



July 29, 2024

AlecSandra Macdonald  
Regulatory Specialist  
Gwich'in Land and Water Board  
Alex Moses-Greenland Building  
105 Veterans Way  
Inuvik, NT X0E 0T0

**RE: Submission of the Traditional Land Use Review for the Inuvik Airport  
Type B Water Licence G23L8-002**

Dear Ms. Macdonald,

The Government of Northwest Territories (GNWT) – Department of Infrastructure (INF) is pleased to submit this traditional land use (TLU) review<sup>1</sup> report to meet the requirements of Type B Water Licence G23L8-002 (the licence). The licence was issued by the Gwich'in Land and Water Board on September 23, 2023, for the drainage upgrades at the Inuvik Mike Zubko Airport, and revised on March 11, 2024.

The TLU review was completed for the Chii Zhìt Van (Airport Lake, Dolomite Lake) area under a research agreement between the Gwich'in Tribal Council and the GNWT-INF. We understand that the Gwich'in Land and Water Board does not have specific criteria for the TLU review, and that your acceptance decision will be based on the input from the Gwich'in Tribal Council and other potentially affected parties.

To complete a meaningful TLU review of the area, the project team worked closely with the Gwich'in Tribal Council throughout the process to ensure that they approved the objectives and tasks. The Gwich'in Tribal Council and the interview participants reviewed and provided comments on the draft report. The comments have been incorporated into the final report.

The appended conformance table demonstrates how the report meets the conditions and requirements of the licence.

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<sup>1</sup> This was not a comprehensive Traditional Knowledge(TK)/TLU study; rather it was considered a TK/TLU review due to the size and scope of the review. The purpose of the review was to understand how Gwich'in participants and other land users are currently using the airport area (i.e., the area of Chii Zhìt Van/Airport Lake/Dolomite Lake) for cultural purposes and how the project may impact their land use. Based on earlier meetings with the Gwich'in Tribal Council, the approach of the TLU review aligned with their intended objectives.



If you have any questions or concerns, please contact me at 867-777-2467 or [Jason.MacNeil@gov.nt.ca](mailto:Jason.MacNeil@gov.nt.ca).

Sincerely,

Jason MacNeil  
Regional Airport Manager, Inuvik Mike Zubko Airport  
Department of Infrastructure  
Government of Northwest Territories

Attached:

- Conformance Table
- Traditional Land Use Review – Inuvik Airport Water Licence G23L8-002

Conformance Table – Traditional Land Use Review for Water Licence G23L8-002

Condition Number	Requirement	Plan Title	Summary of Conformance
Part B, Condition 23 (in original licence)	GNWT-INF to submit a TK/TLU study within 6 months of licence issuance	TK/TLU study	<ul style="list-style-type: none"> <li>On behalf of GNWT-INF, GTC requested an extension to August 1, 2024, which was approved by the GLWB on March 11, 2024.</li> <li>Traditional Land Use Review – Inuvik Airport Water Licence G23L8-002 is attached.</li> </ul>

GLWB – Gwich'in Land and Water Board; GNWT – Government of Northwest Territories; GTC – Gwich'in Tribal Council; INF – Department of Infrastructure; TK – Traditional Knowledge; TLU – traditional land use

# Traditional Land Use Review - Inuvik Airport Water Licence G23L8-002

## PREPARED FOR

Government of Northwest Territories –  
Department of Infrastructure

## PREPARED BY

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July 23, 2024

Project No. AECTLU-23

## Distribution

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## **SUGGESTED CITATION**

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## **ACKNOWLEDGEMENTS**

We would like to thank the Gwich'in, Inuvialuit, and non-Indigenous participants who shared their time and expertise throughout this study.

## **LIMITATIONS**

1. This summary report should not be interpreted as complete documentation and analysis of the traditional, cultural, and recreational land uses in the Chii Zhìt Van (Airport Lake) area.
2. The interpretations and conclusions in the report reflect the understanding of the authors, and should not be used to define, constrain, or limit knowledge of Gwich'in, Inuvialuit, or non-Indigenous participants in this study.
3. The information presented in this summary report is intended for use solely by the Gwich'in Tribal Council (GTC), the Gwich'in Land and Water Board (GLWB), and the Government of the Northwest Territories (GNWT) and it cannot be used by another party without the written consent from one of these named parties.

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## 1. INTRODUCTION

This summary report presents the results of a Traditional Land Use (TLU) review conducted on behalf of the Government of Northwest Territories (GNWT) – Department of Infrastructure (INF) for the Inuvik Mike Zubko Airport (Inuvik Airport) water licence (Type B Water Licence - G23L8-002). The Gwich'in Land and Water Board (GLWB) issued the water licence on September 23, 2023, for the drainage upgrades at the Inuvik Airport. Part B, Condition 23 of the licence requires the GNWT-INF to submit a Traditional Knowledge and Traditional Use study to the GLWB within 6 months of the licence issuance. The GLWB approved an extension to August 1, 2024.

The approach to the TLU review was approved by the Gwich'in Tribal Council (GTC). A research agreement was established between the GTC – Department of Culture and Heritage (DCH) and GNWT-INF and research team.

As per the research agreement, the purpose of the TLU review was to obtain a better understanding of historical and contemporary land uses of the area by Gwich'in participants and other land users of Chii Zhìt Van (Dolomite Lake, Airport Lake), and document potential concerns regarding the construction of the new drainage ditches for the runway extension and infrastructure upgrades at the Inuvik Airport (the Project). The runway extension and infrastructure upgrades are funded by the Government of Canada's Department of National Defence.

The official names for this lake are both Dolomite Lake and Chii Zhìt Van, a Gwich'in name that translates literally to "lake inside the rock," highlighting its unique geological setting. Since the construction of the airport on an adjacent site, this lake has commonly been referred to as Airport Lake (Kritsch, I, Andre, A., & Gwich'in Social and Cultural Institute, 1994). The name Chii Zhìt Van will be used in this report. The purpose of this TLU review is to provide an overview of historical and current land use in the Chii Zhìt Van area. Specifically, this TLU review aims to explore the cultural and recreational activities of Indigenous and non-Indigenous cabin owners in the Chii Zhìt Van area, as well as uses by those who do not own cabins in the area. Additionally, it examines the broader impacts of the airport on cultural and recreational activities and assesses how these influences may affect future land use by both groups.

