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Nunavut Nukkiqsautiit Corporation

Investigative Studies for the Iqaluit
Nukkiqsautiit Project: 2025 Annual Report

Version: 1.0

Date: March 31, 2026

Investigative Studies for the Iqaluit Nukkiqsautiit Project 2025 Annual Report

Prepared for:

Nunavut Impact Review Board
Crown-Indigenous Relations and Northern Affairs Canada

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Executive Summary

The Iqaluit Nukkiksautiit Project (INP) is an Inuit-led renewable energy initiative being advanced by Nunavut Nukkiksautiit Corporation (NNC) to reduce Iqaluit’s reliance on diesel-generated electricity and improve long-term energy security through waterpower generation, with the potential integration of wind energy. The Project includes a proposed hydroelectric facility, transmission line, and associated infrastructure located approximately 55 km northeast of Iqaluit on Baffin Island.

The Project is currently in the early planning phase, with environmental and technical baseline studies initiated in 2024, and continuing through 2026, to support project design and the preparation of an Environmental Impact Statement (EIS). These investigative studies are strictly for information gathering and do not authorize construction. The results will inform future regulatory processes, including conformity review, screening, and impact assessment requirements.

During the summer and fall of 2025, baseline field programs focused on terrestrial ecosystems, wildlife, and aquatic environments. Due to timing constraints, some studies were reconnaissance in nature and intended to guide more detailed programs in 2026. Wildlife studies included the installation of a network of 38 remote wildlife cameras across the Project area to monitor species presence and movement, as well as the completion of 29 wildlife transects to document habitat use. A total of 19 wildlife species were identified, including barren-ground caribou, Arctic fox, and a variety of bird species. Caribou were the most frequently detected species, observed on 28 days during a 31-day monitoring period, providing early insight into wildlife distribution within the study area. Preliminary ecosystem classification confirmed a diverse range of Arctic tundra, wetland, and fluvial environments representative of the region. However, given that surveys were conducted outside optimal seasonal windows for certain species and vegetation, additional data collection will be required to support comprehensive baseline characterization.

Aquatic studies conducted in 2025 included reconnaissance surveys along approximately 100 km of river downstream of the proposed reservoir, as well as localized drone surveys and opportunistic fish sampling. Habitat in the downstream reach was characterized primarily by riffles and coarse substrates, with two chutes identified as potential partial or seasonal barriers to fish migration. A total of 28 Arctic char were captured within authorized limits for laboratory analysis, including assessment of mercury concentrations, stable isotope ratios, and age and growth characteristics. These findings confirm the presence of fish and suitable habitat while

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highlighting the need for further study to better understand fish movement and potential project interactions.

The Project is currently authorized for investigative studies under several permits and licences, including land use, water use, wildlife research, and scientific research approvals. NNC is continuing to pursue additional regulatory approvals to support future field programs and project advancement.

Engagement remains a central component of the Project and is guided by Inuit leadership, transparency, and ongoing collaboration. Throughout 2025, NNC conducted extensive engagement with Inuit organizations, rightsholders, and communities in Iqaluit and Panniqtuuq through public meetings, workshops, school outreach, and regular project updates. Site visits and weekly field communications were also carried out to ensure ongoing information sharing. Feedback received to date has emphasized the importance of addressing potential environmental effects, protecting wildlife and traditional land use, improving communication, and ensuring that local communities benefit from employment and economic opportunities associated with the Project. Initial discussions regarding an Impact and Benefit Agreement have also commenced.

Field programs will continue in 2026 with expanded and seasonally optimized studies to address data gaps identified in 2025. Engagement activities will also continue, with a focus on sharing study results, supporting local participation, and refining project planning. Overall, the 2025 investigative studies provide a strong foundation for understanding existing environmental conditions and advancing the Project through the regulatory process while maintaining meaningful collaboration with Inuit communities and stakeholders.



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Acronyms & Abbreviations

| | |
|---------|--|
| AGM | Annual General Meeting |
| CIRNAC | Crown-Indigenous Relations and Northern Affairs Canada |
| CLARC | Community Land and Resource Committee |
| COSEWIC | Committee on the Status of Endangered Wildlife in Canada |
| DFO | Fisheries and Oceans Canada |
| ECCC | Environment and Climate Change Canada |
| ETIAS | Environmental Impact Assessment Statement |
| EIS | Environmental Impact Statement |
| ELC | Ecological Land Classification |
| EOI | Expression of Interest |
| EPP | Environmental Protection Plan |
| ESRI | Environmental Systems Research Institute |
| GN | Government of Nunavut |
| GN CGS | Government of Nunavut Community and Government Services |
| GN DCH | Government of Nunavut Department of Culture and Heritage |
| GPS | Global Positioning System |
| HTA/HTO | Hunters and Trappers Association/Organization |
| IIBA | Inuit Impact and Benefit Agreement |



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|----------------|---|
| INP | Iqaluit Nukkiksautiit Project |
| IQ | Inuit Qaujimagatuqangit |
| km | kilometer |
| LSA | Local Study Area |
| m ³ | Cubic meter |
| m | meter |
| MW | megawatt |
| NAD83 | North American Datum 1983 |
| NIRB | Nunavut Impact Review Board |
| NNC | Nunavut Nukkiksautiit Corporation |
| NPC | Nunavut Planning Commission |
| NTI | Nunavut Tunngavik Incorporated |
| NU | Nunavut |
| NWB | Nunavut Water Board |
| QEC | Qulliq Energy Corporation |
| QIA | Qikiqtani Inuit Association |
| RSA | Regional Study Area |
| SAR | Species at Risk |
| SARA | Species at Risk Act |
| SPRP | Spill Prevention and Response Plan |
| SSES | Sea to Sky Energy Solutions |
| TC | Transport Canada |
| TSS | total suspended solids |
| UAV | Unmanned Aerial Vehicle |
| VEC | Valued Environmental Components |
| VHF | Very High Frequency (radio) |
| VSEC | Valued Socio-Economic Components |
| WMMP | Wildlife Mitigation and Monitoring Plan |
| WMP | Waste Management Plan |



1.0 Introduction

The Iqaluit Nukkiksautiit Project (INP or ‘the Project’) is an Inuit-led renewable energy project being advanced by Nunavut Nukkiksautiit Corporation (NNC), a 100% Inuit-owned organization. The Project reflects a long-standing vision of Qikiqtani Inuit to reduce reliance on diesel-generated electricity and transition toward locally driven, renewable energy solutions. Specifically, the INP seeks to provide long-term energy security and environmental benefits to Iqaluit through waterpower generation, with the potential integration of wind energy.

This Project features a hydroelectric dam, powerhouse, road, and transmission line from the powerhouse to Iqaluit, with a capacity of 15 - 30 megawatts (MW). The Project is located on the Hall Peninsula, Baffin Island and includes a small unnamed lake which is located within the Kuugaaluk River system, approximately 55 kilometers (km) northeast of Iqaluit, as well as areas between unnamed lake and Iqaluit where the transmission line is proposed. It is envisioned to operate 12 months per year and will substantially reduce the dependency of Iqaluit on diesel power.

The Project is currently in the early planning and study phase. Environmental and technical field programs began in fall 2024 and are required to continue through 2026 to support Project design and the preparation of an Environmental Impact Statement (EIS). These studies are strictly for information gathering and do not authorize construction of the hydropower project. The results will help determine whether a full project can proceed and will support future Nunavut Planning Commission (NPC) conformity reviews, Nunavut Impact Review Board (NIRB) screening, and Environmental Impact Statement (EIS) requirements, pursuant to Article 12, Sections 12.4.1 and 12.4.4 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement)* and Section 87 of the *Nunavut Planning and Project Assessment Act (NuPPAA)*.

The NNC has contracted a team of consultants including Dillon Consulting Limited (Dillon), EcoLogic Consultants Ltd. (EcoLogic), Sikumiut Environmental Management Limited (SEM), Tetra Tech, and Sea to Sky Energy Solutions (SSES), whose combined expertise in environment, engineering, regulation, and will support the NNC in delivering this Project. Community engagement activities are being solely led by NNC.

In summer and early fall 2025, baseline environmental studies were conducted to document current conditions and guide future assessments. This report highlights the key activities and findings from the 2025 wildlife, ecosystem, and aquatics field programs.



1.1 Regulatory Context

The INP is currently permitted for investigative studies. Authorizations have been issued for water use, to operate a field camp, and to conduct research. The list of permitted activities is provided in Table 1. NNC is in the process of submitting new applications for permits, licences, approvals, authorizations, or agreements as required ahead of the 2026 construction season. Tables of concordance demonstrating adherence to approval conditions are provided in Section 7.

Table 1: List of Approved Activities for the Project

| Authorization/Agency | Permit Number | Issued | Expiry | Scope of Activities |
|---|---------------|------------|------------|--|
| Land Use Conformity Determination (Nunavut Planning Commission) | 150770 | 2025-04-15 | n/a | Conformity determination for environmental investigative studies |
| Screening (Nunavut Impact Review Board) | 25YN033 | 2025-07-08 | n/a | Screening determination |
| Class A Land Use Permit (Crown Indigenous Relations and Northern Affairs) | N2025N0016 | 2025-08-12 | 2030-08-11 | Field camp |
| Scientific Research Licence (Nunavut Research Institute) | 01 032 25N-A | 2025-07-28 | 2025-12-31 | Collection of environmental baseline data |
| | 01 043 25R-M | 2025-10-30 | 2025-12-31 | Collection of environmental baseline data (hydro modelling) |
| Water Licence (Nunavut Water Board) | 8WLC-INP2526 | 2025-07-16 | 2026-07-15 | 1 m ³ /day |
| Wildlife Research Permit (GN Department of Environment) | 2025-046 | 2025-06-15 | 2025-09-15 | Assessment of existing wildlife populations and habitats in and around the proposed Project area |
| Class 1 Archaeology and Paleontology Permit (GN Department of Culture and Heritage) | 2025-11A | 2025-06-04 | 2025-10-31 | Assessment of archaeology and paleontology findings in and around the proposed Project area |



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2.0 Engagement Activities

The following sections outline the engagement approach and activities undertaken for the Project, including a summary of engagement conducted to date and planned future activities. A detailed Consultation Summary for the Project can be found in Appendix F.

2.1 Engagement Planning and Objectives

Engagement for the INP is guided by Inuit leadership, transparency, and ongoing dialogue. NNC applies a “Phase Gate” engagement model, where Inuit rightsholders, community members, and technical partners participate in decision-making at each project milestone (NNC, 2025a). A core principle of this model is meaningful Inuit participation including employment, training, and leadership throughout all stages of the Project.

The Project’s primary objective is to create long-term benefits for Iqalungmiut and the broader Qikiqtani region by focusing on the following key areas:

1. Community Engagement & Inuit Involvement
2. Waterpower Facility Development
3. Infrastructure Development & Improvement
4. Cultural Heritage & Education
5. Environmental Sustainability
6. Economic Development & Job Creation
7. Capacity Building & Workforce Development

NNC uses a year-round engagement cycle with a goal of sharing information regularly and allowing for feedback from Panniqtuumiut, Iqalungmiut and Rightsholders.

2.2 2025 Engagement Activities

Engagement and consultation activities undertaken to date are included in the following table.



Table 2: Historic Major Consultation Activities

| Date | Audience | Discussion Topic | Outcome |
|-------------------------------------|--|---|--|
| December 2021 | Iqaluit CLARC | Introduction to Renewable Energy and Waterpower | 6+ Attendees, General Interest in Renewable Energy + particular interest in impacts/benefits |
| October 2022 | Iqaluit, Panniqtuuq, Kimmirut Rightsholders, Nunavut Regulatory Bodies, Nunavut Stakeholders | Formal Notification of the Commencement of Early-Stage Feasibility Studies | Letters sent from QIA and NNC to Rightsholding Organizations, stakeholders, and Regulatory Bodies to notify them of the Project |
| December 2022 – January 2023 | Elders and Hunters in Iqaluit | Tusaqtavut Interviews – Inuit land-use around Iqaluit | 48 Participants, Firelight authored a 200+ page Report titled: Qikiqtani Inuit Association’s Tusaqtavut Study specific to Nunavut Nukkiksautiit Corporation’s Potential Renewable Energy Development. Included is a geo-referenced array of mapped Inuit land-use practices around Iqaluit was produced, giving a sense of density (spatial) and frequency (temporal) of Inuit land-use. |
| June 2023 | Iqaluit Rightsholders | Renewable Energy 101 at Formal Consultation Meeting | 10+ Attendees, General Interest in Renewable Energy |
| June 2023 | Iqaluit Public | Renewable Energy 101 at Formal Consultation Meeting | 40+ Attendees, General Interest in Renewable Energy |
| November 2023 | Iqaluit Rightsholders | Presentation of 16 Options + Vote at Formal Consultation Meeting | 10+ Attendees, Votes Received |
| November 2023 | Iqaluit Public | Presentation of 16 Options + Vote at Formal Consultation Meeting | 50+ Attendees, Votes Received |
| November 2023 | Inuksuk High School | Presentation of 16 Options + Vote at Formal Class | 30+ Attendees, Votes Received |
| November 2023 | Nunavut Arctic College | Presentation of 16 Options + Vote at Through Environmental Tech Instructor | Votes Received |
| November + December 2023 | Iqaluit Public | Presentation of 16 Options + Vote at Informal Sessions held at Iqaluit Museum | 20+ People Stopped by Votes Received |



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| Date | Audience | Discussion Topic | Outcome |
|--------------|--|--|---|
| | | 4x | |
| March 2024 | QIA Board | Presentation of Results of Vote + Request for Motion to Support Proceeding to Phase 3 | Motion Approved to Support Advancing to Phase 3 |
| March 2024 | Inuksuk High School Students | Presentation for World Water Week | 50+ Attendees; provided an overview of the importance of waterpower and renewable energy more broadly in mitigating the impacts of climate change |
| July 2024 | Iqaluit Rightsholders | Lessons Learned from Inukjuak Hydro – Site Visit | Representatives from QIA, Amaruq HTA, Youth, QC, Participated in Site Visit to Inukjuak to Learn about Community-Scale Hydro from Inuit in Inukjuak |
| January 2025 | Amaruq HTA | Project Update + Road Routing Workshop | Board Attended, Feedback Received on How to Improve Communication on Project Moving Forward, Board Raised Concerns on Potential Environmental Impacts if Project were to be Constructed (Phase 5) |
| January 2025 | Iqaluit Rightsholders | Project Update + Question on Goals (Electrical, Electrical + Thermal, or Electrical + Industrial) at Formal Consultation Meeting | 15+ Attendees, Feedback Received on Interest to Explore all Options, though Potential Environmental Impacts Must be Identified + Mitigated if the Project were to Proceed to Construction (Phase 5) |
| January 2025 | Iqaluit Public | Project Update + Question on Goals (Electrical, Electrical + Thermal, or Electrical + Industrial) at Formal Consultation Meeting | 65+ Attendees, Feedback Received on Interest to Explore all Options, though Potential Environmental Impacts Must be Identified + Mitigated if the Project were to Proceed (Phase 5) |
| January 2025 | Inuksuk High School Students | Project Update + Question on Goals (Electrical, Electrical + Thermal, or Electrical + Industrial) | 40+ Attendees, questions about hydro infrastructure, access road, and general support for the Project received |
| March 2025 | Rightsholders | Flyover of Project Site with Rightsholder + Federal Representatives | 12+ Attendees, Visual Representation of Project Location Provided from Air in Twin Otter |
| March 2025 | Panniqtuuq Community Lands and Resources | Project Update at Formal Consultation Meeting | 6+ Attendees, Feedback Received on How to Improve Communication on Project Moving Forward, Concerns Raised on |



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| Date | Audience | Discussion Topic | Outcome |
|-------------------|---------------------------|--|---|
| | Committee | | Potential Environmental Impacts if Project were to be Constructed (Phase 5), Benefits Need to be Better Clarified |
| March 2025 | Panniqtuuq Public | Project Update at Formal Consultation Meeting | 30+ Attendees, Feedback Received on How to Improve Communication on Project Moving Forward, Concerns Raised on Potential Environmental Impacts if Project were to be Constructed (Phase 5), Benefits Need to be Better Clarified |
| March 2025 | Amaruq HTA | Project Update at Annual General Meeting | 75+ Attendees, Feedback Received on General Interest for More Frequent Project Updates, Clarity on Current Status only being Studies was Helpful |
| March 2025 | GN Premier | Formal Meeting to Provide Project Updates | 3+ GN Premier’s Office Attendees; questions around the timeline for the project and opportunities to accelerate in alignment with political timelines (ie, shovel-ready within current government’s timeline) |
| May 2025 | Panniqtuuq HTO | Project Update at Formal Consultation Meeting + Co-development of field data collection programs | 10+ Attendees, Feedback received on data collection programs: in alignment with hunters’ priorities and major concerns. No changes or additions to the methodologies or study targets requested. Reiteration of concerns around potential environmental impacts, and the importance of protecting the commercial fishery and the lands and waters that Panniqtuumiut depend on and have frequented for generations. Acknowledgement received on the need for Nunavummiut to transition away from diesel and towards renewable energy. Requests for more information, data sharing, and notification of all job opportunities. |
| May 2025 | Panniqtuuq Hamlet Council | Project Update at Formal Consultation Meeting | 12+ attendees, General support for the field data collection programs, and providing more information. An expressed desire for youth to be involved in the field work and all opportunities connecting to the Project. Acknowledgement of misinformation on the Project to date, and the clarifications provided by NNC. |
| May 2025 | QIA Staff | Project Overview Presentation at Formal Meeting | 6+ attendees, good interest in the Project development process to date, many staff unaware of the details provided. Interest in more regular Project briefings available to QIA staff. |



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| Date | Audience | Discussion Topic | Outcome |
|-------------------------------|------------------------------------|---|--|
| May 2025 | Minister Responsible for QEC / QIA | Formal Meeting to provide Project Updates | 2x GN/QEC Attendees + 4x QIA Attendees; overview of project provided along with plans for 2025 field season; questions around GN/QEC role in Project, working relationship between GN/QEC and NNC. |
| June 2025 | Amaruq HTA | Project Update at Formal Consultation Meeting | 7+ attendees; shared the plans for the 2025 field season; questions asked around general project planning, impacts of the project if it were to proceed, ownership of the data collected in the field; requests for regular updates in the field season |
| August through September 2025 | Amaruq HTA + Panniqtuuq HTO | Weekly Project Updates sent via E-mail | Distribution of weekly updates from the aquatics, archaeology, terrestrial wildlife, and geophysical teams on the activities taking place at the temporary camp at Kuugaaluk and the surrounding study areas. Notification of scheduled and targeted helicopter fly times were provided. |
| September and October 2025 | Public | Social media Posting | Summaries of field data collection program activities from the summer, shared with photographs including contractors and Inuit guides. |
| September 2025 | Amaruq HTA | Coordination with Amaruq HTA for Field Site Visit | 5+ members of the Amaruq HTA visited the site at Kuugaaluk to make direct in-person observations near the river and the temporary camp. Participants were able to share their knowledge with their fellow board members and membership. |
| September 2025 | Amaruq HTA | Coordination with Amaruq HTA for Using Helicopter for Radio Tower Repairs | Repairs made to the VHF radio infrastructure, using the NNC-contracted helicopter. Amaruq HTA shared a social media post thanking NNC for their teamwork and support. |
| October 2025 | Panniqtuuq HTO | Informal Project Updates | 2+ participants; NNC staff member visited Panniqtuuq to connect with Hamlet and HTA leadership on scheduling meetings and advertising for the Inuit Advisory Committee. Feedback received on mounting community concerns about potential environmental impacts that stand unaddressed. |
| November 2025 | QIA | Formal Meeting to Kickoff IIBA Negotiations | 5+ attendees from QIA; review of the draft IIBA outline, review of Project's history and the needs previously identified around potential |



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|----------------------|--|--|--|
| | | | impacts and benefits in connection to other development sites, agreement on the need to hire community liaisons specifically for this Project, agreement on a potentially shorter negotiation timeline, given the collaborative nature of NNC and QIA relationship, agreement on a desire to customize and maximize benefits-sharing plans to meet the goals and needs of Iqalungmiut and Panniqtuumiut. |
| November 2025 | Amaruq HTA | Presentation at Special AGM (open to membership) reviewing High Level Field Season Results | 60+ attendees; overview of project provided along with high level results from 2025 field season; questions asked around impacts + benefits sharing, site selection process, and impacts to Panniqtuuq. |
| November 2025 | Panniqtuuq Hamlet Director of Infrastructure | Informal Project Updates | 3x detailed e-mails explaining the status of the project, intentions for 2026 field season, summary of the previous phases, engagement planning, 2025 field season work. |
| December 2025 | Nunavummiut | Nunatsiaq News Op-Ed | A letter written by QC and NNC CEO and President Harry Flaherty was published – clarity offered around what it does and does not mean for the Project to be named to the federal government’s Nation Building Projects List. |
| December 2025 | GN Premier Principal Secretary | Project Update for New Government | GN Premier Principal Secretary + 4x QIA attendees; overview of Project provided along with plans for 2026 field season + commercial agreement negotiations with QEC |
| December 2025 | NTI | Monthly Meetings with NU-Identified Projects of National Importance | Commencement of Monthly Meetings with 4x Projects of National Importance in Nunavut identified by GN/NTI |



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2.3 Future Engagements

NNC understands that it is critical to maintain ongoing engagement with all stakeholders potentially affected by this Project. The following engagement activities are planned for the upcoming year.

- **March 2026:** NNC staff will visit Iqaluit to complete the following activities
 - Meet with Iqaluit key stakeholders and the public to share information from Year 1 Investigative Studies.
- **April 2026:** NNC staff will visit Panniqtuuq to complete the following activities
 - Meet with Panniqtuuq Hamlet Council and HTO to share information from Year 1 Investigative Studies.
 - Meet with Panniqtuuq Contractors Engagement and present an Expression of Interest (EOI) for contractors interested in the field season contracts.
- **May 2026:** NNC staff will visit Iqaluit and Panniqtuuq
 - Meet with Iqaluit and Panniqtuuq rightsholders to share information on the 2026 field season plan.
- **June 2026:** NNC staff will visit Iqaluit and Panniqtuuq
 - Meet with members of the public for job opportunities/hiring for the 2026 field season.
- **November 2026:** NNC staff will share results from the 2026 field season
 - Separate meetings will be scheduled with Iqaluit key stakeholder, Iqaluit public, Panniqtuuq Hamlet Council, Panniqtuuq HTO, and Panniqtuuq public to discuss the results of the 2026 field season.



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3.0 Summary of Activities 2025

The following sections summarize the terrestrial, aquatic, and cultural baseline field programs completed in 2025 in support of the Project. These programs were designed to collect preliminary environmental information to help characterize existing conditions within the Project area and inform future study design, engineering considerations, and regulatory processes. Fieldwork was supported by a temporary field camp established within the Project area, which served as a centralized base for personnel, equipment, and daily operations. The camp enabled efficient access to study locations and facilitated the safe and coordinated execution of field activities. The findings from these initial programs provide a foundation for more detailed field investigations planned for 2026.

3.1 Temporary Camp and Support Facilities

To support the 2025 investigative field programs for the Iqaluit Nukkiqsautiit Project, Nunavut Nukkiqsautiit Corporation (NNC) established a temporary field camp within the Kuugaaluk South study area, near the head of the unnamed lake. The camp served as a centralized base of operations for environmental baseline studies enabling efficient access to terrestrial, aquatic, and archaeological study locations across the Project area.

The camp was designed to accommodate up to 18 personnel and was operational from August through mid-October 2025. Facilities included ten sleeping tents (comprised of both single and double occupancy), a combined kitchen and dining tent, and dedicated washroom and shower facilities. Power and heat were supplied through a combination of diesel and gasoline generators, supplemented by solar panels and battery systems to reduce fuel consumption. Communication systems, including satellite phones, radios, and Starlink, were in place to support safe and effective coordination of field activities. Emergency preparedness measures included first aid supplies, fire extinguishers, spill kits, and the presence of trained bear monitors at all times.

All camp infrastructure, equipment, and supplies were transported to site via helicopter, which also supported daily field operations. Fuel for camp operations and aviation use was stored in approved containers with appropriate secondary containment and spill prevention measures in place. Waste management and food storage were conducted in accordance with applicable health and safety protocols to minimize wildlife interactions and environmental risk.



The camp supported a multidisciplinary team of consultants and locally hired field staff, including Inuit field assistants and bear monitors, contributing to both safe operations and the integration of local knowledge into field activities. Upon completion of the 2025 field season, the camp was fully demobilized, and the site was restored to its original condition in accordance with permitting requirements. Table 3 lists the coordinates for the geographical locations of the camp and other supporting facilities. A map of these locations can be found in Appendix D.

Table 3 Coordinates of Temporary Camp and Support Facilities

| Label | X | Y | Coordinates |
|------------------------|------------------|------------------|------------------------------------|
| Helicopter Landing Pad | 068° 01' 9.62" W | 64° 11' 32.66" N | 64° 11' 32.66" N, 068° 01' 9.62" W |
| Fuel Storage Cache | 068° 01' 7.38" W | 64° 11' 33.68" N | 64° 11' 33.68" N, 068° 01' 7.38" W |
| Water Intake | 068° 01' 4.53" W | 64° 11' 31.72" N | 64° 11' 31.72" N, 068° 01' 4.53" W |
| Camp Location | 068° 01' 6.96" W | 64° 11' 32.76" N | 64° 11' 32.76" N, 068° 01' 6.96" W |

3.2 2025 Terrestrial Field Program

The terrestrial baseline studies are part of a larger baseline study program led by Dillon Consulting Limited. and EcoLogic Consulting to determine the potential effects associated with project development. Although the valued components (VCs) for the Project have not been formally identified, EcoLogic initiated a field program in 2025, focused on likely terrestrial VCs, including ecosystems and wildlife (including caribou, furbearers, and breeding birds).

The objectives of the 2025 terrestrial baseline studies were to: a) conduct reconnaissance field surveys to characterize ecosystems according to ecological community type; b) install a remote wildlife camera network to monitor caribou, and other potential wildlife species of concern; and c) complete wildlife transects to collect preliminary information on wildlife presence.

To accommodate permitting timelines, the terrestrial baseline studies were completed in August and September of 2025, which is outside the favourable detection period for waterfowl, raptors, and landbirds, as well as outside the favourable identification period for vegetation. Therefore, the terrestrial baseline studies for 2025 were intended to provide early preliminary information that could assist with engineering design and to inform ongoing monitoring for 2026.



The wildlife portion of the program is authorized under a Nunavut Wildlife Research Permit (# 2025-046) and includes the installation of a remote wildlife camera network, helicopter-based aerial surveys for waterfowl, standwatch surveys for raptors, ecological land classification, and point-count surveys for landbirds (songbirds and gamebirds). A detailed report on the 2025 Terrestrial Field Summary Report can be found in Appendix B.

Site visits were completed by EcoLogic from August 09 – 25, 2025 (Trip 1), and September 08 – 12, 2025 (Trip 2), to implement the first phase of the wildlife survey program and the Ecosystem Land Classification (ELC) program. Due to project delays associated with camp permitting, the 2025 wildlife surveys were unable to commence within the favourable detection period for waterfowl, raptors, and landbirds. Therefore, the wildlife survey program was adapted to achieve the following objectives, including a) installation of the remote wildlife camera network; and b) completion of 1 km wildlife transects to collect preliminary information on wildlife presence, including birds, to inform wildlife surveys in 2026. The transects were selected at predetermined locations along the proposed roads, transmission line, and Kuugaaluk River system and Kuugaaluk reservoir where the reservoir is proposed.

The ELC programed involved reconnaissance field surveys to characterize ecosystems according to ecological community type. As there is no standardized ELC system in Nunavut, the ELC system developed by EcoLogic during the Chidliak Project.

3.2.1 Wildlife Cameras

A total of 28 wildlife cameras were installed between August 11 to 14, 2025. The wildlife camera sites predetermined based on a desktop review and then field-fit by EcoLogic field staff and local field monitors based on the topography and habitat features observed from the helicopter. A total of 20 wildlife cameras were installed along the proposed roads, while an additional eight (8) cameras were installed along the Kuugaaluk River where the reservoir is proposed (Figure 1). Stands constructed of plywood were built in the field to stabilize and secure the wildlife cameras. Due to supply and transportation challenges, only alkaline batteries were available to use in 26 of the of 28 cameras deployed during Trip 1. Signage providing explanation about the wildlife camera program was attached to the camera stations that were likely to be encountered by locals.



Figure 1: An installed wildlife camera

During Trip 2, an additional 11 wildlife cameras were deployed around the proposed reservoir on September 10, 2025. Data downloads and battery exchanges (alkaline with long-lasting lithium) were completed for wildlife cameras previously deployed during Trip 1, including ten (10) cameras on September 9, 2025, nine (9) cameras on September 10, 2025, and four (4) cameras on September 11, 2025. Three (3) of the previously deployed wildlife cameras could not be accessed for maintenance during Trip 2 due to many geese or caribou present near the camera site. One (1) of the wildlife cameras previously deployed was found destroyed because of caribou rubbing. Two (2) of the previously deployed wildlife cameras were



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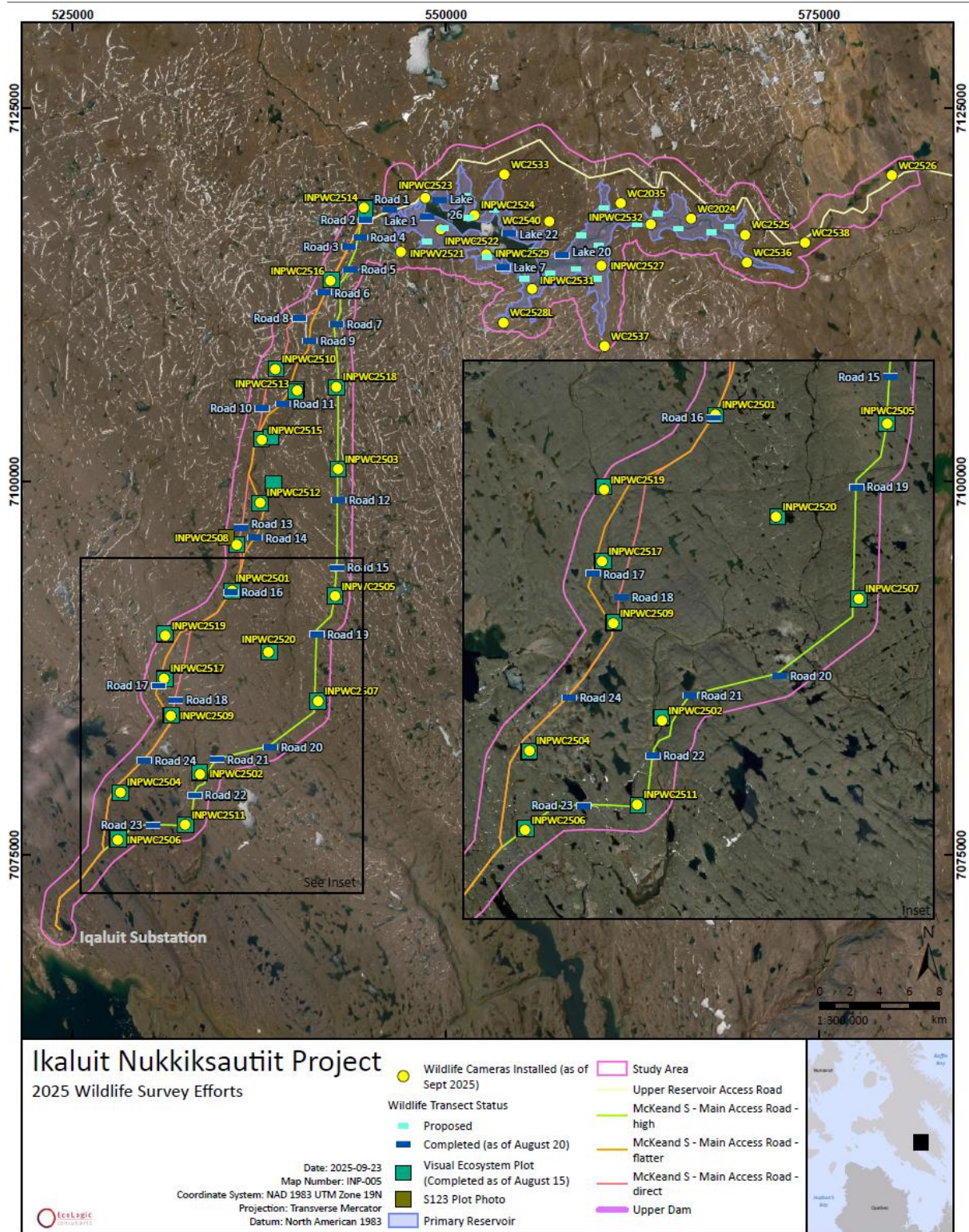


Figure 3: Wildlife Survey Map

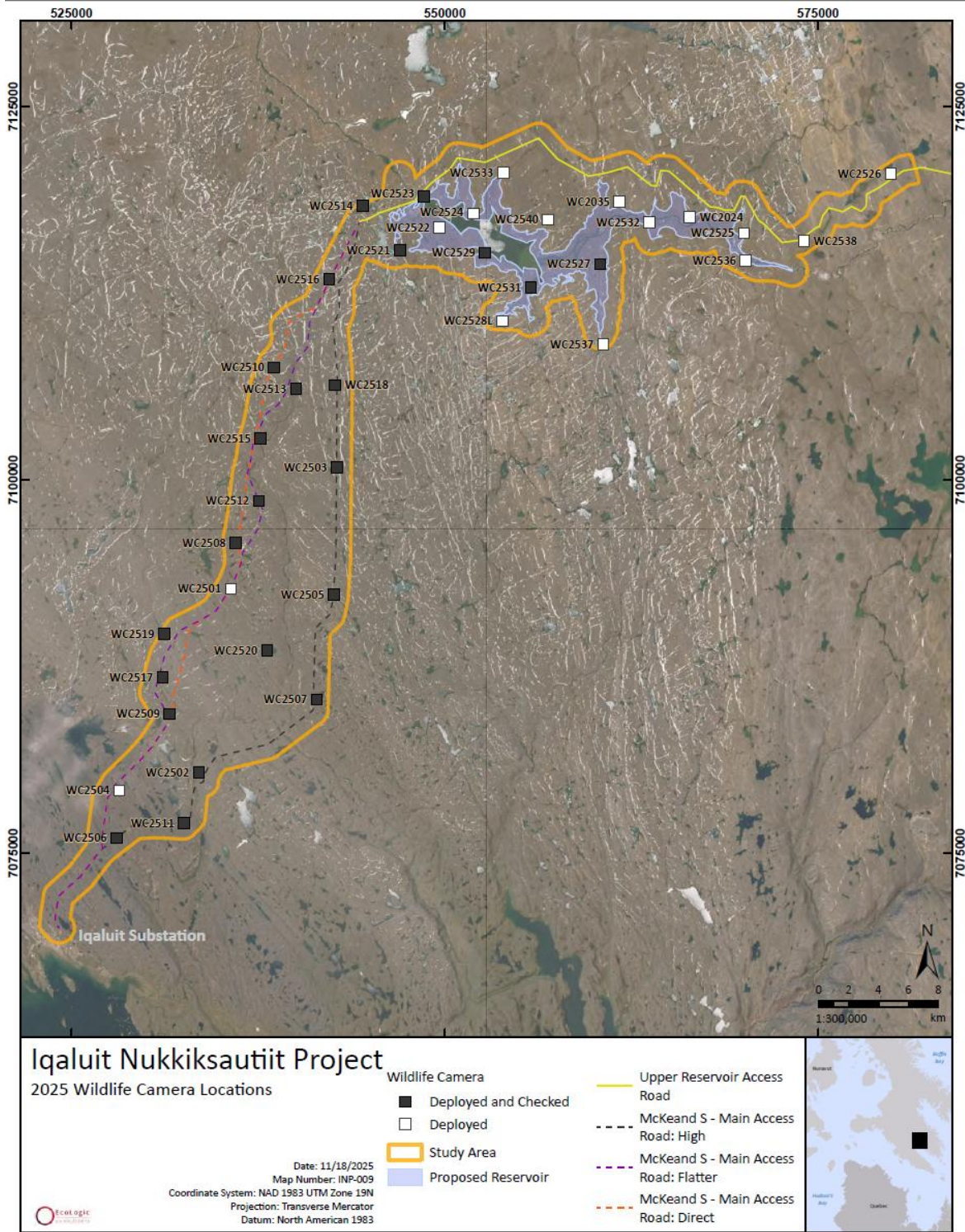


Figure 4: Wildlife Camera Locations

Preliminary Results

During the brief operational period of August 11 – September 10, 2025, a greater number of detection days for caribou occurred on the west side of the project area and on the south de of the proposed reservoir (Figure 5).

