

Nahanni National Park Reserve
Southwest Northwest Territories Field Unit
10002 100 Street
Fort Simpson, NT
X0E 0N0

March 23, 2022

To: Distribution List

Re: Notification of Completion of Preliminary Screening of Aircraft Operations in Nahanni and Nááts'ihch'oh National Park Reserves

In accordance with the *Mackenzie Valley Resource Management Act*, Parks Canada has conducted a preliminary screening of Aircraft Operations in Nahanni and Nááts'ihch'oh National Park Reserves. Parks Canada has determined that the development may proceed after receiving appropriate authorization. Authorization will not occur until the 10-day pause period for preliminary screenings has completed. Please find the completed preliminary screening attached.

Thank you.

Sincerely,

Colleen Murchison

A/Resource Conservation Manager, Nahanni National Park Reserve
Parks Canada
Phone: (867) 695-6639
Email: colleen.murchison@pc.gc.ca



Parks Canada Preliminary Screening under the *Mackenzie Valley Resource Management Act*

TYPE OF DEVELOPMENT:

- New
- Amended
- Requires a permit, licence or authorization under the *Preliminary Screening Requirement Regulations* (issuance of a Business Licence and Aircraft Access Permit pursuant to the *National Parks of Canada Business Regulations* s 4.1)
- Does not require permit, licence or authorization and is proposed by PCA

1. DEVELOPMENT TITLE & LOCATION

Aircraft Charter Company Operations in Nahanni and Nááts'ihch'oh National Park Reserves

2. PROPONENT INFORMATION

See "Companies Licensed to Operate in Nahanni and/or Nááts'ihch'oh", page 2 of this screening

3. PROPOSED DEVELOPMENT DATES

Planned commencement: 2022-04-01

Planned completion: 2023-03-31

4. INTERNAL FILE #

NAH2022-001

5. DEVELOPMENT DESCRIPTION

Nahanni National Park Reserve (Nahanni) and Nááts'ihch'oh National Park Reserve (Nááts'ihch'oh) are accessed primarily by air (fixed and rotary wing aircraft) for park operational and tourism purposes; other than permit-only road access via the Howards Pass Access Road in the extreme western portion of the parks. The majority of air access is facilitated by aircraft charter company outfitters. These companies must obtain Parks Canada business licenses to operate in the parks; according to the *Mackenzie Valley Resource Management Act* (MVRMA) their activities must undergo preliminary screening before these licenses can be issued. Aircraft operations run throughout the year, though decrease substantially and are primarily limited to park operational requirements during the fall, winter, and spring. Day flights, to drop off/pick up overnight visitors and park staff, or facilitate day sightseeing excursions, comprise the majority of charters, though occasional overnight stays are required for park operational



purposes. This preliminary screening applies to the following aircraft charter companies, and up to five additional aircraft operators (for designated landing areas only), and includes the listed activities/locations:

Companies Licensed to Operate in Nahanni and/or Nááts'jch'oh

Air Tindi	Horizon Helicopters Ltd.	Simpson Air 1981 Ltd
Alkan Air	Kluane Airways Ltd	Solitude Excursions Ltd
Alpine Aviation	Liard Air Ltd	South Nahanni Airways
Black Sheep Aviation & Cattle Co. Ltd.	Nahanni Heli Adventures	Trans North Turbo Air Limited
Fireweed Helicopters Ltd.	Northern Rockies Air Charter Ltd.	Tundra Helicopters
Great Slave Helicopters 2018 Ltd. / Sahtu Helicopters	North-Wright Airways Ltd	

Activities at designated landing areas in Nahanni and non-designated landing areas in Nááts'jch'oh

- Day flight seeing experiences
- Commercial transport of visitors and freight for recreational activities such as hiking, mountain climbing, mountaineering, and river trips
- Nahanni and Nááts'jch'oh NPR operational activities
- Transport of researchers for purposes outside of park operational activities

Locations (see map, Appendix 1)

Non-designated aircraft landing areas in Nááts'jch'oh National Park Reserve		
(A)	Nááts'jch'oh Tué (Moose Ponds)	These areas were used as aircraft access points prior to park establishment and may become designated landing sites once archeological assessments are completed. Aircraft operators are permitted annually to land at these locations.
(B)	Túoch'ee Tué (O'Grady Lake)	
(C)	Qtaa Tué Fehto (Divide Lake)	
(D)	Níonep'ene? Tué (Grizzly Bear Lake)	
(E)	Tuededéveh Tué (Clearwater Lake)	
---	Howards's Pass Access Road	Transport of authorized researchers/contractors and/or Parks Canada staff

Non-designated aircraft landing areas in Nahanni National Park Reserve		
(F)	South of Haywire Lake	Transport of researchers for purposes outside of park operational activities
(G)	Bologna Glacier	Transport of researchers for park operational activities
(H)	Southwest of Glacier Lake	Transport of researchers for purposes outside of park operational activities
(I)	Southeast of Tungsten	



---	Howards's Pass Access Road	Transport of authorized researchers/contractors and/or Parks Canada staff
---	Prairie Creek Access Road	Transport of authorized researchers/contractors and/or Parks Canada staff

Designated aircraft landing areas in Nahanni National Park Reserve	
①	Honeymoon Lake
②	Island Lakes
③	Glacier Lake
④	Bunny Bar
⑤	Gahnjthah Mje
⑥	South Nahanni River above Nájljcho (Virginia Falls)
⑦	Seaplane Lake

6. VALUED COMPONENTS

Note: Outfitting companies have utilized the same locations in both parks since the 1960's and 70's; many have been surveyed for natural and heritage resources (these surveys are ongoing) and areas of significance are avoided/respected by guides and their clients.

