



NUNAVUT WATER BOARD

NUNAVUT WATER MANAGEMENT STRATEGY

DISCUSSION PAPER

DRAFT



1.0 INTRODUCTION

Heightened awareness about water protection and conservation throughout Canada has led many provincial and territorial governments to develop strategies for a coordinated approach to protecting freshwater resources. Examples are: Northern Voices, Northern Waters, NWT Water Stewardship Strategy (Government of Northwest Territories, 2010) and Water for Nature, Water for People, Yukon Water Strategy and Action Plan (Yukon Government, 2014). The Nunavut Water Board (NWB), in conjunction with other stakeholders, is planning to develop a comprehensive water management policy for Nunavut that reflects watershed, regional and territorial issues and priorities around freshwater.

The health of Nunavut residents, environment and economy are all dependent on the effective management, and protection of natural resources. With over 20 percent of Nunavut's 1.9 million square kilometres as fresh water, effective water management is a priority, particularly as the majority of communities within Nunavut are small and isolated, and entirely reliant on their local water resource for their needs.

This discussion paper has been prepared for the Steering Committee and serves to highlight key issues in developing a comprehensive water management strategy; suggests starting points for developing Steering Committee principles, strategy aims and scope; and provides a work plan for moving forward on developing the Draft Framework for the Strategy.

1.1 Terminology

Throughout this document the following terminology will be used and it is defined here for clarity.

Water Management Strategy (Strategy) – The overarching policy for the management of freshwater resources in Nunavut.

Framework – The outline of the key components for the Strategy.

2.0 BACKGROUND

2.1 Water Management in Nunavut

The NWB has been established with the responsibilities and powers over the use, management and regulation of fresh water in Nunavut. The NWB's primary functions are to licence uses of water and deposits of waste as per the authority provided under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act (NWNSRTA or Act)* and *Nunavut Water Regulations*. The NWB's primary function is to issue authorizations for the use of freshwater and deposits of waste into freshwater in the Nunavut Settlement Area. The type of authorization issued depends on factors including the type of undertaking (i.e. Municipal, Industrial, Mining etc.), volumes of water used and types of wastes deposited.

In April 2013 the *Nunavut Water Regulations, SOR 2013/69 (the Regulations)* came into effect and established 65 water management areas for the Territory. The establishment of these water management areas provides a central foundation and clear regulatory framework for specific watershed-based water management in Nunavut.



Contrary to other jurisdictions in Canada, including the other two Canadian Territories, Nunavut does not yet have a territory-wide, comprehensive, and inclusive policy respecting freshwater as a precious natural resource.

Individual water management conditions and monitoring activities are undertaken on a project-specific, or local level across the territory by those holding authorizations issued by the NWB, including Type A and Type B Water Licences.

Specific watershed-based water management has already been initiated in the Territory by the Kivalliq Inuit Association (KivIA) in conjunction with the Nunavut General Monitoring Program and with support and input from the NWB and Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC, formerly Indigenous and Northern Affairs Canada [INAC]). The focus of this watershed-based monitoring program, referenced as “the Inuu’tuti Program” acknowledges the level of development and local activities that may affect the Baker Lake Watershed and prioritizes the development of water management initiatives to protect the Baker Lake watershed at a regional level.

Specifically, the Inuu’tuti Monitoring Program is a water management initiative established to conduct monitoring designed to identify and assess the cumulative impacts to water resources affecting aquatic life in the river system and downstream estuary of the Baker Lake Basin to better understand the potential effects of increased mine development and community growth impacts on the basin.

In 2016, a Technical Advisory Group Steering Committee comprised of the Nunavut General Monitoring Program, INAC (as the department was known then), KivIA and the NWB finalized the terms of reference for Inuu’tuti Program. The Technical Advisory Group will provide technical guidance on the science components of the larger Inuu’tuti Program, including expertise related to water quality, hydrology, aquatic organisms, climate change and possibly public health.

It is expected that the Strategy will support such ongoing initiatives and will ensure that regional programs, like the Inuu’tuti Monitoring Program, can proceed as planned and be developed to support on-going initiatives that contribute to the understanding of water management. Where appropriate, the NWB anticipates that such initiatives can provide a model for individual communities, and the NWB expects that these programs may eventually be integrated into a more comprehensive water management strategy for the Territory.