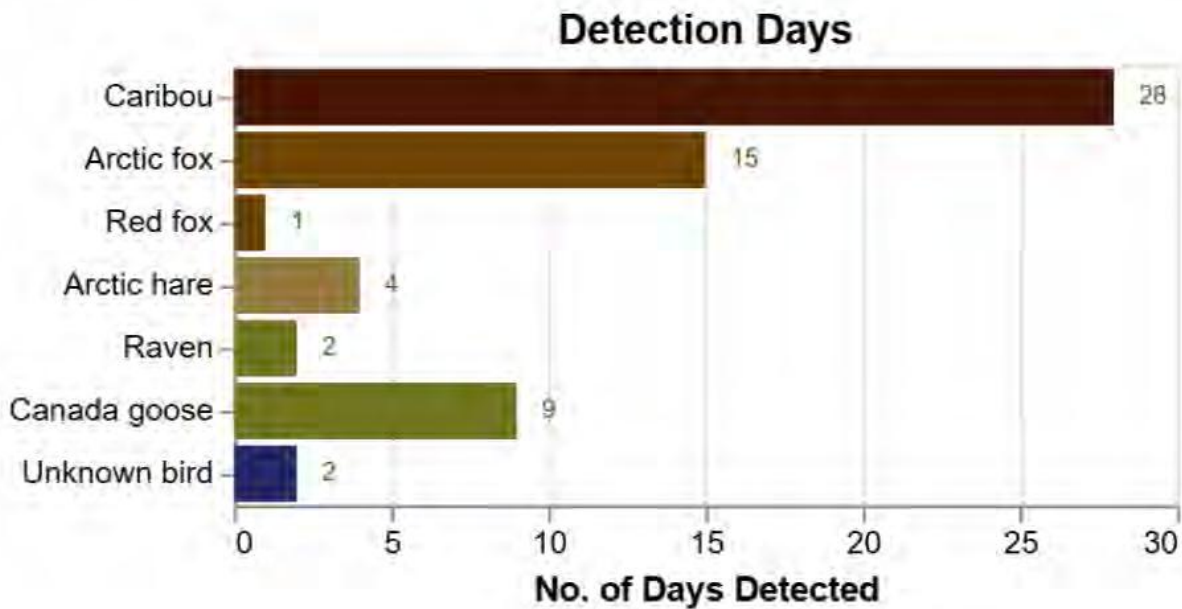
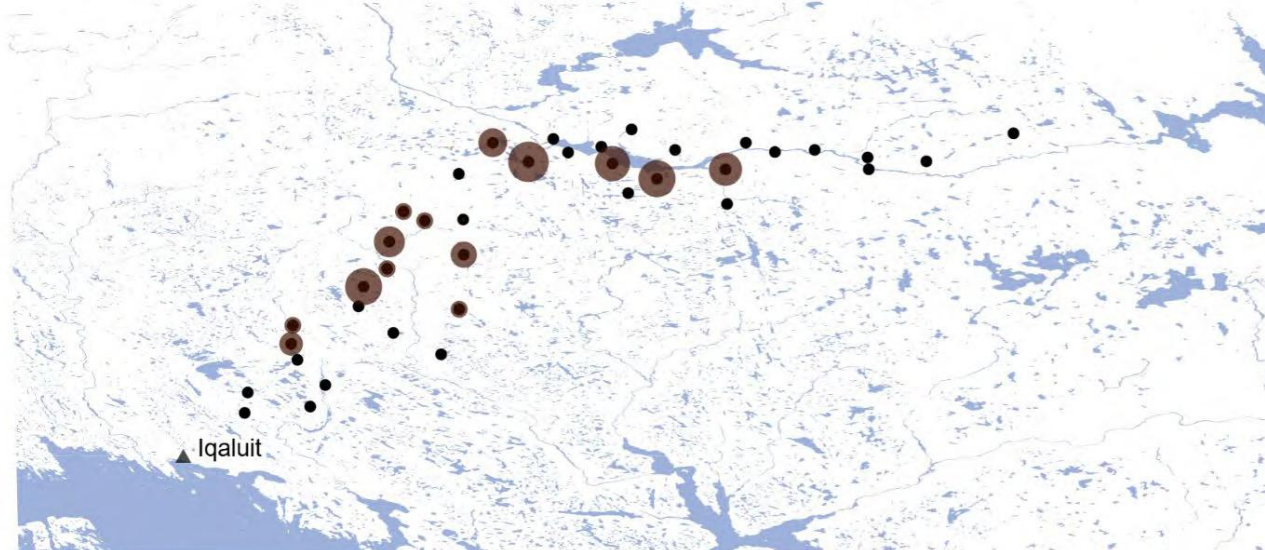


Figure 5: The total number of days caribou, and other wildlife species, were detected by at least one of the 23 wildlife cameras that had data collected for the 31-day operational period of August 11 – September 10, 2025

Over the 31-day operational period, Caribou were detected for a total of 28 days within the entire wildlife camera network, compared to 15 days for Arctic Fox (*Vulpes lagopus*), and nine days for Canada Goose (*Branta canadensis*) (Figure 6).

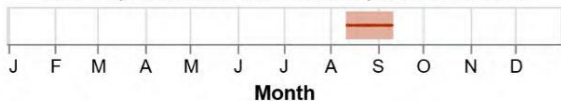
INP Camera Network

Click on camera to see stats for the year selected below



Camera Operational Period

Red - Operational; Pink - Usable photos collected



No of Caribou



Figure 6: The number of days that a caribou was detected in front of 23 wildlife cameras that had data collected for the operational period of August 11 – September 10, 2025. Wildlife cameras are represented by black circles, while the number of detection days are represented by brown circles

3.2.2 Wildlife Transects

A total of 29 wildlife transects were completed between August 14 - 23, 2025, including 24 transects along the proposed road routes and five (5) along the Kuugaaluk River and Kuugaaluk reservoir (Figure 7). The transects were 1 km in length and included all wildlife observations, such as birds, mammals, and evidence of wildlife presence in the form of scat, tracks, feathers, fir, sheds, and established trails. The wildlife transects were conducted outside of the preferred breeding window for most bird species in the region due to unforeseen project delays; therefore, the results of the 2025 transects are not intended to



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be used for formal analysis of avian use and movement within the project area. Instead, the information is intended to provide preliminary information about wildlife use in the project area to better inform surveys for 2026.



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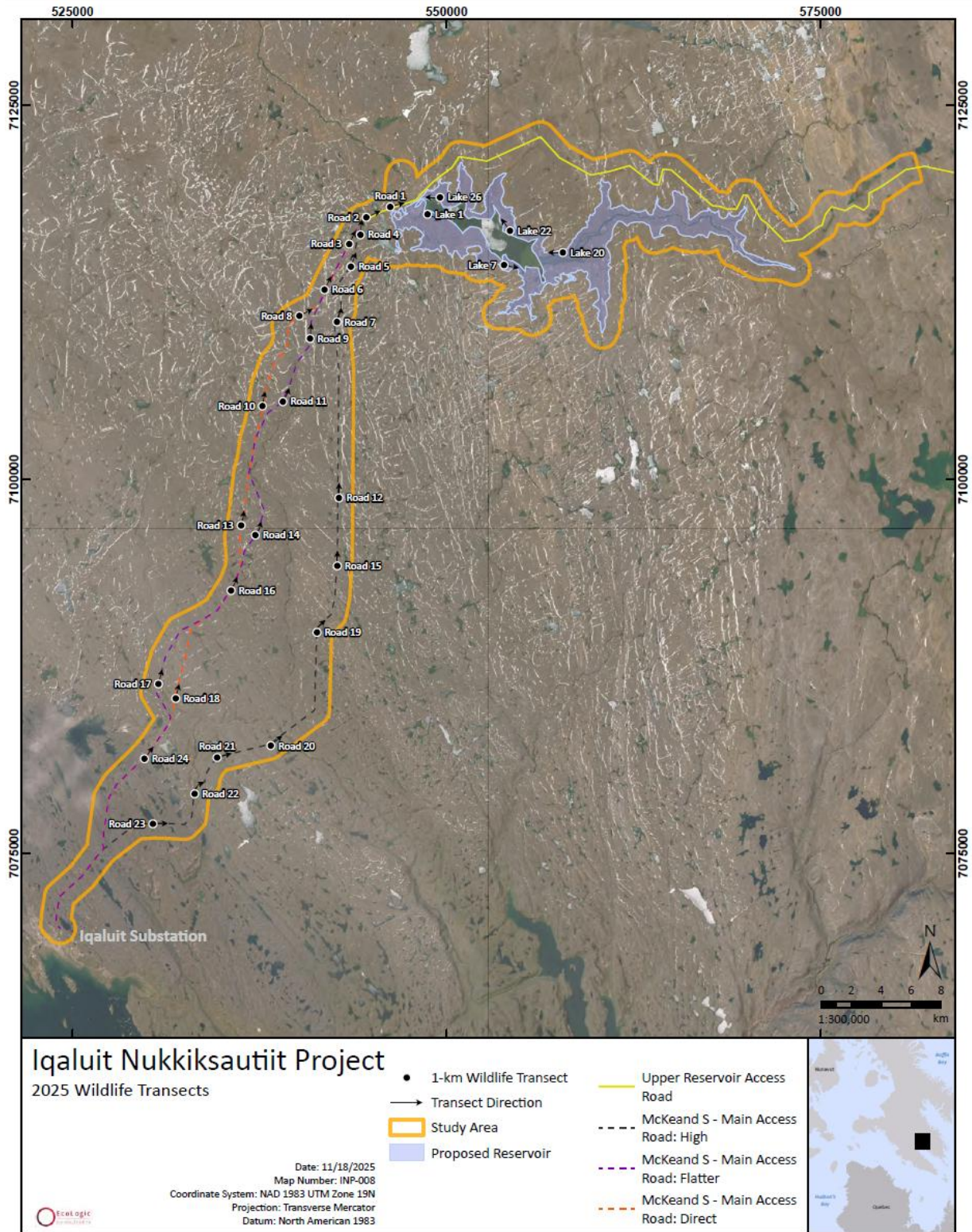


Figure 7: 2025 Wildlife Transects



Preliminary Results

A total of 19 species were detected over the survey period (Table 4).

Barren-ground Caribou have been federally identified as Threatened since 2016 by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and are currently under consideration for Schedule 1 of the Canada *Species at Risk Act* (SARA). As of 2025, Snowy Owl has also been identified as Threatened by COSEWIC and is under consideration for Schedule 1 of SARA.

Table 4: Wildlife species detected within the project area between August 11-23, 2025

| Species | Group | Location(s) ^(a) | Observation |
|--|---------|---|--|
| American Pipit (<i>Anthus rubescens</i>) | Birds | Upper Reservoir Road, High Road, Flat Road, Direct Road, Kuugaaluk reservoir Shoreline | Birds heard and observed |
| Arctic Fox (<i>Alopex lagopus</i>) | Mammals | Kuugaaluk reservoir Shoreline | Tracks |
| Arctic Hare (<i>Lepus arcticus</i>) | Mammals | High Road | Animals and scat |
| Canada Goose (<i>Branta canadensis</i>) | Birds | Upper Reservoir Road, High Road, Flat Road, Direct Road, Kuugaaluk reservoir Shoreline | Birds heard and observed, feathers, scat |
| Unidentified Canidae | Mammals | Direct Road, Upper Reservoir Road, High Road, Flat Road | Scat |
| Barren-ground Caribou (<i>Rangifer tarandus groenlandicus</i>) | Mammals | Kuugaaluk reservoir Shoreline, Upper Reservoir Road, Direct Road, High Road, Flat Road | Animals, scat, tracks, sheds, bones, and trails |
| Common Loon (<i>Gavia immer</i>) | Birds | Upper Reservoir Road | Bird observed |
| Common Raven (<i>Corvus corax</i>) | Birds | Upper Reservoir Road, High Road, Flat Road | Birds heard and observed |
| Glaucous Gull (<i>Larus hyperboreus</i>) | Mammals | Upper Reservoir, High Road | Birds heard and observed |
| Gyr Falcon (<i>Falco rusticolus</i>) | Birds | Direct Road | Bird observed |
| Herring Gull (<i>Larus argentatus</i>) | Birds | High Road | Birds heard and observed |
| Horned Lark (<i>Eremophila alpestris</i>) | Birds | High Road | Birds heard and observed |
| Lapland Longspur (<i>Calcarius lapponicus</i>) | Birds | Flat Road | Bird heard |
| Lemming (Cricetidae) | Mammals | Kuugaaluk Reservoir Shoreline, Upper Reservoir Road, Direct Road, High Road, Flat Road | Animals heard, burrows, scat, trails |



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| Species | Group | Location(s) ^(a) | Observation |
|---|---------|--|------------------------------------|
| Weasel (<i>Mustela sp.</i>) | Mammals | High Road | Animal observed |
| Rock Ptarmigan (<i>Lagopus muta</i>) | Birds | Kuugaaluk Reservoir Shoreline, Flat Road | Birds observed |
| Red-throated Loon (<i>Gavia stellata</i>) | Birds | High Road, Flat Road | Birds observed |
| Snow Bunting (<i>Plectrophenax nivalis</i>) | Birds | Kuugaaluk Reservoir Shoreline, Upper Reservoir Road, High Road, Direct Road, Flat Road | Birds heard and observed, feathers |
| Snowy Owl (<i>Bubo scandiacus</i>) | Birds | Kuugaaluk Reservoir Shoreline, Upper Reservoir Road, High Road | Pellets |

3.2.3 Terrestrial Ecosystems

130 ELC visual plots were established throughout the reservoir area and proposed road routes.

For 2025, the primary objectives were to review and adapt existing ecological classifications and mapping products to the INP footprint, and to complete reconnaissance field surveys to characterize ecosystem types and calibrate mapping, which will be carried out in Q1 of 2026.

The terrestrial setting of the Project is described using the Ecological Framework of Canada, the national classification system that organizes the country’s landscapes into a nested hierarchy of ecozones, ecoprovinces, ecoregions, and ecodistricts based on climate, geology, landforms, soils, water, and vegetation. This framework provides a consistent geographic context for understanding ecosystem patterns across Canada and is widely used in environmental assessment and baseline studies. By situating the Project area within this structure, the baseline can describe ecological conditions at multiple spatial scales, from broad continental patterns at the ecozone level to finer-scale terrain and vegetation relationships captured at the ecodistrict level.

Ecosystem Results

A custom ESRI Survey123 digital form, adapted for Arctic projects from the BC Full Ecosystem form (FS882), and ESRI Field Maps were used for data collection. In 2025, a total of 34 ELC visual plots and 80 air call plots were established August 10 to 12 and September 9 and 10, throughout the reservoir area and along the proposed road routes.



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Results from the existing regional mapping and 2025 field program confirm that the INP Project area encompasses a full suite of Arctic upland, wetland and fluvial ecosystems typical of the Hall Peninsula Upland and adjacent coastal uplands.

In the Hall Peninsula Uplands (Ecodistrict 106), the landscape is dominated by Dry Lichen Tundra on ridge crests and upper slopes, Fellfield and Blockfield on exposed plateaus, and Bedrock Outcrop & Talus on knolls and fjord walls. Mesic Graminoid Tundra and Wet Graminoid Tundra occupy mid- and lower-slope positions, often in association with patterned ground and solifluction lobes. Several more mature, productive tundra classes were identified that were not described by the existing classification and will be developed through additional field data in 2026. Small Peat Fens and Shallow Open Water wetlands are in complex with graminoid tundra and tundra tussock in depressions, while Fluvial Complexes occur along the rivers and tributary channels. In coastal and near-coastal uplands (Ecodistrict 112), increased snow accumulation and slightly milder coastal conditions favour Shrub Heath Tundra on some slopes, with knee-high dwarf birch, willow and berry-producing shrubs over a moss-lichen carpet. Extensive Bedrock and Blockfield units and localized Aeolian Sand & Beach Ridges occur on relict marine terraces or lake margins, creating sharp ecological contrasts over short distances.

ELC Reconnaissance Survey Results

Reconnaissance surveys were conducted in association with wildlife camera deployment. The visual ground plots are presented in Table 3.4-1 of the Terrestrial Field Summary Report in Appendix C. Eighty additional air calls were made and are not presented here as they are a dataset in progress (largely comprised of ecological and geomorphic commentary).

3.3 2025 Aquatics Field Program

Dillon implemented the aquatic baseline studies as part of the 2025 field season. The aquatic baseline studies form a component of the broader environmental program to evaluate potential effects associated with project development.

The 2025 aquatic field program was designed as a reconnaissance survey to collect preliminary information on fish habitat within and downstream of Kuugaaluk reservoir. Emphasis was placed on surveying the downstream reach for potential barriers to upstream fish movement. Opportunistic fishing was also undertaken near the field camp to collect Arctic char (*Salvelinus alpinus*) samples for laboratory analysis of total mercury concentration, stable isotope ratios, and age and growth rates.



Field surveys were completed in late August 2025, and included aerial reconnaissance, drone-based habitat surveys, and localized fish sampling. These activities provided initial data on habitat conditions, fish presence, and potential barriers to movement, which will inform the design of a more detailed aquatics program in 2026. A detailed report on the 2025 Aquatics Baseline Assessment can be found in Appendix C.

3.3.1 Reconnaissance Surveys

Reconnaissance surveys covered approximately 100 km of river downstream of Kuugaaluk reservoir, as well as the reservoir shoreline. Drone surveys and opportunistic fishing were concentrated near the field camp (Figure 8).

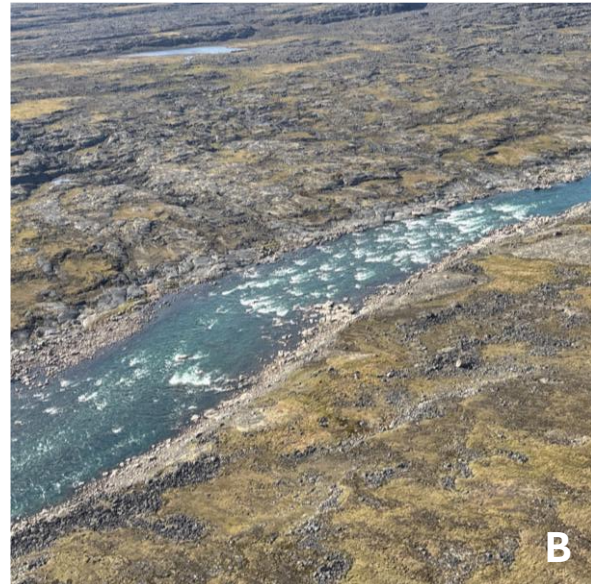
Aerial reconnaissance flights were conducted on August 25 and 26, 2025, to document general habitat characteristics and identify potential downstream barriers that could affect upstream fish migration. Georeferenced photographs were collected throughout the flights to record representative habitats and possible barriers. Helicopter time was in high demand during this period, which limited availability for the aquatics crew.

The downstream reach was characterized primarily by riffle habitat with coarse substrates dominated by rubble and boulders, with isolated patches of gravel. Two chutes identified prior to fieldwork were examined in detail. Both were steep with significant white-water, suggesting they may act as seasonal barriers to upstream movement. Several Arctic char were captured between the two chutes, including one individual exceeding 600 mm in length, consistent with a potential sea-run fish. Camp staff also noted that the falls may be passable during winter months when flows are lower.

Further studies will be required to confirm whether these chutes represent partial or seasonal barriers to fish migration.



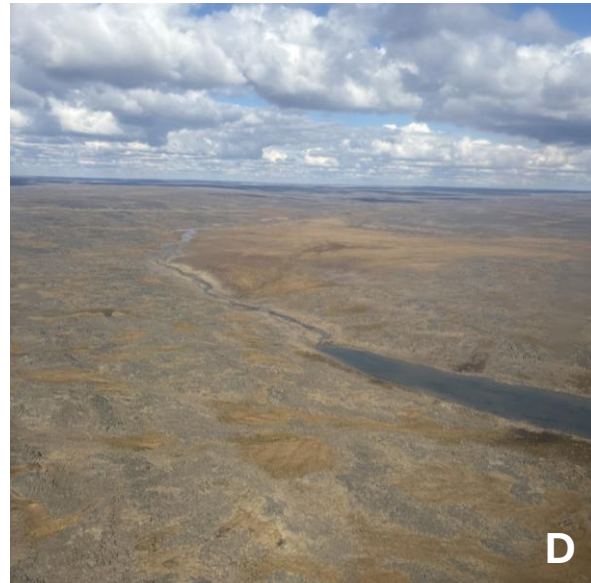
A



B



C



D

Figure 8: Representative Field Photos from Reconnaissance Surveys; A) Chute Located at the Outflow of Kuugaaluk Reservoir, B) Typical Riffle Habitat Located in the Downstream Reach of Kuugaaluk River, C) Habitat Upstream of Kuugaaluk Reservoir, D) Tributary Flowing into the Kuugaaluk Reservoir

3.3.2 Drone Surveys

Drone surveys were carried out near the outflow of Kuugaaluk reservoir using equipment fitted with a polarized lens. The objective was to capture high-definition video and photographs of both Arctic char and the underlying substrate. While field staff visually observed Arctic char breaching at the surface during these flights, no individuals were captured on video. Substrate in the surveyed area was characterized as predominantly sandy, with patches of exposed bedrock, cobble, and rubble interspersed (Figure 9).



Figure 9: Substrate Observed in Kuugaaluk Reservoir

3.3.3 Opportunistic Fishing

Fishing was conducted by members of the camp staff during the week of September 3, 2025, using spin rods and lures. After capture, the fish were humanely euthanized and retained for sampling. Each fish was identified by species, and its length was recorded. The heads and tails were removed, bagged, and stored frozen. These samples were then sent to St. John's for processing and laboratory submission, which is currently ongoing.



A total of 28 Arctic char were captured within the authorized limits immediately downstream in the river immediately downstream of the chute at the proposed dam location. The majority of the fish captured in 2025 were likely adults, which, according to Froese and Pauly (2025), range between 350-500 mm on Baffin Island. Nine individuals captured were less than 350 mm in length, while a single individual exceeded 500 mm. Using data collected in 2019 from the Chidliak Project, located upstream within the same watershed (Golder Associates Ltd., 2020), weight estimates were calculated using a length-weight regression. A summary of lengths and weights is presented in Table 5, while length distributions are shown in Figure 10.

Table 5: Summary of Arctic Char Biometrics, September 2025

| Sample Size | Length (mm) | | Weight (g) | |
|-------------|-------------|---------|------------|-------------|
| | Mean | Range | Mean | Range |
| 28 | 374 | 279-610 | 298.7 | 139.0-970.2 |

Notes:

- Weights are estimated based on length-weight regression using fish collected during the Chidliak Baseline program. Note that fish sampled in 2019 significantly smaller than those sampled in 2025

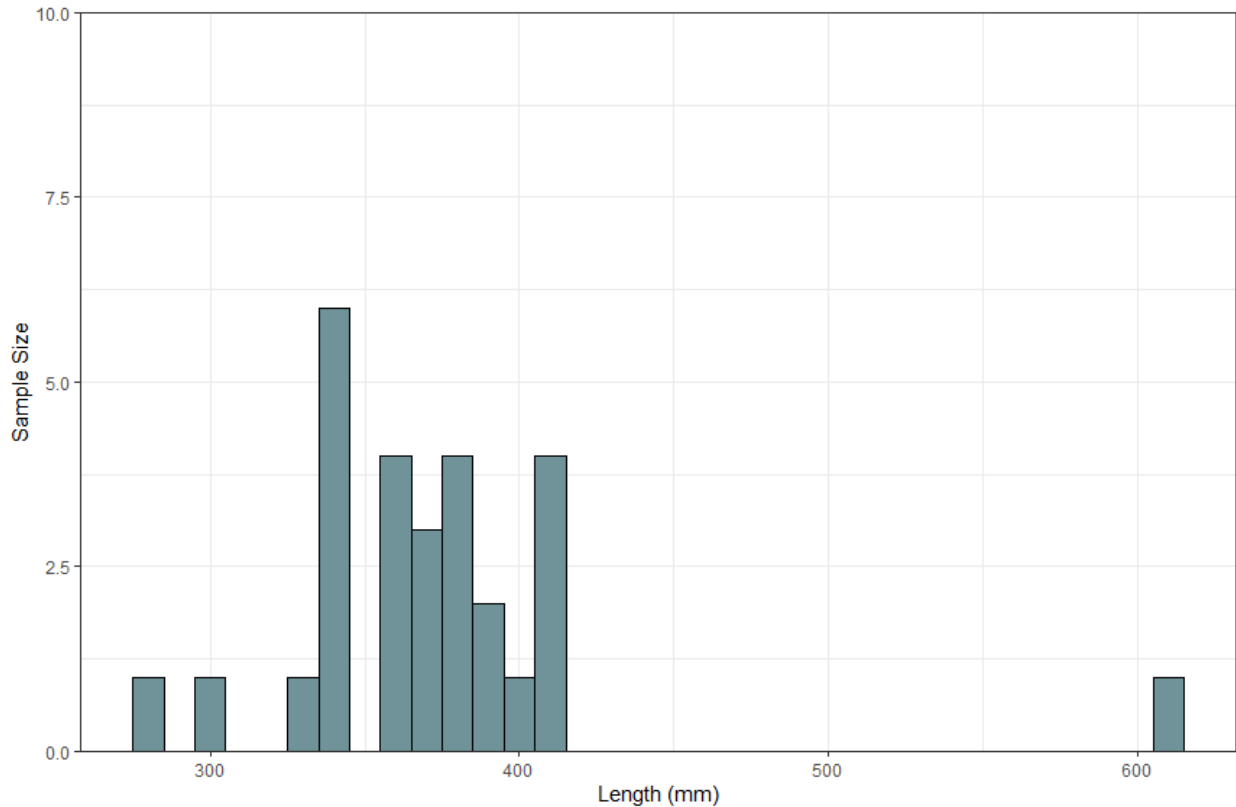


Figure 10: Length Distribution of Arctic Char Sampled in 2025



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3.4 Heritage and Archaeological Resources

An archaeological survey was conducted in August and September 2025. This archaeological survey was directed by Ken Swayze, the archaeology permit holder. In addition to the permit holder, the survey team consisted of seven (7) Inuit beneficiaries from Iqaluit, Pangnirtung, and Kinngait. These beneficiaries participated in identifying, documenting, and interpreting archaeological sites in the survey area.

This archaeology survey focused on the proposed reservoir area around the south Kuugaaluk River. The objective of this survey was to document any sites that may be affected by future Project development/flooding in the reservoir area. The survey focused on the land from the current shoreline of this section of the Kuugaaluk River up to the proposed height of potential flooding.

Approximately 60 archaeological sites were recorded during this survey. All sites were identified from surface exposures, with no subsurface testing (e.g., excavation) being conducted. Most sites were identified as trail marker stones, with the remainder of the sites being stone tent rings. One stone artifact was identified on the ground surface during the survey. The 2025 survey team’s report suggests that these are ancestral Inuit sites, likely from the pre-European contact period.

The permit holder who conducted the work notes that oral history collected from residents of Pangnirtung references the deep traditional land use of the proposed reservoir and surrounding area. Specifically, the area is known to be used by people named the “Walkers”, who hunted caribou in the area seasonally and who also crossed through this valley when travelling to Iqaluit. The types of archaeological sites that were identified during the 2025 survey are noted by the team to be consistent with this oral history of land use around this section of the Kuugaaluk River.

The wildlife crew identified a potential archeological site during a wildlife transect along Kuugaaluk reservoir Shoreline on August 23, 2025. The location and photographs were submitted to the lead project Archeologist so that the site could be formally assessed.

No archaeological sites were noted during the aquatics field trip.



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3.5 Employment and Contracting

Recruitment prioritized candidates from Iqaluit and Pangnirtung with local knowledge and experience on the land. Three community members from Pangnirtung and the local area were hired for Year 1 fieldwork as Field Assistants and Bear Monitors. These individuals contributed their expertise and long-standing knowledge of the land, contributing directly to keeping the field crews safe and contributing recommendations for the placement of wildlife cameras. In addition, local businesses and service providers were engaged for logistics, including camp setup, transportation, and helicopter support. Suppliers from the region were prioritized. Contracting opportunities were communicated through local channels via NNC to the broader community.



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4.0 Future Work Plan

The upcoming phase of the INP will build on the environmental and conceptual planning completed to date and transition toward applied investigations, design advancement, and expanded community collaboration. The following next steps reflect anticipated activities following completion of NPC conformity determination and NIRB screening and are subject to regulatory direction and community feedback.

Key next steps for 2026 include the following:

1. Permitting for the 2026 Field Programs
 - Obtain authorizations required to support the 2026 field season, including research permits under the *Wildlife Act* (2003), and water-use and access approvals under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (2002); and
 - Coordinate early review with the NPC and NIRB so that the proposed studies align with the outcomes of the screening process and the scope of the forthcoming EIS.

2. Detailed Design Development and Geotechnical Program
 - Advance conceptual engineering into preliminary and detailed design to confirm site layouts, foundation conditions, and construction feasibility for the dam, powerhouse, access roads, and transmission line;
 - Implement a multi-season geotechnical and terrain-stability program focused on permafrost characterization, borrow-source quality, and reservoir shoreline behavior; and
 - Integrate design refinements with environmental baseline data to optimize alignment and reduce disturbance to sensitive terrain and wildlife corridors.

3. Environmental Baseline Program
 - The terrestrial ecosystem program for 2026 will focus on completing the reconnaissance field surveys to characterize ecosystem types, developing and field-verifying draft maps, and finalizing maps of the RSA and LSA.
 - The 2026 wildlife field program will involve continued maintenance of the wildlife camera network and completion of the wildlife transect surveys during the peak detection period for spring migration, breeding season, and fall migration. Survey efforts will be focused on key infrastructure locations (e.g., dam) to support continued engineering design.



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4. Socio-Economic and Community Baseline Program
 - Initiate socio-economic and human-environment baseline studies addressing community well-being, employment and procurement opportunities, country-foods use, and health indicators; and
 - Collaborate with local organizations, including the QIA and HTAs, to ensure data collection reflects community priorities and supports future benefit-sharing discussions.
5. Continued Engagement and Consultation on VECs and VSECs
 - Conduct focused engagement sessions with Iqaluit and Pangnirtung communities to validate the proposed list of VECs and VSECs identified in the EIAs;
 - Facilitate workshops with Elders, youth, and land-users to confirm assessment boundaries, indicators, and culturally relevant success criteria; and
 - Maintain transparent communication through plain-language updates, community briefings, and shared data review sessions to support informed participation and long-term trust.
6. Integration of Findings into the Draft EIS Guidelines and Conceptual Closure Planning
 - Use results from the 2026 programs to refine project design, inform mitigation measures, and strengthen the Conceptual Closure Plan framework; and
 - Apply lessons from geotechnical, socio-economic, and environmental programs to inform the EIS Guidelines expected in 2026, supporting a defensible and community-aligned environmental assessment.
7. Consideration of the thermal load and how the Project could work to support electrification of Iqaluit
 - Review of similar cases where electrification of the community helped renewable energy serve the existing thermal load;
 - Determine the magnitude of the existing thermal load;
 - Consider solutions and technologies that could serve this load; and
 - Collect data as necessary to determine the feasibility of any considered solutions.

A 30-person temporary base camp will be re-established near the head of the unnamed lake (64° 11' 32.76" N, 068° 01' 6.96" W) to support investigative studies only. There will be no construction activities carried out during this time. The camp will be active beginning in June 2026 to mid-October 2026. All materials required for camp set-up will be slung in by helicopter.



