The moose management regime does not take into account the needs of the TH citizens, which may be substantially greater than their current estimated harvest. I believe that competition for moose will be a huge issue in the next decade. The FN opportunities to participate in resource harvesting...is dependent on deliberate allocation of the potential harvest, not just continuing availability and access to lands. I also mentioned securing the 'feeder areas' or source areas that provide the moose that are harvested in the intensively hunted areas. I think TH in particular need to pay a lot more attention to this section and consult Champagne Aishihik and Teslin Tlingit Council land stewards and biologists.

P110 LMU 1. I have spent time in this area with the Reynolds family, leading a small grizzly bear study, doing a sheep aerial survey, and backpacking. I strongly agree with this designation, and what is written, but I would recommend that two SMA1's be created. The first would be the mountain block surrounding Stan Lake in an east west shape. This is an excellent representative area of the current Ogilvie Mtn Ecoregion. Apart from scenic values, it has high great habitat and species diversity including sheep, gyrfalcons, peregrine falcons, grizzly bears, and endemic plants. The second SMA1 request would be a block in the west facing slopes in the Orange, Kandik and Nation watersheds. I expect a cultural resource inventory would show high use of this landscape. These are tremendously productive slopes because of the high summer rainfall and soil development making these slopes much more vegetated than other parts of the North Ogilvie ranges. These headwaters supply water for important salmon rivers in Alaska, and are extremely important nursery ranges for grizzly bears. Dan and Stan Reynolds would be the most knowledgeable about boundaries for these two areas. While current use beyond outfitting and very infrequent backpacking is very low, the point of SMA1s is to place the highest level of protection on specific sites, and both of these warrant the highest level of protection.

P114 LMU 2- agree

P116 LMU 3- Management intent, reword last sentence...holistic makes no sense
Economic values related to power generation have not been mentioned, either wind turbines, within river water turbines, solar farm... I previously mentioned garbage and toilets at popular recreation sites that I hope will be addressed in the sub regional plan. I'm not sure how you address the risk to this LMU from a leak in an upstream heap leach mine.

P119 LMU 4- agree

P124 LMU 6- agree

P 126 LMU 7 agree

P129LMU 8 – agree. Appreciate text related to heap leach risks. The membrane won't last forever...

P 132 LMU 9. Should include some protection for caribou calving areas.

P135 LMU 10- agree

P 138 LMU 11- it is hard to protect a wetland without the upstream waterways having some level of protection.

P141 LMU 12- agree, note earlier comments about larger scale reclamation planning by professionals, and earlier comments about intensive moose hunting in this access-rich landscape.

P144 LMU 13, 14- agree,

P149 LMU 15, wildfire suppression is important to retain remaining old forest and wintering areas for caribou.

P 154 LMU 16 No comment

P155 LMU 17 Agree. Note moose feeder area comments earlier

P158 LMU 18 Strongly agree

P160 LMU 19 Strongly agree, note earlier comments about professionally designed reclamation at a larger scale.

P163 LMU 20 The coffee creek lowlands used to have excellent agricultural potential.

P166 LMU 21 I think a case could be made for a SMA1 or 2 in the Ladue River lowlands. This is a productive, undisturbed valley floor, relatively inaccessible to boaters, and tremendous moose habitat. A good representative part of the Klondike Plateau Ecoregion. However I can appreciate that with the Adjacent Scottie Creek wetland LMU proposed for an SMA2 designation, then a SMA here may be difficult to support. This valley would likely be a moose feeder area into the White River valley.

P172 LMU 23 Agree, but consider some SMA2 designation here for the specified caribou ridges in Map 2 and 4, Appendix A.

P176 Stopped reading the document.

Thank you for considering these comments, and good luck,

Barney Smith

Thank you for the opportunity to comment on the draft Dawson Region Land Use Plan. I appreciate the work that has gone into developing the plan to date. There are some key areas that require to be added or better incorporated into the draft Plan. I've tried to reference these in the same order as outlined in the draft Plan.

Basis in the Final Agreements

The process for regional land use planning in the Yukon is borne out of the Yukon First Nation Final Agreements – and in particular Chapter 11. While the Commission has done its best to follow the procedures laid out in the Final Agreements, there are concerns that the intent of the Final Agreements is not been adequately followed. Land Use Planning determines use of land and the nature and extent of development activities that take place within defined areas. It takes direction from its guiding documents and established principles. In this case the Final Agreements provide direction for both the process and the intent to:

“to ensure that social, cultural, economic and environmental policies are applied to the management, protection and use of land, water and resources in an integrated and coordinated manner so as to ensure Sustainable Development.”

