Conserving Canada's Wetlands

# TORBAY WETLAND ASSESSMENT REPORT

## Wetland Ecosystem Protocol Services (WESP-AC) Results for 40 Torbay Wetlands

Conserving Canada's Wetlands

## Ducks Unlimited Canada

Ducks Unlimited Canada (DUC) is a community of people who believe that nature is the foundation of strong communities, a prosperous economy, and a sustainable future for the next generation. Together, we conserve and restore some of the most valuable and threatened landscapes on the planet. Since 1938, our work has come to be recognized for the significant value it provides to people and communities today, as nature-based solutions to floods, droughts, water pollution and the impacts of climate change. Our strength comes from working together and partnering with all who care about the landscape to help deliver our mission; to conserve, restore and manage wetlands and associated habitats for the benefit of North America's waterfowl, other wildlife, and people.

Ducks Unlimited Canada is a private, non-profit organization dedicated to the conservation of wetlands and associated habitat for the benefit of North America's waterfowl, wildlife, and people. Since 1938 DUC has secured and protected over 18 million acres of habitat in Canada, established more than six thousand projects and has earned recognition as a highly respected conservation organization.

In Newfoundland and Labrador, DUC has been actively conserving wetlands and associated waterfowl habitat since the early 1980's. The foundation for DUC's success at both national and provincial levels involves working collaboratively to find conservation solutions that have a sound scientific basis.

Wetlands are some of the world's most productive ecosystems. In addition to providing essential habitat for hundreds of wildlife species and flora, they also serve essential functions within a watershed. These include water storage and flood reduction, groundwater recharge, nutrient assimilation, sediment filtration, and removal of pathogens & other contaminants. Thus, in addition to providing essential habitat, there are numerous socio-economic reasons to protect our remaining wetlands.

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## Executive Summary

Ducks Unlimited Canada (DUC) with funding from Environment and Climate Change Canada's Community Based Climate Action Program, have partnered with the Town of Torbay to conduct assessments on 40 wetlands within the municipality using the Wetland Ecosystem Services Protocol for Atlantic Canada (WESP-AC).

The goal of this project is to provide municipal councilors, planners, and policymakers with valuable information regarding the functions, benefits, and overall health of wetlands within Torbay's municipal planning area to help guide development strategies, management policies, and/or potential opportunities for future conservation. This information will also serve to identify the utility that wetlands serve in providing municipal services and mitigating the effects of climate change as natural assets.

By assessing wetlands in both urban and undeveloped areas, Torbay Council and planning staff will have the opportunity to explore how developments impact the benefits served by wetlands, as well as providing planners with baseline data from which to examine the effects of development through further monitoring. This data will also highlight the value of wetlands in the Town of Torbay as natural assets.

The main findings of this report are that wetlands assessed in Torbay are in good Ecological Condition, adequately integrated into neighborhoods in a way that has not impeded their functions and benefits. The wetlands in Torbay excelled as habitats for waterbird nesting and feeding, and as habitat for songbirds, raptors, and mammals.

Recommendations arising from this report are for the Town of Torbay to:

1. Conduct a wetland inventory to ascertain the full number and extent of wetlands within the Town of Torbay.
2. Require professional wetland delineations when new development is proposed, to ensure that wetland boundaries are known by developers.
3. Allow for the implementation of proper best management practices and policies.
4. Introduce monitoring of construction projects near wetlands to ensure adherence with municipal polices respecting wetlands.
5. Identify additional wetlands for inclusion as Conservation Areas under the Municipal Habitat Stewardship Program and/or extend Conservation Zoning to wetlands that don't appear on a 1:50,000 topographic map.
6. Consider integrating walking trails around wetlands in new developments and interpretive signage to further promote public awareness.

By recognizing the value of wetlands to Torbay as natural assets, the Town stands to benefit from the significant natural capital within its municipal boundaries. Through monitoring and careful

planning in the incorporation of wetlands into new developments, Torbay will benefit from the functions provided by wetlands supported by the data contained in this report.

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# Introduction

## Scope and Objectives

Ducks Unlimited Canada with funding from Environment Canada's Community Based Climate Action Program, have partnered with the Town of Torbay to conduct Assessments on 40 wetlands within the municipality using the Wetland Ecosystem Services Protocol for Atlantic Canada (WESP-AC). WESP-AC is a rapid assessment method based on observable indicators of wetland ecosystem services that provides scores for wetland functions and benefits.

The goal of this project is to provide council, municipal planners and policymakers with valuable information regarding the functions, benefits, and overall health of wetlands within Torbay's municipal planning area to help guide development strategies, management policies, and/or potential opportunities for future conservation.

By assessing wetlands in both urban and not yet developed areas, Torbay planning staff will have the opportunity to explore how developments impact the benefits served by wetlands, as well as providing planners and developers with baseline data from which to examine the effects of development through further monitoring. This data will also highlight the value of wetlands in the Town of Torbay as natural assets. It is worth noting that the value of wetlands to any town subsisting and replenishing their well water sources is priceless.

## The Importance of Wetlands

Wetlands are submerged or permeated by water, either permanently or temporarily, and are characterized by plants adapted to saturated soil conditions. Wetlands include fresh and saltwater marshes, wooded swamps, bogs, fens, and areas of shallow open water essentially any land area that holds water long enough for wetland plants, soils, and processes to develop.

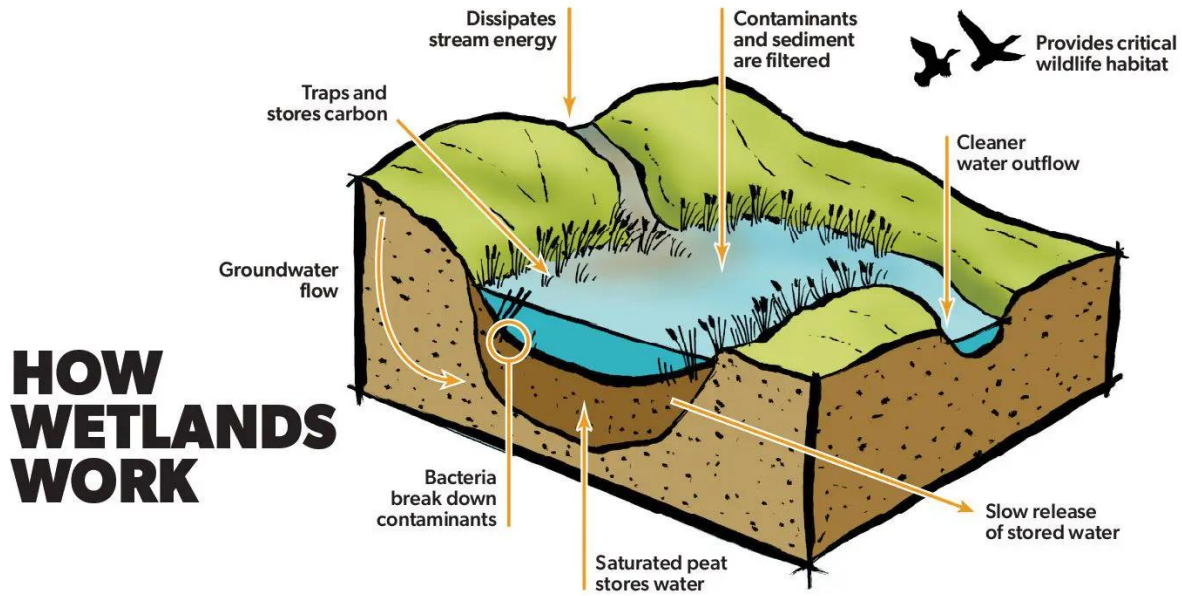


Figure 1. How Wetlands Work

1) Wetlands are adept at storing and sequestering carbon. Due to deep organic deposits, bogs store substantial amounts of carbon and help to moderate climate change. They are important water storage/recharge areas on the landscape that release water in dry periods and store water in wet periods. For these reasons wetlands can be referred to as nature-based solutions to climate change.

2) Wetlands reduce the risk of flooding and help prevent drought. By slowing down stream energy during extreme weather events, wetlands prevent erosion and flooding by also storing the water which is then slowly released over time. This helps prevent drought by the same mechanism, slowly releasing water as surrounding landscapes dry up. Wetlands are often highly connected aquatic systems moving water and nutrients over long distances, making them vulnerable to developments that block their natural flow.

3) Wetlands support biodiversity. Wetland ecosystems provide ample food sources for a range of plants, insects, microbes, waterfowl, and wildlife. In Newfoundland, wetlands provide moose with an important source of vitamins and minerals found in abundance in wetland vegetation. They also serve as homes for a wide variety of flora and fauna, and as wildlife corridors that allow animal species to travel safely in search of food and shelter.

4) Wetlands help purify water and recharge groundwater. They are a natural filter, slowing the flow of water, where aquatic vegetation and bacteria can break down contaminants.

### Town of Torbay – Wetland and Environmental Stewardship

Wetland habitats in the Town of Torbay are a part of the town's cultural identity and protecting these areas has been a long-standing tradition. In 1997, the Town and the Government of Newfoundland and Labrador signed a Wetland Habitat Stewardship Agreement, with the Stewardship Association of Municipalities (SAM), committing to the conservation of wildlife habitat within the town's municipal planning boundaries. This agreement was revised in 2015 to increase the amount of land within designated Conservation Areas and in 2023, the Town issued a World Wetlands Day Proclamation celebrating their commitment to wetland stewardship.

In total, Torbay's Wetland Habitat Stewardship Agreement designates the following six areas, encompassing ~451 acres of habitat: Gosse's Pond, Upper Three Corner Pond, The Gully, Jones Pond Riparian Zone, Western Island Pond, and the Shoreline Conservation Area. A larger Stewardship Zone has also been identified within the Town. While protected for their wildlife habitat value, these Conservation Areas also provide substantial cultural and recreational amenities for the community.

For example, the Shoreline Conservation Area encompasses sections of the world-renowned East Coast Trail and Torbay's Wetland Habitat Stewardship Agreement affords protection to a portion of Father Troy's Trail and Silver Mine Head Path. Accessible walking trails and recreation facilities have also been developed at Upper Three Corner Pond Park that highlight the Upper Three Corner Pond Conservation Area.

In addition, the Gully Conservation Area lies in proximity to both an elementary school and high school and has been used for youth environmental education for many years, led initially by the Torbay Environment and Trails Committee. Notably, the Nature Conservancy of Canada maintains a small Nature Reserve in the vicinity of the Gully and the nearby Holy Trinity High School is a designated Wetland Centre of Excellence through a national program run by DUC. The Stewardship Association of Municipalities continues to provide engagement opportunities associated with all of Torbay's Conservation Areas including the schools near the Gully.

Beyond conserving wetlands, The Town maintains The Torbay Environment Advisory Committee which provides oversight on environmental considerations and serves in an advisory capacity to Torbay's Town Council. The Town has also commissioned several studies of the natural environment within their municipal planning area that relate to wetlands including reports focused on stormwater management, groundwater, and Great Pond. Further, they have developed a Climate Action Plan, and, in recent years, hosted youth employed through the Conservation Corps Newfoundland and Labrador to support their ongoing environmental stewardship efforts.

## Wetland Assessment Methodology

Forty wetland sites were field assessed between June 22nd, 2023, to October 6th, 2023, by DUC staff using WESP-AC protocol. Sites were selected by DUC staff in more urbanized areas due to

accessibility, however efforts were also made to assess areas slated for development, wetlands that made up part of larger linked wetland complexes as well as a few sites near farmland locations. Ten of the 40 sites were selected by Torbay's planning staff.

WESP-AC office assessments were completed from October 20th to November 20th.

## Wetland Ecosystem Services Protocol for Atlantic Canada

### What is WESP-AC?

WESP-AC (Wetland Ecosystem Services Protocol for Atlantic Canada) is a standardized method for rapidly assessing important natural functions of wetlands in Atlantic Canada.

### Why is it used?

Wetlands are complex systems. Detailed wetland studies can be resource and time intensive. Conversely, one trained professional can use WESP to rapidly assess a wetland for 18 functions and benefits, and 3 wetland attributes.

### How is it used?

WESP consists of a field and office component. Practitioners visit the wetland and answer a series of qualitative questions relating to the vegetation, hydrology, and public use. The office component is a series of questions relating to wetland location. Responses are recorded in an Excel spreadsheet that automatically calculates a score for each function, benefit, and attribute. Scores range from 0-10, with values assigned for Low, Moderate, and High scores.

Different functions use different numeric thresholds to define their associated ratings. In other words, a score of 5.50 in Amphibian and Turtle Habitat rating may be described as "moderate," whereas a 5.50 in Pollinator Habitat rating may be described as "low."

### Who uses WESP-AC?

WESP practitioners have received specialized training to use this tool. They generally work for consultants, government, or conservation organizations and have a background in wetland plants, soils, and hydrology. WESP data is used by provincial and municipal governments in Atlantic Canada as well as conservation organizations such as DUC to understand various wetland and watershed dynamics, including which functions are represented by wetlands in an area, and whether restored wetlands are adequately replacing or compensating for functions that have been lost through wetland alteration or in-filling.

### What is the difference between a function and a benefit score?

Function scores refer to the wetland's ability to support that function based on its structure, vegetation, and hydrology. Benefit scores are calculated based on function scores but describe

the context of the function within a specific wetland, factoring in surrounding elements such as watershed catchment area and current land use. Note that benefit scores can change if surrounding land use changes.

## What do the scores and ratings mean?

Scores are calculated based on the answers inputted into the spreadsheet and calculations made by the model that reflect our understanding of which physical characteristics are representative of a wetland's ability to deliver the specified function. Scores are adjusted to be relative to other wetlands in the province. WESP-AC is calibrated for each province in Atlantic Canada based data collected from over 100 sites in each province. Scores and ratings are relative to other wetlands in Newfoundland and Labrador; therefore a "High" rating means that relative to other Newfoundland and Labrador wetlands, this wetland is highly beneficial or functional. However, no individual wetland can provide all the functions at a high level because certain functions act in opposing directions.

## What can I do with this information?

WESP data has its limitations. Like any model of a complex natural system, it is only an approximation of what is occurring. However, it can be used to give an idea of the functions and benefits of the wetland relative to the other wetlands in the area. The scores are beginning to be used by regulators in other Maritime provinces to inform decisions regarding wetland avoidance, minimization, and replacement of wetlands. The scores are also being used by municipalities to assign dollar values on certain wetland functions like water storage delay, and by wetland restoration specialists to track how wetlands respond to human impacts and restoration efforts. This information may be useful in making land-use decisions or directing further monitoring.

Table 1, below, contains a definition of each function category scored by WESP and the corresponding potential benefits of said function. The definition and importance of the Function of Carbon Sequestration has also been listed as it does not fall in the categories of Hydrologic, Water Quality Maintenance, or Ecological (Habitat) Functions.

Table 1. Benefits of Wetland Functions Scored by WESP-AC in Atlantic Canada (Adamus, 2018).

| Function | Definition | Potential Benefits |
|---|---|---|
| **HYDROLOGIC FUNCTIONS** | | |
| Water Storage & Delay | The effectiveness for storing runoff or delaying the downslope movement of surface water for long or short periods. | Flood control, maintain ecological systems. |

| | | |
|---|---|---|
| Stream Flow Support | The effectiveness for contributing water to streams especially during the driest part of a growing season. | Support fish and other aquatic life. |
| **WATER QUALITY MAINTENANCE FUNCTIONS** | | |
| Water Cooling | The effectiveness for maintaining or reducing temperature of downslope waters. | Support cold-water fish and other aquatic life. |
| Sediment Retention and Stabilization | The effectiveness for intercepting and filtering suspended inorganic sediments thus allowing their deposition, as well as reducing energy of waves and currents, resisting excessive erosion, and stabilising underlying sediments or soil. | Maintain quality of receiving waters. Protect shoreline structures from erosion. |
| Phosphorus Retention | The effectiveness for retaining phosphorus for extended periods (>1 growing season). | Maintain quality of receiving waters. |
| Nitrate Removal & Retention | The effectiveness for retaining particulate nitrate and converting soluble nitrate and ammonium to nitrogen gas while generating little or no nitrous oxide (a potent greenhouse gas). | Maintain quality of receiving waters. |
| Organic Nutrient Export | The effectiveness for producing and subsequently exporting organic nutrients (mainly carbon), either particulate or dissolved. | Support food chains in receiving waters. |
| **ECOLOGICAL (HABITAT) FUNCTIONS** | | |
| Fish Habitat | The capacity to support an abundance and diversity of native fish (both anadromous and resident species). | Support recreational and ecological values. |
| Aquatic Invertebrate Habitat | The capacity to support or contribute to an abundance or diversity of invertebrate animals which spend all or part of their life cycle underwater or in moist soil. Includes dragonflies, midges, clams, snails, water beetles, shrimp, aquatic worms, and others. | Support salmon and other aquatic life. Maintain regional biodiversity. |
| Amphibian & Reptile Habitat | The capacity to support or contribute to an abundance or diversity of native frogs, toads, salamanders, and turtles. | Maintain regional biodiversity. |
| Waterbird Feeding Habitat | The capacity to support or contribute to an abundance or diversity of waterbirds that migrate or winter but do not breed in the region. | Support hunting and ecological values. Maintain regional biodiversity. |

| | | |
|---|---|---|
| Waterbird Nesting Habitat | The capacity to support or contribute to an abundance or diversity of waterbirds that nest in the region. | Maintain regional biodiversity. |
| Songbird, Raptor & Mammal Habitat | The capacity to support or contribute to an abundance or diversity of native songbird, raptor, and mammal species and functional groups, especially those that are most dependent on wetlands or water. | Maintain regional biodiversity. |
| Native Plant Habitat, Pollinator Habitat | The capacity to support or contribute to a diversity of native, hydrophytic, vascular plant species, communities, and/or functional groups, as well as the pollinating insects linked to them. | Maintain regional biodiversity and food chains. |
| Public Use and Recognition* | Prior designation of the wetland, by a natural resource or environmental agency, as some type of special protected area. Also, the potential and actual use of a wetland for low intensity outdoor recreation, education, or research. | Commercial and social benefits of recreation. Protection of prior public investments. |

*a benefit of wetlands rather than a function

Note. From Adamus, P. (2018). *Manual for Wetland Ecosystem Services Protocol for Atlantic Canada (WESP-AC): Non-tidal Wetlands*. 10.13140/RG.2.2.15288.42240. file:///C:/Users/duc1535/AppData/Local/Temp/MicrosoftEdgeDownloads/36c098f7-038b-4663-b2f1-a65ea7b78eed/ManualforNontidal_WESPACv2_March2018.pdf

**Carbon Sequestration:** The effectiveness of a wetland both for retaining incoming particulate and dissolved carbon, and through the photosynthetic process, converting carbon dioxide gas to organic matter (particulate or dissolved), and to then retain that organic matter on a net annual basis for prolonged periods while emitting little or no methane (a potent "greenhouse gas").

