



Wood Buffalo
National Park



Protecting

Wood Buffalo National Park World Heritage Site

What's New In This Issue

The last newsletter for Wood Buffalo National Park (WBNP) World Heritage Site (WHS) was released in the winter of 2021 and contained updates from the various Action Plan themes and task teams, a short story on Wood Buffalo National Park's efforts towards the conservation and recovery of bison, and a more detailed look into the Indigenous Task Team.

Since then, the Government of Canada has continued to collaborate with provincial, territorial and Indigenous partners to bring the Action Plan to life. This issue of the newsletter provides an update on the Strengthening Indigenous Partnerships, Environmental Flows and Hydrology and Monitoring and Science themes by reflecting on task team highlights since March, 2021. Also included is a story on monitoring whooping crane and the proposed water control structures at Dog Camp and Big Egg Lake.



Parks
Canada

Parcs
Canada

Canada

Environmental Flows and Hydrology

Updates on the active EFH task teams and progress to date are highlighted below.

Environmental Flows and Hydrology Working Group

The EFH Working Group held a virtual meeting on June 23, to discuss current priorities and planned activities. Updates were provided on the development of the environmental flows framework and the hydrodynamic model for Lake Athabasca and the Peace Athabasca Delta system. More in-depth discussions on the framework and model development will be held with the monitoring and science task teams.

Indigenous Task Team

(EFH71-72, 10-12, 17, 44 & throughout EFH theme)

The Indigenous Task Team completed a draft template of the Indigenous Knowledge Sharing and Use Agreement, which is currently under review with Indigenous governments. The Task Team continues to discuss community capacity needs, goals and objectives with other task teams in order to support Indigenous Knowledge gathering work required for the implementation of the Action Plan.

Water Control Structures Task Team

(EFH 8, 9, 31, 32, 56 – 58)

The Task Team is working on hiring a consultant for the preliminary design and Impact Assessment of the Dog Camp and Big Egg Lake water control structures and Action Plan partners have had an opportunity to provide comments on the draft contracting documents, including engagement and follow up with task team members on technical and community support considerations. The Dog Camp water control structure was selected as a case study for applying Structured Decision Making, a process used where groups are dealing with complex problems, incomplete information and competing values.

Strategic Flow Release Task

(EFH 23-26;29)

Parks Canada is leading the development of a joint assessment report of the 2020 spring break-up flood with help from the Government of Alberta, BC Hydro, Environment and Climate Change Canada, Government of the Northwest Territories, Mikisew Cree First Nation and the Northwest Territories Métis Nation. Technical work and information gathering is advancing to understand the risks and benefits of a strategic flow release during spring break-up.

Information Sharing Task Team

(EFH 69-70)

The Information Sharing Task Team is progressing with EFH70 by reviewing web-based information portals that could support the establishment of a Knowledge Hub. The Task Team is also guiding discussions on communication needs of the Action Plan and how best to share information with communities.

Monitoring And Science

Both a Peace-Athabasca Delta (PAD), and Non Peace-Athabasca Delta, Monitoring, Science and Indigenous Knowledge Task Team (MSIKTT) have also been established to support the Monitoring and Science theme of the Action Plan.

PAD Monitoring, Science and Indigenous Knowledge Task Team

(MS1-9)

The PAD Monitoring, Science and Indigenous Knowledge Task Team is currently undertaking a review of Indigenous Knowledge (IK) needs across the entire Action Plan and is consolidating and reviewing existing IK to support the impact assessment for the water control structures and an eDNA pilot study of fish health in the PAD.

Non-PAD Monitoring, Science and Indigenous Knowledge Task Team

(MS1-9)

The Task Team is also working to address Indigenous Knowledge (IK) needs across the Action Plan and assessing how PCA can provide improved capacity to governments to support future IK gathering. Canada North Environmental Services is working with the Task Team to complete an inventory and assessment of monitoring programs of the PAD to the whole PAD systems larger watershed.

