Waste Management Policy (DRAFT)

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| **Mackenzie Valley Land and Water Board****Gwich’in Land and Water Board****Sahtu Land and Water Board****Wek’èezhìi Land and Water Board****February, 2022** |

**Revision History Table**

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| --- | --- | --- |
| **Date** | **Section** | **Revision**  |
| X, 2022 | General | * Expanded scope to include all types of waste deposits authorized in both licences and permits
* Expanded scope from a narrow focus on EQC to include a broader variety of licence and permit requirements currently used by the LWBs to regulate the deposit of waste
* Updated terminology and definitions
* Updated references to new and updated LWB guidance documents
* Updated references to legislation
* Corrected typographical and administrative errors
 |
| 1.0 – Introduction (including subsections 1.1-1.5) | * Updated to reflect overall general revisions noted above
* Updated history of Policy
 |
| 2.0 – Guiding Principles | * Updated to incorporate consideration of climate change and cumulative effects
* Removed limitation on types of knowledge to be considered
 |
| 3.0 – Objectives  | * Updated existing objectives to reflect revised scope
* Added new objective for managing waste in accordance with best practices
 |
| 4.1 – Waste Management Practices | * Updated subsection to reflect LWBs’ *Guidelines for Developing a Waste Management Plan*, expanded Policy scope, and new Policy objective
 |
| 4.2 – Management Plans | * Updated subsection to reflect current LWB Application Forms, guidance documents, and Standard Licence and Permit Conditions
 |
| 4.3 – Discharge Criteria in Licences | * Revised to describe several types of discharge criteria that may be included in licences to regulate the deposit of waste, with EQC as only one type
* Added information about location where discharge criteria will apply
* Added information about the role of WQOs and the relationship between WQOs and discharge criteria
* Revised discussion of EQC to include both point and non-source effluent
* Updated to reflect the LWB/GNWT *Guidelines for Effluent Mixing Zones* and the associated *Standard Process for Setting Effluent Quality Criteria*
 |
| 4.4 – Monitoring Requirements | * Clarified that an SNP may include both water and wastewater monitoring
* Clarified purpose of SNP monitoring
* Updated and clarified typical SNP monitoring locations in relation to waste management systems, discharge points, and receiving environment
* Added paragraph about current expectations for monitoring and response frameworks in plans
* Updated information about AEMP monitoring to reflect LWB/GNWT *Guidelines for AEMPs*
* Added requirement to meet data requirements in GNWT’s *Standards for Reporting Water Quality Information in the NWT*
 |
| 4.5 – Adaptive Management | * Expanded to include both qualitative and quantitative monitoring
* Added information about response frameworks
* Added examples of adaptive management in licences and permits
* Added information about EQC exceedance response actions in standard licence conditions
 |
| 5.0 – Information Required to Regulate the Deposit of Waste | * Replaced information about public/party participation with references to the LWBs’ Engagement Guidelines and Policy
* Moved information about Policy implementation, performance, and review up to section 1.0
* Added references to relevant guidance documents
 |
| 5.1 – Information Required from Applicants | * Revised to reflect current information requirements for applications and submissions as set out in the LWBs’ current guidance documents, including the following additions:
	+ Potential environmental effects for each waste type;
	+ Consideration of climate change and cumulative impacts;
	+ Contingency plans,
	+ Closure plans, and
	+ Proposed monitoring
* Revised WQO information requirements to acknowledge that baseline conditions for a project may not always be pre-development
 |
| 5.2 – Consideration of Other Applicable Legislation | * Updated to include additional examples of applicable legislation
* Clarified LWBs’ role and approach with regard to other applicable legislation and regulatory overlap
 |
| Appendix A: Guidelines/Strategies that will Support Implementation of this Policy | * Replaced by list of guidance documents in section 1.1
 |
| 2011 |  | *Water and Effluent Quality Management Policy* released.  |

