



INUVIALUIT WATER BOARD MUNICIPAL WATER AND WASTE MANAGEMENT WORKSHOP 2025 REPORT



**INUVIK, NT
February 12 and 13, 2025**

Municipal Water and Waste Management Workshop
February 12 - 13, 2025
Inuvik, NT

Executive Summary

Acknowledgements

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Executive Summary

The Inuvialuit Water Board (IWB) hosted a two-day workshop to focus on municipal water and waste management between February 12 - 13, 2025 in Inuvik, NWT. The workshop was organized for the five municipal governments in the Inuvialuit Settlement Region (ISR) who hold municipal water licences from the IWB: Aklavik, Paulatuk, Sachs Harbour, Tuktoyaktuk, and Ulukhaktok. The workshop was attended by the Hamlet Mayors or their designate, Senior Administrative Officers (SAOs) and municipal operations staff as well as representatives from the Government of the Northwest Territories (GNWT) Departments of Municipal and Community Affairs (MACA), Health and Social Services (H&SS) and Environment and Climate Change (ECC). The main objective of the workshop was to provide a platform for representatives from the Inuvialuit Settlement Region (ISR) municipal governments and representatives from GNWT - MACA, H&SS and ECC who all have a role or responsibility in water and waste management to share information and knowledge and to assist in ensuring the provision of adequate, safe and reliable water and waste management services to ISR residents and communities.

The workshop included presentations and discussions on topics including MACA's Community Government Learning and Development Program, Water Treatment Plant Operator Training and Certification, drinking water quality testing and monitoring and water source protection. Information regarding household hazardous waste management including the handling and storage of hazardous waste was also covered. The presentations were followed by interactive discussions and knowledge sharing with emphasis for safeguarding public health, protecting the environment and including the need for easily accessible operator training programs and certification.

Overall, the workshop helped address shared challenges and in promoting safe, sustainable water and waste management practices in the ISR communities.

Acknowledgements

The IWB Municipal Water and Waste Management Workshop 2025 held in Inuvik in the Permafrost Room of the Mackenzie Hotel between February 12 and 13, 2025 was very successful. Attendees included Hamlet Mayors or designate, Senior Administrative Officers (SAOs) and Water and Waste Management Facility Operations Staff from Aklavik, Paulatuk, Sachs Harbour, Tuktoyaktuk and Ulukhaktok. Representatives from the Government of the Northwest Territories (GNWT) Regional Offices of the Department of Municipal and Community Affairs (MACA), Health and Social Services (H&SS) and Environment and Climate Change (ECC) were also in attendance. The contributions and discussions among the Hamlet Mayors, SAOs and Operations Staff were acknowledged and extremely appreciated. The valuable presentations and insights shared by representatives from MACA and H&SS were also greatly appreciated.

1. Opening Prayer

Sachs Harbour Hamlet Councillor Norman Anikina opened the workshop with a prayer.

2. Welcoming Comments from the Inuvialuit Water Board (IWB) Member

Member Gerald Inglangasuk welcomed the workshop participants. Member Inglangasuk emphasized that it is essential to address water and waste management issues to protect the health and well-being of residents and communities in the region. He also stressed the importance of a collective approach among the stakeholders - Government of the Northwest Territories (GNWT) Department of Environment and Climate Change (ECC), Municipal and Community Affairs (MACA), Health and Social Services (H&SS), municipal governments and the IWB to ensure that water and waste management practices are safe, appropriate and environmentally responsible.

Member Inglangasuk expressed the hope that this workshop will provide an opportunity for all participants to share their ideas and experiences for the betterment of municipal water and waste management practices in the ISR communities.

3. Agenda and Objective

Mardy Semmler, IWB Executive Director, expressed her sincere gratitude to the participants for their support by attending and making this workshop possible. The Executive Director presented an overview of the workshop and its agenda (Appendix 1) and outlined the objectives. The main goal of the workshop is to provide a platform for ISR municipal government representatives - Senior Administrative Officers (SAOs), municipal water treatment plant and waste management operators and other stakeholders including GNWT Departments of ECC, MACA and H&SS. This platform will allow participants to share best practices, discuss challenges and identify opportunities to assist in improving community water and waste management services. The Executive Director emphasized that while ensuring effective water and waste management services, it is equally important to maintain environmental quality standards and practices.

The specific objectives of this workshop are to:

- provide information regarding water treatment plant and waste management operator training opportunities for ISR community water treatment plant and waste management operators.
- provide information regarding certification processes for water treatment plant operators.
- provide information regarding the testing and monitoring of drinking water quality including the specific parameters to be monitored.
- provide information regarding governing legislation including the various Acts, Regulations and Guidelines related to drinking water quality monitoring, testing and enforcement.
- provide information on the handling, storage and management of household hazardous waste.
- discuss and share experiences and knowledge to assist in providing safe and adequate water and waste management services for the ISR communities.

These objectives were advanced through interactive presentations from MACA, H&SS and IWB including:

- Community Government Learning and Development Program Training Calendar, including water treatment plant operator training and certification, the multibarrier approach, etc.
- drinking water quality testing and monitoring policies and procedures, relevant Acts and Regulations.
- household hazardous waste handling, storage and management.
- community updates regarding the regional community landfill bulk waste removal for final disposal project.
- discussions regarding the “Roles and Responsibilities” ISR Communities – A Collective Responsibility poster for community water, wastewater and solid waste management.
- Water Licence non-compliance issues – common across the region
- Update of the IWB 2024 Municipal Water and Waste Management Workshop Issues / Action Item table.

