

2020 INDIGENOUS STATE OF CONSERVATION REPORT

FOR WOOD BUFFALO NATIONAL PARK (Canada)

ABSTRACT

This Report outlines how, despite initial work on the Wood Buffalo National Park Action Plan, implementation of major components of the Plan is undermined by four core problems: (1) governance challenges, particularly relating to water management, (2) inadequate allocation of long term resources, (3) limited progress improving indigenous partnerships, despite some promise relating to research and monitoring and (4) a lack of timely corrective measures to reverse trends relating to water quality and quantity. These problems, particularly in light of new information about threats to the Park, underscore that the deterioration of the Park's OUV is ongoing.

Submitted by the indigenous peoples of the Peace Athabasca Delta (Mikisew Cree First Nation, Athabasca Chipewyan First Nation and Fort Chipewyan Metis)

Part 1 – Executive Summary

This indigenous State of Conservation Report (iSOC) provides information and analysis from the three indigenous communities of Fort Chipewyan that rely on the Property to maintain traditional ways of life. The iSOC follows the format used by the State Party in its recent update and addresses three areas: (1) Canada's response to decision 43 Com 7B.15, (2) progress on Action Plan implementation, and (3) identification of new external factors impacting the Wood Buffalo National Park World Heritage Property.

Key Findings Regarding Canada's response to 43 COM 7B.15: Canada's response to 43 COM 7N.15 is incomplete. Canada's responses have been hampered by ineffective jurisdictional engagement from provincial governments, inadequate resource allocation and slow progress on sharing of governance with indigenous peoples. Of significant concern is that some Committee requests, like a tailings risk assessment, remain uninitiated and current resource allocations do not match needs.

Key Findings Regarding Progress on the Action Plan: Action Plan implementation has yielded progress on certain research and planning activities and partial success in creating a protected area along the southern boundary of the Property. A highlight for the indigenous communities of the Peace Athabasca Delta (PAD) is that the State Party has expressed support for establishing a new monitoring and research entity focused on PAD health that, *if resourced by the State Party*, would significantly address monitoring needs and demonstrate progress in sharing monitoring governance with indigenous groups. Overall, however, the Action Plan has been hampered in the areas of (1) governance, (2) resourcing, (3) inclusion of indigenous peoples and (4) timely completion of corrective actions.

Areas with insufficient progress include

- No new frameworks or governance mechanisms for the Peace and Athabasca Rivers have been established;
- The water flow protocol required to initiate ecological flows for the Peace River is not developed and there are no clear timelines for doing so (or commitments to take any actions once it is developed);
- No long term resources (ie, longer than 3 years) for the Action Plan have been committed, despite the demonstrated need;
- No long term resourcing for the OUV-specific monitoring entity being designed by the indigenous communities of Fort Chipewyan have been secured;
- No progress has been made on management planning for the new protected area complex along the southern boundary of WBNP;
- ✤ A tailings risk assessment has not yet been undertaken; and
- Efforts to protect the Ronald Lake Bison Herd have not advanced.

Until these are rectified, we are concerned that the Action Plan will not avert the continued deterioration of the Property's OUV.

Key Findings Regarding Threats to the Property's OUV: Threats to the Property's OUV remain high and the state of conservation for parts of the Property continues to be of significant concern. New information includes:

- The withdrawal of the Teck Frontier application has temporarily limited one risk to the Ronald Lake Bison Herd, but threats from disease transmission and habitat loss persist;
- The Site C Hydroelectric Dam Project has now initiated river diversion without an adequate assessment or new governance mechanism for the Peace River;
- Monitoring of oil sands was suspended in 2020, while oil sands projects continued to operate;
- New oil sands projects having been approved since 43 COM without federal environmental assessments of impacts to WBNP's OUV;
- New reports have confirmed risks associated with tailings to migratory birds and the Peace Athabasca Delta; and
- A new regulatory proposal by the federal government may result in oil sands effluent being released into the Athabasca River within two to three years.

Part 2 - Review of Canada's Response to Decision 43 COM 7B.15

Paragraph 4: Also commends the State Party for its efforts and renewed commitment to fair, transparent and meaningful involvement of all legitimate stakeholders and rights-holders, including First Nations and Métis, in line with the UNESCO policy on engaging with indigenous peoples;

Incomplete

As this paragraph of the decision is of great importance to the indigenous peoples of WBNP, we provide information demonstrating the ongoing challenges and sporadic progress in this area.

