

# Agency Report to the Mackenzie River Basin Board

Meeting 73 of the Mackenzie River Basin Board

October 19-20 | 2022



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 nīhīyawih̄k 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 theʔá ʔat'e, nuwe ts'ēn yóttı.

Chipewyan

---

Edı gondı dehgháh 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< ɳɳ<sup>sb</sup>Δ<sup>c</sup> ʌɾLJ&ɾ<sup>c</sup> Δɔ<sup>b</sup>ɳɳ<sup>c</sup>ɾ<sup>sb</sup>ɾLɳɳ<sup>b</sup>, ɳ<sup>c</sup>ɾ<sup>c</sup>ɳ<sup>a</sup>ɔ<sup>c</sup> ɳ<sup>b</sup>ɾ<sup>c</sup>ɾ<sup>a</sup>ɳ<sup>sb</sup>ɳɳ<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.....	14
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. In August 2022, B.C. and NWT released an [Implementation Highlights Report for 2019-2021](#). The B.C.-NWT Bilateral Management Committee (BMC) met with the Yukon-NWT BMC in May 2022 and discussed a collaborative process to develop a Liard Basin learning plan, using Joe Copper Jack's Land-Relationship model.

**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.

**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:** Nathen Richea, Director, Water Management and Monitoring Division, Department of Environment and Natural Resources – [Nathen\\_Richea@gov.nt.ca](mailto:Nathen_Richea@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.

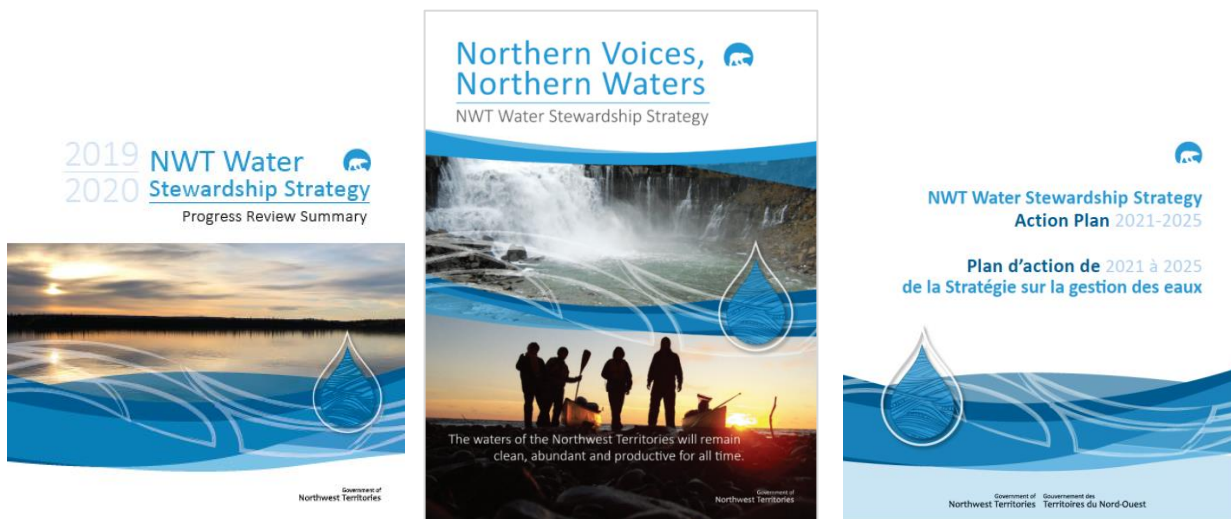
Key priority areas identified in the 2021-2025 Action Plan include:

- 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 Natural Resources Department (ENR) 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 and academic institutions.

Indigenous governments and Indigenous organizations guide implementation of the Water Strategy through an 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 implementation activities reflect the needs and values of Indigenous governments and people.

Annual progress reviews of the Water Strategy and Action Plan are conducted and allow for actions to be adjusted as necessary. The [final progress review](#) associated with the last Action Plan (2016-2020) was released in October 2020. Independent evaluations of the Water Strategy are also undertaken every five years to determine progress and address challenges by outlining recommendations for subsequent Action Plans. An [independent evaluation of the 2016-2020 Action Plan](#) was completed in September 2020 and informed the development of the five-year Action Plan for 2021-2025. The first annual progress report of the 2021-25 Action Plan is being developed.



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

**Contact:** Nathen Richea, Director, Water Management and Monitoring Division, Department of Environment and Natural Resources – [Nathen\\_Richea@gov.nt.ca](mailto:Nathen_Richea@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. This process was not completed prior to the end of the 18<sup>th</sup> Legislative Assembly.