## 2. PROJECT CONTEXT

The GNWT-INF is in the process of completing infrastructure upgrades and a 3,000-foot runway extension at the Inuvik Airport. These upgrades have been ongoing since 2021. The upgrades are designed to strengthen the airport's resilience to climate change, to protect and maintain essential infrastructure, and to improve the runway capability. The upgrades

include improvements to the stormwater drainage system. Surface runoff from the airport and upland areas has always flowed into Chii Zhìt Van and a pothole lake called East Lake. On the west side of the airport, runoff primarily flowed over the public access road in between the quarries and into Chii Zhìt Van at the west ravine, and south along and over the road, entering Chii Zhìt Van by the boat launch. The new defined drainage ditch that runs parallel to the public access road directs runoff into the forest and enters Chii Zhìt Van approximately 170 m east of the boat launch. On the east side of the airport, a new defined ditch was constructed to direct water into East Lake, which eventually flows to Chii Zhìt Van. The drainage upgrades began in January 2024 when the ground was frozen and are now 98% complete.

### **3. METHODS**

This section outlines the methods applied for the five tasks in this study, including the document review, Project information session, interviews, community survey, and data management and analysis.

#### **3.1. DOCUMENT REVIEW**

The research team conducted a review of previous studies acquired from GTC staff. The documents reviewed included the following:

- Gwich'in Traditional Knowledge Study of the Mackenzie Gas Project Area (Gwich'in Social and Cultural Institute, 2005)
- Gwich'in Place Names and Story Atlas (Gwich'in Social and Cultural Institute, 2013)
- Gwichya Gwich'in Place Names in the Mackenzie Delta, Gwich'in settlement Area, N.W.T. (Kritsch, I, Andre, A., & Gwich'in Social and Cultural Institute, 1994)
- Airport water licence (Type B Water Licence - G23L8-002) (Gwich'in Land and Water Board, 2023)

Information gathered from the review was used to develop an understanding of the historic and current cultural activities and environmental conditions in the Project area. The Gwichya Gwich'in Place Names in the Mackenzie Delta Report and the Gwich'in Place Names Story Atlas allowed the research team to understand the history of names in the Chii Zhìt Van area.

#### **3.2. PROJECT INFORMATION SESSION**

IEG researchers facilitated an in-person Project information session at the Nihtat Cultural Building in Inuvik on May 13, 2024, with a representative from Associated Environmental Consultants Inc. In total, six participants attended, representing Gwich'in, Inuvialuit, and non-Indigenous cabin owners and users around Chii Zhìt Van. The session was advertised



through Facebook, email, phone calls, radio advertisement, and with printed posters that were displayed around Inuvik (Appendix B). Some Chii Zhìt Van cabin owners were also contacted by email and phone and invited to attend the session. The meeting provided the opportunity for the project team to present a summary of the Project before the interviews, to confirm the methodological approach for the TLU review, and begin to document use of the Chii Zhìt Van area.

### 3.3. INTERVIEWS

A total of six semi-structured interviews were conducted for this review. Five of the interviews were conducted in person at the Nihtat Cultural Building in Inuvik the week of May 13, 2024, and the final interview was conducted remotely via teleconference on June 26, 2024. Interview participants included Gwich'in, Inuvialuit (collectively called Indigenous throughout this memo), and non-Indigenous people, and five out of the six participants owned cabins on Chii Zhìt Van.

The interviews were conducted using a semi-structured interview format, whereby researchers asked a set of open-ended questions to interviewees that encouraged individual perspectives and experiences to emerge (Patton 2002). Researchers followed an interview guide that was approved by the GTC (Appendix A) to focus the interview on understanding (i) the ways that Indigenous and non-Indigenous cabin owners use this area today and how they used it in the past, and (ii) any challenges faced with accessing the area and concerns with the ability to access the area in the future.

Each interview was conducted by two IEG researchers. Interview participants were selected based on information provided by GTC staff as well as suggestions received through conversations with initial interviewees. Interviews were documented using audio recordings and through notetaking. To facilitate the interview, maps generated in real time using Google Earth Pro software and a Projector were used so that members were able to view large maps of interest on a Projector screen. The audio recordings were used to produce text transcriptions of each interview and the transcriptions were used in the data analysis.

### 3.4. COMMUNITY SURVEY

IEG designed and implemented an online survey, and this was approved by GTC staff (Appendix C). As this was a TLU review with a limited scope, the survey allowed the project team to access a larger number of Chii Zhìt Van cabin owners and users of the Chii Zhìt Van area. Information from the survey was used to understand contemporary land use patterns and concerns from a larger subset of the local community, including non-Indigenous people. The survey was available via link and QR code from May 12 to June 30, 2024. A poster with the QR code was displayed at the airport terminal building and select locations throughout

Inuvik. Twenty paper copies of the survey were left at multiple locations in Inuvik with return envelopes, but no physical surveys were returned.

A total of 12 participants completed the online survey, including 11 adults and one youth participant. Four participants identified as male, and eight identified as female. Two participants identified as Gwich'in, while the remaining 10 identified as non-Indigenous. A total of eight participants indicated that they or one of their family members owned a cabin on Chii Zhìt Van.

### **3.5. DATA MANAGEMENT AND ANALYSIS**

The qualitative information collected from the semi-structured interviews, community surveys, and the project information session was analyzed using a content analysis approach. Content analysis is an established qualitative coding technique used to group information into broad themes and sub-themes related to the key interview topics (Graneheim and Lundman 2004).

The quantitative information collected from the survey was analyzed to inform the broader themes and sub-themes. Both qualitative and quantitative information was then brought together to inform the results of this memo.

As outlined in the research agreement with the GTC–DCH, all data collected during this study (i.e., transcripts and audio recordings) will be provided back to GTC–DCH for long-term storage.