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# Definitions and Acronyms

|  |  |
| --- | --- |
| TERM | DEFINITION |
| AANDC | Aboriginal Affairs and Northern Development Canada (now Crown-Indigenous Relations and Northern Affairs Canada) |
| AEMP | Aquatic Effects Monitoring Program |
| applicant | A person who has filed an application with the Board. |
| application | Any application for or in relation to a land use permit or water licence submitted in accordance with the *Mackenzie Valley Resource Management Act* (MVRMA), the *Waters Act*, or their regulations, and includes a request for a Board ruling, a plan approval, or any step required to advance a Board proceeding. |
| Boards (LWBs) | The Land and Water Boards of the Mackenzie Valley, as mandated by the MVRMA.* Part 3 of the MVRMA establishes regional land and water boards with the power to regulate the use of land and water, and the deposit of waste, including the issuance of land use permits and water licences, so as to provide for the conservation, development, and utilization of land and water resources in a manner that will ensure the optimum benefit to the residents of the management area and of the Mackenzie Valley and to all Canadians.
* Part 4 of the MVRMA establishes the Mackenzie Valley Land and Water Board (MVLWB).
* Regional Land and Water Boards have been established in the Gwich’in, Sahtu, and Wek’èezhìi management areas and now form Regional Panels of the MVLWB.
 |
| CCME  | Canadian Council of Ministers of the Environment |
| discharge | A direct or indirect deposit or release of any water or waste to the receiving environment.[[1]](#footnote-2) |
| effluent | A wastewater discharge. |
| Effluent Quality Criteria (EQC) | Numerical or narrative limits on the quality or quantity of the waste authorized for deposit to the receiving environment. |
| GLWB | Gwich’in Land and Water Board |
| GNWT | Government of the Northwest Territories |
| INAC | Indian and Northern Affairs Canada (now Crown-Indigenous Relations and Northern Affairs Canada) |
| licensee  | A person who holds a water licence issued by a LWB. |
| Mackenzie Valley | That part of the Northwest Territories bounded on the south by the 60th parallel of latitude, on the west by the Yukon Territory, on the north by the Inuvialuit Settlement Region as defined in the Agreement given effect by the *Western Arctic (Inuvialuit) Claims Settlement Act*, and on the east by the Nunavut Settlement Area as defined in the *Nunavut Land Claims Agreement Act*, but does not include Wood Buffalo National Park. |
| MVLWB | Mackenzie Valley Land and Water Board |
| MVLUR | Mackenzie Valley Land Use Regulations |
| MVRMA | *Mackenzie Valley Resource Management Act* |
| NWT  | Northwest Territories |
| permittee | A person who holds a land use permit issued by a LWB. |
| project | Any undertaking[[2]](#footnote-3) or activity that requires a water licence and/or a land use permit. |
| receiving environment  | The natural environment that, directly or indirectly, receives any deposit of waste from a project. |
| regulated mixing zone | The defined area contiguous with a point source (effluent discharge site) or a delimited non-point source where the discharge mixes with ambient water and where concentrations of some substances may not comply with water quality objectives that have been set site-specifically for the receiving environment. |
| SLWB | Sahtu Land and Water Board |
| SNP | Surveillance Network Program |
| waste | As defined in section 1 of the *Waters Act* and section 51 of the MVRMA.[[3]](#footnote-4) |
| wastewater | Any water that is generated by project activities or originates on-site, and which contains waste, and may include, but is not limited to, runoff, seepage, sewage, minewater, and effluent. |
| watercourse | As defined in section 1 of the Waters Regulations and section 2 of the MVFAWR: a natural watercourse, body of water or water supply, whether usually containing water or not, and includes groundwater, springs, swamps, and gulches. |
| water quality objective (WQO) | A numerical concentration or narrative statement that has been established to protect the aquatic receiving environment at a specified site.[[4]](#footnote-5) |
| WLWB | Wek’èezhìi Land and Water Board |

# Introduction

The Land and Water Boards of the Mackenzie Valley (the LWBs or Boards) regulate the use of water and deposit of waste through the issuance of water licences (licences) in accordance with the [*Waters Act*](https://www.justice.gov.nt.ca/en/files/legislation/waters/waters.a.pdf)and [Waters Regulations](https://www.justice.gov.nt.ca/en/files/legislation/waters/waters.r1.pdf), and the [*Mackenzie Valley Resource Management Act*](http://laws-lois.justice.gc.ca/PDF/M-0.2.pdf)(MVRMA) and [Mackenzie Valley Federal Areas Waters Regulations](http://laws-lois.justice.gc.ca/PDF/SOR-93-303.pdf) (MVFAWR). The LWBs regulate the use of land through the issuance of land use permits (permits) in accordance with the MVRMA and the [Mackenzie Valley Land Use Regulations](http://laws-lois.justice.gc.ca/PDF/SOR-98-429.pdf) (MVLUR).

## Purpose of this Policy

The purpose of the Waste Management Policy (the Policy) is to describe the LWBs’ approach to managing the discharge or deposit of waste to the receiving environment through enforceable conditions set in water licences and land use permits. Such conditions include, but are not limited to, specifications for waste management practices; requirements for plans and reports; discharge criteria; monitoring requirements; and the incorporation of adaptive management.[[5]](#footnote-6)

The LWBs developed this Policy to clarify the LWBs’ expectations and to support clear, timely, consistent, and transparent licensing and permitting decisions. By referencing this Policy, applicants, licensees, permittees, and all parties involved in the regulatory process will be able to make more informed submissions to the LWBs which will, in turn, lead to more efficient and effective LWB processes and decisions.

This Policy is supported by other LWB guidance documents, including:

* MVLWB [*Guide to the Water Licensing Process*](https://mvlwb.com/sites/default/files/2020-09/lwb_guide_to_the_water_licensing_process_-_final_-_sep_16_20.pdf)
* MVLWB [*Guide to the Land Use Permitting Process*](https://mvlwb.com/sites/default/files/2021-08/LWB%20Guide%20to%20the%20Land%20Use%20Permitting%20Process%20-%20FINAL%20-%20Aug%2030_21.pdf)
* MVLWB [Resources for Municipalities](https://mvlwb.com/resources/resources-municipalities) (webpage)
* MVLWB [*Standard Water Licence Conditions and Schedules Template*](https://mvlwb.com/sites/default/files/standard_water_licence_conditions_and_schedules_-_basic_-_apr_20_20.pdf)
* MVLWB [*Standard Land Use Permit Conditions Template*](https://mvlwb.com/sites/default/files/standard_land_use_permit_conditions_template_-_public_version_2.3_-_aug_7_20.pdf)
* MVLWB [*Guidelines for Developing a Waste Management Plan*](https://mvlwb.com/sites/default/files/documents/MVLWB-Guidelines-for-Developing-a-Waste-Management-Plan-Mar-31_11-JCWG.pdf)
* MVLWB/IWB/GNWT [*Guideline for the Design, Construction, Operation, Monitoring, Maintenance, and Closure of Petroleum Hydrocarbon-Contaminated Soil Treatment Facilities in the Northwest Territories*](https://mvlwb.com/sites/default/files/guideline_for_petroleum_hydrocarbon_contaminated_soil_treatment_facilities_in_the_northwest_territories_-_final_-_jan_10_20.pdf)
* MVLWB/GNWT [*Guidelines for Effluent Mixing Zones*](https://mvlwb.com/sites/default/files/images/Guidelines/Guidelines%20for%20Effluent%20Mixing%20Zones%20-%20Final%20Draft%20-%20June%202017_EDIT9.pdf)
* MVLWB *Standard Process for Setting Effluent Quality Criteria*
* MVLWB/GNWT [*Guidelines for Aquatic Effects Monitoring Programs*](https://mvlwb.com/sites/default/files/aemp_guidelines_-_mar_5_19.pdf)
* MVLWB/AANDC [*Guidelines for Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories*](https://mvlwb.com/sites/default/files/wlwb_5363_guidelines_closure_reclamation_wr.pdf)
* MVLWB [*Engagement and Consultation Policy*](https://mvlwb.com/sites/default/files/mvlwb_engagement_and_consultation_policy_-_nov_25_19.pdf)
* MVLWB [*Engagement Guidelines for Applicants and Holders of Water Licences and Land Use Permits*](https://mvlwb.com/sites/default/files/mvlwb_engagement_guidelines_for_holders_of_lups_and_wls_-_october_2_19.pdf)
* [*Information for Proponents on the MVLWB’s Engagement Guidelines*](https://mvlwb.com/sites/default/files/mvlwb_engagement_policy_-_information_for_proponents_-_mar_2_20.pdf)

