

# Agency Report to the Mackenzie River Basin Board

Meeting 78 of the Mackenzie River Basin Board

December 5 and 6 | 2023



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English

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French

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Kīspin ki nitawih̄tīn ē nīh̄yawih̄k ōma ācimōwin, tipwāsinān.

Cree

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

Tłıchq̄

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

Chipewyan

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

South Slavey

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

North Slavey

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

Gwich'in

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Uvanittuaq ilitchurisukupku Inuvialuktun, ququaqłuta.

Inuvialuktun

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Inuktitut

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Hapkua titiqqat pijumagupkit Inuinnaqtun, uvaptinnut hivajarlutit.

Inuinnaqtun

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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.....	18
5. Events, Conferences and Seminars .....	20

# 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.

**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. Four annual reports have been released to date. The latest annual report that covers two years for 2018-2020 was released in July 2022 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 an in-person meeting in Inuvik in October 2023.

**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.enr.gov.nt.ca/en/services/water-management-and-monitoring/transboundary-water-agreements>

**Contact:** Meghan Beveridge, A/Director, Water Management and Monitoring 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 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. Action areas, called Keys to Success, have associated performance indicators, action items, deliverable dates, outputs, and associated lead and supporting water partners.

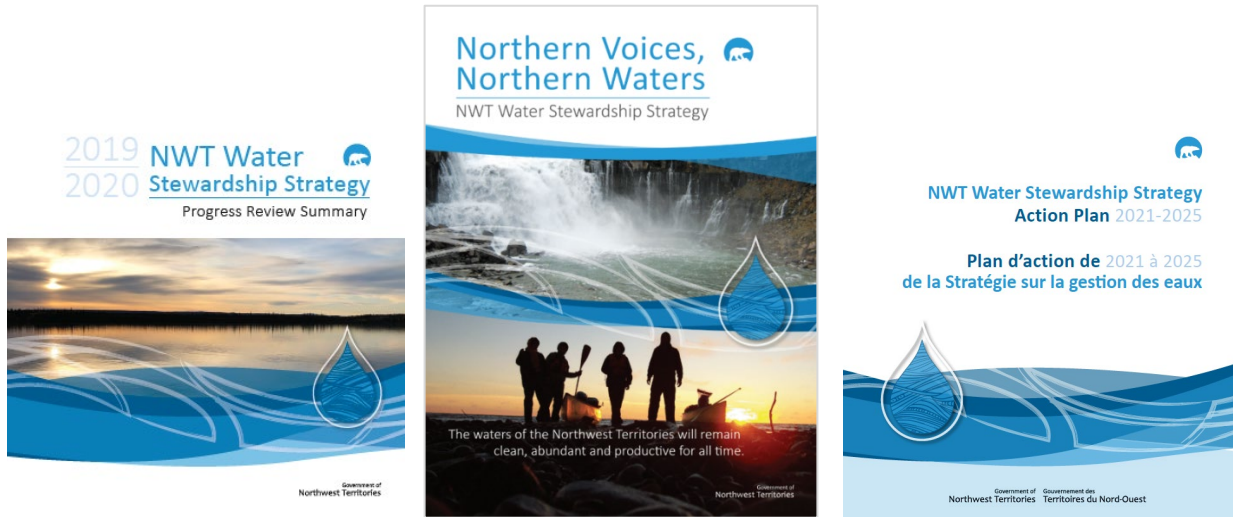
Key priority areas identified in the 2021-2025 Action Plan include:

- 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.

Annual progress reviews of the Action Plan are conducted to ensure effective progress is being made in achieving the vision of the Water Strategy and to indicate where adjustments are needed. The 2021-2025 Action Plan progress summary report and a comprehensive raw data spreadsheet containing detailed information on progress of each action item and performance indicator, for its first year of implementation are now available on the NWT Water Stewardship website. The progress report for 2022 is being finalized.



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

**Contact:** Meghan Beveridge, A/Director, Water Management and Monitoring 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.