Sustainable Development is defined within the Final Agreements as *“beneficial socio-economic change that does not undermine the ecological and social systems upon which communities and societies are dependent.”* The key here is that changes must not weaken or destabilise the environment, or those that depend on it, within the planning region. Two sections within the Final Agreements relating to development similarly require that:

- Development Assessment protects and maintains environmental quality and ensures that Projects are undertaken consistent with the principle of Sustainable Development;
- Regional Economic Development Planning recommends appropriate types of economic development activities which are consistent with the principles of Sustainable Development;

Thus, it is vital the Commission follows the direction that:

- The land and its resources upon which the Tr'ondëk Hwëch'in and Yukoners depend are conserved for future generations.
- Land uses and development activities recommended with the Plan can only be approved in a manner that protects, and indeed promotes, First Nation rights, titles and interests and the principles of sustainability.

The Draft Plan fails to do either. The current level of permanent protection (3.8%) is ridiculously low and the antithesis of “sustainable”. That less than 2% of public lands is currently recommended for permanent protection will only, and totally, undermine the region's ecology. The Commission is legally obliged to ensure land and its renewable resources are conserved for the benefit of future generations. Adopting Tr'ondëk Hwëch'in's priority areas for conservation is the minimum the Commission can do. If

the Plan is to adequately promote sustainability, and address the impacts of climate change, it needs to acknowledge that maximising conservation is the only path to true ecological and social sustainability.

Climate Change

It is well established that human activity is a major contributor to climate change, and its impacts have proven to be more profound in the North. Recent reports have confirmed that our region can expect increases in temperature two to three times greater than those in southern Canada, and some of the highest on the planet. The impacts on our environment and society are already prominent, and will profoundly affect us in the decades to come.

The Yukon First Nations Climate Change Emergency Declaration states there is no greater threat today to First Nations culture and way of life and the wellness of Citizens and communities than the impacts of climate change. Yet the draft Plan considers climate change as a mere afterthought. There are no references to climate change in the draft Plan 'Highlights' or in its 'Concepts and principles', nor even identified as a planning issue. This is a serious omission; one that fails to deliver the necessary focus and direction for Plan development and restricts the ability of the Plan to properly manage and adapt to climate change. The magnitude of its overall impact on virtually all aspects of the Plan requires it to be central to the Plan's development and its recommendations. Instead of having its own very limited section, it needs to be initially and explicitly referenced in the introduction and throughout all sections – in the same manner as sustainability and stewardship.

First Nations and northern communities are at the forefront of wrestling with the inherent vulnerability of the North to climate change. In particular:

- The changing climate and its effects in the North are directly eroding aboriginal and treaty rights and implementation of land claim and self-government agreements.
- Self-governance and self-determination, cornerstones of the Final Agreements, will be further at risk as climate changes advance and impacts multiply.
- Fulfilling the responsibilities of all governments become increasingly difficult when faced with this continuous crisis, and resources are strained.

Addressing climate change is an opportunity to help readdress some of the societal and governance issues we face in the north. The Plan doesn't emphasise enough the disproportionate impacts of climate change in the north; nor adequately records that the effects on governments and residents are multiplied by the inherent vulnerabilities, and logistics of isolation, of living in the north. The Plan would be better served by explaining and accentuating how climate change is undermining communities and governance in our region. The Plan could incorporate and support the principle of 'building back better' and using the need for climate action as a trigger to create more resilient communities and societies than before; including physical restoration of resilient infrastructure, the promotion of the environment and local culture and advancing reconciliation.

The temporal scope of the Plan is 20 years. While this longer-term approach is laudable, it remains insufficient when considering the expected timescales for climate change and its impacts. Adaptive management and scheduled Plan reviews do help mitigate the absence of effective long term consideration of climate change to a certain extent. There needs to be specific recognition of the time-scales involved, and the potential limitations within the plan, in relation to climate change. Plan reviews must explicitly take account of climate changes and their impacts, and the timetable be adaptable as circumstances change.

Key issues related to climate change that should be added include:

Indigenous rights: Climate change and its effects are directly eroding aboriginal and treaty rights, titles and interests.

Community capacity: Existing issues relating to isolation and capacity are being exacerbated by the disproportionate impacts of a changing climate in the North. The difficulties of governing are multiplied by these new pressures.

Permafrost: Melting permafrost 'changes' must include the destruction of habitats and potential creation of new ones. Instability effects many topographical features and rivers and streams too. These can block access for humans and other species.

Flooding: We've seen first hand the potential for flooding in the Yukon this summer. While historically flood events have reduced on the Yukon River over the past decades, climate changes will lead to greater snow and ice melt, unpredictable break-ups and extreme precipitation events.

Extreme weather: Unpredictable and severe weather events will become more common. This will equally affect communities and traditional land users. While of short duration, impacts could be long-lasting and overwhelming.

Potential new developments: A transition to a 'green' economy and renewable energies may bring new requests for land use, additional infrastructure, access and exploration potential for minerals associated with new technologies and increased battery storage.