All of these resources, along with links to some relevant guidance produced by other agencies, are available on any of the LWB websites, and new resources are added to the websites as they become available.[[6]](#footnote-7) Applicants, licensees, permittees, and all parties should ensure that they are using the most recent version of all guidance documents.

## Authority

The LWBs’ authority to develop and implement this Policy is granted under sections 65, 102, and 106 of the MVRMA. In particular, section 106 of the MVRMA gives the MVLWB the responsibility to “issue directions on general policy matters or on matters concerning the use of land or waters or the deposit of waste that, in the Board’s opinion, require consistent application throughout the Mackenzie Valley.”

Under subsection 26(1) of the MVLUR, the LWBs have the authority to set permit conditions regarding various aspects of a project, several of which are directly or indirectly related to waste management. Similarly, under subsections 27(1) of the *Waters Act* and 72.04(1) of the MVRMA, the LWBs have the authority to set any licence conditions considered appropriate for a project, including conditions regarding the deposit of waste to water.

Additionally, the authority to set limits in a licence on the amount and concentration of waste discharged from a project is given to the LWBs under paragraph 26(5)(c) of the *Waters Act* and paragraph 72.03(5)(c) of the MVRMA, which state that any waste produced by an undertaking “will be treated and disposed of in a manner that is appropriate for the maintenance of:

1. water quality standards prescribed by regulations made under paragraph 63/90.3(1)(h) or, in the absence of such regulations, such water quality standards as the Board considers acceptable, and
2. effluent standards prescribed by regulations made under paragraph 63/90.3(1)(i) or, in the absence of such regulations, such effluent standards as the Board considers acceptable.”

At the time this version of the Policy was issued, no regulations for water quality or effluent standards had been prescribed under the *Waters Act* or the MVRMA.

The purpose of the Policy (as per [section 1.1](#_Purpose_of_this)) and the approaches to setting waste management conditions outlined within it are consistent with the authority described above.

## How this Policy Was Developed

Under the authority outlined above in section 1.2, the LWBs may establish working groups from time to time to address specific policy, technical, or scientific matters related to effluent and water quality management and the water licensing process, including the development of guidelines. This Policy was originally developed as the *Water and Effluent Quality Management Policy* by the Water/Effluent Quality Guidelines Working Group, one of the Standard Procedures and Consistency Working Groups established by the LWBs in 2008. The Policy was updated as the *Waste Management Policy* in 2022 under the LWBs’ Areas of Operations Initiative.

This Policy is based on input from LWB staff and consultants, public review comments, and other LWB policies, standards, and guidelines, and is consistent with past and present practices of the LWBs. Although the scope of this Policy does not include managing water use, the LWBs recognize the relationship between waste management and water quality in the receiving environment, and the social, cultural, and economic importance of water to the people of the NWT. Accordingly, in developing this Policy, the LWBs considered the vision, guiding principles, and goals set out in the *NWT Water Stewardship Strategy*.[[7]](#footnote-8)

The Policy has been in effect since March 31, 2011 and was updated on X, 2022.

## Application of this Policy

This Policy will be applied by all the LWBs operating under the MVRMA including the:

* Mackenzie Valley Land and Water Board
* Gwich’in Land and Water Board
* Sahtu Land and Water Board
* Wek’èezhìi Land and Water Board

This Policy applies to all projects that require a water licence and/or a land use permit. Specifically, this Policy applies to water licence and land use permit conditions set by the LWBs to manage the discharge or deposit of waste to the receiving environment.

This Policy outlines the types of requirements that the LWBs typically include in licence and permit conditions to regulate the discharge of waste, and the types of information that an applicant must submit to a Board as part of the process of setting these conditions. Although the same types of information will be required from each applicant, the amount of detail required will vary depending on the size, type, stage, and duration of the project under consideration. The appropriate level of information required from the applicant is described in relevant guidance documents (see the list in [section 1.1](#_Purpose_of_this)). In all cases, the LWBs will set the conditions based on the evidence presented during the regulatory process for the application.

This Policy will be applied to all new and renewal licence and permit applications received after the effective date of the Policy. In the case of existing authorizations, this Policy may be applied if there is a proposal to amend any conditions of a licence or permit.

## Measuring Performance and Reviewing the Policy

Mechanisms will be required to monitor and measure performance and to evaluate the effectiveness in achieving the Policy objectives articulated above. In accordance with the principles of a management systems approach (i.e., plan-do-check-act), the LWBs will develop a performance measurement framework that specifies reporting requirements against the Policy objectives including indicators, sources of information, and frequency of reporting. This Policy will be reviewed and amended as necessary within that framework. The framework will also describe how interested parties will be involved in the Policy review process.

