

# Agency Report to the Mackenzie River Basin Board

Meeting 81 of the Mackenzie River Basin Board

January 21-22 | 2025



If you would like this information in another official language, call us.

English

---

Si vous voulez ces informations dans une autre langue officielle, contactez-nous.

French

---

Kīspin ki nitawih̄tīn ē nīhīyawihk ōma ācimōwin, tipwāsinān.

Cree

---

Tłıchq̄ yatı k'èè. Dı wegodi newq̄ dè, gots'ō gonede.

Tłıchq̄

---

ʔerih̄t'is Dēne Sų́nė yatı t'a huts'elkēr xa beyáyatı theᓯᓯ ᓯat'e, nuwe ts'ēn yóttı.

Chipewyan

---

Edı gondı dehgáh got'je zhatıé k'éé edat'éh enahddhę nıde naxets'é edahí.

South Slavey

---

K'áhshó got'jne xədə k'é hederı ʔedjht'é yerııwę nıde dúle.

North Slavey

---

Jii gwandak izhii ginjik vat'atr'ijáhch'uu zhit yınohthan jı', diıts'at ginohkhii.

Gwich'in

---

Uvanittuaq ilitchurisukupku Inuvialuktun, ququaqłuta.

Inuvialuktun

---

Ć<sup>b</sup>đ< n n<sup>sb</sup>Δ<sup>c</sup> ʌ r l j Δ r<sup>c</sup> Δ ɔ<sup>b</sup> n ɔ<sup>c</sup> ɛ<sup>sb</sup> ɣ l ɔ n<sup>b</sup>, ɔ<sup>c</sup> ɛ<sup>c</sup> n<sup>a</sup> ɔ<sup>c</sup> ɔ<sup>sb</sup> ɛ<sup>c</sup> r<sup>a</sup> ɛ<sup>sb</sup> ɔ n<sup>c</sup>.

Inuktitut

---

Hapkua titiqqat pijumagupkit Inuinnaqtun, uvaptinnut hivajarlutit.

Inuinnaqtun

---

Indigenous Languages:

ENR\_Communications@gov.nt.ca

French:

867-767-9348

866-561-1664 Toll Free

# Contents

1 Bilateral Water Management Agreements.....	2
2 Water-Related Legislation / Policy / Regulations / Planning .....	3
3 Science, Monitoring and Information.....	13
4 Major Projects.....	19
5. Events, Conferences and Seminars .....	21

# 1. Bilateral Water Management Agreements

**British Columbia/Northwest Territories:** British Columbia (B.C.) and the Northwest Territories (NWT) signed a Bilateral Water Management Agreement (BWMA) in October 2015. The B.C.-NWT BWMA applies to all transboundary waters shared by the NWT and B.C. in the Mackenzie River Basin, including the Liard and Petitot River Watersheds. The B.C.-NWT Bilateral Management Committee (BMC) initiated a collaborative process to develop a Liard Basin learning plan, using Joe Copper Jack’s Land-Relationship model. An Elders Circle was held in May 2023 as the first step in this process. The three jurisdictions are currently working with a consultant to summarize the western science knowledge in the basin.

**Alberta/Northwest Territories:** Alberta (AB) and the NWT signed a BWMA in March 2015. The AB-NWT BWMA applies to all transboundary waters shared by the NWT and AB in the Mackenzie River Basin including the Hay and Slave River Watersheds. The Parties have established a BMC to administer the agreement as well as a technical committee to support the agreement. Five annual reports have been released to date. The latest annual report, for 2020-2021 was released in November 2024 and is available [online](#).

**Yukon/Northwest Territories:** The Yukon and the NWT signed a BWMA in 2002. This BWMA applies to the Peel River Watershed. The Yukon and the NWT have negotiated and signed (in August 2022) two new agreements – one for the Peel/Mackenzie Delta Basins and one for the Liard Basin – to bring the 2002 agreement in line with the more recently signed BWMA’s and because the Yukon and NWT also share a small portion of the Liard Basin. The first Bilateral Management Committee (BMC) meeting for the Peel/Mackenzie Delta was held virtually in June 2023, followed by in-person meetings in Inuvik in October 2023 and Dawson City in June 2024.

**Saskatchewan/Northwest Territories:** Saskatchewan (SK) and the NWT are actively negotiating a SK-NWT BWMA and meetings are taking place regularly. The SK-NWT BWMA will apply to all transboundary waters shared by SK and the NWT in the Mackenzie River Basin, including the Tazin River Watershed. Potentially, a separate agreement will be negotiated for shared waters outside of the Mackenzie River Basin.

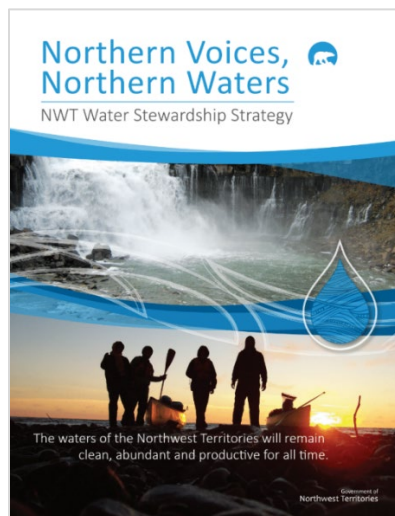
For more information, visit: <https://www.gov.nt.ca/ecc/en/services/water-management-and-monitoring/transboundary-water-agreements>

**Contact:** Meghan Beveridge, Director, Water Monitoring and Stewardship Division, Department of Environment and Climate Change – [Meghan.Beveridge@gov.nt.ca](mailto:Meghan.Beveridge@gov.nt.ca)

## 2. Water-Related Legislation, Policy, Regulations, Planning

### **NWT Water Stewardship Strategy**

Beginning in 2008, the Government of the Northwest Territories (GNWT) and Crown Indigenous Relations and Northern Affairs Canada (CIRNAC) (formally Indigenous and Northern Affairs Canada) worked with representatives from Indigenous governments and Indigenous organizations, NWT communities, regulatory boards, environmental organizations, industry, and academic institutions to develop a water strategy for the NWT. Collectively these organizations are referred to as ‘water partners’. *Northern Voices, Northern Waters: NWT Water Stewardship Strategy* (the Water Strategy) was released in May 2010, and updated in January 2018 to reflect changes in organizational responsibilities and policies following the devolution of lands and resources from the federal government to the GNWT on April 1, 2014.