Additions and improvements to basic principles within the draft Plan must be made to enable the Plan to be effective in addressing climate changes, including:

- For development to be **sustainable** it must not contribute to climate change or worsen its effects, and be able to adapt to impacts.
- **Stewardship** must recognise and be responsive to our changing climate and environment.
- Climate change is more reason than most for practicing the **precautionary principle** and **adaptive management**.
- Climate change should be the first **priority criteria** not just for candidate conservation areas but all land management units.

- **Fish and wildlife habitat, water and wetlands** are all susceptible to irreversible changes and degradation caused by climate change.
- **Ecosystem representation** will be even more important, and also elusive, as landscapes and ecosystems change in response to climate change.
- There must be scope **Landscape Connectivity**, to accommodate potential climate induced alterations.
- **Heritage, Social and Cultural** values inextricably linked to the land, particularly for First Nations.
- **Heritage Resources and Sites** are at physical risk, while First nation **Harvesting Rights and Activities** will be more difficult to retain if access becomes difficult and species distributions alter.

Recommended Management Practices

The three recommended practices are themselves incredibly limited, and relate solely to development proposals. Within a section of the Plan dedicated to climate change this is not acceptable. Planning Strategies must recognise and address the causes and impacts of climate change as the priority, and incorporate recommendations that address the multifaceted adaptations that are required for a coordinated and adequate response. The Plan must, as a minimum, incorporate strategies to:

- Minimise activities that contribute to climate change
- Identify and assess *all* impacts of climate change on the planning region
- Seek and present potential solutions for effective adaptations and to improve resiliency

Climate Change Recommended Management Practices can subsequently be incorporated into every other facet/section of the plan, as applicable. Listing climate-change best practices outside of each section in the Plan is impractical and with an enormous and continual amount of cross-referencing required. Similarly, Recommendations to the Parties are limited to Special Management Areas and Wetlands. Following a strategy of referencing and addressing climate change in all applicable sections of the Plan is the only way to practically and effectively incorporate climate change considerations.

The Recommendations themselves, while all worthwhile, are as equally limited as the Plan's approach to climate-change key issues, objectives and strategy. The list requires extensive enlargement to accommodate all aspects of climate change, or better still, for climate-change specific recommendations (policy, research and action) to be incorporated within their relevant section within the Plan.

Self-Sufficiency

With transportation accounting for 40% of all emissions in the Yukon, and highways increasingly at risk, it is vital that our region becomes more self-sufficient. Areas and resources must be set aside to increase traditional harvesting, agriculture and sustainable renewable energy development.

East west bridge

With the increasing likelihood of the rivers not freezing (or at least being unstable or unreliable) the potential for a bridge to west Dawson or Sunnydale becomes more of a necessity. It's not really considered in the draft plan - but it really has to be. A bridge has the potential to be a real game-changer for regional land use planning in so many ways, and from a climate change perspective it could have enormous impacts. To date there has been no indication from the Yukon Government that a bridge is being considered. Given the life of regional plans and the expected effects of climate change it is imperative a bridge and its impacts on the region should be considered. It could put much of the Recommended Plan into jeopardy if a bridge was suddenly to come onto the agenda in a year or so, after the Plan has been approved.

Plan concepts, land use designation system and special management direction

The Commission will be aware of concerns that while the division of land management units tries to be consistent with natural boundaries, it does often appear to reflect more the existing or proposed land use and activity, and infrastructure boundaries. Having ecological boundaries end at, or be diverted around, mining claims for example cannot be considered natural or reasonable. This shows either a lack of understanding or a serious bias towards supporting development.

The terminology used for the land management units is confusing and misleading. The two Special Management Area types are not compatible and need to be addressed differently. Integrated Stewardship is an oxymoron – despite the laudable attempt to incorporate the ideology within the plan. Mining has very little to do with stewardship – and the terms are absolutely not compatible. It would be simpler and clearer to present SMA1s as Conservation Areas and the others as Development Areas – because development is allowed and supported. The principle of Corridor Areas seems sound, as do the proposed regional planning areas.

The most obvious shortfall is that so little of the plan area is protected from development. The necessity to maintain the benefits of nature and wilderness is indisputable. Maintaining a natural balance ensures our region remains capable of supporting the landscapes and species we need to survive for future generations. Equally, nature plays a critical role by providing two key solutions to climate change; storing carbon and allowing nature to adapt to the changing climate. If the Commission is serious about sustainable development, true and effective stewardship, and addressing climate change it must conserve the region in its natural state as far as possible. The Commission may look to the levels of conservation set in the first two regional plans as the benchmark that the Yukon public expects and supports.