In Table 2, the combination of functions that make up the different grouped functions that are rated by WESP are listed.

Table 2. Wetland Functions Contributing to WESP-AC Grouped Wetland Function Scores (Adamus, 2018)

| **Grouped Function** | **Wetland Functions Contributing to Grouped Function Scoring** |
|---|---|
| Hydrologic Group | • Water Storage & Delay |

| | |
|---|---|
| Water Quality Support Group | • Sediment Retention and Stabilization<br>• Phosphorus Retention<br>• Nitrate Removal & Retention<br>• Carbon Sequestration |
| Aquatic Support Group | • Stream Flow Support<br>• Aquatic Invertebrate Habitat<br>• Organic Nutrient Export<br>• Water Cooling |
| Aquatic Habitat Group | • Anadromous Fish Habitat<br>• Resident Fish Habitat<br>• Amphibian & Reptile Habitat<br>• Waterbird Feeding Habitat<br>• Waterbird Nesting Habitat |
| Transition Habitat Group | • Songbird, Raptor & Mammal Habitat<br>• Plant Habitat<br>• Pollinator Habitat |

In the analysis of results, an emphasis was placed on portraying the functional scores generated by WESP-AC as these demonstrate the ecosystem services provided by the wetlands that were assessed. Scores for each function were sorted from highest to lowest to provide a quick reference for municipal staff when considering each function.

Wetlands selected by Torbay staff in areas facing development pressure were individually highlighted for their consideration, with discussion and recommendations to follow. Examples of individual wetlands within development areas assessments were also completed to give staff a model to follow when doing their own independent assessments using the provided WESP data. These can be found in the Appendix A. Scores for each individual wetland are provided in Appendix B.

An accompanying spatial dataset of WESP scores for each wetland assessed will be provided later for town use.

Sites that may have potential for conservation were identified based on ease of creation via slight alterations to buffers around trail networks, potential incorporation into new developments, and proximity to town owned infrastructure. Other factors include natural beauty, recreation

(Example: birdwatching), uniqueness, size and to preserve a natural asset that provides services to the municipality.

For reference as these terms are used throughout this report, a description of wetland classes based on the Canadian standard for classifying wetlands is provided, in Table 3, below.

Table 3. Wetland Classes as per the Canadian Wetland Classification System (National Wetlands Working Group, 1997)

| **Wetland Class** | **Description** |
|---|---|
| Bog | Peatlands that have deep deposits (>40 cm) of poorly decomposed organic material (referred to as peat). They receive water from precipitation and are not influenced by groundwater. *Sphagnum* dominated vegetation is typical. |
| Fen | Peatlands with deep organic (peat) deposits (>40 cm) and are influenced by slow, lateral water movement. Water sources have been in contact with nutrient-rich surface and/or groundwater. Fens can be treed, shrubby or open. |
| Swamp | Peat or mineral wetland dominated by woody plants often >1m tall. Swamps are a diverse group of wetlands occurring in a variety of landscapes. Soils are predominantly mineral based although the presence of peat can occur in some settings. They are often transition areas between upland forest and other wetland areas and typically have hummocky ground that may contain pools of water. Most commonly recognized as shoreline areas of streams, lakes and floodplains, swamps are either treed or shrubby. |
| Marsh | Often found between open water and shorelines. Water levels fluctuate seasonally, and water sources come from precipitation and associated run-off, groundwater and stream inflow. Vegetation dominated by emergent plants, forbs, graminoids or shrubs. Salt marshes are tidally influenced. |
| Shallow Open Water | Wetlands with free surface water depths less than two metres deep with less than 25 percent of the surface containing emergent or woody plants. Floating-leaved and submerged aquatic vegetation are usually dominant. |

## Results

The following is a summary of the scores for all wetlands in all the function categories, as well as Wetland Sensitivity (Sens), Ecological Condition (EC), and Wetland Stressors (STR), which fall under the category of Benefits.

Individual examinations of the functions of wetlands in areas slated for development are also included in this section and examples of more in-depth assessments have also been included (in the Appendix) as a guide for staff when considering developing around specific wetlands.

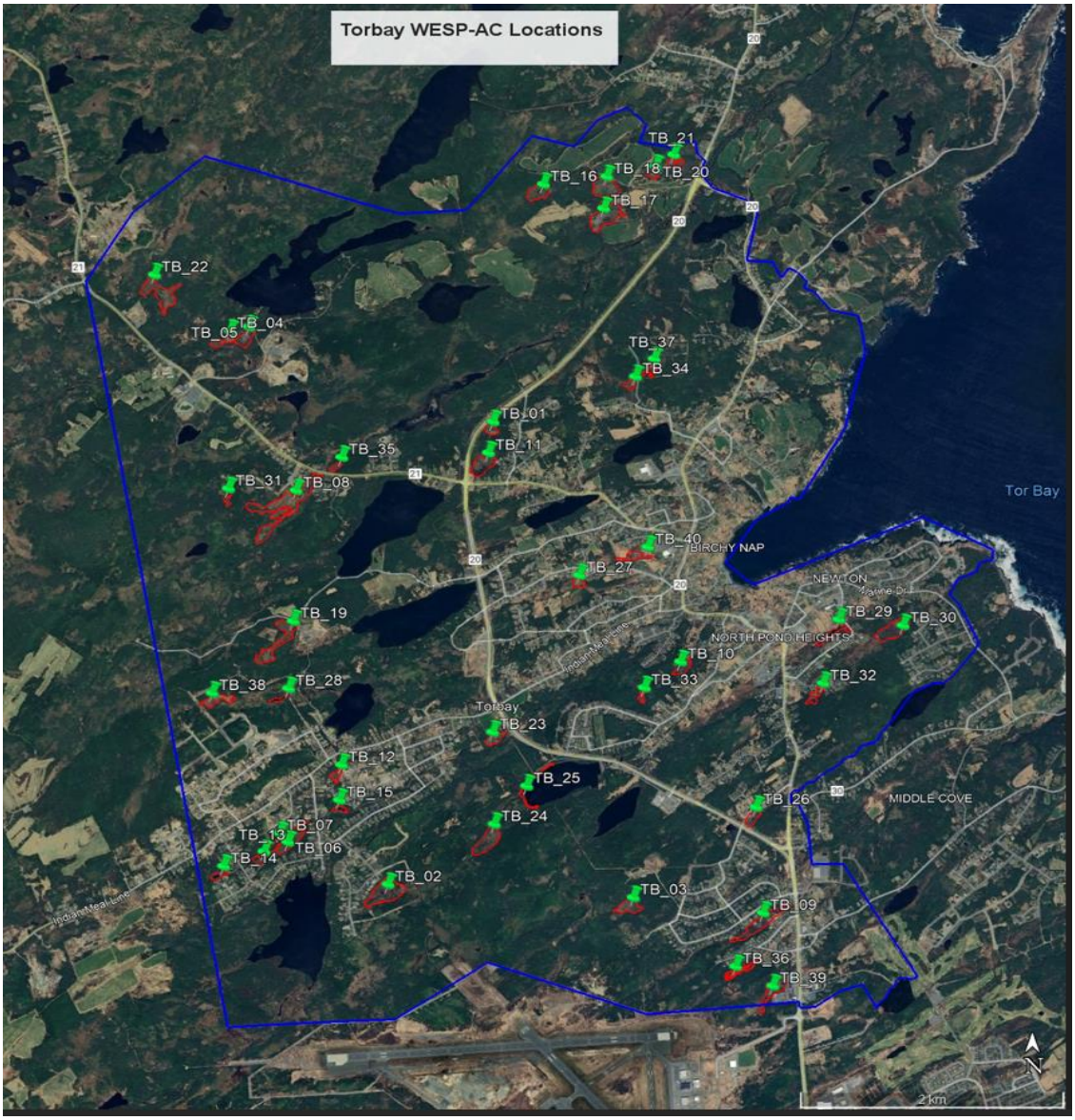


Figure 2: Map of Torbay WESP-AC Locations

## Water Storage & Delay:

The effectiveness for storing runoff or delaying the downslope movement of surface water for long or short periods, and in doing so to potentially influence the height, timing, duration, and frequency of inundation in downstream or downslope areas.

Potential Benefits: Flood control, maintain ecological systems.

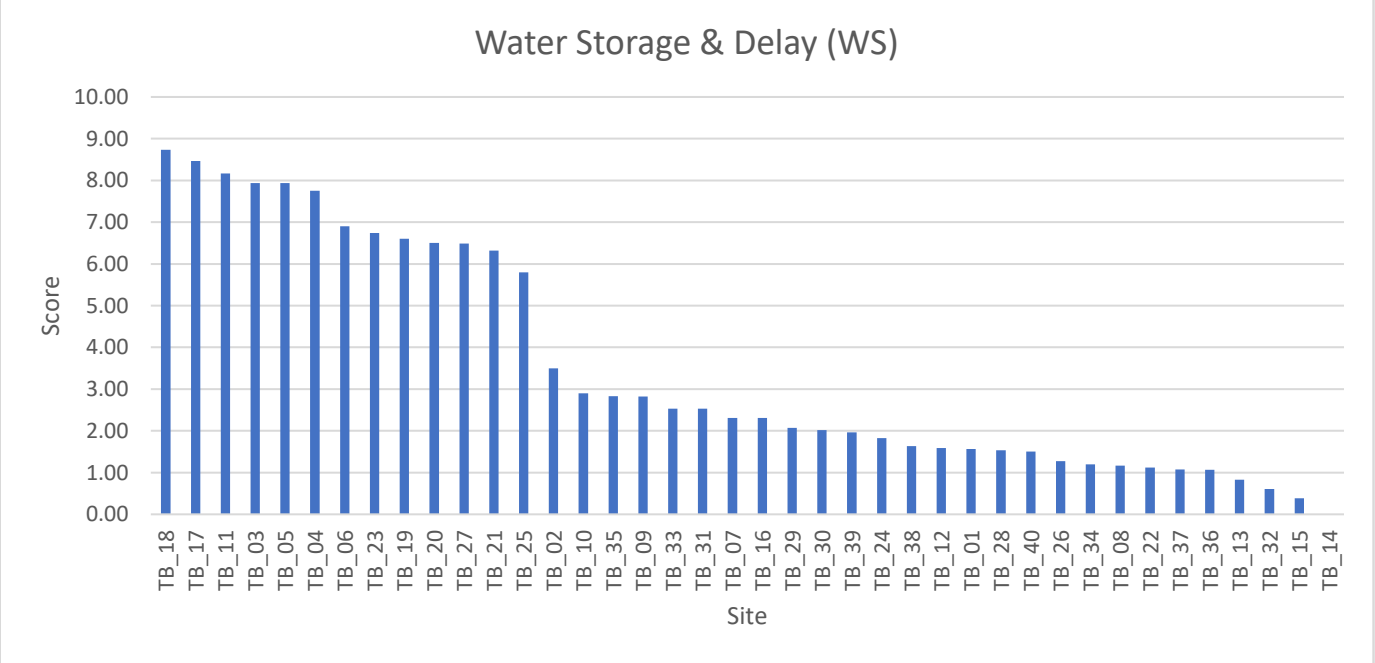


Figure 3. Wetland Scores for Water Storage and Delay Function

In the category of Water Storage and Delay, 13 of 40 wetlands scored either high or moderate for this function. Wetlands that would be classified as peat bogs perform this function the best.

## Stream Flow Support:

The effectiveness for contributing water to streams especially during the driest part of a growing season. This is important for fish passage and overall ecological support.

Potential Benefits: Support for fish and other aquatic life.

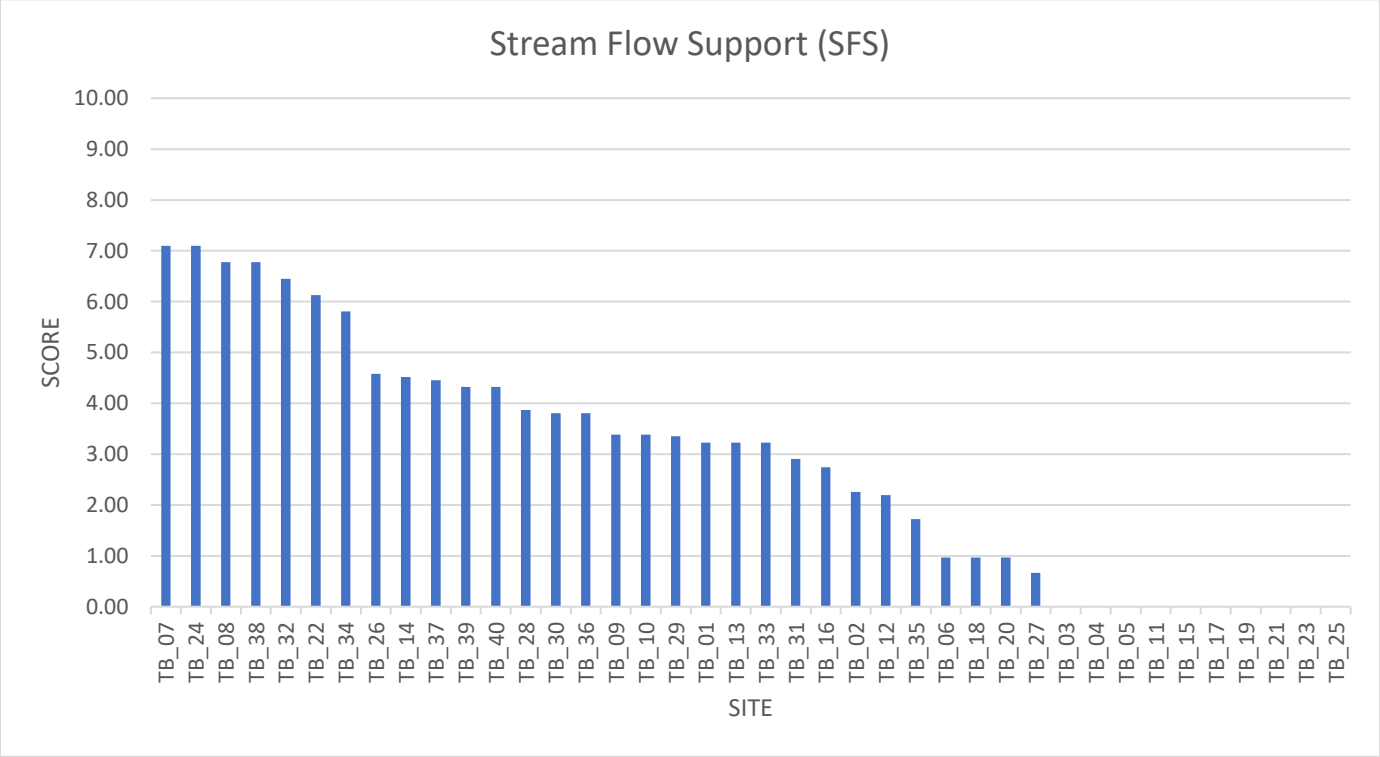


Figure 4. Wetland Scores for Stream Flow Support Function

In the category of stream flow support, 10 of 40 wetlands scored high for this function.

## Sediment Retention and Stabilization:

The effectiveness for intercepting and filtering suspended inorganic sediments thus allowing their deposition, reducing energy of waves and currents, resisting excessive erosion, and stabilizing underlying sediments or soil.

Potential Benefits: Maintain quality of receiving waters. Protect shoreline structures from erosion.