Strengthening Indigenous Partnerships

On March 18th, 2021 the Cooperative Management Committee, along with a number of Indigenous leaders, met with the Honourable Jonathan Wilkinson, Minister of Environment and Climate Change Canada responsible for Parks Canada and with the President and Chief Executive Officer of Parks Canada, Ron Hallman. During this important and historic meeting leaders and representatives openly shared stories of the hardships suffered by Indigenous peoples and nations in the establishment and the management of the park over the years. The Minister and CEO highlighted the Government of Canada's commitment to a new relationship with Indigenous peoples that respects rights, self determination and advances reconciliation with a goal toward a more fully co-operative governance structure for Wood Buffalo National Park.

One key theme advanced by Indigenous leaders was the need to create a link between shared park governance and the Action Plan implementation. Parks Canada will be working with the Cooperative Management Committee to hold a workshop this fall/winter to discuss these themes further and to outline a path forward.

Implementation of the Action Plan

Since 2019, Parks Canada and its federal, provincial, territorial and Indigenous partners have worked together to support the on-going implementation of the Action Plan. Each partner has specific responsibilities for action within their jurisdiction and authority, and with Indigenous governments which have stewardship responsibilities for their traditional territories. Committees, working groups and task teams have been established to ensure collaboration in implementing and Strengthening Indigenous Partnerships, Environmental Flows and Hydrology, and Monitoring and Science themes. Some updates from these groups are outlined below.

Monitoring a Species at Risk

By Kevin Gedling and Lori Parker



Once on the brink of extinction in the 1940s, the legendary whooping crane population has climbed to more than 500 birds today through joint conservation efforts across Canada and the USA. Wood Buffalo National Park (WBNP) is home to the only nesting area for this last wild migratory flock of N. America's tallest bird. The birds settle along expansive wetland complexes in the park, which are fed by mineral rich groundwater, abundant with small fish and insects, and relatively inaccessible to predators.

Whooping cranes are one of the world's best known symbols of international conservation. While never known to be super-abundant, in the mid-1800's it is estimated that the population numbered around 1500 birds. As settlers created farmlands and cities along the Great Plains and coastal areas of the Gulf of Mexico, their habitat began to shrink. In addition to habitat loss, many years of unrestricted hunting for meat and trophy led to the near extinction of all migratory populations of whooping cranes -- save for the one that travelled between Wood Buffalo to Aransas, Texas each year. With hunting now prohibited, the main potential threat to the recovery of whooping cranes remains habitat loss, including possibly from effects of drying of these unique boreal wetland complexes. This is on top of other challenges such as habitat fragmentation, urbanization, and development during their long migration from Wood Buffalo to their wintering home in Aransas National Wildlife Refuge in Texas.

The Canadian Wildlife Service (CWS), Parks Canada (PC) and international partners seek to protect this species through population monitoring and assessing factors like habitat and water quality and potential threats on the wintering grounds, nesting grounds, and along their migratory route. In May each year, biologists conduct

monitoring flights to confirm known nest locations and to search for new nests. In August, flights are again conducted to assess how many chicks survived until the fledging stage. As the birds' population increases and habitat expands, searching the vast wetland complexes of the breeding grounds becomes more difficult. Aerial surveys over such a large area are costly, time-consuming, logistically challenging, and involve risks to the surveyors. In recent years, new monitoring methods are being developed and tested to generate important information relating to conservation of these birds.

The AMASS monitoring program by the Roberta Bondar Foundation, is one that uses satellite imagery as well as aerial and ground photography. Whooping cranes were the first species the Foundation documented for their Space for Birds project, with Dr. Roberta Bondar - Canada's first woman in space -- as Principal Investigator. Astronauts aboard the International Space Station (ISS) acquire images according to geographic coordinates that Dr. Bondar provides NASA. This covers staging and stop-over areas in the Canadian Prairies and American Midwest, the Gulf of Mexico coast, as well as more northerly areas, and includes information on water levels and wildfires. This information is in real time and can be compared with historical data. The Foundation also captures video and still images by land and boat of crane behaviour and habitat in their coastal winter range. These perspectives help conservationists understand the vast distances travelled by and habitat requirements of the cranes.

Because whooping cranes are large, white birds that nest in open landscapes, it is also possible to see them sitting on nests in high resolution satellite imagery. Researchers with CWS, PC, the Calgary Zoo, and the International Crane Foundation are testing the potential of such remote sensing techniques to survey for nest sites, especially in new areas as their range expands. They use an algorithm based image analysis to identify new breeding areas. In 2021, Scientists and citizen science volunteers scoured thousands of satellite images for possible nest sites, which can then be verified by aerial survey teams.