2.2 Strategy Process to Date

Since the early days of the NWB there have been a number of initiatives to support the development of a water management strategy for the Territory. Most recently, in May 2014, the NWB drafted a Discussion Paper to serve as a working document to initiate dialogue with INAC (now CIRNAC) in the hopes that a cooperative approach to policy development could be achieved. With CIRNAC’s shared responsibilities with the NWB for the management of freshwater resources in and around Nunavut, the NWB and INAC/CIRNAC have worked and continue to work collaboratively on selected water management issues as they arise, including development and amendment of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, S.C. 2002, c. 10 (NWNSRTA), *Nunavut Waters Regulations (the Regulations)*, and Securities Working Group. The NWB is optimistic that the success of these past collaborative efforts bode well for the upcoming work on a more comprehensive approach to developing a water management strategy.



In addition, recognizing that under s. 9 of the NWNSRTA the Federal Minister of CIRNAC may delegate any of the Minister's functions in relation to water management to the territorial minister responsible for water resources. The NWB understands it is equally important to engage with the Government of Nunavut (GN) in the development of the strategy. As previously stated, the *Regulations* set forth a central foundation and clear framework for water management in Nunavut. In addition, water management can contribute to the on-going work of the Nunavut Planning Commission, CIRNAC, the GN and Nunavut Tunngavik Inc. in the development and approval of a territorial wide Land Use Plan. Although the current Nunavut Draft Land Use Plan (2016) has deferred the express incorporation of water management and watershed management considerations into the Plan, future water management strategy initiatives may become part of future iterations of the Nunavut Land Use Plan and the land use planning process administered by the Nunavut Planning Commission.

3.0 WHY IS A WATER MANAGEMENT STRATEGY REQUIRED?

A comprehensive water management strategy is required in Nunavut to:

- Minimize impacts and promote environmental protection;
- Promote effective and comprehensive Environmental management of freshwater resources;
- Incorporate Inuit Qaujimaningit (IQ);
- Manage competing uses;
- Be integrated into the Board's authorization-specific decision-making; and
- Foster transparent communication about water management policy, water monitoring data and strategic water planning initiatives.

3.1 Environmental Protection

Nunavut is experiencing unprecedented growth in the natural resources sector and significant population growth in specific communities, as detailed in the NWB's discussion paper issued in 2014. Nunavut also contains a significant resource of freshwater in a relatively pristine condition. There is currently an opportunity to develop a water management policy before significant widespread and potentially adverse impacts on these precious resources result.

3.2 Effective Environmental Management

The *Nunavut Waters Regulations* have established watershed management areas as the foundation to understand impacts on water resources, including cumulative impacts and transboundary impacts. However further guidance is required to advance this analysis and ensure consistency in approach across the territory as well as establishing a mechanism by which further knowledge on water resources can be acquired and shared between stakeholders.

3.3 Inuit Qaujimaningit

The incorporation of IQ at a scale greater than individual authorizations is required to allow for consistent and more meaningful incorporation of IQ into water management in Nunavut. This ensures more extensive



watershed, regional and territorial IQ is gathered and presented in an encompassing manner, rather than being limited to Project-specific consideration of this vital information as is typically done for each water licence.

3.4 Management of Competing Uses

A clearly articulated water management strategy would be of great assistance in designing the general principles and priorities to reconcile and manage competing uses, while also allowing time for appropriate planning by municipalities, industry and other users. Uses often range widely for the same water resource. Increasing demand on water resources, fueled by growth, is likely to increase these conflicts. A water management strategy is a proactive measure to minimise competing use incidents.

3.5 Transparency

Development of a water management strategy allows for the receipt of input from all regulatory stakeholders, which is not practical or likely for every specific NWB authorization or water licensing decision. It allows for increased transparency and more effective coordination and collaboration between members of Nunavut's integrated co-management regulatory environment, while assisting users (e.g., municipalities, natural resource industry) in determining how they may be authorized to use water in the future.