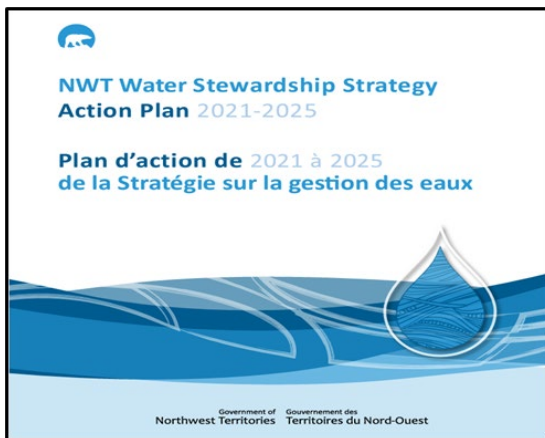


Implementation of the Water Strategy is guided by a series of five-year Action Plans. The 2011-2015 Action Plan was released in May 2011, followed by the 2016-2020 Action Plan in June 2016. From December 2020 to July 2021, extensive engagement took place with water partners, leading to the development of the 2021-2025 Action Plan, which was released in November 2021.

These Action Plans ensure the vision of the Water Strategy, ‘*the waters of the NWT will remain clean, abundant and productive for all time*’, is realized. The current Action Plan for 2021-2025 is organized into four components and includes 86 Action Items, 50 Performance Indicators, and 23 Keys to Success.

Key priority areas identified in the current 2021-2025 Action Plan include:

- ensuring Indigenous knowledge, perspectives and values guide Water Strategy activities;
- improving communication to build public awareness;
- promoting and supporting community capacity building through community-based monitoring programs, including Guardian programs;
- engaging youth in water stewardship in the NWT;
- continuing transboundary water agreement negotiations and implementation; and,
- increasing our understanding of aquatic ecosystem health, including groundwater, in the NWT.



The Water Strategy is coordinated by the Department of Environment and Climate Change (ECC) of the GNWT, but it is based on collective implementation activities by all water partners, including Indigenous governments and Indigenous organizations, non-governmental organizations, federal and territorial government departments, community organizations, regulatory boards, industry and academic institutions.

Indigenous governments and Indigenous organizations guide implementation of the Water Strategy through the NWT Water Stewardship Strategy Indigenous Steering Committee (ISC). The ISC was formed in 2009 to guide the development of the Water Strategy as well as its implementation. The ISC ensures that the Water Strategy's implementation activities reflect the needs and values of Indigenous governments and people. The ISC meets in person twice a year, with additional virtual meetings as needed. The most recent meeting took place on October 28, 2024.

Annual progress reviews of the Action Plan ensure effective progress is being made in achieving the vision of the Water Strategy and indicate where adjustments are needed. The review is based on survey responses from water partners and communication with lead water partners, document review, and database analytics. Each annual progress review includes a summary

report and a comprehensive raw data spreadsheet containing detailed information on progress of each action item and performance indicator.

The 2023 Progress Review (for January 2023 – December 2023) assessed 72 Action Items. Of those 72 Action Items assessed:

- 61% are considered complete for this period and ongoing;
- 35% are in progress; and
- 3% have yet to be started.

The 2023 Progress Review Summary Report and raw data spreadsheet will be available publicly in early 2025.

As the current 2021-2025 Action Plan is nearing its end, ECC is initiating an independent evaluation of the Action Plan. This evaluation is commitment under the current action plan (4.2 *Water partners benefit from an independent evaluation to enable the incorporation of lessons learned into the next Action Planning cycle*). The aim of this work is to identify what went well, what could have been improved or done differently, and whether the implementation of the Action Plan has met its intended outcome in advancing the vision and goals of the NWT water strategy.



*NWT Water Stewardship Strategy Action Planning Cycle*

The Independent Evaluation will be conducted by an external independent evaluator with the guidance of an Evaluation Committee, which includes representatives from the Indigenous Steering Committee, Mackenzie Valley Land and Water Board, Wilfrid Laurier University, Environment and Climate Change Canada, and ECC (GNWT).

ECC is in the process of contracting an accredited evaluator to complete this work. The activities of the evaluation are expected to begin this winter and the evaluation report to be completed in Spring 2025, which will leave time to develop the next action plan before 2026.

For more information, visit: [www.nwtwaterstewardship.ca](http://www.nwtwaterstewardship.ca)

**Contact:** Meghan Beveridge, Director, Water Monitoring and Stewardship Division, Department of Environment and Climate Change – [Meghan\\_Beveridge@gov.nt.ca](mailto:Meghan_Beveridge@gov.nt.ca)

## **NWT Waters Act**

In April 2014, the federal *NWT Waters Act* was devolved to the NWT along with its regulations, to become the territorial *Waters Act* and Waters Regulations. In 2016/17, the GNWT initiated a process to amend and modernize the Act. Information was gathered during this process for future amendments to the Act

Utilizing the Intergovernmental Council on Land and Resource Management: Legislative Development Protocol the GNWT is currently working with Indigenous governments to determine their level of interest in proposed amendments to the *Waters Act* and Waters Regulations.

In 2020, a review of the federal *Mackenzie Valley Resource Management Act* (MVRMA) was initiated by the GNWT but was not completed. The *Waters Act* and the MVRMA are closely linked and together establish the NWT's unique integrated resource management regime for land and water. A decision to reinstate the review of the MVRMA will be made with Indigenous governments and Indigenous organizations in the NWT.