Cumulative effects management and indicators

The most vulnerable are at the most risk and need the most support. This applies equally to the physical environment, as it does to humans and other species. As we look to nature and our natural environment to sustain us physically and help reduce and mitigate the effects of climate change, we must consider, and give priority to, those areas that have surpassed designated or identified thresholds. Much of the 'Goldfields' has been developed to the extent that a considerable area of the planning

region has long surpassed commonly-accepted cumulative effects thresholds by degrees. Environments, waterways and habitats have been destroyed, with currently little of hope of any meaningful restoration. It is unfathomable that standards for cumulative effects are being disregarded, and very little is being done to protect and restore. Just as the most at-risk members of society need the highest level of care, so the most damaged and vulnerable natural environments are in need of the highest levels of protection, and equally, restoration. This philosophy must be an integral part of cumulative assessments within the Plan.

Climate Change has been described as “the mother of all cumulative effects” and the wider climatic, physical and biological implications need to be assessed as a cumulative effect in itself and also be part of environmental impact and cumulative effect assessments. Consideration of climate change within cumulative effects takes one of two forms; contributing to the causes of climate changes, or assessing its direct and indirect impacts. Industry and the levels of development supported within Land Management Units directly determine emissions. Similarly, the removal of wetlands and other carbon-sequestration ecosystems weakens the environment’s ability to absorb CO₂. These must become material cumulative effects considerations. Cumulative assessment must also consider how the changing climate affects assessment parameters, and in particular the Plan’s other Cumulative Effects Indicators. For example, a wetland may reach its disturbance threshold purely through climate change-induced permafrost degradation, or may be expected to surpass its threshold when this is combined with human disturbance

The Plan’s primary Cumulative Effects Indicators are Surface Disturbance and Linear Density; chosen as they indirectly relate to a range of regional values and issues. These two indicators, in isolation, are fraught with difficulties. Linear density often does not fully assess the sphere of influence that a road or trail has. Wildlife, and migrations, may avoid access routes entirely, and stresses may exist within tens of kilometres and not just the 1km buffer often used in calculations. More recent studies have shown that the levels of impacts proposed by the Commission are outdated and insufficient. Similarly, surface disturbance needs addressing. While ‘allowed’ development percentage numbers may seem small they may impact much larger percentages of an ecosystem. For example, mining takes place primarily in valleys and creeks. While this may only constitute 5% of an area, it can encompass the entire riparian zone – thus rendering attempts at conservation meaningless.

YESAB does not require specific climate change action plans for each project. It does look to air emission standards to evaluate project impacts to air quality or any other affected valued environmental and/or socio-economic component but not the wider implications, particularly for climate change. Equally, it does not assess the cumulative impacts of climate-changing effects. Given that YESAB does not conduct cumulative effects assessments, evaluating impacts to climate change at a project level is generally considered beyond the scope of its assessments. A recommendation from the Commission that YESAB assess a project’s contributions to climate change, and the cumulative effects of direct and indirect impacts would be appropriate.

A recent decision by the BC Supreme Court found the BC government infringed the Blueberry River First Nation’s treaty rights by allowing decades of industrial development in their traditional territory. The

First Nation argued cumulative impacts of activities constituted a breach of treaty rights, a claim that the court upheld. In the ruling, the Judge noted that the Crown may justifiably infringe treaty rights through the “taking up” of lands for development deemed to be in the public good. But there is, or should be, a limit. Supporting the First Nations request for a halt on all further development, the decision noted “The province may not continue to authorize activities that breach the promises included in the Treaty, including the province’s honourable and fiduciary obligations associated with the Treaty, or that unjustifiably infringe Blueberry’s exercise of its treaty rights.” Given the far-reaching implications of the decision it would be prudent for the Plan, subject to any decision appeal, to recognise the potential for cumulative effects to surpass acceptable levels when impacting the rights of Yukon First Nations.

Mineral exploration and development

The draft Plan notes that “the need to prioritise some areas for conservation over other interests, including mineral staking, exploration, and potential mining, is key to achieving balance and sustainable development in the planning region.” Yet this ‘balance’ is overwhelmingly in favour of mining, with all existing (and in many cases future staking) being honoured and only a very small percentage of the entire planning region fully protected from development. This must be rectified as a priority.

The Yukon’s mining industry may be a net contributor to the Yukon economy - in isolated years. But the overall costs to taxpayers, through remediation of abandoned mines, have likely eclipsed those benefits by degrees. In addition, actual mining expenditures and community economic benefits aren’t known. These have never been fully audited in the territory. A recommendation for a thorough appraisal of the historic, current and future economics of mining in the region and territory would allow the Commission, governments and residents to make more knowledgeable decisions.

The Plan states the need to assess recommendations based on the ‘best use of land’. At the territorial level (and within the plan currently) this maintains the notion that mining, as a default, remains the most appropriate and valuable use of lands in the planning region; a perception that continues to be propagated a century on from the gold rush. Missing from the draft plan is the principle that there are many uses (economic, climate change reduction, recreational, social, cultural, and spiritual) that contribute as much or more to our societal well-being than the mining industry. There are, and will be, cases where there is no social licence to mine and/or the greatest support and benefit to the region and the territory is for mining not to take place and/or where alternative uses must be given preference. A truly sustainable economy requires careful planning and management of resources. There is little discussion on how best to plan development and in particular how to manage the inevitable boom and bust cycles that mining brings. An investigation (and subsequent recommendation) into planning and temporal development on territorial, regional and local levels could ensure more sustained and manageable socio-economic benefits and lessen adverse impacts.