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Components of this camp will include:

- Fifteen (15) sleeping tents (seven (7) single occupancy, eight (8) double occupancy).
- One (1) large tent (kitchen and dining).
- Four (4) shower and sanitation facilities.
- One (1) storage tent.
- Diesel generators, solar power systems, propane, or diesel stoves.
- Communication devices (satellite phones, radios, Starlink).
- Emergency supplies (e.g., first aid kit, firearms, fire extinguisher, and spill kits).
- Camp fuel: Diesel 3 x 205 L and Gasoline 3 x 205 L caches (~1230 L). Portable propane cylinders (20-100 lbs).
- Drill fuel: Diesel 6 x 205 L cache.
- Aviation fuel: 21 x 205 L (~5,100 L) weekly supply on hand.

All fuel types will be stored in secondary containment units.

In addition to the camp accommodation, other temporary structures and laydown areas that will support the drilling program at the camp site, and drill site will include:

Camp Site

- One (1) equipment room (storage of drill parts, core boxes, consumables etc.).
- One (1) mini lab (to test core samples on site).
- One (1) storage room (to store drilled cores).
- One (1) chiller (to chill brine and cores).

Drill Site

- Two (2) core shacks (to log the core at the rig).
- One (1) storage area (storing drill equipment and consumables).



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5.0 Wildlife and Environmental Monitoring Summary

5.1 Monitoring Activities and Observations

Wildlife field surveys included the installation of wildlife cameras, and the completion of bird survey transects to document species presence and habitat use within the project area. During this baseline data collection, a total of three (3) cease-work orders was implemented due proximity of caribou, geese and/or other wildlife to the targeted work area, to avoid and minimize disturbance to these individuals.

During the aquatic's aerial survey and field survey, barren-ground caribou, Snow Goose (*Anser caerulescens*), snow bunting and lemming were observed. Polar Bear (*Ursus maritimus*) tracks were also observed along Kuugaaluk reservoir shoreline.

5.2 Effectiveness of Wildlife Mitigation Measures

By maintaining distance between the helicopter and observed animals and avoiding landings at sites where wildlife was present, direct interactions were effectively avoided. These approaches helped reduce stress and displacement of species.

Flight operations were conducted at approximately 300 m above ground level during transit. Flight activity was limited to essential operational movements, consisting primarily of crew drop-offs and pick-ups. During wildlife camera installation, flight scheduling and site access were tightly coordinated to complete work within the shortest weather-permitting window, thereby reducing the number and duration of flights. Flight routes were planned in coordination with all field teams and adjusted as needed, to maintain efficiency and avoid areas of known or observed wildlife presence.

6.0 Progressive Reclamation Work

Progressive reclamation activities were completed following the closure of the remote camp in October 2025. All camp equipment and infrastructure were removed from site, except for tent wooden frames and anchors, which were left in place as approved.

Comprehensive site clean-up was undertaken, including the removal of all solid and liquid waste, scrap materials, and debris. All fuels, lubricants, and associated hazardous materials were also removed at the time of demobilization and no issues requiring remediation were identified.

No ground restoration activities were required, as camp structures were anchored directly to the ground and did not result in significant surface disturbance. Environmental verification activities were completed including site inspections and photographic documentation confirming that the camp was properly demobilized and that no unauthorized equipment, especially fuels or other hazardous materials, remained on site.



Figure 11: Aerial Photograph of the temporary camp set-up as left in 2025



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7.0 Compliance With Approval Terms and Conditions

The following sections provide an overview of NNC’s self-assessed status of compliance and performance related to each of the permits, licences, approvals, and authorizations for the Project in 2025.

7.1 Methodology and Criteria

NNC has taken a conservative approach to self-assessing the status of compliance with the Terms and Conditions of all approvals for 2025. When determining the status of compliance, the following process was implemented by NNC and its technical experts:

1. A review of the specific requirements outlined in each Term and Condition.
2. A gap analysis is completed to assess whether there is a discrepancy between the requirements of the Term and Condition and the work completed by NNC to meet these requirements.
3. A status of compliance based on the results of NNC’s self-assessment is assigned.

Table 6 outlines the compliance status options and describes the criteria related to each.



Table 6: Compliance Status Terminology and Criteria

| Status | Criteria |
|------------------------------|--|
| Compliant | Obligations were met or exceeded, as intended in the Approval for the relevant monitoring period. Rationale for meeting compliance requirements is provided. |
| Compliant and Ongoing | Obligations are actively being fulfilled, as intended in the Approval for the relevant monitoring period and are anticipated to continue. Review of actions completed towards compliance in the monitoring period and an outline of plans for maintaining compliance is provided. |
| Non-Compliant | Obligations have not been met as intended in the Approval for the relevant monitoring period. Rationale for being unable to meet compliance requirements is provided. |
| Not Applicable | The Term or Condition is not applicable to the current phase of the Project and/or a specific component of the Project to which the Term or Conditions applies is not yet active for the relevant monitoring period. |
| Closed | Obligations were met or exceeded, as intended in the Approval, in a previous monitoring period and do not require ongoing measurable actions to maintain compliance. This status may also apply to obligations from Approvals which are no longer active. Rationale for meeting compliance requirements and the date the obligation was considered closed is provided. |

The following sections list each of the approvals obtained to date and include tables of concordance with terms and conditions issued to NNC as written in the approval, and an assessment of compliance status. It is noted that some Terms and Conditions may or may not be active during the current phase of the Project and/or a specific component of the Approved Project may not yet be active in the reporting year.

7.2 NIRB Project Screening

On April 15, 2025, the NIRB received a referral to screen the NNC’s “Investigative Studies for the Iqaluit Nukkiqsautiit Project” proposal from the Nunavut Planning Commission, which noted that the project proposal is outside the area of an applicable regional land use plan. The NIRB commenced screening this project proposal and assigned it file number 25YN033. The Project was released from further environmental assessment on July 8, 2025. Table 7 provides a summary of the Terms and Conditions, Monitoring and Reporting Requirements, and Other Concerns and Recommendations contained in the NIRB screening decision report and the status of NNC’s compliance with them during the 2025 reporting period.



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Table 7: NNC Conformance with Screening Decision Report NIRB File No. 25YN033.

| NNC Conformance with Screening Decision Report NIRB File No. 25YN033 | | |
|---|--|-----------------------|
| # | Condition | Status |
| N-1 | Nunavut Nukkiqsautiit Corporation (the Proponent) shall maintain a copy of the Project Terms and Conditions at the site of operation at all times and make it accessible to enforcement officers upon request | Compliant and Ongoing |
| N-2 | The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (NPC File No.: 150770), and the NIRB (Online Application Form, April 16, 2025; Project Summary and Work Plan, April 25, 2025; Revised NIRB Application, May 12, 2025). This information should be accessible to enforcement officers upon request. | Compliant and Ongoing |
| N-3 | The Proponent shall operate the site in accordance with all applicable Acts, Regulations and Guidelines. | Compliant and Ongoing |
| N-4 | The Proponent shall ensure that it meets the standards and/or limits as set out in the authorizing agencies' permits or licences as required for this project. | Compliant and Ongoing |
| N-5 | The Proponent shall ensure that all personnel, staff, and contractors are adequately trained prior to commencement of all project activities, and shall be made aware of all operational plans, management plans, guidelines and Proponent commitments relating to the project. | Compliant and Ongoing |
| N-6 | The Proponent shall not extract water from any fish-bearing water body unless the water intake hose is equipped with a screen of appropriate mesh size to ensure that there is no entrapment of fish. Small lakes or streams should not be used for water withdrawal unless otherwise authorized by the appropriate authorizing agency. | Compliant |
| N-7 | The Proponent shall ensure that no disturbance of the stream bed, lakebed or the banks of any definable watercourse be permitted, except where deemed necessary for maintaining project-specific operational commitments or approved by a responsible authority in cases of spill management. | Compliant |
| N-8 | The Proponent shall not deposit, nor permit the deposit of any fuel, chemicals, wastes (including wastewater) or sediment into any water body. The Proponent should have in place an Emergency Spill Response Plan that is approved by the appropriate authorizing agency(ies). | Compliant |
| N-9 | The Proponent shall manage all hazardous and non-hazardous waste including food, domestic wastes, debris and petroleum-based chemicals (e.g., greases, gasoline, glycolbased antifreeze) in such a manner to avoid release into the environment and access to wildlife at all times until disposed of appropriately or at an approved facility. | Compliant |
| N-10 | The Proponent shall incinerate all combustible wastes as needed and dispose of as required by the appropriate authorizing agencies. All non-combustible wastes from the project site shall be removed to an approved facility for disposal. | Compliant |
| N-11 | The Proponent shall locate all fuel and other hazardous materials a | Compliant |



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| NNC Conformance with Screening Decision Report NIRB File No. 25YN033 | | |
|---|--|-----------------------|
| # | Condition | Status |
| | minimum distance away from the high-water mark of any water body and environmentally sensitive areas as required by the appropriate authorizing agencies. The materials shall be stored in such a manner as to prevent their release into the environment. | |
| N-12 | The Proponent shall use adequate secondary containment or a surface liner (e.g., self-supporting insta-berms and fold-a-tanks) when storing barreled fuel and chemicals at all locations. | Compliant |
| N-13 | The Proponent shall ensure that re-fueling of all equipment occurs at a minimum distance away from the high-water mark of any water body as required by the appropriate authorizing agencies. | Compliant |
| N-14 | All fuel and chemical storage containers must be clearly marked with the Proponent's name for ease of identification. | Compliant |
| N-15 | The Proponent shall routinely inspect and document the conditions of fuel and hazardous material storage containers and containment areas as required by the appropriate authorizing agencies. Fuel containment areas shall be kept clear of debris, water and snow to facilitate inspections for leaks. | Compliant |
| N-16 | The Proponent shall have a Spill Contingency Plan in place at all fuel storage or transfer locations and shall ensure that appropriate spill response equipment and clean-up materials (e.g., shovels, pumps, barrels, drip pans, and absorbents) are readily available. | Compliant |
| N-17 | The Proponent shall follow the authorizing agencies' direction for management and removal of hazardous materials and wastes (e.g., contaminated soils, sediment and waste oil). | Compliant |
| N-18 | The Proponent shall ensure that wildlife deterrent systems are utilized at the time of a spill incident in order to avoid wildlife (terrestrial or marine) and migratory birds from being contaminated. | Compliant |
| N-19 | The Proponent shall ensure that all spills of fuel or other deleterious materials of 100 litres or more must be reported immediately to the 24-hour Spill Line at (867) 920-8130. | Compliant |
| N-20 | The Proponent shall eliminate unnecessary idling to reduce greenhouse gas emissions as much as possible. | Compliant |
| N-21 | The Proponent shall not substantially alter or damage or destroy any wildlife habitat in conducting this operation unless otherwise authorized by the appropriate authorizing agencies. | Compliant and ongoing |
| N-22 | The Proponent shall not chase, weary, harass or molest wildlife. This includes persistently circling, chasing, hovering over, pursuing or in any other way harass wildlife, or disturbing large groups of animals. | Compliant and ongoing |
| N-23 | The Proponent shall not hunt or fish, unless proper Nunavut authorizations have been acquired. | Compliant and ongoing |
| N-24 | The Proponent shall ensure that all wildlife have the right-of-way on any roads or trails. Vehicles are required to slow down or stop and wait to permit the free and unrestricted movement of wildlife across roads | Compliant and ongoing |



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|-------------|--|-----------------------|
| | or trails at any location. | |
| N-25 | The Proponent shall carry out all phases of the project in a manner that protects migratory birds and avoids harming, killing or disturbing migratory birds or destroying, disturbing or taking their nests or eggs. In this regard, the Proponent shall take into account Environment and Climate Change Canada’s Avoidance Guidelines. The Proponent’s actions in applying the Avoidance Guidelines shall be in compliance with the Migratory Birds Convention Act, 1994 and with the Species at Risk Act. | Compliant and ongoing |
| N-26 | The Proponent shall not disturb or destroy the nests or eggs of any birds. If active nests of any birds are discovered or located (i.e., with eggs or young), the Proponent shall avoid these areas until nesting is complete and the young have naturally left the vicinity of the nest by establishing a protection buffer zone ¹ appropriate for the species and the surrounding habitat. | Compliant and ongoing |
| N-27 | The Proponent shall avoid the seaward site of seabird colonies and areas used by flocks of migrating waterfowl, a minimum distance away on the recommendation of the appropriate authorizing agencies. | Compliant and ongoing |
| N-28 | The Proponent shall not pursue seabirds or waterbirds swimming on the water surface and shall avoid concentrations of these birds if encountered on the water. | Compliant and ongoing |
| N-29 | The Proponent shall not alter flight paths to approach wildlife and avoid flying directly over animals. | Compliant and ongoing |
| N-30 | The Proponent shall plan flight paths that minimize flights over known habitat likely to have birds or concentrations of wildlife. Aircraft should avoid critical and sensitive wildlife areas at all times by choosing alternate flight corridors. | Compliant and ongoing |
| N-31 | The Proponent shall restrict aircraft/helicopter activity related to the project to a minimum flight altitude of 610 metres (2,100 ft) above ground level except during landing, take-off or if there is a specific requirement for low-level flying, which does not disturb wildlife or migratory birds. | Compliant and ongoing |
| N-32 | The Proponent shall avoid known concentrations of birds (e.g., bird colonies, moulting areas) by a lateral distance of 1.5 kilometre. If avoidance is not possible maintain a minimum flight altitude of 1,100 metres (3,500 feet) over these areas. | Compliant and ongoing |
| N-33 | The Proponent shall ensure that aircraft/helicopter do not, unless for emergency, touch-down in areas where wildlife are present. | Compliant and ongoing |
| N-34 | The Proponent shall advise all pilots of relevant flight restrictions and enforce their application over the project area, including flight paths to/from the project area. | Compliant and ongoing |
| N-35 | The Proponent shall avoid interfering with any paths or crossings known to be frequented by caribou during periods of migration as identified by current land use plans in place and/or by Inuit | Compliant and ongoing |



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| # | Condition | Status |
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| | Qaujimaningit. | |
| N-36 | The Proponent shall not locate any operation or undertake activities that could block or cause any diversion to migration of caribou | Compliant and ongoing |
| N-37 | The Proponent shall immediately cease activities likely to interfere with the migration or calving of caribou until such time as the caribou have passed. | Compliant and ongoing |
| N-38 | The Proponent shall not construct or operate any camp, or cache any fuel within ten (10) kilometres of any designated caribou water crossings. | Compliant and ongoing |
| N-39 | During the period of May 15 to July 15, the Proponent shall suspend all operations and activities outside the immediate vicinity of the camps. Restricted activities include, but are not limited to, air and vehicle traffic, loud or repetitive noise or vibration disturbances, low level over flights, and use of mobile equipment including snowmobiles and all-terrain vehicles, and personnel walking within sight of the caribou group(s), until the caribou are no longer in the immediate area. Should the results of localized monitoring satisfy the land use inspector the project operations may resume without disturbing pregnant caribou cows or cows with young calves the suspension may be lifted for the periods specified. | Compliant and ongoing |
| N-40 | The Proponent shall not move any equipment or vehicles unless the ground surface is in a state capable of fully supporting the equipment or vehicles without rutting or gouging. Overland travel of equipment or vehicles must be suspended if rutting occurs. | Compliant |
| N-41 | The Proponent shall use existing trails where possible during project activities on the land. | Compliant |
| N-42 | The Proponent shall ensure that the land use area is kept clean and tidy at all times. | Compliant |
| N-43 | The Proponent shall remove all garbage, fuel and equipment at the end of each field season and/or upon completion of work and/or upon abandonment. | Compliant |
| N-44 | The Proponent shall ensure that all disturbed areas are restored to a stable or pre-disturbed state using Best Available Technology Economically Achievable (BATEA) upon completion of work and/or abandonment. | Compliant |
| N-45 | The Proponent shall ensure that all camps are located on durable surfaces, such as gravel or sand that is consolidated and can withstand repeated, heavy use. Measures shall be put in place to prevent erosion, trail formation and damage to the ground | Compliant |
| N-46 | The Proponent shall not erect camps or store materials on the surface ice of lakes or streams, except that which is for immediate use. | Compliant |
| N-47 | The Proponent shall ensure that archaeological and paleontological sites are not purposely or inadvertently disturbed by clients or staff as a | Compliant |



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| | result of project activities. | |
| N-48 | The Proponent shall ensure that all clients and staff are aware of the Proponent’s responsibilities and requirements regarding archaeological or paleontological sites that are encountered during land-based activities. This should include briefings explaining the prohibitions regarding removal of artifacts, and defacing or writing on rocks and infrastructure. | Compliant |
| N-49 | The Proponent should consult with local residents regarding their activities in the area and solicit available Inuit Qaujimaningit and information that can inform project activities. | Compliant |
| N-50 | The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities. | Compliant |
| N-51 | The Proponent should, to the extent possible, hire local people and access local services where possible. | Compliant |
| N-52 | Community Consultation Report - The Proponent shall submit a public consultation report prior to the commencement of project activities. The report shall include a copy of materials presented to community members, a description of issues and concerns raised, and advice offered to the company as well as any follow-up actions that were required or taken to resolve any concerns expressed about the project proposal. | Compliant and ongoing |
| N-53 | <p>Annual Report - The Proponent shall submit a comprehensive annual report with copies provided to the Nunavut Impact Review Board, Nunavut Water Board, Crown Indigenous and Northern Affairs Canada and Government of Nunavut, by March 31st of each year of permitted activities beginning March 31, 2026. A summary of activities undertaken for the year, including:</p> <ul style="list-style-type: none"> ▪ a summary of the interpretation, analysis and results of data collected; ▪ a map showing the location of all monitoring sites; ▪ a map showing the location of the camp and fuel cache; ▪ a description of local hires, contracting opportunities and initiatives; ▪ flight altitudes, frequency of flights and anticipated flight routes; ▪ site photos <p>A work plan for the following year, including any further baseline work to be undertaken;</p> <p>A summary of community consultations undertaken throughout the year, providing copy of materials presented to community members, a description of issues and concerns raised, discussions with community members and advice offered to the company as well as any follow-up actions that were required or taken to resolve any concerns expressed about the project proposal;</p> <p>A discussion of issues related to wildlife and environmental monitoring, including the number of cease-work orders required as a result of proximity to caribou and any other wildlife;</p> | Compliant and ongoing |



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| # | Condition | Status |
|------|--|-----------|
| | An analysis of the effectiveness of mitigation measures for wildlife; Summary of any heritage sites encountered during the field program; and A summary of how the Proponent has complied with conditions contained within this Screening Decision, and all conditions as required by other authorizations associated with the project proposal. | |
| N-54 | Spill Contingency Plan - The Proponent shall provide a Spill Contingency Plan which includes the up-to-date emergency contact numbers for the Government of Nunavut-Department of Environment, Manager of Environmental Protection (867-975-7748) and Environment and Climate Change Canada, Enforcement Branch (867-975-4644). | Compliant |
| N-55 | Responsible authorities or Proponent shall notify the Nunavut Planning Commission as appropriate, and the NIRB of any changes in operating plans or conditions, including phase advancement, associated with this project prior to any such change. | Compliant |
| N-56 | The NIRB respectfully requests that responsible authorities submit a copy of each licence, permit or other authorization issued for the Project to the NIRB to assist in enabling possible project monitoring that may be required. Please forward a copy of the licences, permits and/or other authorizations to the NIRB directly at info@nirb.ca or upload a copy to the NIRB's online registry at www.nirb.ca . | Compliant |
| N-57 | The Proponent is encouraged to work with local communities and knowledge holders to inform project design, to carry out the project, and to confirm or validate the perspectives represented in publications, and reports produced as part of the project. Care should be taken to ensure that Inuit Qaujimaningit and local knowledge collected for the project is used with permission and is accurately represented. | Compliant |
| N-58 | The Proponent should review the Government of Nunavut's booklet on Bear Safety. Further information on bear/carnivore detection and deterrent techniques can be found in the "Safety in Grizzly and Black Bear Country" pamphlet. | Compliant |
| N-59 | Any problem wildlife or any interaction with carnivores should be reported immediately to the local Government of Nunavut, Department of Environment Conservation Office (Conservation Officer of Iqaluit, phone: (867) 975-7790). | Compliant |
| N-60 | The Proponent should review Environment and Climate Change Canada's "Environment Assessment Best Practice Guide for Wildlife at Risk in Canada". The guide provides information to the Proponent on what is required when Wildlife at Risk, including Species at Risk, are encountered or affected by the project. | Compliant |
| N-61 | The Proponent should review Canadian Wildlife Services' "Key migratory bird terrestrial habitat sites in the Northwest Territories and Nunavut" and "Key marine habitat sites for migratory birds in Nunavut and the Northwest Territories". The guide provides information to the Proponent on key terrestrial and marine habitat areas that are essential | Compliant |



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| # | Condition | Status |
|------|--|-----------------------|
| | to the welfare of various migratory bird species in Canada. | |
| N-62 | During the assessment, the NIRB has identified that no archaeology surveys have been conducted in the proposed project areas and that potential for the presence of archaeological resources is likely, therefore the Proponent shall contact the Department of Culture and Heritage to initiate a field archaeology assessment program prior to undertaking any land disturbance activities. | Compliant and ongoing |
| N-63 | The Proponent should review Environment and Climate Change Canada's "Technical Document for Batch Waste Incineration". The technical document provides information on appropriate incineration technologies, best management and operational practices, monitoring and reporting. | Compliant |
| N-64 | Environment and Climate Change Canada recommends that all hazardous wastes, including waste oil, receive proper treatment and disposal at an approved facility. | Compliant and ongoing |
| N-65 | The Proponent shall ensure that proper shipping documents (waste manifests, transportation of dangerous goods, etc.) accompany all movements of dangerous goods. Further, the Proponent shall ensure that the shipment of all dangerous goods is registered with the Government of Nunavut Department of Environment, Department of Environment Manager. Contact the Manager (867) 975-7748 to obtain a manifestation if dangerous goods including hazardous wastes will be transported. | Compliant |
| N-66 | The Proponent shall provide an authorization or letter of conformation of disposal be obtained from the owner/operator of the landfill to be used for disposal of project-related wastes. | Compliant and ongoing |
| N-67 | The Proponent shall provide the community of Iqaluit the planned helicopter activities, including photo(s) of the helicopter to be used, approximate flight paths, plans and times as available prior to commencement of activities to ensure community members are aware of the planned activities. | Compliant and ongoing |
| N-68 | Territorial and federal government agencies in Nunavut should work together with Regional Inuit Associations, co-management boards and industry to develop an action plan to identify and mitigate potential cumulative effects of human land use activities, including mineral exploration, on barren-ground caribou. This assessment of cumulative effects should occur at a regional scale (i.e., larger than individual project areas). | Compliant and ongoing |
| N-69 | Crown Indigenous and Northern Affairs Canada (CIRNAC) impose mitigation measures, conditions and monitoring requirements pursuant to the Federal Land Use Permit, which require the Proponent to respect the sensitivities and importance of the area. These mitigation measures, conditions and monitoring requirements should be in regard to the location and area; type, location, capacity and operation of facilities; use, storage, handling and disposal of chemical or toxic | Compliant and ongoing |



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| # | Condition | Status |
|-------------|---|-----------------------|
| | material; wildlife and fisheries habitat; and petroleum fuel storage. | |
| N-70 | The Nunavut Water Board impose mitigation measures, conditions and monitoring requirements pursuant to the Water Licence, which require the Proponent to respect the sensitivities and importance of water in the area. These mitigation measures, conditions and monitoring requirements should be in regard to use of water, snow and ice; waste disposal; access infrastructure and operation for camps; drilling operations; spill contingency planning; abandonment and restoration planning; and monitoring programs. | Compliant and ongoing |

7.3 NWB Water Licence -Application for Approval Without a Licence

The NNC applied to the NWB for a new Water Licence to allow for the use of water and the deposit of waste during investigative studies activities. This licence is required for water use for domestic purposes at the temporary camp site. The Water Licence (8WLC-INP2526) was issued to NNC on July 16, 2025. Table 8 lists the terms and conditions of the licence and NNC’s compliance with them during the 2025 reporting period.

Table 8: NNC Conformance with Conditions of NWB Licence File No. 8WLC-INP2526.

NNC Conformance with Conditions of NWB Licence File No. 8WLC-INP2526

| # | Condition | Status |
|------------|---|-----------------------|
| B-1 | In the case of an Authorized Entity who has a mineral right and who intends to use Waters or deposit Waste in relation to that right, the Authorized Entity shall respect the priority conferred on Inuit by section 62 of the Act as if that applicant had a licence for the use or deposit. | Compliant and Ongoing |
| B-2 | The Authorized Entity shall take measures prior to the use of Waters to minimize any alteration to the bed or banks of a watercourse whose waters are to be used, and the measures shall be maintained during the operation of the undertaking. | Compliant and Ongoing |
| B-3 | The Authorized Entity shall not deposit Waste to surface water or within thirty-one (31) metres of the ordinary High-Water Mark of any body of water. | Compliant and Ongoing |
| B-4 | The waste must not contain more than 15 milligrams per litre of petroleum or petroleum product and must not have a visible hydrocarbon sheen. | Compliant and Ongoing |
| B-5 | All other than Sewage Waste must be backhauled and disposed of at an approved Waste disposal facility. | Compliant and Ongoing |
| B-6 | Measures to deal with unforeseen petroleum and hazardous materials releases that may occur during the activities conducted under the authorization to use waters and/or deposit waste | Compliant and Ongoing |



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NNC Conformance with Conditions of NWB Licence File No. 8WLC-INP2526

| # | Condition | Status |
|-------------|---|-----------------------|
| | without a licence. | |
| B-7 | All Sumps and fuel caches shall be located at a distance of at least thirty-one (31) metres from the ordinary High-Water Mark of any adjacent water body and inspected on a regular basis. | Compliant and Ongoing |
| B-8 | Prevent any chemicals, petroleum products or wastes associated with the project from entering water. | Compliant and Ongoing |
| B-9 | Report spills immediately to the 24-Hour Spill Line at (867) 920-8130 and to the Inspector at (867) 975-4284. | Compliant and Ongoing |
| B-10 | For each spill occurrence, submit to the Inspector, no later than thirty (30) days after initially reporting the event, a detailed report that will include reference to the assigned spill number, the amount and type of spilled product, the GPS location of the spill, and the measures taken to contain and clean up the spill site. | Compliant |
| B-11 | In addition to Item 5c, regardless of the quantity of releases of harmful substances, report to the NWT/NU Spill Line if the release is near or into a Water body. | Compliant |
| | Prior to the closure or abandonment of the undertaking or end of the period authorized for the use of Waters or deposit of waste without a licence, whichever occurs first, the site shall be restored — to the extent practicable — to the state in which it was before the use of Waters or the deposit of Waste. | Compliant and Ongoing |
| | The Authorized Entity shall maintain accurate and detailed books and records of the quantity of water, in cubic meters, used each day. | Compliant and Ongoing |
| | The Authorized Entity shall maintain accurate and detailed books and records of the quantity, in cubic metres, of waste deposited each day. | Compliant and Ongoing |
| | The Authorized Entity shall maintain accurate and detailed books and records of the type of waste deposited each day. | Compliant and Ongoing |
| | The Authorized Entity shall maintain accurate and detailed books and records of where the waste is deposited including GPS coordinates in Latitude and Longitude. | Compliant and Ongoing |
| | The Authorized Entity shall maintain accurate and detailed books and records of the concentration of the substance, or substances, in the deposited solid or liquid that has the effect of making the deposit waste. | Compliant and Ongoing |
| | The Authorized Entity shall maintain accurate and detailed books and records of the methodology used to calculate or determine the information referred to in items (i) to (v). | Compliant and Ongoing |



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Date: March 31, 2026

NNC Conformance with Conditions of NWB Licence File No. 8WLC-INP2526

| # | Condition | Status |
|---|---|-----------------------|
| | The Authorized Entity shall maintain accurate and detailed books and records of the measures that were taken to avoid or mitigate any adverse impacts of the deposit of waste. | Compliant and Ongoing |
| | The Authorized Entity shall keep the books and records on the site of the undertaking during the period of its operation and make them available during that period to an inspector on request. | Compliant and Ongoing |
| | The Authorized Entity shall submit to the Board a report containing a summary description and supporting photographs of the restoration of the site of the undertaking within thirty (30) days after the earliest of (i) the day on which the undertaking is closed or abandoned, and (ii) the last day of the period authorized for the unlicensed use or deposit. | Compliant and Ongoing |
| | The Authorized Entity shall keep the books and records for two years after submitting the report describing the restoration of the site and undertakings. | Compliant and Ongoing |

7.4 NRI Scientific Research Licence

NNC applied for a Scientific Research Licence with the NRI on July 21, 2025. Table 9 lists the terms and conditions of the approval and NNC’s compliance with them during the 2025 reporting period. However, confirmation from the NRI was provided on March 4th, 2026, stating that NNC no longer has to apply or maintain a Scientific Research Licence for the Project since work purely driven for any infrastructure support services throughout the territory are exempt from the Scientists Act. A copy of this correspondence can be found in Appendix E.

Table 9: NNC Conformance with NRI Scientific Research Licence (01 032 25N-A).

| NNC Conformance with GN CGS Land Application Approval (01 032 25N-A). | | |
|--|--|--------|
| # | Condition | Status |
| SRL1 | Submission of an Annual Summary Report to the NRI by the end of the current calendar year (Dec 31 st). Annual Reporting Template is located with the approval | N/A |
| SRL2 | The holder of the license will be bound by the terms and conditions of the NIRB Screening Decision Report and the Dept of Culture and Heritage archaeological sites terms and conditions. These terms and conditions will form part of this license. | N/A |



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7.5 CIRNAC Land Use Permit

An application was submitted to CIRNAC on July 17, 2025. The Land Use Permit (#N2025N0016) was issued to NNC on August 12, 2025. Table 10 lists the terms and conditions of the permit and NNC’s compliance with them during the 2025 reporting period.

Table 10: NNC Conformance with CIRNAC Land Use Permit N2025N0016.

| NNC Conformance with GN CGS Land Use Permit N2025N0016 | | |
|--|---|-----------|
| # | Condition | Status |
| LUP1 | The permittee shall not conduct this land use operation on any land not designated in the accepted application, unless otherwise authorized in writing by the Engineer | Compliant |
| LUP2 | The permittee's field supervisor shall contact a Land Use inspector at CIRNAC, Joseph Monteith (867)975-1787, email joseph.monteith@rcaanc.cirnac.gc.ca | Compliant |
| LUP3 | The permittee shall provide the locations of the following activities: campsite, fuel storage, airstrip, laydown area, quarry locations. Coordinate in deg/min/sec NAD 83 | Compliant |
| LUP4 | The permittee shall submit an annual report to the Engineer. The annual report must contain but not limited to the following: <ul style="list-style-type: none"> a) a technical summary of the activities undertaken for the year b) a table and map showing the following items, with coordinates in deg/min/sec NAD 83 <ul style="list-style-type: none"> i) All camp locations ii) Airstrip and landing location iii) Drilling location iv) Fuel storage containers v) any other locations where activities were conducted vi) all active and backfilled sumps c) a work plan for the following year d) a summary of progressive reclamation work undertaken | Compliant |
| LUP5 | Notify the Engineer of seasonal closure | Compliant |

7.6 GN DCH Archaeological Assessment Permit

A Class 1 Nunavut Territory Archaeologist Permit application for an archaeological assessment was submitted to the GN DCH on March 28, 2024. This assessment was required to be completed before construction could commence. On June 4, 2025, NNC received approval through the contracted archaeologist. Table 11 lists the terms and conditions of this permit and NNC’s compliance with them during the 2025 reporting period.



Table 11: NNC Conformance with Archaeological Permit No. 2023-63A.

| NNC Conformance with Archaeological Permit No. 2025-11A | | |
|---|--|-----------|
| # | Condition | Status |
| AP1 | Submit a one-page non-technical summary report and two colour photographs and Borden Designation and Site Revisitation form to GN DCH by September 30, 2025. | Compliant |
| AP2 | Submit site forms and maps to GN DCH 60 days after return from field. | Compliant |
| AP3 | Submit Archaeological Report to GN DCH, Canadian Museum of Nature, and Inuit Heritage Trust by March 31 st , 2026. | Compliant |

7.7 GN WMD Wildlife Research Permit

A Wildlife Research Permit application was submitted to the GN WMD on May 13, 2025. On June 15, 2025, NNC received approval through the contracted consultant. Table 12 lists the terms and conditions of this permit and NNC’s compliance with them during the 2025 reporting period.

Table 12: NNC Conformance with Archaeological Permit No. 2023-63A.

| NNC Conformance with Wildlife Research Permit No. 2025-046 | | |
|--|---|-----------|
| # | Condition | Status |
| WRP-1 | Will take animal presence into consideration and maintain high altitudes and avoid large concentrations | Compliant |
| WRP-2 | Survey methods - no capture, handling, marking or other invasive disturbance will occur | Compliant |
| WRP-3 | Remote cameras to be installed in the spring at 60 locations in the study area, visited again in the fall to maintain equipment, replace batteries, and recover data. | Compliant |
| WRP-4 | Camera distributions to be split between proposed reservoir (20 cameras) and proposed road and transmission corridor (20 cameras) | Compliant |
| WRP-5 | Cameras to record wildlife using motion activation and programmed hourly observations, and machine learning technology used to review and analyze photographs. | Compliant |
| WRP-6 | Cameras mounted on tripods and passively observe wildlife with minimal need for biologists to visit locations, minimizing human caused disturbance. | Compliant |
| WRP-7 | Conduct waterbird surveys along watercourses and lakeshore at heights and speeds allowing for accurate georeferencing of locations and species identification. | Compliant |
| WRP-8 | Aerial surveys will focus on the proposed reservoir and road and transmission corridor between the project and Iqaluit. | Compliant |
| WRP-9 | Transects surveyed 4 times, twice in July and twice in August | Compliant |
| WRP-10 | Biologists will complete migration and breeding bird surveys using transects | Compliant |



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NNC Conformance with Wildlife Research Permit No. 2025-046

| # | Condition | Status |
|--------|--|-----------|
| WRP-11 | Paired teams to walk 1km selected transects to maximize bird detection and to highlight areas of potential interactions between birds and proposed project infrastructure. | Compliant |
| WRP-12 | 8 transects proposed between reservoir and along road and transmission corridor | Compliant |
| WRP-13 | Each transect visit twice during migratory and breeding periods. | Compliant |



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8.0 Project Management Team Contact List

Table 13 lists the primary persons responsible for various aspects of the Investigative Studies for the Iqaluit Nukkiqsautiit Project. Concerns or questions regarding the contents of this report may be directed to Heather Shilton or Jill Byrne.