Each presentation was followed by floor discussion among the workshop participants.

4. Presentations

4.1: GNWT Municipal and Community Affairs (MACA)

Topic: MACA’s Community Government Learning and Development Program

Presenter: Crystal Lennie, Training and Development Advisor, MACA Inuvik

Introduction

The presenter introduced MACAs Community Government Learning and Development (CGLD) Program and explaining how it supports community governments and their staff to effectively serve their communities. It organizes and offers learning opportunities covering various aspects of everyday community government operations, including the operation and maintenance of community drinking water supply and waste disposal facilities. The CGLD provides learning opportunities to specific needs recognized by community governments. These needs are addressed through training courses (both in-person and online), workshops, conferences, and workplace learning solutions.

The presenter provided the 2025 learning calendar schedule, which includes the courses: Public Works Conference (January 28-30, 2025); Small Systems Water Treatment (February 3-7, 2025); Solid Waste Management (February 18-20, 2025); Class I Water Treatment (March 3-7, 2025); and Class II Water Treatment (March 24-28, 2025). She expressed early enrollment to the training courses is essential to securing a spot. The presenter recommended participants plan their travel and hotel bookings in advance and suggested registering for courses at least two weeks prior to the start date. Most training courses available are conducted in Yellowknife. The presentation also provided information regarding alternative learning options such as the Certified ScrumMaster (CSM) course, the Northern Alberta Institute of Technology (NAIT) Water and Waste Technician Program, American Water Works Association (AWWA) and Yukon University’s Water Program. Additionally, the presenter recommended the World Water Operator Training Company Inc., and the Office of Water Programs at Sacramento State University.

The presenter provided information regarding MACA's Multi-Barrier Approach (MBA) to ensure safe drinking water. This approach is recognized as the most comprehensive method for protecting drinking water quality. The MBA is built on three key layers, each serving as a fundamental line of defense: maintaining cleanliness of NWT water, ensuring the safety of drinking water and verifying that the drinking water is safe. The presentation included information regarding operator training and certification, governing Acts associated with water and waste management including the *Waters Act*, *Fisheries Act* and *GNWT Public Health Act*. The presenter emphasized the 3 Rs approach - Reduce, Reuse and Recycle for municipal solid waste management, reducing the environmental and financial burden to the municipality in managing municipal solid waste. The presenter expressed the importance for the planning, financing, construction and implementation of community public infrastructure within capital planning. Additionally, the presenter included MACA has the mandate to provide training to the municipal water treatment plant and waste management operators. Certification for the operators is provided by the Department of Health and Social Services (H&SS) - Environmental Health Division.

Discussion

Follow up discussions included the availability of different training courses, their timing, venues and options for both online and in-person training courses. An interactive discussion took place concerning water treatment plant operator training and certification. The NWT has a mandatory certification program for water treatment plant operators. Operators must meet work both experience and education requirements and pass a certification exam. After certification, they are required to earn continuing education credits annually by continuing to acquire relevant courses and attending water-related conferences. Water treatment plants are classified by a classification / scoring system identifying the treatment process occurring at a particular plant. An operator who successfully passes the examination (70% or higher) for the specified treatment plant will receive a certificate of successful completion. Those operators who pass the examination for certification, will become certified as an operator for the specified water treatment system classification. The operator training courses include basic knowledge of unit conversion; water distribution practices; the role of the operator; safety; hydraulics; a focus on the practical aspects of system construction; operation and maintenance of distribution systems; a review of water quality; disinfection and treatment applications; as well as coverage of pumps and controls.

The interactive discussions led to key takeaways identified below.

Key Takeaways

- Water source protection of drinking water is essential; therefore, no activities (e.g. hunting, fishing, snowmobiling, etc.) are permitted near or on the drinking water source.
- ECC, MACA and H&SS provide technical, financial and training support to the community governments and their staff.
- Water and Wastewater Operator Certification Programs are intended to ensure qualified operators oversee the day-to-day operation of all municipal water and wastewater systems.
- MACAs mandate is to provide and / or support training to the municipal water treatment plant and waste management operators. Certification for the operators is provided by the H&SS – Environmental Health Division.
- Training courses can be found on the MACA website: <https://www.macalearn.ca/>
- If the scheduled training course is cancelled, it is usually rescheduled to the next year's training calendar.