Soil/Land Resources

- The parks are located within the Taiga and Boreal Cordillera Ecological regions of the Northwest Territories. These regions include a complex landscape of rugged peaks and ridges, rolling hills, eroded plateaus, deep V- and U-shaped valleys, fast-flowing braided rivers and streams and slow-flowing meandering rivers, and in the south and west, glaciers and icefields. Glacial deposits are widely distributed and occur mainly on the floors and lower slopes of valleys, lakes and ponds are small and sparsely distributed, and wetlands are locally common only on the floodplains and lower slopes of large rivers and on a few broad plateaus. It is an area of discontinuous permafrost (ECG, 2010). To protect the alpine forests in Nááts'jch'oh, fires at all lakes are prohibited. This does not apply to Sahtu Dene and Métis. The area within the original Nahanni park boundary is a UNESCO World Heritage Site, recognized for its exceptional representation of on-going geological processes, including karst topography, hot springs/tufa mounds, and caves. Several of these areas are Zone 1, Special Preservation, and visitor access is restricted (Parks Canada, 2010).

Air/Noise Quality

- No formal observations of air/noise quality have occurred in the parks, however it is expected that these valued components are excellent and representative of their natural state. The majority of both parks are zone II Wilderness, which represents "extensive areas that are good representations of a natural region and are conserved in a wilderness state" and "in much of Zone II, visitors have the opportunity to experience



remoteness and solitude. Motorized access is not permitted except for controlled air access" (Parks Canada, 2010 & 2017).

Aquatic Resources

- SARA-listed Bull Trout are present in the South Nahanni River below Nájłicho (Babaluk, 2015).
- The South Nahanni River is silt-laden (March and Scotter, 1975), as is common of many of the rivers and streams in this area as they flow through glacial deposits (ECG, 2010).

Flora and Fauna

- Migratory and SARA-listed birds are present in the parks and may nest at locations visited by guided groups; the general nesting season for this area extends from approximately May 1 to August 25. Common Nighthawk (*Chordeiles minor*), a ground-nesting species has been observed nesting on the Prairie Creek and Bunny Bar alluvial fans (Tate, pers. comm., 2017; Arnold, pers. comm., 2020).
- Five bat species – Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*M. septentrionalis*), both SARA-listed bat species, Long-legged Myotis (*M. volans*), Big Brown Bat (*Eptesicus fuscus*), and Hoary Bat (*Lasiurus cinereus*) – have been recorded in both parks (Lausen *et al.*, 2014; EDI, 2019), while the occurrence of two additional species – Longeared Myotis (*M. evotis*) and Eastern Red Bat (*L. borealis*) – has only been confirmed within Nahanni (Lausen *et al.*, 2014). As of 2019, two cave sites within Nahanni, including Grotte Valerie, have been confirmed as hibernacula for Myotis bat species and two additional sites are suspected (Horne and Critchley, 2020). Current evidence suggests that Grotte Valerie is likely used as a hibernaculum by five species: Little Brown Bat, Northern Myotis, Long-legged Myotis, Big Brown Bat and Longeared Myotis (C. Lausen and G. Horne, pers. comm., 2017). All caves in the park reserves are off-limits to visitors.
- Grizzly Bear (*Ursus arctos* - northwest population) have a widespread distribution throughout the parks (Weaver, 2006). However, grizzly bear encounters in the parks are relatively uncommon with between 0 and 10 sightings reported annually by visitors and park staff in Nahanni from 2010 to 2017 and 1-2 annual sightings reported in Nááts'ihch'oh from 2016 to 2017 (Nahanni National Park Reserve, 2017). The majority of grizzly bear sightings occur in areas of the park where food caches are provided for visitors to store food and other attractants – Gahnjthah Mje, Nájłicho and Glacier Lake. With lower visitor numbers and no designated camping areas/food caches, Nááts'ihch'oh communicates notices of bear activity to visitors as early as possible. In Nááts'ihch'oh, camping within 1km of hot springs is prohibited. This is in part due to the high observations of grizzly bear activity recorded on remote cameras. Additionally, in accordance with Nahanni's Bear Management Plan, all reported bear observations are carefully reviewed by park staff to determine whether management action (e.g., public alerts, area closures, etc.) should be taken to prevent human-bear conflict.



- Interaction with other SARA-listed species in the parks – i.e., Collared pika (*Ochotona collaris*), Caribou (*Rangifer tarandus* - boreal population) and Woodland caribou (*Rangifer tarandus caribou* - Northern Mountain population) – will be minimal as visitors either do not frequent habitats where these species are located or visitation does not occur during periods of significant congregation such as calving. No adverse effects are anticipated if the mitigation measures described in this screening are followed.
- No SARA-listed vegetation species will be impacted. Nahanni Aster (*Symphotrichum nahanniense*), a SARA-listed species, exists at various locations along the Flat and South Nahanni rivers (COSEWIC, 2014). Three of these populations are protected as Zone I Special Preservation (no public access except by permit or with Parks staff present) and the remaining four are in Zone II Wilderness areas (Parks Canada, 2010); revised zoning or alternate protection measures are being examined for these latter populations during the current management planning process.