# Guiding Principles

The following principles have been adopted by the LWBs and will guide the LWBs’ decisions on any matter related to the discharge or deposit of waste from a project to the receiving environment. The guiding principles of this Policy are consistent with the guiding principles set out in the *NWT Water Stewardship Strategy* but also extend to land use. The principles are not listed in any order of priority.

1. Sustainable Development: Meeting the needs of the present without compromising the ability of future generations to meet their own needs, taking both the potential effects of climate change and potential cumulative effects into account.
2. Pollution Prevention: The use of processes, practices, materials, products, or energy that avoid or minimize the creation of pollutants and waste, and reduce the overall risk to human health and the environment.
3. Precaution: Where there are threats of serious or irreversible damage, the lack of full certainty should not be used as a reason for postponing cost-effective measures to prevent environmental degradation.
4. Polluter Pays: The polluting party should pay for the restoration of damage done to the natural and built environments.
5. Integrated Watershed Management: The cooperative and coordinated stewardship of shared land and water resources where decisions are made in a watershed and regional context and for the greatest collective benefit for all Canadians and, in particular, for residents of the Mackenzie Valley.
6. Multiple Uses and Values: Decisions should address multiple, diverse, and sequential uses of land and water – many of which depend at the same time on the same watercourse or resources – and consider the cumulative effects of multiple uses and waste discharges.
7. Shared Responsibility: In our co-management system, all parties have a responsibility to meaningfully participate in decisions that will affect land and water.
8. Jurisdiction Best-Placed: Although policy development should take place at all jurisdictional levels, policy implementation should be the responsibility of the level most appropriate to resolving the issue at hand.

# Objectives for Regulating the Deposit of Waste

In accordance with the guiding principles listed in [section 2](#_Guiding_Principles), the LWBs regulate, through licence and permit requirements, the deposit of waste such that the following three objectives are met:

1. Water quality in the aquatic receiving environment is maintained at a level that allows for current and future uses.

Protection of water quality in the aquatic receiving environment is the primary objective. In licences for projects that include deposit or discharge of waste to water, the level of protection will be defined by narrative or numeric water quality objectives (WQOs) that have been set site-specifically for the aquatic receiving environment in question. Licence conditions for a project will be set as needed to ensure that WQOs will be met. Land use permits may also include conditions that are, directly or indirectly, intended to protect water quality in the receiving environment.

1. The amount of waste to be deposited to the receiving environment is minimized.

The LWBs expect applicants, licensees, and permittees to identify and implement waste prevention and/or minimization measures, whenever feasible. Implementation of such measures may be stipulated in the licence and permit conditions. For licences, the LWBs assess how these measures are expected to impact waste discharged from a project in order to set discharge criteria that licensees can reasonably and consistently achieve.

1. Waste is managed in accordance with best practices.

The LWBs expect applicants, licensees, and permittees to identify and implement best practices in the management of waste, whenever feasible. The LWBs may consider site-specific factors when determining appropriate best practices for a project. Implementation of such practices may be stipulated in the licence or permit conditions, particularly through requirements for management or operation and maintenance plans. Where applicable, the LWBs may require conformity with specific guidance documents.

There are several different types of requirements (e.g., prescribed management practices, management plans, discharge criteria, monitoring, etc.) that the LWBs include in licence and permit conditions to ensure that the objectives above are met. [Section 4](#_Typical_Licence_and) describes the key requirements and [section 5](#_Information_Required_to) describes the types of information that the LWBs require to establish the requirements and conditions specific to a particular project. In setting these conditions, the LWBs will consider the entire life of the project, including the post-closure goals and objectives for the site. In keeping with the concept of adaptive management, the LWBs acknowledge that revisions to management plans and/or amendments to conditions may be necessary as more information becomes available over the life of a project.

# Typical Licence and Permit Requirements Used to Regulate the Deposit of Waste

The LWBs will set licence and permit conditions to ensure that the objectives set out in [section 3](#_Objectives_for_Regulating) for regulating the deposit of waste are met. The LWBs will set conditions on a project-specific basis, considering the evidence gathered during the regulatory process for a project, but the types of requirements the LWBs typically use are described below.

## Waste Management Practices

In general, waste management practices should be guided by the waste prevention/minimization hierarchy of preferred options, as set out in the LWBs’ [*Guidelines for Developing a Waste Management Plan*](https://mvlwb.com/sites/default/files/documents/MVLWB-Guidelines-for-Developing-a-Waste-Management-Plan-Mar-31_11-JCWG.pdf):

1. Source reduction – waste should be prevented or reduced at the source whenever feasible;
2. Reuse/recycle – waste that cannot be prevented should be reused or recycled in an environmentally safe manner whenever feasible;
3. Treatment – waste that cannot be prevented or recycled/reused should be treated using best practices and in an environmentally safe manner whenever feasible; and
4. Discharge – discharge or deposit of waste into the environment should be employed only as a last resort and must meet applicable conditions, such as discharge criteria.

The Guidelines include more information about the LWBs’ general expectations for managing different types of waste, and a Board may require a licensee or permittee to use specific practices that are known to be effective in managing waste and protecting the environment. These requirements may be specified directly in licence or permit conditions or may be approved by the Board through the submission of plans that describe the waste management practices for the project (see subsection 4.2 below). An example of prescribing a management practice would be a condition stipulating the use of a specific erosion control method known to reduce the amount of sediment that enters water or setting a minimum distance between certain activities and watercourses (i.e., source reduction).[[8]](#footnote-9) In all cases, the intent of prescribing specific management practices is to achieve the objectives listed in [section 3](#_Objectives_for_Regulating).