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- GNWT Water and Wastewater Operator Certification Guidelines including qualification and experiences can be found on the MACA website: https://www.maca.gov.nt.ca/sites/maca/files/resources/operator_certification_guidelines.pdf
 - Drinking water storage tanks should be cleaned at least once per year. In communities where the water supply has high levels of sediment at certain times of the year or household water smells unusual, drinking water storage tanks may need to be cleaned more often.
 - Drinking water haulage trucks should be cleaned at least once per year, or more often if required.
 - MACA provides training schedules and information to the Mayors, SAOs and posts to the MACA website: <https://www.macalearn.ca/>
 - It is recommended taking the operator certification examination only once the operator has been fully prepared for the exam.
 - The water treatment plant operator certification examination for Class I, II & III can be taken at the same time.
 - The ISR community water treatment plants are classified as: Class I (Paulatuk and Tuktoyaktuk), Class II (Aklavik), and Small System (Sachs Harbour and Ulukhaktok). More information can be found on the MACA Website: https://www.maca.gov.nt.ca/sites/maca/files/resources/2021_drinking_water_primer.pdf
 - The resources and links for NWT Community Water Treatment Plant Operators is available on the website: <https://www.maca.gov.nt.ca/en/services/drinking-water-operators-corner>
 - It is important that early enrollment to the available training courses is essential to secure a spot. It is recommended to plan travel and hotel bookings in advance and suggested registering for courses at least two weeks in advance.
 - Generally, training courses are provided in Yellowknife. MACA also provides one-on-one training for Small and Class I Water Treatment System operators in ISR communities.
 - The training courses are designed as a combination of online, in-person and water treatment plant operation experiences based on the level of the water treatment system, leading to operator certification.
 - MACA develops the Water Treatment System Operator Training Program based on community needs; also focusing on the requirement for Canadian Standard Water Operator Certification, which necessitates knowledge of Class I, Class II and Class III Water Treatment Systems.
 - The H&SS Chief Environmental Health Officer (EHO) oversees all water quality data. MACA sends all water analysis data to the EHO, who serves as the regulatory authority. MACA provides water treatment plant operator training while H&SS Environmental Health Division regulates water quality standards.
 - Weblink for alternative learning and training options:
 - Certified ScrumMaster (CSM) Learn <https://www.csmlearn.com/>
 - Northern Alberta Institute of Technology (NAIT) Water and Waste Technician Program (Distance) <https://www.nait.ca/coned/water-wastewater-tech-programming-distance>
 - Yukon University's Water and wastewater Operator Program <https://www.yukonu.ca/programs/yukon-water-and-wastewater-operator>
 - World Water Operator Training Company <https://wwotc.com/>
 - American Water Works Association (AWWA) <https://www.awwa.org/>
 - Water Environment Federation (WEF) <https://www.wef.org/>
 - Office of Water Programs Sacramento State University <https://www.owp.csus.edu/>
 - For more information Contact:
Crystal Lennie, Training and Development Advisor
Community Government Learning and Development

MACA - Inuvik Regional Office, Kigial Centre 2nd Floor
106 Veteran's Way, P.O. Box 1740, Inuvik, NT X0E 0T0
Phone: (867) 678-8045 ext. 21665
M: (867) 444-1023
Email: crystal_lennie@gov.nt.ca

4.2: GNWT Health and Social Services (H&SS)

Topic: Drinking Water Quality Monitoring and Testing

**Presenter: Lucky Giroh, Environmental Health Officer, Population Health Division,
GNWT H&SS, Inuvik**

Introduction

The presenter emphasized the importance of clean drinking water and explained how water is made safe. The presentation included information regarding drinking water in the NWT, from source water to household tap, which help residents feel confident in the water they drink every day. Drinking water is strictly regulated in the NWT to ensure it is of good quality and safe for people to drink and meets the Canadian Drinking Water Quality Standards. From source water to tap, GNWT – MACA, ECC, H&SS and community governments have measures in place to ensure drinking water is safe. These measures include source water protection, water quality testing and monitoring and water treatment plant operator training and certification. The *Public Health Act*, Water Supply System Regulations and Guidelines for Canadian Drinking Water Quality set the standards for drinking water systems in the NWT.

Discussion

The presentation was followed with interactive discussions on source water protection, water quality monitoring and testing practices. The participants also engaged in discussions regarding the responsibilities of the Environmental Health Officers (EHOs), community governments, water treatment plants operators and the regulatory framework that governs drinking water in the NWT. Participants discussed common challenges in water treatment plant (WTP) operations, including certification and recertification issues. The participants agreed that these challenges and issues can be worked through with the collective effort of municipal governments, MACA, ECC and H&SS.

The interactive discussions resulted in key takeaways below.

Key Takeaways

- The jurisdiction of the EHO is to ensure the quality of drinking water in the municipal water supply system. The quality of water obtained from ice melt, cultural camp or by an individual on the land is outside the EHOs jurisdiction. However, the EHO recommended not to drink ice melt water obtained from areas of contamination or any sites suspected of contamination.
- *Escherichia coli* (*E. coli*) is a type of bacteria commonly found in the intestines of humans and animals. Sources for water contamination of *E. coli* are from human and animal feces.
- The EHO is responsible for the drinking water quality but not the quantity of water.
- It is the responsibility of EHO to ensure that drinking water is safe to drink. The EHO inspects and checks water supply systems to ensure compliance with the Water Supply System Regulations. Drinking water is tested for bacterial, chemicals and physical parameters including Total Coliform, *E. coli* (i.e., Contamination with fecal matters), Trihalomethanes (THMs),

chemicals parameters include pH, Arsenic, Lead, Manganese etc., and physical parameters including colour, odour, taste, TSS, turbidity)

- Operator certification in the NWT is mandatory and requires a combination of education, training and work experience.
- Community governments are responsible for regular testing of drinking water. This involves collecting samples and shipping them to a laboratory (i.e., ECC Taiga Environmental Laboratory, Yellowknife). Test results should be submitted to EHO. EHOs are responsible for reviewing test data results and taking action if any test results exceed the Guidelines for Canadian Drinking Water Quality.
- If emergency EHO assistance is required outside regular business hours (after hours or on weekends), Emergency Contact is the Public Health Line: 867-920-8646.
- The Hamlet is responsible for providing safe and clean drinking water for its residents. Any liability related to the provision and quality of drinking water falls to the Hamlet, but not to their staff or contractors. It is important that Hamlet staff work diligently at their assigned duties.
- Detailed information regarding the testing and monitoring of drinking water can be found on the MACA website: <https://www.maca.gov.nt.ca/en/services/drinking-water-nwt/monitoring-and-testing-%E2%80%93-proving-water-safe>
- Roles and responsibilities for the various organizations responsible for safe drinking water can be found on the MACA website: <https://www.maca.gov.nt.ca/en/services/drinking-water-nwt/roles-and-responsibilities>
- Information related to water treatment plant operator certification and guidelines can be found on the MACA website: <https://www.maca.gov.nt.ca/en/services/drinking-water-operators-corner/certification>