In 2020, following the five-year anniversary of devolution, a review of the federal *Mackenzie Valley Resource Management Act* (MVRMA) was initiated by the GNWT. The *Waters Act* and the MVRMA are closely linked and together establish the NWT's unique integrated resource management regime for land and water. The review of the MVRMA is ongoing with Indigenous governments and Indigenous organizations in the NWT and it is the current focus of the GNWT at this time.

It has been determined that the *Waters Act* amendments should be paused until the MVRMA review is completed due to the overlap and relationship between the two. Doing so will require substantial engagement and collaboration with Indigenous governments and Indigenous organizations, the federal government, non-government organizations, communities and industry. This work is anticipated to continue in the coming years.

**Contact:** Rick Walbourne, A/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.

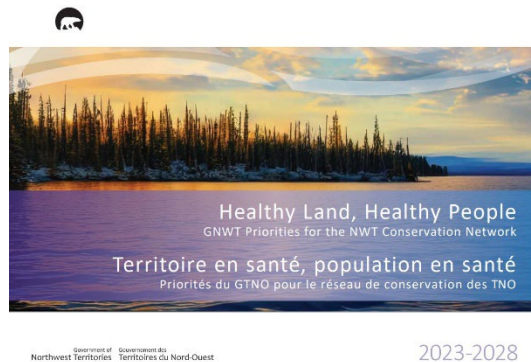
The GNWT, represented by the Interdepartmental Drinking Water and Waste Committee, releases annual [reports on drinking water](#) for NWT communities. These reports are available on the [NWT drinking water website](#).

**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 Planning in the NWT

The GNWT’s plan to establish, implement, and strengthen 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](#). The work plan recognizes the importance of working with Indigenous governments, Indigenous organizations, the federal government, and stakeholders to:

- Advance planning and decision-making on the establishment of protected 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 document outlines the GNWT’s priority outcomes and work plan objectives for developing, 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 in the east arm of Great Slave Lake, was established in 2019 through agreements between GNWT, Parks Canada, Łutsël K’e Dene First Nation, the Northwest Territory Métis Nation, Yellowknives Dene First Nation, and Denínu Kue First Nation. The Thaidene Nënë Management Board (made up of the operational management board, Thaidene Nënë Xá Dá Yáłtı, and the Regional Management Board) is currently developing the first management plan and making ongoing recommendations for the operation and management of the area.

Also under the *Protected Areas Act*, Ts'udé Niljné Tuyeta Indigenous and Territorial Protected Area, was established in 2019 through an agreement between the GNWT and K'asho Got'inę. It lies west of the Mackenzie River and encompasses the Ramparts Wetlands and River. Regulations to establish the area came into force on January 31, 2022. The management board for Ts'udé Niljné Tuyeta was formed in September 2020 and is currently developing a draft management plan.

The GNWT is also working with partners to establish Dinàgà Wek'èhodì, located on the north arm of Great Slave Lake. It is a candidate protected area under the *Protected Areas Act*. Collaborative discussion on the establishment of Dinàgà Wek'èhodì are ongoing.