## **4. RESULTS**

This section presents the results of this review and is based on data collected from the Project information session, interviews, surveys, and document review. It begins with an overview of the historical and current land uses of the Chii Zhìt Van area, including Indigenous traditional land uses and recreational activities by non-Indigenous cabin owners and users of the area. Due to the small number of participants, results may reflect the perspective and experiences of individual participants and not necessarily the consensus of all participants. A discussion of Project-specific concerns and impacts as identified by participants is presented in Section 4.3.

Maps of the local placenames in the Chii Zhìt Van area (Figure 1) and local placenames in the Chii Zhìt Van area and Mackenzie River Delta (Figure 2) were developed based on the results of the literature review and interviews, as presented below.



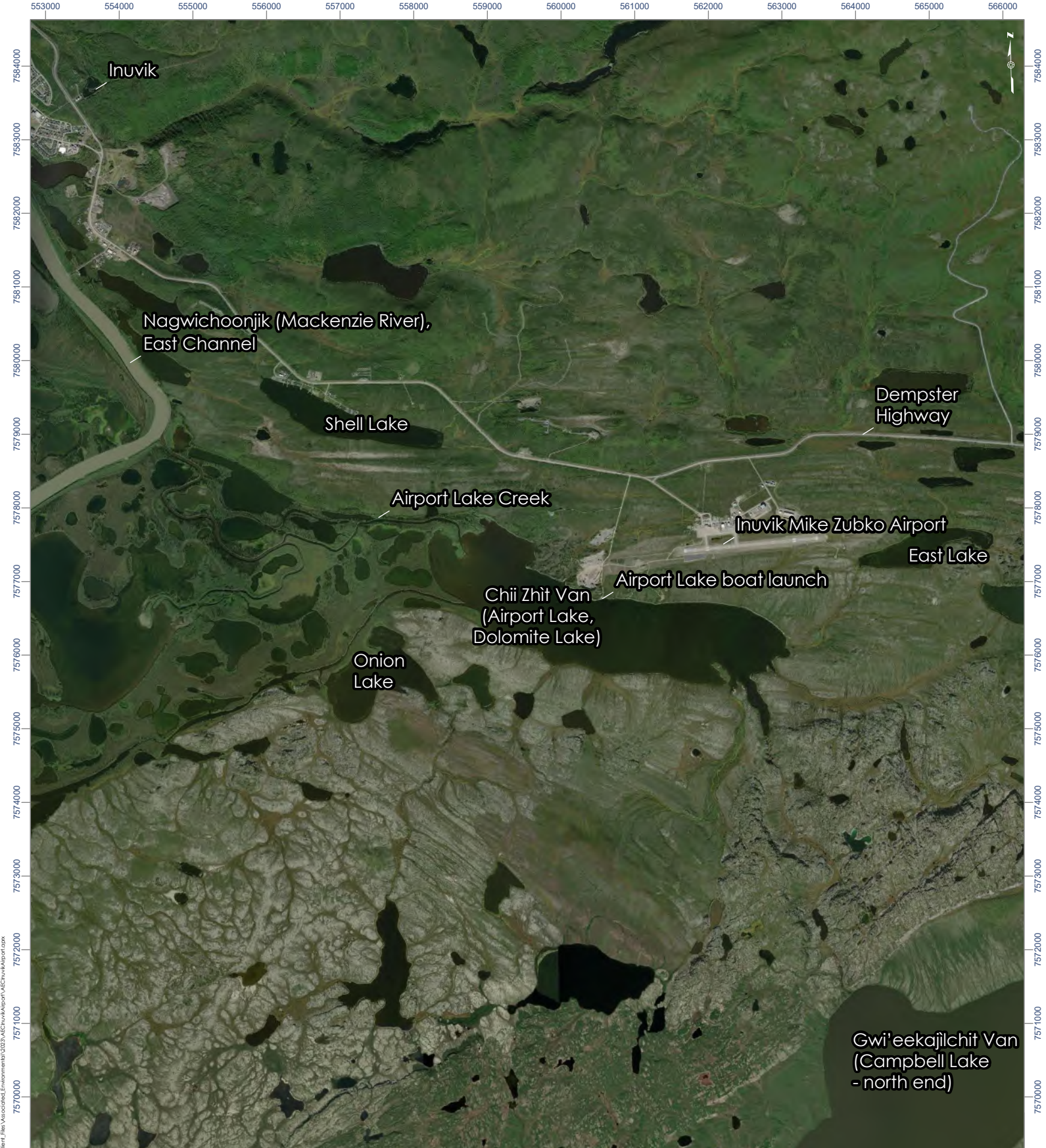
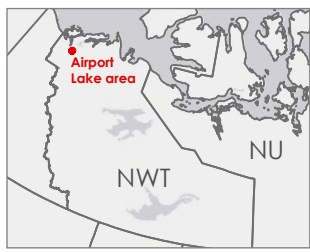



Figure 1. Placenames in the Chii Zhìt Van (Airport Lake) area



Created by:

 **IEG**  
Integral Ecology Group

0 0.25 0.5 1 1.5 2 Km

Drawn by: RS

Checked by: TM

Date: 2024-07-22

Project: AECTLU-23

Datum/Coordinates: NAD 1983 UTM Zone 8N





Datum/Coordinates: NAD 1983 UTM Zone 8N

## 4.1. HISTORICAL LAND USES IN THE CHII ZHÌT VAN AREA

For the purposes of this study, historical land uses in the Chii Zhìt Van area refer to land use activities occurring prior to the 1960s, around the time of construction of the Inuvik Airport. The town of Inuvik was built in the 1950s, and prior to its construction the environment was in a more natural state as there were minimal disturbances to land use activities related to development. Participants explained that the Chii Zhìt Van area was used by Indigenous land users for subsistence, recreational, and cultural activities; however, it was not a core land use area for the community. A brief overview of historical land use activities is provided below; however, it should be noted that this information is limited to input from the small number of interview participants and does not reflect the full extent of historical land use in the region.