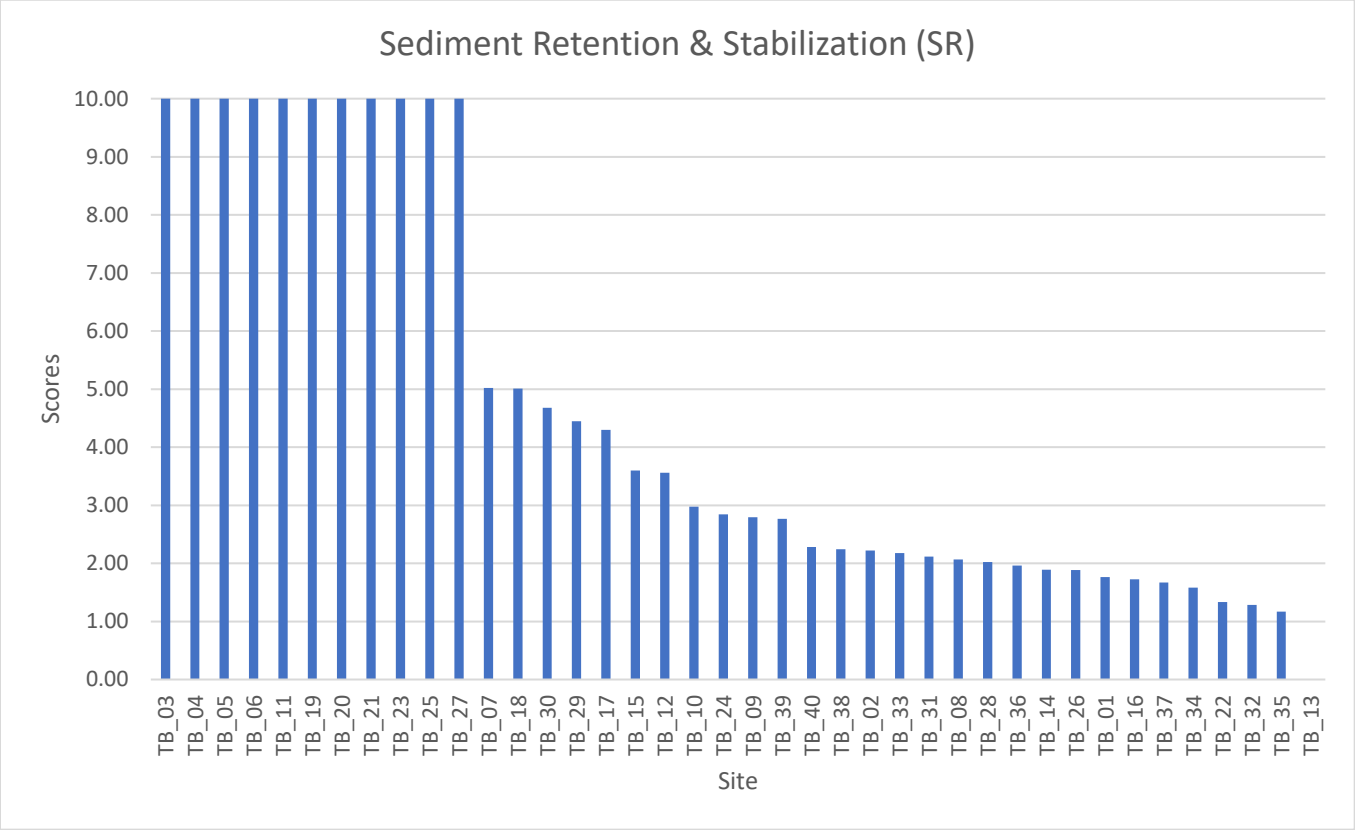


Figure 5. Wetland Scores for Sediment Retention and Stabilization Function

In the category of Sediment Retention and Stabilization, 11 out of 40 wetlands scored as high.

## Phosphorus Retention:

The effectiveness for retaining phosphorus for extended periods (>1 growing season) as a result of chemical adsorption and complexation, or from translocation by plants to belowground zones, or decay-resistant peat such that there is less potential for physically, or chemically remobilizing phosphorus into the water column. Phosphorus retention is important because an excess of this nutrient in aquatic environments can lead to harmful algae blooms.

Potential Benefits: Maintain quality of receiving waters.

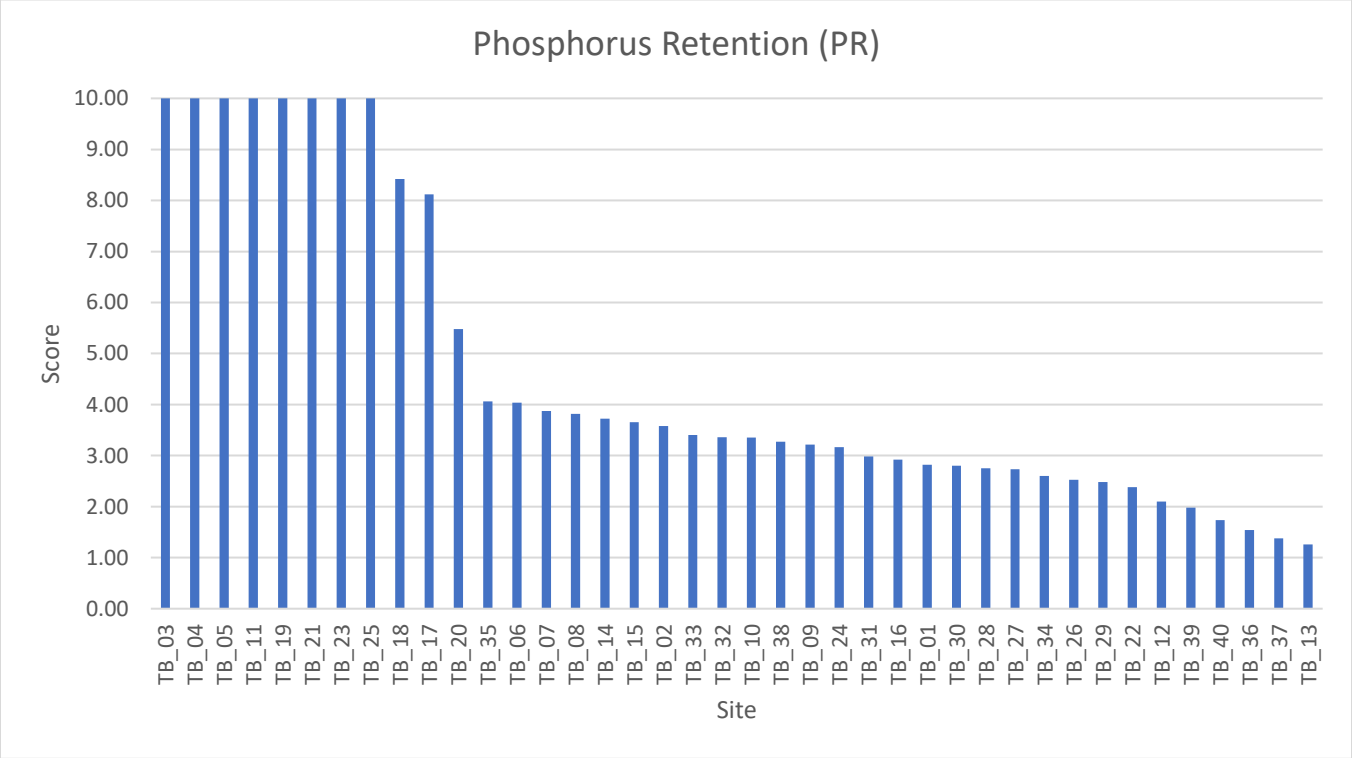


Figure 6. Wetland Scores for Phosphorus Retention Function

In the category of Phosphorus Retention, 8 out of 40 wetlands scored as high.

## Water Cooling:

The effectiveness for maintaining or reducing the temperature of downslope waters.

Potential Benefits: Support cold-water fish and other aquatic life.

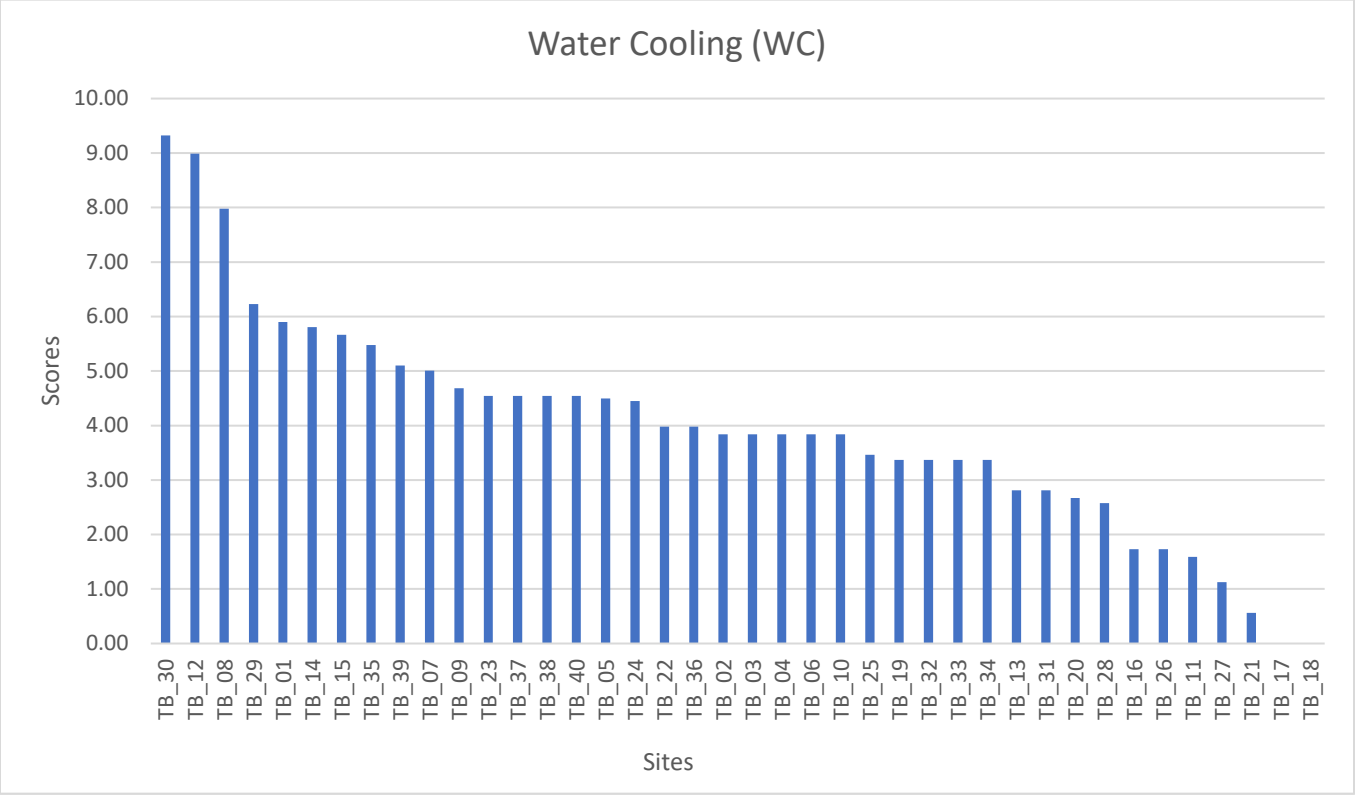


Figure 7. Wetland Scores for Water Cooling Function

In the category of Water Cooling, 17 out of 40 wetlands scored high for this function.

## Nitrate Removal & Retention:

The effectiveness for retaining particulate nitrate and converting soluble nitrate and ammonia to nitrogen gas, primarily through the microbial process of denitrification, while generating little or no nitrous oxide (a potent "greenhouse gas").

Potential Benefits: Maintain quality of receiving waters.

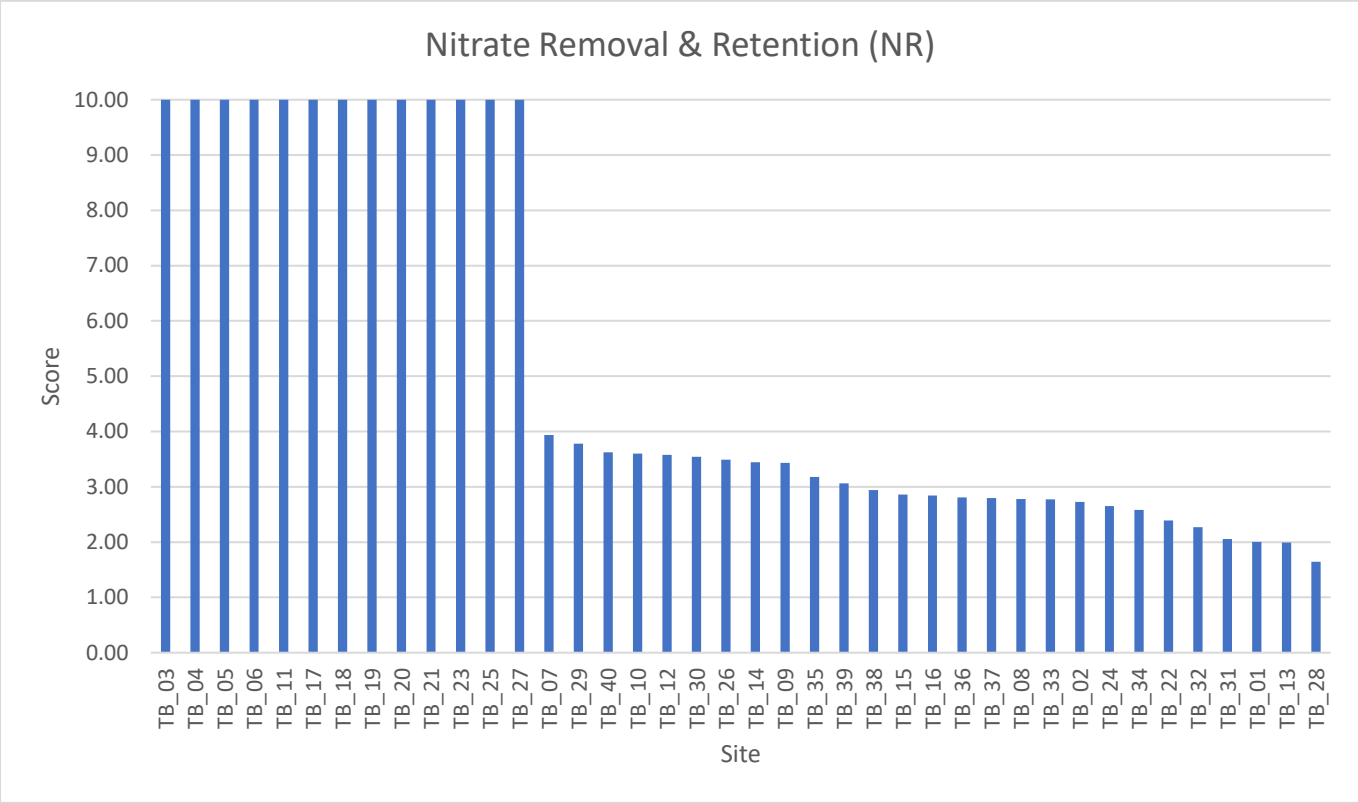


Figure 8. Wetland Scores for Nitrate Removal and Retention Function

In the category of Nitrate Removal and Retention, 14 out of 40 wetlands scored as high.

## Carbon Sequestration:

The effectiveness of a wetland both for retaining incoming particulate and dissolved carbon, and through the photosynthetic process, converting carbon dioxide gas to organic matter (particulate or dissolved), and to then retain that organic matter on a net annual basis for prolonged periods while emitting little or no methane (a potent "greenhouse gas").