Positive examples of involvement of rights holders by the State Party	Examples of challenges to involvement of rights holders
 Progress in developing improved Human Resources and procurement approaches at the Cooperative Management Committee. Monitoring and Science Task Team was reconfigured based on indigenous feedback. Preliminary effort is underway to obtain advice on how to better include indigenous peoples in some decision-making. 	 The lack of a clear governance arrangement for the Action Plan limits involvement of rights holders at oversight levels. There has been no change in the Government of Alberta's exclusionary approach to indigenous peoples with respect to threats from tailings¹. Information about resource allocation for the Action Plan is not shared or co-developed with rights holders. Inadequate resourcing is available to support indigenous participation in the CMC and other Action Plan processes. Efforts to create improved partnerships within indigenous peoples remain at a preliminary phase. Actions continue to be undertaken without indigenous participation and, in some cases, without notice to indigenous groups. Canada has not yet committed to an agreement with Mikisew that would clarify working relationships and capacity funding.

¹ For example, Alberta's approach to working with indigenous communities around Athabasca River flow rates has been underfunded, failed to provide an ethical space for members to participate in research and non-responsive to community proposals around equitable engagement. It is disingenuous for Alberta to suggest that they are working with our communities on this issue

Paragraph 5. Welcomes the creation of a protected area complex next to the property through the designation of provincial parks, and also encourages the federal and the provincial governments to allocate adequate resources to enable effective coordination and management for the property and the new protected areas, and to consider the designation of a buffer zone for the property;

Incomplete

The first phase of a new protected area complex, Kitaskino Nuwenëné Wildland Park or KNWP, was established in late 2019. Since then, Canada has provided further financial support to the Mikisew Cree to continue working with partners to seek support from the provincial government to expand that protected area. Through this assistance, it appears likely that a western expansion will be approved in early 2021 that will conserve another 100,000ha of watersheds that flow into the Park.

However, limitations on completing this WH request include:

- Portions of the range of the Ronald Lake Bison Herd remain leased by a Canadian Natural Resources Ltd, a major oil sands company, and remain prioritized for oil sands activities.
- 2. No efforts have started to develop a governance structure for the new protected area.
- 3. No resources have been allocated to enable effective coordination and management for the new protected areas or to support indigenous partnerships.
- 4. We are not aware of any agreements between Canada and Alberta to coordinate the management of WBNP and the new protected area.
- 5. No engagement with indigenous groups has occurred regarding whether to designate a buffer zone for the property.
- 6. While the new protected area is significant, it does not resolve the ecological flow and contaminant concerns that continue to erode the OUV of WBNP.

In addition, while management of cumulative effects outside of the Park are dealt with primarily through a provincial regional planning framework, frameworks are not complete for the Peace River Basin on the west side of WBNP. Efforts to resolve deficiencies with the provincial land use plan that allows for oil sands development to negatively impact the Property have stalled, even though an independent review panel concluded that the land use plan does not adequately address cumulative environmental effects.

Paragraph 6. Also welcomes the threat analysis undertaken for the Ronald Lake Bison Herd, and requests the State Party to fully consider the findings of the ongoing assessment in the overall Species Recovery Strategy;

Incomplete

Canada correctly notes that an imminent threat assessment for wood bison, including the Ronald Lake Bison Herd, was completed. But this does not appear to have led to effective conservation actions or progress securing the recovery of wood bison since the Committee's request. Factors that have limited Canada's full completion of this WH request include:

1. Resources for the full implementation of the Species Recovery Strategy have not been confirmed – it is our understanding that the recent funding announcement for the Park is

unlikely to pertain to the Wood Bison recovery strategy and is inadequate to support necessary conservation actions for the Ronald Lake Bison Herd.

- 2. Two First Nations sought a conservation agreement with Canada regarding the delivery of the Species Recovery Strategy for the Ronald Lake Bison Herd more than a year ago but governments have advanced these discussions.
- 3. Indigenous groups developed a proposed conservation plan for the Ronald Lake Bison Herd, but Alberta and Canada have not supported or resourced it.