## Management Plans

All applicants must submit waste management, spill contingency, and closure and reclamation planning information.[[9]](#footnote-10) For most applicants, this information must be provided in the form of management plans developed in accordance with applicable guidelines.[[10]](#footnote-11) Municipal applicants will provide this information in operations and maintenance plans.

In addition to the above, depending on the types of waste, the potential environmental effects, and the proposed mitigation measures, other management plans, design and construction plans, and/or operations and maintenance plans may also be required in a licence application, and/or through licence conditions, to detail how specific types of waste will be managed for a project.

These plans will detail how certain aspects of the waste prevention/minimization hierarchy (e.g., source control, reuse/recycle, treatment, and/or discharge of waste) or other environmental protection methods will be implemented. In accordance with the applicable guidelines or the LWBs’ [*Standard Outline for Management Plans*](https://mvlwb.com/sites/default/files/2021-06/LWB%20Standard%20Outline%20for%20Management%20Plans%20-%20Approved%20-%20Jun%2010_21_0.pdf), and as described in sections 4.3 to 4.5 below, some plans may also need to describe criteria, monitoring, and adaptive management.

The Board will set out any plan requirements for a project in the licence and/or permit conditions.[[11]](#footnote-12) In general, these plans will typically require Board approval, which will usually entail a public review, prior to implementation of the plan. The licensee or permittee will be expected to review and revise these plans over the life of the project as set out in the conditions.

## Discharge Criteria in Licences

Once all reasonable measures have been taken to limit the amount of waste that will be deposited or discharged to the receiving environment, concerns will often exist about the quantity, concentration, and type of waste an applicant is proposing to discharge directly or indirectly to the receiving environment. In these cases, the Board will set discharge criteria, such as maximum discharge rates and/or volumes, (effluent quality criteria) EQC, and/or other discharge requirements, in the licence. In some cases, for non-point source effluent, discharge criteria may be established in a plan submitted for Board approval rather than directly through a licence condition.

Where applicable, the licence will set out the specific locations where discharge criteria must be met. EQC, for example, will apply at specific monitoring locations. For point-source discharge, this will usually be at the final discharge point, where the licensee can still control the discharge to receiving environment if discharge criteria aren’t met. For non-point source discharge, this may be at one or more locations where runoff, seepage, groundwater, etc. is monitored.

In all cases, the licensee must ensure that the waste discharged meets all discharge criteria at any specified locations to remain in compliance with the licence. If applicable, licence conditions or plans will set out monitoring requirements and response frameworks associated with these criteria (see sections [4.4](#_Monitoring_Requirements) and [4.5](#_Adaptive_Management), respectively).

When a proposed project includes the direct or indirect discharge of waste to the aquatic receiving environment from a point or non-point source, the Board will often need to determine water quality objectives (WQOs) for the receiving environment in order to establish appropriate discharge criteria. At a minimum, any discharge criteria for a project must be set at levels that will ensure WQOs for the receiving environment will be met. The WQOs for a project, the locations at which WQOs are expected to be met, and linkages between the WQOs and discharge criteria in the licence will typically be explained in the Board’s reasons for decision but will not usually be set out directly in the licence.

As no pre-defined water quality standards have been established for watercourses in the NWT, the level of water quality to be maintained in the receiving environment has been, and will continue to be, decided on a site-specific basis to protect water uses. [Section 5](#_Information_Required_to) outlines the information the LWBs will consider when setting site-specific WQOs, whether narrative or numeric, and the LWBs’ *Standard Process for Setting Effluent Quality Criteria* summarizes the LWBs’ information requirements and standard process for establishing numeric WQOs and related EQC when appropriate. While this process is described for EQC in particular, it may also be used to develop wastewater quality criteria in a plan.

For proposed non-point source effluents, the LWBs may consider setting EQC or requiring management or monitoring plans that include water and/or wastewater quality criteria that must be met at specific locations. For example, for underground seepage or leachate from a waste management facility, the Board may require a groundwater management or monitoring plan that includes water and/or wastewater quality criteria and a response framework that apply at specific groundwater monitoring wells.

For proposed point-source effluents, the LWBs will typically set EQC to define the maximum allowable concentrations (e.g., mg/L), quantities (e.g., kg/year), or limits (e.g., pH range) of any contaminant or parameter of the effluent if the evidence before a Board indicates that it has the potential to adversely affect water quality in the receiving environment. The LWBs may also set limits on the discharge rate and/or volume.

Figure 1 illustrates, with a point-source effluent example, the relationship between EQC and the WQOs in the receiving environment. On a case-by-case basis, a Board may decide to define a regulated mixing zone between the point of discharge and the point at which WQOs need to be met. Further information about when and how the LWBs will consider mixing zones is available in the MVLWB/GNWT [*Guidelines for Effluent Mixing Zones*](https://mvlwb.com/sites/default/files/images/Guidelines/Guidelines%20for%20Effluent%20Mixing%20Zones%20-%20Final%20Draft%20-%20June%202017_EDIT9.pdf).



Figure 1: Example of the Relationship Between EQC and WQOs[[12]](#footnote-13)

Note that in accordance with the LWBs’ objective to minimize waste discharge, licensees are expected to minimize and, where feasible, to prevent waste from entering water. Therefore, and consistent with the CCME nondegradation policy,[[13]](#footnote-14) the LWBs may set EQC that are more stringent than what is necessary to meet WQOs in the aquatic receiving environment. When making this determination, the Board will ensure that EQC are set at levels that the licensee can reasonably and consistently achieve. Further details on the LWBs’ process for setting EQC are available in the LWBs’ *Standard Process for Setting Effluent Quality Criteria*.