Social/Cultural Environment (including Wildlife Harvesting)

- Harvesting (wildlife, plants, and trees) and motorized access for traditional activities within park boundaries is a right of local First Nations and Sahtu Métis (Parks Canada 2010 & 2017).
- Public access to Zone I special preservation areas with significant cultural importance, including Mount Nááts'j̄hch'oh and Chitú (Yohin Lake), is not allowed (Parks Canada, 2010; Parks Canada, 2017). Public access to the south tufa mound at Gahn̄hthah is permitted through guided hikes only (Parks Canada, 2010). Traditional use by local First Nations and Sahtu Métis is not restricted through park zoning

Heritage Resources

Heritage resources are defined as a human work, an object, or a place that is determined, on the basis of its heritage value, to be directly associated with an important aspect or aspects of human history and culture of a heritage area (Parks Canada, 2013). Heritage resources include archaeological or historic sites, burial sites, artifacts and other objects of historical, cultural, or religious significance, and historical or cultural records (MVRMA (s.2)). Heritage resources exist throughout both parks. Although surveys have been conducted to identify these resources at certain locations along major river valleys, lakes, and in the Glacier Lake/Cirque of the Unclimbables area, there remains a high potential for the presence of undocumented resources throughout both parks.

7. EFFECTS ANALYSIS

See "*Parks Canada Best Management Practice (BMP) for Aircraft Operations and Landings in Nahanni and Nááts'j̄hch'oh National Park Reserves of Canada*" (Appendix 2).



8. MITIGATION MEASURES

Aircraft charter company operators will adhere to mitigations described in the "*Parks Canada Best Management Practice (BMP) for Aircraft Operations and Landings in Nahanni and Nááts'ihch'oh National Park Reserves of Canada*" (Appendix 2) and, when applicable, the *Fuel Caching Protocol for Nahanni National Park Reserve and Nááts'ihch'oh National Park Reserve*.

8.1 COVID-19 CONSIDERATIONS

Aircraft operators, as well as their employees and clients, must comply with all directions and orders issued by the Northwest Territories Chief Medical Health Officer to prevent the spread of COVID-19.

9. OTHER CONSIDERATIONS

- Surveillance
- Follow-up monitoring, general
- Follow-up monitoring, required by legislation or policy (indicate basis of requirement e.g. required by the *Species at Risk Act*)
- SARA Notification
- Additional conditions may be placed on business licenses for Nááts'ihch'oh

10. SIGNIFICANCE OF RESIDUAL ADVERSE EFFECTS

Given the limited and short-term magnitude of effects, the location in predominantly pre-impacted areas, and the application of mitigation measures the development is not expected to cause residual adverse effects to natural/cultural resources or visitor experience.

11. EXPERTS CONSULTED

<i>Department:</i> Parks Canada / Government of Canada	<i>Date of Request:</i> January 9, 2018
<i>Expert's Name & Contact Information:</i> Patrick Carroll PO Box 750, Fort Smith, NT X0E 0P0 Patrick.carroll@pc.gc.ca / Tel: 867-872-7936	<i>Title:</i> Cultural Resource Management Advisor, SW NWT Field Unit



<i>Expertise Requested:</i> General information on heritage resource surveys/inventories for both parks	
<i>Response:</i> See information in section 6 (Valued Components)	
<i>Department:</i> Parks Canada / Government of Canada	<i>Date of Request:</i> June 15, 2017
<i>Expert's Name & Contact Information:</i> Doug Tate 22 Third Street, Nipigon, ON, P0T 2J0 Doug.Tate@canada.ca / Tel: 807-372-0011	<i>Title:</i> Ecologist Team Lead, Lake Superior National Marine Conservation Area
<i>Expertise Requested:</i> Information on Common Nighthawk nesting locations	
<i>Response:</i> See information in section 6 (Valued Components)	
<i>Departments:</i> Wildlife Conservation Society Canada Parks Canada / Government of Canada	<i>Date of Request:</i> November 2017
<i>Experts Names & Contact Information:</i> Cori Lausen Suite 204 - 344 Bloor Street West, Toronto, ON M5S 3A7 cLausen@wcs.org Greg Horne 1 Compound road, Jasper, AB greg.horne@canada.ca / Mobile: 780-883-0253	<i>Titles:</i> Associate Conservation Scientist Resource Management Officer II
<i>Expertise Requested:</i> Information on bat species potentially using Grotte Valerie as a hibernaculum	
<i>Response:</i> See information in section 6 (Valued Components)	
<i>Department:</i> Parks Canada / Government of Canada	<i>Date of Request:</i> February 21, 2020
<i>Expert's Name & Contact Information:</i> Sarah Arnold PO Box 348, Fort Simpson, NT X0E 0N0 sarah.arnold@canada.ca / Tel: 867-695-7768	<i>Title:</i> Ecologist Team Lead, Nahanni National Park Reserve
<i>Expertise Requested:</i> Information on Common Nighthawk nesting locations	
<i>Response:</i> See information in section 6 (Valued Components)	