**Contact:** Rick Walbourne, Director, Regulatory and Permitting Division, Department of Environment and Climate Change – [Rick\\_Walbourne@gov.nt.ca](mailto:Rick_Walbourne@gov.nt.ca)

## **GNWT Drinking Water Action Plan**

*Managing Drinking Water Quality in the Northwest Territories* (May 2005) outlines a safe drinking water framework and strategy for the NWT that includes keeping NWT water clean. The current focus is on supporting communities in community-based monitoring, source water protection planning, water treatment plant infrastructure management (planning, design, construction, and operations), operator certification, meeting regulatory requirements, and monitoring water quality.

Increasing public awareness and making drinking water quality data available through a drinking water quality database have been key activities. The public can access information about drinking water in the NWT at the website:

<https://www.maca.gov.nt.ca/en/services/drinking-water-nwt>. This website describes the mandates and responsibilities of GNWT departments and outlines the steps involved in ensuring drinking water remains safe. It provides information about water treatment measures, monitoring and testing, source water protection and other important aspects of drinking water in the NWT. Community source water [catchment maps](#) are also available.

The GNWT, releases annual [reports on drinking water](#) for NWT communities. These reports are available on the [NWT drinking water website](#).

**Contact:** Iqbal Arshad, Team Lead Water and Sanitation, Water and Sanitation, Department of Municipal and Community Affairs – [Iqbal\\_Arshad@gov.nt.ca](mailto:Iqbal_Arshad@gov.nt.ca)

## Conservation in the NWT

The GNWT’s five-year workplan to establish, plan, manage, operate, and monitor protected areas and conservation areas across the NWT is described in [Healthy Land, Healthy People: GNWT Priorities for Advancement of Conservation Network Planning 2023-2028](#). This workplan recognizes the importance of working in collaboration with Indigenous governments, Indigenous organizations, the federal government, and stakeholders to:

- Advance planning and decision-making on establishing candidate areas;
- Support the effective and equitable management of national, territorial, and Indigenous protected areas and conserved areas;
- Inform and educate the public about the conservation network;
- Pursue sustainable, long-term funding for the establishment, planning, management, and operations of protected areas; and
- Support Indigenous-led conservation and stewardship initiatives.



The workplan outlines the GNWT’s five priority outcomes and associated objectives for developing, planning, managing, and operating protected areas and conserved areas, and supporting broader NWT conservation and stewardship initiatives over the next five years.

Thaidene Nënë Indigenous and Territorial Protected Area, located on the East arm of Great Slave Lake, was established in 2019 through agreements between GNWT, Parks Canada, Łutsël K'e Dene First Nation (LKDFN), the Northwest Territory Métis Nation (NWTMN), Yellowknives Dene First Nation (YKDFN), and Denínu Kue First Nation (DKFN) (collectively, “the Parties”). This landmark protected area includes a Territorial Protected Area, a National Park Reserve, and a Wildlife Conservation Area, and so, making operational decisions about Thaidene Nënë is the shared responsibility LKDFN, NWTMN, Parks Canada, and the GNWT. These Partners appoint non-representative members to form the Thaidene Nënë Xá Dá Yáłtı (the Operational Management Board), which provides direction on planning, operations, monitoring and evaluation with Thaidene Nënë. Thaidene Nënë Xá Dá Yáłtı, with support from the Partners, is in the final stages of completing the first Management Plan for Thaidene Nënë. This plan, called Thaidene Nënë badı xá, or “Watching Over Thaidene Nënë”, is rooted in the concept of relationships. The final draft of Thaidene Nënë badı xá is expected to be released in 2025. Regulations are being developed.