Table 13: Project Management Team Contact Information.

| Company | Contact | Telephone | Email |
|------------------------------|---|----------------|-------------------------------|
| NNC | Heather Shilton, Director | (867) 979-8400 | hshilton@qcorp.ca |
| NNC | Jill Byrne, INP Project Manager | (867) 979-8400 | jbyrne@qcorp.ca |
| NNC | Keith Drover, INP Project Director | (867) 979-8400 | kdrover@qcorp.c |
| Dillon Consulting | Michelle Roche, Project Manager | (709) 764-6863 | mroche@dillon.ca |
| SEM | Shelly Brown, Environmental Consultant | (709) 754-0499 | shelly.brown@sem ltd.ca |
| Ecologic | Natasha Bush, Environmental Consultant | 604 831 8755 | nbush@ecologicconsultants.com |



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10.0 Signature Page

Nunavut Nukkiqsautiit Corporation

The undersigned Certify that, as part of their role in managing the Project, they have reviewed this report and certify the information herein to be true:

Investigative Studies for the Iqaluit Nukkiqsautiit Project 2025 Annual Report

Jillian Byrne

Name (PRINT)

Project Manager, Development

NNC

Name (SIGN)

April 1st, 2026

Date

Keith Drover

Name (PRINT)

April 1, 2026

NNC

Name (SIGN)

April 1, 2026

Date



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APPENDIX A

Site Photographs



Photo 1 – Temporary campsite area (aerial)



Photo 2 – Temporary campsite area (ground)



Photo 3 - Field Crew Heading toward Helicopter



Photo 4 - Helicopter Slinging Materials to Temporary Campsite



Photo 5 - Field lead (middle) demonstrating the installation of a wildlife camera



Photo 6 – Image of caribou taken from remote wildlife camera



Photo 7 – Image of a rock ptarmigan taken by a field crew member



Photo 8 – Image of an arctic fox taken from remote wildlife camera



Photo 9 – Aerial image of Kuugaaluk (downstream)



Photo 10- Chute outside the proposed spillway



Photo 10 – Downstream aerial image of Kuugaaluk



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APPENDIX B

Iqaluit Nukkiqsautiit Project: 2025 Terrestrial Field Summary Report

Iqaluit Nukkiksautiit Project: 2025 Terrestrial Field Summary Report

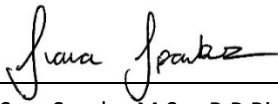
PRESENTED TO:

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PRESENTED BY:

EcoLogic Consultants Ltd.
224 – 998 Harbourside Drive,
North Vancouver, BC V7P 3T2
Phone: 604-803-7146

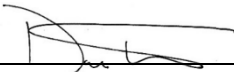
PREPARED BY:



Sara Sparks, M.Sc., R.P.Bio,
EcoLogic

November 20, 2025

Date



Daniel McAllister, M.Sc., P.Ag., Director and Soil
Scientist

November 20, 2025

Date

Authorized by:



Jason Jones, Ph.D., R.P.Bio, P.Biol, Senior Biologist

November 20, 2025

Date

REVISION HISTORY

| Rev. No. | Date | Authors | Reviewer | Details |
|-----------------|-------------------|--|--|-------------------|
| A.1 | November 20, 2025 | Sara Sparks, M.Sc., R.P.Bio., and Daniel McAllister, M.Sc., P.Ag. | Jason Jones, Ph.D., R.P.Bio., P.Biol. | Issued for Review |
| | | | | |

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Appendix A. 2025 Wildlife Camera Locations

Appendix B. 2025 Wildlife Transects

GLOSSARY AND ABBREVIATIONS

| Term | Definition |
|-------------|--|
| CAVM | Circumpolar Arctic Vegetation Map |
| COSEWIC | Committee on the Status of Endangered Wildlife in Canada |
| EcoLogic | EcoLogic Consultants Ltd. |
| ELC | Ecosystem Land Classification |
| INP | Iqaluit Nukkkiksautiit Project |
| LSA | Local Study Area |
| NDVI | Normalized Difference Vegetation Index |
| NNC | Nunavut Nukkkiksautiit Corporation |
| RSA | Regional Study Area |
| SARA | Canada <i>Species at Risk Act</i> |
| VCs | Valued Components |

1. INTRODUCTION

EcoLogic Consultants Ltd (EcoLogic) was contracted to implement terrestrial baseline studies for the Iqaluit Nukkkiksautiit Project (INP). The INP is a 25-MW clean energy hydroelectric project near Iqaluit, Nunavut, led by the Nunavut Nukkkiksautiit Corporation (NNC). INP is in the early phases of project development and is anticipated to include a 50-m high dam and water plant, substation, road, and transmission line that connects the water plant to the substation in Iqaluit. The hydroelectric project would operate for 12 months of the year and would substantially reduce the dependency of Iqaluit on diesel fuel.

The terrestrial baseline studies are part of a larger baseline program led by Dillon Consulting Ltd. to determine the potential effects associated with project development. Although the valued components (VCs) for the Project have not been formally identified, EcoLogic initiated a field program in 2025 focused on likely terrestrial VCs, including ecosystems and wildlife (including caribou, furbearers, and breeding birds). Barren-ground caribou (*Rangifer tarandus groenlandicus*) have been federally identified as Threatened since 2016 by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and are currently under consideration for Schedule 1 of the Canada *Species at Risk Act* (SARA).

The objectives of the 2025 terrestrial baseline studies were to a) conduct reconnaissance field surveys to characterize ecosystems according to ecological community type, b) install a remote wildlife camera network to monitor caribou, and other potential wildlife species of concern, and c) complete wildlife transects to collect preliminary information on wildlife presence.

To accommodate permitting timelines, the terrestrial baseline studies were completed in August and September of 2025, which is outside the favourable detection period for waterfowl, raptors, and landbirds, as well as outside the favourable identification period for vegetation. Therefore, the terrestrial baseline studies for 2025 were intended to provide early preliminary information that could assist with engineering design and to inform ongoing monitoring for 2026.

2. STUDY AREA

The INP lies within the Northern Arctic ecozone of the Ecological Framework of Canada, on the southeastern portion of Baffin Island. Regionally, the project spans two adjacent ecoregions: the Meta Incognita Peninsula ecoregion (Ecoregion 28) and the Hall Peninsula Upland ecoregion (Ecoregion 27).

The INP project footprint includes the proposed dam and reservoir on the Kuugaluk (McKeand) River and lake system on the interior plateau of Hall Peninsula approximately 60 km northeast of Iqaluit, alternative access road alignments and a proposed transmission corridor extending from the reservoir toward Iqaluit. The broader regional study area encompasses the coastal fjord environments of Ward Inlet and Frobisher Bay, interior lake-plain environments represented by Amadjuak Lake, and upland plateau terrain on Hall Peninsula.

There are currently three (3) proposed road alignments that would connect the substation to the transmission lines and proposed reservoir, which are identified as:

1. McKeand S Main Access Road: High
2. McKeand S Main Access Road: Flatter
3. McKeand S Main Access Road: Direct

All three potential access road routes were considered in the design of the 2025 terrestrial baseline surveys to help inform final road selection.

The climate throughout the regional study area is Low Arctic, with mean annual temperatures well below 0 °C, short, cool summers and long, cold winters. Permafrost is continuous. Vegetation is dominated by Low Arctic tundra communities, including dwarf birch and willow shrublands, heath tundra, sedge–moss wetlands, and extensive lichen and moss cover on exposed bedrock and thin till. Tundra cover is more continuous in low-relief interior areas and patchier in coastal and upland terrain where bedrock is at or near the surface.

EcoLogic delineated a Local Study Area (LSA) for the 2025 terrestrial baseline study that encompasses key proposed development features (Appendix A and B). Study areas, both regional and local, are at this time informal and preliminary, and will be formally established for 2026 baseline studies once a more fulsome understanding of project layout and potential effects is established.

3. TERRESTRIAL ECOSYSTEMS

3.1 OBJECTIVES

The overall objectives of the terrestrial ecosystem baseline study for INP are to:

- ◆ Describe terrestrial and wetland ecosystems and their distributions within the LSA.
- ◆ Identify and describe the occurrence of plant species or ecosystems of conservation concern, including those listed by COSEWIC or under the Species at Risk Act, where information is available.
- ◆ Identify the presence and location of any plants considered invasive within Nunavut, should they be detected in future field programs.
- ◆ Characterize baseline metal concentrations in plant tissues where such sampling is undertaken for the INP.
- ◆ Describe the functions of identified ecosystems, including the hydrologic and carbon-storage roles of wetlands and tundra peatlands.
- ◆ Estimate the carbon storage potential of wetlands and organic-rich tundra within the LSA.
- ◆ Provide land cover and vegetation data required for wildlife habitat suitability modelling and for integrating wildlife field results with mapped ELC units.

For 2025, the primary objectives were to review and adapt existing ecological classifications and mapping products to the INP footprint, and to complete reconnaissance field surveys to characterize ecosystem types and calibrate mapping, which will be carried out in Q1 of 2026. Work plans to complete the remaining objectives will be completed and executed in 2026.

3.2 ECOSYSTEM MAPPING

Ecosystem mapping is carried out at multiple scales to support regional and local mapping objectives. Regional scale mapping will include assessment of broad scale habitats to understand the distribution of ecosystems over large areas, in order to understand the regional context of identified ecosystems. Two systems currently in existence include the Ecological Framework of Canada and the Circumpolar Arctic Vegetation Map (CAVM).

The terrestrial setting of the Project is described using the Ecological Framework of Canada, the national classification system that organizes the country's landscapes into a nested hierarchy of ecozones, ecoprovinces, ecoregions, and ecodistricts based on climate, geology, landforms, soils, water, and vegetation. This framework provides a consistent geographic context for understanding ecosystem patterns across Canada and is widely used in environmental assessment and baseline studies. By situating the Project area within this structure, the baseline can describe ecological conditions at multiple spatial scales, from broad continental patterns at the ecozone level to finer-scale terrain and vegetation relationships captured at the ecodistrict level.

The CAVM is a 1:7,500,000-scale pan-Arctic map that classifies vegetation across the entire Arctic tundra belt between the ice-covered Arctic Ocean and the northern limit of forests. It portrays broad physiognomic vegetation types, such as prostrate dwarf-shrub tundras, graminoid tundras and barrens, and their distribution across five bioclimate subzones (A–E), integrating information on summer warmth, moisture, substrate and topography.

The CAVM was compiled by an international team using a photo-interpretive approach, with vegetation polygons delineated on a circumpolar false-colour infrared satellite base, supported by normalized difference vegetation index (NDVI) layers, digital elevation models, climate surfaces and ancillary soils and geology maps. Existing national and regional vegetation maps were cross walked into a common legend. For the INP, the CAVM provides a broad regional context for tundra types and bioclimate subzones and supports interpretation of how site-level ELC units fit within pan-Arctic patterns.

3.2.1 Ecological Framework of Canada

3.2.1.1 Ecodistrict Framework

Within the Northern Arctic ecozone, three ecodistricts are most relevant to the INP regional area:

- ◆ Amadjuak Lake ecodistrict (Ecodistrict 109) – an interior low-relief lake-plain reference area in the Meta Incognita Peninsula ecoregion.
- ◆ Ward Inlet ecodistrict (Ecodistrict 112) – coastal fjord and dissected upland terrain along Frobisher Bay in the Meta Incognita Peninsula ecoregion.
- ◆ Hall Peninsula ecodistrict (Ecodistrict 106) – upland plateau and valley systems of the Hall Peninsula Upland ecoregion, where the INP reservoir and eastern road segments are located.

The western portion of the INP development area, including the western road options, portions of the transmission corridor and any potential coastal infrastructure near Iqaluit, falls within the Meta Incognita Peninsula ecoregion (Ecodistrict 112). The eastern half of the access road alignment and the entire reservoir area occur within the higher-elevation Hall Peninsula Upland ecoregion (Ecodistrict 106).

3.2.1.2 Ecodistrict 109 – Amadjuak Lake (Meta Incognita Peninsula Ecoregion)

Ecodistrict 109 corresponds to the Amadjuak Lake area on the Great Plain of the Koukdjuak and provides a regional analogue for interior, low-relief lake-plain environments. The landscape is characterized by broad, gently undulating plains with large, shallow lakes, ponds and extensive wetland complexes developed on glacially scoured sedimentary and limestone bedrock.

The Low Arctic climate here is slightly less maritime than along the coast, resulting in somewhat warmer summer conditions while remaining strongly Arctic in character. Permafrost is continuous, and ground ice is common in low-lying, poorly drained areas.

Vegetation cover is relatively continuous compared with coastal and upland areas. Well drained sites support dwarf shrub and heath tundra, while shallow depressions, lake margins and drainageways support sedge–moss wetlands and sphagnum and brown moss peat-forming communities. The area provides important habitat for barren-ground Caribou, including calving, summer foraging and migration areas, and supports high densities of breeding and staging waterfowl and other tundra birds associated with the numerous lakes and ponds.

3.2.1.3 Ecodistrict 112 – Ward Inlet (Meta Incognita Peninsula Ecoregion)

Ecodistrict 112 encompasses Ward Inlet along the inner reaches of Frobisher Bay. The defining characteristics are coastal and fjord-like landforms: a narrow marine inlet with steep shorelines, incised side valleys and dissected bedrock uplands. Bedrock outcrops and thin till or colluvial veneers dominate surficial materials, and local relief is much greater than in the Amadjuak lake plains.

The climate remains Low Arctic but is strongly influenced by the marine environment, including heavy sea-ice, strong tides and cool, moist coastal conditions. Permafrost is continuous, with some areas containing ice-rich soils and overburden in slopes and low-lying terrain. Local periglacial processes and coastal dynamics are important drivers of landscape change.

Vegetation in Ecodistrict 112 is patchier than in interior plains. Extensive areas of exposed bedrock support only thin, discontinuous plant cover. Dwarf shrub and lichen–heath tundra are confined to more sheltered microsites, while wet sedge–moss communities occur mainly in valley bottoms, small coastal wetlands and localized depressions. This ecodistrict forms the primary interface between terrestrial tundra and the marine environment of Frobisher Bay, providing habitat for seabirds, marine mammals and coastal tundra species.

Within the INP regional study area, Ecodistrict 112 is particularly relevant to the western road and transmission options and to potential coastal infrastructure near Iqaluit.

3.2.1.4 Ecoregion 27 – Hall Peninsula Upland and Ecodistrict 106 – Hall Peninsula

The Hall Peninsula Upland ecoregion (Ecoregion 27) occupies the upper elevations of the interior portion of Hall Peninsula on southern Baffin Island. It is characterized by a deeply dissected plateau of Precambrian bedrock with rugged relief, including elevated plateaus and incised valleys, and generally higher elevations than the adjacent Meta Incognita Peninsula ecoregion. Surficial materials are dominated by thin till and frost-shattered blockfields over bedrock. The climate is very cold and relatively dry, with a short, cool summer season; continuous permafrost underlies the region, and periglacial processes such as frost heave, patterned ground and solifluction are widespread.

Within this ecoregion, the INP development area lies largely in the Hall Peninsula ecodistrict (Ecodistrict 106). This ecodistrict encompasses the central upland plateau and associated valleys of Hall Peninsula and is characterized by rugged bedrock terrain, thin and discontinuous soil cover, and generally higher, more exposed topography than the Meta Incognita ecodistricts to the west. Vegetation is typical of High to Low

Arctic uplands, with sparse tundra communities dominated by prostrate shrubs, dwarf willows, mountain avens, sedges, mosses and lichens, and large areas of exposed rock where plant cover is minimal. Wetlands are less extensive and are confined mainly to small depressions, valley bottoms and drainage corridors where snow accumulation and drainage conditions allow development of sedge–moss communities and shallow peat.

3.2.2 CAVM Map Units Relevant to the INP

Four CAVM map units are particularly relevant to the INP Project:

- ♦ **P1 – Prostrate dwarf-shrub, herb tundra:** dry, open to patchy tundra with 20–80 percent cover and plants 5–10 cm tall. Vascular plant cover is low and cryptogams are abundant. Dominants include prostrate *Dryas* (*Dryas integrifolia*) and Arctic willow (*Salix arctica*) with sedges (*Carex spp.*), woodrushes (*Luzula spp.*), small grasses and forbs. This unit broadly corresponds with dry to mesic lichen and dwarf-shrub tundra on non-acidic substrates within the INP ELC.
- ♦ **P2 – Prostrate / hemiprostrate dwarf-shrub tundra:** moist to dry tundra on acidic bedrock (granite, gneiss) with high plant cover and a 10–20 cm canopy dominated by mats of Arctic white heather (*Cassiope tetragona*), *Dryas*, dwarf rhododendron (*Rhododendron lapponicum*), willows (*Salix spp.*) and mosses. Within the INP, this unit is analogous to Shrub–Heath Tundra on more sheltered acidic slopes and ridges.
- ♦ **G3 – Nontussock sedge, dwarf-shrub, moss tundra:** moist, often “spotted” tundra on peaty, mainly non-acidic soils, frequently with frost boils and cryoturbated patches. It is dominated by non-tussock sedges, prostrate dwarf shrubs and a well-developed moss and liverwort layer. At the INP, this corresponds closely with Mesic and Wet Graminoid Tundra and peatier sedge–moss wetlands in valley bottoms and gentle slopes.
- ♦ **B2 – Cryptogam barren complex (bedrock):** bedrock-dominated terrain with extensive lichen cover, interspersed with lakes and pockets of zonal vegetation. Vegetation is restricted to cracks and pockets; rock surfaces are covered by saxicolous lichens. At the INP, this unit is expressed as Bedrock Outcrop & Talus, Blockfield and other barren/sparse classes on exposed ridges and fjord walls.

These units provide a regional crosswalk between pan-Arctic classes and project-scale ecological land classification (ELC) mapping for the INP.

3.3 LOCAL STUDY AREA VEGETATION AND ECOSYSTEM BASELINE MAPPING

Ecosystem Land Cover mapping is used at the local level to develop an understanding of site-specific ecological communities and how they are distributed in the landscape. This allows for specific mitigation actions (avoidance, minimize, offset) to be developed for specific ecological functions, which are not possible with regional mapping products. Typically, the maps will be developed at 1:5000 scale.

3.3.1 ELC Mapping Methodology and Classification Framework

The ELC classification system for the INP Project area is based on a standardized classification developed specifically for the Chidliak Project by EcoLogic. In the Arctic, ecosystem development and stability are controlled by surficial geomorphology, including parent material, landscape position, soil texture and coarse fragment content, permafrost and periglacial processes, and erosion by wind and water. ELC units are first defined by landform and substrate and then subdivided by active or inactive geomorphic processes and dominant vegetation.

Because there is no single ecological classification system formally adopted for Nunavut, many projects have developed stand-alone systems. For the INP, EcoLogic built on an iterative classification that integrates data and concepts from several previous Arctic ecosystem classification efforts. The resulting ELC framework uses nested classifications, with broad ecosystem classes subdivided into more narrowly defined associations.

Six broad ecosystem classes are recognized within the Project area: tundra, wetland, fluvial, open water, barren/sparse, and, where applicable, disturbed or barren anthropogenic surfaces. Wetland and riparian ecosystems are defined in accordance with the British Columbia Wetlands Classification System, tundra units follow a previous Arctic ELC (EBA 2002), and freshwater, bedrock and disturbed/barren units follow Resource Inventory Committee standards, as adapted for Arctic conditions. Field data from earlier Arctic projects and from the 2025 INP field program are used to refine the classification and mapping thresholds.

Data collected in 2025 to support the mapping is confined to visual ground plots and air calls. Visual ground plots include classification of the general plot area (400 m²) to the ELC class level. Additional informal information regarding vegetation species, terrain and wildlife is also collected. Air calls are from helicopters and are confined to as detailed an observation as possible, usually to the realm level (tundra, bedrock, wetland, riparian, etc.). The only purpose of these datasets is to help guide the draft mapping to be carried out in Q1 2026. The mapping will then be verified during field work to be carried out in Q3 of 2026.

3.3.2 ELC Classes

The ELC classes provide a narrative, process-based refinement of key ELC units within the Hall Peninsula and coastal upland context. They include the following:

Wet Graminoid Tundra (MGW, WFCS, WMCS, WUF): low-lying till veneers and shallow peat basins where continuous permafrost and perched water tables maintain saturated conditions. Sedges and moisture-tolerant grasses form 40–80 percent cover over brown mosses, often with polygonal microrelief. This unit integrates the wet phase of Till Graminoid Tundra and cottongrass–sedge fen and marsh facies and represents an important carbon-storage and water-filtration habitat.

Mesic Graminoid Tundra (MG): gentle midslopes with imperfect drainage, typically on thin morainal veneers. Herb-rich swards dominated by *Luzula spp.*, *Dupontia spp.* and dwarf cinquefoil (*Potentilla*

hyperarctica) occur over moist but unsaturated soils. Patterned-ground nets and solifluction lobes are common, and these slopes often form snow-free travel corridors used by caribou.

Dry Lichen Tundra (ML, TH): wind-exposed ridge crests and upper slopes where soil moisture is minimal and nutrient status is poor. Sparse lichen mats mix with prostrate Dryas and crowberry (*Empetrum nigrum*) on stony till. Fellfield and blockfield variants represent extremely barren, cryoclastic surfaces that are visually distinctive but have low primary productivity.

Shrub–Heath Tundra: near Frobisher Bay and lower-elevation coastal uplands, slightly milder growing conditions and increased snow capture allow dwarf birch (*Betula nana*), willow and blueberry (*Vaccinium spp.*) to reach 30–60 cm. These structurally more complex communities support rich berry production and important ptarmigan and Arctic hare (*Lepus arcticus*) habitat and are expected particularly along the western road and transmission options.

Fellfield and Boulderfield (FFT, TB): plateau tops and blocky colluvial aprons mantled by frost-shattered granitic rubble with less than ten percent vascular plant cover. These units mark severe cryoclastic weathering and are ecologically sparse.

Bedrock Outcrop & Talus (BR): steep knolls, fjord walls and talus cones where fresh orthogneiss or granitic gneiss is exposed. Vegetation is limited to saxicolous lichens and occasional vascular plants in cracks, but cliffs provide nesting habitat for raptors such as Gyrfalcon (*Falco rusticolus*).

Aeolian Sand & Beach Ridges (AB): wave-reworked or wind-reworked quartz sands along raised marine terraces or lake margins, with very sparse graminoid cover and extremely rapid drainage. These units are relatively rare but ecologically distinct within the LSA.

Fluvial Complexes (FGV, FGS, FDC, SE, FL): braided meltwater channels, glaciofluvial terraces and seasonally flooded benches forming a mosaic of barren gravel bars and willow-colonized ridges. Vegetated versus sparsely vegetated surfaces and freshet drainage channels operate as a single dynamic riparian and fluvial system important to Arctic char (*Salvelinus alpinus*) and migratory birds.

Peat Fen & Shallow-Water Wetland (WFCS, WMCS, SOW): string fens and shallow thaw lakes within broad depressions where peat greater than forty centimeters accumulates and Sphagnum and brown mosses dominate. These units have distinct hydrologic and carbon-sequestration functions relative to surrounding Wet Graminoid Tundra.

Open Water & River Channels (LA, PD, RI): lakes, ponds and river reaches retained as non-terrestrial polygons in the ELC legend to maintain continuity of GIS layers and support integration with fish and hydrology components.

Eskers: linear, well-drained sand and gravel ridges that function as wildlife movement corridors and denning sites, with unique plant assemblages relative to surrounding poorly drained tundra.

These ELC classes will be assessed with the field data collected during the INP Hydro baseline program (Table 3.3-1). It is anticipated that some of these classes will not be identified in the INP LSA, while additional classes will be added.

Table 3.3-1. An overview of the existing Ecological Land Classification codes

| Broad Ecosystem Association | Ecological Land Classification Map Code | Ecological Land Classification Name |
|-----------------------------|---|-------------------------------------|
| Tundra | FFT | Fellfield Tundra |
| | MG | Till Graminoid Tundra |
| | MGW | Till Graminoid Tundra – Wet Phase |
| | ML | Till Lichen Tundra |
| | TH | Dry Sparse Tundra |
| Barren / Sparse | AB | Aeolian Beach |
| | BR | Bedrock |
| | FDC | Freshet Drainage Channels |
| | PN | Permanent Snow |
| | TB | Blockfield |
| Wetland | SOW | Shallow Open Water |
| | WFCS | Cottongrass Sedge Fen |
| | WMCS | Cottongrass Sedge Marsh |
| | WUF | Undifferentiated Fen |
| Open Water | LA | Lake |
| | PD | Pond |
| | RI | River |
| Fluvial | FGV | Vegetated Glaciofluvial |
| | FGS | Sparsely Vegetated Glaciofluvial |
| | FL | Low Bench Floodplain |

3.3.3 ELC Mapping

ELC mapping for the INP Project area will employ a geomorphology-first approach. Ecosystem development and stability are interpreted from surficial geomorphic units, including landscape position (upper, mid- and lower slopes; valley bottoms; terraces), permafrost conditions (ice-rich lowlands versus drier ridge crests), soil texture and coarse fragment content, and hydrologic features such as groundwater seepage and high-water tables.

Delineation and classification of geomorphic and ELC units will be undertaken using high-resolution imagery and LiDAR acquired by Arctic UAV during the 2025 field season, in addition to false-colour infrared imagery as well as other multispectral imagery in the public domain (i.e., Sentinel). Natural-colour imagery helps distinguish vegetation and terrain types based on colour, such as pale green sedge wetlands versus darker shrub tundra. False-colour infrared highlights water and relative soil moisture, aiding interpretation of permafrost interactions, soil moisture holding capacity and drainage. Hillshade products reveal micro- to meso-scale relief and support interpretation of parent material, for example flat fluvial deposits versus hummocky till.

ELC units are attributed using a decile system that allows up to three ELC associations per polygon, creating compound ecosystem types where appropriate. Where more than one ELC association occurs within a polygon, each is assigned a decile representing its approximate percentage of polygon area.

In addition to this “traditional” approach to mapping, alternate predictive mapping methods will be explored to identify the mapping approach best suited for arctic landscapes. This is made possible with advances in satellite imagery resolution, radar, LiDAR and multispectral scans.

Mapping of the RSA and LSA is scheduled for Q1 2026.

3.4 ECOSYSTEM RESULTS

3.4.1 Field Program

A custom ESRI Survey123 digital form, adapted for Arctic projects from the BC Full Ecosystem form (FS882), and ESRI Field Maps were used for data collection. In 2025, a total of 34 ELC visual plots and 80 air call plots were established August 10 to 12 and September 9 and 10, throughout the reservoir area and along the proposed road routes.

3.4.2 Ecosystem Patterns and ELC Distribution

Results from the existing regional mapping and 2025 field program confirm that the INP Project area encompasses a full suite of Arctic upland, wetland and fluvial ecosystems typical of the Hall Peninsula Upland and adjacent coastal uplands.

In the Hall Peninsula Uplands (Ecodistrict 106), the landscape is dominated by Dry Lichen Tundra on ridge crests and upper slopes, Fellfield and Blockfield on exposed plateaus, and Bedrock Outcrop & Talus on knolls and fjord walls. Mesic Graminoid Tundra and Wet Graminoid Tundra occupy mid- and lower-slope positions, often in association with patterned ground and solifluction lobes. Several more mature, productive tundra classes were identified that were not described by the existing classification and will be developed through additional field data in 2026. Small Peat Fens and Shallow Open Water wetlands are in complex with graminoid tundra and tundra tussock in depressions, while Fluvial Complexes occur along the rivers and tributary channels.

In coastal and near-coastal uplands (Ecodistrict 112), increased snow accumulation and slightly milder coastal conditions favour Shrub Heath Tundra on some slopes, with knee-high dwarf birch, willow and berry-producing shrubs over a moss–lichen carpet. Extensive Bedrock and Blockfield units and localized Aeolian Sand & Beach Ridges occur on relict marine terraces or lake margins, creating sharp ecological contrasts over short distances.

3.4.3 ELC Reconnaissance Survey Results

Reconnaissance surveys were conducted in association with wildlife camera deployment. The visual ground plots are presented in Table 3.4-1. Eighty additional air calls were made and are not presented here as they are a dataset in progress (largely comprised of ecological and geomorphic commentary).

Table 3.4-1. Summary of 2025 visual ground plot results

| Plot ID | General Land Cover Type | Ecosystem Land Cover Class |
|---------|-------------------------|----------------------------------|
| G01 | Tundra | Heather / Heather tundra |
| G02 | Tundra | Dry Sparse Tundra |
| G03 | Tundra | Fellfield Tundra |
| G04 | Barren (Till) | Blockfield |
| G05 | Tundra | Fellfield Tundra |
| G06 | Tundra | Heather / Heather tundra |
| G07 | Glacio fluvial | Vegetated Glaciofluvial |
| G08 | Tundra | Fellfield Tundra |
| A05 | Glacio fluvial | Vegetated Glaciofluvial |
| G15 | Tundra | Dry Sparse Tundra |
| A06 | Tundra | Till Graminoid Tundra |
| A08 | Barren | Bedrock |
| G16 | Tundra | Fellfield Tundra |
| G18 | Wetland | Tundra Tussuck- New |
| G21 | Tundra | Tundra Tussuck- New |
| G22 | Tundra | Fellfield Tundra |
| G24 | Tundra | Fellfield Tundra |
| G25 | Tundra | Fellfield Tundra |
| G26 | Wetland | Tundra Tussock |
| G27 | Tundra | Heath / Heather Tundra |
| G28 | Glacio fluvial | Sparsely Vegetated Glaciofluvial |
| G29 | Glacio fluvial | Vegetated Glaciofluvial |

| Plot ID | General Land Cover Type | Ecosystem Land Cover Class |
|---------|-------------------------|--------------------------------|
| G30 | Tundra | Heath / Heather Tundra |
| G31 | Glacio fluvial | Vegetated Glaciofluvial |
| G32 | Fluvial riparian | New ELC Type |
| G33 | Wetland | Tundra Tussock |
| G34 | Glacio fluvial | Large Esker, New ELC Type |
| G35 | Wetland | Tundra Tussock |
| G36 | Tundra | Heather Tundra |
| G37 | Wetland | Tundra Tussock |
| G38 | Tundra | Heather Tundra |
| G39 | Wetland | Tundra Tussock |
| G40 | Tundra | Heath Lichen Tundra |
| V101 | Tundra | Heather Tundra |
| V102 | Tundra | Not Fellfield, Finer Sediments |
| V103 | Glacio fluvial | Air Call – ELC not determined |
| V104 | Tundra | Air Call – ELC not determined |
| V105 | Bedrock | Air Call – ELC not determined |

After a review of the field data, the following ELC classes were identified:

3.4.3.1 Barren (Fellfield)

Fellfield land class is primarily composed of frost-shattered bedrock. The ecosystem occurs on rapid to very rapidly drained shattered bedrock, with dominant texture typically a mix of angular boulders and cobbles. These areas are often highly sorted due to periglacial processes. As expected, given the origin of the material, the vegetation cover is very sparse. Arctic white heather and northern woodrush were the two commonly encountered species in the herb layer.

3.4.3.2 Barren (Till)

Barren Till class is primarily composed till deposits that remain unvegetated (Plate 3.4-1). It occurs on rapid to very rapidly drained morainal blankets and veneers, with dominant texture typically a mix of subrounded boulders and cobbles. These areas are often highly sorted due to periglacial processes. As expected, given the origin of the material, the vegetation cover is very sparse. Arctic white heather and northern woodrush were the two commonly encountered species in the herb layer.



Plate 3.4-1. Example of Barren Till

3.4.3.3 Bedrock

Bedrock ecosystems are mapped in areas dominated by consolidated bedrock outcrops (Plate 3.4-2). These areas are largely unvegetated, except for lichen colonization, and are not covered by any transported surficial materials such as glacial till.

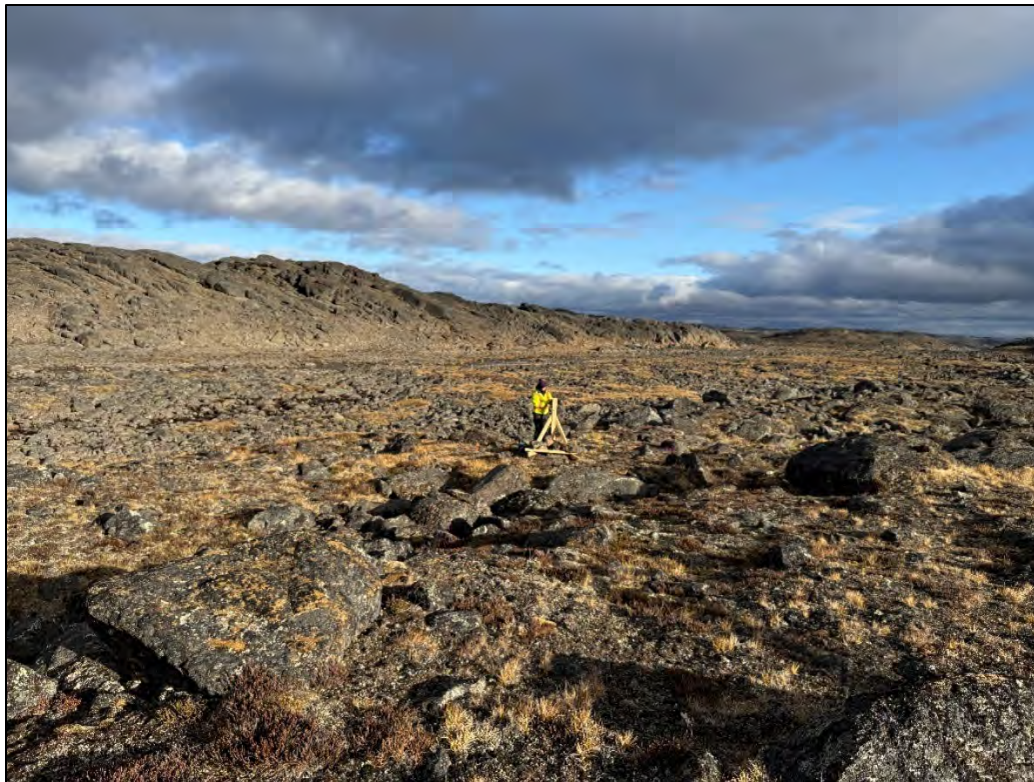


Plate 3.4-2. Example of Bedrock class (background)

3.4.3.4 Dry Sparse Tundra

Mapped largely on morainal blankets with drainage described as well to rapid, Dry Sparse Tundra contains a variety of bryophytes and lichens (Plate 3.4-3). Commonly encountered vegetation in the herb layer includes woodrushes, Arctic white heather, and Arctic cinquefoil.