4.3: Inuvialuit Water Board (IWB)

Topic: Household Hazardous Waste – Handling, Storage and Management

Presenter: Mardy Semmler - IWB Executive Director

Introduction

The presenter explained the difference between Industrial, Commercial and Institutional (ICI) Waste and Household Hazardous Waste (HHW). She highlighted the differences between the sources and the environmental and public health risks associated with the various types of hazardous waste if handled, stored or managed improperly. The presentation provided information regarding ongoing efforts to improve household hazardous waste management practices, including temporary storage and containment and the regulatory framework to assist in reducing harmful impacts of household hazardous waste on the local environment and communities.

The presenter emphasized key practices for handling, storage and managing HHW, focusing on collection, segregation, safe temporary storage and containment and final disposal to the licenced hazardous waste disposal facility. It was highlighted that the need for proper segregation to prevent contamination to the surrounding areas and ensuring safe temporary storage. The presenter outlined procedures and best practices for handling and managing HHW at community landfills. The presentation covered the key topics: Temporary Storage of HHW, Designated Storage Areas, Proper Marking and Labeling, Inventory and Tracking, Personal Protective Equipment, Safe Storage Procedures and Final Disposal or Recycling (e.g., rechargeable batteries) of HHW.

Discussion

During the presentation, the discussion focused on the importance of safely handling, storing, managing and removing household hazardous waste (HHW) and other bulky waste from the ISR landfills. Participants discussed the financial, technical, and environmental aspects of HHW. Questions were raised regarding technical, funding, and logistic support for the removal of HHW and other bulky waste from community landfills and temporary storage areas. The presenter recommended contacting GNWT MACA and ECC for information regarding technical, funding, and logistical support.

The discussions resulted in key takeaways below.

Key Takeaways

- Industrial / Commercial / Institutional (ICI) waste refers to waste generated by resource exploration and development activities, including construction, fabrication, light and heavy manufacturing, including the commercial and institutional sectors such as Federal, Territorial Government Departments and agencies, and non-profit agencies.
- Household Hazardous Waste (HHW) are products used in the home, workplace and places of leisure and recreation. They can be flammable, corrosive, explosive or toxic, and harmful to humans and the environment if not handled or disposed of properly. Household hazardous waste are materials including household cleaners, paints, batteries, solvents, oil, pesticides, fertilizers, mercury (thermistors) and aerosol cans. Details can be found on the ENR (Currently ECC) Household Hazardous Waste Brochure available on the GNWT ECC website https://www.gov.nt.ca/ecc/sites/ecc/files/brochures/household_hazardous_wastes.pdf
- Proper segregation, containment and secure storage containment of household hazardous waste are critical to minimizing risks of contamination and accidents.
- Specific areas within the landfill should be assigned for HHW temporary storage.
- It is essential for clear, standardized marking and labeling of hazardous materials. Labels must include information regarding the type of waste, associated hazards and handling instructions. This ensures safety and proper identification during storage and transport.
- Effective tracking systems are essential for maintaining an up-to-date inventory of all hazardous materials in temporary storage to monitor waste quantities, types and movement for ensuring accountability and regulatory compliance.
- To prevent accidents or environmental damage, safe storage procedures must be followed such as secondary containment, ensuring containers are leak-proof, keeping waste materials away from incompatible substances. Regular inspections of storage areas are essential for identifying and addressing potential hazards.
- The final step involves proper transportation and disposal to a licenced hazardous waste disposal facility. The hazardous waste must either be safely transported for disposal to a licenced hazardous waste facility for disposal in accordance with regulations or directed to recycling facilities, when possible, through safe, legal and regulated methods.
- It is important to close the gate at the landfill during off-hour operation to avoid illegal dumping of waste.
- It is important to properly label drums stockpiled at the community garage; to ensure safe removal from site.
- It is important to stockpile empty drums horizontally not vertically as water can penetrate through the bungs and increase potential for spillage.

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- Hazardous waste generated by contractors and ICI sectors cannot be accepted by the community waste management operators, the responsibility of managing and transporting to a licenced hazardous waste disposal facility lies with the generator.
 - Non-hazardous waste generated by contractors and outside municipal sources (e.g., camp waste), the Hamlet may decide whether to accept or reject the non-hazardous waste for disposal to the community landfills. If the Hamlet decides to accept non-hazardous waste generated by contractors or from outside municipal sources, it is recommended to charge tipping fees. If the Hamlet decides not to accept non-hazardous waste generated by contractors and outside municipal sources, the responsibility for managing and transporting such waste to a waste disposal facility falls on the generator. According to water licence conditions, waste disposal facilities must be operated and maintained to the satisfaction of the inspector. It is recommended contacting the inspector before accepting non-hazardous waste generated by contractors and outside sources.
 - For funding, technical or logistical support and regulatory requirements regarding hazardous waste handling, storage and management contact:

Lloyd Gruben, Water Resources Officer / Inspector
Land and Water Division, Environment and Climate Change
Government of the Northwest Territories
Bag Service #1
86 Duck Lake Road, Inuvik, NT X0E 0T0
Ph: 867-678-8090 Ext: 24659
Email: Lloyd_Gruben@gov.nt.ca

Gerald Enns, Senior Technical Officer
Waste Management, Municipal and Community Affairs
Government of the Northwest Territories
PO Box 1320, Yellowknife, NT X1A 2L9
Ph: 867-767-9164 Ext: 21080
Email: Gerald_Enns@gov.nt.ca

5. Community Updates: ISR Community Bulk Waste Disposal Project

The session focused on the ISR bulk waste removal project and challenges associated with community landfills in the ISR. Updates were provided from participants representing the communities of Sachs Harbour, Paulatuk, Ulukhaktok, Tuktoyaktuk, and Aklavik. The goal was to share insights, discuss ongoing issues and explore possible solutions to improve waste management practices in these remote northern communities.

The community updates and discussions led to the following highlights, key difficulties, and concerns.

Highlights

- MACA has undertaken a bulk and hazardous waste removal project for the ISR community landfills. The lead for the waste removal project is Gerald Enns, Senior Technical Officer – Waste Management, Municipal and Community Affairs.
- Bulk waste, including large items including old appliances and vehicles, continues to accumulate in community landfills.

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- The lack of equipment and transportation options for removing bulk waste from remote areas poses a significant barrier. The Hamlet of Tuktoyaktuk is the only community in the ISR connected by year-round transportation infrastructure. In 2024, the Hamlet of Tuktoyaktuk transported bulky waste from the community landfill to the south.
 - Communities expressed the need for support from MACA and ECC to secure funding and resources for the removal of bulk waste including hazardous waste from community landfills.
 - The participants raised the concern regarding the higher concentration of heavy metals in drinking water particularly manganese (Mn) and were curious as to the health and other impacts of such metals. The discussions highlighted that a higher concentration of heavy metals may cause discoloured water, effects on neurological development, and over time increase the risk of cancer.
 - A discussion was held regarding the discharge of sewage by cruise ships in Canadian waters and the regulatory framework that governs this issue. The discharge is regulated under the *Canada Shipping Act* and the *Fisheries Act*, which ensures the protection of the marine environment.
 - Participants discussed various community initiatives and best practices for waste management, including types of fencing, landfill compaction, use of cover materials, waste segregation and the importance of clear signage.
 - Any modifications to water and waste management and disposal facility infrastructure require an engineer for design, engineering drawings and work supervision. The IWB must be notified prior to such modifications and implementation, in accordance with the conditions of the water licence.
 - If an emergency decant of the sewage waste disposal facility is required, approval from the inspector must be obtained prior to the decant.
 - ISR communities are committed to ensuring the safe and adequate management of waste disposal facilities despite the challenges related to the remoteness and limited resources available.

Difficulties and concerns

- Remote locations pose significant challenges in terms of transportation and logistics.
- The high cost of shipping, equipment availability and the limited window of barge availability further complicate bulk waste removal.
- Community participants raised concerns regarding the environmental impact and the lifespan of landfills, if bulk waste not removed from the community landfills.

The discussion concluded with emphasis on the importance of public education regarding waste diversion and recycling and a collective effort of community governments, MACA and ECC to a goal of achieving more sustainable waste management solutions across the ISR communities.

6. Water Licence Non-Compliance Issues

Mardy Semmler, Executive Director, highlighted some of the municipal water licence non-compliance issues as indicated by the ECC Water Resource Officer (WRO) / Inspector in previous year's inspection reports. The common non-compliance issues identified by the inspector include annual reporting, SNP sampling and reporting, posting of legible signs at the appropriate locations of the water and waste disposal facilities, waste segregation, fencing and notice of modifications requirements. It is the responsibility of the licensee to address any non-compliance issues identified in the inspection report provided by the WRO / Inspector. The Executive Director expressed appreciation to the municipal

governments in ensuring the safe and responsible management of water and waste disposal facilities, despite challenges related to their remoteness and limited resources available.

Additionally, the Executive Director stated that inspection and enforcement of the Water Licence Terms and Conditions is the responsibility of GNWT ECC Water Resource Officer / Inspector. The WRO / Inspector responsible for the Licence is located in the ECC Land and Water Division Regional Office in Inuvik.

WRO / Inspector's Contact Information:

Lloyd Gruben, Water Resources Officer / Inspector
Land and Water Division, Environment and Climate Change
Government of the Northwest Territories
Bag Service #1, 86 Duck Lake Road
Inuvik, NT X0E 0T0
Ph: 867-678-8090 Ext: 24659
Email: Lloyd_Gruben@gov.nt.ca

7. IWB Workshop Issues Table – Follow-up Action Items

Since 2015, the first year of the IWB workshops, issues and concerns are raised by participants regarding the provision of municipal water and waste management services. The workshop participants agree on various actions to address the concerns raised. Each year these issues and concerns are updated. Updated discussions on the action items during the 2025 workshop are provided in the updated Issues Table attached in Appendix 2.

8. Roles and Responsibilities Poster - Community Water, Wastewater and Solid Waste Management

Discussions at the 2015 IWB Workshop led to the creation of a draft document outlining the "roles and responsibilities" of all involved stakeholders. The initial draft of the "roles and responsibilities" document was presented for discussion at the 2016 IWB Water and Waste Management Workshop. The roles and responsibilities of each stakeholder were reviewed and revisions made accordingly. A final version of the document was then developed and collaboratively agreed upon.