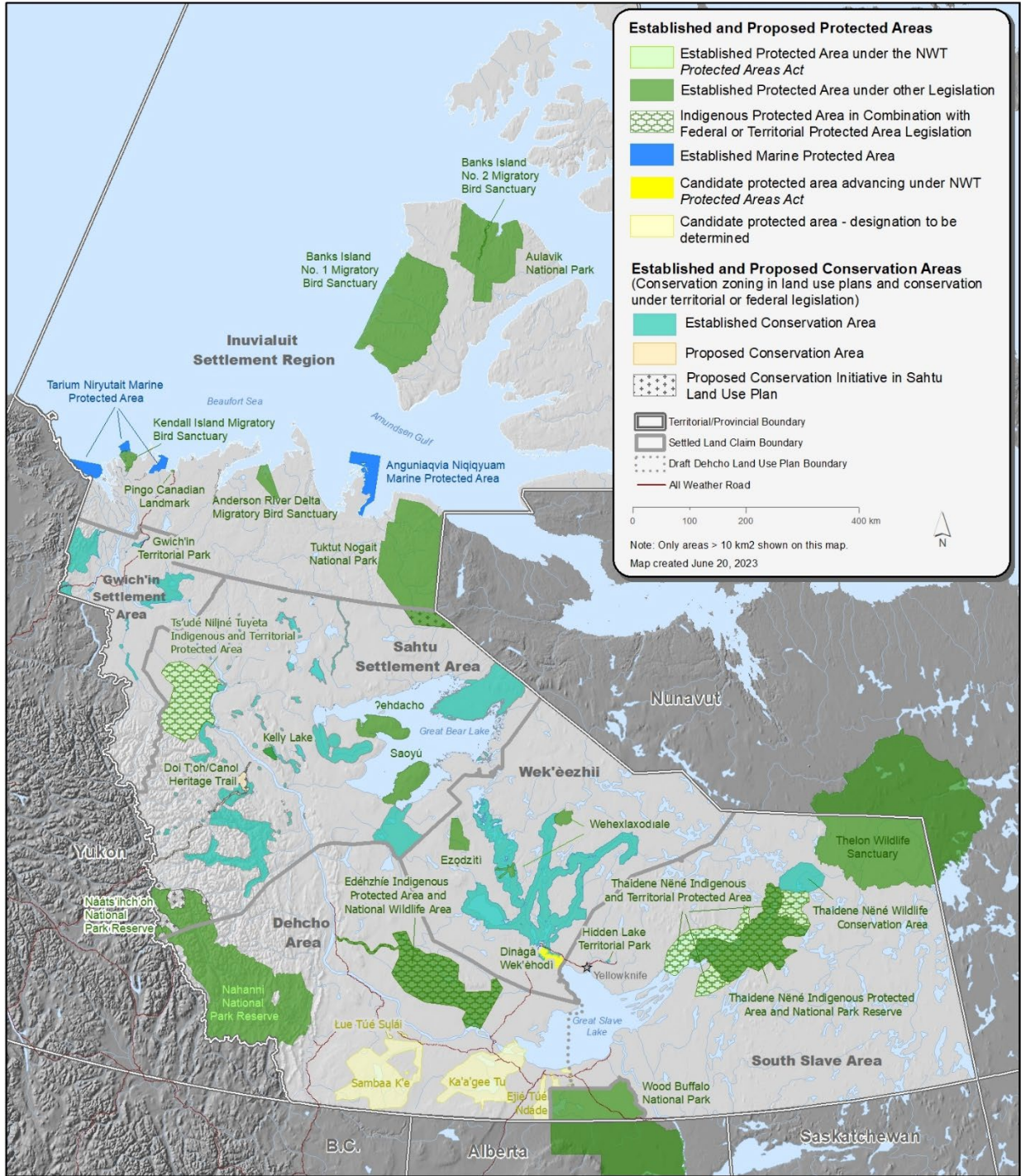
Ts'udé Niljné Tuyeta was identified by the K'asho Got'ıne Dene and Métis and was established in September 2019. The K'asho Got'ıne and the GNWT co-manage Ts'udé Niljné Tuyeta through shared decision making. As part of this process, the K'asho Got'ıne and the GNWT created the Ts'udé Niljné Tuyeta Management Board (the Board) in 2020. Collectively, they are creating the foundation for effectively collaborating on planning, managing, stewarding, and operating Ts'udé Niljné Tuyeta. The area is both an IPCA protected under K'asho Got'ıne law and a territorial protected area protected under the NWT Protected Areas Act. The protected area lies west of the Mackenzie River and encompasses the Ramparts Wetlands and River. The K'asho Got'ıne and the GNWT developed the Ts'udé Niljné Tuyeta Territorial Protected Area Regulations (Regulations), which came into effect in January of 2022.

Today, the relationship with the land has inspired several Indigenous Governments to establish Indigenous Protected and Conserved Areas (IPCA). Currently, Dinàgà Wek'èhodì on the North Arm of Great Slave Lake is also listed as a Candidate Protected Area under the Protected Areas Act. Negotiations with Indigenous governments and Indigenous organizations as well as the involvement of the Wek'èezhì Renewable Resources Board are ongoing and will continue to work towards decision-making on establishment.

The [Northwest Territories State of the Conservation Network 2024](#), is the second GNWT status report on the health of the NWT conservation network, it was released November 2024. The existing protected areas and conservation areas in the NWT make up the conservation network, which is administered by territorial, federal, and Indigenous governments as well as Indigenous organizations. The conservation network safeguards ecosystem services (i.e. food, fuel, medicines, raw materials, air, water, land, wildlife, and forests) that contribute substantially to economic and human well-being. Maintaining the conservation network ensures plants and

animals have the time and space to adapt to changes in their environment by protecting important habitats and connections between habitats

The GNWT and Indigenous government partners have renewed their interest in nominating the Mackenzie River to the Canadian Heritage Rivers System based on its outstanding cultural and natural values. A Canadian Heritage River designation does not provide any protections or conservation status for the river; it is a commemorative designation only. Engagement on the background document and support of the nomination was completed in 2022. A nomination document based on the background document is currently being drafted for submission to the Canadian Heritage Rivers Board.



For more information on conservation network planning visit the ECC NWT [Conservation Network Planning](#) page or email [ConservationPlanning@gov.nt.ca](mailto:ConservationPlanning@gov.nt.ca).

## Regional Land-Use Planning

[Northern Lands, Northern Leadership: The GNWT Land Use and Sustainability Framework](#)

outlines the GNWT's vision and guiding principles for land management in the NWT. Released in early 2014, it identifies regional land use planning as the primary instrument to define where certain activities can take place and affirms the importance of incorporating community and regional aspirations into land use plans.

Land use plans provide local input into the overall framework for resource management in the NWT. Land-use plans are used to establish regional zones and broad criteria that help evaluate and screen project proposals as part of regulatory permitting processes. Zoning provisions identify the following:

- areas that are well-suited for development
- areas that can support development while respecting specific cultural or ecological values
- areas where, for cultural or ecological reasons, development is prohibited

The GNWT participates in land use planning initiatives throughout the territory as a planning partner, regulator and, in some cases, approver. In addition, the GNWT may also participate in transboundary planning initiatives in Alberta, Nunavut and the Yukon. The GNWT's participation in land use planning processes is guided by a suite of land interests. One of those interests is maintaining water quality, quantity and flow in a sustainable manner to support the health and well-being of NWT residents, land and animals.

### Land Use Plans and Water Management

Legally binding land use plans are in place in the Sahtú and Gwich'in land claim regions and on Tłı̄chq private lands in the Tłı̄chq region. The GNWT is also working collaboratively with Indigenous governments and Indigenous organizations and the Government of Canada to advance land use planning in other areas of the NWT, including public lands in Wek'èezhìi and the southeastern part of the NWT. The GNWT has a representative on the Dehcho Land Use Planning Committee which is working to finalize the Draft Interim Dehcho Land Use Plan. In the Inuvialuit Settlement Region, Community Conservation Plans (non-legally binding) guide acceptable activities within specific regions. Collectively, the guidance and/or legally binding direction in land use plans play an integral role in managing waters in the NWT.