11.1 References

- Arnold, S. 2020. Personal communication February 2020. Ecologist Team Leader, Nahanni National Park Reserve, Parks Canada.
- Babaluk *et al.* 2015. *Distribution of Fish Species within the South Nahanni River Watershed, Northwest Territories*. Department of Fisheries and Oceans Canada. Winnipeg, MB
- COSEWIC. 2014. *COSEWIC assessment and status report on the Nahanni Aster *Symphyotrichum nahanniense* in Canada*. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 39 pp. (www.registrelep-sararegistry.gc.ca/default_e.cfm).
- Ecosystem Classification Group (ECG). 2010. *Ecological Regions of the Northwest Territories – Cordillera*. Department of Environment and Natural Resources, Government of the Northwest Territories, Yellowknife, NT, Canada. Available online at: http://www.enr.gov.nt.ca/sites/enr/files/resources/cordillera_ecological_land_classification_report.pdf
- EDI. 2019. *HPAR Wildlife Baseline Studies – 2019 Field Season Results Summary*. Unpublished report.
- Horne, G. 2016. *Nahanni National Park Reserve, Report of Bat and Cave Monitoring - 2016*. Unpublished report.
- Horne, G. and D. Critchley. 2020. *Nahanni National Park Reserve, Report of Bat and Cave Monitoring – 2019*. Unpublished report.
- Lausen *et al.* 2014. *Bats of Nahanni National Park Reserve and Surrounding Areas, Northwest Territories*. *Northwestern Naturalist*. 95:186-196.
- Lausen, C. and G. Horne. Email, November 2017.
- Mackenzie Valley Resource Management Act (MVRMA). 2016. Available online at: <http://laws-lois.justice.gc.ca/eng/acts/M-0.2/>
- March, A.H. and G.W. Scotter. 1975. *Vegetation Survey and Impact Assessment of the Nahanni Hot Springs and Virginia Falls Areas, Nahanni National Park*. Prepared for Parks Canada by the Canadian Wildlife Service, Edmonton.
- Nahanni National Park Reserve. 2017. *Bear Observation Database*. Unpublished raw data.
- Parks Canada. 2010. *Nahanni National Park Reserve of Canada Nahʔq Dehé Management Plan*.
- Parks Canada. 2013. *Cultural Resource Management Policy*.



Parks Canada. 2017. *Nááts'jhch'oh National Park Reserve Management Plan*.

Parks Canada. 2019. Guidelines for Licensing of Guided River Outfitting in Nahanni and Nááts'jhch'oh National Park Reserves. Available online at: <https://www.pc.gc.ca/en/pn-np/nt/nahanni/info/guides>

Tate, D. 2017. Personal communication June 2017. Ecologist Team Leader, Lake Superior National Marine Conservation Area, Parks Canada.

Weaver, J.L. 2006. Big Animals and Small Parks: Implications of Wildlife Distribution and Movements for Expansion of Nahanni National Park Reserve. Wildlife Conservation Society Canada. Conservation Report No. 1.

12. REVIEW PERIOD

The development description was sent to the MVEIRB, for posting on the public registry, and the distribution list on March 1, 2022. Anyone from the public could provide comments on or before March 22, 2022. No concerns were raised by the public.

13. DECISION

Taking into account the analysis and implementation of mitigation measures outlined in the analysis, the development:

- Might have a significant adverse impact on the environment, and the proposal should be referred to the *Mackenzie Valley Environmental Impact Review Board* for environmental assessment.
- ✓ Does not have a likelihood of causing significant adverse impact on the environment.
- Might be a cause for public concern, and the proposal should be referred to the *Mackenzie Valley Environmental Impact Review Board* for environmental assessment.
- ✓ Does not have a likelihood of causing public concern.