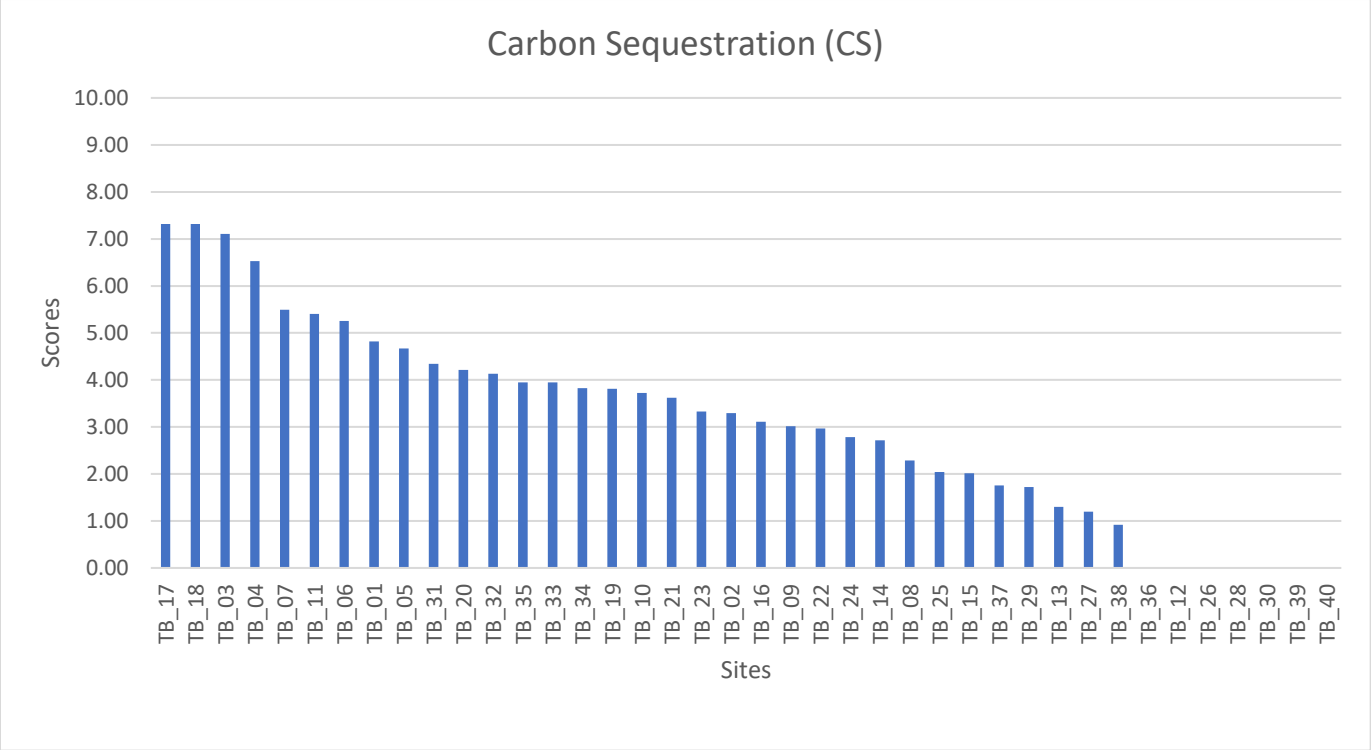


Figure 9. Wetland Scores for Carbon Sequestration Function

In the category of Carbon Storage, 3 out of 40 scored high. It is worth noting that research into the carbon sequestration capacity of diverse types of wetlands is currently ongoing in regions across the country.

## Organic Nutrient Export:

The effectiveness of a wetland at producing, cycling, and exporting organic matter downstream. Organic nutrients exported from wetlands provide essential support for downstream estuarine food webs. Wetlands that provide this function have a surface water outflow and soil with high organic carbon content (e.g., peat).

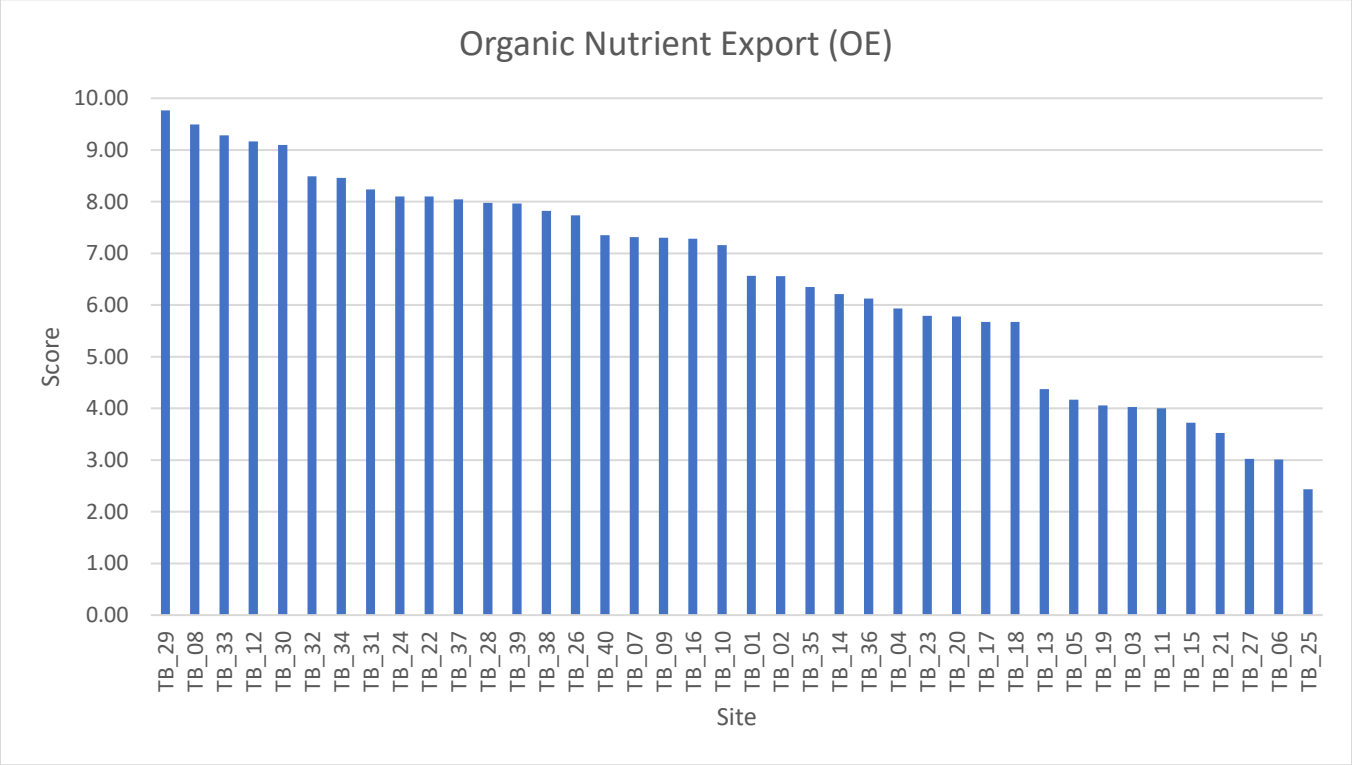


Figure 10. Wetland Scores for Organic Nutrient Export Function

In the category of Organic Nutrient 20/40, (50%) of all wetlands scored high for this function.

## Resident Fish Habitat:

These wetlands have habitat features that support a diversity and abundance of native resident fish. Such habitat features could include connectivity with the surrounding waterscape, high nutrient, and oxygen availability, suitable vegetation cover and shade, and few known stressors such as toxic contaminants.

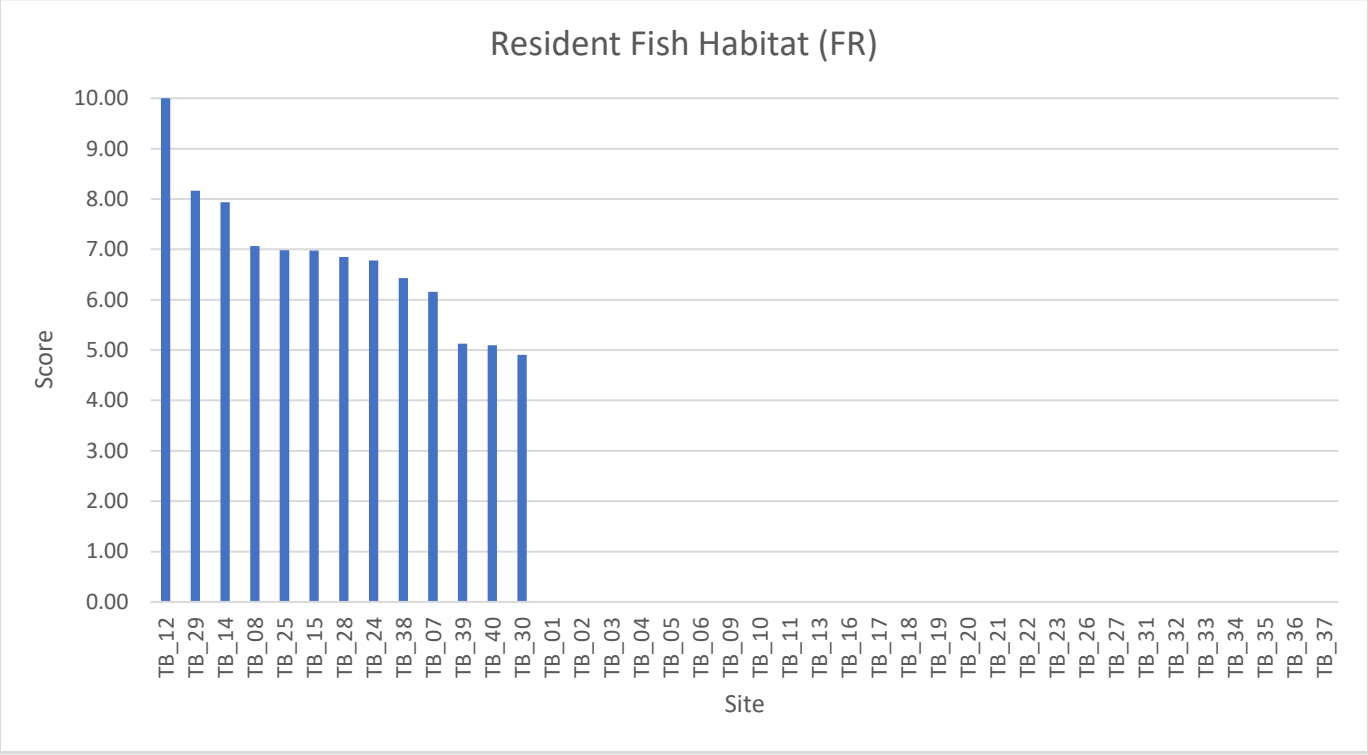


Figure 11. Wetland Scores for Resident Fish Habitat Function

In the category of Resident Fish Habitat (FR), 13 out of 40 wetlands met the requirements to support resident fish. Of these, 10/40 scored as high for this function.

## Aquatic Invertebrate Habitat:

These wetlands support an abundance and diversity of invertebrates which spend all or part of their life cycle underwater, on the water surface, or in moist soil. Many wetlands support aquatic invertebrate species not typically found in streams or lakes, thus contributing to local biodiversity. High productivity (food sources) and the structure provided by submerged, floating, and emergent vegetation provide habitat for invertebrates.

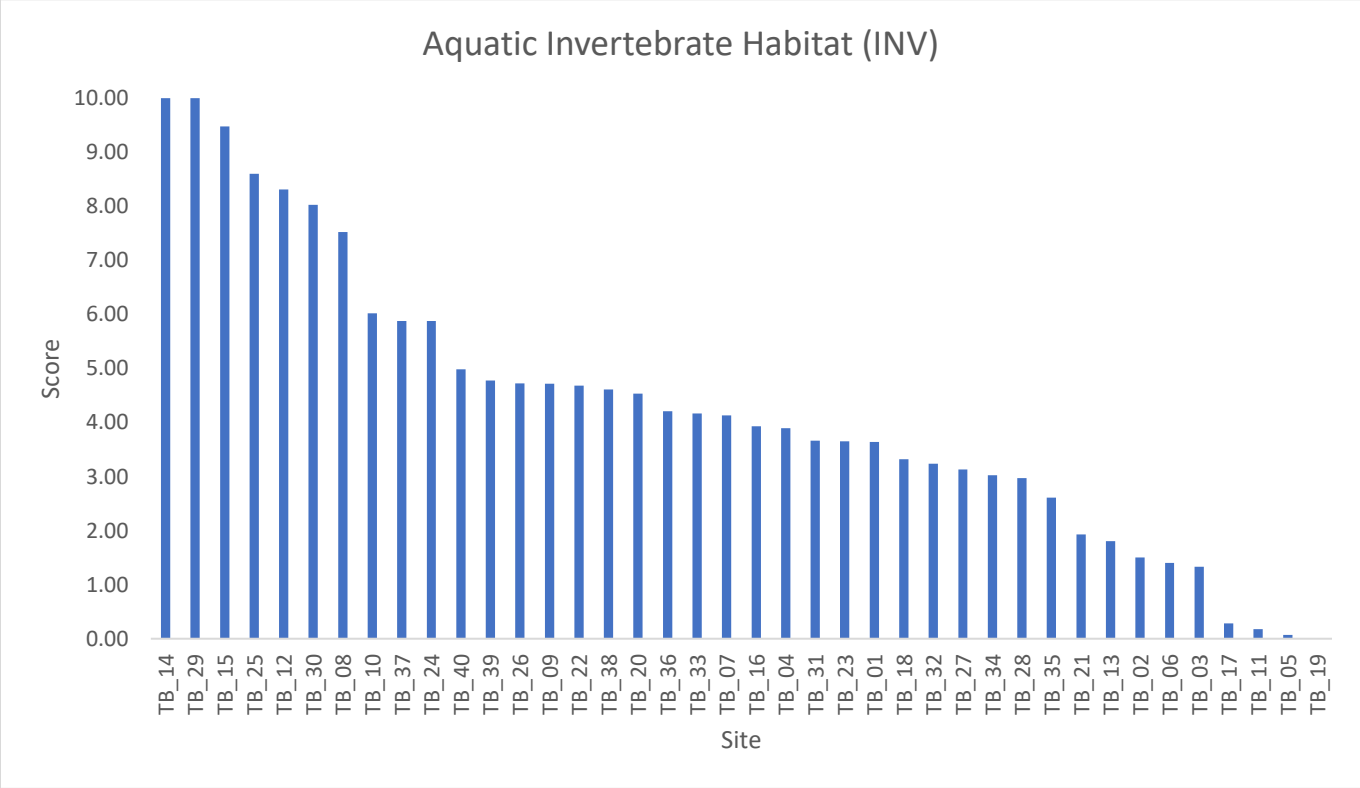


Figure 12. Wetland Scores for Aquatic Invertebrate Habitat Function

For the function of Aquatic Invertebrate Habitat, 10 out of 40 wetlands scored high.

## Amphibian Habitat:

Wetlands that can support an abundance and diversity of native amphibians (frogs, toads). Many of these species occur almost exclusively in wetlands, due to high productivity of algae and invertebrates, and the shelter provided by submerged vegetation. Note that only habitats suitable for amphibians are scored in Newfoundland and Labrador as there are no native reptile species present.

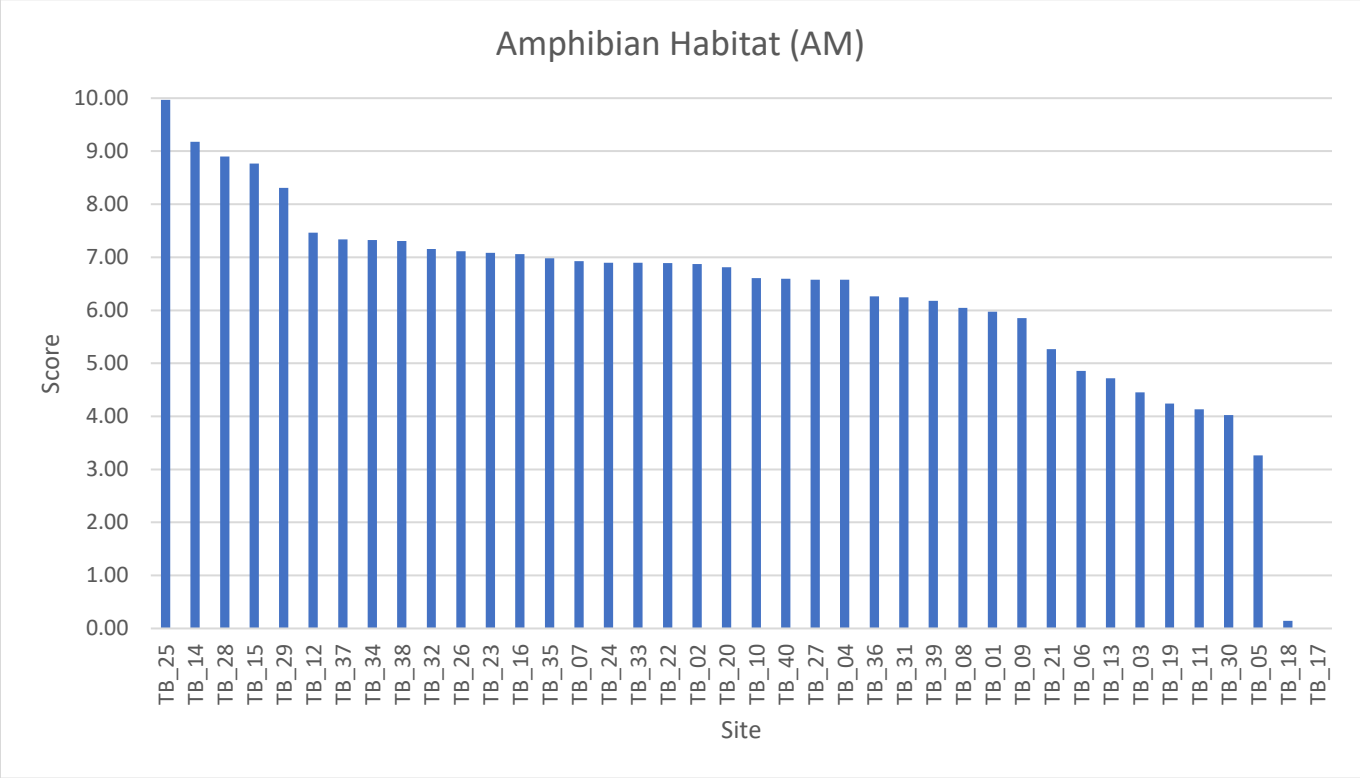


Figure 13. Wetland Scores for Amphibian Habitat Function

In the Category of Amphibian and Turtle Habitat (in Newfoundland and Labrador, only Amphibian Habitat), 14 out of 40 wetlands surveyed scored as high.