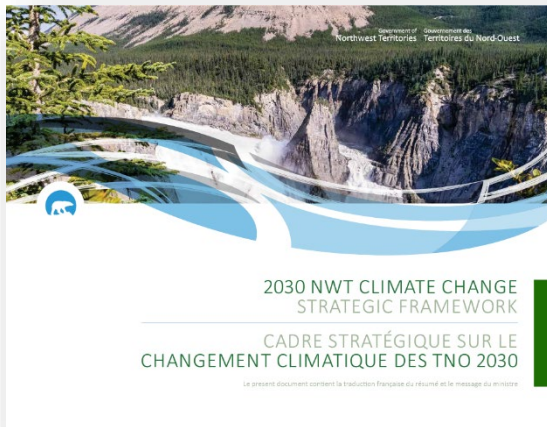
**Contact:** Gina Ridgely, Director, Land Use and Sustainability, Department of Environment and Climate Change – [Gina.Ridgely@gov.nt.ca](mailto:Gina.Ridgely@gov.nt.ca)

## Climate Change

The GNWT is taking action to mitigate and adapt to climate change in collaboration with Indigenous governments and Indigenous organizations, the Government of Canada, other territorial governments, industry, non-governmental organizations (NGOs), academia, and other partners.

### Mandate of the GNWT

The *Mandate of the Government of the Northwest Territories (2019-2023)* prioritizes a strengthened commitment to responding to climate change. This includes building greater leadership and authority on climate change, making climate change a consideration in government decisions, and developing more alternative and renewable energy solutions while stabilizing power costs.



This work is guided by the [2030 NWT Climate Change Strategic Framework](#), which encompasses components of the [2030 Energy Strategy](#) and the [NWT Carbon Tax](#).

The implementation of these three interconnected pieces is helping the NWT mitigate and adapt to the effects of climate change, reduce territorial greenhouse gas emissions, and transition to a lower carbon economy while prioritizing an affordable cost of living for residents.

### 2030 NWT Climate Change Strategic Framework

The GNWT released the [2030 NWT Climate Change Strategic Framework](#) (the Strategic Framework) on May 1, 2018.

The Strategic Framework and its associated [2019-2023 Action Plan](#) work towards achieving the following goals:

- Goal #1 – Transition to a Lower-Carbon Economy
- Goal #2 – Improve knowledge of the climate change impacts
- Goal #3 – Build resilience and adapt to a changing climate

The GNWT's 2025-2029 Climate Change Action Plan is being finalized, informed by the NWT Climate Change Risk and Opportunities Assessment and an Independent Evaluation of the Strategic Framework and 2019-2023 Action Plan. The plan was also influenced from significant input from the NWT Climate Change Council in addition to Indigenous governments and Indigenous organizations, GNWT departments, community governments, co-management boards, non-government organizations, academic institutions, the federal government, industry, and the general public

### Federal Emissions Reduction Targets

The GNWT has recently made an aspiration commitment to net-zero by 2050 in alignment with the federal government's commitment to achieving net-zero greenhouse gas emissions in Canada by 2050. Achieving these targets in the NWT will require a significant increase in federal funding and capacity support due to our remote location, extreme climate, infrastructure deficit, and lack of economies of scale. The 2030 Energy Strategy will be update in 2025 to advance the new net-zero commitment.

### NWT Climate Change Council

In Spring 2021, ECC formally established the NWT Climate Change Council, following planning meetings throughout 2020-2021 and 2021-2022. Membership of the Council includes representatives from 13 Indigenous governments and Indigenous organizations, the Northwest Territories Association of Communities, and the GNWT Departments of Environment and Climate Change and Infrastructure. The NWT Climate Change Council is a forum for information sharing, collaboration and engagement. It is composed of Indigenous government and Indigenous organization officials, as well as representatives of NWT communities and the GNWT. The Council informs GNWT climate change and environmental programs to better align with Indigenous government, Indigenous organization and community perspectives, interests, and knowledge. The Council meets quarterly and in 2022 established the NWT Climate Change Youth Advisory Group.

For further information please visit: <https://www.gov.nt.ca/ecc/en>

**Contact:** Cory Doll, Manager, Climate Change, Cumulative Impacts, and Knowledge Division, Department of Environment and Climate Change – [Cory\\_Doll@gov.nt.ca](mailto:Cory_Doll@gov.nt.ca)

## 3. Science, Monitoring and Information

### Environmental Monitoring on Transboundary Rivers

## Water and Suspended Sediment Quality

Water and suspended sediment samples have been collected from the major NWT transboundary rivers for decades: Slave (since 1990), Hay (1994), Liard (1992) and Peel (2002). Since 2011, up to three water and suspended sediment samples have been collected from each river every year. Samples are analyzed for physical parameters, major ions, nutrients, metals, polycyclic aromatic hydrocarbons (parent and alkylated), naphthenic acids, pesticides, herbicides, polychlorinated biphenyls (PCBs), dioxins and furans. More recently, PBDEs (polybrominated diphenyl ethers) and PFCs (per- and polyfluoroalkyl substances) have been added to the program. PBDEs are chemicals that are as flame retardants whereas PFCs are used in a wide variety of industrial and consumer products such as adhesives, cosmetics, cleaning products, and fire fighting foams.

ECC partners with the Fort Smith Métis Council, Kát'odeeche First Nation, Acho Dene Koe First Nation and Tetl'it Gwich'in Band Council to conduct this work. The data generated from this program are used to:

- 1) provide a general overview of the current state of water and suspended sediment quality;
- 2) determine if water quality has changed over time;
- 3) help to address community concerns about metals and organic compounds in these rivers; and
- 4) support the development of site-specific water quality triggers for established and future bilateral water management agreements.