4.0 STRATEGY DEVELOPMENT PROCESS

It is proposed that the Steering Committee will develop a Draft Framework which will then be provided to a Technical Advisory Group (TAG) for feedback (Figure 1). In parallel to the TAG feedback process, community consultation, communication and engagement will be conducted.

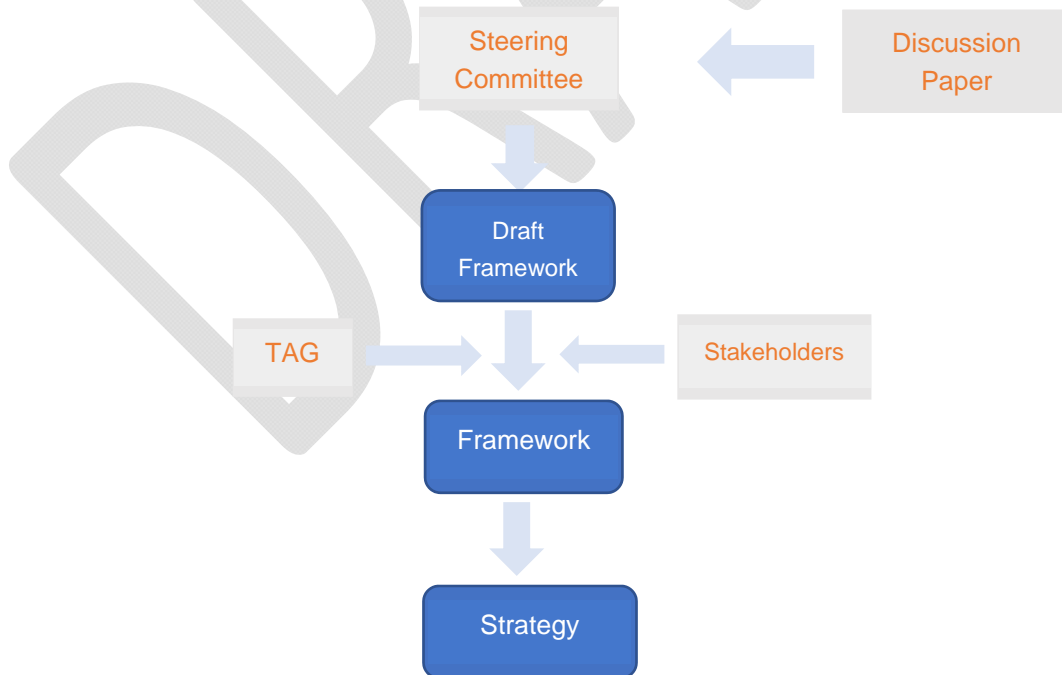


Figure 1: Strategy development process overview.



4.1 Steering Committee

The Steering Committee will provide a centralized, coordinated and focused approach within the territory to address water issues. It will be responsible for creating the water management strategy which ensures that policies, programs and services of the various stakeholders are compatible and supportive of sustainable water management.

A TAG is expected to be formed by the Steering Committee to provide technical guidance on the science and Inuit Qaujimaningit components of the Framework, including expertise related to but not limited to water quality, hydrology, hydrogeology, aquatic organisms, permafrost and climate change. TAG will be comprised of members from various stakeholder groups who are confirmed by the Steering Committee to have the appropriate expertise.

4.2 Discussion Paper

This **discussion paper** is offered to encourage discussion around the following key questions:

- What are the current and proposed water management initiatives in Nunavut?
- Where do current and proposed initiatives overlap?
- Where are the gaps?
- What are the next steps in establishing a Nunavut Water Management Strategy?

This paper presents some possible next steps towards the development of a Draft Framework. This will be a cooperative, collaborative process involving several stakeholders at varying levels of involvement.

This paper highlights and recognises the need for coordinated efforts and continued management of our freshwater resources by federal and territorial government agencies, Institutions of Public Government, Regional Inuit Organizations and non-governmental organisations. Engagement and participation in the work being initiated by the NWB as proposed in this paper are not intended in any way to limit any party from fulfilling its mandate with respect to water management or adhering to their policies and practices. In addition, collaboration by any parties in this process does not create any additional financial obligations on any party associated with the completion of this work.