## Waterbird Feeding Habitat:

These wetlands have habitat features that support a diversity and abundance of feeding waterbird species, such as ducks and shorebirds, particularly as a stopover site during migration or for over wintering. Such habitat features include nearby ponds or lakes, food and nutrient availability, a flat surface, ponded water, and plenty of emergent vegetation cover. There are likely minimal stressors that are harmful for waterbirds, including high concentrations of metals and other contaminants.

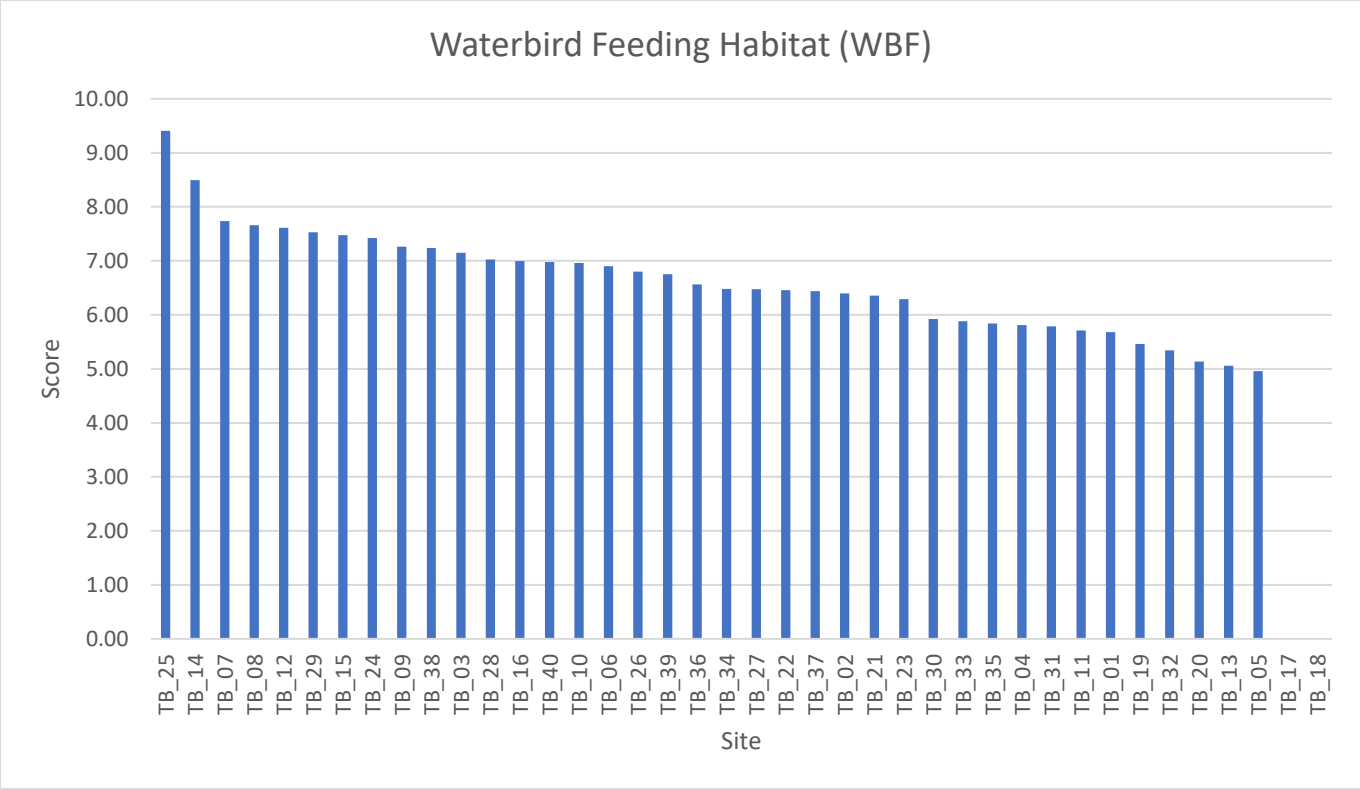


Figure 14. Wetland Scores for Waterbird Feeding Habitat Function

Of all 40 wetlands surveyed in Torbay, 38 out of 40 surveyed as having characteristics compatible with Waterbird Feeding Habitats. 11 out of 40 scored as high for this function, with the remaining 27 scoring in the moderate range.

## Waterbird Nesting Habitat:

These wetlands have habitat features that support a diversity and abundance of nesting waterbird species, such as ducks, shorebirds, seabirds, or herons. Such habitat features could include surface water, intermediate aquatic plant cover, mild water level fluctuation, tree snags, and a wide vegetated buffer.

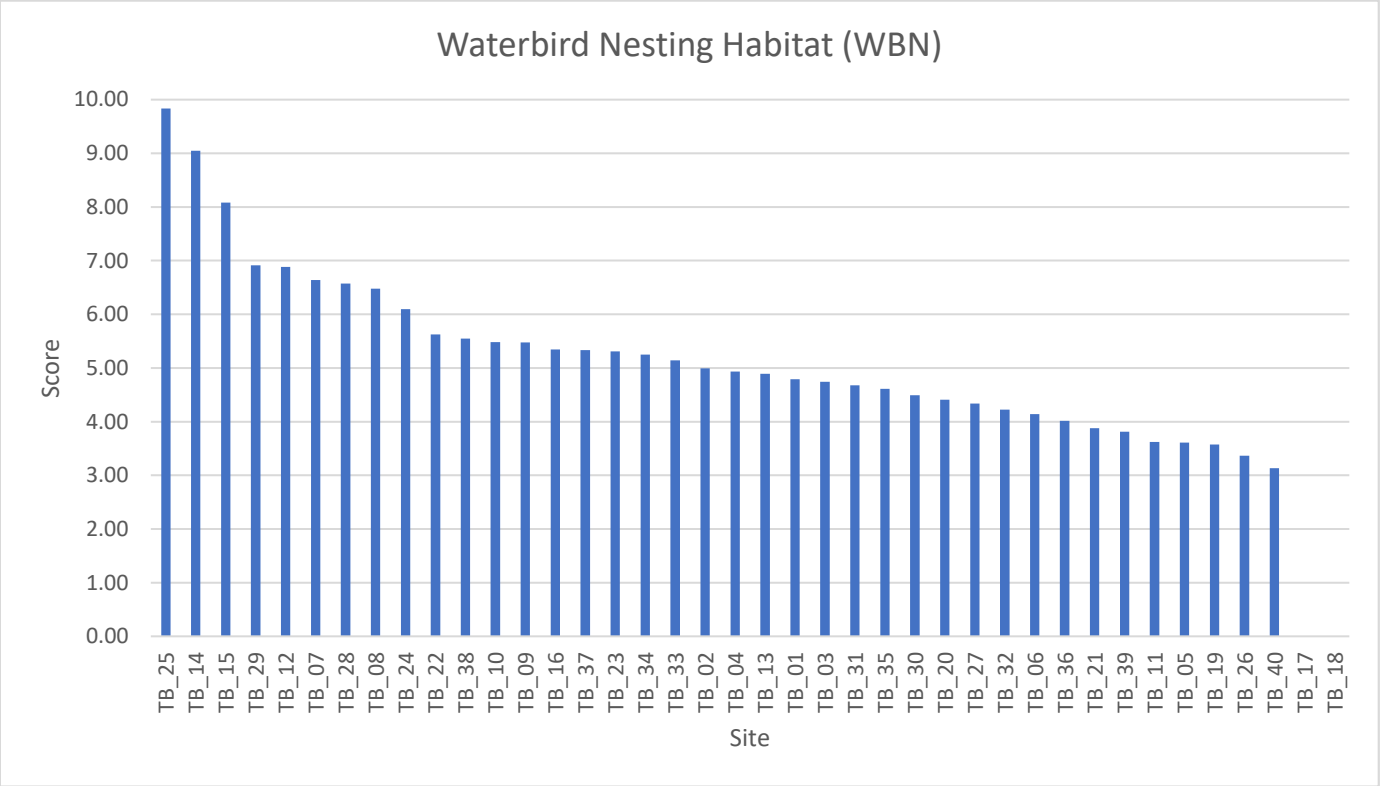


Figure 15. Wetland Scores for Waterbird Nesting Habitat Function

Of all 40 wetlands surveyed in Torbay, 38 out of 40 surveyed as having characteristics compatible with Waterbird Nesting Habitats. 8 out of 40 scored as high with 30 scoring in the moderate category.

## Songbird, Raptor & Mammal Habitat:

The capacity to support or contribute to an abundance or diversity of native songbird, raptor, and mammal species and functional groups, especially those that are most dependent on wetlands or water. These wetlands have habitat features that support a diversity and abundance of songbirds, raptors, and mammals. Such habitat features could include a mix of open water and land cover, a wide vegetated buffer, tree snags, downed wood, varied microtopography, mature trees and diverse shrub cover.

Potential Benefits: Maintain regional biodiversity.

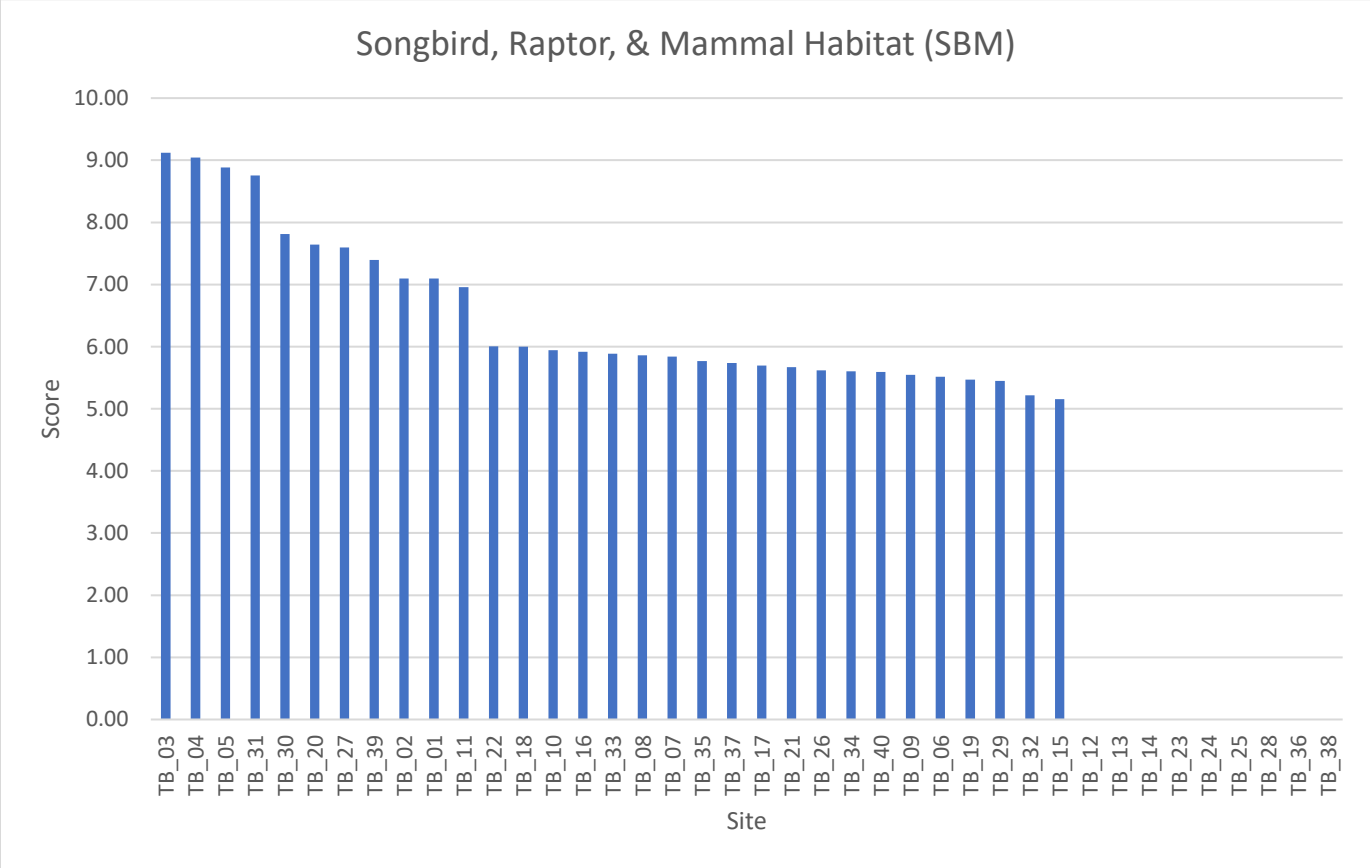


Figure 16. Wetland Scores for Songbird Raptor and Mammal Habitat Function

In the Songbird, Raptor, Mammal habitat category, 5 out of 40 sites scored as high and 26 out of 40 sites scored as moderate.

## Pollinator Habitat:

The capacity to support or contribute to a diversity of native, hydrophytic, vascular plant species, communities, and/or functional groups, and the pollinating insects linked to them. These wetlands have habitat features that support pollinating insects and birds. It will likely contain a diversity of flowering plants and suitable nesting habitat like tree snags, ground cover, downed wood, large trees and/or cliffs. The wetland is not persistently flooded.

Potential Benefits: Maintain regional biodiversity and food chains.

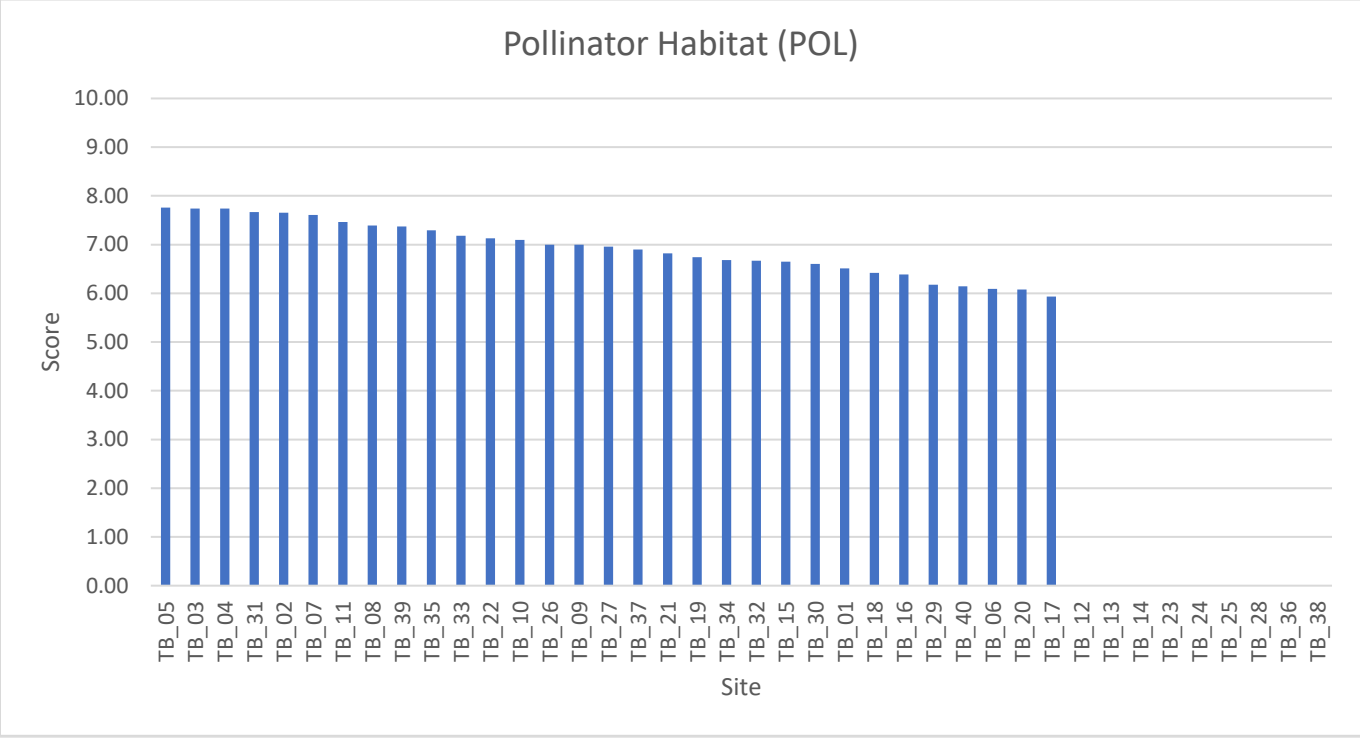


Figure 17. Wetland Scores for Pollinator Habitat Function

In the Pollinator Habitat category, 6 out of 40 sites scored high for this habitat type.

## Native Plant Habitat:

Native Plant Habitat - These wetlands have the capacity to support a diversity of native plants, especially those that are most dependent on wetlands or water. Many plants grow only in wetlands; this wetland therefore contributes to local biodiversity, and benefits food webs and energy flow.

Potential Benefits: Maintain regional biodiversity and food chains.