Plate 3.4-3. Example of Dry Sparse Tundra

3.4.3.5 Fellfield Tundra

The Fellfield Tundra ecosystem appears to be one of the more common terrestrial communities in the study area (Plate 3.4-4). It represents a relatively mature tundra ecosystem and is similar to the Dry Sparse Tundra; however, it is confined to areas of blocky fellfields, with typical tundra vegetation restricted to soil patches between the boulders. Shrub development is essentially absent, while the cover of crustose lichens is high.



Plate 3.4-4. Example of Fellfield Tundra

3.4.3.6 Heath Heather Tundra

Heath Heather Tundra is a new ELC class and represents a much more mature phase of the dry sparse tundra or fellfield tundra (Plate 3.4-5). This ecosystem is characterized by an abundance of heather species. This class will require further data to develop a description.



Plate 3.4-5. Example of Heath Heather Tundra (Barren Till in background)

3.4.3.7 Till Graminoid Tundra

The Till Graminoid ecosystem is typically mapped on morainal (till) blankets and veneers, described as moderately to rapidly well drained (Plate 3.4-6). Gravels, cobbles and boulders form the dominant particle sizes at the surface and subsurface, with a particular emphasis on cobbles. Interstitial fine-textured materials are eroded and deposited within microsites, as well as areas further downslope. These microsites support the vegetative cover, which is dominated by woodrushes, with Arctic white heather, Arctic bluegrass (*Poa arctica*), and moss campion (*Silene acaulis*). The vegetation growing on relatively coarser material is confined to various species of lichen. Apart from Arctic white heather, given the general absence of ericaceous shrubs in the study area, the Till Graminoid Tundra is not considered a relatively productive ecosystem.



Plate 3.4-6. Example of Till Graminoid Tundra

3.4.3.8 Glaciofluvial (including eskers)

Glaciofluvial ecosystems include those derived from surface materials deposited in an aquatic environment during glaciation and associated retreat Plate 3.4-7 and Plate 3.4-8. They include eskers, which are extensive and numerous in the area. Water, moving or standing, is a very effective sorter of materials and as a result, fluvial-related deposits tend to be dominated by a relatively narrow range of particle sizes. Fluvial deposits laid down by glacial meltwater consist of gravels and cobbles, thus representing potential sources of aggregate.



Plate 3.4-7. Example of eskers in the landscape



Plate 3.4-8. Example of Glaciofluvial class

3.4.3.9 Riparian

Riparian ecosystem occurs immediately adjacent to high and moderate gradient creeks and large rivers that scour the community on a regular (annual) basis (Plate 3.4-9 and Plate 3.4-10). Due to the constant disturbance, vegetation may be sparse or patchy, and limited to species that can tolerate flooding. Species more commonly identified include in this unit northern woodrush, Arctic bluegrass, Arctic cinquefoil, and dwarf willow.



Plate 3.4-9. Example of aerial view of Riparian class



Plate 3.4-10. Example of Riparian class

3.4.3.10 Tundra Tussock

Tundra tussock ecosystems occur in cold, poorly drained Arctic uplands where repeated freeze–thaw cycles create raised hummocks (tussocks) separated by wetter inter-tussock depressions (Plate 3.4-11 and Plate 3.4-12). These microtopographic patterns strongly control soil moisture, aeration, and active-layer depth, producing a mosaic of vegetation within a small area.

Tussock surfaces are typically dominated by tussock cottongrass (*Eriophorum vaginatum*), whose dense, fibrous bases form the hummocks. On these slightly drier, elevated microsites, you generally find dwarf birch and dwarf willow shrubs, bog blueberry (*Vaccinium uliginosum*), crowberry, lichens, and feathermosses. The inter-tussock zones are cooler, wetter, and often underlain by ice-rich permafrost. These support sedges, narrow-leaved cotton-grass (*Eriophorum angustifolium*), mosses (*Sphagnum spp.*, *Aulacomnium spp.*, *Hylocomium spp.*), and patches of cloudberry (*Rubus chamaemorus*).

Overall, tussock tundra is a low-stature, graminoid-shrub–moss community adapted to short growing seasons, cold soils, and periodic waterlogging. Vegetation structure is strongly influenced by microrelief, snow accumulation, and soil thermal regime, creating highly patchy but characteristic Arctic plant assemblages.

Although this ecosystem is well described in other Arctic areas, a description has not been developed for Baffin Island.



Plate 3.4-11. Example of vegetation in the Tundra Tussock class



Plate 3.4-12. Example of Tundra Tussock class

3.4.4 ELC Mapping Results

ELC mapping will be carried out during Q1 2026. Draft maps for the LSA and RSA will be developed, and field verified during the 2026 field season.

3.5 PLANT SPECIES IDENTIFIED

Plant species that were identified during reconnaissance surveys in 2025 are summarized by plot in Table 3.5-1. This is not a comprehensive list, but rather, represents dominant species.

Table 3.5-1. Summary of plant species identified in 2025

| Plot | Species |
|------|--------------------------------|
| G01 | <i>Cassiope tetragona</i> |
| | <i>Salix herbacea</i> |
| | <i>Carex bigelowii</i> |
| | <i>Silene acaulis</i> |
| | <i>Racomitrium lanuginosum</i> |
| | <i>Luzula confusa</i> |
| | <i>Polytrichum sp.</i> |

| Plot | Species |
|------|--------------------------------|
| | <i>Salix arctophila</i> |
| | <i>Aulacomnium turgidum</i> |
| | <i>Flavocetraria sp.</i> |
| G02 | <i>Luzula confusa</i> |
| | <i>Potentilla hyparctica</i> |
| | <i>Cassiope tetragona</i> |
| | <i>Racomitrium lanuginosum</i> |
| G03 | <i>Carex bigelowii</i> |
| G04 | <i>Polytrichum sp.</i> |
| | <i>Umbilicaria sp.</i> |
| G05 | <i>Cassiope tetragona</i> |
| | <i>Carex bigelowii</i> |
| | <i>Racomitrium lanuginosum</i> |
| G06 | <i>Luzula confusa</i> |
| | <i>Racomitrium lanuginosum</i> |
| | <i>Cassiope tetragona</i> |
| G07 | <i>Carex bigelowii</i> |
| | <i>Racomitrium lanuginosum</i> |
| | <i>Cassiope tetragona</i> |
| G08 | <i>Cassiope tetragona</i> |
| | <i>Racomitrium lanuginosum</i> |
| | <i>Salix herbacea</i> |
| | <i>Polytrichum sp.</i> |
| | <i>Carex bigelowii</i> |
| G15 | n/a |
| G16 | <i>Cassiope tetragona</i> |
| | <i>Cladonia (Cladina) sp.</i> |
| | <i>Flavocetraria sp.</i> |
| G18 | <i>Cassiope tetragona</i> |
| | <i>Salix herbacea</i> |
| | <i>Flavocetraria sp.</i> |
| | <i>Carex bigelowii</i> |

| Plot | Species |
|------|---------------------------------|
| | <i>Vaccinium vitis-idaea</i> |
| | <i>Sphagnum sp.</i> |
| | <i>Salix arctophila</i> |
| | <i>Huperzia continentalis</i> |
| | <i>Eriophorum angustifolium</i> |
| G21 | <i>Salix arctophila</i> |
| | <i>Sphagnum sp.</i> |
| | <i>Carex membranacea</i> |
| | <i>Vaccinium vitis-idaea</i> |
| | <i>Cassiope tetragona</i> |
| G22 | <i>Cassiope tetragona</i> |
| | <i>Flavocetraria sp.</i> |
| | <i>Carex bigelowii</i> |
| | <i>Salix herbacea</i> |
| | <i>Luzula confusa</i> |
| | <i>Huperzia continentalis</i> |
| G24 | <i>Aulacomnium turgidum</i> |
| | <i>Salix herbacea</i> |
| | <i>Racomitrium lanuginosum</i> |
| | <i>Dactylina arctica</i> |
| | <i>Flavocetraria sp.</i> |
| | <i>Salix arctophila</i> |
| | <i>Luzula confusa</i> |
| G25 | <i>Cassiope tetragona</i> |
| | <i>Luzula confusa</i> |
| G26 | <i>Eriophorum angustifolium</i> |
| | <i>Dupontia fisheri</i> |
| | <i>Carex membranacea</i> |
| | <i>Sphagnum sp.</i> |
| | <i>Salix herbacea</i> |
| | <i>Vaccinium uliginosum</i> |
| G27 | <i>Cassiope tetragona</i> |

| Plot | Species |
|------|--------------------------------|
| | <i>Racomitrium lanuginosum</i> |
| | <i>Carex bigelowii</i> |
| | <i>Salix herbacea</i> |
| | <i>Flavocetraria sp.</i> |
| | <i>Huperzia continentalis</i> |
| | <i>Alectoria ochroleuca</i> |
| | <i>Silene acaulis</i> |
| | <i>Luzula confusa</i> |
| | <i>Carex bigelowii</i> |
| G28 | <i>Silene acaulis</i> |
| | <i>Anthoxanthum monticola</i> |
| | <i>Luzula confusa</i> |
| G29 | <i>Cassiope tetragona</i> |
| | <i>Flavocetraria sp.</i> |
| | <i>Carex bigelowii</i> |
| | <i>Huperzia continentalis</i> |
| | <i>Vaccinium uliginosum</i> |
| G30 | <i>Cassiope tetragona</i> |
| | <i>Racomitrium lanuginosum</i> |
| | <i>Flavocetraria sp.</i> |
| | <i>Carex bigelowii</i> |
| | <i>Salix herbacea</i> |
| | <i>Vaccinium vitis-idaea</i> |
| | <i>Luzula nivalis</i> |
| G31 | <i>Carex bigelowii</i> |
| | <i>Salix arctophila</i> |
| | <i>Cassiope tetragona</i> |
| | <i>Vaccinium uliginosum</i> |
| | <i>Flavocetraria sp.</i> |
| | <i>Betula nana</i> |
| | <i>Racomitrium lanuginosum</i> |
| | <i>Polytrichum sp.</i> |

| Plot | Species |
|------|---------------------------------|
| G32 | <i>Betula nana</i> |
| | <i>Poa arctica</i> |
| | <i>Stellaria longipes</i> |
| | <i>Salix arctophila</i> |
| | <i>Carex bigelowii</i> |
| | <i>Bistorta vivipara</i> |
| | <i>Carex membranacea</i> |
| | <i>Arctagrostis latifolia</i> |
| | <i>Eriophorum angustifolium</i> |
| G33 | <i>Salix uva-ursi</i> |
| | <i>Carex bigelowii</i> |
| | <i>Polytrichum sp.</i> |
| | <i>Eriophorum angustifolium</i> |
| | <i>Carex rariflora</i> |
| G34 | n/a |
| G35 | <i>Bistorta vivipara</i> |
| | <i>Carex bigelowii</i> |
| | <i>Salix arctophila</i> |
| | <i>Cassiope tetragona</i> |
| | <i>Eriophorum angustifolium</i> |
| G36 | <i>Salix arctophila</i> |
| | <i>Salix reticulata</i> |
| | <i>Cassiope tetragona</i> |
| | <i>Salix herbacea</i> |
| | <i>Sphaerophorus globosus</i> |
| | <i>Oxytropis maydelliana</i> |
| | <i>Salix herbacea</i> |
| | <i>Carex bigelowii</i> |
| | <i>Dryas integrifolia</i> |
| | <i>Bistorta vivipara</i> |
| | <i>Salix reticulata</i> |
| | <i>Stellaria longipes</i> |

| Plot | Species |
|------|---------------------------------|
| | <i>Pedicularis flammea</i> |
| | <i>Luzula nivalis</i> |
| | <i>Poa arctica</i> |
| | <i>Equisetum arvense</i> |
| | <i>Salix arctica</i> |
| G37 | <i>Carex membranacea</i> |
| | <i>Salix reticulata</i> |
| | <i>Carex bigelowii</i> |
| | <i>Aulacomnium turgidum</i> |
| | <i>Vaccinium uliginosum</i> |
| | <i>Flavocetraria sp.</i> |
| | <i>Racomitrium lanuginosum</i> |
| | <i>Sphaerophorus globosus</i> |
| | <i>Alectoria ochroleuca</i> |
| | <i>Eriophorum angustifolium</i> |
| G38 | <i>Cassiope tetragona</i> |
| | <i>Salix arctophila</i> |
| | <i>Carex bigelowii</i> |
| | <i>Cladonia (Cladina) sp.</i> |
| G39 | <i>Carex rariflora</i> |
| | <i>Bistorta vivipara</i> |
| | <i>Meesia triquetra</i> |
| | <i>Cinclidium sp.</i> |
| | <i>Salix arctophila</i> |
| | <i>Sphagnum sp.</i> |
| | <i>Cassiope tetragona</i> |
| | <i>Vaccinium uliginosum</i> |
| G40 | <i>Cassiope tetragona</i> |
| | <i>Flavocetraria sp.</i> |
| | <i>Ptilidium ciliare</i> |
| | <i>Vaccinium vitis-idaea</i> |
| | <i>Dryas integrifolia</i> |

| Plot | Species |
|------|--------------------------------|
| | <i>Racomitrium lanuginosum</i> |
| | <i>Sphaerophorus fragilis</i> |
| | <i>Chamaenerion latifolius</i> |
| | <i>Salix herbacea</i> |
| | <i>Polytrichum sp.</i> |

4. WILDLIFE

4.1 WILDLIFE CAMERA NETWORK

4.1.1 Methods

A total of 39 wildlife cameras were installed in stages in 2025, including 28 cameras between August 11 – 14, 2025, and an additional 11 cameras on September 10, 2025 (Appendix A). Locations for wildlife camera installation were first selected based on an initial assessment of satellite imagery. The locations sites were then further refined in the field by the senior wildlife biologist based on topography and habitat features observed from the helicopter. The wildlife cameras were attached to 2x4 stands weighted down by boulders and were constructed on site to provide security and stabilization (Plate 4.1-1).



Plate 4.1-1. Example of a wildlife camera installed on a 2x4 stand in the project area

Signage providing explanation about the wildlife camera program was attached to the camera stations that were likely to be encountered by locals.

Data downloads and battery exchanges were completed between September 9 – 11, 2025, for 23 of the 28 cameras that were first deployed in August 2025. Five (5) of the previously deployed wildlife cameras were not visited in September due to either time constraints or to avoid disturbing large numbers of geese and caribou that were using those locations at the time crews were flying over the area. Only one (1)

camera was destroyed due to repeated caribou rubbing and this location was removed from the final 2025 wildlife camera location map (Appendix A).

The wildlife photos were analyzed by experienced wildlife biologists using MegaDetector AI model version 1000 (Beery et al., 2023) to initially sort through the dataset for empty images. The remaining photos that contained wildlife detections were then manually reviewed using Timelapse Image Analyzer version 2.4.0.0 (Greenberg 2024; Plate 4.1-2).



Plate 4.1-2. A barren-ground caribou (Rangifer tarandus groenlandicus) remotely captured on one of the deployed wildlife cameras that was serviced on September 09, 2025

4.1.2 Preliminary Results

During the brief operational period of August 11 – September 10, 2025, a greater number of detection days for caribou occurred on the west side of the project area and on the south side of the proposed reservoir (Figure 4.1-1).

2025 Wildlife Camera Network

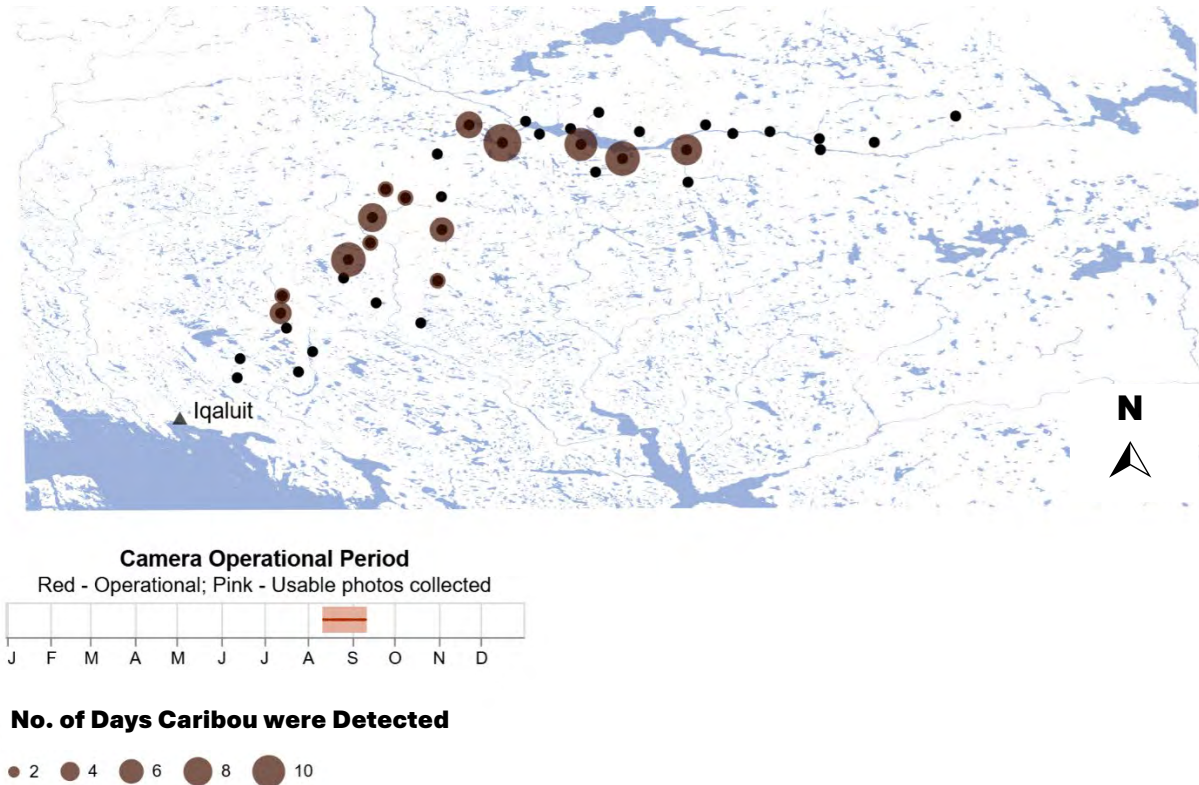


Figure 4.1-1. The number of days that a caribou was detected in front of 23 wildlife cameras that had data collected for the operational period of August 11 – September 10, 2025. Wildlife cameras are represented by black circles, while the number of detection days are represented by brown circles.

Over the 31-day operational period, Caribou were detected for a total of 28 days within the entire wildlife camera network, compared to 15 days for Arctic fox (*Vulpes lagopus*), and nine days for Canada Goose (*Branta canadensis*) (Figure 4.1-2).

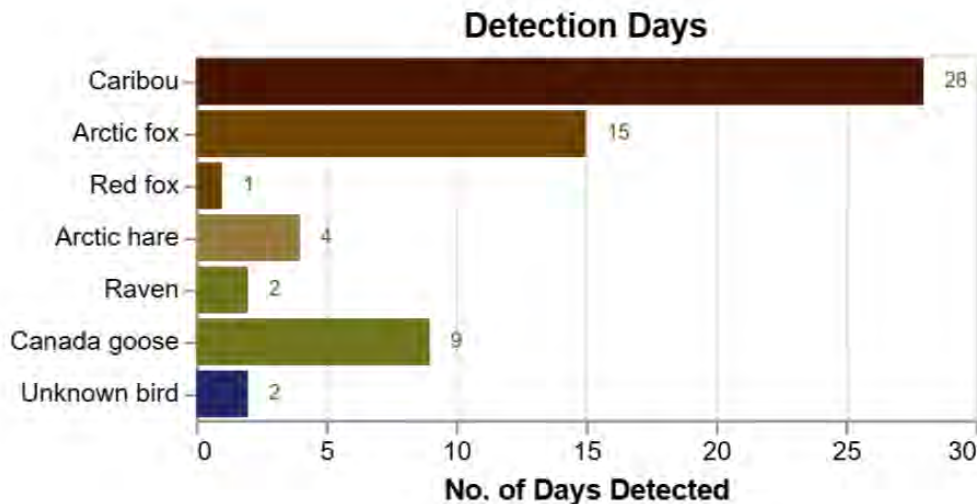


Figure 4.1-2. The total number of days caribou, and other wildlife species, were detected by at least one of the 23 wildlife cameras that had data collected for the 31-day operational period of August 11 – September 10, 2025.

The number of wildlife species detections, including demographic details when available, is summarized in Table 4.1-1. One (1) of the 23 wildlife cameras that had data collected in 2025 had zero species detections and was, therefore, not included in Table 4.1-1.

Table 4.1-1. A summary of wildlife species detections and demographic details for wildlife cameras that had detection events occur between August 11 – September 10, 2025

| Project Area ^(a) | Camera ID | Time Period | Species | No. of Detections ^(b) | Demographic Details | |
|-----------------------------|-----------|-------------|--------------|----------------------------------|--|-----------------------|
| Main Access Road: High | WC2502 | Aug 18 | Canada Goose | 10 | | |
| | WC2503 | Aug 16 - 26 | Arctic Fox | 1 | 5 Bulls, 1 single Cow, 3 Cow and calf pairs (6), 6 Unknown | |
| | | | Caribou | 18 | | |
| | | Sep 01 - 07 | Arctic Fox | 2 | | |
| | WC2505 | Aug 19 - 31 | Arctic Hare | 2 | | |
| | | | Caribou | 2 | | |
| | WC2506 | Aug 20 - 24 | Sep 09 | Caribou | 2 | Cow and calf pair (2) |
| | | | Arctic Fox | 2 | | |
| WC2507 | Aug 23 | Raven | 1 | | | |
| | | Red Fox | 1 | | | |

| Project Area ^(a) | Camera ID | Time Period | Species | No. of Detections ^(b) | Demographic Details |
|-----------------------------|-------------|--------------|--------------|----------------------------------|--|
| | WC2511 | Aug 23 | Arctic Fox | 1 | |
| | WC2518 | Aug 17 | Caribou | 1 | 1 single Cow |
| Main Access Road: Flatter | WC2509 | Aug 20 | Arctic Fox | 1 | |
| | | Sep 04 | Arctic Fox | 1 | |
| | WC2510 | Aug 23 - 28 | Arctic Fox | 1 | |
| | | | Caribou | 5 | 2 Bulls, 1 single Cow, 2 Unknown |
| | | Sep 05 | Arctic Fox | 1 | |
| | WC2512 | Aug 16 - 24 | Caribou | 6 | 2 Bulls, 1 single Cow, 3 Unknown |
| | | Sep 05 | Arctic Hare | 1 | |
| | WC2513 | Aug 21 - 30 | Arctic Hare | 1 | |
| | | | Caribou | 4 | 2 Bulls, Cow and calf pair (2) |
| | WC2515 | Aug 16 - 25 | Caribou | 7 | 2 Cow and calf pairs (4), 2 Bulls, 1 Unknown |
| | | Sep 01 - 10 | Caribou | 10 | Cow and calf pair (2), 3 Bulls, 5 Unknown |
| | WC2517 | Aug 17 - 31 | Arctic Fox | 1 | |
| | | | Canada Goose | 26 | |
| | | Caribou | 7 | 7 Unknown | |
| | | Raven | 1 | | |
| | Sep 10 | Canada Goose | 1 | | |
| WC2519 | Aug 19 - 31 | Canada Goose | 6 | | |
| | | Caribou | 1 | 1 Bull | |
| | Sep 03 - 7 | Caribou | 3 | 3 Unknown | |
| Between Main Access Roads | WC2520 | Aug 26 | Arctic Fox | 1 | |
| | | Sep 07 | Arctic Fox | 1 | |
| Main Access Road: Direct | WC2508 | Aug 12 - 31 | Arctic Fox | 4 | |
| | | | Caribou | 9 | 7 Bulls, Cow and calf pair (2) |
| | Sep 1 - 10 | Caribou | 8 | 8 Unknown | |
| Upper Reservoir Access Road | WC2514 | Aug 14 - 31 | Arctic Fox | 1 | |
| | | | Canada Goose | 14 | |
| | | | Caribou | 9 | 6 Bulls, Cow and calf pair (2), 1 Unknown |
| | | Sep 1 - 8 | Arctic Fox | 2 | |
| | | | Canada Goose | 21 | |
| | | Caribou | 3 | 3 Unknown | |
| WC2523 | 14-Aug | Arctic Fox | 1 | | |

| Project Area ^(a) | Camera ID | Time Period | Species | No. of Detections ^(b) | Demographic Details |
|-----------------------------|-----------|-------------|--------------|----------------------------------|---|
| Reservoir | WC2521 | Aug 22 - 31 | Arctic Fox | 1 | 9 Bulls, 1 single Cow, 1 single calf, 3 Cow and calf pairs (6), 6 Unknown |
| | | | Caribou | 23 | |
| | | Sep 1 - 10 | Arctic Fox | 7 | |
| | | | Arctic Hare | 2 | |
| | | | Canada Goose | 17 | |
| | WC2529 | Aug 19 - 26 | Caribou | 23 | 2 Bulls, 1 male Calf, 1 single Cow, 5 Cow and calf pairs (10), 9 Unknown |
| | | | Bird | 1 | |
| | | Sep 4 - 10 | Arctic Fox | 1 | |
| | | | Caribou | 12 | |
| | WC2531 | Aug 15 - 29 | Caribou | 31 | 4 Bulls, 5 single Cows, 8 Cow and calf pairs (16), 6 Unknown |
| | | | Bird | 1 | |
| | | Sep 4 - 9 | Caribou | 9 | |
| | WC2527 | Aug 15 - 28 | Arctic Fox | 1 | 3 Bulls, 1 male Calf, 4 single Cows, 3 Cow and calf pairs (6), 15 Unknown |
| | | | Caribou | 29 | |
| Bird | | | 4 | | |
| Sep 2 - 6 | | Caribou | 6 | | |
| | | Bird | 1 | | |

- (a) Refer to Appendix A for an overview of the project area locations, including the proposed road routes.
- (b) The number of times an individual animal was detected by a wildlife camera as a single episodic event.

4.2 WILDLIFE TRANSECTS

4.2.1 Methods

A total of 29 wildlife survey transects that were each 1-km in length were completed between August 14 – 23, 2025, including 24 transects along the proposed road routes and five (5) along the McKeand River and Lake (Appendix B). Surveyors walked the length of the transect and documented wildlife encounters and evidence of wildlife presence as supported by scat, tracks, feathers, fir, sheds, and established trails.

The wildlife transects were conducted outside of the primary breeding window for most bird species in the region due to the late initiation of 2025 field work; therefore, the results of the 2025 transects were not intended to be used for formal analysis of avian use and movement within the project area. Instead, the information was intended to provide preliminary information about wildlife use in the project area to better inform surveys for 2026 and to inform design and route selection for the access roads.

4.2.2 Preliminary Results

A total of 19 species were detected along the wildlife transects during the survey period (Table 4.2-1).

Table 4.2-1. Wildlife species detected along 29 wildlife transects completed between August 11 – 23, 2025.

| Species | Group | Project Area Location(s) ^(a) | Observations |
|---|--------|---|--|
| American Pipit (<i>Anthus rubescens</i>) | Birds | Upper Reservoir Road, High Road, Flat Road, Direct Road, Lake Shoreline | Birds heard and observed |
| Arctic Fox (<i>Alopex lagopus</i>) | Mammal | Lake Shoreline | Tracks |
| Arctic Hare (<i>Lepus arcticus</i>) | Mammal | High Road | Animals and scat |
| Canada Goose (<i>Branta canadensis</i>) | Birds | Upper Reservoir Road, High Road, Flat Road, Direct Road, Lake Shoreline | Birds heard and observed, feathers, scat |
| Canine Sp. | Mammal | Direct Road, Upper Reservoir Road, High Road, Flat Road | Scat |
| Barren-ground Caribou (<i>Rangifer tarandus groenlandicus</i>) | Mammal | Lake Shoreline, Upper Reservoir Road, Direct Road, High Road, Flat Road, | Animals, scat, tracks, sheds, bones, and trails |
| Common Loon (<i>Gavia immer</i>) | Birds | Upper Reservoir Road | Bird observed |
| Common Raven (<i>Corvus corax</i>) | Birds | Upper Reservoir Road, High Road, Flat Road | Birds heard and observed |
| Glaucous Gull (<i>Larus hyperboreus</i>) | Birds | Upper Reservoir, High Road | Birds heard and observed |
| Gyrfalcon (<i>Falco rusticolus</i>) | Birds | Direct Road | Bird observed |
| Herring Gull (<i>Larus argentatus</i>) | Birds | High Road | Birds heard and observed |
| Horned Lark (<i>Eremophila alpestris</i>) | Birds | High Road | Birds heard and observed |
| Lapland Longspur (<i>Calcarius lapponicus</i>) | Birds | Flat Road | Bird heard |

| Species | Group | Project Area Location(s) ^(a) | Observations |
|--|--------|--|--------------------------------------|
| Lemming Spp. | Mammal | Lake Shoreline, Upper Reservoir Road, Direct Road, High Road, Flat Road, | Animals heard, burrows, scat, trails |
| Mustela Sp. (weasel) | Mammal | High Road | Animal observed |
| Rock Ptarmigan (<i>Lagopus muta</i>) | Birds | Lake Shoreline, Flat Road | Birds observed |
| Red-throated Loon (<i>Gavia stellata</i>) | Birds | High Road, Flat Road | Birds observed |
| Snow Bunting (<i>Plectrophenax nivalis</i>) | Birds | Lake Shoreline, Upper Reservoir Road, High Road, Direct Road, Flat Road | Birds heard and observed, feathers |
| Snowy Owl (<i>Bubo scandiacus</i>) | Birds | Lake Shoreline, Upper Reservoir Road, High Road | Pellets |

(a) Refer to Appendix B for an overview of the project area locations, including the proposed road routes.

As of 2025, Snowy Owl (*Bubo scandiacus*) has also been identified as Threatened by COSEWIC and is under consideration for listing on Schedule 1 of SARA.

5. 2026 WORKPLANS

5.1 TERRESTRIAL ECOSYSTEMS

The terrestrial ecosystem program for 2026 will focus on completing the reconnaissance field surveys to characterize ecosystem types, developing and field-verifying draft maps, and finalizing maps of the RSA and LSA.

5.2 WILDLIFE

The 2026 wildlife field program will involve continued maintenance of the wildlife camera network and completion of the wildlife transect surveys during the peak detection period for spring migration, breeding season, and fall migration. Survey efforts will be focused on key infrastructure locations (e.g., dam) to support continued engineering design.