## Monitoring Requirements[[14]](#footnote-15)

Environmental monitoring programs are essential for providing the information needed to determine if the waste prevention/minimization and water quality protection measures (including discharge criteria) are successfully meeting their stated objectives. Monitoring will typically be required for various activities during the construction, operation, and closure of a project – the most common monitoring programs are described below:

1. Surveillance Network Programs (SNPs) are often included in licences and primarily consist of water and wastewater quality and quantity monitoring at key locations on the project site. SNPs are designed to aid the licensee and regulators in evaluating compliance with licence requirements and determining whether waste management activities are effective; therefore, sampling locations and requirements are decided on a site-specific basis. Any final discharge and compliance point(s) will have an associated SNP station where any applicable discharge criteria must be met. Other SNP stations are often located at points of waste transfer or treatment prior to the final discharge or compliance point(s) to ensure that the waste management system is working as expected and to identify any source control issues as they arise. In some cases, these locations may correlate to points where management plan action levels are applied. In order to determine the effectiveness of the discharge criteria, SNP stations are also often located in the receiving environment to monitor whether WQOs are being met – these stations may correlate with some AEMP stations, if applicable.
2. Management plans, design and construction plans, and operations and maintenance plans required by licence and/or permit conditions may include monitoring to evaluate whether design and/or performance criteria for waste management systems are being met. This type of monitoring may be associated with requirements for a response framework, with action levels and general response actions, to provide an early warning system to prevent non-compliance with conditions and potential environmental impacts (see [section 4.5](#_Adaptive_Management) and the [*Standard Water Licence Conditions and Schedules*](https://mvlwb.com/sites/default/files/standard_water_licence_conditions_and_schedules_-_basic_-_apr_20_20.pdf)). Applicable LWB guidance documents may set out requirements for this type of monitoring, and in licences, conditions may require the licensee to include this type of monitoring in specific plans and manuals. In some licences, separate water and/or groundwater monitoring plans may be required.
3. Aquatic Effects Monitoring Programs (AEMPs) may be required in licences to monitor the short- and long-term effects of a project on the wider aquatic receiving environment. In particular, AEMPs are meant to monitor project-related effects on the aquatic ecosystem including, for example, effects to water quality and/or quantity, aquatic habitats, and aquatic life. In addition to demonstrating that WQOs are being met, AEMPs can indicate whether the WQOs for the site are sufficiently protective and identify any effects that were not originally predicted. AEMPs include a response framework to link monitoring results to response actions. More information on when the LWBs may require AEMPs and on the LWBs’ expectations for AEMPs is available in the MVLWB/GNWT [*Guidelines for Aquatic Effects Monitoring Programs*](https://mvlwb.com/sites/default/files/aemp_guidelines_-_mar_5_19.pdf).

Where applicable, conditions will also include reporting requirements for the monitoring outlined above. Any water quality data submitted to the LWBs must meet the information requirements set out in the GNWT [*Standards for Reporting Water Quality Information in the NWT*](https://mvlwb.com/sites/default/files/2021-04/GNWT%20Standards%20for%20Reporting%20Water%20Quality%20Information%20-%20FINAL%20-%20Dec_20.pdf), which have been adopted by the LWBs*.*

## Adaptive Management

While selecting the best possible approach to waste management is very important, it can be difficult to predict all the effects of a project and the efficacy of mitigation measures. As a result, adaptive management involves observing and/or monitoring the effects of actions and, where necessary, adjusting actions based on the observations and/or monitoring results. For example, if results show the effects of a project on the environment are different or worse than predicted, further mitigation measures may be prescribed or changes to discharge criteria or other conditions may be considered.[[15]](#footnote-16) For a permit, for example, additional erosion control measures may need to be installed or implemented if erosion is observed despite existing erosion control measures. For a licence with monitoring requirements, for example, seepage from a waste management facility may need to be collected and treated prior to discharge if the seepage quality is not as good as predicted.

Licence conditions will typically set out initial general response actions for EQC exceedances, if applicable. As noted in section 4.4 above, for AEMPs, and in most cases, for any plans that include monitoring, the licensee will be required to develop a response framework outlining action levels and general response actions. For some types of action levels, the licensee may also be required to submit more detailed response plans when action exceedances occur.

# Information Required to Regulate the Deposit of Waste

Licence and permit applications must include the information necessary for the Board to make its preliminary screening determination and set appropriate licence and/or permit conditions. Detailed information requirements are listed in the Application Forms, with additional guidance provided in the LWBs’ [*Guide to the Water Licensing Process*](https://mvlwb.com/sites/default/files/2020-09/lwb_guide_to_the_water_licensing_process_-_final_-_sep_16_20.pdf)and [*Guide to the Land Use Permitting Process*](https://mvlwb.com/sites/default/files/2021-08/LWB%20Guide%20to%20the%20Land%20Use%20Permitting%20Process%20-%20FINAL%20-%20Aug%2030_21.pdf).[[16]](#footnote-17) This section of the Policy is only meant to highlight some specific types of information that the LWBs consider when setting conditions that, collectively, will result in a licence and/or permit that meets the objectives stated in [section 3](#_Objectives_for_Regulating).

## Information Required from Applicants

The information described in this section are expected to be provided by the applicant, but it should reflect the engagement the applicant conducts while planning the project and developing the application.

Early engagement is key to gathering the information needed to develop an application or submission. Engagement must be conducted in accordance with the LWBs’ [*Engagement and Consultation Policy*](https://mvlwb.com/sites/default/files/mvlwb_engagement_and_consultation_policy_-_nov_25_19.pdf) and [*Engagement Guidelines for Applicants and Holders of Water Licences and Land Use Permits*](https://mvlwb.com/sites/default/files/mvlwb_engagement_guidelines_for_holders_of_lups_and_wls_-_october_2_19.pdf) and should be reflected in the information provided in an application or submission.