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 five-year review 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.

Looking forward, the GNWT plans to reinitiate the process to renew the *Waters Act*. 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:** Nathen Richea, Director, Water Management and Monitoring Division, Department of Environment and Natural Resources – [Nathen\\_Richea@gov.nt.ca](mailto:Nathen_Richea@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, regularly releases [reports on drinking water](#) for NWT communities. Full reports are typically released every two years and summary reports are released every other year. These reports are available on the [NWT drinking water website](#).

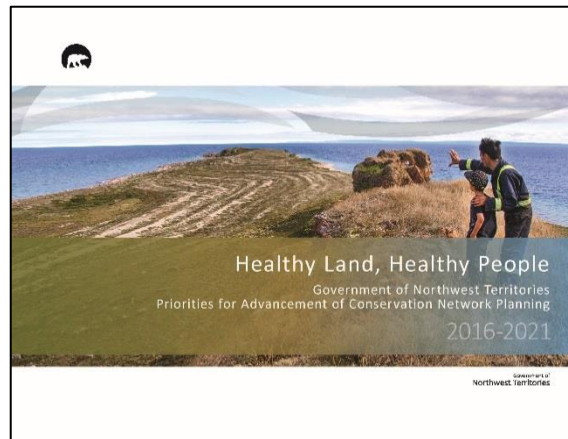
**Contact:** Iqbal Arshad, Team Lead Water and Sanitation, Water and Sanitation, Department of Municipal and Community Affairs – [Iqbal\\_Arshad@gov.nt.ca](mailto:Iqbal_Arshad@gov.nt.ca)

## Conservation Planning in the NWT

The GNWT's plan to advance conservation network planning in the NWT is described in [Healthy Land, Healthy People: GNWT Priorities for Advancement of Conservation Network Planning 2016-2021](#). The document outlines key tasks the GNWT will undertake to pursue a comprehensive and collaborative approach to conservation network planning. Conservation network planning includes the establishment and management of a conservation network of protected areas and conservation areas. It also involves the consideration of ecological representation, ecosystem patterns and processes, and landscape connectivity.

One priority outcome is to conclude planning and decision-making processes for the establishment of the existing candidate protected areas.

Under the *Protected Areas Act*, Thaidene Nënë Territorial Protected Area, located in the east arm of Great Slave Lake, was established in 2019 through agreements between GNWT and Łutsël K'e Dene First Nation, the Northwest Territory Métis Nation, and Denínu Kue First Nation. An operational management board was formed in January 2021 that is responsible for completing a management plan. Also under the *Protected Areas Act*, the GNWT has signed an establishment agreement with K'asho Got'inę for Ts'udé Niljné Tuyeta, encompassing 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 had its first meeting in September 2020 and is developing a draft management plan that is anticipated to be completed by September 2024. The GNWT is also working with partners on establishing Dínàgà Wek'èhodì, located on the north arm of Great Slave Lake. A fourth candidate area, Edézhíé, has been established as an Indigenous Protected Area and was established as a National Wildlife Area under the *Canada Wildlife Act* in 2022.