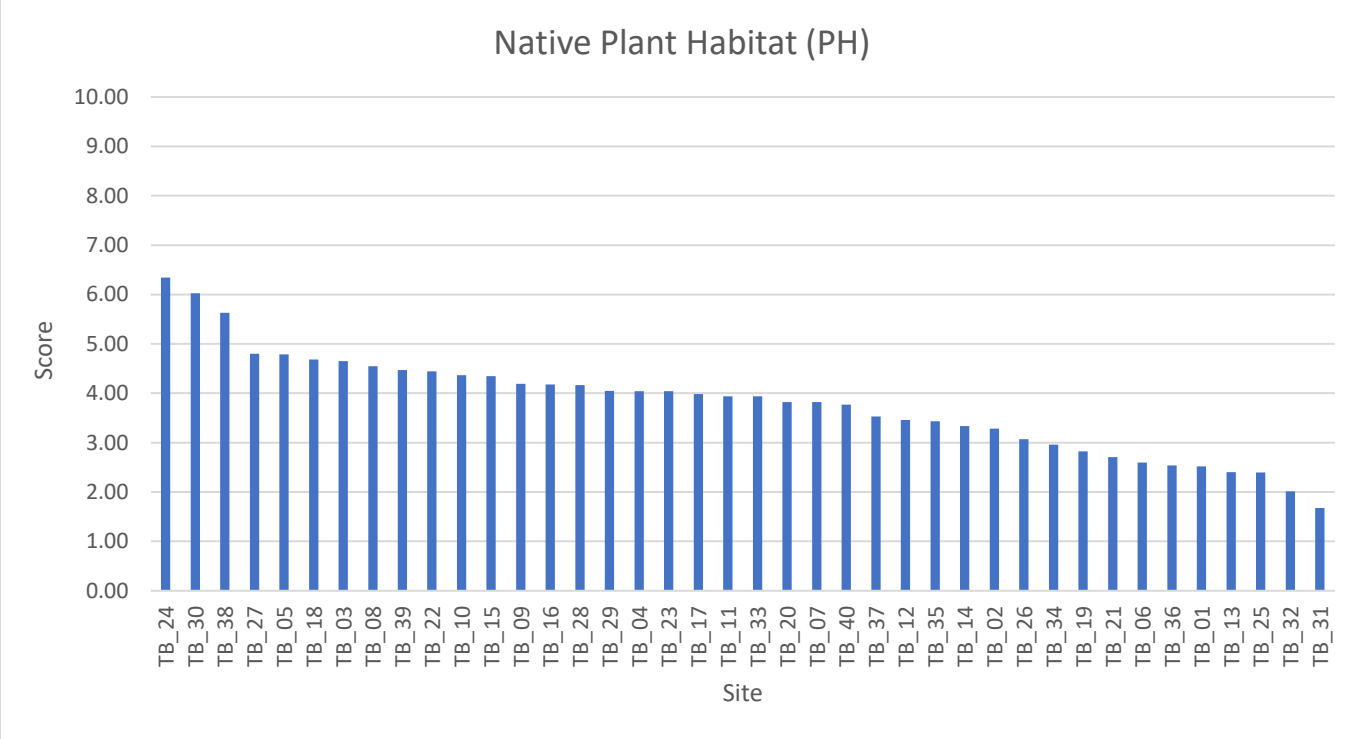


Figure 18. Wetland Scores for Native Plant Habitat Function

All wetlands scored in the category of Native Plant Habitat, with one site scoring high.

## Wetland Ecological Condition:

The integrity or health of a wetland, as defined operationally by its vegetation composition and richness of native species. More broadly, the similarity of a wetland's structure, composition, and function with that of a reference wetland of the same type and landscape setting, operating within the bounds of natural or historical disturbance regimes.

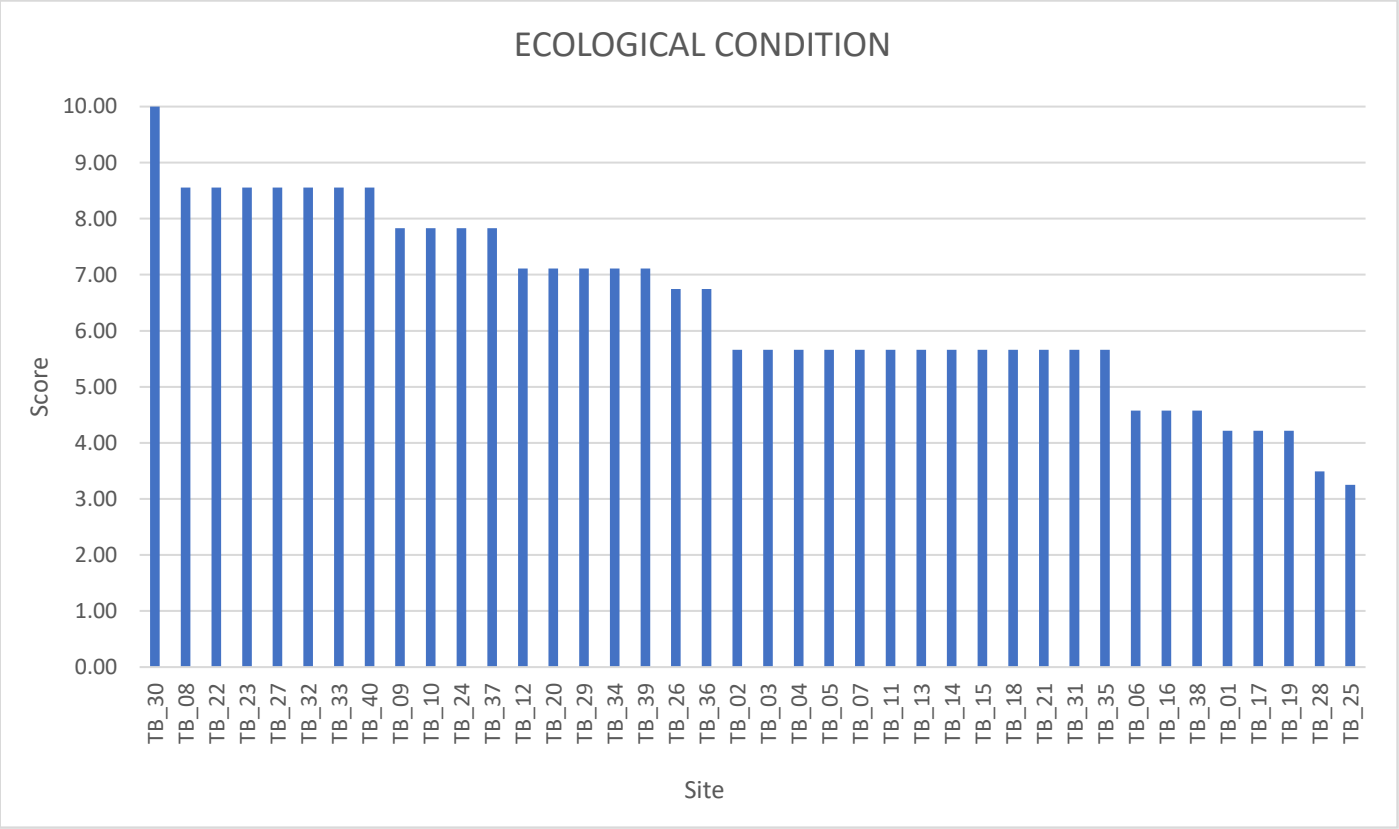


Figure 19. Wetland Scores for Ecological Condition

In the Category of Ecological Condition, 19 wetlands scored as high. Most sites assessed scored either high or moderate for Ecological Condition, with only two scoring low.

## Wetland Stressors:

The degree to which a wetland is, or has recently been altered by, or exposed to risk from factors capable of reducing one or more of its functions and which are primarily human related. A higher score indicates wetland is subject to more stress.

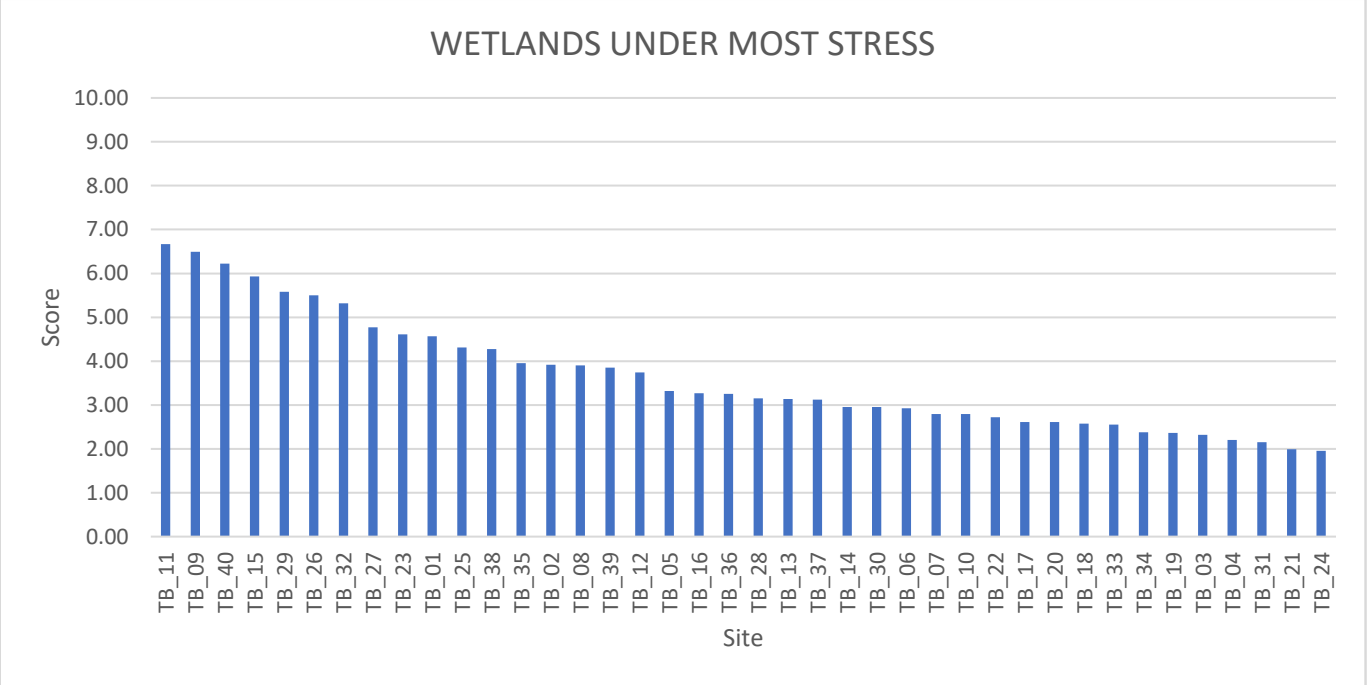


Figure 20. Scores Indicating Wetland Stress

In the Wetland Stressors category, 7 out of 40 wetlands scored as high.

## Wetland Sensitivity:

A wetland's lack of intrinsic resistance and resilience to human and natural stressors (Niemi et al., 1990), including but not limited to changes in water chemistry, shade, frequency and duration of inundation or soil saturation, water depth, biological invasion, habitat fragmentation, and others (higher score = more sensitive).

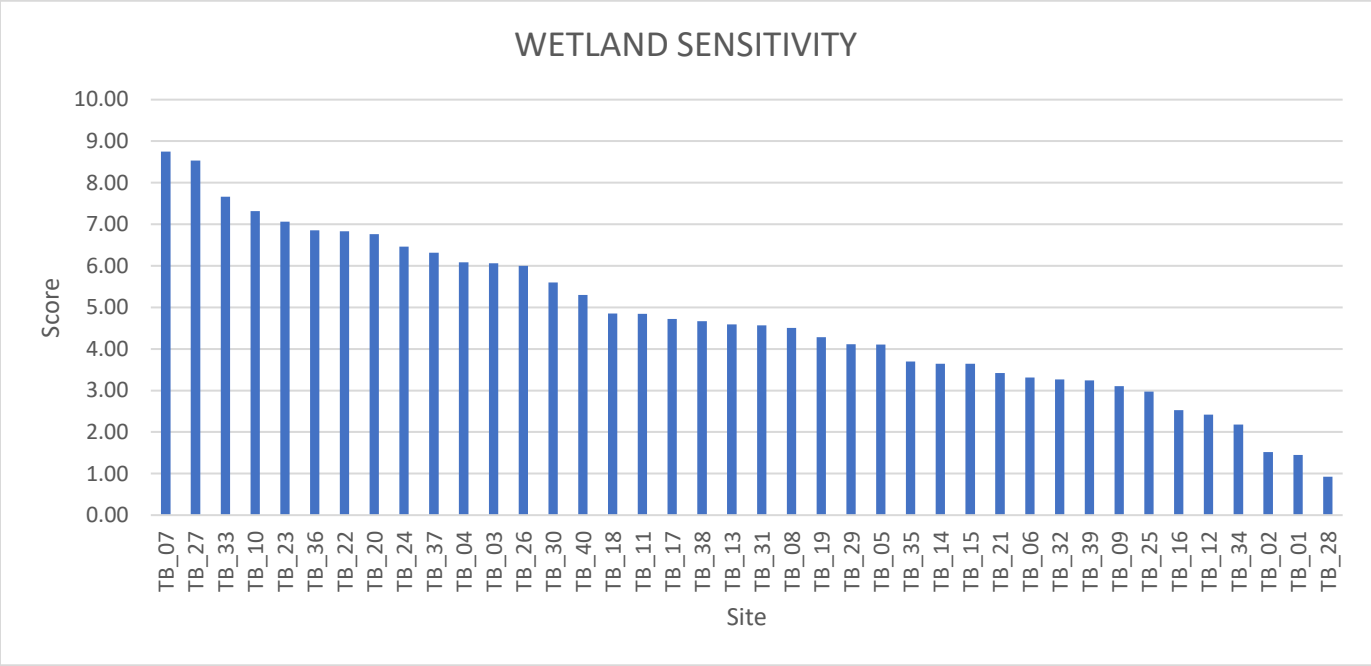


Figure 21. Scores Indicating Wetland Sensitivity

13 out of 40 wetlands ranked as high for wetland sensitivity.

# Wetlands in Developing Areas:

## Cedarwood (South) (TB_02)

The Cedarwood (South) wetland (TB_02), is a semi developed subdivision with a large fen wetland complex in the middle of the remaining proposed development area. Cedarwood South scores high for Pollinator Habitat in the functional category, and Water Storage and Delay, Nitrate Removal & Retention, Hydrologic Group, and Water Quality Support Group in the benefit categories.

Figure 22. Cedarwood (South) (TB_02)

This wetland is part of a large, multi-wetland complex that stretches from TB_02 to North Pond to Western Island Pond, a protected SAM site. This multi-wetland complex of which Cedarwood South is a part, with one providing the functions that another may not, ensuring that the water entering both North Pond water reservoir and SAM Conservation Area, Western Island Pond, is filtered naturally without construction of engineered water quality infrastructure.


Figure 23. Chain of interconnected complexes (TB_24 North Pond &TB_25 North Pond) leading to TB_02 Cedarwood Drive.

## Whitty's Lane/ Gully Road (West/East) TB_34& TB_37

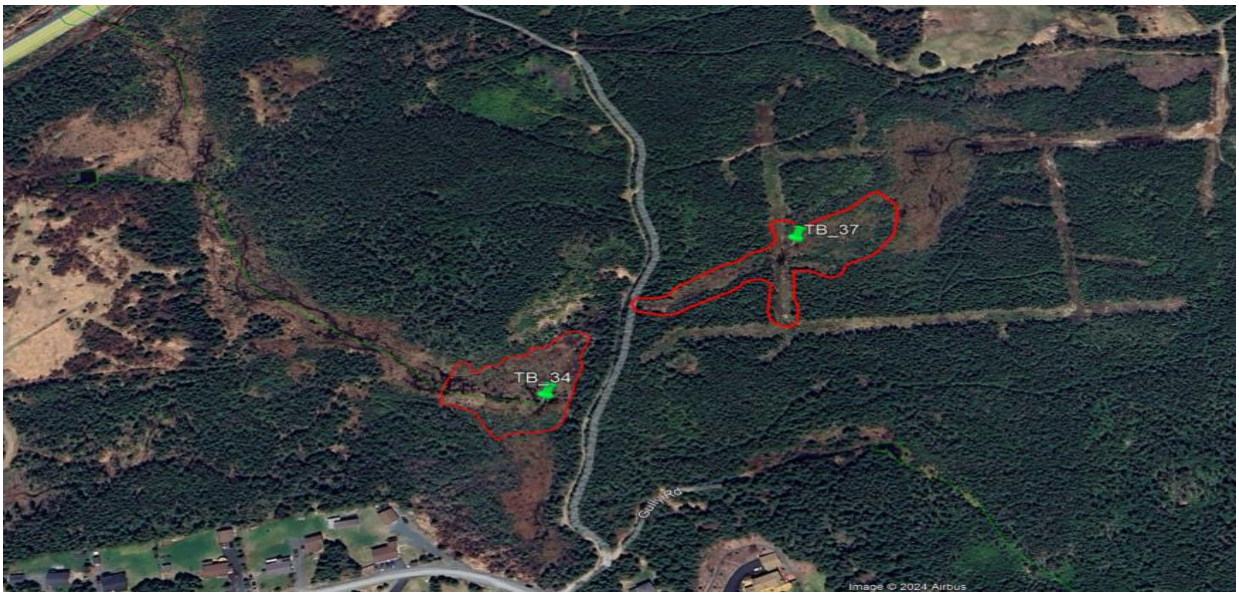


Figure 24. Overview of Whitty's Lane/Gully Road (West/East) (TB_34&TB_37)

The Gully Road wetland complexes identified as West (TB_34) and East (TB_37) represent two large wetland complexes that were once one large complex of wetlands. The Witty's Lane/Gully Road (west) wetland remains largely intact, with little to no disturbance from construction. However, the Gully Road (East) wetland has been compacted and disturbed when the right of way was originally cut sometime between 2009 and 2011 based on satellite imagery.