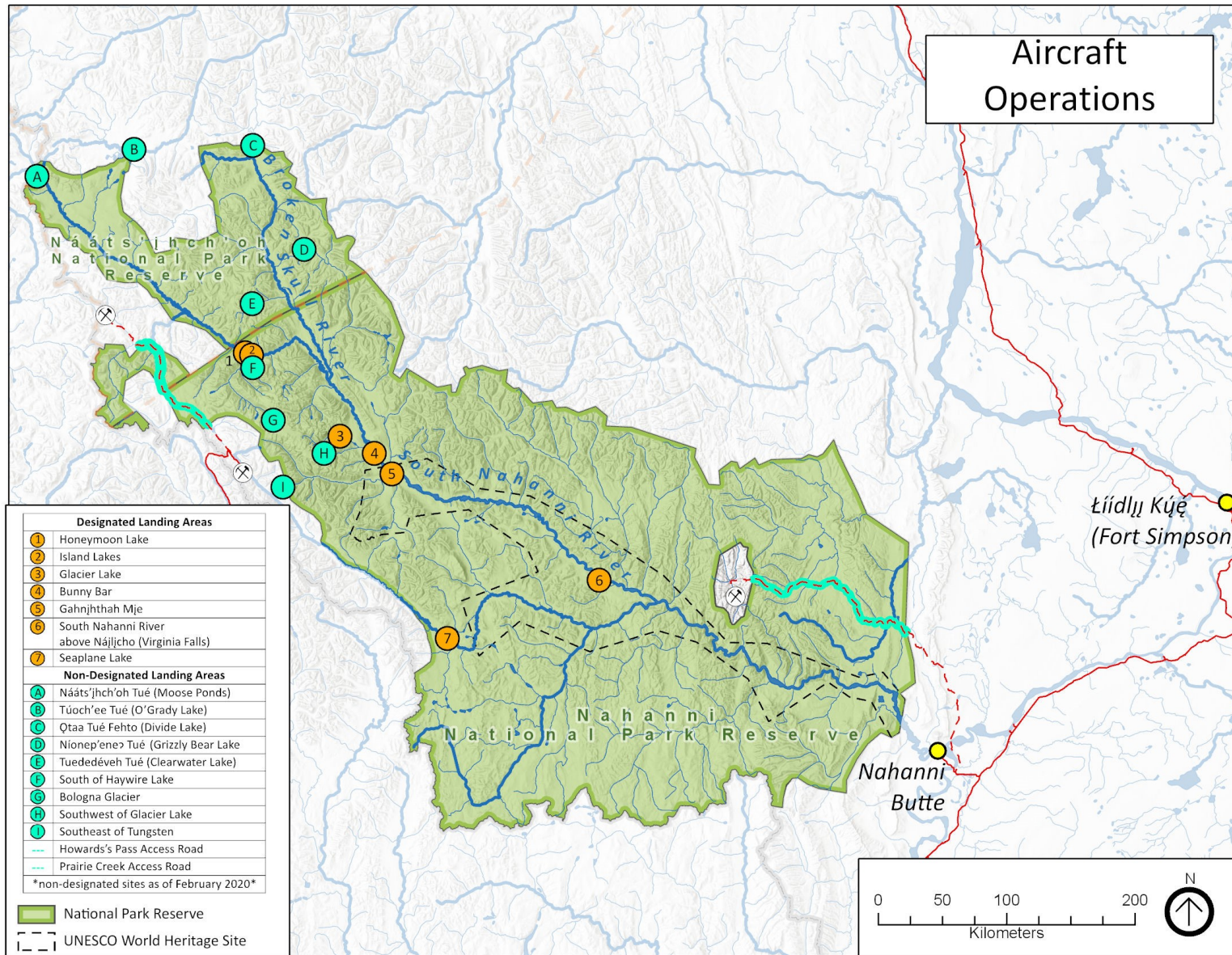


14. APPROVAL

Prepared by: <i>Colleen Murchison</i> Ecologist Team Leader, Nahanni National Park Reserve Johanna Robson Resource Management Supervisor, Nááts'jch'oh National Park Reserve	Date: March 22, 2022
Approved by:  <i>Nadine Gauvin</i> Superintendent, Nááts'jch'oh National Park	Date: March 23, 2022
Approved by:  <i>Vanessa Murtzell</i> A/Superintendent, Nahanni National Park Reserve	Date: March 23, 2022

APPENDIX 1

Note: all flight start/end locations are from designated airports/aerodromes outside of the parks.





APPENDIX 2: Parks Canada Best Management Practice (BMP) for Aircraft Operations and Landings in Nahanni and Nááts'ihch'oh National Park Reserves of Canada

Note: see attachment in accompanying email



APPENDIX 3 - Distribution List

<i>Organization</i>	<i>Contact</i>
Mackenzie Valley Environmental Impact Review Board	preliminaryscreening@reviewboard.ca
Mackenzie Valley Land and Water Board	jpotten@mvlwb.com ; tyree@mvlwb.com
Grand Chief Kenneth Cayen Dehcho First Nations	Grandchief_cayen@dehcho.org
Executive Director Alison de Pelham Dehcho First Nations	executivedirector@dehcho.org
Chief Kele Antoine Liidlii Kue First Nation	chief@liidliikue.com
Executive Director Liza McPherson Liidlii Kue First Nation	exdir@liidliikue.com
Chief Stanley Sanguetz JMR First Nation	chief@jmrfn.com
Chief Steve Vital Nahanni Butte Dene Band	chiefsteve.nbdb@gmail.com
Chief Joachim Bonnetrouge Deh Gah Gotie First Nation	chief@dehgahgotie.ca
Chief Lloyd Chicot Ka'a'gee Tu First Nation	kaageetu_chief@northwestel.net
Chief Dolphus Jumbo Sambaa K'e Dene Band	chief@sambaakefn.com
Chief Lloyd Moses Pehdzeh Ki First Nation	chief@pkfn.ca
Sub-Chief Florence Cayen West Point First Nation	chief@wpfn.ca
President Clifford McLeod Fort Providence Métis Council	fpmcpres@northwestel.net
President Daniel Peterson Fort Simpson Métis Local	metisnation52@northwestel.net
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Black Feather The Wilderness Adventure Company	info@blackfeather.com
Nahanni Wilderness Adventures	adventures@nahanniwild.com
Canoe North Adventures	info@canoenorthadventures.com
Jennifer Thistle , Regional Superintendent, Dehcho Industry, Tourism and Investment, Government of the Northwest Territories	Jennifer_Thistle@gov.nt.ca
Douglas Dillon (Aboriginal Tourism Development Officer, Industry, Tourism and Investment - Tourism and Parks Division Government of the Northwest Territories)	Douglas_Dillon@gov.nt.ca
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Norman Wells Renewable Resources Council	sahtuapple@hotmail.com nwrrc@nwlc.ca
Tulita District Land Corporation	hci2@theedgenw.ca district@allstream.net
Tulita Dene Band – Chief Frank Andrew	tdbchief@live.ca band_manager@tulitadeneband.com
Hamlet of Tulita	SAO@hamletoftulita.ca
Town of Norman Wells	Mayor_Frank_Pope@normanwells.com ; SeniorAdministrativeOfficer@normanwells.com