In 2022, AB and NWT, in collaboration with technical staff from BC, SK, Yukon and Environment and Climate Change Canada (ECCC), initiated development of consensus-based methods to assess water quality trends in transboundary rivers. Consensus-based methods will ensure consistency across jurisdictions. The contract is complete. This year, the technical staff from the different jurisdictions are aiming to apply the methods to the several key sites throughout the Mackenzie River Basin, including the major transboundary rivers, to be used for bilateral and basin-level state of the aquatic environment reporting.

Additionally, AB and NWT are working with experts with ECCC to characterize and compare levels of polycyclic aromatic hydrocarbons and naphthenic acids in water and suspended sediment samples collected from the Slave, Hay, Liard, and Peel rivers. While these are found in bituminous environments naturally, they are elevated due to human development and

activities. This work is important to establish current levels of these substances prior to the potential release of oil sands mine water to the Athabasca River. This work is ongoing.

### Water Quantity

The Department of Environment and Climate Change collaborates with ECCC in a cost-shared hydrometric monitoring program for the NWT that is operated by ECCC's Water Survey of Canada (WSC). Water quantity information is collected by WSC at 107 stations across the NWT. There are six major transboundary rivers with hydrometric gauging stations: Liard, Slave, Hay, Petitot, Tazin and Peel. The Yates, Buffalo, Dubawnt, Thelon, Coppermine rivers are also transboundary rivers with hydrometric gauging stations. WSC provides flow and level data which are analyzed by GNWT scientists as well as scientists in neighbouring jurisdictions.

ECC is working in partnership with NRCan to develop updated flood maps for riverine communities at the highest risk of flooding in the NWT. Final flood hazard maps are being developed for Aklavik, Fort Simpson, Hay River, and Kát'odeeche First Nation. Projects are underway for Nahanni Butte and Fort Good Hope, while mapping projects with other communities at risk are in the scoping phase.

Water levels and flow rates across much of the NWT were again very low in 2024, and in some cases have been the lowest on record. Extremely dry conditions in the southern NWT have resulted in very little water being available to flow to rivers and lakes. The extreme drought conditions originated in the summer of 2022 and have since persisted. Great Slave Lake and Mackenzie River water levels have been the lowest on record, largely due to hot and dry conditions in northern Alberta and British Columbia and the southern NWT. The strong fluctuations in water levels seen over the last five years (which include record high water levels from 2020-22) are a result of large weather systems that have moved over the entirety of the Great Slave Lake basin. While it is difficult to isolate individual events, these weather systems are likely a combination of climate variability from global teleconnections (La Niña and El Niño events) and climate change.

Since 2022 ECC has published monthly [Water Monitoring Bulletins](#) with information about water levels and climate across the territory. These reports are produced at the start of each month and are available on the ECC website. Spring breakup reporting is distributed to the public at a higher frequency (weekly/daily as needed) from April to June to provide NWT residents with as much near real-time information as possible.

ECC scientists are working with federal scientists and university researchers to improve hydrological modelling capacity for watersheds within the Mackenzie River basin. These products will be used to improve operational reporting as well as provide information about how climate change will continue to impact NWT water resources.

## Groundwater

The GNWT, in collaboration with the University of Guelph and the University of Calgary, is conducting a baseline groundwater quality investigation in the NWT portion of the Liard Basin. The objectives of this groundwater monitoring project are to:

- 1) determine the quantity and quality of groundwater;
- 2) characterize the groundwater flow system and interaction with nearby surface water bodies;
- 3) define the sequence of hydrogeologic units; and
- 4) evaluate the vulnerability of the local and basin-scale aquifers.

The GNWT is working with Queen's University to improve knowledge of groundwater in Whatì, where drinking water is sourced from a community well. This work will provide information about the quality and quantity of groundwater, as well as knowledge on permafrost distribution around the community. Drilling occurred during the summer of 2024 when boreholes were instrumented. Researchers from Queen's University and ECC scientists provided preliminary updates at the 2024 Water Stewardship Strategy Workshop in Dettah.

The GNWT is also working with the Government of Alberta and the Alberta Geological Survey to gain a better understanding of the aquifer systems in the Alberta-NWT transboundary region. In the past year, an improved and unified geological model of the Alberta-NWT transboundary region was completed, and regional geological cross sections through the AB-NWT border showing sediment thickness and bedrock geometry were developed.

For groundwater chemistry, a distribution map of groundwater flow and major-ion chemistry was completed in draft form of major bedrock hydrostratigraphic units. Also, environmental isotope and water chemistry sampling has commenced; 16 samples were collected along the Hay River from Meander River, Alberta to Hay River, NT, in October 2023.

The GNWT and the Alberta Geological Survey also initialized two other tasks: the springs identification workflow using satellite imagery to map areas with greater potential for groundwater discharge, and the geological modelling workflow to predict the distribution of sand in near-surface materials.

## Biology

Benthic invertebrates, large-bodied fish, small-bodied fish, and aquatic mammals were identified in the AB-NWT BWMA as interim biological indicators. These aquatic organisms are sensitive to changes in the aquatic environment. Changes in biological indicators are often

detected before changes in water quality or quantity are detected. Monitoring biological indicators can be used as an early warning that change is occurring. If changes in the aquatic environment are detected early, this provides an opportunity for an adaptive management response to ensure the ecological integrity of the aquatic environment is maintained.

Benthic invertebrate monitoring was initiated in 2017 in the Slave and Hay rivers near the NWT-AB border in partnership with researchers from the University of New Brunswick. The objective of the monitoring program is to determine current conditions and establish a baseline that can be used to track the status of those organisms over time. The program has adapted the Canadian Aquatic Biomonitoring Network (CABIN) protocol for use on large rivers. On each of the two transboundary rivers (Slave and Hay rivers), between 30 to 35 kick samples are collected at six locations. Due to the high-water level in the Hay River in the summer of 2020 and 2021, the river could not be sampled for benthic invertebrates those years. Both rivers were sampled in 2024.