### 4.1.1 Hunting and Fishing

Some interview participants explained that subsistence activities such as hunting and fishing were important activities around Chii Zhìt Van, while others explained it was never a good area for hunting. Notably, the legality of hunting around the lake changed with the construction of the airport and expansion of the town boundaries. In the past, animals such as caribou, beavers, and muskrat were harvested from the area. One Indigenous participant recalled that Elders have stories about hunting caribou from the region in the 1960s and 1970s:

*Oh man, like that elder told me... he didn't tell me dates he just said we used to get caribou there. I don't know when he meant. Couldn't have been too long ago. Maybe the '60's/'70's? Yeah, I would say '60's maybe '60's/'70's.*

Indigenous Participant

Another Indigenous participant explained that the area around Gwi'eekajilchit Van (northern end of Stir'ijyeh Van/Campbell Lake) and Tithegeh Chì' Vàn (southern end of Stir'ijyeh Van/Campbell Lake) was traditionally used for hunting ducks and geese and collecting eggs, especially in the spring. Chii Zhìt Van was also historically a good place for fishing. One Indigenous participant recalls fishing there occasionally:

*But you know, we used to go through Airport Lake, you know fish over there a few times.*

Indigenous Participant

People could enjoy the peace and solitude of the lake as there were no surrounding developments. One Indigenous participant recalled how much quieter it used to be around Chii Zhìt Van:



*Quiet. It used to be much quieter on that lake. Just for more...like I said, but I remember is about 5 cabins on that lake, if that.*

Indigenous Participant

## **4.2. CURRENT LAND USES IN THE CHII ZHÌT VAN AREA**

The area of Chii Zhìt Van is currently used by Indigenous and non-Indigenous members for a variety of land use activities. As described in this section, Indigenous participants identified hunting, fishing, trapping, plant gathering, and travelling by boat or snowmobile as key traditional land use activities in the Chii Zhìt Van area, while Indigenous and non-Indigenous participants identified hunting and fishing as important recreational activities, as well as swimming, boating, waterskiing, and paddleboarding. A discussion of current land use activities is provided below.

### **4.2.1 Traditional Indigenous Activities**

#### **Fishing**

Fishing was identified by some Indigenous participants as an important traditional activity on Chii Zhìt Van, while other Indigenous participants explained that fishing for traditional use was rare. Common species of fish harvested from the lake include coney (inconnu), trout, pike, burbot, and jackfish. Both netting and rod-and-reel fishing methods are used on Chii Zhìt Van. In the winter months, ice fishing (jiggling) is commonly practiced by some Indigenous families. One Indigenous participant indicated that fish populations are not always abundant in the lake, yet families still enjoy going fishing while spending time in the area.

Fishing was generally identified by Indigenous and non-Indigenous members as being more successful in other places along the Mackenzie River and Husky Lakes region north of Inuvik. It was also noted that species such as walleye are moving up the Mackenzie River because the water is getting much warmer.

#### **Harvesting Traditional Plants and Berries**

Indigenous participants identified harvesting traditional plants and berries as key land use activities in the Chii Zhìt Van area. Species harvest include Labrador tea, low bush cranberries, and blueberries. Wood is also harvested to use as firewood. Berry picking in particular is an important activity in the area. Some members have berry patches located near their cabins on Chii Zhìt Van, making it easier for members to pick berries while they spend time in the area. Participants also described going berry picking along the Inuvik to Tuktoyaktuk Highway and along the Dempster Highway, and harvesting wild onions and other plant resources from the Onion Lake area. One participant remarked on the importance

of berry picking to the Gwich'in community, and noted that the location of prime berry gathering areas are often not disclosed with others:

*Oh, berries [berry picking] is huge. I guess I take that for granted. I just think it's a known fact, right? And you'll never get anyone to admit where their berry picking spot is, so don't even try.*

Indigenous Participant

### **Hunting**

Some Indigenous participants explained that hunting is still conducted around Chii Zhìt Van, including for moose, swans, geese, and lynx. However, hunting has become less common than in the past as the lake is partially within the town limits and in close proximity to the airport. Similarly, one Indigenous participant, who is an experienced land user in the region, explained that many traditional land users travel further north of the Chii Zhìt Van area for hunting.

### **Trapping**

Trapping is not widely conducted on or around Chii Zhìt Van, due to the area being partially within town limits. However, some Indigenous participants identified that trapping is occasionally practiced on Indigenous land around Chii Zhìt Van. Traditional trapping is typically for rabbit and lynx.

### **Harvesting Ice**

Ice harvesting was identified as a traditional activity in the Chii Zhìt Van area by one Indigenous participant, although it is not clear if this is a current practice. Snowmobiles are a preferred mode of transportation to travel to ice harvesting areas, as land users must often cross areas of open water to access suitable ice harvesting locations.

## **4.2.2 Recreational Activities**

Chii Zhìt Van is used recreationally by Indigenous cabin owners and users of the area. One Indigenous member shared that the Chii Zhìt Van area is mainly used for recreation (boating and swimming) rather than traditional activities. In the summer months, the lake is popular for boating and canoeing, particularly for those who own cabins along the lakeshore. Some participants noted that family members used to work at the airport and at the time used the area for family picnics. In the winter, many Indigenous community members enjoy spending time on the land by riding snowmobiles around the lake.

Non-Indigenous cabin owners also use Chii Zhìt Van for recreational activities. Chii Zhìt Van is used for water-based activities such as boating, water sports, and paddleboarding. Non-

Indigenous participants also engaged in recreational hunting, and recalled a few recent sightings of moose, wolf, caribou, and beaver in the Chii Zhìt Van area. They explained that they hunt for geese, ducks, and swans in the Chii Zhìt Van area, but that they do not engage in hunting as often as Indigenous land users in the region.

Both Indigenous and non-Indigenous participants identified swimming as a key recreational activity, although not everyone has the chance to swim in Chii Zhìt Van due to access challenges with more people using the area, lack of parking, low water levels, and water quality concerns. The Mackenzie River was identified as a more popular location for swimming in the region.