More fundamentally, the Plan fails to recognise the true economic values of wilderness and ‘undeveloped’ areas. The economic value of retaining wilderness can exceed the financial benefits of developing those areas; through direct employment, development of and access to renewable resources, local access and recreation, tourism, scientific research, and access to clean water and

renewable energies. Equally, the 'economic value' of unspoiled land, flora and fauna, forests, rivers and water-bodies is starting to be recognised and the spiritual and aesthetic values of wilderness considered in economic terms. Crucially, carbon sequestration and storage may be a key component of the 'carbon economy' as we combat climate change; something the Yukon is well placed in which to participate. In addition, research has indicated natural amenities/resources become an important part of a region's economic base, and locations with a greater extent of wilderness exhibit higher measures of local economic vitality and diversity. Public and protected lands can also play a role in attracting new businesses to an area, luring knowledge-based, technology-driven firms to communities.

There is nothing in the draft plan regarding our responsibility in the wider context to move on from resource extraction and to reduce our resource use. Extractive industries are responsible for almost half of the world's carbon emissions and more than 80% of biodiversity loss; consequences the draft fails to acknowledge or consider. There are no recommendations or support for the mining industry to comply with government climate-change targets or goals.

Transportation and access

Transportation is our biggest contributor to greenhouse gas emissions. Aside from addressing the environmental and wildlife impacts of access, priority should be given to land use solutions to reduce emissions, minimising the need to travel, energy efficiencies and self-sufficiency – all of which have considerable economic importance. A key component of reducing travel and emissions is to cease building new roads and access routes. Despite intentions to the contrary, any new access routes will result in increased use (in some cases to a considerable degree) with an associated increase in emissions.

Forestry and biomass

While the Yukon Government's *Our Clean Future* document promotes biomass as a 'green' fuel source, it does have considerable drawbacks. As a way to ensure fuel security and reduce supply costs, and an economic driver, it has undoubted benefits. As a method of addressing climate change it cannot be considered a truly 'alternative' fuel.

The proposed benefits of biomass rest on a few key assumptions: that the carbon released when wood pellets and waste are burned is recaptured quickly by new growth; and, that the biomass being burned is waste that would have released carbon dioxide naturally when it rotted down. Recent research has shown this may not be the case. Recent research from Massachusetts Institute of Technology in the US calculated the payback time for forests in the eastern US that supplied wood for biomass boilers. Under the best-case scenario, when all harvested land is allowed to regrow as forest, the researchers found that burning wood pellets creates a 'carbon debt', with a payback time of between 44 and 104 years. Further research from the Partnership for Policy Integrity concludes that it takes many decades to repay the carbon debt, and that biomass energy (even when using unprocessed waste wood) can't be considered carbon neutral in a timeframe that is meaningful for climate-change mitigation. Thus, it takes generations before the carbon emitted is absorbed by new growth – and beyond the scope in which climate change action is needed. This is partly due to new growth absorbing carbon dioxide at a much

lower rate than established woodlands of the type likely to be harvested. It also relies on all the harvested areas allowed to regrow as replacement woodlands, and not used for another purpose once it is cleared.

In addition, current carbon accounting assumes that all the carbon from dead wood is released back into the atmosphere again. Removing forest 'thinnings' and burning them to produce energy has been viewed as better than leaving them on the forest floor to rot. This fails to take account of the entire system where consideration must be given to the carbon stored in the soil. Removing and burning 'waste' wood lowers the source of carbon for forest soils. This allows soils to become net sources of carbon to the atmosphere as bacterial and fungal respiration continue to release soil carbon into the atmosphere.

Much is dependent on the location and nature of the forests and the material being burned. Using wood chips rather than pellets, reduces processing energy. Wood sourced locally from mixed forests in a cold temperate region like the Dawson region, has growing characteristics perhaps more amenable from a carbon sequestration perspective than other regions. Maximizing energy production, producing both heat and electricity, brings additional benefits. A great deal of further research is required to ensure that biomass is harvested in a way that doesn't permanently jeopardize a forest's carbon storage and its ability to grow.

Other issues arise from biomass fuels, and will need further research or clarification:

- Is there enough 'waste' wood to satisfy demand, especially if biomass is being promoted? If demand outstrips supply, then trees will need to be harvested solely for the purpose. This may impact the supply of fuel for domestic wood stoves, lead to price increases as demand grows, and present land-use conflicts.
- Black and brown carbon particles associated with biomass burning increases atmospheric warming in by; deflecting and absorbing sunlight within clouds to heat the atmosphere and, as heating dissipates clouds, more sunlight is transferred to the ground ultimately resulting in warmer ground and air temperatures.
- Additional demand in the region would likely increase wood harvesting, with impacts to local wildlife and flora.
- Exposure to biomass burning particles is strongly associated with cardiovascular disease, respiratory illness, lung cancer, asthma and low birth weights.