During a regulatory proceeding, the Board also provides opportunities for all parties to submit and/or present information to the Board regarding an application, and the Board will consider all of the evidence on the public record for the application when making its decision.

The types of information required from applicants include, but are not limited to:

*All Applicants:*

* Information on the potential environmental effects associated with each waste type for a project, including consideration of climate change and cumulative impacts;
* Information on proposed waste prevention, minimization, and management measures for each waste type;
* Proposed contingency plans; and
* Proposed closure plans for the site.

*If Applicable:*

* Proposed monitoring for assessing both performance of waste management and mitigation measures, and environmental effects;
* Technically accurate predictions of the composition (including concentrations, where applicable) and quantities of waste that the applicant proposes to discharge or deposit after all feasible proposed waste prevention and management measures have been employed;
* Predictions of how effluent, once discharged, will mix and disperse in the receiving environment;[[17]](#footnote-18)
* Recommended site-specific WQOs for the project’s receiving environment, including the evidence upon which the recommendations are based. During the licencing proceeding, all parties will have the opportunity to review the applicant’s proposed WQOs before the Board makes a final decision on the WQOs for the site. Supporting information that the applicant should submit, if available, for the Board’s consideration in setting site-specific WQOs includes, but is not limited to, the items listed below.
	+ Existing (baseline) conditions of the receiving watercourse(s) (e.g., water quality and quantity as well as the resident species of plants, animals, and fish that live in or use the water);
	+ Traditional Knowledge, including knowledge about the environment, knowledge about interacting with the environment, and environmental values;[[18]](#footnote-19)
	+ Traditional and potential uses of the receiving watercourses (e.g., sustenance, recreational, cultural, etc.)
	+ Cultural significance of the watercourses to local residents;
	+ Inputs of waste from other projects or activities located in the same watershed or region in order to evaluate potential cumulative effects;
	+ Published water quality guidelines (e.g., CCME Guidelines) and scientific studies that are relevant and appropriate for the receiving watercourses, based on the information listed above; and
	+ Measures, suggestions, and commitments, including predictions and limits of acceptable change, listed in Reports of Environmental Assessment or Environmental Impact Review.

In gathering information for their applications, applicants can and should avail themselves of relevant information that has already been collected by other parties or through other initiatives (e.g., governmental agencies, regional land use or water management plans).

While the same types of information will be required from each applicant, the amount of detail required will often vary depending on the size, type, and duration of the project. Applicants for larger projects should also refer to the Mackenzie Valley Environmental Impact Review Board’s (Review Board) *Environmental Assessment Initiation Guidelines for Developers of Major Projects*.[[19]](#footnote-20)

## Consideration of Other Applicable Legislation

In addition to the information sources discussed above, the LWBs recognize that there is other legislation that must be complied with. For example, the LWBs may not include any conditions in licences relating to the deposit of waste that are less stringent than the provisions of applicable regulations made under subsection 36(5) of the *Fisheries Act*.[[20]](#footnote-21)

Note that applicants, licensees, and permittees must comply with all legal requirements (e.g., *Fisheries Act*, Metal and Diamond Mining Effluent Regulations, *Oil and Gas Operations Act*, *Migratory Birds Convention Act*, *Archaeological Sites Act* and Regulations, etc.) relevant to their respective operation. It is the applicant, licensee, or permittee’s responsibility to be aware of and comply with these requirements; however, in developing licence and permit conditions, the LWBs consider the evidence provided by other regulatory authorities regarding other regulatory requirements and attempt to minimize conflict and overlap.

1. Although ‘discharge’ is defined here, both ‘discharge’ and ‘deposit of waste’ are used in this Policy, because the legislation refers to ‘deposit of waste,’ while LWB guidance documents and standard conditions often use both terms. While there may be a general perception that ‘discharge’ refers to wastewater and ‘deposit’ refers to solid waste, the LWBs do not define these terms in this way, and the legislation encompasses both in the definition of ‘deposit of waste.’ [↑](#footnote-ref-2)
2. “undertaking” is defined, in section 1 of the Waters Regulations and section 2 of the Mackenzie Valley Federal Areas Regulations, as: an undertaking in respect of which water is to be used or waste is to be deposited, of a type set out in Schedule B, or Schedule II, respectively. [↑](#footnote-ref-3)
3. “waste” is defined as:

(a) any substance that, if added to water, would degrade or alter or form part of a process of degradation or alteration of the quality of the water to an extent that is detrimental to its use by people or by any animal, fish or plant, or

(b) water that contains a substance in such a quantity or concentration, or that has been so treated, processed or changed, by heat or other means, that it would, if added to any other water, degrade or alter or form part of a process of degradation or alteration of the quality of that water to the extent described in paragraph (a), and, without limiting the generality of the foregoing, includes

(c) any substance or water that, for the purposes of the Canada Water Act, is deemed to be waste,

(d) any substance or class of substances prescribed by regulations made under subparagraph 63(1)(b)(i),

(e) water that contains any substance or class of substances in a quantity or concentration that is equal to or greater than a quantity or concentration prescribed in respect of that substance or class of substances by regulations made under subparagraph 63(1)(b)(ii), and