### **4.3. CONCERNS ABOUT CHII ZHÌT VAN AND SURROUNDING AREA**

Indigenous and non-Indigenous participants identified access, water quality, water levels, opportunities for hunting, safety, and land use planning and infrastructure as key concerns related to the Chii Zhìt Van area in general, and specific to the Project. A discussion of these concerns is provided below.

#### **4.3.1 Access to Chii Zhìt Van**

There are approximately five Gwich'in-owned cabins on the shores of Chii Zhìt Van. The cabins can be accessed by boat through Airport Lake Creek or by vehicle using the road to the boat launch. The boat launch road is the primary access point and is used to transport boats, canoes, and snowmobiles to the shore. One Indigenous participant explained that in recent years, use of the road has been limited due to harsh winter conditions and limited improvements to the road by the government. The community was informed that the access road will be maintained even after the airport expansion, but some members are concerned they will lose access because it is a private road. This is a concern as the Airport Lake Creek access is not reliable as water levels can be too low for safe boat travel, further discussed below.

Access to the lake can also be difficult due to the increased vehicle traffic on the boat launch road. While some participants say this is not a concern and that the airport area used to be busier than it is today, it was noted by most participants that the number of cabins has increased, as has the number of recreational users. At times people are not able to access their cabins from the boat launch because there are too many vehicles and there is no space for them to leave their vehicle parked and/or safely launch their boats in the water.

#### **4.3.2 Water Quality in Chii Zhìt Van**

Some participants expressed concerns with declining water quality in Chii Zhìt Van over the past few decades, while others explained the airport had no impact on water quality. The



lake is considered by some to be one of the more polluted lakes in the area, both from industrial contamination and household waste. Many people attribute the decline in water quality to the operation of the Inuvik Airport, and the introduction of contaminants to the lake and surrounding environment. Participants recalled changes in the appearance of the water in the decades following the construction of the airport (i.e., oily sheen, greenish- or brownish-coloured water). One participant shared observations about the changes in the colour of the water, and expressed concern for how the airport drainage may continue to degrade water quality:

*I see that water is a little different colour than what it used to be. I thought it was a lot more clear than that... Everything else is changing in the Delta. But just yeah you know, what's going to happen with that extension of the airport? And I sort of wonder about that. Especially that de-icing stuff. You know? Where does that go?*

Indigenous Participant

Concern about poor water quality also impacts the opportunity to swim in the lake. One Indigenous participant expressed that Chii Zhìt Van is one of the only places where local youth can swim in the summer months, yet the poor water quality is a safety concern. A survey participant similarly voiced concerns about water quality and the safety of swimming or fishing in the lake, and expressed interest in receiving the results of water quality monitoring post-airport expansion:

*Yes, I'm concerned about water quality and whether I should be swimming, fishing, or getting wash water from the lake. I would like to know whether water samples have been taken prior to the airport project ramping up and what post monitoring of water quality will look like.*

Non-Indigenous Participant

Alternatively, some participants recognized that the drainage upgrades could improve water quality. Before the upgrades, water entered the lake in an unregulated manner, bringing debris and contaminants. The improved drainage system is expected to regulate water flow more effectively, reducing the amount of debris entering the lake and significantly enhancing water quality.

#### **4.3.3 Water Levels at Chii Zhìt Van**

A decline in the water levels over the last decade at Chii Zhìt Van is a key concern among some Indigenous participants. Low water levels make it difficult to navigate a boat along the narrow channels in the lake, especially when entering the lake via Airport Lake Creek. Only small aluminum boats can fit in the channels. As the lake recedes from where the shoreline

was a few years ago, there is more exposed land surrounding the cabins at Chii Zhìt Van. Participants explained that water levels were historically low in 2023, and 2024 is the second year of an extreme drought in the region so it is anticipated to be another year of low water levels. A non-Indigenous participant explained that low water levels are thought to be related to climate change, including heat dome events and rising air temperatures. Another participant explained that the lower water levels cause issues for launching boats into Chii Zhìt Van:

*I usually bring our boat to the boat launch in the fall. But it gets tricky in there. And apparently last year the creek was so low that it was all mud except for, literally, a little ditch in the middle. So, I can't imagine what's going to happen this year because... Nothing's replenishing the Mackenzie from the south.*

Non-Indigenous Participant

#### 4.3.4 Hunting Opportunities

Participants expressed concerns about how the airport may reduce hunting opportunities in the region due to the activity and noise related to the runway, and that this issue may become more pronounced when the airport expands. In general, community members have noticed fewer animals, especially caribou, leading to fewer hunting opportunities. Increased noise and sensory disturbances from airport operations and air traffic are also thought to cause wildlife to move away in search of quieter habitat. One non-Indigenous participant described the intensity of the noise pollution associated with current airport operations, which he believes is a key factor in the declining observations of caribou and other wildlife:

*Just the noise is part of disturbing the habitat, right? So, I think that would be it. 'Cause it is a very busy airport for how remote we are. And it will, I guess, it sounds like it's going to be far busier. The jets really do, not just the daily jets but the fighter aircraft that do their summertime stuff here. It's deafening in that area. So that will drive all your caribou away. I don't think we're going to have anything [any caribou] in that area come around given the noise and the helicopter traffic and so on. It's just a busy area.*

Non-Indigenous Participant

Another participant expressed that there are few animals available for hunting in the Chii Zhìt Van area, particularly boreal caribou:

*Not allowed to hunt because part of it [Chii Zhìt Van] is in the municipal boundary. And there's nothing there to hunt, that's the big thing. So we don't have caribou, like, boreal caribou aren't seen because of the airport. The airport scares off the boreal caribou. You will see them on the other side of the airport and more towards the Sitidgi, Campbell Lake kind of channels, that link the two large lakes together. Right at the corner where the highway kind of bends. There's natural waterways there. So you'll start to see caribou on the other side of those hills and around that...*

Non-Indigenous Participant

#### 4.3.5 Safety on and Around Chii Zhìt Van

Noise and development activities were also identified as disturbances and safety concerns, especially truck traffic and blasting activities at a quarry adjacent to the boat launch road. There is potential for such incidents to cause severe injury to cabin owners, residents, or users of the area. As explained by one non-Indigenous participant, one blasting event triggered a large rock fall from a cliff and caused damage to a parked car:

*Right now, what impacts the cabin owners is that there's a little more noise. 24 hours a day those trucks are going back and forth, right? It's a non-stop operation so you'll see them just driving along, 2/3 in the morning, still going. It's not very loud, once in a while you hear a big bang, probably a rock falling or something like that... I think somebody parked, a friend of ours, parked down at the bottom and a rock fell and dented their... the top of their... totalled their car.*

Non-Indigenous Participant

Another safety concern raised was around wildlife encounters, specifically bears. Cabins around Chii Zhìt Van are increasingly attracting bears and bear break-ins, creating significant safety concerns. Improper waste disposal and the lack of secure food storage may be factors drawing bears into the area. This attraction to human habitation not only endangers residents and visitors but also poses risks to the bears themselves. Participants spoke of a spike in this type of activity with more than six bear break-ins last year alone.

#### 4.3.6 Land Use Planning and Infrastructure

The current approach to cabin planning around Chii Zhìt Van has generally been haphazard and unregulated. Participants have expressed that this unstructured development has resulted in inefficient resource use and significant environmental degradation. Additionally, the lack of adequate systems for disposing of human and household waste poses a major concern, as improper disposal methods can lead to soil and water contamination, posing serious health risks and negatively impacting local wildlife. Burned cabins add to the environmental hazards and safety risks; their debris often contains hazardous materials, attracts pests, and creates an unsightly landscape. Some participants suggest that organizing

cleanup efforts and enforcing regulations requiring property owners to address burned structures are necessary steps to mitigate these risks. Furthermore, despite the existing moratorium on cabin construction, a lack of enforcement and monitoring has led to continued unregulated development, straining the lake's resources and exacerbating environmental issues.

## **5. RECOMMENDATIONS**

Participants brought forward a few recommendations for improving the natural and social environment around Chii Zhìt Van. The following recommendations may represent the views of individual participants and not necessarily the consensus of all participants. They include (1) water quality monitoring at Chii Zhìt Van; (2) improving communication and transparency regarding airport operations and expansions; (3) making improvements to recreation facilities at Chii Zhìt Van; (4) maintaining access to the boat launch road, and; (5) waste regulation and monitoring.

### **5.1 Water Quality Monitoring at Chii Zhìt Van**

Cabin owners and users of the area explained that more rigorous water testing and water quality tracking for Chii Zhìt Van would be beneficial. Cabin owners also expressed interest in better understanding the impacts of the airport to the surrounding environment. For example, one non-Indigenous survey participant expressed interest in receiving information about spill contingency planning and reporting related to airport operations and construction. This participant also suggested that testing for acid rock drainage should be undertaken around the new drainage ditches to ensure that contaminated materials do not enter Chii Zhìt Van.

### **5.2 Improve Communication and Transparency Regarding Airport Operations and Expansions**

Participants recommended that communication and transparency about the airport operations be improved between the Inuvik Airport authority and the local Chii Zhìt Van community. For instance, participants suggested the use of a dedicated social media page (e.g., Facebook page) or a website to provide environmental monitoring information or project-related updates to both GTC and cabin owners or users of the area. Participants also expressed interest in having improved signage about airport expansion activities for the benefit of cabin owners and community members.

### **5.3 Consider improvements to recreation facilities at Chii Zhìt Van**

Some participants recommended that improvements should be made to the existing recreation facilities at Chii Zhìt Van boat launch. This might include the creation of a

dedicated recreational area on the lake shore, with a new boat launch and picnic area. Participants also identified that changes to the existing parking area could be made for vehicles using the boat launch to make the lake more accessible in the summer when there are many users from Inuvik. Such improvements could enhance the ability of Indigenous and non-Indigenous land users to enjoy time at the lake and have more ease of access with boating or recreating in the area. Participants expressed that with climate change and hotter summers, swimming is a really important activity for Inuvik residents.

#### **5.4 Maintain access to the boat launch road**

Participants emphasized the importance of maintaining access to Chii Zhìt Van via the boat launch road. Although the road to the boat launch is private, cabin owners and users of the area rely on the boat launch to reach their cabins via boat and snowmobile, particularly when water levels are low and access from the east channel of the Mackenzie River becomes difficult. Ensuring continued access through the boat launch is crucial for the accessibility to the cabins around the lake, and also for recreational users coming to the lakeshore to swim.

#### **5.5 Waste regulation and monitoring**

The current approach to land use planning and to enforcing regulations could be improved. Implementing proper waste disposal systems and community education on waste disposal are essential to mitigate associated risks. Organizing cleanup efforts and enforcing regulations requiring property owners to clean up burned structures and other debris are important steps towards protecting the area. Additionally, strengthening enforcement mechanisms, such as increasing monitoring and patrols, would help ensure compliance with land use policies and promote sustainable development.

### **6. CONCLUSIONS**

The purpose of this TLU Review memo was to provide an overview of the historical and contemporary land use patterns in the Chii Zhìt Van area, and identify community concerns about Chii Zhìt Van and surrounding area. In particular, this review sought to understand how Indigenous and non-Indigenous participants use the Chii Zhìt Van area for traditional, cultural and/or recreational purposes and to identify concerns about the airport in relation to their use of Chii Zhìt Van.

Chii Zhìt Van is a well-used area for Indigenous and non-Indigenous cabin owners and users to practice traditional and recreational land-use activities. Indigenous participants identified hunting, fishing, trapping, plant gathering, harvesting ice, and travelling by boat or snowmobile as key traditional land use activities in the Chii Zhìt Van area, while non-

Indigenous participants identified hunting and fishing as recreational activities, as well as swimming, boating, waterskiing, and paddleboarding.

The study participants identified a few concerns related to how the airport expansion may impact traditional, cultural, and/or recreational land uses in the Chii Zhìt Van area. Key areas of concern include access, water quality, water levels, opportunities for hunting, personal safety, and land use planning and infrastructure.