Paragraph 7. Noting with concern the continued threat the Site C hydropower project and other major dams on the Peace River pose on the OUV of the property, also requests the State Party to provide a detailed update on the progress towards undertaking an environmental flow and hydrology assessment as recommended in the 2016 mission;

Incomplete

While some initial work has commenced in response to paragraph 7, the flow and hydrology assessment has progressed more slowly than expected and has focused largely on internal-to-government research and early evaluation of water control structures within the Park. **Ongoing interjurisdictional challenges continue to undermine progress, including**:

- 1. There continues to be no assessment of the effects of the Site C Dam on the property.
- 2. There is no framework or governance mechanism for ecological flow management of the two main rivers that support the Peace Athabasca Delta.
- 3. The establishment of mechanisms to better manage flow from the WAC Bennett Dam on the Peace River has been stalled by provincial jurisdictions with no timetable to resume.
- 4. It is unclear if the funding announced in December 2020 will be adequate for the environmental flow and hydrology assessment and, regardless, does not enable the creation of long term governance mechanisms.
- 5. Apart from a singular meeting more than a year and a half ago, there have been no communications regarding the development of the hydrologic model and Indigenous groups have not been meaningfully involved in the actions of provincial jurisdictions.

Paragraph 8. Appreciates that the Alberta's tailings management framework is implemented and that a systematic risk assessment of the tailings ponds of the Alberta Oil Sands region is foreseen by the Action Plan, but notes with serious concern the potential and current cumulative impacts of 47 oil sands projects being considered besides the 37 already operating facilities;

Paragraph 9: Also requests the State Party to conduct a systematic risk assessment of the tailings ponds of the Alberta Oil Sands as a matter of priority, and to submit it to the World Heritage Centre, for review by IUCN, in accordance with Paragraph 172 of the Operational Guidelines;

Incomplete

A systematic risk assessment of tailings ponds was a commitment in the Action Plan but has yet to be funded. There is no committed timeline for it to be submitted to the World Heritage Centre.

Of significant concern is that the State Party has initiated a process to allow tailings to be released into the Athabasca River and it remains unclear how potential impacts on WBNP's Outstanding Universal Value will be considered in that process.

Paragraph 10: Also notes with serious concern the downward trend confirmed by the SEA of the indicators for the property's OUV, considers that continued deterioration of the OUV could eventually constitute a case for inscription of the property on the List of World Heritage in Danger, in line with Paragraph 180 of the Operational Guidelines, therefore further requests the State Party to ensure that the SEA's recommendations are fully considered in future Environmental Impact Assessments (EIAs) and decision-making for relevant developments and that the Action Plan be implemented in a timely manner with adequate funding, in order to avert continued deterioration of the property's OUV;

Deterioration ongoing

Work to create mechanisms for consideration of the Property's OUV in federal impact assessments has recently been initiated and hopefully can help address the ongoing lack of OUV assessment in most oil sands applications. Despite this potentially positive step, **Canada's response to this Committee request has been limited by the following**:

- 1. Provincial EIAs are not required to consider the SEA or project effects on OUV. Almost all anticipated development in the oil sands will not qualify for federal assessment, and therefore will not have to assess potential impacts to WBNP.
- 2. Since 43 COM, multiple oil sands projects underwent EIAs with no consideration of the SEA or project effects on OUV.
- Movement towards addressing long standing jurisdictional gaps and other governance deficiencies that undermine decision-making relating to upstream hydroelectric and oil sands development remains lacking.
- 4. Alberta's actions under this theme are stalled.

Paragraph 11: Further welcomes the significant funding already assigned to the implementation of the Action Plan, but also considers that more funding will likely be needed given the size of the property and complexity of issues to address;

Incomplete

Areas of the Action Plan where progress has been limited or delayed because of inadequate resources include:

- 1. Important aspects of the environmental flow and hydrology assessment;
- 2. The creation of a secretariat to support environmental flow and hydrology work;

- 3. Installation of water control structures and weirs as proposed by the Strategic Environmental Assessment;
- 4. Creation of infrastructure to support research and monitoring in the PAD; and
- 5. Establishment and implementation of a long-term PAD research and monitoring program, including the establishment of the proposed indigenous-led monitoring centre.

In December 2020, Canada announced 3 additional years of funding for the Action Plan. While new funding is welcome given the Committee's observation that the Action Plan was inadequately resourced, we provide the following to assist with evaluating how the announcement responds to the WH's request:

- Canada has yet to provide details on how the money will be allocated, making it difficult to evaluate its sufficiency for advancing key actions, including the Committee's request for advancement of the environmental flow and hydrology assessment.
- Short term funding period does not allow for the creation of stable governance mechanisms or meaningful partnerships with indigenous peoples in them.
- Short term funding is inconsistent with the need for long-term actions, like delivering an integrated cumulative effects monitoring program for the Peace Athabasca Delta.²
- It is our understanding that the funding will not assist with management planning for the Kitaskino Nuwenene Wildland Park, tailings risk assessment or wood bison species recovery, meaning those aspects of the Action Plan remain under-resourced.
- Based on our experience, it is unlikely that corrective approaches to water management outside of the Park can be completed within three years.
- Funding alone will not halt the deterioration of the Park's OUV unless accompanied by real actions to address the causes of its deterioration and establish new safeguards for the Park.