Parks Canada Best Management Practice (BMP) for Aircraft Operations and Landings in Nahanni and Nááts'ihch'oh National Park Reserves of Canada

Southwest Northwest Territories Field Unit

February 2018

This Best Management Practice (BMP) examines potential interactions between the environment¹ and aircraft landings in Nahanni National Park Reserve (hereafter Nahanni) and Nááts'ihch'oh National Park Reserve (hereafter Nááts'ihch'oh).

Impact Assessment Officers (IAOs) may recommend use of this BMP during Step 4 (Conduct Preliminary Screening) of PCA's Preliminary Screening Process under the *Mackenzie Valley Resource Management Act* (MVRMA). The IAO must ensure that the development is recorded in the [Parks Canada National Impact Assessment Tracking System \(northern section\)](#).

Name of Best Management Practice (BMP)	Parks Canada Best Management Practice (BMP) for Aircraft Operations and Landings in Nahanni and Nááts'ihch'oh National Park Reserves of Canada, Southwest Northwest Territories Field Unit.
Scope of Application:	<p>This BMP provides the preliminary screening assessment and mitigations required for aircraft operations/landings for:</p> <ul style="list-style-type: none"> • Park management and operational activities • Commercially guided eco-tourism activities • Private aircraft charters by park visitors <p>Notes: "Aircraft" refers to rotary and fixed-wing aircraft equipped with skis, floats, wheels, or skids. At present, Unmanned Aerial Vehicles (UAVs), commonly known as drones, are not covered by this BMP.</p>
Exceptions:	<p>A preliminary screening form must be completed to address additional effects if the aircraft landing:</p> <ul style="list-style-type: none"> • has the potential for residual adverse effects on an individual or a residence of a listed species at risk² (endangered, threatened, or extirpated status) or any adverse effects on the critical habitat of a listed species at risk. • is not listed in the "scope of application"; • is a one-time, occasional, or annual special event such as a military exercise or sporting event that takes place in or outside of a designated landing site. <p>Note: Aircraft landings in the case of emergencies (e.g., rescue of sick, injured, or stranded visitors, evacuation in the case of wildfire) are not subject to this BMP or to the Environmental Impact Assessment process.</p>

¹ Environment: land, water, air or any other component of the environment, as well as on wildlife harvesting, the social and cultural environment, and heritage resources (MVRMA, s 111(1)). Includes species at risk as listed on Schedule 1 of the *Species at Risk Act*

² Species at risk as listed on Schedule 1 of the *Species at Risk Act*

	<p>Note:</p> <p>Impact Analysis advice: If there is any uncertainty concerning the application of this BMP, consult a member of the Parks Canada Impact Assessment Team.</p> <p>Species at Risk advice: If there is any uncertainty regarding potential adverse effects to species at risk, consult a member of the Parks Canada Species and Conservation Management Team.</p> <p>Cultural Resource advice: If there is any uncertainty regarding potential adverse effects to cultural resources, consult Patrick Carroll (Cultural Resource Management Advisor, SW NWT Field Unit)</p>
<p>Approved geographic area of application:</p>	<p>This BMP is intended for use in Nahanni National Park Reserve of Canada and Nááts'ihch'oh National Park Reserve of Canada.</p>

Effects Assessment (components of the environment that may be affected)

Potential effects from aircraft landings in Nahanni and Nááts'jéhch'oh are well understood and predictable. They include:

Soil/Land Resources

- Soil compaction and rutting (from landing/take-off or foot traffic from embarkation/disembarkation)
- Soil contamination (garbage left at the landing area or spills could release toxic chemicals that could leach into the soil)
- Removal of fossils (Operators and/or clients may remove fossils from park)

Air/Noise Quality

- Decreased site-specific air quality (from aircraft exhaust or fuel fumes)
- Site-specific noise pollution (from aircraft landing/take-off)

Aquatic Resources

- Compaction, rutting, and erosion of riparian areas (from trampling at disembarkation/embarkation sites, floats pushing up on shorelines, and helicopter skids)
- Decreased water quality (from pollution from garbage, human waste, erosion from wave action during landing and take-off, or spills)

Flora and Fauna

- Compaction of vegetation (from foot traffic or aircraft take-off/landing)
- Clients may pick flowers/plants
- Inadvertent introduction of non-native species (e.g., seeds transported on footwear or clothing)
- Wildlife disturbance (aircraft noise could cause displacement from habitat or alteration in the use of movement corridors)
- Disturbance, damage, or destruction of sensitive flora, nests, dens, and fish spawning areas (by foot traffic during embarkation/disembarkation or wave action caused by floatplanes during take-off and landing of aircraft)
- Contamination of flora or negative effects to fauna (from garbage decomposition or aircraft/refueling accidents)
- Human/wildlife conflict (landing near wildlife may result in human-wildlife conflict -if human life is in danger, the animal may need to be relocated or destroyed)
- Conditioning of wildlife to human garbage and/or fuel (if improperly managed solid waste and/or stored fuel are an attractant to wildlife, altering their behavior, movement patterns and natural feeding habits)
- Species at Risk: Although species at risk exist in both park reserves covered under this BMP it is not expected that aircraft landings will result in residual adverse effects if the mitigations described in this BMP are applied.