The burning of biomass fuels is likely not the solution to climate change as outlined in the Yukon Government's *Our Clean Future* or the *Yukon Biomass Energy Strategy*. It has benefits as a locally available and potentially renewable fuel source, but fails to address issues relating to greenhouse gas emissions. The **Research Recommendation** to continue to explore the feasibility of advancing biomass energy should be rewritten to assess the position of biomass in the context of climate change in the region.

Ecological integrity and conservation

The Plan acknowledges healthy air, water, vegetation and wildlife are critical to sustaining life. The Federal Government supports the International Union for Conservation of Nature Commission recommendation to protect at least 30% of wilderness by 2030, and 50% by 2050. This is the minimum required to halt the loss of biodiversity nationally and globally – and indeed these levels need to be surpassed to a considerable degree when predicted climate changes are taken into account. These should be the principles and minimum standards the Plan must aspire to. At present, the levels of protection are ridiculously low, and entirely ineffective (indeed useless) in protecting vital ecosystems; and in addressing climate change. Equally, the Plan must consider protection for the long-term and consider the needs for conservation beyond any temporary development boom.

In particular, strategies must be in place to:

- Conserve areas large enough to withstand or minimise the effects of a changing climate and the impacts it has on aggravating or multiplying natural events like floods and wildfires.
- Identify areas that are less susceptible to climate change (and its impacts) and conserve these areas as climate refuges.
- Retain natural connection corridors so that wildlife can move and adapt to our changing climate.
- Sustain cooler areas where cold-water fish habituate and spawn. Keeping generous stream buffers in place, and ensuring mining activities do not contribute to warming water, provides relief from increasing temperatures.
- Consider and address how climate change will add to other pressures, particularly from mining development, and plan accordingly to eliminate or reduce these cumulative impacts.
- Fully value the natural carbon storage services provided by the environment, and in particular peatlands and other wetlands.

Natural water cycle: Wetlands, permafrost and groundwater

There are recognised gaps in knowledge of the hydrological cycle within the region, especially the groundwater regime. If the Plan intends to highlight the “interconnectedness of water” greater emphasis must be given to researching baseline hydrological cycles and modelling to predict (and mitigate) alterations due climate changes.

Wetlands

Wetlands are one of the most biologically productive ecosystems and provide a range of ecosystem ‘services’ that far exceed that of their fully-terrestrial counterparts. They play a major role in hydrology by receiving, storing and releasing water, regulating flows and supporting life. Wetlands provide habitat for thousands of, often at risk, species of aquatic and terrestrial plants and animals. They are often rich in biodiversity and provide shelter and nursery areas, vital wintering grounds and migratory havens. In times of ecological stress, wetlands provide safe habitat for key and endemic species.

Wetlands filter water on an enormous scale and regulate nutrient and trace metal cycles and can filter these and other pollutants. Crucially, they store vast quantities of carbon in their organic matter-rich sediments, representing the largest carbon sink among all terrestrial ecosystems. Benefits often come from the interconnectedness of these water systems, which can span bogs and marshes, lakes, rivers and streams and runoff and groundwater.

Healthy wetland ecosystems can reduce the impact of many natural hazards. The extent to which an ecosystem can buffer against extreme events is proportionate to the ecosystem's health. Wetlands can provide resilience to natural hazards:

- Floods: wetlands along waterways can mitigate the impacts of floods by absorbing excess water and retaining it or returning it to the water table.
- Drought: healthy and well-functioning ecosystems can provide a degree of protection from extreme weather events. Wetlands can store water which provides a buffer against droughts.
- Fire: wetlands can act as a natural barrier to the spread of fires, regulating the frequency and magnitude of fire events.
- Landslides and erosion: maintaining and restoring catchment, riparian and in-stream vegetation can stabilise soil, reduce runoff during storms and slow flood waters, reducing the risk of erosion to catchments and streambanks.

Worldwide, healthy, functioning natural wetlands are critical to human livelihoods and sustainable development; wetlands currently contribute to 75 United Nations Sustainable Development Goal indicators. While the financial value of Yukon wetlands is overshadowed by the immense monetary value of ecosystem services provided by wetlands globally, wetlands do play an important role in the traditional economy of First Nations. As havens for game, birds and aquatic species and plants wetlands are vital locations for the provision of country foods and materials. A purely economic assessment also fails to capture much of the broader value wetlands have for millions of people worldwide, including Yukon First Nations, in terms of cultural heritage, self-sufficiency and water security. Their rarity as natural features often brings cultural and spiritual importance. For the Tr'ondëk Hwëch'in wetlands support cultural and traditional activities including harvesting and hunting. Some locations are important components of First Nation culture, spirituality and recreation.