(f) water that has been subjected to a treatment, process or change prescribed by regulations made under subparagraph 63(1)(b)(iii).” [↑](#footnote-ref-4)
4. Paragraph 26(5)(c) of the *Waters Act* and paragraph 72.03(5)(c) the MVRMA states that “any waste that would be produced by the appurtenant undertaking will be treated and disposed of in a manner that is appropriate for the maintenance of water quality standards (…).” There is no definition of the term “water quality standard” in the *Waters Act* or the MVRMA, but the LWBs consider it to be equivalent to the more widely accepted term “water quality objective,” which has been defined by the Canadian Council of Ministers of the Environment (CCME) as: “a numerical concentration or narrative statement that has been established to support and protect the designated uses of water at a specified site.”(CCME (1999), Canadian Environmental Quality Guidelines. Guidelines and Standards Division, Winnipeg, MB.) [↑](#footnote-ref-5)
5. See subsection 27(1) of the *Waters Act* and subsection 72.04(1) of the MVRMA for general types of conditions that may be set in a licence. Also, see the LWBs’ *Standard Water Licence Conditions and Schedules* and *Standard Land Use Permit Conditions* templates for more information on specific standard conditions. [↑](#footnote-ref-6)
6. All LWB guidance documents referenced in this Policy can be accessed on the Policies and Resources webpage on any of the LWB websites ([www.glwb.com](http://www.glwb.com)/[www.mvlwb.com](https://mvlwb.com/)/[www.slwb.com](http://www.slwb.com)/[www.wlwb.ca/](https://wlwb.ca/)). [↑](#footnote-ref-7)
7. See the External Initiatives webpage on any of the LWB websites, or the GNWT’s NWT Water Stewardship webpage (<https://www.nwtwaterstewardship.ca/>) to access the [*NWT Water Stewardship Strategy*](https://glwb.com/sites/default/files/documents/NWT_Water_Stewardship_Strategy.pdf). [↑](#footnote-ref-8)
8. For more examples of these types of conditions, see the LWBs’ [*Standard Water Licence Conditions and Schedules*](https://mvlwb.com/sites/default/files/standard_water_licence_conditions_and_schedules_-_basic_-_apr_20_20.pdf) and [*Standard Land Use Permit Conditions*](https://mvlwb.com/sites/default/files/standard_land_use_permit_conditions_template_-_public_version_2.3_-_aug_7_20.pdf) templates. [↑](#footnote-ref-9)
9. For more information, see the LWBs’ [*Guide to the Water Licensing Process*](https://mvlwb.com/sites/default/files/2021-08/LWB%20Guide%20to%20the%20Water%20Licensing%20Process%20-%20FINAL%20-%20Aug%2030_21.pdf) and [*Guide to the Land Use Permitting Process*](https://mvlwb.com/sites/default/files/2021-08/LWB%20Guide%20to%20the%20Land%20Use%20Permitting%20Process%20-%20FINAL%20-%20Aug%2030_21.pdf). [↑](#footnote-ref-10)
10. While the MVLWB/AANDC [*Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories*](https://mvlwb.com/sites/default/files/wlwb_5363_guidelines_closure_reclamation_wr.pdf) were developed for mineral exploration and mining, the information is applicable to other types of projects. [↑](#footnote-ref-11)
11. Applicants, licensees, and permittees should be aware that other submissions may be required by other regulatory agencies and/or by the landowner through other required authorizations. [↑](#footnote-ref-12)
12. WQOs define the quality of water that must be maintained in the receiving environment. In this example, WQOs would be defined for the lake into which a point-source effluent is being discharged from a project. EQC would be set and would, in this example, apply at the point at which the effluent enters the lake (i.e., the final discharge point). Other discharge criteria (for example, rate or volume criteria) may also apply at this location. [↑](#footnote-ref-13)
13. For waters of superior quality or that support valuable biological resources, the CCME nondegradation policy states that “the degradation of the existing water quality should always be avoided.” CCME (1999), Canadian Environmental Quality Guidelines. Guidelines and Standards Division, Winnipeg, MB. [↑](#footnote-ref-14)
14. The LWBs do not typically include monitoring requirements in land use permits; however, permit requirements will always be determined based on the evidence submitted through the regulatory process for a given project. [↑](#footnote-ref-15)
15. In some cases, proposed response actions could require an amendment process and, possibly, a preliminary screening. [↑](#footnote-ref-16)
16. See the Apply for Permit/Licence webpage on any of the LWB websites to access the Application Forms and Guides. [↑](#footnote-ref-17)
17. See the the Policies and Resources webpage on any of the LWB websites to access the MVLWB/GNWT [*Guidelines for Effluent Mixing Zones*](https://mvlwb.com/sites/default/files/images/Guidelines/Guidelines%20for%20Effluent%20Mixing%20Zones%20-%20Final%20Draft%20-%20June%202017_EDIT9.pdf)for more details about proposing a mixing zone. [↑](#footnote-ref-18)
18. In addition to following local protocols, policies, and guidelines for gathering Traditional Knowledge, the LWBs highlight the importance of using and considering this Knowledge in a way that respects the intentions of communities, Indigenous governments and organizations, and the individual Traditional Knowledge holders that provided it. For more information, please see the Review Board’s [*Guidelines for Incorporating Traditional Knowledge in Environmental Impact Assessment*](https://reviewboard.ca/upload/ref_library/1247177561_MVReviewBoard_Traditional_Knowledge_Guidelines.pdf), which has been adopted by the LWBs and is available on the Review Board’s website ([www.reviewboard.ca](https://reviewboard.ca/)). [↑](#footnote-ref-19)
19. See the Review Board’s website ([www.reviewboard.ca](https://reviewboard.ca/)) to access the [*Environmental Assessment Initiation Guidelines for Developers of Major Projects*](https://reviewboard.ca/file/1132/download?token=c5tFrEqL), which are currently in draft form. [↑](#footnote-ref-20)
20. See subsection 27(5) of the Waters Act and subsection 72.04(5) of the MVRMA. [↑](#footnote-ref-21)