The NWT and AB governments have also been working with community members in Fort Smith and Fort Resolution and researchers from the University of Calgary, University of Saskatchewan, and Wilfrid Laurier University to develop a fish monitoring program for the Slave River. Community meetings were held in 2019 to discuss the priorities of the fish monitoring program, which species to monitor, when to monitor, and where to monitor. The objectives of the program are to build on historic studies (1970s, 1990s, 2010s), align with upstream fish monitoring in the Athabasca River, Peace River, and Peace-Athabasca Delta, and track fish health and tissue contaminant levels over time. In September 2019, 2021, and 2023, large-bodied fish (lake whitefish, northern pike, walleye, longnose sucker) were collected in the Slave River near Fort Smith and Fort Resolution. Burbot were also collected in the Slave River near Fort Smith in the winter of 2020/21 and near Fort Smith and Fort Resolution in the winter of 2021/2022. Small-bodied fish (trout-perch, emerald shiner, spottail shiner) were collected in the fall 2019, and a more intensive monitoring program was initiated on the Slave River in the fall of 2022 and continued in 2023 and 2024.

Fish were sampled for health indicators (e.g. length, weight and organ sizes) and contaminants. NWT and AB also provide support for fall and spring fish camps on the Slave River in northern AB that are led by Smith's Landing First Nation. On the Hay River, a pilot program took place in September 2020 near the NWT-AB border to collect basic information on large- and small-bodied fish species presence and relative abundance to inform future engagement meetings.

**Contact:** Meghan Beveridge, A/Director, Water Monitoring and Stewardship Division, Department of Environment and Climate Change – [Meghan.Beveridge@gov.nt.ca](mailto:Meghan.Beveridge@gov.nt.ca)

## **NWT-wide Community-based Water Quality Monitoring Program**

The GNWT, through the Department of Environment and Climate Change, works with Indigenous water partners to support communities in the development and implementation of aquatic community-based monitoring and research programs. The main objectives of NWT-wide Community-based water quality monitoring program are to:

- Address community questions about water quality, changes over time and impacts of stressors, such as upstream development and climate change;
- Provide opportunities for community members to gain experience in water quality monitoring in their local watersheds; and
- Build community capacity for water quality monitoring.

Community-based monitoring fosters a wide range of innovations, including increased awareness of water stewardship issues, improved [Indigenous knowledge](#) collection and application as well as increased direct community involvement in water quality research and monitoring program design. The GNWT provides information about [monitoring parameters](#) and [data interpretation](#) and provides equipment and other monitoring resources for community-based projects.

The GNWT is working with 21 communities to monitor water quality at over 40 sites on 24 NWT rivers and lakes. Data collected through the Community-based Monitoring Program is available online on the [Mackenzie DataStream](#) open-data platform.

**Contact:** Meghan Beveridge, A/Director, Water Monitoring and Stewardship Division, Department of Environment and Climate Change – [Meghan.Beveridge@gov.nt.ca](mailto:Meghan.Beveridge@gov.nt.ca)

## **NWT Cumulative Impact Monitoring Program**

The Northwest Territories Cumulative Impact Monitoring Program (NWT CIMP) is an environmental monitoring and research program within the GNWT Department of Environment and Climate Change. NWT CIMP uses science and traditional knowledge to understand cumulative impacts and environmental trends. Program activities are designed to meet the information needs of northern decision-makers, address community concerns and contribute to wise resource management decisions. The program is a requirement of the Sahtu, Gwich'in and Tłı̨chǫ comprehensive land claim agreements and the *Mackenzie Valley Resource Management Act* (MVRMA).

Projects are underway throughout the NWT and support community participation in all aspects of monitoring. NWT CIMP currently focuses on cumulative impacts related to three valued components that are of critical importance to the people: caribou, water and fish. The program is guided by the NWT CIMP Steering Committee, which is a partnership among NWT Indigenous governments, federal and territorial governments, and co-management boards. Program information, including annual reports and project summaries, are available at [www.nwtcimp.ca](http://www.nwtcimp.ca).

NWT CIMP also facilitates the independent NWT Environmental Audit, which is a requirement of land claim agreements and the MVRMA. The Audit is conducted every five years, by an independent auditor, and looks at how well the NWT regulatory system is working. If the Audit finds something that is not working as well as it could, it can recommend action to make things better. Audits have been completed in 2005, 2010, 2015 and 2020. More information is available at <https://www.gov.nt.ca/ecc/en/services/nwt-environmental-audit>.

**Contact:** Lorraine Brekke, Manager, NWT Cumulative Impact Monitoring Program, Department of Environment and Climate Change – [Lorraine.Brekke@gov.nt.ca](mailto:Lorraine.Brekke@gov.nt.ca)

## 4. Major Projects

### Water Boards

Regional land and water boards were created in the NWT pursuant to land, resources, and self-government agreements and federal legislation (i.e. *Mackenzie Valley Resource Management Act*). The territorial *Waters Act* directs the activities of these Boards. The GNWT and Canada, as well as Indigenous governments and Indigenous organizations and other interested parties, review and provide comment on applications for water licences which are submitted to the following Boards:

- Mackenzie Valley Land and Water Board (NWT areas with unsettled land claims)
- Sahtú Land and Water Board (Sahtú Settlement Area)
- Gwich'in Land and Water Board (Gwich'in Settlement Area)
- Wek'èezhìi Land and Water Board (Wek'èezhìi)
- Inuvialuit Water Board (Inuvialuit Settlement Region)

The Mackenzie Valley Land and Water Board posts all applications for land-use permits and water licences on its website ([www.mvlwb.com](http://www.mvlwb.com)). The site also tracks applications for the Wek'èezhìi Land and Water Board, the Sahtú Land and Water Board, and the Gwich'in Land and Water Board. The Inuvialuit Water Board posts applications for water licences on its website ([www.inuvwb.ca](http://www.inuvwb.ca)).