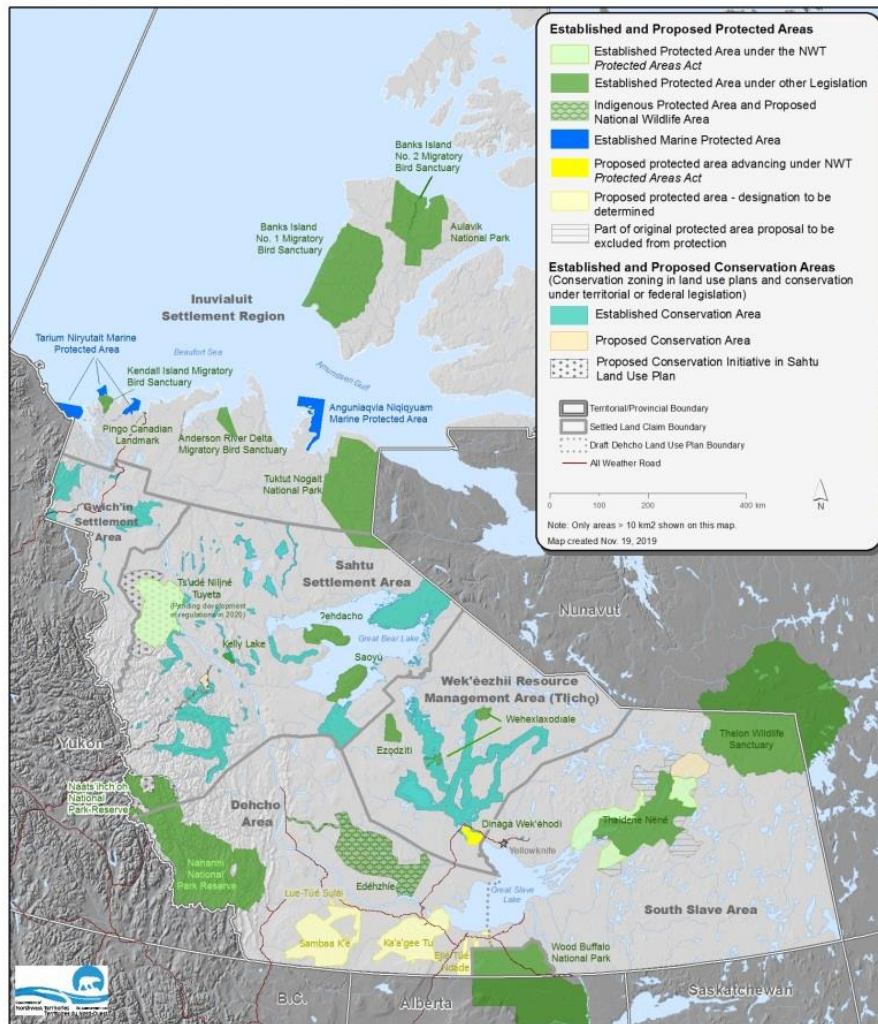
Renewal of *Healthy Land, Healthy People* is currently underway. A draft of the work plan was available for public feedback until September 1, 2022, with a final version anticipated to be released in Spring of 2023.

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. The *Protected Areas Act* requires a report to be released at minimum every five years. Development of the next report is underway and is anticipated to be released in 2023.



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. Currently, Indigenous governments and Indigenous organizations along the length of the river are reviewing a draft background report and considering whether they wish to support the initiative.

## Established and Proposed Conservation Network in the Northwest Territories



For the most current information on conservation network planning visit the ENR [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 industrial development
- areas that can support industrial 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 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 Dehcho Land Use Planning Committee 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 Lands – [Gina.Ridgely@gov.nt.ca](mailto:Gina.Ridgely@gov.nt.ca)

### Climate Change

Climate change has an overarching impact on many aspects of life in the NWT, including the natural environment, the health and safety of its residents, the culture and heritage of Indigenous peoples, NWT's infrastructure, and the economy. Over the past decade, the NWT has experienced intense wildfires, droughts, permafrost thaw, shorter and milder winters with more unpredictable weather patterns, and now unprecedented high-water levels and flooding of communities.

The GNWT is taking action to mitigate and adapt to climate change in collaboration with Indigenous governments and Indigenous organizations, the Government of Canada, 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.

The GNWT seeks to achieve these Mandate priorities with guidance from key GNWT policy frameworks, including the *2030 NWT Climate Change Strategic Framework*, which encompasses components of:

- The *2030 Energy Strategy*
- The NWT Carbon Tax

The implementation of these 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.

The *Mandate of the GNWT (2019-2023)* guides the GNWT's actions to advance the priorities of the 19th Legislative Assembly. Two mandate items indicate how important climate change action is to the GNWT. These include:

1. **Strengthen the government's leadership and authority on climate change.** This priority includes the establishment of an NWT Climate Change Council. The Council is a forum for information sharing, collaboration, and engagement between non-elected staff in Indigenous governments and Indigenous organizations, NWT communities, and representatives from the GNWT, with input from youth, Elders and stakeholders, such as environment NGOs and industry. The Council provides an opportunity to build and strengthen relationships, shared understanding, and trust.
2. **Ensure climate change impacts are specifically considered when making government decisions.** This priority includes the revision of decision instruments like Cabinet and Financial Management Board (FMB) submissions to include climate change considerations into decision making. Climate change considerations were integrated into Executive Council and FMB decision-making tools in December 2020.

The GNWT is committed to providing strong leadership toward effective climate change mitigation and adaptation activities. This commitment is outlined in our national agreements, mandate commitments, Climate Change Strategic Framework and its subsequent action plans.

### **Pan-Canadian Framework on Clean Growth and Climate Change**

The Pan-Canadian Framework on Clean Growth and Climate Change was released in 2016 and is Canada's response to implementing the Paris Agreement by meeting emissions reductions targets, growing the economy, and building resilience to a changing climate. The GNWT participated in the development of the Pan-Canadian Framework, which was signed by 11 of 13 provinces and territories during a First Ministers of Canada meeting on December 9, 2016. Manitoba signed on in 2018.