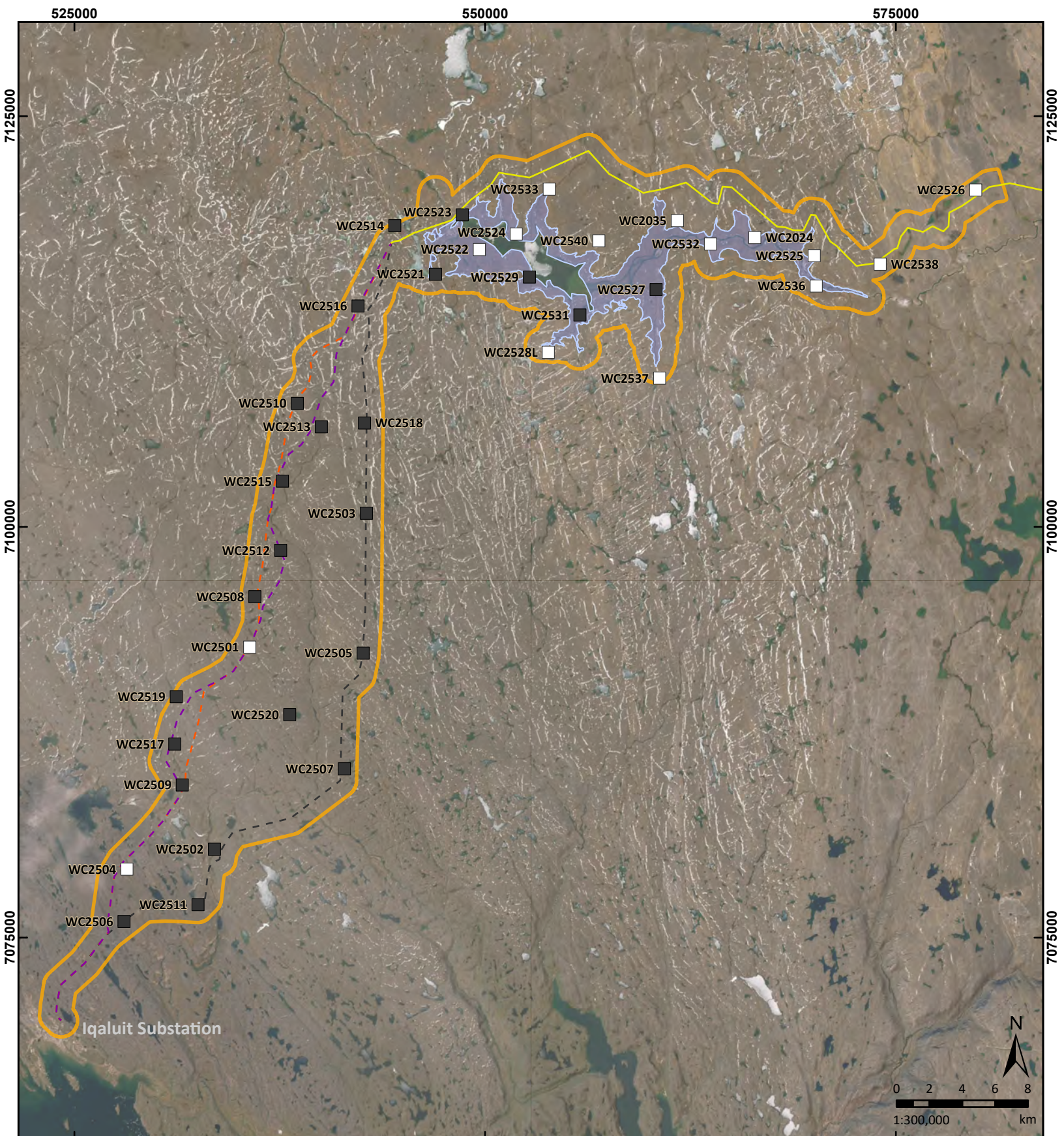
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APPENDIX A. 2025 WILDLIFE CAMERA LOCATIONS



Iqaluit Nukkiqsautiit Project

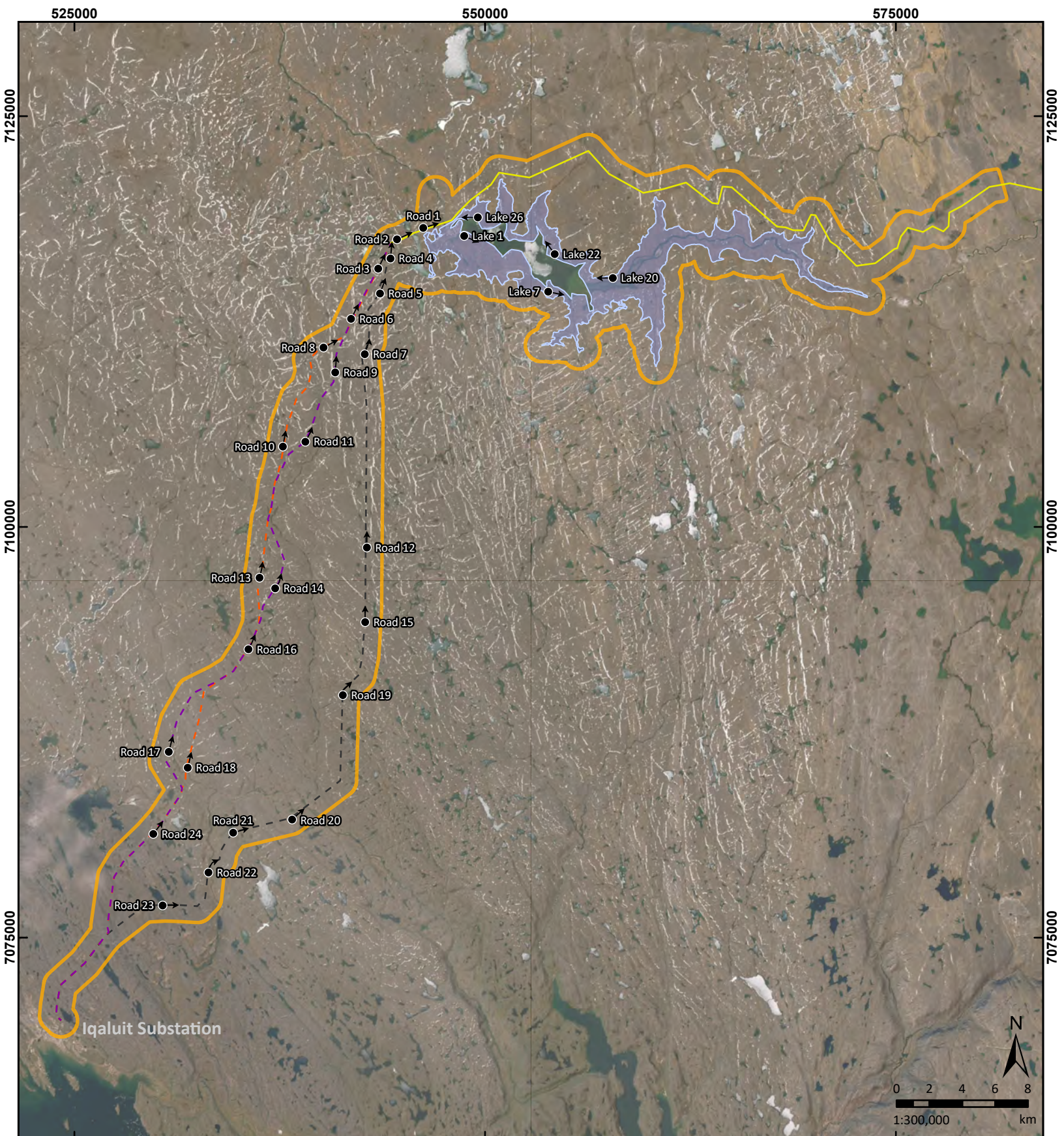
2025 Wildlife Camera Locations

Date: 11/18/2025
 Map Number: INP-009
 Coordinate System: NAD 1983 UTM Zone 19N
 Projection: Transverse Mercator
 Datum: North American 1983

- Wildlife Camera
 - Deployed and Checked
 - Deployed
- Study Area
- Proposed Reservoir
- Upper Reservoir Access Road
- McKeand S - Main Access Road: High
- McKeand S - Main Access Road: Flatter
- McKeand S - Main Access Road: Direct



APPENDIX B. 2025 WILDLIFE TRANSECTS



Iqaluit Nukkiqsautiit Project

2025 Wildlife Transects

Date: 11/18/2025
 Map Number: INP-008
 Coordinate System: NAD 1983 UTM Zone 19N
 Projection: Transverse Mercator
 Datum: North American 1983



- 1-km Wildlife Transect
- Transect Direction
- ▭ Study Area
- ▭ Proposed Reservoir
- Upper Reservoir Access Road
- - - McKeand S - Main Access Road: High
- - - McKeand S - Main Access Road: Flatter
- - - McKeand S - Main Access Road: Direct





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Nunavut Nukkiksautiit Corporation

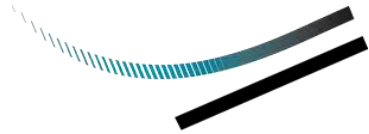
Investigative Studies for the Iqaluit
Nukkiksautiit Project: 2025 Annual Report

Version: 1.0

Date: March 31, 2026

APPENDIX C

Iqaluit Nukkiksautiit Project: 2025 Aquatic Environment Baseline Assessment



DILLON
CONSULTING

NUNAVUT NUKKIKSAUTIIT CORPORATION

Iqaluit Nukkiksautiit Project

2025 Aquatic Environment Baseline Assessment



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References

Acronyms, Abbreviations, Definitions

| | |
|-------|---------------------------------------|
| cm | centimetre |
| CPUE | Catch Per Unit Effort |
| g | gram |
| GIS | Geographic Information System |
| ha | hectare |
| HHRA | Human Health Risk Assessment |
| HTAs | Hunters and Trappers Associations |
| INP | Iqaluit Nukkiksautiit Project |
| km | kilometre |
| LiDAR | Light Detection and Ranging |
| mm | millimeter |
| NL | Newfoundland and Labrador |
| NNC | The Nunavut Nukkiksautiit Corporation |
| NWT | Northwest Territories |
| UAV | Unmanned Aerial Vehicle |

Introduction

The Nunavut Nukkiqsautiit Corporation (NNC) is advancing environmental baseline studies to support early planning for the Iqaluit Nukkiqsautiit Project (INP or the Project), a proposed ~30-megawatt hydroelectric development. As part of these efforts, Dillon Consulting Limited (Dillon) completed an aquatic-focused baseline program in August 2025 to improve understanding of existing freshwater conditions within the Kuugaluk River system; a major waterway located approximately 60 kilometres (km) northeast of Iqaluit, known locally as a “big river” or “big area of a river.” The program included surveys of areas upstream and downstream of the proposed waterpower facility, as well as key tributaries and potential access road corridors.

This 2025 Aquatic Environment Baseline Assessment summarizes the results of desktop data review, aerial and drone-based habitat assessments, and opportunistic fish sampling completed during the 2025 field season. Together, these components provide an initial characterization of the aquatic environment in the study area and help identify data gaps and priorities for more detailed field programs planned for 2026.

Historic information for the watershed is limited, with the most relevant data originating from the 2019 Chidliak Project baseline program. That dataset, combined with literature and publicly available species mapping, was reviewed to help identify potential fish species assemblages and inform preliminary habitat evaluations. Arctic char is the only species confirmed to occur within the Project area to date.

Fieldwork completed in 2025 included:

- Aerial and drone surveys of Unnamed Lake, its inflowing tributaries, and approximately 100 km of the Kuugaluk River system downstream of the proposed dam site;
- Habitat descriptions based on drone imagery used to evaluate channel morphology, substrate, wetted width, stream gradient, and dominant habitat types across river reaches and tributaries;
- Visual assessments along proposed access road alignments to characterize potential aquatic crossings; and
- Opportunistic fish sampling, conducted by local Indigenous community members, resulting in the collection of 28 Arctic char for biometric measurements and laboratory analyses.

The information presented in this report is descriptive and preliminary. It establishes a baseline understanding of aquatic habitats and fish presence within the watershed but does not evaluate potential project effects. Instead, these results will guide the design of the comprehensive aquatic baseline program planned for 2026, which will include water and sediment quality, benthic communities, fish population studies, habitat quantification, and aquatic health indicators.

This assessment reflects NNC's commitment to early data gathering, collaboration with community members, and the incorporation of local knowledge to support the responsible planning of the INP. Future seasons of study will build on this foundation to develop a more complete picture of aquatic conditions within the Project area.

2.0 Methodologies

2.1 Historic Data and Desktop Analysis

A desktop literature review was conducted in order to gain insight on the fish and fish habitat existing within the Project area. The review focused on summarizing information from publicly available sources, such as:

- Government publications;
- Available species mapping; and
- Previous environmental studies.

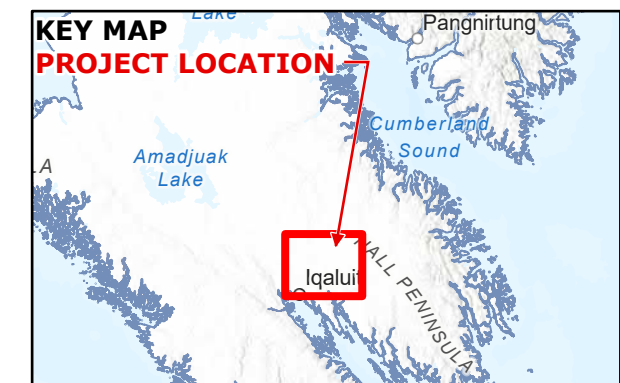
Existing literature was reviewed in order to determine possible fish species assemblages within the Project area, as well as to inform the basis of habitat descriptions and assessments of fish habitat suitability.

NUNAVUT NUKKIKSAUTIIT CORPORATION
2025 AQUATIC ENVIRONMENT BASELINE ASSESSMENT

PROJECT LOCATION

FIGURE 1

- Potential Acces Roads
- Main Reservoir



SCALE 1:250,000

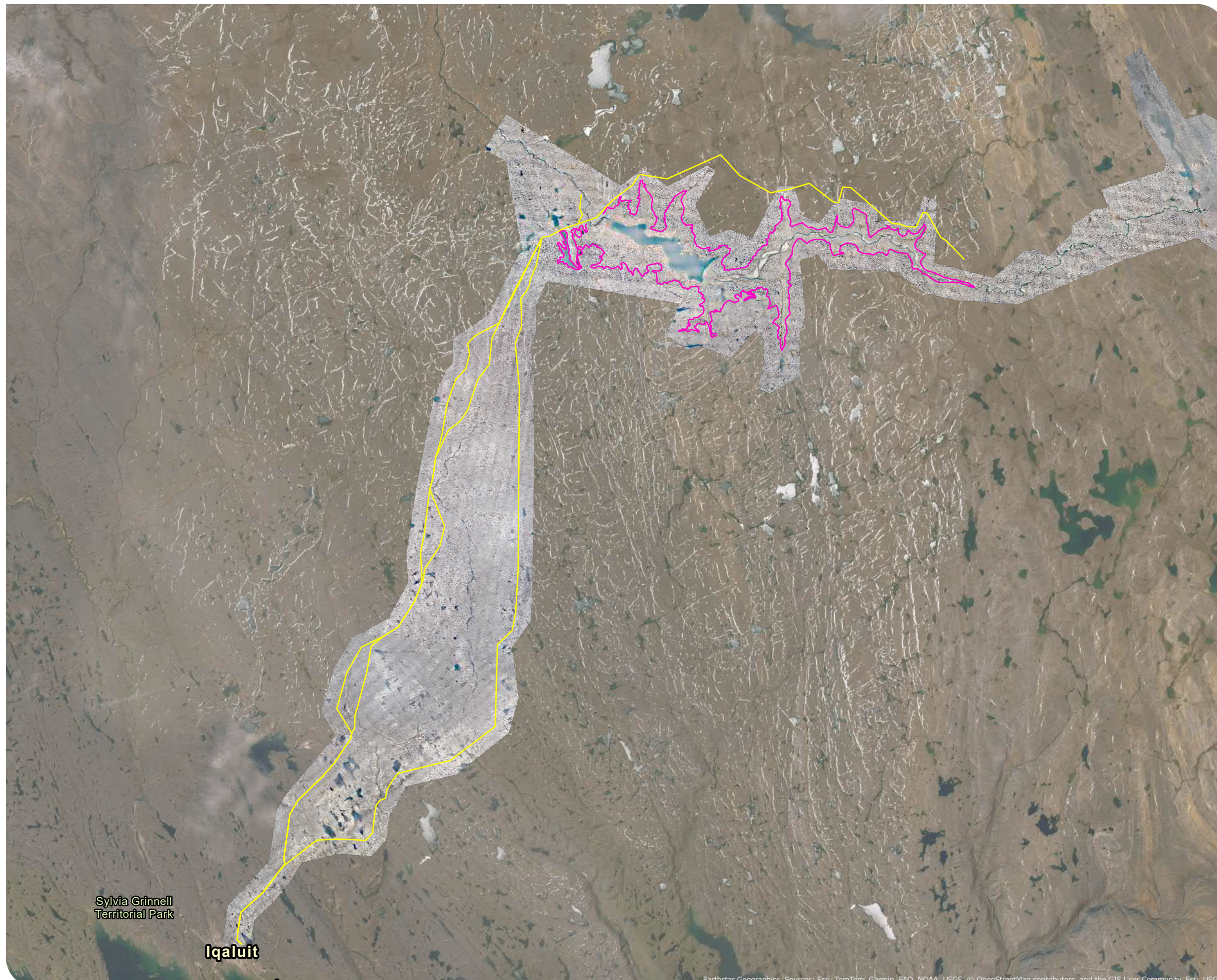


MAP DRAWING INFORMATION:
 DATA PROVIDED BY NRCAN, DILLON CONSULTING LIMITED, NNC, AIRBORNE IMAGING

MAP CREATED BY: NGR
 MAP CHECKED BY: MG
 MAP PROJECTION: NAD 1983 CSRS UTM Zone 19N



PROJECT: 25-1319
 STATUS: DRAFT
 DATE: 2025-11-14



2.2 2025 Field Surveys

2.2.1 Preliminary Habitat Descriptions

Aerial surveys were completed in August 2025, covering the Unnamed Lake shoreline and approximately 100 km of the Kuugaluk River system downstream of the proposed hydroelectric facility location. Additionally, drone imagery collected during extensive LiDAR surveys, completed by Arctic UAV in late July 2025 and, was analyzed to describe habitat within tributaries, upstream of the proposed reservoir, and at major river crossings along proposed access roads. This drone imagery was processed to a 30 cm resolution and then visually assessed to determine dominant habitat types and substrate as well as connectivity within the watershed. River width and stream gradient were estimated using GIS; however, stream gradient calculations were limited to areas where LiDAR data was available, specifically the reservoir perimeter and tributaries, upstream areas, and along the proposed access roads. With the 30 cm resolution, dominant substrate is characterized as fine, coarse and bedrock (**Table 1**).

Table 1: Grain Size and Substrate Classification

| Sediment Grouping | Approximate Size | Rationale |
|-------------------|------------------|---|
| Fine | <30cm | No individual grains are discernible on drone image |
| Coarse | >30cm | Individual grains are easily discernible |
| Bedrock | - | Continuous bedrock |

Figures 2 through 5 show the various locations that were visually assessed during aerial reconnaissance surveys and drone surveys.

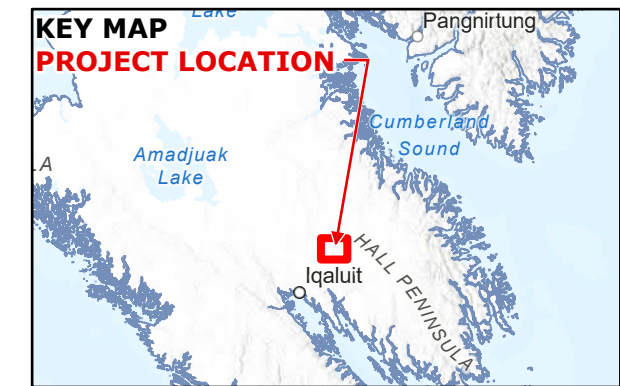
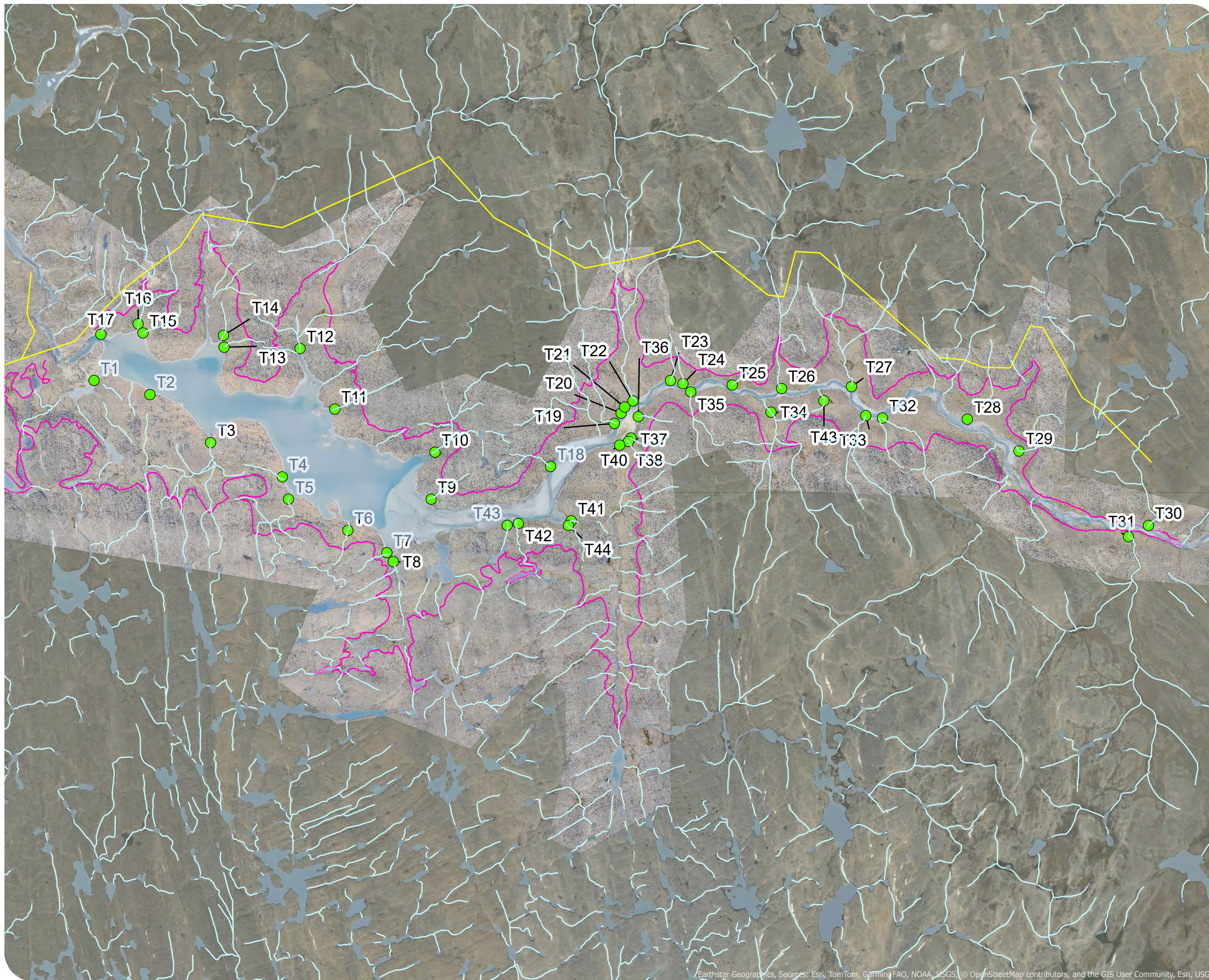
2.2.2 Opportunistic Fishing

Fish samples were collected by members of local communities during the week of September 3, 2025, using spin rods and lures. After capture, the fish were humanely euthanized and retained for sampling. Each fish was identified by species, and its length was recorded. The heads and tails were removed, bagged, and stored frozen. These samples were then sent to St. John's, NL, for processing and laboratory submission, which is currently ongoing.

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2025 AQUATIC ENVIRONMENT BASELINE ASSESSMENT

TRIBUTARY LOCATIONS
FIGURE 2

- Aquatic Habitat Location
- Potential Access Roads
- Main Reservoir
- Watercourse
- Waterbody



MAP DRAWING INFORMATION:
 DATA PROVIDED BY NRCAN, DILLON CONSULTING LIMITED, NNC, AIRBORNE IMAGING

MAP CREATED BY: NGR
 MAP CHECKED BY: MG
 MAP PROJECTION: NAD 1983 CSRS UTM Zone 19N



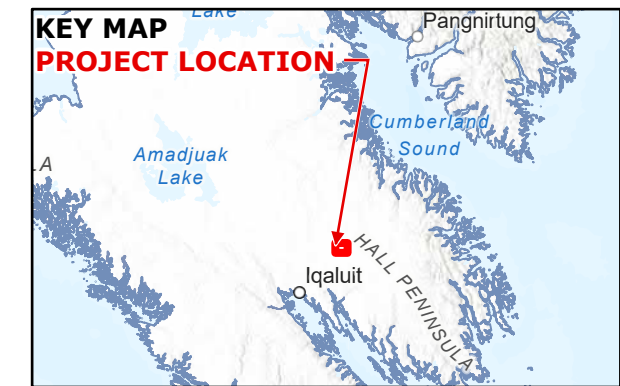
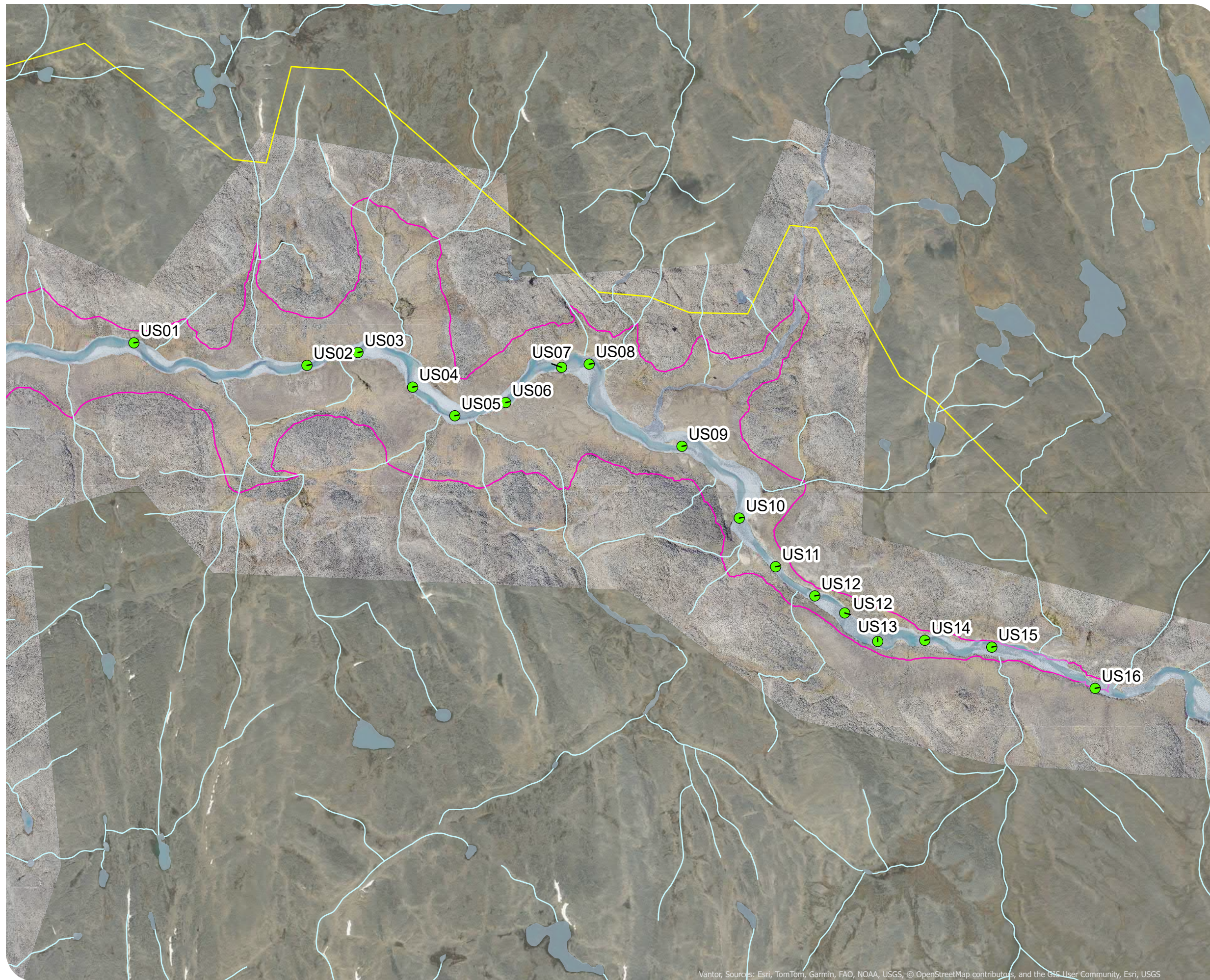
PROJECT: 25-1319
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 DATE: 2025-11-14

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UPSTREAM LOCATIONS

FIGURE 3

- Aquatic Habitat Location
- Potential Access Roads
- Main Reservoir
- Watercourse
- Waterbody



SCALE 1:40,000



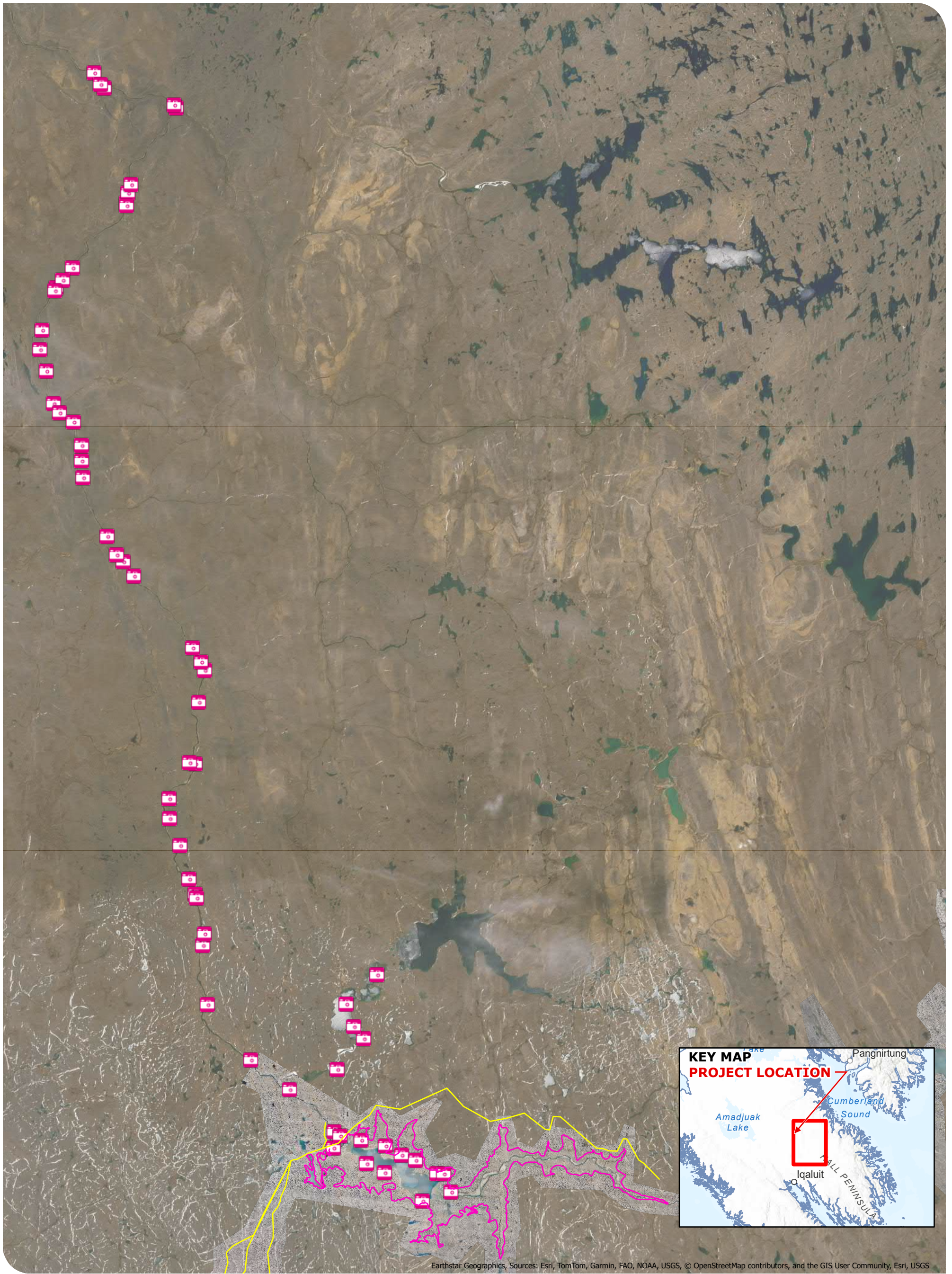
MAP DRAWING INFORMATION:
 DATA PROVIDED BY NRCAN, DILLON CONSULTING LIMITED, NNC, AIRBORNE IMAGING

MAP CREATED BY: NGR
 MAP CHECKED BY: MG
 MAP PROJECTION: NAD 1983 CSRS UTM Zone 19N



PROJECT: 25-1319
 STATUS: DRAFT
 DATE: 2025-11-14

Vantor, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS





Earthstar Geographics, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS

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2025 AQUATIC ENVIRONMENT
BASELINE ASSEMENT

**DOWNSTREAM SURVEY
EXTENTS**

FIGURE 4

-  Photo
-  Main Reservoir
-  Potential Acces Roads

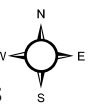


MAP DRAWING INFORMATION:
DATA PROVIDED BY NRCAN, DILLON CONSULTING LIMITED, NNC,
AIRBORNE IMAGING

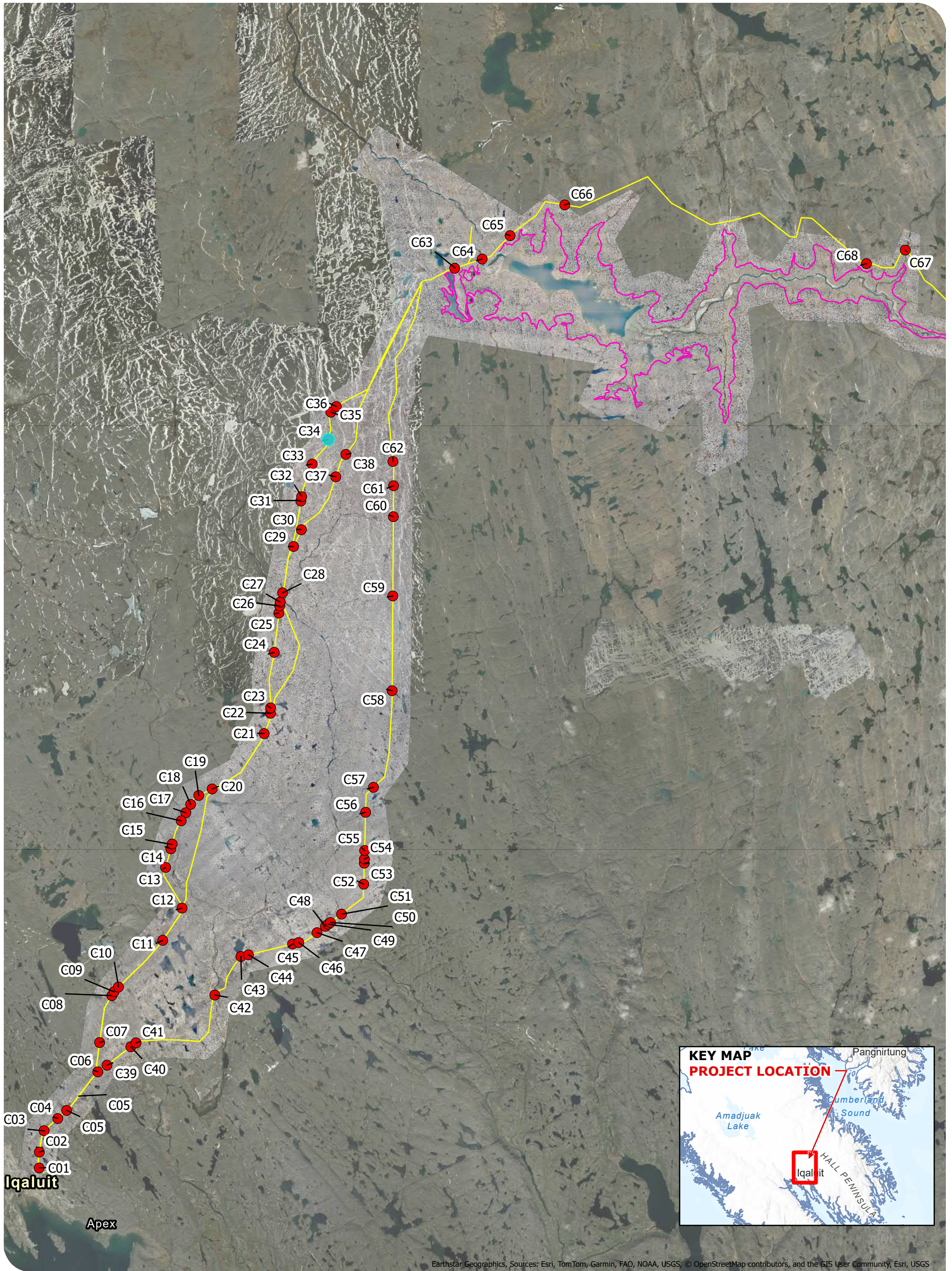
MAP CREATED BY: NGR
MAP CHECKED BY: MG
MAP PROJECTION: NAD 1983 CSRS UTM Zone 19N

SCALE 1:275,000

0 3.5 7 Kilometers



PROJECT: 25-1319 STATUS: DRAFT DATE: 2025-11-14



Earthstar Geographics, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS

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2025 AQUATIC ENVIRONMENT
BASELINE ASSESSMENT

ACCESS ROAD CROSSINGS

FIGURE 5

- Access Road Habitat
- Potential Access Roads
- Waterbody
- Main Reservoir

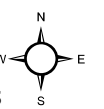


MAP DRAWING INFORMATION:
DATA PROVIDED BY NRCAN, DILLON CONSULTING LIMITED, NNC,
AIRBORNE IMAGING

MAP CREATED BY: NGR
MAP CHECKED BY: MG
MAP PROJECTION: NAD 1983 CSRS UTM Zone 19N

SCALE 1:190,000

0 2.25 4.5 Kilometers



PROJECT: 25-1319 STATUS: DRAFT DATE: 2025-11-14

3.0 Results

3.1 Historic Data and Desktop Analysis

There is currently limited readily accessible published studies for fish species presence and aquatic habitats within the Kuugaluk River system; However, Evans *et al.* (2002) has listed several species as present throughout various regions of Nunavut and Northwest Territories (NWT). Of all the species potentially present (**Table 2**), Arctic char (*Salvelinus alpinus*) is the only confirmed species within the Kuugaluk River system. Arctic char were captured immediately downstream of proposed reservoir during the 2025 monitoring program (see **Section 3.2.2**) and upstream of the proposed reservoir, approximately 48 km east, in 2019 by Golder (2020, **Figure 6**). Sampling in 2019 was completed as a part of the Environmental Assessment for the Chidliak Mine, which was near the headwaters of the Kuugaluk River watershed.