Although the Ramsar Convention (the only international treaty focused on wetlands) aims to ensure the conservation of wetlands worldwide, many sites have little or no protection. Cases of wetland loss or degradation were reported continuously after the establishment of the Convention, and the extent of inland wetlands declined by 69–75% during the twentieth century. Among threats of natural wetlands, human disturbance has been regarded as the main driver. The risk of wetland loss for global inland sites will increase with the warming temperatures and impacts of predicted future climates. By the end of this century, the effects of climate change on wetlands are projected to be pronounced at regional scales.

The draft Plan seems to be willing to trade the protection of some wetlands like marshes and bogs in return for allowing disturbance of peatlands and fens. Both regimes equally vital in absorbing and storing atmospheric carbon. While bogs and marshes store enormous amounts of carbon dioxide,

peatlands and fens are the primary means by which carbon is absorbed. In time these have the potential to become 'fully-fledged' marshes and bogs. Thus all wetlands are important and require conserving.

Permafrost

Continuous and discontinuous permafrost is widespread throughout the Dawson region and is influential in the creation and maintenance of its unique wetlands. The expected increase in regional temperatures and precipitation associated with climate change, and the continuance of resource extraction, is expected to manifest itself in the continued decline of these rare and critical systems.

Wetlands are often located in the higher northern latitudes like the Dawson region, where permafrost also prevails and which has a strong influence on wetland hydrology. Climate modelling of high-latitude northern wetlands examines the influence of permafrost thaw under different climate scenarios.

As permafrost degrades, the extent of wetlands generally declines. Research noted an initial increase in the number of days of the year conducive to wetland formation, owing to an increase in unfrozen surface moisture resulting from a lengthening of the thaw season. This is followed by a dramatic decline in the number of wetland-conducive days, owing to a deepening of the permafrost surface, and drainage of near-surface moisture to deeper soil layers. It is suggested that a reduction in the extent and duration of wetlands will thus influence high-latitude carbon emissions.

Wetland ecosystems play a vital role in the carbon cycle: absorbing and storing carbon, and releasing carbon dioxide and methane through the decomposition of organic matter. Permafrost is generally 30% frozen partially decomposed organic material. When it thaws, as a result of lower water availability and higher temperatures, the organic material simultaneously decomposes; with the result that all of the carbon, stored for thousands of years, is all released virtually as it melts. However, the wetter conditions predicted in the Dawson region, accompanied by a warmer climate, might subsequently promote vegetative growth, albeit in a different form, and photosynthesis to a degree that might exceed respiration and maintain the role of a wetland as a carbon sink.

Some organic material in wetlands will decompose under water and release methane instead of carbon dioxide. Methane is a far more efficient greenhouse gas than carbon dioxide and contributes greatly to warming. The response of methane to climate change may vary greatly from one type of wetland to another, and the combination of physical and biological factors makes peatland responses to methane emissions unpredictable and complex.

In many cases, following permafrost thaw and the removal of the physical barrier to localised drainage, melt lakes will slowly dry up. The warmer climate and lack of permafrost create an environment alien to the species that previously inhabited or utilised the wetlands. This change is essentially irreversible unless the permanent permafrost returns. Even if higher precipitation and topography support some form of local water retention, the nature of permafrost-induced wetlands cannot be replicated.

In the tundra regions the impact can be exacerbated by the growth of species no longer hindered by permafrost and/or excess water. Shrubs and trees may start to grow and, because this vegetation is taller than low-growing tundra, it projects above the snow and absorbs up to nine times more of the

sun's heat compared to snow. This is called a vegetation feedback and warms the local micro climate even more.

As air temperatures rise, so do water temperatures. Warmer waters are generally more productive, and wetlands may end up overrun by previously restricted or invasive algae and plants, which can degrade water quality and become health risks to wildlife. Altered water levels can lead to increased soil salinity as the salts naturally found in soils move closer to the surface where they can hinder vegetation growth.

The uniqueness of naturally occurring wetlands stems from the often complex interconnectedness of water systems and hydrological cycles. Snow, glaciers, and permafrost features can act as long term water storage and may provide the source for stream flows later in the flowing season. Melting of permafrost and permafrost-features has the potential to alter local drainage and run-off and affect local hydrology. Slumping may redirect or block streams and run-off, restricting wetland replenishment. It may equally cause an over abundance of water at some locations, disturbing the natural balance required for supporting permafrost. Subsequently it may even alter groundwater quality and regimes.

There are, as the Plan suggests, acknowledged gaps in this field and long-term simulations of climate change in relation to northern wetlands are urgently needed. Providing accurate and realistic simulations can help to find a sustainable management strategy for wetlands to be resilient to climate change.