Visitor Experience

- Decrease in wilderness experience (aircraft over-flights can disturb visitors on the ground by causing visual and noise pollution, aircraft or refueling accidents could contaminate or damage natural or heritage resources, and the presence of garbage and improperly disposed human waste can detract from the wilderness experience)
- Threats to human health and safety (from aircraft or refuelling accidents)
- Stored fuel can attract wildlife, potentially posing a threat to operators and clients

Social/Cultural Environment (including Wildlife Harvesting)

- Decrease in Indigenous land use experience (if aircraft landings/take-offs or disembarking/embarking passengers interfere with wildlife populations or habitat or leave behind garbage and/or human waste, or if aircraft or refuelling accidents contaminate or damage natural and heritage resources)
- Decrease in Indigenous hunting success (if aircraft over-flights, take-offs, or landings frighten target wildlife)
- Aircraft over-flights, take-offs, and landings can diminish the experience of Indigenous people on the land by causing visual and noise pollution

Heritage Resources: (from MVRMA (s.2) - *archaeological or historic sites, burial sites, artifacts and other objects of historical, cultural, or religious significance, and historical or cultural records, to be directly associated with an important aspect or aspects of human history and culture*)

- Trampling or disturbance of heritage resources (trampling at embarkation/disembarkation areas or compaction/disturbance from aircraft take-off and landings may have localized erosive or rutting effects and can disturb/damage heritage resources, especially if operators chose the same location repeatedly).
- Wave action caused by floatplanes could cause shore erosion, which may impact heritage resources
- Floatplanes running-up on shore to unload can potentially disturb heritage resources
- Spills could contaminate or damage heritage resources

Mitigation Measures

General

1. Check for, remove, and dispose of into garbage containers any bur-like seedpods or mud from equipment, boots, clothing, and pets prior to departure to reduce risk of introducing invasive plant species.
2. Vegetation and natural objects (bones, antlers, rocks, fossils) cannot be removed, defaced, damaged, or destroyed, including the eating of plants or berries.
3. If a dog is brought into the park, it must be kept on leash at all times and must not be left unattended. Immunizations must be up to date and waste dealt with in the same way as human waste.
4. Indigenous People can and may be exercising their traditional rights, including harvesting and motorized access, within park boundaries and these rights must be respected.
5. Heritage resources (defined above) must not be removed or otherwise disturbed. It is important that artifacts are left in place as their relationship to each other and the landscape tells an interpretive story.
6. The discovery of a heritage resource must be reported to Parks Canada. Include information on what was seen, the location of where the material was encountered and, if possible, a GPS coordinate and photograph.
7. Rocks must not be removed or disturbed from any features that look, even remotely, like they were human-made. These include, for example, cairns (rock piles), tent rings, and food caches.
8. Inukshuks are not culturally appropriate and should not be built.
9. Day visitors should bring their own filled water bottles to avoid having to pack in water purification equipment.
10. Parks Canada maintenance equipment and boats must not be used by visitors or business licence holders.

Management of Solid Waste

11. Solid waste/garbage created by an individual or group must be packed out upon that individual or group's departure from the park.
12. Reduce litter by minimizing the amount of cans, bottles, tin foil, and other wrappers taken into the park.
13. When feasible, pick up litter left by others.
14. Report any large accumulations of solid waste or large items, such as empty fuel drums, to park staff.

Management of Human Waste

15. Encourage clients to use the washroom before boarding the aircraft to depart for the park.
16. If there are no outhouses or composting toilets at a landing site:
 - i. Urinate and defecate at least 60 metres away from the aircraft landing site, heritage resources, and water bodies. Rocky or gravelly sites may reduce attraction for wild animals and are preferred sites for urination.

- ii. Deposit solid human waste in a shallow hole 15 to 20 cm deep in soil-covered areas (in snow/glaciers, bury as deep as possible) and at least 60 metres away from the aircraft landing site, heritage resources, and water bodies. Cover and disguise the hole when finished; avoid disturbing plant communities.
- iii. Pack out or burn all (in fire box or designated fire pit) used toilet paper.
- iv. Pack out hygiene products and used air sickness bags.

Management and Handling of Fuel

- 17. Ensure absorbent material is available to soak up any small spills during refuelling.
- 18. Use an environmentally safe fuel purge system to keep fuels in the aircraft.
- 19. If fuel storage is allowed under the aircraft access permit refer to the *Fuel Caching Protocol for Nahanni National Park Reserve and Nááts'ihch'oh National Park Reserve*.