Despite the changes to the Gully Road (East) wetland, it still scores high for Stream Flow Support, Water Cooling, Organic Nutrient Export, Aquatic Invertebrate Habitat, Amphibian Habitat, and Aquatic Support Group in the functions categories. It is worth noting that the benefit scores for all but 4 categories rank as high, most likely because of the development that has already taken place. Gully Road (East) still scores high for Ecological Condition despite the alterations that have taken place.

Figure 25. TB_37 (Whitty's Lane/Gully Road East) Facing Northeast

Figure 26. TB_37 Whitty's Lane/Gully Road East Facing Southeast

Figure 27. TB_37 Whitty's Lane/ Gully Road East Facing Northwest

## Whitty's Lane/Gully Rd (West) TB_34


Figure 28. TB_34 Whitty's Lane/Gully Road (West)

Whitty's Lane/Gully Road (West) (TB_34) is a large fen class wetland that scores high for the following functions: Stream Flow Support, Organic Nutrient Export, Amphibian Habitat, and Aquatic Support Group. This large complex is connected to Whitty's Lane/ Gully Road (East) via a culvert and drains mainly towards the Torbay Bypass Road. It is in excellent Ecological Condition and shows little evidence of human impacts aside from evidence of some ATV use.

Figure 29. TB_34 Whitty's Lane/ Gully Road (West)

Figure 30. TB_34 Whitty's Lane/ Gully Road (West)

## Mayflower Drive (Southeast) TB_08


Figure 31. Mayflower Drive (Southeast) (TB_08)

The Mayflower Drive wetland is a large fen class wetland in excellent Ecological Condition that scored high for the following functions: Stream Flow Support, Water Cooling, Organic Nutrient Export, Freshwater Fish Habitat, Aquatic Invertebrate Habitat, Water Bird Feeding, Water Bird Nesting, Aquatic Support Group and Aquatic Habitat Group.

This wetland is another of the choices for potential conservation because of its beauty and because it has not been fully developed yet, it could potentially be encircled by a walking trail and buffer, ensuring this pristine habitat is preserved.

This wetland is another prime example of where a professional delineation to identify wetland boundaries would help developers strategically design any new developments to minimize impacts on the wetland while maintaining the maximum benefits it provides. This development also offers the opportunity to apply some of the best management practices suggested in this report.

Figure 32. Mayflower Drive (Southeast) TB_08

Figure 33. Mayflower Drive (Southeast) TB_08

# Discussion

During the 40 assessments of wetlands in Torbay all the wetlands assessed appeared to be in excellent Ecological Condition. Despite the assessment sites' proximity to urban areas no garbage was found in any wetland visited, and the plant and animal life appeared to be thriving. This is further evidenced by the scores in the wetland Ecological Condition category where 38 out of 40 sites either scored high or moderate.

It is worth mentioning that in the categories of Water Bird Feeding Habitat and Waterbird Nesting Habitat 38 sites scored either high or moderate. This is important as it aligns with the objectives of Conservation Areas as described by SAM Stewardship Agreements where Conservation Areas are:

"areas of significance to waterfowl, generally providing prime habitat for nesting and brood rearing…Together these areas support a diversity of avian species, including waterfowl, songbirds, and other wildlife." (Town of Torbay Municipal Plan, 2015).

Wetlands as significant habitats for songbirds, raptors, and mammals are further evidenced by the scores in the Songbirds, Raptors and Mammal habitat category, where 31 of 40 sites assessed either scored as high or moderate.

Because most homes in Torbay are on well water (60%), wetlands within the community are of increased significance for their contribution to surface and groundwater flows. Although WESP-AC does not directly score for groundwater recharge as there is no observable indicator that can be rapidly assessed, studies have shown that wetlands play a vital role in this regard. There is a general trend for scores of Functions associated with the Hydrologic and Water Quality Support Groups to increase when considered through the lens of benefits. This correlation is linked to wetlands' ability to purify water and retain water on the landscape during periods of drought as well as their urban location. Retaining wetlands in urban areas is integral to maintaining the quality of groundwater sources for wells. It is also important to maintain the interconnectivity between wetland complexes as is explained below.

The integration of wetlands into Torbay's urban areas was very well done, with appropriately sized culverts allowing the interconnectivity of sites to remain intact. However, we did notice that the hydrology of some sites was negatively affected due to poor development practices. Furthermore, there is some confusion as to how to determine what a wetland is from the perspective of developers and how to identify wetland boundaries. Once wetland boundaries are established, a minimum 15-meter buffer around the wetlands should be adhered to. Adopting best management practices and professional delineations prior to development are the best ways to eliminate some of these issues.

## Interconnectivity of Urban Wetland Complexes


Figure 34. TB_12, TB_15, TB_07, TB_06, TB_13, and TB_14. Interconnected Wetland Complex Between Western Island Pond Drive and Skippers Landing.

Just to the Northwest of Cedarwood Drive, between Western Island Pond Drive and Skippers Landing is an excellent example of how a multi-wetland complex can exist in an urban environment. The wetlands linked in this complex are: Western Island Pond Trail (East), Western Island Pond Trail / Cherrywood (South) Skipper's Landing (East), Skipper's Landing (West), Forest River Trail/Clara's Place (South), and Woodbridge Lane (West).

This string of contiguous wetlands results in functions being repeated several times before waters reach their destination of Western Island Pond, or the ground water table. This is one of the main values in maintaining contiguity of multi-wetland complexes, especially in an urban area. Ensuring contiguity also allows many species a safe corridor through which to safely travel and live in, especially in rural areas. In a few instances, larger urban wetlands showed evidence of

moose using the wetlands for important spring/summer food sources, and as corridors to avoid roads. In this way, contiguous wetlands serve as safe travel for large and small wildlife alike.

In terms of municipal services provided by contiguous wetlands, they serve to hold immense amounts of water, slowing their speed and reducing the impact of storm events on engineered infrastructure while providing important benefits to humans and wildlife. They also help to ensure ground water aquifers are recharged, helping to purify this water as they do, an invaluable service when most residents are reliant on well water. As natural infrastructure, maintaining connectivity will help with flood prevention, water quality before entering stream systems, keeping neighborhoods cool, and providing habitat for animals and pollinators ensuring that Torbay remains ecologically robust. Allowing wetlands to exist within neighborhoods is an investment in natural infrastructure, rather than a loss of potential capital (residential space).

Many interconnected wetland complexes in Torbay turn into streams before finding their way to the Atlantic Ocean. When these connections are severed, either by poor construction practices or permitted wetland alterations, beneficial nutrients do not find their way to the ocean or other streams throughout Torbay, reducing their overall condition, and reducing their viability as fish habitat. Although most wetlands examined during our assessments were not impeded, there is some evidence of impediment that has occurred or is currently occurring during the construction of new subdivisions.

## Areas for Further Conservation

During our field work, we noticed several wetlands that would be good candidates for inclusion as Conservation Areas into the Town's zoning maps and the Municipal Stewardship Agreement. Some of the identified areas showed potential for incorporation into walking trail networks and/or the addition of signage, whereas others could be incorporated into new developments providing neighborhoods with green spaces while simultaneously protecting the wetland. They are as follows:

### Mayflower Drive (Southeast) (TB_08)

This area has yet to be developed and was one of the largest wetland complexes assessed during this project. This wetland is in excellent Ecological Condition and quite large. Were developers to incorporate this wetland into their design and create walking trails around it, it would serve both as an ideal area for recreation as well as to protect the wetland and the services it is providing the residents of this area once the subdivision is complete. This wetland represents an excellent opportunity to incorporate a wetland into municipal development both as a natural asset and recreation for residents.

Figure 35. TB_08 Mayflower Drive (Southeast) Wetland

### Forest River Trail (South) (TB_15)

Approximately 135 meters east from Western Island Pond Dr, off the Forest River trail is a small Marsh Class wetland. This picturesque marsh is obscured by a treed buffer that surrounds most of the wetland. By cutting some small view portals through the trees and adding some benches and interpretive signage, this wetland would make another excellent opportunity for education and conservation without disturbing the function of the wetland.

Figure 36. Forest River Trail (South) (TB_15)

### Western Island Pond (East) (TB_06)

Just north of the trail that starts on Western Island Pond Drive across from Concepta's Place and extends to Skippers Landing across from Wildberry Lane is the wetland identified as Western Island Pond (East)(TB_06). This is another example where, by choosing points at the narrowest sections of the buffer surrounding the wetland for installation, view portals, benches and interpretive signs would provide another spot for relaxation and education for residents.

Figure 37. Western Island Pond (EAST) (TB_06)

### Skippers Landing (West) (TB_14)

This wetland was a surprise to us. Located in the backyard of residents of Island Pond Place, this Shallow Water Class wetland is potentially the collection point for a larger wetland complex obstructed by trees and slated for development. If feasible to create a trail along the northern side of this wetland, it would make a unique location for relaxation and recreation. A professional wetland delineation would be valuable to determine the full extent of the wetland and its boundary with adjacent upland.

Figure 38. Skippers Landing (WEST) (TB_14)

### Cedarwood (South)(TB_02)

Because half of this subdivision has yet to be developed and because this large wetland is the last in a large complex before waters reach Western Island Pond, the Cedarwood (South)(TB_02) wetland would make a suitable candidate for conservation. This wetland provides several useful municipal services as well as serving as an excellent habitat for numerous animals. Maintaining a treed buffer along the new southern development with a walking trail may help ATV's from entering this wetland and help prevent potential degradation.

Figure 39. Cedarwood (South) (TB_02)

### Torbay Common (West) (TB_40)

Behind the Torbay Common is a large wetland that is nestled between Manning's Hill and Gosse's Lane that extends to Cannon Marsh Road. This wetland is crisscrossed with small streams and abundant vegetation, filtering water from the surrounding slopes before it empties into the Atlantic Ocean. Unlike some of the other selections for conservation, this wetland may not be suitable for walking trails due to private land ownership along its borders, however it scores high in multiple categories in the benefits section. For this reason and because it is joined to another large complex just southwest of where Mannings Hill becomes Country Drive, it would make a suitable candidate for conservation.

Figure 40. Torbay Common (WEST) (TB_40)

## Peter's Place (TB_28)

Figure 41. Peter's Place (TB_28)

The Peter's Place (TB_28) wetland is a large Marsh Class wetland that scored high in the Organic Nutrient Export, Resident Fish Habitat, Amphibian Habitat and Waterbird Nesting Habitat function categories. This Marsh wetland also scores high in the function group category of Aquatic Habitat Support. Because this wetland scores high in all the habitat benefit categories and is part of a larger assemblage of linked wetland complexes stretching from Robins Pond on into the community of Bauline, this wetland would also make an excellent candidate for conservation.

# Recommendations

## The Wetland Mitigation Hierarchy

The Wetland Mitigation Hierarchy is the best point of view from which to consider wetlands as the Town of Torbay expands. Wetlands take hundreds of years to form and as this study by the government of Canada states,

"The rationale of the mitigation hierarchy is that intact functional ecosystems, those left undisturbed by avoidance and minimization measures, are more mature, complex and resilient than those created or restored by artificial means, the kind which form the basis for onsite restoration and offsetting." (Poulton and Ray, 2023).

The Wetland Mitigation Hierarchy essentially states that impacts to wetlands should be avoided and when unavoidable, impacts should be minimized. It is only as a last resort, when avoidance or minimization are not feasible, should offsetting for wetland loss or other means of compensation be considered as a mitigation approach.

Avoidance and minimization appear to have been the strategy for Torbay, however these intentions appear not to have been at the forefront of developers' thoughts in some cases. It is also worth noting that there are many challenges in attempting to offset damage to a wetland, and that effective wetland restoration techniques have not yet been established for application in Newfoundland.

## Wetland Delineation and Inventory

Although some developers may have avoidance of wetlands in mind when approaching a project, it is apparent that unless indicated on a 1:50,000 topographic map they often don't have the skills to identify what is and isn't a wetland, and where the boundaries of the wetland are.

By conducting an inventory of wetlands within the boundaries of the Town of Torbay, the town will gain valuable insight into the amount of natural assets the town has, their locations and the linkages or areas of possible contiguity between wetland complexes. The 40 WESP assessments conducted represent only a fraction of wetlands that exist within the municipal boundary of Torbay. Approaches to wetland inventory can include orthophoto interpretation and ground truthing by trained interpreters or other techniques based on remote sensing methodologies.

Once all the wetlands within the municipality are identified, this information can be shared with developers. However, it would be prudent to also have professional wetland delineations performed before plans for construction are approved. Wetland delineation refers to the procedure for identifying the boundary between a wetland and its upland edge based on detailed field assessment of soils, vegetation, and hydrology. In Atlantic Canada, an accepted wetland delineation standard is typically one developed by the U.S. Army Corps of Engineers and requires specific training and expertise to ensure accuracy.  With this in place, best management practices can be applied to ensure the least amount of damage is done to existing wetlands and

they can be integrated as natural infrastructure, complimenting, and assisting the town's engineered infrastructure. Wetland mapping and wetland inventories can be included as part of a natural asset management mapping, strategy, and practices. Wetland inventory and professional delineations would also assist in maintaining the hydrologic contiguity of wetland complexes throughout the municipality, ensuring these assets can perform their functions from the headwaters/wetlands that feed them all the way to their outflow which in many cases is the Atlantic Ocean.

### Best Management Practices

The adoption of best management practices into municipal policy surrounding new developments will help ensure the avoidance and minimization of impacts to Torbay's wetland natural assets. While there are currently policies for potential developments around SAM Conservation Areas, adopting minimum operating standards will help incorporate new wetlands into Torbay's natural infrastructure and allow them to function at their full potential.

A good starting point for developing best management practices concerning wetlands can be derived by the guidelines written for forestry operations by the Fisheries, Forestry and Agriculture Division in Partnership with the Environment and Wildlife of the Government of Newfoundland and Labrador. At a minimum, not allowing heavy machinery to operate on the wetlands should be a standard, as well as maintaining a minimum 15 meter buffer around wetlands which is important for maintaining wetland health and preventing the degradation of functions, and ensuring culverts are constructed in such a way that they do not impede fish progress or reduce the contiguity of connected wetlands (Government of Newfoundland and Labrador, 2024). It would be beneficial to extend protection through municipal zoning to all of Torbay's wetlands at a minimum to ensure review prior to construction begins. By zoning as open spaces or conservation areas, this would require attention from the municipality prior to development and operate as a safety measure to protect wetlands that aren't indicated on a 1:50,000 topographic map before an inventory is completed.

Once best management policies are developed, writing these into Torbay's municipal planning and regulating documents can help ensure that contractors understand that wetlands represent valuable natural assets to the town and aid them in developing their plans for new subdivisions. By adding regulations to working around wetlands, the town is not impeding new development, but rather protecting their investment in natural assets by making cost effective decisions that will save the town money. The services natural assets provide for free by allowing them to exist in their natural state is more cost effective than attempting to re-engineer those same services at a premium. Through more robust wetland policies in the Town of Torbay, the council can be assured that developers recognize their responsibility to adhere to these policies or be held accountable to restore the damages.

It would be advisable to incorporate some form of compliance monitoring to ensure that developers and contractors do in fact carry out their work in accordance with Torbay's municipal

policies pertaining to wetlands. Many municipalities struggle to find the capacity for this sort of monitoring, relying on good faith that the contractors will do what the policies imply. One strategy is to require a professional delineation prior to construction so that both parties (municipal and contractor) know the boundaries of the wetland and can discuss the best places for avoiding infringing on the wetland, or at worst case, the narrowest places to install a crossing.

Once new developments have been completed, either municipal staff or Conservation Corps Green Team members could be sent to take photographs of culverts and the edge of the wetlands to ensure buffers are in place, culverts are working properly etc.

### Continued Public Awareness

For over twenty years Torbay has had a strong commitment to raising public awareness about the value of wetlands in the municipality. Potential sites for further SAM Conservation Areas have been identified in this report and several of them showed potential for low impact trail development with benches and signage. Further sites to consider for conservation through the Municipal Habitat Stewardship Program or other municipal zoning approaches can be selected by examining top habitat scorers and conducting additional site assessment. Another way to raise awareness could be to engage the community in suggesting sites that they would like to see protected. It may also be prudent to install signs recommending ATV's not drive over wetlands, especially if those wetlands are part of a linked complex and especially if that complex flows into a previously protected site.

By incorporating walking trails in new subdivisions built around wetlands and installing signage about the importance of wetlands, residents can also serve as a monitoring force by reporting problems with culverts, recreational infrastructure or dumps of trash that should not be in the wetlands.

Whatever the method selected, building community awareness is vital to ensuring wetlands remain intact and preserved for future generations.