Groundwater

In addition to being critical for the creation and support of wetlands, permafrost was traditionally thought to present an impermeable barrier to groundwater *recharge*. However, there are many related examples where groundwater replenishment is an important component in the hydrological cycle in primarily discontinuous permafrost, as found in the Dawson region; and in some areas where permafrost is classed as continuous. Equally, while groundwater *discharge* features are most widespread in discontinuous permafrost areas they are also present in the continuous zones.

Permafrost, and the features it initiates, often stores the ice that subsequently replenishes groundwater. Groundwater discharge may keep streams and rivers from completely freezing in the winter time or sustain year-round flow to some springs. Thus, permafrost affects groundwater recharge and discharge, and with particular respect to timing and amount of water exchanged.

Detailed groundwater mapping or aquifer classification is generally not available in Yukon and is a recognised shortcoming. Understanding of recharge locations, timing, and processes can provide useful insights into behaviour and utilisation of groundwater resources, and subsequently, continued interaction of wetlands hydrological cycles. This is a shortfall that must be addressed, especially if we are to understand the impacts and effects of climate change on these vital hydrological components and critical resources.

Mining disturbance and emissions

The most obvious and imminent threat to wetlands in the Dawson region is mining. Notwithstanding the actual physical destruction of wetlands and permafrost to accessing mineral resources, mining activities directly and indirectly exacerbate the impacts of climate change.

Mining has the potential to alter topography and subsurface features. While the boundaries of activities may not directly include wetlands, the interconnectedness and fragility of wetlands leave them susceptible to even small changes to local conditions, drainage and permafrost. Assessment of mining proposals and activity within the vicinity of wetlands must fully consider the impacts on the wider hydrology and permafrost regimes - perhaps on a watershed level. Consideration of the cumulative effects of mining disturbance within a given wetland region can play an important role in ensuring wetlands remain healthy and intact.

Equally, contamination at a mine site or transportation route can migrate through hydrological pathways into wetlands, even those at some distance. A full assessment of the sources and pathways of wetlands hydrology can determine levels of contamination protection and likely impacts.

Yukon Government figures attribute 10-15% of greenhouse gas emissions within the territory to resource exploration and mining; the largest sector outside of transportation and heating. While these figures are a vast improvement on the reliability of Environment Canada's National Inventory Reports, there remains uncertainty over the levels of fuel use and emissions from the placer industry and smaller hard rock mining and exploration. A greater understanding of fuel use and emissions is required to fully address the industry's contributions to, and impacts of, climate change.

Wetland thresholds

The importance of wetlands and their often precarious positions within the planning region is reflected in the Plan's objective to identify and protect key wetland areas. Thus thresholds and trade-offs can have no part to play in their preservation – partial development is inextricably and unavoidably linked to loss. Policy Recommendations must simply state that no development is to be permitted in wetlands throughout the planning region. And this must include pre-existing permits. If we are to be serious in protecting wetlands, particularly in light of the small portion of the planning region involved, we must acknowledge their value as a true ecosystem resource over that of other destructive uses.

The Recommendations for the Parties, and in particular the research recommendations are welcomed and will certainly assist in facilitating urgently needed research, and in key areas too. Public awareness could be expanded to specifically include the mining industry and representative bodies. Raising awareness and highlighting the importance of wetlands may help mitigate some of the industry's objections when restrictions are introduced.

Impacts to indigenous rights, management and culture

Wetlands have significance to Indigenous peoples worldwide, as ceremonial and initiation sites, traditional hunting and gathering grounds and as site or boundary markers. Within the Yukon, wetland plants and animals often have some form of traditional use as food, fibre, containers, tools, and medicine. Many wetland species have significance as totems, symbols that acknowledge specific birds, animals, rocks or flora species, and are considered sacred.

A Ramsar Convention on Wetlands resolution in 2018 concluded that wetlands are amongst the most vulnerable to climate change and are degrading faster than any other ecosystem. Acknowledging the significant contributions made by First Nations to wetland conservation and wise use through their

traditional knowledge, innovations and practices (including mitigating and adapting to climate change) the Convention noted:

- The need to review and revise the *Guidelines for Rapid Cultural Inventories in Wetlands* with a view to ensuring that these guidelines are effective in evaluating the cultural ecosystem services of wetlands, including in relation to climate change mitigation and adaptation
- Encouragement to continue to seek to integrate wetland cultural services into all relevant national and regional policies, particularly where such wetland services may change over time and due to climate change
- Called upon support to implement the resolution through supporting capacity-building for governments, and encouraging climate-related investment programmes that integrate the traditional knowledge, innovations and practices of First Nations in order to support the development of context-appropriate and cost-effective local solutions

The Dawson Region Plan should acknowledge the cultural and spiritual significance of wetlands in the region and support the integration of nature and culture into its wetlands strategy; and encourage its incorporation into the Yukon Government wetlands policy.