Learn more here: <https://www.zooniverse.org/projects/whcr-cr/whooping-cranes/about/research>

As new technologies emerge, they offer exciting possibilities for enhanced monitoring and protection for whooping cranes and other migratory species at risk. In a place as vast as Wood Buffalo, these new methods offer an opportunity to improve our stewardship of whooping cranes and their critical habitat.

Bringing the Water Back: A Progress Report on Proposed Water Control Structures Designed to Improve Habitat and Navigability in the Peace Athabasca Delta

By Sophie Fillion and Lieserl Woods

The EFH working group acknowledged early in the implementation of the Action Plan that immediate action was needed within the PAD to create a local hydrological regime that supports ecological functioning and Indigenous use. As a result, the Water Control Structures Task Team (the Task Team) was amongst the first teams to be convened in the spring of 2019 to tackle this important work. Task Team members consist of the three PAD Indigenous Governments, along with federal, provincial, and territorial representatives.

In the summer of 2019, the Task Team initiated a study to determine what water control structures would be feasible to achieve the overarching goals of promoting flooding to improve muskrat habitat, push back encroaching willows, and promote Indigenous access in specific parts of the PAD. Through organized Indigenous Knowledge (IK) gathering sessions and analysis by representatives from Indigenous Governments on the Task Team, IK holders identified the most viable water control structure alternatives for Dog Camp and Big Egg Lake.

This engagement identified that the structures should be adjustable, which led to the concepts of a bladder dam and stop log structure at Dog Camp and Big Egg Lake, respectively. If built, these structures could be operated to raise water levels during the spring and early summer and allow water to recede in the fall to mimic the natural water level fluctuations in the lakes. Raising spring and summertime water levels in Lake Claire and Mamawi Lake would achieve the overarching goals stated above by reconnecting low-lying areas of the PAD and replenishing lower elevation perched basins at the perimeter of these lakes that may not experience annual connectivity to the lakes.

In June 2020, the Task Team proceeded with the next phase of the water control structure design. Since then, the Task Team has been working to contract an Engineering and Environmental Consultant by fall 2021 to assist with the design and associated impact assessment phases. To

ensure the best qualified consultant is retained, the Task Team is putting in place a rigorous evaluation process to assess consultant proposals. The process is designed to ensure that Indigenous representatives can participate in selecting the consultant. The contract will require the consultant to retain subject matter experts including an Indigenous Knowledge specialist to ensure that Indigenous knowledge is represented appropriately in the work and handled according to local protocols. The contract is designed to maximize economic benefits to the local Indigenous communities throughout the project work.

A third party consultant will be engaged to lead community engagement through a Structured Decision Making (SDM) process designed to incorporate different perspectives from Indigenous Community members and deliver transparent decision making with respect to the final design and operation of the Dog Camp structure.

The impact assessment (IA) work related to the construction of proposed structures at Big Egg Lake and Dog Camp will include fulsome and on-going engagement with Indigenous partners. Parks Canada is committed to using processes established under the Action Plan as the primary mechanisms for consultation for the proposed projects and associated IAs. Proposed processes include engagement via the Task Team, Indigenous Knowledge gathering through the Monitoring, Science and Indigenous Knowledge Task Team and the Non-PAD Monitoring and Science Task Team, along with community consultation sessions and open houses. The IA work for the structures is in the early stages and is anticipated to continue for at least two years.

Looking forward, the Task Team is aiming for the construction of the Big Egg Lake structure by March 2024, and if there is continued collaboration and support for the Dog Camp structure, it could be constructed as early as 2025. These structures would be the first attempt at controlling water in the delta since an artificial ice-dam was constructed in 1995 at Dog Camp on the Quatre Fourches, and the first that can be operated to raise or lower water levels, as the two existing weir structures on the Rochers and Coupé rivers are not adjustable. Broadly speaking, operation of these structures could be optimized to contribute to efforts supporting Ecological and Hydrological Integrity, as well as the ability to exercise Aboriginal and treaty rights by improving water quantity within the Mamawi Lake and Lake Claire system, as well as that of Big Egg Lake.



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