Table 2: Common Freshwater Fishes Found Throughout Nunavut and NWT

| Common Name | Scientific Name | Region Present ¹ |
|-----------------------|-------------------------------|------------------------------------|
| Arctic Char | <i>Salvelinus alpinus</i> | Eastern Arctic Island, East Arctic |
| Arctic Grayling | <i>Thymallus arcticus</i> | East Arctic |
| Burbot | <i>Lota lota</i> | East Arctic |
| Lake Chub | <i>Couesius plumbeus</i> | East Arctic |
| Lake Cisco | <i>Coregonus artedi</i> | East Arctic |
| Lake Trout | <i>Salvelinus namaycush</i> | East Arctic |
| Lake Whitefish | <i>Coregonus clupeaformis</i> | East Arctic |
| Least Cisco | <i>Coregonus sardinella</i> | Eastern Arctic Island, East Arctic |
| Longnose Sucker | <i>Catostomus catostomus</i> | East Arctic |
| Ninespine Stickleback | <i>Pungitius pungitius</i> | Eastern Arctic Island, East Arctic |
| Northern Pike | <i>Esox lucius</i> | East Arctic |
| Round Whitefish | <i>Prosopium cylindraceum</i> | East Arctic |
| Slimy Sculpin | <i>Cottus cognatus</i> | East Arctic |
| Spoonhead Sculpin | <i>Cottus ricei</i> | East Arctic |
| Threespine Stickeback | <i>Gasterosteus aculeatus</i> | Eastern Arctic Island, East Arctic |
| Trout Perch | <i>Perciosis omiscomaycus</i> | East Arctic |
| White Sucker | <i>Catostomus commersoni</i> | East Arctic |

¹Region as per Evans et al. (2002).

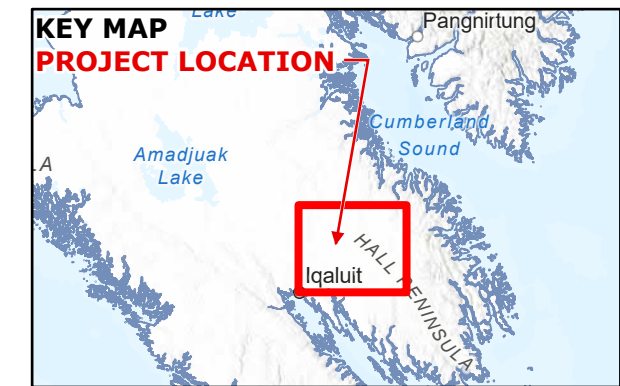
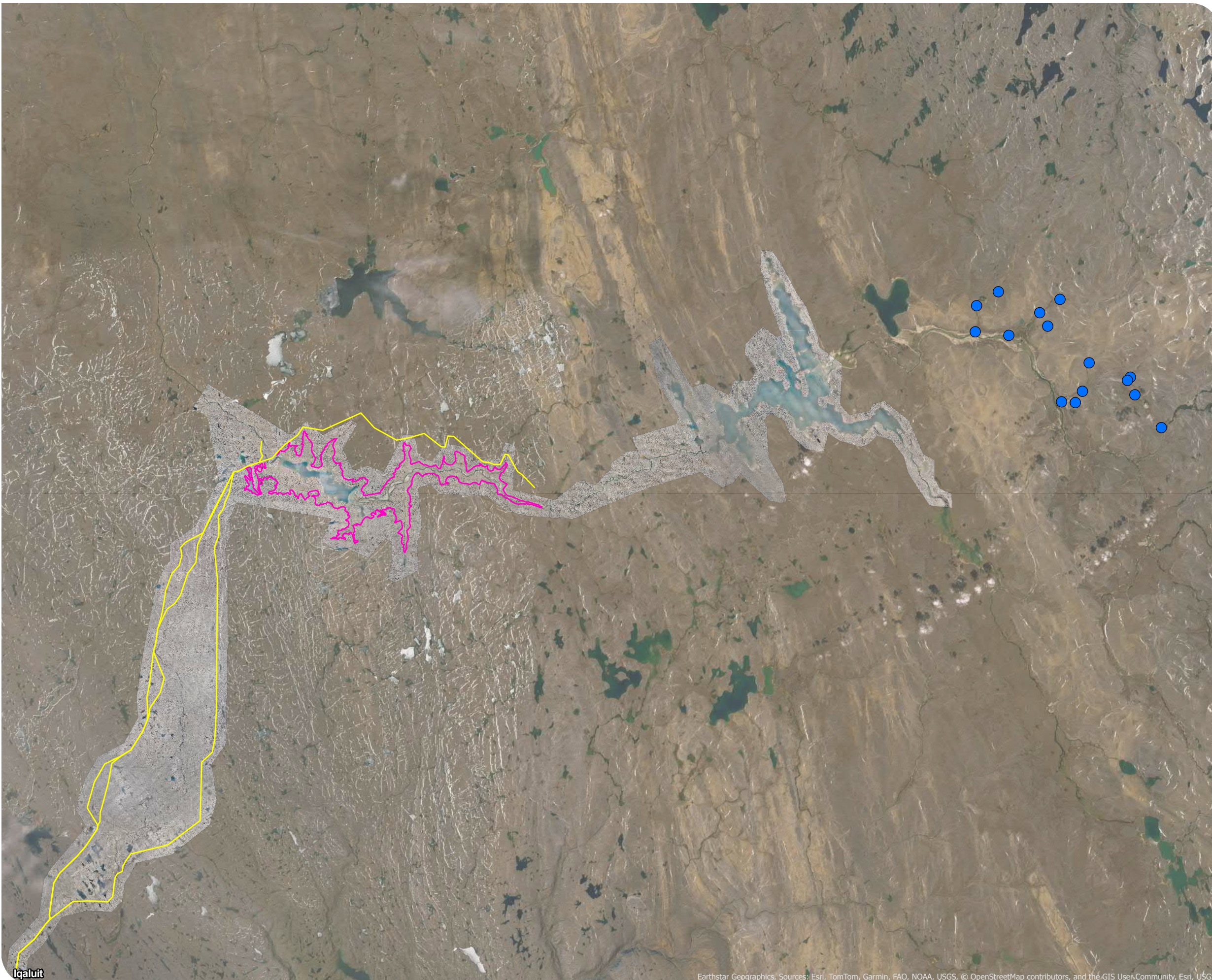
Fish and fish habitat surveys were completed in 2019, for the Chidliak Project by Golder (2020). During this sampling program, Arctic Char was the only species that was captured (**Table 3**). Sampling was completed using a combination of index electrofishing, without the use of barrier nets, and hoop nets.

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2025 AQUATIC ENVIRONMENT BASELINE ASSESSMENT

CHIDLIAK DATA

FIGURE 6

- Childliak Data Points
- Potential Acces Roads
- Main Reservoir



SCALE 1:350,000



MAP DRAWING INFORMATION:
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MAP CREATED BY: NGR
 MAP CHECKED BY: MG
 MAP PROJECTION: NAD 1983 CSRS UTM Zone 19N



PROJECT: 25-1319
 STATUS: DRAFT
 DATE: 2025-11-14

Table 3: Summary of Total Catch and Catch Per Unit Effort (CPUE) Recorded in 2019

| Sample Location | Total Catch | Total Biomass (g) | Abundance CPUE (fish/300 seconds) | Biomass CPUE (grams/300 seconds) |
|------------------------|--------------------|--------------------------|--|---|
| 6-1-DS | 15 | 138.0 | 10.1 | 93.2 |
| 6-1-DS-E | 0 | 0.0 | 0.0 | 0.0 |
| 6-1-MD | 31 | 343.0 | 15.6 | 172.9 |
| 6-1-US | 6 | 66.0 | 3.6 | 39.2 |
| 6-2-DS-W | 4 | 35.0 | 3.6 | 31.3 |
| 6-2g | 3 | 33.0 | 2.5 | 27.7 |
| 6-2-MD | 13 | 344.0 | 8.0 | 212.8 |
| 6-2-US | 9 | 137.0 | 4.9 | 74.7 |
| 7-1a | 0 | 0.0 | 0.0 | 0.0 |
| 7-1-DS | 5 | 44.0 | 3.6 | 32.1 |
| 7-1-MD | 5 | 138.0 | 3.6 | 99.0 |
| 7-1-US | 0 | 0.0 | 0.0 | 0.0 |
| 7-1-US-j | 1 | 3.5 | 1.0 | 3.3 |
| 7-2-DS | 5 | 45.3 | 2.8 | 25.2 |
| 7-2i | 1 | 96.0 | 0.3 | 24.2 |
| 7-2-MS | 2 | 21.0 | 0.6 | 6.3 |
| 7-2-US | 0 | 0.0 | 0.0 | 0.0 |
| Total | 100 | 1,443.9 | 3.2 | 46.7 |

All of the Arctic char that were sampled in 2019 were juveniles, with the largest individual fish being 200mm in length. Froese & Pauly (2025) have found length and maturity for Arctic char on Baffin Island to range from 350 to 500mm (**Figure 7**).

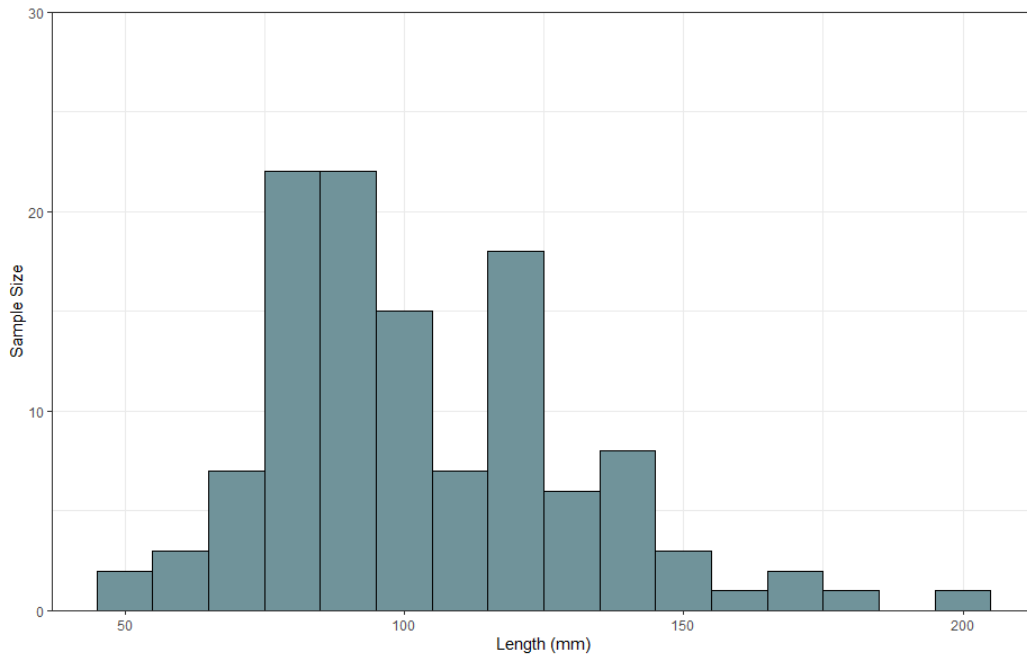


Figure 7: Length Distributions for Arctic Char Captured Upstream of the Project Area in 2019

Preliminary habitat assessments were completed to determine the overall habitat quality for Arctic char, using habitat preferences presented by Evans *et al.* (2002; **Table 4**). Additional assessment will be undertaken following more extensive fishing surveys to confirm presence of other species. Fish habitat assessments are based on visual assessments and should be considered preliminary. Detailed habitat surveys will be undertaken during the proposed 2026 field program to further define the habitat present and quality.

Table 4: Habitat Preferences for Arctic Char (Evans et al. 2002)

| Category | Spawning | Young-of-Year | Juvenile | Adult |
|-----------|----------|---------------|----------|-------|
| Depth | | | | |
| 0-20cm | H | H | H | - |
| 21-60cm | H | H | H | - |
| 61-100cm | H | H | H | - |
| 101-200cm | H | - | - | - |
| >200cm | H | - | - | - |
| Substrate | | | | |
| Bedrock | - | - | - | - |
| Boulder | - | - | - | - |
| Rubble | H | - | - | - |

| Category | Spawning | Young-of-Year | Juvenile | Adult |
|-----------------|----------|---------------|----------|-------|
| Cobble | M | - | - | - |
| Gravel | H | H | H | - |
| Sand | M | - | - | - |
| Silt/Clay | - | - | - | - |
| Hand-pan | - | - | - | - |
| Detritus (muck) | - | - | - | - |
| Flow Regime | | | | |
| Pool | H | H | H | - |
| Run | H | - | - | - |
| Riffle | H | - | - | - |
| Rapid | - | - | - | - |

Legend

| | |
|---|--|
| H | High Suitability |
| M | Medium Suitability |
| L | Low Suitability |
| - | Not Suitable/No documented preferences |

3.2 2025 Field Surveys

3.2.1 Preliminary Habitat Descriptions

3.2.1.1 Unnamed Lake Shoreline

The proposed reservoir covers a surface area of approximately 1,111 ha. The bathymetry of the reservoir is currently unknown, and the waterbody flows in a northwest direction (**Figure 8**). The Kuugaluk River system upstream of the proposed reservoir is the primary source; along with other large unnamed tributaries, it forms notable deltas where it enters the reservoir. The shoreline is characterized by coarse, rocky material, primarily rubble and boulder. However, shallow gravel and cobble bars are present, particularly near the northeastern shoreline. The littoral zone consists largely of fine substrate, creating suitable spawning habitat for Arctic char.

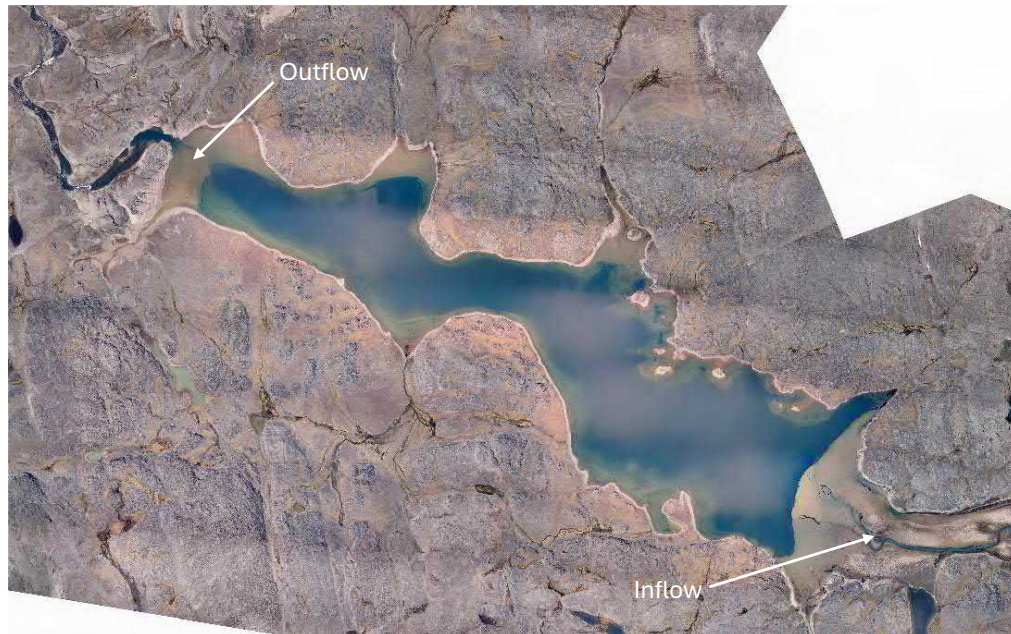


Figure 8: Drone Imagery of Unnamed Lake, August 2025

3.2.1.2 Proposed Reservoir Inflow

The formation of the proposed reservoir due to flooding for the proposed project is expected to inundate approximately 20km of the Kuugaluk River system upstream of the existing inflow confluence, changing the riverine habitat to lacustrine. The majority of the habitat present within the Kuugaluk River system above Unnamed Lake was dominated by run morphology with fine substrates (**Figure 9, A and B**). At the time of the drone surveys, the wetted width was an average of 60-120m, with channel widths often exceeding 200 m. There were 16 areas of riffle, cascades and rapids along the river (**Figure 9, C and D**), with the first approximately 8 km upriver of proposed reservoir. A single small chute was identified, where the river narrowed from 120m to 30m, with bedrock being prominent. Based on the suitability presented by Evans *et al.* (2002), there is habitat present in proposed reservoir Inflow that would be suitable for all life stage of Arctic char.



Figure 9: Representative Habitat in Kuugaluk River Above Proposed Reservoir; A) Kuugaluk River at Confluence with Proposed Reservoir, B) Run Habitat, C) Riffle and Cascade, D) Riffle and Small Chute

3.2.1.3 Proposed Reservoir Tributaries

A total of 45 tributaries were assessed using drone imagery collected in August 2025 (Table 5, Figure 2). Overall, the most dominant habitat present along the tributaries was riffle, with coarse substrate being the most dominant. Width and stream gradient varied throughout the tributaries (Table 5). Overall, many of the tributaries appeared to be intermittent, with poorly defined channels and heavy braiding. Many of the tributaries may be seasonal but could be passable and maintain suitable fish habitat during freshet.

Table 5: Habitat Measurements for Tributaries Flowing into Proposed Reservoir

| Tributary Number | Dominant Habitat | Dominant Substrate | Estimated Width (m) | Estimated Gradient (%) |
|-------------------------|-------------------------|---------------------------|----------------------------|-------------------------------|
| T1 | Run | Fine | 23 | <1 |
| T2 | Intermittent | Coarse | - | 7 |
| T3 | Intermittent | Coarse | 8 | 3 |
| T4 | Intermittent | Coarse | 8 | 3 |
| T5 | Intermittent | Coarse | 8 | 3 |
| T6 | Intermittent | Coarse | - | 4 |
| T7 | Intermittent | Coarse | 14 | 10 |
| T8 | Riffle | Coarse | 8 | 3 |
| T9 | Intermittent | Coarse | 12 | 4 |
| T10 | Riffle | Coarse | 4 | 3 |
| T11 | Riffle | Coarse | 2 | 1 |
| T12 | Riffle | Coarse | 16 | 2 |
| T13 | Intermittent | Fine | 1 | 1 |
| T14 | Riffle | Fine | 3 | 1 |
| T15 | Riffle | Coarse | 3 | 4 |
| T16 | Riffle | Coarse | 8 | 3 |
| T17 | Run | Fine | 3 | 10 |
| T18 | Riffle | Coarse | 9 | 7 |
| T19 | Riffle | Coarse | 3 | 3 |
| T20 | Run | Fine | 8 | 6 |
| T21 | Run | Fine | 8 | 6 |
| T22 | Run | Fine | 11 | 1 |
| T23 | Run | Fine | 6 | 7 |
| T24 | Intermittent | Fine | 3 | 5 |
| T25 | Riffle | Coarse | 4 | 4 |
| T26 | Riffle | Coarse | 23 | 3 |
| T27 | Riffle | Coarse | 9 | 3 |
| T28 | Riffle | Coarse | 36 | 4 |
| T29 | Riffle | Fine | 27 | 3 |
| T30 | Riffle | Coarse | 12 | 7 |
| T31 | Riffle | Fine | 22 | 3 |
| T32 | Riffle | Coarse | 17 | 1 |
| T33 | Riffle | Coarse | 4 | <1 |
| T34 | Riffle | Coarse | 20 | 2 |
| T35 | Intermittent | Fine | 40 | 2 |
| T36 | Intermittent | Fine | 12 | 5 |
| T37 | Riffle | Fine | 11 | 5 |
| T38 | Riffle | Fine | 26 | 5 |

| Tributary Number | Dominant Habitat | Dominant Substrate | Estimated Width (m) | Estimated Gradient (%) |
|-------------------------|-------------------------|---------------------------|----------------------------|-------------------------------|
| T39 | Riffle | Fine | 10 | 2 |
| T40 | Riffle | Fine | 18 | 3 |
| T41 | Riffle | Fine | 10 | 3 |
| T42 | Intermittent | Fine | 1 | 2 |
| T43 | Intermittent | Fine | <1 | 3 |
| T44 | Riffle | Coarse | 5 | 3 |
| T45 | Riffle | Coarse | 16 | 2 |

3.2.1.4

Kuugaluk River Downstream of Proposed Reservoir

Aerial surveys covered the downstream area approximately 100km from the outflow of proposed reservoir. Visual surveys were completed for 34 individual points. Overall, rapids was the most common channel morphology assessed, with boulder being the most prevalent substrate (Table 6). In addition to rapids, pool, run and riffle channel morphology were also observed (Figure 10). On average, the Kuugaluk River system downstream of the Reservoir was estimated to be 115m wide, ranging from 60 to 235m. Based on the suitability presented by Evans et al. (2002), there is habitat present in proposed reservoir downstream of proposed reservoir that would be suitable for all life stages of Arctic char.

Table 6: Habitat Information from Kuugaluk River Downstream of Proposed Reservoir

| Distance Downstream (km) | Dominant Channel Morphology | Dominant Substrate | Estimated Width (m) |
|---------------------------------|------------------------------------|---------------------------|----------------------------|
| 6.1 | Run | Gravel | 67 |
| 10.1 | Pool | Gravel | 155 |
| 16.0 | Run | Gravel | 112 |
| 20.8 | Rapid | Boulder | 128 |
| 21.7 | Rapid | Bedrock | 235 |
| 24.3 | Run | Gravel | 230 |
| 24.7 | Riffle | Rubble | 134 |
| 26.3 | Riffle | Rubble | 92 |
| 29.2 | Rapid | Boulder | 128 |
| 31.6 | Riffle | Cobble | 141 |
| 33.2 | Run | Cobble | 136 |
| 37.0 | Run | Cobble | 182 |
| 42.2 | Riffle | Boulder | 113 |
| 44.7 | Rapid | Boulder | 88 |
| 45.5 | Rapid | Boulder | 88 |
| 46.7 | Rapid | Boulder | 108 |

| Distance Downstream (km) | Dominant Channel Morphology | Dominant Substrate | Estimated Width (m) |
|---------------------------------|------------------------------------|---------------------------|----------------------------|
| 54.2 | Rapid | Boulder | 94 |
| 55.7 | Run | Boulder | 112 |
| 56.5 | Rapid | Boulder | 103 |
| 58.3 | Run | Gravel | 76 |
| 63.1 | Run | Sand | 103 |
| 64.5 | Rapid | Boulder | 106 |
| 65.6 | Rapid | Boulder | 106 |
| 67.5 | Rapid | Boulder | 99 |
| 68.7 | Rapid | Boulder | 109 |
| 72.4 | Rapid | Boulder | 110 |
| 74.2 | Run | Gravel | 101 |
| 76.0 | Run | Cobble | 160 |
| 79.3 | Rapid | Boulder | 60 |
| 80.3 | Riffle | Boulder | 79 |
| 87.1 | Riffle | Boulder | 82 |
| 96.6 | Run | Boulder | 101 |
| 104.2 | Riffle | Boulder | 65 |

Note:

Habitat and substrate descriptions are representative of the survey location only, and do not indicate habitat between survey points.

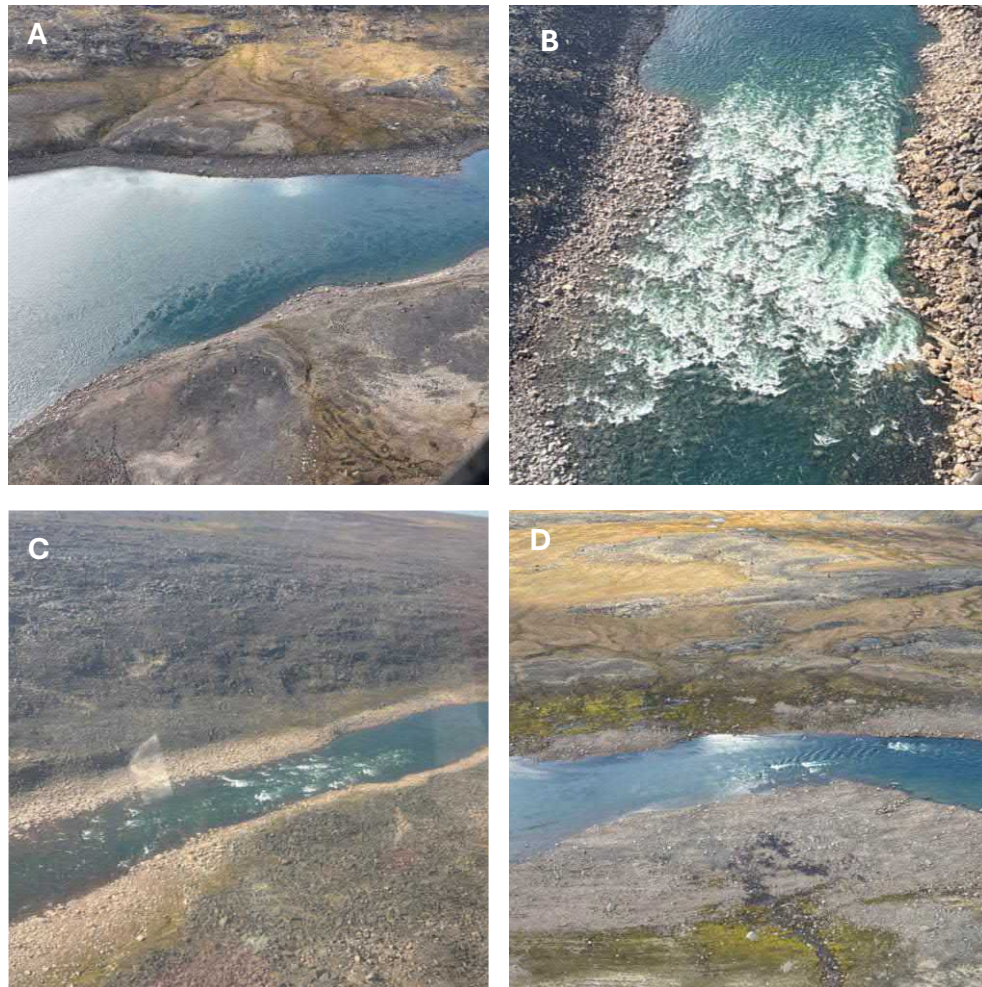


Figure 10: Examples of the Different Channel Morphology Observed in the Kuugaluk River Downstream of Proposed Reservoir. A) Pool, B) Rapid, C) Riffle, D) Run

Potential Barriers

Throughout the aerial surveys, the only potential barriers to upstream fish movement that were identified were the two chutes located immediately downstream of proposed reservoir (**Table 7; Figure 11**). The presence of Arctic char (see **Section 3.2.2**) upstream of the chutes indicates that they may only pose seasonal or partial barriers to upstream migration. Each chute was almost entirely bedrock, and had overall gradients of 4% and 5%, respectively. Over the entirety of each chute (**Figure 11**), there were two notable steep sections, with a flatter section connecting them. Maximum measure gradients were 17% in Chute 1 and 11% in Chute 2.

Table 7: Summary of Chute Measurements Downstream of Unnamed Lake

| Chute ID | Width (m) | Length (m) | Overall Gradient (%) | Maximum Gradient (%) | Dominant Substrate |
|----------|-----------|------------|----------------------|----------------------|--------------------|
| Chute #1 | 23 | 191 | 17 | 4 | Bedrock |
| Chute #2 | 18 | 402 | 11 | 5 | Bedrock |

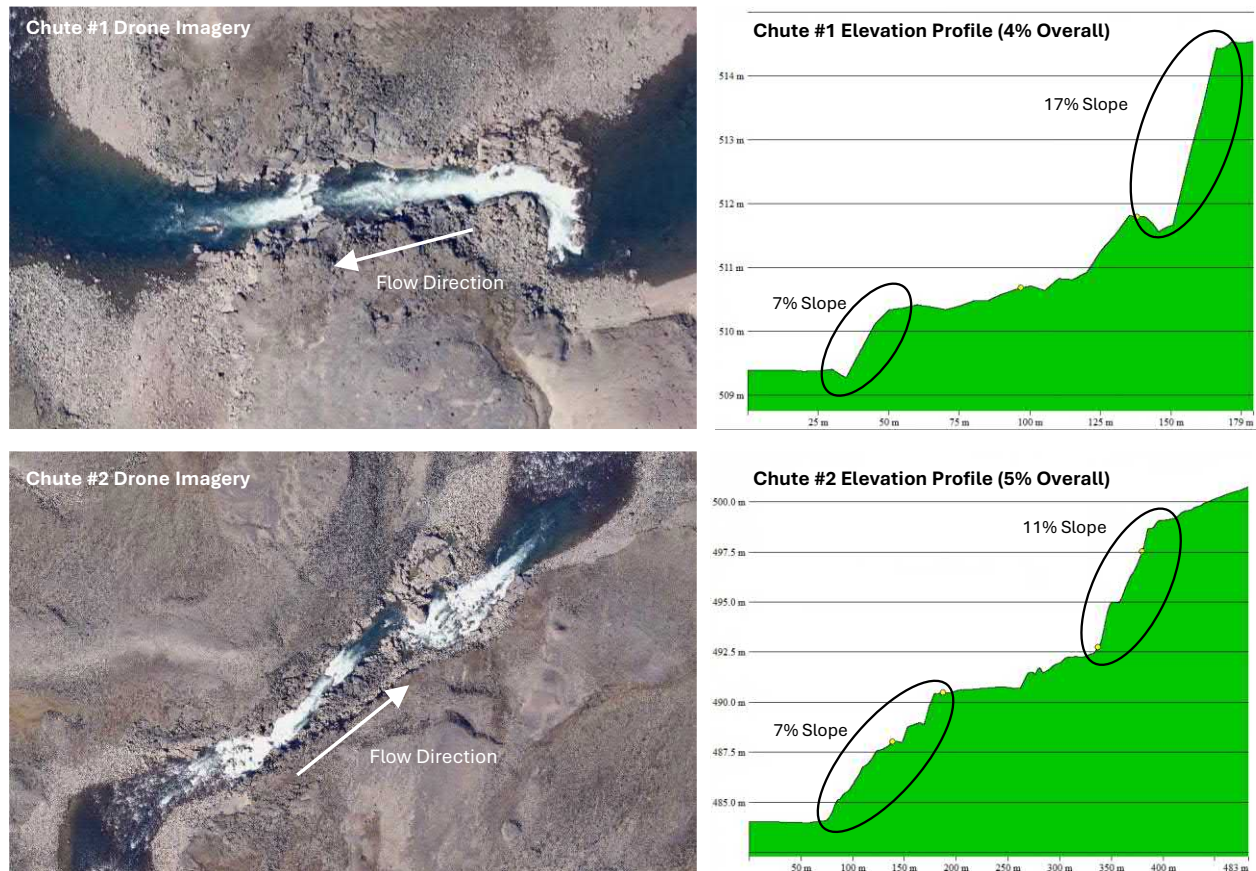


Figure 11: Upper and Lower Chutes Found Immediately Downstream of Proposed Reservoir (Image from Drone Surveys Completed on late August, 2025)

3.2.1.5 Access road Crossings

A total of 59 stream and river crossings were assessed across three proposed access road alignments using drone imagery collected in August 2025. Intermittent flow, with coarse substrate was the predominant habitat, indicating the seasonality of the watercourses in the area, which are likely fed by snow melt. Width and stream gradient varied throughout the crossings (**Table 8**). There were instances of large riverbeds, which were completely dry, again showing the seasonality of the watercourse within the area. Large dry channels have been included in **Table 8**; however, locations lacking a clearly defined channel were excluded. Based on the suitability presented by Evans *et al.* (2002), there is limited suitable Arctic char habitat present in the access road crossing, and the habitat that is present is isolated to select streams.