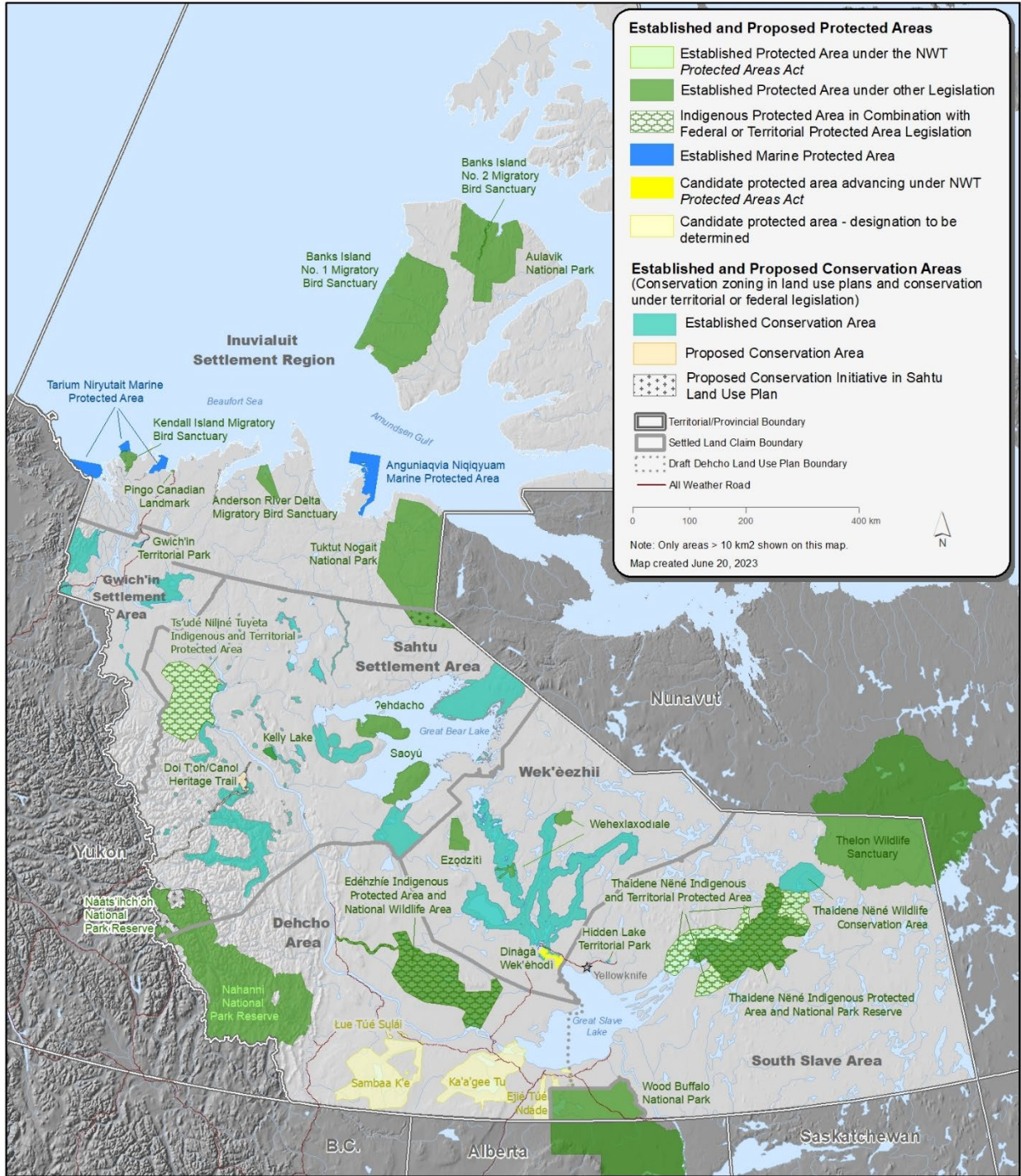
Four candidate protected areas were identified and assessed through the former NWT Protected Areas Strategy in the Dehcho region – Ka'a'gee Tu, Łue Túé Sulá, Ejié Túé Ndáde, and Samba K'e. The GNWT supports local and regional Indigenous governments, as requested, to advance these candidate areas.

The [Northwest Territories State of the Conservation Network 2016](#), a status report on the health of the NWT conservation network, was released in August 2016. Development of the next report is underway and is anticipated to be released in 2024. This report summarizes ongoing progress for achieving ecological representation, cultural continuity, and connectivity between wildlife habitats.

The GNWT works together with co-management Indigenous governments in Ts'udé Niljné Tuyeta and Thaidene Nene Indigenous and Territorial Protected Areas to develop and implement long-term monitoring programs. These monitoring data will help to inform management decisions aimed at maintaining ecological and cultural integrity for current and future generations. Maintaining good water quality and healthy, functioning wetlands are key indicators that these protected areas are being managed effectively.