The information was compiled into a poster titled "Water and Waste Services - Inuvialuit Settlement Region Communities - A Collective Responsibility" and shared during the 2017 IWB Water and Waste Management Workshop. The finalized poster was distributed to all parties.

Additional copies of the poster "Water and Waste Services - Inuvialuit Settlement Region Communities, A Collective Responsibility" was shared with the workshop participants. It was acknowledged that various stakeholders play a role in the safe, efficient and effective delivery of municipal water services, as well as the municipal solid waste and sewage management, handling and disposal. The stakeholders include the municipalities, MACA, ECC, Taiga Laboratories, H&SS and the IWB.

9. Workshop Evaluation

An evaluation form was distributed to participants following the workshop. The evaluation form was completed by 60% of the total participants. At the conclusion of the workshop, participants expressed their satisfaction with the workshop venue, content, materials and time provided for questions and discussions, and the objectives were achieved. The workshop was rated “excellent” and “very good” by 56% and 44% of the total respondents respectively (Appendix 3).

10. Conclusion

The IWB 2025 Municipal Water and Waste Management Workshop provided a platform for participants (Appendix 4) to discuss and exchange their experiences, challenges and best practices related to municipal water and waste management as well as explore training opportunities for municipal staff managing water and waste management operation facilities.

The workshop covered topics including MACAs Community Government Learning and Development Program, operator training and certification, drinking water quality monitoring and testing, and household hazardous waste handling, storage and management. The sessions included interactive discussions emphasizing the significance of efficient municipal water and waste management systems. Efficient and effective water and waste management is essential for safeguarding public health, protecting the environment and promoting community well-being.

In conclusion the workshop provided a valuable platform for ISR communities and other stakeholders (MACA, ECC, H&SS) to exchange knowledge, experiences, challenges and best practices in municipal water and waste management. The knowledge provided assists in addressing shared challenges and promote safe, sustainable water and waste management practices in the ISR communities.

11. Closing Remarks

Mardy Semmler, IWB Executive Director, expressed her gratitude to all participants for their contributions to the workshop. She also expressed confidence that the workshop contributes to ensuring the delivery of efficient municipal water and waste management services in the ISR communities. The Executive Director extended her thanks to the Hamlet Mayors and council members, SAOs and Operations staff, representatives from MACA, H&SS and ECC for their presentations, active participation and continued support of the workshop. Finally, the Executive Director declared the conclusion of the IWB 2025 Water and Waste Management Workshop.

Appendix 1: Workshop Agenda

**Inuvialuit Water Board
Water and Waste Management Workshop
Mackenzie Hotel Permafrost Room - Inuvik, NT
February 12 – 13, 2025**

Day 1 – February 12, 2025

8:30 – 9:00 am	<i>Arrival, Registration and Coffee</i>
9:00 – 9:15 am	Welcome and Introductions – Chair / Executive Director <ul style="list-style-type: none">• Opening Prayer• Round Table Introductions• Welcoming Remarks• Objectives of Workshop and Agenda Review
9:15 – 10:00 am	MACA – School of Community Gov't – Training Calendar – Crystal Lennie - MACA Training and Development Advisor
10:00 – 10:30 am	<i>Refreshments</i>
10:30 – 11:00 am	Waste Management Summer community bulk disposal project – community updates
11:00 – 12:00 am	Hazardous Waste Management - Temporary Hazardous Waste Management <ul style="list-style-type: none">• Solid Waste Disposal Facility (SWDF)• Contaminated Snow / Soil requirements• Transportation of Hazardous Waste/Dangerous Goods Requirements• Shipping / Receiving Permits• ECC Role
12:00– 1:15 pm	<i>Lunch</i>
1:15 – 2:15 pm	GNWT H&SS Environmental Health Officer – Beaufort Delta - Lucky Giroh <ul style="list-style-type: none">• Drinking Water Quality Monitoring and related discussions
2:15 – 3:00 pm	<i>Refreshments</i>
3:00 – 4:45 pm	Discussion Items - All <ul style="list-style-type: none">• Water and Waste Management Roles and Responsibilities (poster)• Water and Waste Management Initiatives & Best Practices – New / ongoing• Municipal Water Licence – Common Non-compliance Issues

**Inuvialuit Water Board
Water and Waste Management Workshop
Mackenzie Hotel Permafrost Room - Inuvik, NT
February 12 – 13, 2025**

Day 2 – February 13, 2025

8:30 – 9:00 am *Arrival and Coffee*

9:00 – 10:00 am **2024 IWB Workshop Issues Table – Action Items Update – Open Discussion - all**

10:00 – 10:15 am *Refreshments*

10:15 – 10:45 am **Follow up discussions**

10:45 – 11:00 pm *Closing Remarks and Closing Prayer*

Appendix 2: IWB Municipal Water and Waste Management Workshop Issues Update (2025)