The Pan-Canadian Framework target for emissions reduction is 30% below 2005 levels. In November 2020, Canada tabled legislation that legally binds the government to a process to achieve net-zero emissions by 2050. This legislation will aid in planning the way we reach the goal of carbon neutrality by 2050.

Reporting on the progress made to implement the Pan-Canadian Framework is released annually by the Government of Canada. Annual progress reports have been released for 2017, 2018, 2019 and 2020.

In July 2021, the Minister of Environment and Climate Change formally submitted Canada's enhanced Nationally Determined Contribution to the United Nations, committing Canada to cut its greenhouse gas emissions by 40-45 percent below 2005 levels by 2030. This is an increase of 15 percent more than the previous target for the Pan-Canadian Framework. The GNWT is currently evaluating what lower carbon pathways can look like in the North and will work with partners to inform the feasibility and cost of potentially agreeing to greater GHG emission reduction targets.

### **National Adaptation Strategy**

The federally led National Adaptation Strategy (NAS) is intended to be a collaborative and action-oriented framework that brings together national Indigenous organizations, as well as territorial and provincial governments. Its intent is to align collective and individual actions. This work includes establishing priorities for collaboration, informing the federal government and its partners where policies, programs and investments should be targeted for best results going forward as well as working together to find solutions that can result in reduced climate change risks and increased adaptive capacity. Environment and Climate Change Canada (ECCC) are

currently developing the NAS Framework and associated Federal Adaptation Action Plan (FAAP) which is expected to be released in November.

Following the release of the NAS and FAAP, the GNWT will further engage with ECCC in the development of a bilateral implementation plan.

### 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 provides a roadmap for how the NWT will address climate change in the short and long term.

The Strategic Framework was informed by valuable input from Indigenous governments and Indigenous organizations, community governments, territorial and federal departments, co-management boards, non-government organizations, academic institutions, industry, and the general public. This input was provided through a series of regional workshops, an online survey, individual stakeholder meetings, and a public review process.

### *2019-2023 Action Plan*<sup>1</sup>

The GNWT released the 2019-2023 NWT Climate Change Action Plan (Action Plan) in April 2019 as the first of two five-year action plans to guide the implementation of the Strategic Framework. The Action Plan was developed with input from GNWT departments, federal government departments, Indigenous governments and Indigenous organizations, non-governmental organizations, co-management boards, industry and other partners, including the NWT Association of Communities.

The Strategic Framework and 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

---

<sup>1</sup> Source:

<https://diims.gov.nt.ca/gnwt/lisapi.dll?func=Edit.Edit&nodeid=168623231&uiType=1&nexturl=%2Fgnwt%2Fllisapi%2Edll%3Ffunc%3Dl%26objaction%3Doverview%26objid%3D168623231>

Implementation of the Action Plan is currently underway and the third annual report will be released in the fall of 2022. A number of the activities being undertaken by the GNWT and partners are directly or indirectly related to water in the Mackenzie River Basin.

### NWT Climate Change Council

In Spring 2021, ENR 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 Natural Resources and Infrastructure. The NWT Climate Change Council is a forum for information sharing, collaboration and engagement, composed of Indigenous government and Indigenous organization officials, as well as representatives of NWT communities and the GNWT. It informs GNWT climate change and environmental programs to better align with Indigenous government, Indigenous organization and community perspectives, interests, and knowledge. The Council met four times in 2021-22 (quarterly).

A key upcoming task will be to conduct a territory-wide climate Risks and Opportunities Assessment (ROA). The ROA will guide climate adaptation priorities and planning in the NWT until at least 2030. Strategic guidance and input from Indigenous governments, Indigenous organizations and communities is needed to build a shared understanding of the NWT's adaptation priorities, and to agree and align on where action and funding is required. Views of the NWT Climate Change Council will be sought.

For further information please visit: [www.enr.gov.nt.ca/en/services/climate-change](http://www.enr.gov.nt.ca/en/services/climate-change)

**Contact:** Cory Doll, Manager, Climate Change and Air Quality, Environmental and Stewardship and Climate Change Division, Department of Environment and Natural Resources – [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. ENR 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. Routine water quality monitoring in the NWT occurred as planned for the 2022 field season.

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.

Last year, AB and NWT, in collaboration with technical staff from B.C., 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. 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 Natural Resources collaborates with ECCC in a cost-shared hydrometric monitoring program for the NWT that is administered 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. WSC provides flow and level data which are analyzed by GNWT scientists as well as scientists in neighbouring jurisdictions.