GNWT also supports various Indigenous Guardians and community-based monitoring programs to monitor biodiversity across the territory. First trialed in Dinàgà Wek'èhodì Candidate Protected Area as well as Ts'udé Niljné Tuyeta and Thaidene Nene Indigenous and Territorial Protected Areas, the NWT Biodiversity Monitoring Program has now expanded to other areas, including Edézhíe, Samba K'e, Norman Wells, Fort Smith, Gamètì, Daring Lake, and sites along the Mackenzie Valley winter road. In total, approximately 1000 stations with cameras and sound recorders have been deployed since the program first started in 2020. Data from this project will inform future conservation planning by identifying areas that are more resilient to the impacts of climate change.

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 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.

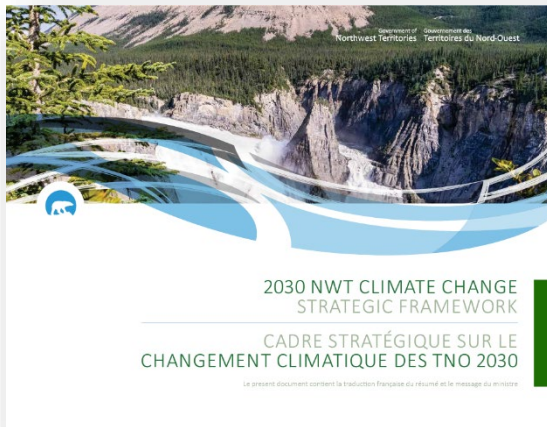
**Contact:** Gina Ridgely, Director, Land Use and Sustainability, Department of Environment and Climate Change – [Gina.Ridgely@gov.nt.ca](mailto:Gina.Ridgely@gov.nt.ca)

## 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 and cross-cutting themes:

- 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
- Cross-cutting – Leadership, communication, and capacity building
- Cross-cutting – Economic impacts and opportunities

Implementation of the Action Plan is currently underway and the fourth annual report will be released in the winter of 2023/2024. A number of the activities in the Action Plan are related to water in the Mackenzie River Basin.

An independent evaluation of the 2019-2023 Action Plan is currently in-progress, as is the development of the GNWT's 2025-2029 Climate Change Action Plan. The renewed Action Plan will be informed by input from 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 committed to reducing annual greenhouse gas emissions by 30 percent below 2005 levels by 2030. The federal government has committed to achieving net-zero greenhouse gas emissions in Canada by 2050. This includes an emissions reduction target of 40 to 45 percent below 2005 levels by 2030. 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 GNWT is currently exploring pathways to achieving further emissions reduction in the territory. As a result, the 2030 Energy Strategy and Climate Change Strategic Framework are currently being reviewed and renewed, informed by ongoing stakeholder and public engagement.

### 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, chlorinated phenolic compounds, and dioxins and furans. 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. As a result of the community evacuations due to the 2023 wildfires, fewer samples were collected from the Liard, Slave and Hay rivers as part of routine water quality monitoring in the NWT.

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 and objectives for established and future bilateral water management agreements.

Technical and plain language summary reports are available for these rivers. [State of Aquatic Knowledge Reports](#) for the Liard/Petitot and Hay River basins have also been completed in collaboration with B.C. and AB, respectively.

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 major transboundary rivers of the MRB 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 hydrocarbons in water and suspended sediment from six major MRB transboundary rivers (Slave, Hay, Liard, Peel, Athabasca, and Peace). 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 over 100 stations across the NWT. There are six major transboundary rivers with hydrometric gauging stations: Liard, Slave, Hay, Petitot, Tazin and Peel. 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.

For the third year in a row, ice-jam induced flooding resulted in record high water levels in an NWT community. This year's flooding occurred in Fort McPherson and resulted in the community declaring a local state of emergency. It was caused in part by a combination of pre-existing high water levels that endured over-winter and a delayed start to spring melt.