Flight and Operation of Aircraft¹

- 20. Aircraft incidents must be reported to Parks Canada.
- 21. Never circle, chase, hover over, dive bomb, pursue, or in any other way harass wildlife from the air.
- 22. Do not alter the flight path to approach wildlife and avoid flying directly over or at wildlife (i.e. approach on an angle), especially congregations of animals.
- 23. If you observe running, panic, or startled responses from animals, ascend to a higher flight path or veer away.
- 24. Aircraft access permits are not to be used for viewing or photography of wildlife. For passengers requesting wildlife photographic opportunities, pilots must explain that disturbance of wildlife could result in loss of business licence or charges under the *Canada National Parks Act*.
- 25. As recommended in the *Transport Canada Aeronautical Information Manual (RAC 1.14.15)*, overflights should not be conducted below 2,000 feet AGL when in the air space over the parks except on approach to landing, take-off, or for safety reasons.
- 26. Maintain an altitude of 3,500 feet AGL above, and avoid when possible, sensitive areas such as raptor nesting sites, bird sanctuaries, and areas with bird concentrations (colonies or moulting areas). Avoid nationally important bird habitat areas such as Yohin Lake, Mid Lake, and Fishtrap Creek (together identified as a Key Migratory Bird Terrestrial Habitat Site (NT Site 17) by the Canadian Wildlife Service).
- 27. Whenever possible, fly more than 3.5 km from known animal ranges. Avoid known lambing cliffs and mineral licks from May 1 to June 15. Avoid snow patches where caribou are known to gather in the post-calving period (i.e. June) and mineral licks in spring.
- 28. When flying through sheep ranges, when possible plan a route that places a ridge (potential visual and sound barrier) between aircraft and the sheep, and fly below the sheep so they may seek safety upslope.
- 29. Plan routes to avoid close encounters with wildlife, camps of Indigenous People, and other park users.

30. Aircraft operations are under the jurisdiction of Transport Canada and air access to parks under the jurisdiction Parks Canada and *Canada National Parks Act*; all applicable regulations must be followed



¹Subject to pilot discretion regarding aircraft and human safety. Safety of passengers is the responsibility of the pilot.

Approach and Landing¹

31. In the event that dens, active nests, or young animals are accidentally encountered at a landing site, attempt to minimize disturbance.
32. If wildlife are on the landing site do not land until they are well away from the site. Aircraft must never be used to move or push wildlife away from the landing site.
33. Do not disturb or otherwise harass any wildlife that may approach, or that are visible from, the landing site. If there are safety concerns, follow protocols in the Nahanni National Park Reserve "Bears and People" brochure.
34. Report wildlife sightings, unusual wildlife behaviour, encounters with wildlife, injured animals and carcasses to Parks Canada. Marked animals (radio collars, ear tags, leg bands on birds, neck bands on swans) and injured animals should also be reported.
35. Ensure clients gathering around the aircraft choose locations on the most durable surfaces whenever possible. Rock, talus, gravel, sand, and gravel stream bottoms are considered to be the most durable surfaces.
36. Do not make markers, cairns or inukshuks, blaze trees, or otherwise damage vegetation to mark a landing site.
37. Foot traffic must be limited to hardened locations in the area if heritage resources are exposed as a result of landing-related actions.
38. When feasible and safe, minimize the time aircraft spend running on the ground, the number of flights, the amount of time hovering or circling before landing, and the speed, approach distance, and rate of descent.
39. When taxiing to shore, aircraft on floats must avoid producing a wake that disturbs/erodes the shoreline and shallow water habitats.
40. To minimize shoreline erosion, aircraft on floats must select shore pull-up locations with firm substrates, where possible, and unload using a "chain-gang" approach to minimize foot traffic to and from the plane.

¹Subject to pilot discretion regarding aircraft and human safety. Safety of passengers is the responsibility of the pilot.

Approval

Name: Jonathan Tsetso (Superintendent, Nahanni NPR)	Date: February 21, 2018
Signature: 	
Name: Laani Uunila (Superintendent, Nááts'ihch'oh NPR)	Date: February 21, 2018
Signature: 	

Review Period

Review required: Every 3-5 years

Last reviewed: February 2018

References

In addition to receiving expert park-specific review and review by business licence holders, this BMP has been adapted from:

- Parks Canada Agency. March 2011. *Replacement Class Screening Report for Aircraft Landings in the Northern National Parks of Canada (Aulavik National Park of Canada and Tukturnogait National Park of Canada)*.
- Parks Canada Agency. December 2004. *Replacement Class Screening for Aircraft Landings in Aulavik National Park of Canada, Auyuittuq National Park of Canada, Ivvavik National Park of Canada, Kluane National Park and Reserve of Canada, Quttinirpaaq National Park of Canada, Sirmilik National Park of Canada, Tukturnogait National Park of Canada, and Ukkusiksalik National Park of Canada*.
- Parks Canada Agency. 2013. *Cultural Resource Management Policy*. Heritage Conservation and Commemoration Directorate, Parks Canada.
- Government of Yukon. 2010. *Flying in Caribou Country*. Mining and Petroleum Environment Research Group Report 2008-1.
- Government of Yukon. 2006. *Flying in Sheep Country*. Mining Environment Research Group Report 2002-6.
- Nunavut Planning Commission. 2016. *Nunavut Land Use Plan. 2016 Draft*.