

MILESTONE 3 - FINAL SEA REPORT

Strategic Environmental Assessment of Wood Buffalo National Park
World Heritage Site

EXECUTIVE SUMMARY



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Wood Buffalo National Park (WBNP) was established in the 1920s to protect the last remaining herds of bison in northern Canada. Straddling the boundary of northern Alberta and southern Northwest Territories, WBNP is the largest national park in Canada with an area of 44,807 square kilometres. In 1983, the global significance of WBNP was recognized with its designation as a world heritage site. The addition



Peace-Athabasca Delta, August 2017. Photo: Parks Canada

of WBNP to the World Heritage List recognizes the international importance of the landscapes and species that the park protects. The world heritage values include: salt plains, gypsum karst, Great Plains boreal grasslands, wolf-bison predator prey relationship, migratory waterfowl, and the Peace-Athabasca Delta (PAD).

In 2014, Mikisew Cree First Nation (MCFN) petitioned the World Heritage Committee to have WBNP added to the List of World Heritage in Danger. For Indigenous groups that rely on the Peace-Athabasca Delta (PAD), their way of life, who they are, is interconnected with the world heritage values, specifically with maintaining healthy relationships between water, vegetation, birds, animals and people. Following their obligations as stewards of their territory, MCFN's petition described observations by MCFN Elders and land-users, and other evidence that existing upstream developments have driven the waters, lands and resources in the PAD – and MCFN's way of life – to a point of crisis. In 2015, the World Heritage Committee responded to the petition by asking Canada to undertake a Strategic Environmental Assessment (SEA) of the cumulative impacts of all developments (including hydroelectric dams, oil sands development, and mining) on the world heritage values of WBNP World Heritage Site. The results of the SEA are reported in this document.

Considering the pace, scale and complexity of potential threats to WBNP, the overall objective of the SEA is to assess the cumulative impacts of all developments on the world heritage values of WBNP in a way that is inclusive of Indigenous Traditional Knowledge and science. Specific objectives are:

- To improve the identification, recognition, and management of cumulative effects impacting WBNP;
- To inform the scope and support the effectiveness of project-level environmental assessments; and,
- To influence the development and implementation of the Action Plan for the protection of the world heritage values of WBNP.

These objectives are for the interconnected purposes of protecting the world heritage values of the site, maintaining or restoring ecological integrity of WBNP, and maintaining or restoring Indigenous ways of life.

SEA Methods

As a 15-month strategic assessment that will inform ongoing action, the SEA did not initiate any new studies, either science or Indigenous Traditional Knowledge. The SEA relied on an extensive review of information and materials provided by experts, including representatives of Indigenous groups (leadership, knowledge holders, land-users, and advisors), researchers, industry, stakeholders, and federal and provincial governments. The assessment was challenged by the complexity of the ecosystem it evaluated, the volume of information, as well as by the relatively short timeline for completion of the project. The assessment was further limited because no data was collected or analysed (ITK or science). All findings are subject to the limitations of available information, much of which was originally collected in order to meet other goals.

The SEA begins by identifying desired outcomes for WBNP's world heritage values. Achievement of these outcomes is central to protecting the world heritage values, the ecological integrity (EI) of WBNP, and Indigenous ways of life. The SEA then uses existing scientific information and Indigenous Traditional Knowledge to describe the current status of the world heritage values, the pathways of effects likely to influence those values, and the current trends that have been observed. It then examines the potential impacts of reasonably foreseeable developments, and climate change, on the pathways of effects. The SEA concludes with 44 recommendations to restore objectives that are not being met and address gaps in information.

Current status, trends and pathways of effects

Migratory waterfowl from four continental flyways converge in great numbers on WBNP, especially in the PAD which provides critical wetland habitat for migrating, breeding, molting and staging birds. The spring and fall migratory waterfowl are very important to the Indigenous groups, peoples and communities social, economic, cultural, and spiritual needs. Indigenous Traditional Knowledge indicates populations of waterfowl that have typically stopped in WBNP during migration have shifted their migration route to other areas. Changes in hydrological regime have also decreased the quantity and quality of habitat for waterfowl. As a result, the ability of Indigenous groups, peoples and communities to practice their traditional way of life is being negatively impacted, and desired outcomes for the world heritage values are not being met.



Wood Bison, WBNP. Photo: Parks Canada

Evidence suggests that the desired outcomes for the karst, salt plains and Great Plains boreal grasslands are being achieved. Stable, neutral trends have been observed for these world heritage values. One observed exception to this trend is the grasslands which support bison. These grasslands are declining in extent or quality as a result of changes to the amount of water recharge occurring in the PAD. Whooping cranes are not yet at the desired population goals, but their populations are increasing so the



Peace-Athabasca Delta. Photo: Parks Canada

trend is positive. More analysis is needed to understand the current status of the wolf-bison population dynamics, but bison at their current population and distribution do not adequately support Indigenous ways of life.