Recommendations for addressing concerns were identified by participants, including water quality monitoring at Chii Zhìt Van, improving communication and transparency regarding updates about airport operations and expansion, access, making improvements to recreation facilities at Chii Zhìt Van, and regulation and monitoring.

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## **APPENDIX A — INTERVIEW GUIDE**



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## Inuvik - Traditional Land Use Review for the Inuvik Airport Drainage Upgrades Project

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### 1.0 Introduction

Read the following points of text before every recorded interview session for record-keeping purposes, in accordance with the Gwich'in Traditional Knowledge Policy.

Today is \_\_\_\_\_, 2024.

My name is \_\_\_\_\_ and I work for Integral Ecology Group. We are conducting interviews for a Traditional Land Use Review for the Inuvik Airport Drainage Upgrades Project on behalf of the Government of Northwest Territories (GNWT) – Department of Infrastructure. We have entered into a research agreement with the Gwich'in Tribal Council – Department of Culture & Heritage (DCH) to conduct these interviews.

This interview is with \_\_\_\_ Participant's name(s)\_\_\_\_ Participant affiliation \_\_\_\_.

The interviewee is from the community of \_\_\_\_\_.

The interviews are taking place in the community of \_\_\_\_\_.

The ID # for this interview is \_\_\_\_\_.

This interview is being recorded using audio/video \_\_\_\_\_. Interview recordings will be transcribed. The files will be stored with the GTC – (DCH) and your individual transcript will be available to you upon project completion.

You will be compensated for participating in this interview by GNWT in the amount of \$150. This will be given to you as a Prepaid Visa Card.

Address the following points prior to beginning the interview questions below:

This interview is for a Traditional Land Use Review being conducted on behalf of the GNWT – INF. The review is a requirement of the GNWT Water Licence issued by the Gwich'in Land and Water Board (GLWB) for construction of new drainage ditches for the runway expansion at the Inuvik Airport.

The purpose of this research is to document the current traditional uses by Gwich'in participants and other land users in the area of Airport Lake (Chii Zhìt Van), and how the Project may impact traditional use.

During this interview we would like to ask you about some of the ways that you and members of your family and your community use this area today and how you used it in the past.

We would also like to ask you about some of the challenges you face when accessing and using the area, and concerns you may have with being able to access the area in the future.

The information you and others provide will be reviewed by IEG and used to produce a written summary (TLU memo), with an overview of TLU activities in the Project area, quotations from members, and a digital land use map.

#### Biographical questions

- What are the full names of those being interviewed?
- Where were they born and on what date? How old are they?
- What is your mother's full name? Your father's full name?
- Where were they from originally?

#### Habitation sites

In this section we are interested in knowing about any places in or around the study area<sup>1</sup> that you have camped or stayed overnight/do you have a cabin on Airport Lake. We will also ask about members of your family and community.

- Are there any places around the study area where you (or members of your family or community) have spent the night?
- Was it a house, cabin, or tent?
- Who stayed there?
- When did you (or others) live/stay there and for how long?
- What year was it built?
- Who built it?
- What did you (or others) do there?
- If you (or members of your family or community) don't stay there anymore, why did you (and/or others) stop using the place?

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<sup>1</sup> 'Study area' is used to represent Airport Lake and surrounding area, a local or regional study area has not been pre-determined for this review.

- Have the activities that you do there changed over time? Why and how have they changed?

#### Cultural/spiritual sites, trails and place names

In this section we are interested in knowing about places in or near to the study area that are special for cultural or spiritual reasons. We will also ask about members of your family and community.

- Do you know of any gathering (meeting) places or village sites where Gwich'in people would get together?
- Why would they get together?
- Who would gather there, and at what time of year?
- When was the last time people went there?
- (FIRST ask if people are comfortable talking about grave sites). Do you know of any burial sites where members of your family or other people are buried?
- When were the people buried there?
- Who were they?
- Are there any places that you or others have gone to for ceremonies? (we are using ceremonies to represent something with traditional, sacred or cultural importance) When was the place used?
- Have you heard of places that are important for spiritual reasons?
- Have you heard of other places from traditional stories, legends, or that are associated with local history that are close to the proposed Project?
- Are there any other places in the area that are special because of place names?
- Are there any roads and trails, or water transportation corridors into or through the area?
- When were these last used?
- Do people access the area now? If so, how?

#### Hunting

In this section we are interested in knowing about places in or near to the study area where you've hunted and killed big and/or small game for food or for your family's or your community's own use. We will also ask about members of your family and community.

- Are there areas in or near the study area where you have hunted animals (big or small animals and birds) for food or other uses?
- When did people hunt there?
- What types of animals?
- If you (or members of your family or community) do not hunt in these areas anymore, why did you (and/or others) stop hunting in these areas?

- When do you hunt? (all year or certain seasons)
- Have you gathered wild eggs in or around the study area? What types?
- Has hunting in this area changed over time? Why and how has it changed?

### Fishing

In this section we are interested in knowing about places in or near to the study area where you've fished for your family's or your community's own use. We will also ask about members of your family and community.

- Are there areas in or near the study area where you have fished? What kinds of fish did you catch?
- If you (or members of your family or community) do not fish in these areas anymore, why did you (and/or others) stop fishing in these areas?
- When do you fish? (all year or certain seasons)
- What methods of fishing do you use (eg. net under the ice...)
- Has fishing in this area changed over time? Why and how has it changed?

### Trapping

In this section we are interested in knowing about places in or near to the study area where you've trapped for your family's or your community's own use. We will also ask about members of your family and community.

- Have you (or members of your family or community) ever trapped in the study area? What did you trap for?  
If you (or members of your family or community) do not trap in these areas anymore, why did you (and/or others) stop trapping in these areas?  
Has trapping in this area changed over time? Why and how has it changed?

### Plant and mineral gathering

In this section we are interested in knowing about places in or near to the study area that people have used for gathering food and medicinal plants. We will also ask about members of your family and community.

- Are there any places where you have gone to collect berries?
- What kind of berries were collected?
- What time of year do you get them?
- When did you last go there?
- If you (or members of your family or community) do not collect berries in these areas anymore, why did you (and/or others) stop collecting berries in these areas?
- Has collecting berries in this area changed over time? Why and how has it changed?