### Environmental Assessments

The location of a proposed development determines which authority is responsible for conducting an environmental assessment in the NWT. In the Mackenzie Valley region, the

Mackenzie Valley Environmental Impact Review Board (MVEIRB) carries out environmental assessments under the *Mackenzie Valley Resource Management Act*. In the Inuvialuit Settlement Region, the Environmental Impact Review Board (EIRB) carries out environmental assessments under the Inuvialuit Final Agreement, and, in some cases, federal entities will carry out environmental assessments under *Impact Assessment Act* (which replaced the *Canadian Environmental Assessment Act*, 2012, in 2019).

Both the MVEIRB and EIRB have searchable public registries for information related to the environmental assessment of projects. Databases are found at the following addresses, respectively: [www.reviewboard.ca](http://www.reviewboard.ca) and [www.eirb.ca](http://www.eirb.ca).

## **Relevant environmental assessments that the GNWT has recently participated in are noted below.**

### **Mackenzie Valley Highway (EA1213-02)**

On February 8, 2013, the Government of the Northwest Territories (GNWT) – Department of Transportation (now Infrastructure (INF)) referred its Mackenzie Valley Highway project to environmental assessment. The project proposes to construct an all-season road from Wrigley, NT to Norman Wells, NT. On behalf of the GNWT, INF submitted the Developer’s Assessment Report to the MVEIRB on October 12, 2023 and also that month, MVEIRB held community sessions in Wrigley, Norman Wells, Tulita, and Délı̄nę. On November 21, 2024, MVEIRB accepted the Developer’s Assessment Report (DAR) and its conformity with the Review Board’s Terms of Reference. Since then, the project has been advancing through the Environmental Assessment (EA) process. Between February and August 2024, interested parties, including the Federal Government, MVEIRB, and Indigenous Governments and Organizations shared comments and recommendations on the DAR through a public review and Information Requests. The next step in the EA process will be the Technical Sessions in Yellowknife between November 19 and 21, 2024. A second round of Information Requests is anticipated, and the GNWT plans to continue engaging with affected parties as the EA progresses.

### **Pine Point Mine (EA2021-01)**

On February 4, 2021, the MVEIRB referred the Pine Point Mine Project to environmental assessment (EA), as requested by the proponent, Pine Point Mining Limited (PPML). The Pine Point mine is located 42 km east of Hay River and 53 km west of Fort Resolution on the south side of Great Slave Lake. The proposed Project is within the traditional territories of the Kát’odeeche First Nation, the Northwest Territory Métis Nation, including the Fort Resolution Métis Government, and the Akaitcho Dene First Nation, including the Denínu Kué First Nation. The proponent is currently writing the Developer’s Assessment Report, which is a document that is guided by the EA’s Terms of Reference and identifies issues and proposed mitigations and predicts impacts from the proposed development. Once the Developer’s Assessment

Report is complete, the EA will move into the technical review phase. The GNWT has been, and will continue to, participate actively in all stages of the EA process.

### **Suncor Energy Inc. Proposed Base Mine Extension**

In 2022, Suncor Energy Inc. requested and received an extension from the Impact Assessment Agency of Canada (IAAC) to provide an Impact Statement for their proposed Base Mine Extension Project in Alberta. The IAAC intends to amend the Tailored Impact Statement Guidelines and Planning Phase documents to align them with the amended IAA, and will make the necessary changes and post a notice on the Registry by December 20, 2024. Following that, the new deadline for the Proponent to provide the required information or studies described in the Final Tailored Impact Statement Guidelines, and any subsequent modifications, is February 25, 2025. The GNWT had previously provided input to both the federal and provincial EAs of the project and will participate in the review of the EA when the Impact Statement is complete. The GNWT's interest in the Project's EA is related to potential transboundary impacts to the downstream environment in the NWT and potential impacts on downstream residents, communities and Indigenous governments and Indigenous organizations in the NWT.

### **Regulation Development for Oil Sands Mine Water Release**

Both the Alberta and federal governments are currently considering the development of regulatory guidance or regulations to allow the safe discharge of treated oil sands tailings water into surface water, including the Athabasca River. The Alberta government conducted scientific studies to support the development of regulatory guidance. This guidance would outline requirements for oil sand operations to release treated oil sands mine effluent to surface waters. The GNWT has thoroughly reviewed the technical reports from the scientific studies and submitted their comments to Alberta. More recently, Alberta established an Oil Sands Mine Steering Committee to help inform a plan for oil sands mine water management and tailings pond reclamation. GNWT will provide a written submission to the committee to share the concerns and interests of NWT residents. The GNWT has regular and ongoing communications with the Alberta government through the Alberta-NWT Bilateral Water Management Agreement and at the senior management levels. Continued information sharing and dialogue through the Bilateral Water Management Agreement, as well as the Mackenzie River Basin Board, are essential to meeting northern interests.

## **5. Events, Conferences and Seminars**

The 15<sup>th</sup> Annual NWT Water Stewardship Strategy Implementation Workshop was held October 29-30, 2024, at the Chief Drygeese Centre in Dettah, NT. The two-day event brought 120 participants, representing water partners working across the NWT, together under the collaborative theme of "Shaping the Future of NWT Water Stewardship – Actions, Learnings,

and Insights for Tomorrow”. This year’s workshop successfully marked 15 years of water partners coming together to support the advancement of the NWT Water Strategy. Key objectives of this workshop were to:

- Share updates and reflect on NWT Water Strategy Progress
- Discuss knowledge gaps and observed changes
- Identify emerging priorities for water stewardship
- Help shape future direction

The informative two-day event was filled with presentations, panels, and knowledge sharing sessions, on community-based water monitoring, water levels across the territory, NWT drinking water management, transboundary water management, flood mapping, youth water stewardship opportunities, and many more. Participants also engaged in active discussions, providing valuable insight to help inform and advance the work of NWT Water Partners.



A workshop report is being prepared summarizing what was heard during the workshop. The report will be shared with workshop participants and water partners, in the coming months.

For more information, please visit [www.nwtwaterstewardship.ca](http://www.nwtwaterstewardship.ca).