Paragraph 12: Further encourages the State Party to take advantage of the pending Management Plan review for the property to further substantiate and amend the valuable information generated by the SEA and Action Plan processes and link action with adequate governance and resource allocation, including effective sharing of governance and management with indigenous peoples inside and outside of the property

Incomplete

Canada states that it is committed to ensuring that the next management plan for WBNP is informed by the SEA and Action Plan. While this is positive, it is important to acknowledge:

- 1. There is no timeline for the management plan to be completed.
- 2. There is no clear commitment to create <u>new</u> mechanisms for the sharing of governance with indigenous peoples.
- 3. While the CMC has made progress establishing policies for improving procurement and hiring from Indigenous communities, the CMC remains insufficiently resourced.
- 4. Parks has not finished the Vulnerability Assessment to support updating the plan.

² We note that in other places in Canada, the federal government has established permanent mechanisms for supporting ongoing environmental monitoring and restoration programs.

Perhaps most urgent is the need to establish a mechanism to share governance and management <u>of water-related decisions that take place upstream of the Property</u>. Canada has recently supported a pilot project to obtain external, non-binding advice on how to improve engagement between jurisdictions relating to environmental flow and hydrology actions in the Action Plan. While this project will hopefully initiate some governance discussions, the reality is that there still is no long-term, stable, interjurisdictional water governance mechanism that includes Indigenous peoples or interjurisdictional agreements that commit governments to take actions relating to ecological flows. To our knowledge, there is no clear timeline or clear commitment to complete this work.

Part 3 – Progress Report on the Action Plan

The global health crisis of the Covid-19 pandemic has impacted the ability of governments and Indigenous communities to move the work of the Action Plan forward. However, work continues with modifications. The appendix below sets out our views on the progress made on each of the actions in the Action Plan and the following table adds additional narrative comments in response to Canada's Report.

Action Plan Theme	Snapshot of indigenous perspectives and response
Strengthening Partnerships	Efforts to advance partnerships within the Park boundary are partial and preliminary. The proposed PAD Research and Monitoring Institute described below is a promising initiative in this regard, but the State Party has not allocated resources to operational funding required to establish it.
	Partnerships on threats outside the Park remain deficient, particularly with respect to threats from oil sands and Peace River flows.
	Partnerships on the Action Plan need improvement, as evidenced by the current lack of an agreement between the State Party and Mikisew Cree First Nation to work together on the Action Plan.
Environmental Assessment	It is important to acknowledge that at least three oil sands projects upstream of the Park have been approved without a federal impact assessment and without an assessment of impacts to the Park since the Committee's last decision. There is pending litigation by the Mikisew Cree arising from Canada's decision not to require a federal assessment for one of these projects in the range of the Ronald Lake Bison Herd.
Conservation Area Connectivity	There has been little involvement on indigenous groups in the connectivity needs assessment described by Canada. There is currently no indication that the Government of Alberta will address poor integration of provincial planning tools with the Park.
Tailings Pond Risk Assessment	We strongly dispute Alberta's characterization of its contributions to this theme: no partnerships with indigenous peoples have been established; no improvements to land use planning have occurred and tailings-related risks continue to grow.

Environmental Flows and Hydrology	We agree that some progress on evaluation work has been initiated, but we caution an overly optimistic perspective of that work given: lack of adequate resources; lack of governance mechanisms; delay on the water release protocol; and lack of completed corrective actions.
Monitoring and Science	There has been some progress in developing a monitoring approach for WBNP. Two Monitoring and Indigenous Knowledge Task Teams, one for monitoring for the Peace Athabasca Delta and one for monitoring the rest of the Park, have been established. These Task Teams have Indigenous representation.
	However, the work of the Task Teams has been hampered by the same lack of organization and governance that hampers the rest of the Action Plan. The coordination with other Action Plan work, particularly the Environmental Flows and Hydrology work, remains to be developed. Commitments by governments to resource the proposed Peace Athabasca Delta Institute would mark significant progress on this area of the Action Plan, but have not yet been secured.
Wildlife and Habitat Conservation	The Ronald Lake Bison Herd technical team mentioned by Canada will soon lose its funding. The lack of conservation agreements for wood bison ad the lack of adequate resources for work under the recovery strategy remains a problem.