- Repeat the above three questions for:
  - other food plants
  - medicinal plants
  - minerals (e.g., salt, paints, flint)
- Are there any places where you have collected materials from trees? What kinds of tree?
- Do you know of any mineral licks used by moose and/or other animals?

#### Resource processing

In this section we are interested in knowing about places in or near to the study area that people have used for preserving resources. We will also ask about members of your family and community.

- Are there places in or around the study area that have been used for preserving food or preparing hides?
- Smoking or drying fish?
- Drying meat?
- Drying berries?
- Scraping or preparing hides?
- Have these sites been used in the past 15 years or longer ago?
- If you (or members of your family or community) do not preserve food in these areas anymore, why did you (and/or others) stop preserving food in these areas?
- Are there any drying racks or other structures at this site?
- Has preserving food in these areas changed over time? Why and how has it changed?

#### Water

In this section we are interested in knowing about places in or near to the study area that people have used for collecting water. We will also ask about members of your family and community.

- Are there places in or around the study area that have been used for collecting water, including from special springs?
- Why is the water in these areas special to you?
- Are you aware of how the surface and groundwater flows across the study area?
- Has the water in these areas changed over time? Why and how has it changed?
- How does water influence how you use the land? Has it changed over the years?

#### Specific use and impact related to the Inuvik airport

In this section we are interested in knowing about what the environment was like around the Inuvik airport prior to construction and how the development of the airport has affected you.

- What was the environment like around the Inuvik airport before it was constructed?
- How has the development of the airport affected you?
- Have you seen changes in the area that you think are a result of the airport?
- Do you think there will be any changes to water and water flow under the water licence?
- Do changes to the area impact your use of the area?
- Are there any mitigations that you think would be useful in relation to the airport in general and/or the new airport drainage upgrades?

## **APPENDIX B — INFORMATION POSTER**

# INFORMATION SESSION

## Inuvik Airport Traditional Land Use Review

WE WANT

TO HEAR

FROM YOU

Airport Lake / Chii Zhit Van

### What:

The Government of Northwest Territories wants to hear from Gwich'in participants and other land users to document how they use the airport area (in particular Airport Lake and surrounding area) for cultural purposes and how the Inuvik Airport drainage upgrades may impact their Traditional Use.

### Why:

The information will be used to document Gwich'in traditional uses of the lake area, and to inform a Traditional Land Use review for the drainage upgrades at the Inuvik airport.

### Where:

Cultural Room,  
Nihtat Gwich'in Council Building, Inuvik

### When:

**Monday, May 13, 6:00-9:00 pm**

**For more information please contact:**

**Kristi Benson:**  
**Gwich'in Tribal Council**  
780-288-7561,  
kbenson@gwichin.nt.ca  
and/or

**Project Support Erika Bockstael:**  
**Integral Ecology Group**  
204-781-0773,  
eboxstael@iegconsulting.com



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## **APPENDIX C — SURVEY QUESTIONS**



## Inuvik - Traditional Land Use Review for the Inuvik Airport Drainage Upgrades Project

This survey is for a Traditional Land Use Review being conducted on behalf of the Government of Northwest Territories. The review is a requirement of the GNWT Water Licence issued by the Gwich'in Land and Water Board (GLWB) for construction of new drainage ditches for the runway expansion at the Inuvik Airport. The purpose of this research is to document the current traditional uses by Gwich'in participants and other land users in the area of Airport Lake, and how the Project may impact traditional use. The information you and others provide will be reviewed by Integral Ecology Group and used to produce a written summary with an overview of Traditional Land Use activities in Airport Lake and surrounding area. Your name will not be included in the final report, all results will be anonymous unless otherwise requested by participants.

Thank you for your participation and for sharing your valuable time and feedback. For more information, please contact Erika Bockstael using the contact information below.

Erika Bockstael  
Social Scientist  
Integral Ecology Group Direct: 204781-0773  
Email: [ebockstael@iegconsulting.com](mailto:ebockstael@iegconsulting.com)

- 
1. All information that you provide on this survey will be anonymous, but if you are willing it would be helpful to know whether you are a senior/Elder, adult, or youth.

- ☐ Senior/Elder
- ☐ Adult
- ☐ Youth

2. How would you describe your gender identity?

- ☐ Male
- ☐ Female
- ☐ Non-binary or gender fluid or diverse
- ☐ Two-spirit
- ☐ Other (please specify)
- ☐ Prefer not to say

3. Do you identify yourself as Gwich'in?

- ☐ Yes
- ☐ No

4. Do you or a family member own a cabin on Airport Lake/Chii Zhit Van?

- ☐ Yes
- ☐ No

5. What are some of the main activities that you practice at or around Airport Lake/Chii Zhit Van?  
Please select all that apply.

- ☐ Fishing
- ☐ Hunting
- ☐ Trapping or snaring
- ☐ Plant gathering (for food and/or medicine)
- ☐ Camping
- ☐ Spiritual/cultural activities
- ☐ Other (Please specify) \_\_\_\_\_

6. Do you or a family member own a cabin on Airport Lake/Chii Zhit Van?

- ☐ Yes
- ☐ No

7. Please list the animals that you prefer to hunt to eat:

8. Please list the types of fish that you prefer to catch to eat:

9. Please list the plant species that you prefer to harvest for food and/or medicine:

10. Did you or your family members visit and or use the Airport Lake/Chii Zhit Van area in the past, before the airport was constructed?

- ☐ Yes
- ☐ No

In this section we are interested in knowing about what the environment was like around the Inuvik airport prior to construction and how the development of the airport has affected you.

1. What was the environment like around the Inuvik airport before it was constructed?

2. How has the development of the airport affected you?

3. Have you seen changes in the area that you think are a result of the airport? If yes, please describe.

4. Do you think there will be any changes to water and water flow with the drainage upgrades to the airport (under the water license)?

5. Do changes to these areas impact your use of the area? If yes, please describe.

6. Are there any mitigations that you think would be useful in relation to the airport in general and/or the new airport drainage upgrades?