Overall, water levels and flow rates across the NWT have been very low in 2023, and in some cases have been the lowest on record for the time of year. Extremely dry conditions in the southern NWT have resulted in very little water being available to flow to rivers and lakes. These conditions originated last summer and fall (2022). Great Slave Lake and Mackenzie River water levels have been extremely low, 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 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.

Beginning in 2022, ECC publishes regular updates on water levels on rivers and lakes across the territory. These reports are typically produced at the start of each month and are available on the ECC website. Reporting frequency will increase to weekly/daily as needed during the spring breakup season to provide NWT residents with as much near real-time information as possible

## 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. A first drilling campaign took place August 2-25, 2019. Drilling occurred at two locations at a depth of 35 and 51.5 metres, and downhole geophysics and coring activities took place. A second drilling campaign took place in May-June

2023, where six boreholes were drilled at three sites, with a depth of 150 metres. Downhole geophysics and coring activities took place, and multi-level monitoring systems were installed in three well (one at each location). A first groundwater sampling campaign took place in September 2023.

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.

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 and 2021, 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.

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 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 [traditional 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, traditional and local 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 *Mackenzie Valley Resource Management Act* (MVRMA) and settled land, resource and self-government agreements.

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 of the NWT: 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 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 [www.enr.gov.nt.ca/en/services/nwt-environmental-audit](http://www.enr.gov.nt.ca/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)

## **Guideline for Baseline Development**

The collection of water quality data and the development of water quality monitoring programs are an important part of the regulatory regime in the NWT. Baseline monitoring is necessary to provide the data and information needed to assess water quality and make informed decisions

regarding the current and future uses of aquatic ecosystems. To characterize and manage water resources across the NWT, reliable and consistent baseline and monitoring information is necessary.

ECC, in collaboration with the Land and Water Boards of the Mackenzie Valley and the Mackenzie Valley Environmental Impact Review Board (MVEIRB), has initiated the development of a baseline guidance document to provide direction regarding the development and implementation of baseline water quality monitoring programs and to foster improved data collection and overall knowledge about water quality in the NWT. These guidelines are anticipated to be released following additional engagement in 2023.

**Contact:** Rick Walbourne, A/Director, Regulatory and Assessment Division, Department of Environment and Climate Change – [Rick.Walbourne@gov.nt.ca](mailto:Rick.Walbourne@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. Interested parties, including Indigenous governments and Indigenous organizations, can participate in the technical review of the project and make recommendations to MVEIRB during the environmental assessment.

### **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 to provide an Impact Statement for their proposed Base Mine Extension Project in Alberta. The Impact Statement is now due by 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 is conducting 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 is thoroughly reviewing the technical reports from the scientific studies, and will review any proposed regulatory guidance to ensure that the interests of NWT residents are well represented. 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 13<sup>th</sup> Annual NWT Water Stewardship Strategy Implementation Workshop was held October 25-27, 2022, at the Chief Drygeese Centre in Dettah, NT. The three-day event brought water and climate change partners together under the collaborative theme of “Adapting to Change and Building a Resilient Northwest Territories” in recognition of the challenges the NWT has faced in recent years in responding to changes on the land, water and in our communities.

The workshop focused on collaboration and knowledge sharing among water and climate change partners and highlighted the importance of working together to build resilience and adapt to these changes.

The 14<sup>th</sup> Annual Water Stewardship Strategy Implementation Workshop occurred October 25-26, 2023, at the Chief Dyrgeese Centre in Dettah. The theme of this year's workshop, "Inspiring Our Future Water Leaders", focused on NWT future water leaders' engagement and capacity building by bringing water partners together for a collaborative approach and knowledge sharing for the 14<sup>th</sup> time since the release of the Water Strategy. The workshop provided a venue to discuss successes, challenges, and opportunities for continued collaboration to achieve the goals of the NWT Water Stewardship Strategy and the 2021-2025 Action Plan.

The workshop reports are available at: [nwtwaterstewardship.ca](http://nwtwaterstewardship.ca)