The PAD is one of the world's largest inland deltas and arguably the largest boreal delta in the world. It is formed by a unique system of waterways created by the convergence of the Peace and Athabasca Rivers, along with many smaller rivers and creeks, on the west side of Lake Athabasca. The Indigenous peoples of

Fort Chipewyan introduce the PAD, or *Ayapaskaw* in Cree, in a much different way. Their stories about the PAD make it clear that the PAD is their home, their grocery store, their classroom, their medicine cabinet, their church, their highway, their photo album, and the place where their happiest memories live. For many Elders and land-users, how they think and how they see the world comes from the PAD.

We were all born in different areas out on the land...[in] the delta, that's why I love the delta so much...this is where you're born and it's such a beautiful feeling when you go out there. It's like going home.

In the PAD, with the exception of one unknown trend and one mixed trend, all pathways of effects and valued components are showing negative trends. In particular, flow rates in the Peace River have become less variable due to flow regulation on the river and (past) climate change, resulting in decreased summer flows and increased winter flows. Seasonal flows in the Athabasca River have declined over the past fifty years due to a combination of increased water withdrawals and (past) climate change. Flow rate changes on the Peace and reduced seasonal flows on the Athabasca, in conjunction with climate change, have decreased water levels and the extent of open water in the PAD.

While science monitoring of water quality over 6 years has shown a stable trend, Indigenous land-users in the PAD report noticeable changes in the qualities of surface water in the rivers and lakes of the PAD over the last five or six decades. Many land users who used to dip a cup into the water and drink it, now refuse to. Without the springtime flush of water through the PAD, water bodies can become stagnant. In addition, land-users are concerned about the contamination that may be coming down the rivers from municipal, agricultural and industrial development. They are also seeing deformed fish, which the people will not eat when they catch them, and mercury has also been found in high levels in fish and bird eggs, so consumption limits were set by the government, further limiting access to food sources and further eroding confidence in local food sources.

Future development, climate change and management of cumulative effects



In order to assess the effects stemming from future development on the world heritage values of WBNP, future developments with the potential to affect the park were identified. These included existing, and reasonably foreseeable developments such as: hydroelectric development, oil sands development, pulp and paper facilities, industrial mines, forestry activities, and municipal development.

With respect to climate change, the majority of relevant literature reviewed indicated future climate changes in the PAD over the next thirty-plus years will likely cause less surface water to be available, and what will be available will reach PAD water bodies earlier in the spring than at present. Increased temperatures will potentially produce thinner snowpack in the headwater and tributary areas of the PAD, which in turn will result in reduced average annual peak, spring peak, and summer flows. Anticipated increases in air temperature may also produce mid-winter thaws, which could cause winter flows to increase from current levels and have a negative impact on ice quality both in terms of safe travel across and in the structural quality of the ice and its ability to contribute to ice jam flooding events.

Predictions for trends combining the past trends, predicted developments and climate changes were only possible for migratory waterfowl, the PAD and Whooping Crane. With the PAD and migratory waterfowl desired outcomes already not being met and predicted negative trends, the predicted trends of these desired outcomes is negative. The trend of Whooping Crane population related desired outcomes were expected to continue to be positive.

The analysis was conducted within the context of the cumulative effects tools currently being used to manage the pathways of effects. The existence of such a broad suite of cumulative effects and other environmental effects management tools is evidence of the evolving sophistication of management of cumulative effects. Only a decade ago, this breadth of tools was not available. The SEA found that though these tools were mitigating impacts to the WBNP world heritage values, many tools had either not been completed or fully implemented, or were developed without analysis to ensure they were protective of the WBNP World Heritage Values.

Conclusions

The PAD, in particular, is a very complex ecosystem and as a result, there will always be unanswered questions. However, by applying the precautionary principle, a lack of information should not prevent action. Adaptive management solutions must be advanced with the involvement of Indigenous peoples and Indigenous Traditional Knowledge. Furthermore, collaborative approaches involving all parties will be necessary to develop the best possible mitigations and increase the likelihood of success. In particular, collaboration with Indigenous peoples will be important because it is Indigenous peoples who experience the impacts most directly given their intrinsic connection to the land.

The call for immediate action was repeated throughout the course of developing this SEA, in particular from Indigenous communities who rely on the PAD. While ecological monitoring and ITK have shown that with shifts in flooding, for example, ecosystems can rebound, permanent changes to the delta environment are possible and undesirable. Permanent changes could put at risk the world heritage values of the PAD and its ecological integrity, and would be particularly undesirable for Indigenous people who transfer cultural knowledge and skills to the next generation on the land in the context of carrying out traditional activities. When this knowledge is not passed down, communities risk losing their culture and connections to the land. The more time with lack of access, or changes to the quantity and quality of resources, the higher the risk that this transfer of knowledge is interrupted or prevented.

The recommendations in this report are put forward as considerations for the responsible jurisdictions in the multi-jurisdictional Action Plan that is presently being developed for WBNP.