Priority indigenous focus area: Research & Monitoring Institute

There is a recognized need for a centralized and coordinated research and monitoring body to direct Peace Athabasca Delta monitoring and to establish partnerships with indigenous communities so that Indigenous knowledge can be responsibly included in environmental research, monitoring, and interpretation.

Fort Chipewyan's three Indigenous groups have come together to develop a proposed research and monitoring institute dedicated to monitoring OUV health and informing decision-making. This aspect of the Action Plan holds great potential. Mikisew Cree is appreciative of the funding that the State Party has provided funding to assist with the development of the institute concept. This funding has enabled the hiring of a project manager, community consultations, development of a governance and operational model, and the completion of an infrastructure pre-feasibility study. However, for the full vision to be realized, funding to establish and operate this research and monitoring program will be needed.

Part 4 - Pressures Continue Persist Outside the Park

While the withdrawal of the Teck Frontier project has relieved some immediate pressure on WBNP, new information is available regarding threats to the Park's OUV, eight of which we describe here.

1. Expansion of hydroelectric development

The Site C Dam, downstream of the Bennet Dam, is projected to begin diversion in the fall of 2020.³ Canada has stated it is unable to redo the assessment to ensure that impacts to the WBNP's OUV are considered.

2. Suspension of Oil Sands Monitoring in 2020

In 2020, at the request of the oil sands industry and without consultation with local communities, the Alberta Government and the Alberta Energy Regulator suspended cumulative effects monitoring of oil sands developments. Oil sands projects, however, were allowed to continue operating, highlighting to us that the suspension was meant to save operators costs rather than respond to the pandemic. The suspension of monitoring was lifted after indigenous groups filed a legal challenge.

3. Expansion of Oil Sands Development

Though the Teck Frontier project was withdrawn, major expansions the oil sands are continuing. Two of these mine expansions (CNRL's North Pit Expansion⁴, and Syncrude's Base Mine Lake Expansion⁵), will result in roughly 103km² of additional disturbance south of the Peace Athabasca Delta, slightly less than half of the extent of the proposed Teck project. Given that in 2013, the total extent of oil sands development was 895km², this represents a considerable increase in disturbed landscape.

By 2030, oil sands development is expected to increase by 1.1 million barrels per day from current levels of 2.7 million barrels today.⁶ The growing industry also represents a potential stress on water levels in the Athabasca, contributing to an already-drying Peace Athabasca Delta. The 2020 Report on Athabasca Tailings Ponds II found that "[w]hile the use of water by industrial oil sands projects has historically been considered low enough that aquatic health for the mainstem of the Athabasca River is not impaired, current licenses allow for maximum amounts that are potentially of concern during low flow conditions."⁷

The Alberta Energy Regulator has recently announced that it will be reviewing regulations and directives to further reduce regulatory requirements for oil sands operators. This will likely include approaches to managing applications, environmental liabilities, and stakeholder engagement. Based on past experience, it is unlikely that the AER will consider how this deregulation will impact WBNP's OUV.

4. Oil sands risks for migratory birds

In April of 2020, more than 100 birds landed in one of Imperial Kearl Oil Sand's tailings ponds, and roughly 50 died from the exposure, underscoring the ongoing risk of oil sands for the aspects of the OUV that relate to great concentrations of migratory birds.

diversion#:~:text=Due%20to%20the%20fluctuation%20of,a%20period%20of%20several%20weeks.

³ https://www.sitecproject.com/construction-activities/river-

⁴ https://www.cnrl.com/upload/media_element/1135/02/horizon-npe-stakeholder-plain-language-project-package.pdf

⁵ https://www.syncrude.ca/our-company/mlx-project/#anchor-0

⁶ https://context.capp.ca/energy-matters/2020/itn-ihs-demand-and-emissions-projections

⁷ Commission for Environmental Cooperation. Factual Report: Athabasca Tailings Ponds II. http://www.cec.org/wp-content/uploads/wpallimport/files/17-1-ffr_en.pdf. Accessed November 6, 2020.

5. Potential habitat loss for the Ronald Lake Bison Herd

One oil sands company, Canadian Natural Resources Limited, has indicated verbally to the Mikisew Cree First Nation that they plan to start conducting oil sands exploratory activities in the portion of the range of the Ronald Lake Bison Herd north of the previously proposed Frontier Project. Even though this would negatively impact the Herd and could push them into contact with diseased bison in WBNP, no environmental assessment would be required.