Based upon the water management provisions established in the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada*, (the Nunavut Agreement), the intent of the water management strategy is also to contribute water management advice to the Nunavut Planning Commission in their development of sustainable land use planning within Nunavut. This work is not intended to replace or otherwise affect the essential role that the land use planning process plays in directing land use in Nunavut and the way in which land use planning can address issues such as protection of community drinking water sources, but rather, seeks to complement the planning objectives and principles outlined in the Nunavut Agreement and adopted by the Nunavut Planning Commission in their current Nunavut-wide Draft Land Use Plan (2016). To this end, the NWB intends to consult and collaborate with the Nunavut Planning Commission as part of the Steering Committee supporting the development of the strategy.



5.0 DRAFT FRAMEWORK

There are six guiding principles that can potentially guide the development of the Draft Framework by the Steering Committee. Each is discussed briefly below.

1. Sustainability
 - Ensuring social well-being is preserved as the survival and quality of life of Nunavummit depends on preserving healthy ecosystems
 - Reflecting a commitment to sustainable development
 - Adoption of the precautionary principle and acknowledgement of its relationship to conservation
 - Reflecting the value of conservation
 - Environmental flows – describing the quantity, timing and quality of water required to sustain an ecosystem. Then finding the balance of renewability of water resources and limits to available water supply at any one time, while still allowing for a healthy ecosystem
 - Protecting surface water and groundwater quality
2. Values and valuation
 - Acknowledgement of the existence of multiple uses, users and values for any one water resource
 - Recognizing that water resources can have spiritual and social value
3. Fairness and equity
 - Understanding the unique territorial context of land claims, water rights and ownership and recognizing existing legal and constitutional rights and responsibilities
 - Emphasizing compliance with all policies and statutes of Nunavut and Canada
4. Water stewardship
 - Understanding that while water stewardship is a shared responsibility and as such collaboration and partnership are essential for successful management, but also acknowledging that accountability must still be maintained
 - Reflecting that a water management strategy should be built around a model of general consensus from stakeholder groups and individuals, all of whom represent a diverse range of interests
5. Data and knowledge
 - Emphasizing the essential role of information to support informed decision-making
 - Ensuring that Inuit Qaujimajatuqangit (traditional knowledge) and Western science are considered in combination
6. Allowing for the management of water at various scales, using watersheds as laid out by the *Regulations* as management systems.



5.1 Aims

The NWB has identified the following as broad aims for the Draft Framework:

- Improving transparency by providing a link between the existing approaches to management and monitoring under existing water licences and authorizations;
- Improving cooperation and communication between stakeholders;
- Providing more efficient co-ordination and effective fulfillment of regulatory mandates;
- Minimizing impact on pristine environments;
- Establishing a consistent and coordinated approach to management of water resources; and
- Providing increased education, awareness and opportunities for involvement in water management.

5.2 Scope

The Draft Framework consists of specific objectives and actions for each theme over the short, medium and long term. The scope or possible themes of the Draft Framework may be grouped under the following headings:

Shared Stewardship by promoting and supporting the coordination and involvement of all stakeholders in water management through consultation.

Water Resource Protection by preventing pollution, reducing or eliminating contamination and/or restoring impacted ecosystems.

Sustainable Water Resource Development by incorporating sustainable use principles to support the management, maintenance and development of water resources for economic and other uses. The management of water resources should be from a watershed focus to encompass multiple stressors on a particular water resource.

Data and Knowledge by enabling a mechanism by which knowledge (both western science and IQ) and data from monitoring programs can be incorporated and shared, to allow for informed decision-making on water resource management issues and also to support education of stakeholders.

5.3 Issues for Consideration

A number of issues should be considered and an approach to these issues should also be included in the Draft Framework for consideration by stakeholders.

- Climate change
- Environmental flows
- Value of Water
- Data and knowledge



Climate change is predicted to be an increasingly strong influence on the water cycle, with more extreme events such as drought and flood likely to occur. Consideration should be given as to how to incorporate adaptive management, to allow the strategy to adapt to environmental changes induced by climate change.