	Issue	Options and/or Standards
1	Facility security – dumping outside designated areas / after hours	<ul style="list-style-type: none"> Local Council / Staff reluctant to restrict ‘after hours’ access Condition of all MWL – Part B, Item 9 – gate control Need for ongoing Public Awareness / Education Need to shut down SWDF, especially during bear season Bear Aware education – promote “no bear watching” at the SWDF Dumpsters located outside facility for “after hours dumping” recommended Have multiple “labeled” dumpsters for different sources to allow others to reuse / scavenge (cardboard, lumber, domestic) “Allowed / Not Allowed” Hand Outs for contractors
2	Windblown debris	<ul style="list-style-type: none"> Banning of single use plastic bags Buy-in from businesses (no single use plastic bags) Proper fencing requirements Promote reusable bags for shopping Use cardboard boxes, reduces cardboard to SWDF Aurora College project “Cardboard” turned into logs for burning / reuse (need update) Composting, etc. Further education and public awareness.
3	Open Burning of garbage	<ul style="list-style-type: none"> Conditions allow for burning of cardboard, untreated wood and paper only ECC has approved “Guidelines for Open Burning” Burn within a pit and / or burn box Environmental Protection Act (EPA) updated Air Quality Regulations – April 2023. Incinerators are options, but costly Scheduled burn times and notifications to local Hamlet Fire Chief
4	Unauthorized and inappropriate dumping within the Solid Waste Disposal Facility (SWDF) by outside contractors doing work and / or construction projects in the community	<ul style="list-style-type: none"> Suggested resolution (approved tipping fees) provided to MACA in 2016 Discussed at Interdepartmental Technical Committee (ITC) – 2024 Committee dormant – Gerald to follow up Ongoing discussions between MACA and INF – need for work with NWTHC Contract – need to include “hold back” funds in agreements and provided to Hamlet if contractor

		<p>dumps illegally – should be used for waste management / clean up</p> <ul style="list-style-type: none"> • NWTAC passed Resolution by Motion in 2018 • Municipalities need to draft Tipping By-Laws and Fees – Aklavik has approved by-laws. • Elgan – developed a template and guidelines which can be provided to communities (follow up with Gerald)
5	Ongoing Municipal Operations Training Requirements	<ul style="list-style-type: none"> • MACA develops an annual School of Community Government (SCG) training calendar and distributes to Hamlets • “Hands-on” training to be incorporated into all training programs • Wherever possible, training should be provided on a regional basis • MACA Training Coordinator update provided - new opportunities for training through SCG (online training) • MACA Learn on GNWT website brings you to SCG
6	Time sensitive sample management	<ul style="list-style-type: none"> • E. Coli alert testing being completed in each community • Sampling Protocol training provided through SCG • Need for increased communications between TAIGA and Communities • Communities need to contact TAIGA when samples are shipped for testing, so the sample analysis is completed in a timely manner • Take photos of shipping documents and send to TAIGA • H & SS EHO sends samples to TAIGA annually (potable water only)
7	Clearly identified contacts at Board and GNWT departments	<ul style="list-style-type: none"> • Contact lists updated annually and included in the annual workshop report (appendix)
8	Age of facilities makes compliance with new standards difficult	<ul style="list-style-type: none"> • All Operation and Maintenance Plans; Spill Contingency Plans; Hazardous Waste Management Plans must be updated annually and provided with the Annual Report to the Board – especially outdated contact information – which is usually only part that needs updating due to staff turnover, etc.
9	Difficulty in meeting changing licence terms and conditions	<ul style="list-style-type: none"> • IWB has Standard Municipal Water Licence Terms and Conditions • IWB revised the Standard T & Cs from technical

		<p>terminology to layman terms</p> <ul style="list-style-type: none"> CSA is currently managing the development and review of “Standards for Planning, Design, Operation and Maintenance of Wastewater Treatment in Northern Communities using Lagoon and Wetland Systems” (MACA and ECC part of working group – Gerald to follow up and provide update)
10	Competing priorities for community personnel by Government and / or their contractors	<ul style="list-style-type: none"> Better coordination between Inspectors and Municipal Staff prior to visiting the community Groundwater Monitoring Wells (GMW) installed in each ISR community between 2016 and 2018 through a MACA contract GMW to monitor environmental liabilities associated with solid waste sites – flags identify where the GMW is located MACA has hired a contractor (Dillon Consulting) to sample the wells on an annual basis for the next five years and includes training opportunities for members of the communities.
11	Regional coordination of waste removal from communities	<ul style="list-style-type: none"> All communities actively involved in removing hazardous and metal solid waste through the MACA ICI Project
12	Identify new sources of funding when they become available	<ul style="list-style-type: none"> MACA ICIP Funds - completed ECC – Waste Reduction Initiative Funding – Spring 2024
13	EISC	<ul style="list-style-type: none"> Hamlets will have to complete EISC process prior to IWB issuing water licence renewal On-line Pre-screening process – 7-day screening – questionnaire (26 questions)
14	Polar Code	<ul style="list-style-type: none"> Cruise Ships / Tourism increasing and travelling through the NW Passage – waste and wastewater disposal issues (volumes) Discharge of Sewage by Cruise Ships in Canadian Waters is regulated by the Canada Shipping Act, 2001 (Last amended - June 22, 2023: sections 10.1(1), 35(1)(e), 35.1(1), 136(1)(f), 190(1), Part 8, Part 9); and the Fisheries Act, R.S.C., 1985, c. F-14, (Last amended - August 28, 2019: section 34).
15	MACA – Asset Management	<ul style="list-style-type: none"> Jaime Goddard – working with Hamlets to complete Asset Management database? – Team Lead

Appendix 3: IWB Water and Waste Management Workshop 2025 - Evaluation Summary

An evaluation form was distributed to participants during the workshop. Sixty percent (60%) of the total participants completed the evaluation form. Respondents expressed satisfaction with the materials, workshop venue, time provided for questions and discussions, and the objectives. The workshop received 'excellent' and 'very good' ratings from 56% and 44% of respondents, respectively. Comments and suggestions from participants are summarized below.