During the spring of 2021 and 2022, ice-jam induced flooding occurred at several communities in the NWT. The flooding was caused by a combination of meteorological conditions just before and during the flooding events (i.e. how the ice melted, where the ice jammed, how the ice jams degraded, as well as precipitation events that occurred simultaneous to ice jam conditions), as well as the existing high water levels from the previous year.

Water levels and flow rates across the NWT had been very high in 2020 and 2021. Conditions in 2022 have been more variable across the territory. The North Slave region received very little snow and rain this year, and as a result, water levels on many lakes and rivers are below normal. Conversely, the South Slave and Dehcho received high snowpack volumes this past winter that resulted in high runoff volumes in the early spring, but water levels and flow rates have since receded to about average, or slightly above average.

Beginning in 2022, ENR 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 ENR 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. The 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. After some delays due to COVID 19 travel restrictions, a second field campaign is planned for spring 2023, where up to six boreholes in total will be drilled at up to three sites, with a targeted depth of 110 to 149 metres. The combination of core and downhole geophysical data will be used to install either multi-level systems or downhole tools to allow continued groundwater monitoring in these wells.

## Biology

To fulfill the commitments of the AB-NWT BWMA, a benthic macroinvertebrate monitoring program was initiated in 2017 in the Slave and Hay rivers near the NWT-AB border. 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. On each the two transboundary rivers (Slave and Hay rivers), between 30 to 35 kick samples were collected each year at six different 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 and the University of Saskatchewan to pilot a fish monitoring program for the Slave River. The objective of the program is to track fish health and tissue contaminant levels over time and to provide an early warning of change in the aquatic environment. In September 2019 and 2021, large- and small-bodied fish 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 2020/21 and 2021/2022. In the summer 2022, a more intensive small-bodied fish monitoring program was initiated on the Slave River. Fish were sampled for health indicators (e.g. length, weight and organ sizes) and contaminants. NWT also participates in a fall fish camp on the Slave River in northern AB. The fall fish camps 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:** Nathen Richea, Director, Water Management and Monitoring Division, Department of Environment and Natural Resources – [Nathen Richea@gov.nt.ca](mailto:Nathen.Richea@gov.nt.ca)

## **NWT Community-based Monitoring Program**

The GNWT, through the Department of Environment and Natural Resources, 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 Community-based 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 research and monitoring program design. The GNWT provides information about [monitoring parameters](#) 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](#) website.

**Contact:** Nathen Richea, Director, Water Management and Monitoring Division, Department of Environment and Natural Resources – [Nathen\\_Richea@gov.nt.ca](mailto:Nathen_Richea@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 Natural Resources. 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 and contribute to wise resource management decisions. The program is based in land claim agreements and the *Mackenzie Valley Resource Management Act* (MVRMA).

Projects are underway in all regions of 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 Natural Resources – [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.

ENR, 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:** Nathen Richea, Director, Water Management and Monitoring Division, Department of Environment and Natural Resources – [Nathen.Richea@gov.nt.ca](mailto:Nathen.Richea@gov.nt.ca)

## 4. Major Projects

### Water Boards

Regional land and water boards were created in the NWT pursuant to lands, resources, 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'èezhì Land and Water Board (Wek'èezhì)
- 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'èezhì 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.

### **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 Akaitcho Dene First Nation, including the Denínu Kué First Nation, the Kát'odeeche First Nation, and the Northwest Territory Métis Nation, including the Fort Resolution Métis Government. 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 28, 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 will complete a thorough assessment of the technical reports from the scientific studies, as well as 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 12<sup>th</sup> Annual NWT Water Stewardship Strategy Implementation Workshop was held virtually on November 16-18, 2021 and featured the new Climate Change Advisory Group and the Great Slave Lake Research and Monitoring Program under the theme "Collaborating for Water." The focus of the workshop was to encourage collaboration on the overlapping issues between water and climate change, while recognizing the significant work of water and climate change partners in achieving the goals of the 2021-2025 NWT Water Stewardship Strategy Action Plan, and the 2030 NWT Climate Change Strategic Framework (CCSF) and Action Plan.

The 13<sup>th</sup> Annual Water Stewardship Strategy Implementation Workshop is scheduled for October 25-27, 2022, at the Chief Drygeese Centre in Dettah and will once again bring together water and climate change partners under the theme "Adapting to Change and Building a Resilient NWT."

These workshops are an opportunity for knowledge sharing and informing on progress towards the vision of the NWT Water Stewardship Strategy and Climate Change Strategic Framework.