The understanding of environmental flows (the quantity, timing and quality of water required to sustain an ecosystem) allows the ecosystem to effectively be designated as another “user” of the water resource. This ensures that the required amount of water is allocated to maintaining ecosystem health at the times when it is required in a manner similar to any other use of that water resource. This approach becomes increasingly important for water resources where there are several and potentially conflicting demands. As water resources experience increasing variability due to the impacts of climate change, this understanding will also assist in managing the resulting impacts to the ecosystem. This may set a benchmark for cumulative use limits and prevent or mitigate potential environmental harm from overuse.

The value of water may also require consideration. While an economic value for water has generally been set across the provinces and territories, environmental, social and spiritual values are harder to ascertain and are likely to vary by location and person. While this is inherently included in IQ, solely focussing on IQ potentially negates the social value to other stakeholders. Based on the guiding principles, a mechanism by which one or all of these values are reflected is required in the Strategy.

Development of the water management strategy is an opportunity to advance data considerations by establishing consistent standards for data acquisition and developing a central water data system accessible by a range of stakeholders. A symbiotic relationship exists between data and policy, whereby credible scientific understanding, provided by rigorous data analysis, allows for informed decision-making. This in turn allows for the acquisition of more accurate data and knowledge. IQ can also serve to aid this cycle by also assisting in the design of data collection programs. A water data system would also serve to increase transparency between government agencies and current and potential water users.

5.4 What will be included in the Draft Framework?

The final report from the Steering Committee will provide the initial Draft Framework that will provide the basis for the development of a Nunavut-wide Water Management Strategy, which would then be used as a basis for further directed consultation with specific stakeholders. As such, it is suggested the Draft Framework should include:

- Identification of sources of existing water management data available;
- Identification of information gaps and recommendations about how to address those gaps;
- Identification of criteria or principles that should guide decisions about the water use practices and policies addressed;
- Identification of key issues that may affect water management in Nunavut and that will need acknowledgment within the Water Management Strategy;
- Advice about the potential to achieve the recommendations in the short term (3-5 years), medium term (6-10 years) and long term (more than 10 years);
- Recommendations about the potential use of technologies that could improve water management;



- Recommendations about appropriate targets or benchmarks for improved water management within the territory;
- Advice about education and communication that will help improve both industry practice and public understanding about water use practice and policy; and
- Identification of research requirements and training requirements necessary to meet research requirements.

6.0 STAKEHOLDERS

Recognising the importance of a Nunavut Water Management Strategy to all Nunavummiut, territory-wide public consultation on a Draft Framework would be an essential feature of the development process. This consultation would be in addition to a wide-ranging engagement of specific key stakeholders, including regulatory partners. In conjunction with this Draft Framework a Community Consultation Plan shall also be finalised to provide a means of seeking comment and receiving feedback on the Draft Framework.

Potential stakeholders have been identified as:

- Nunavut Impact Review Board (NIRB)
- Nunavut Surface Rights Tribunal (NSRT)
- Nunavut Planning Commission (NPC)
- Nunavut Tunngavik Inc. (NTI)
- Regional Inuit Associations (RIA)
 - Kitikmeot
 - Kivalliq
 - Qikiqtani
- Nunavut communities including Hamlets, Hunters and Trappers Associations (HTA), Youth Groups, Elders Groups, Community Land and Resources Committees (CLARCs).
- Environment and Wildlife management groups.
- Department of Environment and Climate Change (Federal)
- Department of Fisheries and Oceans Canada (DFO)
- Natural Resources Canada (NRCan)
- Government of Nunavut (GN)
- Crown-Indigenous Relations and Northern Affairs (CIRNAC), formerly Indigenous and Northern Affairs Canada (INAC)
- Municipal Governments/Officials



- Others who request or otherwise indicate a desire and a reason for consultations (individuals, non-governmental organisations).
- Private Businesses
- Industry (mining, oil & gas)

The composition of the TAG will be decided by the Steering Committee and invitations will be issued to prospective TAG members. It is expected that the TAG will be comprised of members from various stakeholder groups who are identified by the Steering Committee to have the appropriate expertise (IQ or western science), including expertise related to, but not limited to, water quality, hydrology, hydrogeology, aquatic organisms, permafrost and climate change.

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