Table 8: Habitat Information from Access Road Crossings

| Crossing Number | Dominant Channel Morphology | Dominant Substrate | Estimated Width (m) | Estimated Gradient (%) |
|------------------------|------------------------------------|---------------------------|----------------------------|-------------------------------|
| C01 | Intermittent | Fine | 20 | 4 |
| C02 | Pool | Bedrock | 8 | 1 |
| C03 | Run | Bedrock | 15 | 2 |
| C07 | Intermittent | Fine | 2 | 3 |
| C08 | Intermittent | Fine | 2 | 2 |
| C09 | Pool | Fine | 21 | 8 |
| C11 | Intermittent | Fine | 3 | 6 |
| C12 | Riffle | Coarse | 32 | 10 |
| C13 | Pool | Coarse | 35 | 2 |
| C16 | Riffle | Bedrock | 36 | 7 |
| C18 | Intermittent | Fine | 2 | 2 |
| C21 | Intermittent | Fine | 9 | 0 |
| C22 | Flat | Fine | 33 | 7 |
| C23 | Intermittent | Coarse | 12 | 5 |
| C24 | Intermittent | Coarse | 8 | 5 |
| C25 | Intermittent | Coarse | 17 | 2 |
| C26 | Flat | Fine | 13 | 4 |
| C27 | Intermittent | Fine | 8 | 3 |
| C28 | Riffle | Coarse | 48 | 2 |
| C29 | Riffle | Coarse | 10 | 2 |
| C30 | Flat | Coarse | 9 | 2 |
| C31 | Flat | Coarse | 24 | 1 |
| C32 | Intermittent | Coarse | 10 | <1 |
| C33 | Intermittent | Fine | 6 | 1 |
| C34 | Snowpack | Coarse | 6 | 9 |
| C35 | Dry ¹ | Coarse | 54 | 4 |
| C36 | Dry ¹ | Coarse | 58 | 4 |
| C37 | Intermittent | Coarse | 8 | 1 |
| C38 | Dry ¹ | Coarse | 58 | 6 |
| C39 | Intermittent | Fine | 12 | 4 |
| C40 | Flat | Fine | 4 | 3 |
| C41 | Pool | Fine | 90 | 3 |
| C42 | Run | Fine | 185 | 2 |
| C43 | Intermittent | Fine | 19 | 5 |
| C44 | Flat | Fine | 1 | 1 |
| C45 | Pool | Coarse | 43 | 2 |
| C46 | Intermittent | Fine | 27 | 15 |

| Crossing Number | Dominant Channel Morphology | Dominant Substrate | Estimated Width (m) | Estimated Gradient (%) |
|-----------------|-----------------------------|--------------------|---------------------|------------------------|
| C47 | Pool | Fine | 25 | 3 |
| C48 | Flat | Fine | 91 | 5 |
| C49 | Flat | Fine | 3 | 5 |
| C50 | Pool | Fine | 65 | 3 |
| C51 | Intermittent | Coarse | 9 | <1 |
| C52 | Riffle | Coarse | 9 | 5 |
| C53 | Pond | Bedrock | 48 | 2 |
| C54 | Intermittent | Coarse | 5 | 2 |
| C55 | Pond | Fine | 61 | 6 |
| C56 | Pool | Coarse | 21 | 2 |
| C57 | Riffle | Coarse | 9 | 4 |
| C58 | Riffle | Coarse | 5 | 3 |
| C59 | Intermittent | Coarse | 2 | 3 |
| C60 | Intermittent | Coarse | 40 | 3 |
| C61 | Intermittent | Coarse | 9 | 5 |
| C62 | Chute | Bedrock | 7 | 9 |
| C63 | Pond | - ² | 127 | 3 |
| C64 | Run | Coarse | 60 | <1 |
| C65 | Pool | Coarse | 11 | 4 |
| C66 | Intermittent | Bedrock | 4 | 2 |
| C67 | Riffle | Coarse | 20 | 1 |
| C68 | Intermittent | Coarse | 14 | 4 |

¹Clear river channel observed, however it was dry at time of surveys.

²Pond was very turbid on drone imagery, dominant substrate is.

3.2.2 Opportunistic Fishing

A total of 28 Arctic char were captured in the river immediately downstream of the chute at the proposed dam location. The majority of the fish captured in 2025 were likely adults, which, according to Froese and Pauly (2025), typically range between 350-500 mm on Baffin Island. Nine individuals captured were less than 350 mm in length, while a single individual exceeded 500 mm. Using data collected in 2019 from the Childiak Project, located upstream within the same watershed (Golder Associates Ltd., 2020), weight estimates were calculated using a length-weight regression. A summary of lengths and approximate weights is presented in **Table 9**, while length distributions are shown in **Figure 12**.

Table 9: Summary of Arctic Char Biometrics, 2025

| Sample Size | Length (mm) | | Weight (g) | |
|-------------|-------------|---------|------------|-------------|
| | Mean | Range | Mean | Range |
| 28 | 374 | 279-610 | 298.7 | 139.0-970.2 |

1. Weights are estimated based on length-weight regression using fish collected during the Chidliak Baseline program. Note that fish sampled in 2019 significantly smaller than those sampled in 2025.

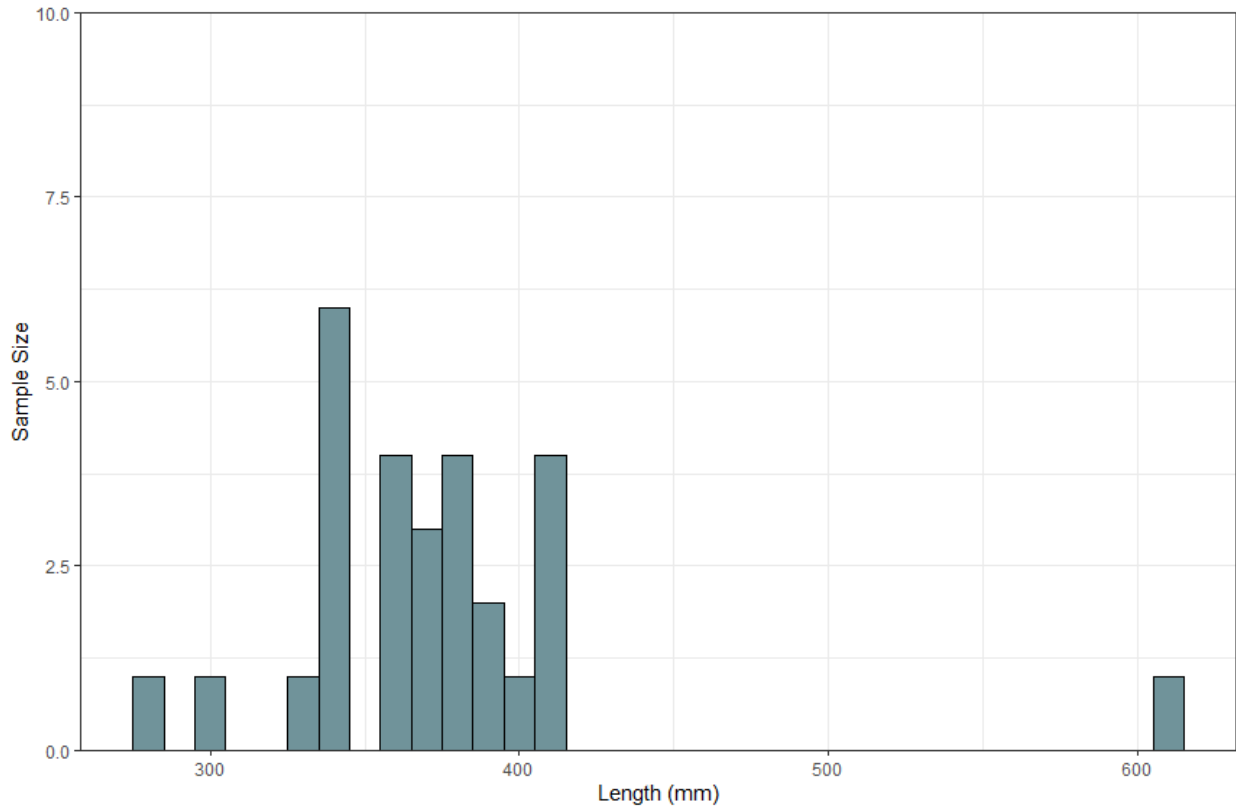


Figure 12: Length Distribution of Arctic Char Sampled in 2025

4.0

Future Monitoring Activities

As mentioned, samples were collected by Indigenous community members in September 2025. Samples were sent to St. John's, NL, for processing, with the aim of collecting samples for total mercury, stable isotope signatures and age and growth. This sample processing is ongoing, and information will be presented to NNC as an addendum to this report once laboratory data is received. Data is anticipated for early 2026.

Samples of Arctic char are also being collected from the marine environment by members of the community of Pangnirtung; the downstream commercial fishery associated with the Kuugaluk River watershed. These samples will again be sent to St. John's for processing and will undergo the same analysis as samples collected in 2025. Depending on the size of the fish captured, a subset will be sampled for methylmercury, selenium and poly unsaturated fats, all parameters which are incorporated into the Human Health Risk Assessment (HHRA).

A full aquatics baseline program is also being planned for the 2026 field season. This program is being designed to collect baseline information on numerous aspects of the freshwater environment, including:

- Water and sediment quality;
- Fish habitat characterization and quantification;
- Plankton communities;
- Benthic macroinvertebrate communities;
- Fish assemblages and abundance;
- Fish health, including trophic feeding level, growth rates and condition; and
- Mercury bioaccumulation.

Details of the 2026 field program will be finalized with a collaborative approach with local communities and HTAs.

5.0

Limitations

The data presented in this Aquatic Environment Baseline Assessment reflects a preliminary, high-level characterization of the Kuugaluk River system. The following limitations should be considered when interpreting the results of the 2025 field program:

1. A significant portion of the habitat characterization was derived from aerial surveys (helicopter reconnaissance and dedicated drone surveys). While these methods provide excellent spatial coverage and connectivity data, they present specific limitations:
 - 1.1. Analysis is limited by image resolution, which dictates the level of precision for estimating substrate coverage and can impact wetted width estimates;
 - 1.2. Analysis is constrained by image resolution, which dictates the level of precision for estimating substrate coverage and can impact wetted width estimates; and
 - 1.3. The data presented here has not yet been ground truthed. Specific areas identified in this report will be targeted for validation during the proposed 2026 baseline monitoring program.
2. Visual surveys were completed once and collected images of the conditions at the time of surveys only. With the limited temporal coverage, there was no seasonal or annual variability assessed from a fish species presence perspective. Conditions were also observed under a single hydrological condition. When completing the analysis for many of the small tributaries and access road crossings, they were dry at the time of survey, however it is anticipated they hold water during certain seasons;
3. Opportunistic fishing was completed in a single location near the camp site, and was only completed using angling techniques, using spin-rods and lures. This method is biased towards larger predatory species, such as adult Arctic char, and does not capture smaller forage fish, juveniles, or benthic species. Additional sampling techniques are required to confirm full fish species assemblages; and
4. This preliminary assessment was completed without input from local communities. Consequently, local concerns may not be fully addressed, and Traditional Ecological Knowledge (TEK) has not yet been incorporated.

The intention of the 2025 field program was to collect reconnaissance level information to help inform the proposed 2026 baseline monitoring program. The results presented within this report should be considered preliminary, and are subject to change following a detailed Fish and Fish Habitat field program.

6.0

Closure

We trust that you will find the information presented within this report satisfactory. Should you have any questions or concerns, please do not hesitate to contact us at your convenience.

Sincerely,

Dillon Consulting Limited

Prepared by

Reviewed by

Matt Gosse, B.Sc.
Biologist

Bryan Gale, BES, P. BIOL, R.P.BIO
Partner

References

- Evans, C.E., J.D. Reist, and C.K. Minns. 2002. Life History Characteristics of Freshwater Fishes Occurring in the Northwest Territories and Nunavut, with Major Emphasis on Riverine Habitat Requirements. No. 2614. Canadian Manuscript Report of Fisheries and Aquatic Sciences.
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- Golder Associates Ltd. 2020. Fish and Fish Habitat 2019 Field Data Report. De Beers Chidliak Project Environmental Baseline Report 18113217/DCN-038. De Beers Canada Inc.



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Version: 1.0







Date: March 31, 2026

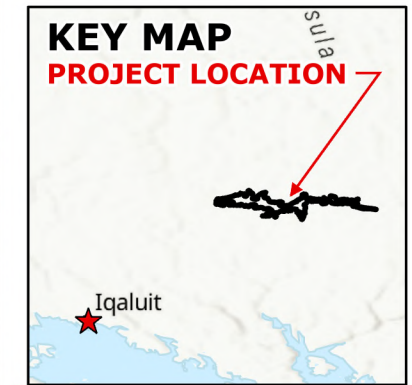
APPENDIX D

Campsite Location Map

**NUNAVUT
NUKKIKSAUTIIT
CORPORATION**
IQALUIT
NUKKIKSAUTIIT PROJECT

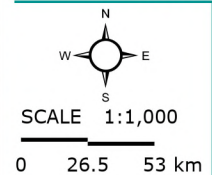
**CAMPSITE LOCATION
FIGURE 1**

-  Fuel Storage
-  Groundwater
-  Helicopter Landing Pad
-  Outhouse
-  Water
-  Water Hose



MAP DRAWING INFORMATION
DATA PROVIDED BY: ESRI, DILLON
CONSULTING LTD, ECOLOGIC

MAP CREATED BY: -EES
MAP CHECKED BY: -MR
MAP PROJECTION: GCS North American
1983 CSRS



PROJECT: 25-1319
STATUS: DRAFT
DATE: 2026-03-19



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Nunavut Nukkiqsautiit Corporation

Investigative Studies for the Iqaluit
Nukkiqsautiit Project: 2025 Annual Report

Version: 1.0

Date: March 31, 2026

APPENDIX E

NRI Scientific Research Licence Exemption Letter – Correspondence



Re: EXT: RE: Submission of 2025 Annual Report - Hydrology

From Shelly Brown <shelly.brown@semltd.ca>

Date Fri 06-Mar-2026 8:48 AM

To Cote, Mosha <Mosha.Cote@arcticcollege.ca>

Cc Jill Byrne <jbyrne@qcorp.ca>; Heather Shilton <hshilton@qcorp.ca>; Michelle Roche <mroche@dillon.ca>

Thank you for the confirmation Mosha.
Have a great day.

Shelly

From: Cote, Mosha <Mosha.Cote@arcticcollege.ca>

Sent: March 4, 2026 5:10 PM

To: Shelly Brown <shelly.brown@semltd.ca>

Cc: Jill Byrne <jbyrne@qcorp.ca>; Heather Shilton <hshilton@qcorp.ca>; Michelle Roche <mroche@dillon.ca>

Subject: RE: EXT: RE: Submission of 2025 Annual Report - Hydrology

Not mandatory at all Shelly. Licensing under our act is required for most types of primary research where the collection of new information where the intent is to produce Academic outputs in the public domain. Any work purely driven for any infrastructure support services throughout the territory are exempt from the Scientists Act. I can inform you confidence that you are not required to report to us at all. We can both just "break off" any correspondence with each other on any of your infrastructure support projects.

Mosha

From: Shelly Brown <shelly.brown@semltd.ca>

Sent: March 4, 2026 2:40 PM

To: Cote, Mosha <Mosha.Cote@arcticcollege.ca>

Cc: Jill Byrne <jbyrne@qcorp.ca>; Heather Shilton <hshilton@qcorp.ca>; Michelle Roche <mroche@dillon.ca>

Subject: Re: EXT: RE: Submission of 2025 Annual Report - Hydrology

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello Mosha,

I have to confirm with you that the same applies towards the other licence for the Investigative Studies towards this Iqaluit Nukkiksautiit Project - 01 032 25N-A.

Does this mean that these research licences from NRI are not mandatory considering it supports an infrastructure project with no academia involved?

Shelly

From: Cote, Moshia <Mosha.Cote@arcticcollege.ca>
Sent: March 4, 2026 4:02 PM
To: Shelly Brown <shelly.brown@sem ltd.ca>
Cc: Jill Byrne <jbyrne@gcorp.ca>; Heather Shilton <hshilton@gcorp.ca>; Michelle Roche <mroche@dillon.ca>
Subject: EXT: RE: Submission of 2025 Annual Report - Hydrology

Be cautious! This email was sent from outside SEM Ltd. Do not open links or attachments unless from a recognized and trusted sender.

Hi Shelly,

Thank you for these. As I understand, we've spoken to each other about licensing requirements for infrastructure projects/supports with no academia involved, will not require additional licensing, but registration that is completely voluntary. If you wish to have your proposal registered, please complete the attached renewal request form if you wish to have us issue a certificate of registry. Again, this is completely voluntary. At our end, we will get in touch with personnel at the NPC and the NIRB and inform them of our future intentions of such proposals as yours.

If you have any questions, please feel free to reach out.

Regards,

Moshia

From: Shelly Brown <shelly.brown@sem ltd.ca>
Sent: March 4, 2026 8:31 AM
To: Cote, Moshia <Mosha.Cote@arcticcollege.ca>
Cc: Jill Byrne <jbyrne@gcorp.ca>; Heather Shilton <hshilton@gcorp.ca>; Michelle Roche <mroche@dillon.ca>
Subject: Submission of 2025 Annual Report - Hydrology

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello Moshia,

On behalf of NNC, I have attached the following documents for **License Number 01 043 25R-M**

1. 2025 Annual Report – Hydrology Monitoring for McKeand South
2. Inuktitut Translation of Annual Report
3. Photographs for 2025 Annual Report

Please confirm receipt of these documents, and feel free to contact me if there are any discrepancies.

Kind regards,

Shelly Brown

Environmental Permitting Specialist



2nd Floor, 79 Mew's Place
St. John's, NL

A1B 4N2

C: 709-277-0675

www.semltd.ca



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Nunavut Nukkiksautiit Corporation

Investigative Studies for the Iqaluit
Nukkiksautiit Project: 2025 Annual Report

Version: 1.0

Date: March 31, 2026

APPENDIX F

Community Engagement Materials and Engagement Reports

Iqaluit Nukkiqsautiit Project

Consultation Summary

The **Iqaluit Nukkiqsautiit Project** aims to enhance the social, economic, and environmental sustainability of Iqaluit, Nunavut, through the development and implementation of key community-driven initiatives. A primary focus of the Project is the construction of a **15-30 MW capacity waterpower facility** that will provide a reliable, renewable energy source to meet the growing needs of Iqaluit while aligning with sustainable energy practices.

The Project's primary objective is to create long-term benefits for Iqalungmiut and the broader Qikiqtani region by focusing on the following key areas:

1. **Community Engagement & Inuit Involvement:** A central focus of the Iqaluit Nukkiqsautiit Project is to ensure active and meaningful participation of Inuit residents in all aspects of the Project. This includes leveraging the knowledge and skills of local Inuit firms, providing career development opportunities for youth, and promoting Inuit-led solutions to community challenges. Emphasis will be placed on strengthening the capacity of local businesses and creating opportunities for professional growth and skills transfer.
2. **Waterpower Facility Development:** The core of the Project involves the design and construction of a **15-30 MW capacity waterpower facility**, which will harness the natural energy of local water resources to provide clean, renewable electricity to Iqaluit. This facility will replace the diesel power plant as the prime power source in Iqaluit. This will reduce the community's dependence on diesel power generation, lowering both dependence on the South and environmental impacts, and contribute to long-term energy sustainability. The Project will ensure that the facility is designed with the latest technologies, adhering to industry standards while considering the environmental and cultural needs of the region.
3. **Infrastructure Development & Improvement:** In addition to the waterpower facility, the Project will include the development and improvement of key infrastructure within Iqaluit, particularly in areas that support community well-being, such as public facilities, transportation systems, and housing. This infrastructure development will take into account the unique environmental and cultural needs of the region, ensuring that sustainable materials and methods are used throughout the Project lifecycle.
4. **Cultural Heritage and Education:** The Iqaluit Nukkiqsautiit Project will prioritize the preservation and promotion of Inuit cultural heritage. This will include the establishment of educational programs for contractors that teach the history, language, and traditions of Inuit communities to ensure culture context is understood and respected. The Project will incorporate and abide by Inuit Qaujimajatuqangit throughout each phase with a focus on consent to continue development given by the community at each decision gate. The Project will also foster collaboration with local schools and cultural institutions to ensure that Inuit youth are able to connect with their heritage and learn in a supportive environment.

5. **Environmental Sustainability:** Recognizing the critical importance of environmental conservation in the Arctic, the Project will be guided by principles of environmental stewardship. The Project has a responsibility to align with environmental stewardship principals, which subsequently have aligned to date with requirements set out by Rightsholding Organizations. The construction of the waterpower facility will be carefully managed to minimize any potential negative impact on local ecosystems and wildlife. Sustainable practices will be embedded in every stage, from planning through to execution, to ensure the protection of the environment. Efforts will focus on energy efficiency, waste reduction, and the preservation of natural habitats.
6. **Economic Development and Job Creation:** A key component of the Project is the stimulation of Iqaluit's local economy. By supporting Inuit businesses, fostering entrepreneurship, and providing training and employment opportunities, the Iqaluit Nukkiksautiit Project will contribute to reducing unemployment and building a resilient economy. The development of the waterpower facility will create both short-term construction jobs and long-term operational roles, ensuring ongoing economic benefits for the community and enabling the participation of Inuit in energy infrastructure ownership.
7. **Capacity Building & Workforce Development:** The Project will focus on developing the skills of Iqalungmiut particularly Inuit youth, in areas such as construction, Project management, energy generation, and environmental monitoring. Special attention will be given to mentorship programs and hands-on training that provide job-ready skills and qualifications that benefit both individuals and the community. The operation of the waterpower facility will also offer ongoing career development opportunities in energy and environmental fields.

The **Iqaluit Nukkiksautiit Project** is a transformative initiative that will not only provide a sustainable, reliable, renewable energy source to Iqaluit but will also contribute to the social, cultural, and economic prosperity of the Territory. Through meaningful Inuit involvement and the collaborative efforts of all stakeholders, this Project will help shape the future of Iqaluit and serve as a model for community-driven, sustainable development in the Arctic.

Project History

The Project is classified according to the Phase-Gate system (shown in Figure 1), which helps mitigate risk, and ensure the optimal solution is carried through, and ensures free, prior, and informed consent from Inuit Leadership and Beneficiaries under the Nunavut Land Claims Agreement. This approach to Project development is broken down into phases, which are separated by decision gates. The phases constitute development work including the execution and completion of key activities and deliverables. The gates are decision checkpoints, whereby the Project does not proceed to the following phase until agreement and signed approval from all key Project decision makers.

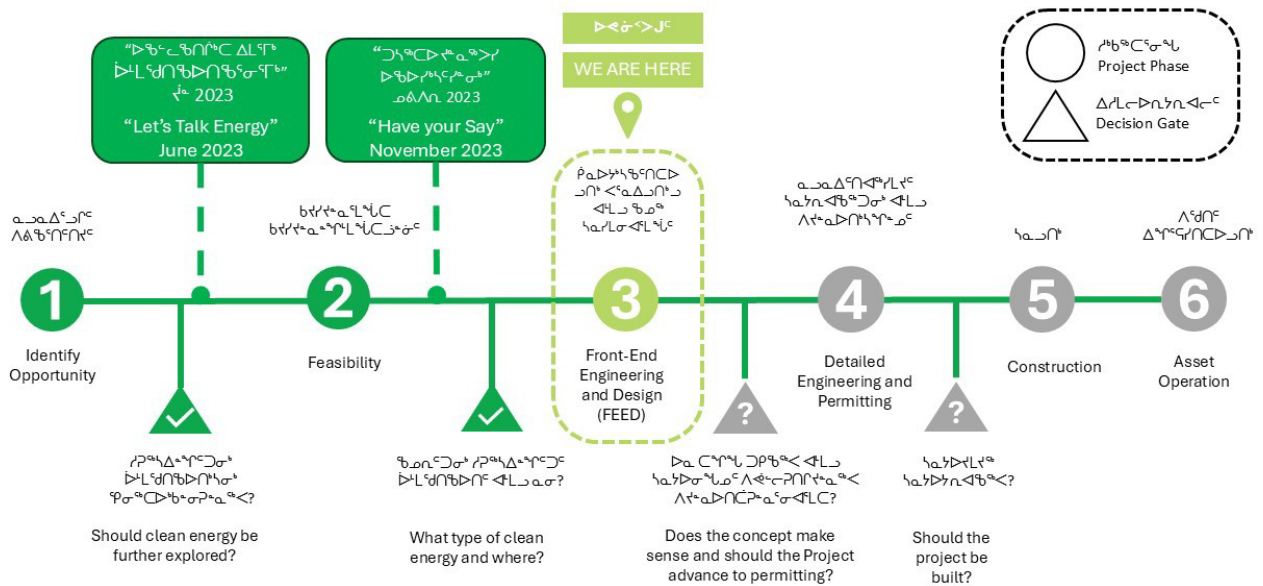


Figure 1: Phase-Gate Approach to Project Development

The Project is currently in **Phase 3 – Front-End Engineering and Design (FEED)**. A brief summary of activities completed during Phase 1 and 2 is given below.

Phase 1 (2023) Included a review of the Project to understand if an opportunity exists, with a specific focus placed on developing an Inuit Rightsholder approach to Project development. This stage also included a review of possible Project configurations and high-level economics. What was critical here was evaluating the market and recognizing Project strengths and weaknesses. The purpose of this phase was to confirm agreement among Project partners and Inuit Rightsholders to proceed to a deeper level of evaluation.

Phase 2 (2024) Focused on further developing the business case and Project plan. This includes generating and evaluating various viable development alternatives and some preliminary engineering work, including data collection and analysis. The purpose of this phase is to assess confidence in the Project feasibility while considering the initial outcomes of the Tusaqtavut Study and any data collection campaigns, market assessments, and economics before proceeding. This phase includes ongoing Inuit Rightsholder engagement and community consultations/stakeholder engagement all of which are critical to Project success. During this phase, 16 renewable energy options were identified and presented to the community. The community selected a conventional waterpower option as their top choice, with the location at the McKeand river being selected as the preferred site.

Key Consultation Activities

Historic Major Consultation Activities

| Date | Audience | Discussion Topic | Outcome |
|--------------------------|------------------------|---|---|
| June 2023 | Iqaluit Rightsholders | Renewable Energy 101 at Formal Consultation Meeting | 10+ Attendees, General Interest in Renewable Energy |
| June 2023 | Iqaluit Public | Renewable Energy 101 at Formal Consultation Meeting | 40+ Attendees, General Interest in Renewable Energy |
| November 2023 | Iqaluit Rightsholders | Presentation of 16 Options + Vote at Formal Consultation Meeting | 10+ Attendees, Votes Received |
| November 2023 | Iqaluit Public | Presentation of 16 Options + Vote at Formal Consultation Meeting | 50+ Attendees, Votes Received |
| November 2023 | Inuksuk High School | Presentation of 16 Options + Vote at Formal Class | 30+ Attendees, Votes Received |
| November 2023 | Nunavut Arctic College | Presentation of 16 Options + Vote at Through Environmental Tech Instructor | Votes Received |
| November + December 2023 | Iqaluit Public | Presentation of 16 Options + Vote at Informal Sessions held at Iqaluit Museum 4x | 20+ People Stopped by, Votes Received |
| March 2024 | QIA Board | Presentation of Results of Vote + Request for Motion to Support Proceeding to Phase 3 | Motion Approved to Support Advancing to Phase 3 |
| July 2024 | Iqaluit Rightsholders | Lessons Learned from Inukjuak Hydro – Site Visit | Representatives from QIA, Amaruq HTA, Youth, QC, Participated in Site Visit to Inukjuak to Learn about Community-Scale Hydro from Inuit in Inukjuak |
| January 2025 | Amaruq HTA | Project Update + Road Routing Workshop | Board Attended, Feedback Received on How to Improve Communication on Project Moving Forward, Board Raised Concerns on Potential Environmental Impacts if Project were to be Constructed (Phase 5) |

| | | | |
|---------------------|--|--|--|
| January 2025 | Iqaluit Rightsholders | Project Update + Question on Goals (Electrical, Electrical + Thermal, or Electrical + Industrial) at Formal Consultation Meeting | 15+ Attendees, Feedback Received on Interest to Explore all Options, though Potential Environmental Impacts Must be Identified + Mitigated if the Project were to Proceed to Construction (Phase 5) |
| January 2025 | Iqaluit Public | Project Update + Question on Goals (Electrical, Electrical + Thermal, or Electrical + Industrial) at Formal Consultation Meeting | 65+ Attendees, Feedback Received on Interest to Explore all Options, though Potential Environmental Impacts Must be Identified + Mitigated if the Project were to Proceed (Phase 5) |
| March 2025 | Rightsholders | Flyover of Project Site with Rightsholder + Federal Representatives | 12+ Attendees, Visual Representation of Project Location Provided from Air in Twin Otter |
| March 2025 | Panniqtuuq Community Lands and Resources Committee | Project Update at Formal Consultation Meeting | 6+ Attendees, Feedback Received on How to Improve Communication on Project Moving Forward, Concerns Raised on Potential Environmental Impacts if Project were to be Constructed (Phase 5), Benefits Need to be Better Clarified |
| March 2025 | Panniqtuuq Public | Informal Project Updates | Table at Northmart |
| March 2025 | Panniqtuuq Public | Project Update at Formal Consultation Meeting | 30+ Attendees, Feedback Received on How to Improve Communication on Project Moving Forward, Concerns Raised on Potential Environmental Impacts if Project were to be Constructed (Phase 5), Benefits Need to be Better Clarified |
| March 2025 | Amaruq HTA | Project Update at Annual General Meeting | 75+ Attendees, Feedback Received on General Interest for More Frequent Project Updates, Clarity on Current Status only being Studies was Helpful |
| March 2025 | GN Premier | Formal Meeting to Provide Project Updates | |
| May 2025 | Panniqtuuq HTA | Project Update at Formal Consultation Meeting | |
| May 2025 | Panniqtuuq Hamlet Council | Project Update at Formal Consultation Meeting | |

| | | | |
|--------------------------------------|------------------------------------|--|--------------------|
| May 2025 | QIA Staff | Project Overview Presentation at Formal Meeting | |
| May 2025 | Minister Responsible for QEC / QIA | Formal Meeting to provide Project Updates | |
| June 2025 | Amaruq HTA | Project Update at Formal Consultation Meeting | |
| August 2025 | Iqaluit Public | Informal Updates on plans for the Field Season by Field Crews | Table at Northmart |
| August through September 2025 | Amaruq HTA + Panniqtuuq HTA | Weekly Project Updates sent via E-mail | |
| September and October 2025 | Public | Social Media Posting | |
| September 2025 | Amaruq HTA | Coordination with Amaruq HTA for Field Site Visit | |
| September 2025 | Iqaluit Public | Presentation by Lead Archaeologist Covering 2025 Field Season Results | |
| September 2025 | Amaruq HTA | Coordination with Amaruq HTA for Using Helicopter for Radio Tower Repairs | |
| October 2025 | Panniqtuuq HTA | Informal Project Updates | |
| November 2025 | QIA | Formal Meeting to Kickoff IIBA Negotiations | |
| November 2025 | Amaruq HTA | Presentation at Special AGM (open to membership) reviewing High Level Field Season Results | |
| December 2025 | Nunavummiut | Nunatsiaq News Op-Ed | |

| | | | |
|---------------|--------------------------------|-----------------------------------|--|
| December 2025 | GN Premier Principal Secretary | Project Update for New Government | |
|---------------|--------------------------------|-----------------------------------|--|

Photos from Abovementioned Historic Major Consultation Activities



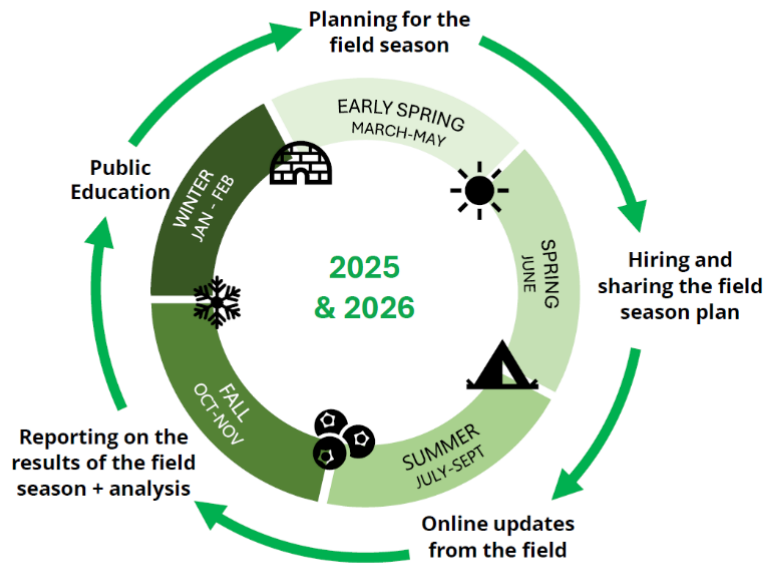
Planned Major Consultation Activities

| Date | Audience | Discussion Topic |
|----------------------|-----------------------------------|---|
| November 2025 | Iqaluit Rightsholders + Public | Results Sharing from Year 1 Field Season |
| November 2025 | Panniqtuuq Rightsholders + Public | Results Sharing from Year 1 Field Season |
| January 2025 | Iqaluit Rightsholders + Public | Energy Literacy + Inuit Knowledge Sharing on Hydro from Inukjuak and Nuuk |
| January 2026 | Panniqtuuq Rightsholders + Public | Energy Literacy + Inuit Knowledge Sharing on Hydro from Inukjuak and Nuuk |

Approved and Implemented Engagement Cycle for INP



PHASE 3 – ENGAGEMENT PLAN



2025 Engagements:

- Winter:
 - Let's Talk Water Power
 - Trail systems
 - Online public education
- Spring: hiring and field season plan
- Summer: online updates from the field
- Fall: results sharing and review
- Before Christmas: Project naming