Comments:

- Overall, all the topics were interesting and useful.
- The presentations and materials were easy to follow and helpful in understanding.
- All the question and concerns were addressed with good examples.
- No representative from MACA participating to give a presentation on bulky and hazardous waste and the removal plan from the community landfills.
- All topics are interesting and good information.
- There was a lot to learn if not already known and a good refreshment what participants may already know.
- Everything was well organized.

Suggestions for future IWB Water and Waste Management Workshop:

- Suggested inviting a MACA representative to give a presentation regarding hazardous waste and the removal of bulky and hazardous waste from the ISR community landfills, specifically Gerald Enns and his team.
- Sound system may be improved bit better.
- Presenters are encouraged to speak slowly and facilitate more discussions.

Table 1: Summary of responses provided by the participants on evaluation questionnaire.

SN	Evaluation Questionnaire	Responses		
		Yes (% of respondents)	No (% of respondents)	Comments (% of respondents)
1	Were the materials provided adequate to prepare you for the discussions?	100%	0%	100% respondents indicated: yes
2	Within the time available, was the meeting run effectively?	100%	0%	100% respondents indicated: yes
3	Could the agenda have been improved? If so, how?	0%	78%	78% respondents indicated that “no need of agenda improvement”. 11% respondents indicated that “more time for community members” and 11% stated “not sure”.
4	Were the presentations/discussions	100%	0%	Some respondents commented “Very good”, some suggested more presentations regarding

	relative and useful to your responsibilities?			waste management.
5	Was there adequate time provided for participants' questions and responses?	100%	0%	100% respondents indicated: yes
6	Were questions from the floor answered satisfactorily?	100%	0%	Respondent's comment: "All the questions were answered correctly with good examples and provided good information".
7	What topics or aspects of the workshop did you find most interesting or useful?	-	-	All topics (56%)
				Environmental Health Officer (EHO)'s presentation that includes Drinking Water Quality Monitoring and Testing (22%)
				Topic related to waste management (11%); and listening to community concerns (11%).
8	Were the objectives of the workshop achieved?	78%	11%	In some extent (11%) Responded "No" (11%); and commented: "Need to have presentation from Gerald Enns, Senior Technical Officer, Municipal and Community Affairs".
9	Were you clear on future actions and commitments from the workshop?	78%	-	11% of the total respondents commented "Some but not all" 11% of the total respondents commented "more than before".
10	Any suggestions on how the workshop might have been improved?	-	-	78% of the total respondents commented "No suggestions and it was good"
				11% of the total respondents suggested "All MACA presentations".
				11% of the total respondents did not provide any response.
11	Were the physical arrangements of the workshop adequate (meeting facility, sound system, transportation, accommodation, support, etc.)?	100%	0%	Participants commented that it was perfect, all good. One respondent commented that it was good but sound system could be improved.
12	Would you attend another Inuvialuit Water Board workshop on community water and waste management?	100%	0%	Participants commented that "there was a lot to learn if not already known and a good refreshment what you may already known".
Overall Rating				
13	On a scale of 1 to 10, how would you rate this workshop (1 being poor and 10 being excellent)	% of total respondents		
	1-2 (Poor)	0%		

	3-6 (Good)	0%
	7-8 (Very Good)	44%
	9-10 (Excellent)	56%
	No Response	0%

Appendix 4: Workshop Participants

Municipalities	Community	Phone	Email
Jordan McLeod	Aklavik	867-620-2027	-
Dean McLeod	Aklavik	867-620-2760	-
Keegan Arey	Aklavik	867-375-0154	
Raymond Ruben	Paulatuk	867-580-3531	Mayor@paulatuk.ca
Bobby Ruben Jr	Paulatuk	867-788-0157	Ruben-bobby06@hotmail.com
Betty Haogak	Sachs Harbour	867-786-0003	-
Richard Carpenter	Sachs Harbour	867-786-0144	-
Norman Anikina	Sachs Harbour	-	-
Angus Banksland	Ulukhaktok	867-391-8000	-
Doug Goose	Ulukhaktok	867-787-0217	-
Mary Banksland	Ulukhaktok	867-396-8000	-
Davy Krengnektak	Tuktoyaktuk	867-678-0396	foreman@tuktoyaktuk.ca
Government of the NWT	Department		
Lloyd Gruben, Water Resource Officer, Land and Water Division, Beaufort Delta Region, ECC - Inuvik	ECC	867-678-8090 ext. 24659	lloyd_gruben@gov.nt.ca
Crystal Lennie, Training and Development Advisor, Community Government Learning and Development, MACA - Inuvik	MACA	867-444-1023	Crystal_Lennie@gov.nt.ca
Lucky Giroh, Environmental Health Officer, Population Health Division, H&SS - Inuvik	H&SS	867-989-2998	Lucky_Giroh@gov.nt.ca
Inuvialuit Water Board			
Gerald Inglangasuk, Member	IWB	867-678-5305	Tuck-tuck@hotmail.com
Mardy Semmler, Executive Director	IWB	867-678-8609	semmlerm@inuvwb.ca
Bijaya Adhikari, Science and Regulatory Coordinator	IWB	867-678-8610	adhikarib@inuvwb.ca
Delores Harley, Office Administrator	IWB	867-678-2942	admin@inuvwb.ca

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