6. Seepage of Tailings

In August of 2020, the Council for Environmental Cooperation released the findings of their investigation into leakage from oil sands tailings ponds. After examining the groundwater sampling data from two ponds, they concluded that there was scientifically valid evidence of seepage of tailings into groundwater, and less conclusive evidence of seepage into surface waters. The report found that operators estimated that at one such pond, between 2016 and 2017 estimated seepage for tailings fluids migrating into groundwater increased from 631,000 m³/year to 785,000 m³/year, representing an increase of roughly 24%. Ten monitoring wells are situated between Suncor's Pond One, which is currently being reclaimed, and the Athabasca River, 150m away. Each of these wells showed evidence of compounds from tailings, including naphthenic acids. Based on groundwater migration rates, these compounds could reach the Athabasca River within ten years.

The Report was critical of Canada's lack of oversight over tailings impoundments, finding that Environment and Climate Change Canada has been remiss in addressing the issue for three main reasons: lack of inspection, misinterpretation of data from groundwater monitoring wells, and over-reliance on a reporting arrangement with Alberta which was not properly implemented or monitored. The management of tailings ponds has fallen into a similar interjurisdictional black hole that plagues the Action Plan: Canada relies on Alberta to deliver particular aspects of environmental oversight, but does not maintain communication with Alberta nor follow up on whether Alberta's approach meets federal objectives, or in this case, even federal legislation. The result is the failure to manage oil sands tailings waste to Canadian standards.

7. New Proposal to Release Oil Sands Effluent into the Athabasca

Both Canada and Alberta are beginning the process of establishing regulations and water quality limits to facilitate the release of oil sands effluent into the Athabasca River, which flows into the Peace Athabasca Delta. Given the density of oil sands development along the Athabasca River corridor and the unusual chemical composition of the effluent, determining these guidelines will be very difficult. Even for individual mines in other sectors, Canada's effluent release guidelines are challenged to identify causes when impacts on the receiving environment are detected.⁸ Managing the cumulative effects of several operators releasing effluent will be very challenging.

Every Indigenous community downstream of the oil sands has made it clear that they do not accept release of oil sands effluent into the Athabasca. Communities have already observed changes in water and sediment quality, and accumulation of contaminants in bird eggs⁹ and

⁸ Kilgour and Associates. 2014. Review and analysis of the 3rd Metal Mining Environmental Effects Monitoring National Assessment. Submitted to: Mining Association of Canada.

⁹ Hebert, C. 2019. The river runs through it: the Athabasca River delivers mercury to aquatic birds breeding far downstream. PLoS One. 14(4): e0206192.

aquatic furbearers¹⁰. Until wastes from oil sands can be managed safely, sediment transport and source-sink pathways of contaminants from oil sands are understood, and Indigenous people are meaningfully involved in management of water volumes, the Indigenous communities have no confidence that Canada or Alberta will effectively manage the treatment of these large volumes of chemical waste.

We are greatly concerned that the new efforts by provincial and federal governments to enable releases of oil sands effluent into the Athabasca River is inconsistent with the Action Plan and potentially contradictory to the State Party's commitment to implement the Action Plan in a manner that leads to improvement in the Park's state of conservation.

8. Global Warming

The Peace and Athabasca Rivers are projected to experience heavier and longer freshets, and longer and dryer summer conditions.¹¹ It is essential that water management decisions consider the additional stresses that climate change will place upon the system as time goes by.

2020's ice jam flood was extensive, and Indigenous community members are observing how water levels will affect their indicators of health in the Peace Athabasca Delta. However, the recharge of the Peace Athabasca Delta this one year does not change the long-term trajectory of drying, and action is required to maintain its superlative environmental and cultural values.

¹⁰ Eccles, K.M., Pauli, B., Chan, H.M. 2020. Geospatial analysis of chemical exposures among biota in the Canadian Oil Sands Region. PLoS One. 15(9): e0239086. Thomas, P.J., Newell, E.E., Eccles, K., Holloway, A.C., Idowu, I., Xia, Z., Hassan, E., Tomy, G., Quenneville, C. 2020. Co-exposures to trace elements and polycyclic aromatic compounds (PACs) impacts North American river otter (*Lontra canadensis*) baculum. Chemosphere. In press.

¹¹ Eum, H-I., Dibikie, Y., Prowse, T. 2017. Climate-induced alteration of hydrologic indicators in the Athabasca River Basin, Alberta, Canada. Journal of Hydrology. 544: 327-342.