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# Appendix A

Appendix A1:

## Skipper's Landing (West) (TB_14)

The Skippers Landing (West) wetland is a large Shallow Open Water class Wetland, with surrounding peatland complex that scored high for the following categories: Stream Flow Support, Water Cooling, Resident Fish Habitat, Aquatic Invertebrate Habitat, Amphibian Habitat, Waterbird Feeding Habitat, Waterbird Nesting Habitat, The Aquatic Support Group, and the Aquatic Habitat Group.

It is also worth noting that this wetland scored Moderate for Wetland Ecological Condition, however it also scored moderate For Wetland Stressors, Risk and Sensitivity. The fact that this wetland scored moderate for Wetland Stressors, Wetland Risk and Wetland Sensitivity was not surprising as it is near developed residential areas. What is surprising is the Ecological Condition of this wetland. An abundance of wildlife and plant life were found on site, including large clusters of Pitcher Plant (Newfoundland's Provincial Plant). This wetland was one of the most picturesque encountered throughout our assessments this summer and was one of the wetlands that we believed would make an excellent candidate for conservation. This wetland was also one of approximately five marsh/open water type wetlands surveyed of forty assessments done, with only two being found in residential areas. This wetland is also part of one of the larger linked multi-wetland complexes occurring in a residential area.

Conserving Canada's **Wetlands**

**Site Name:** TB_14

**Loc: Skipper's Landing (West)**

**Date Assessed:** July 21, 2023

**Streets:** Island Pond Pl

**Coordinates:** 47.689184

-52.750138


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 0.00 | Lower | 7.72 | Higher |
| Stream Flow Support (SFS) | 4.52 | Higher | 6.94 | Higher |
| Water Cooling (WC) | 5.81 | Higher | 5.20 | Moderate |
| Sediment Retention & Stabilisation (SR) | 1.89 | Lower | 2.44 | Moderate |
| Phosphorus Retention (PR) | 3.73 | Lower | 2.22 | Moderate |
| Nitrate Removal & Retention (NR) | 3.45 | Moderate | 10.00 | Higher |
| Carbon Sequestration (CS) | 2.72 | Lower | | |
| Organic Nutrient Export (OE) | 6.21 | Moderate | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 7.94 | Higher | 7.61 | Higher |
| Aquatic Invertebrate Habitat (INV) | 10.00 | Higher | 5.72 | Moderate |
| Amphibian & Turtle Habitat (AM) | 9.18 | Higher | 4.56 | Higher |
| Waterbird Feeding Habitat (WBF) | 8.49 | Higher | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 9.05 | Higher | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 0.00 | Lower | 0.00 | Lower |
| Pollinator Habitat (POL) | 0.00 | Lower | 0.00 | Lower |
| Native Plant Habitat (PH) | 3.34 | Lower | 3.33 | Lower |
| Public Use & Recognition (PU) | | | 0.00 | Lower |
| Wetland Sensitivity (Sens) | | | 3.64 | Moderate |
| Wetland Ecological Condition (EC) | | | 5.66 | Moderate |
| Wetland Stressors (STR) (higher score means more stress) | | | 2.96 | Moderate |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 0.00 | Lower | 7.72 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 3.34 | Lower | 7.44 | Higher |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 8.32 | Higher | 6.44 | Higher |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 8.05 | Higher | 8.22 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 2.22 | Lower | 2.22 | Lower |
| WETLAND CONDITION (EC) | | | 5.66 | Moderate |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 3.30 | Moderate |

One of many Pitcher plant clusters found along the wetland.

View of the North Side of the wetland.

View of the South side of the wetland.


Overview of the multi-wetland complex of which Skippers Landing (West) is a part.

**Recommendations**

We recommend that this wetland be professionally delineated prior to any nearby development. Due to the hydrology of the site, we were unable to explore the north shore of this marsh, and we believed that there is a particularly good chance that forested wetlands/peatlands North of this marsh are supplying some of the inflow. We also witnessed an inlet on the northwest corner of the marsh, again suggesting that water is coming from areas in the northern uplands. Degradation of upland wetland areas could lead to an increase in both the amount and speed of water reaching the marsh, which could in turn lead to flooding of surrounding homes and increased sedimentation. This wetland also flows into constructed ditches where flash flooding from large storm events could lead to damage to other infrastructure such as roads. It may be prudent to conduct a proper hydrologic assessment to protect assets already made (as well as those to be constructed) from unknown flood risks.

Constructed outflow of the wetland leading to homes and street.

This wetland scored high for several different habitat types and is important to everything from aquatic insects to birds. It represents a unique and less prominent habitat type assessed throughout our field work and is of increased importance due to its urban location.

As previously mentioned, this site is one of the wetlands we would like to recommend for conservation. Not only for the reasons mentioned above, but also for the natural beauty it possesses as well as its proximity to residential areas. Construction of a walking trail around the northern edge of the wetland, behind a buffer with viewing areas cut out through the buffer would allow residents to enjoy this otherwise hidden area while helping to preserve its ecological functions.

Once a professional delineation was completed, if construction were to impact the wetland it may be prudent to employ some best management practice from forestry for operating in wetland areas. Some examples of this include cutting right of way during the winter and use of Timber Mats to prevent excessive compaction that will destroy wetlands, increase sedimentation and lead to the creation of new flow channels that can affect the hydrology of the area. A more in-depth exploration of Forestry best management practices will be included in the final report.

Conserving Canada's Wetlands

**Appendix A2:**

# Indian Meal Line Development Quick Synopsis and Scores

## Peter's Place (North) TB_28 & Valley Loop Drive (North) TB_38


Map of Peter's Place (TB_28) and Valley Loop Drive (TB_38)

## Peter's Place (North) TB_28:


The Peter's Place (TB_28) wetland is a large Marsh Class Wetland that scored high for the following Functions:

This Wetland scored High in Organic Nutrient Export, Resident Fish Habitat, Amphibian Habitat and in Waterbird Nesting Habitat functions. This Marsh wetland also scores high in the function group category of Aquatic Habitat Support. It is also worth noting that several of the function

scores increase when examined through the lens of wetland benefits. These benefit scores represent the value to society that the Functions represent and are often higher than the Function scores as a result. As development pressures increase on a wetland, their benefit values become even more important in providing environmental services that wetlands offer that would otherwise need to be artificially constructed.

If efforts are made to observe the Wetland Mitigation Hierarchy, whereby impacts on the wetland should be avoided, minimized if there is no other option but to build in the wetland, and compensated for if wetland or functioning is lost/degraded. Therefore, avoiding development within the wetland is always the best course, and maintaining connectivity between Robins Pond and the adjacent wetland Valley Loop Drive (TB_38) as well as buffer zones, will significantly help reduce impacts to wetland functioning.

**Peter's Place (North) TB_28: Functions and Benefits**

| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 1.53 | Lower | 6.83 | Higher |
| Stream Flow Support (SFS) | 3.87 | Moderate | 6.52 | Higher |
| Water Cooling (WC) | 2.57 | Moderate | 5.94 | Higher |
| Sediment Retention & Stabilisation (SR) | 2.02 | Lower | 8.79 | Higher |
| Phosphorus Retention (PR) | 2.75 | Lower | 6.67 | Higher |
| Nitrate Removal & Retention (NR) | 1.64 | Lower | 10.00 | Higher |
| Carbon Sequestration (CS) | 0.00 | Lower | | |
| Organic Nutrient Export (OE) | 7.98 | Higher | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 6.85 | Higher | 5.72 | Moderate |
| Aquatic Invertebrate Habitat (INV) | 3.36 | Moderate | 4.53 | Moderate |
| Amphibian & Turtle Habitat (AM) | 9.05 | Higher | 4.07 | Higher |
| Waterbird Feeding Habitat (WBF) | 7.02 | Moderate | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 6.57 | Higher | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 0.00 | Lower | 0.00 | Lower |
| Pollinator Habitat (POL) | 0.00 | Lower | 0.00 | Lower |
| Native Plant Habitat (PH) | 4.17 | Moderate | 3.33 | Lower |
| Public Use & Recognition (PU) | | | 0.00 | Lower |
| Wetland Sensitivity (Sens) | | | 0.93 | Lower |
| Wetland Ecological Condition (EC) | | | 3.49 | Lower |
| Wetland Stressors (STR) (higher score means more stress) | | | 3.15 | Moderate |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 1.53 | Lower | 6.83 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 2.18 | Lower | 9.24 | Higher |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 6.21 | Moderate | 6.09 | Higher |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 7.47 | Higher | 7.98 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 2.78 | Lower | 2.22 | Lower |
| WETLAND CONDITION (EC) | | | 3.49 | Lower |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 2.04 | Lower |

Peter's Place (North) TB_28 Facing Northeast

Peter's Place (North) TB_28 Facing Southwest

# Valley Loop Drive (North) TB_38

## Valley Loop Drive (TB_38)

The Valley Loop Drive (TB_38) wetland is a large Fen Class Wetland that scored high for the following Functions:

Stream Flow Support, Water Cooling, Organic Nutrient Export, Resident Fish Habitat, Amphibian Habitat, Waterbird Feeding Habitat, Aquatic Support Group, Aquatic Habitat Support Group. Regrettably, it also scored as being at higher risk due to stressors and the proximity of development pressure. It is Connected to the site TB_28 via another large wetland complex (that we were unable to assess), and ultimately finds its headwaters at Robins Pond.

As mentioned previously in the write up for Peter's Place (TB_28), (described above) this site will also benefit from efforts to minimize impacts to the wetland due to development. We observed a sufficient, well-constructed culvert at the southwestern edge of TB_38 of the wetland, however another less obvious portion of the wetland was intersected and compacted to form the road, causing flooding just before the constructed culvert, ultimately leading to increased sedimentation downstream.

This entire wetland complex would benefit from a professional delineation to determine the exact extent/boundaries of this wetland. This wetland complex is situated between two rather steep hills, on the southeast, the new street just down from Flora Drive and the new street being constructed on the Northwest slope. As a result, this wetland complex serves an important role in collecting excess stormwater from the surrounding hills and directing it to well established wetlands further downstream.

Conserving Canada's Wetlands

## Valley Loop Drive (TB_38) North: Functions and Benefits

| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 1.64 | Lower | 6.95 | Higher |
| Stream Flow Support (SFS) | 6.77 | Higher | 6.81 | Higher |
| Water Cooling (WC) | 4.54 | Higher | 4.17 | Moderate |
| Sediment Retention & Stabilisation (SR) | 2.24 | Lower | 8.03 | Higher |
| Phosphorus Retention (PR) | 3.27 | Lower | 6.17 | Higher |
| Nitrate Removal & Retention (NR) | 2.94 | Moderate | 10.00 | Higher |
| Carbon Sequestration (CS) | 0.92 | Lower | | |
| Organic Nutrient Export (OE) | 7.82 | Higher | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 6.43 | Higher | 6.51 | Higher |
| Aquatic Invertebrate Habitat (INV) | 4.97 | Moderate | 4.01 | Moderate |
| Amphibian & Turtle Habitat (AM) | 7.44 | Higher | 4.15 | Higher |
| Waterbird Feeding Habitat (WBF) | 7.24 | Higher | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 5.54 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 0.00 | Lower | 0.00 | Lower |
| Pollinator Habitat (POL) | 0.00 | Lower | 0.00 | Lower |
| Native Plant Habitat (PH) | 5.63 | Moderate | 3.33 | Lower |
| Public Use & Recognition (PU) | | | 1.40 | Lower |
| Wetland Sensitivity (Sens) | | | 4.66 | Moderate |
| Wetland Ecological Condition (EC) | | | 4.58 | Moderate |
| Wetland Stressors (STR) (higher score means more stress) | | | 4.28 | Moderate |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 1.64 | Lower | 6.95 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 2.81 | Lower | 9.03 | Higher |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 6.93 | Higher | 5.90 | Higher |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 6.39 | Higher | 8.07 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 3.75 | Lower | 2.22 | Lower |
| WETLAND CONDITION (EC) | | | 4.58 | Moderate |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 4.47 | Higher |

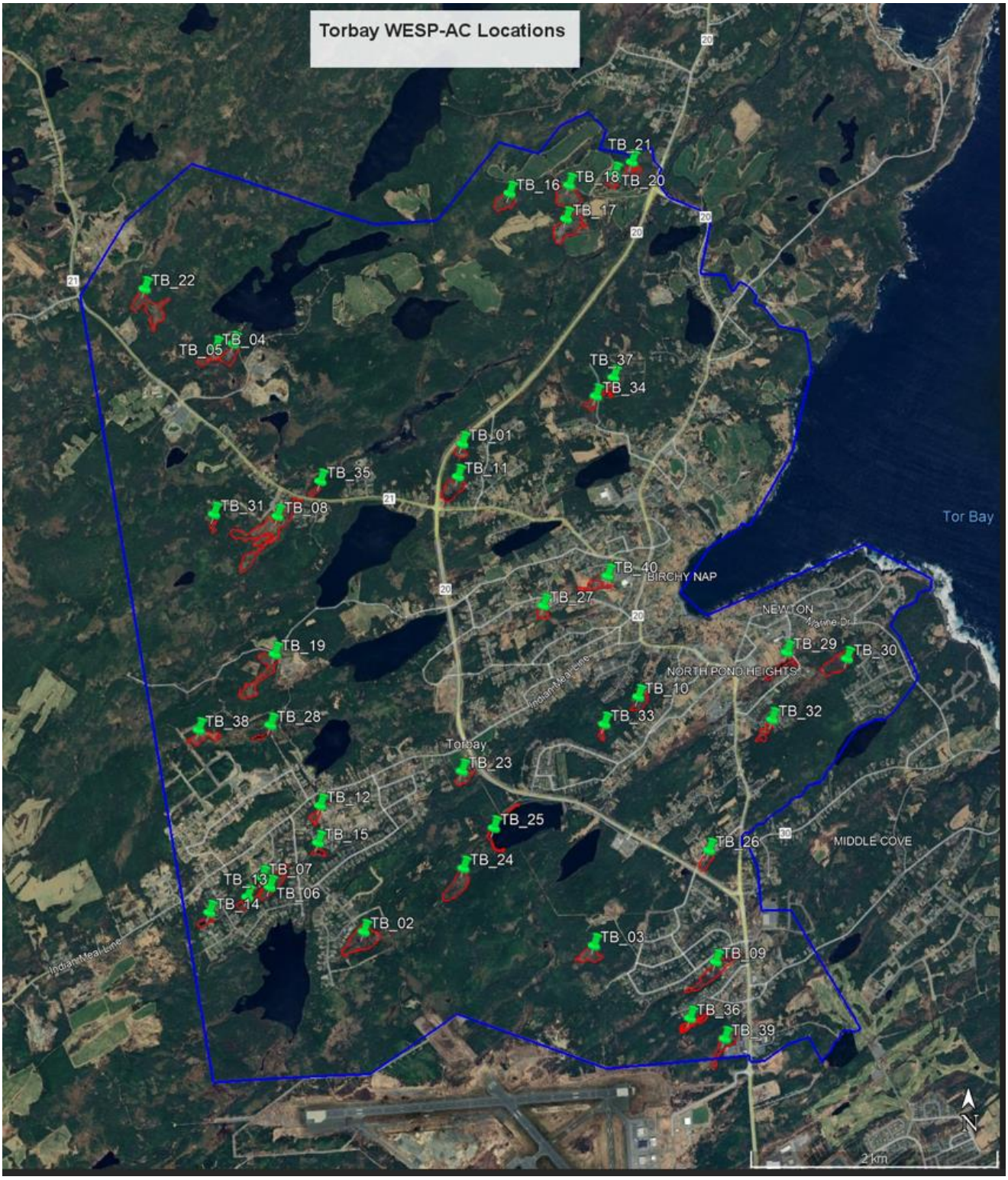
Valley Loop Drive (TB_38) Facing East

Valley Loop Drive (TB_38) Facing West

# Appendix B: TORBAY WESP-AC SITE ASSESSMENT RESULTS

Prepared by Ducks Unlimited Canada

March 2024



Map of All Sites Completed 2023

| SITE: | LOCATION | LATITUDE | LONGITUDE | DIRECTION | PAGE |
|---|---|---|---|---|---|
| TB_01 | Bypass / Camp Carey (West) | 47.671159° | -52.755239° | WEST | 4 |
| TB_02 | Cedarwood Lane (South) | 47.636040° | -52.765750° | SOUTH | 6 |
| TB_03 | Pineridge Creek Quarry (South) | 47.635056° | -52.741203° | SOUTH | 8 |
| TB_04 | Middle Three Island Pond Road (North) | 47.678030° | -52.781600° | NORTH | 10 |
| TB_05 | Middle Three Island Pond Road (North) | 47.678350° | -52.779690° | NORTH | 12 |
| TB_06 | Western Island Pond Trail (East) | 47.639270° | -52.775811° | EAST | 14 |
| TB_07 | Western Island Pond Trail / Cherrywood (South) | 47.639926° | -52.776627° | SOUTH | 16 |
| TB_08 | May Flower Dr (Southeast) | 47.665935° | -52.774993° | SOUTHEAST | 19 |
| TB_09 | Karon Drive (South) | 47.633830° | -52.728080° | SOUTH | 21 |
| TB_10 | Bridge Road (South) | 47.652910° | -52.736230° | SOUTH | 23 |
| TB_11 | Barn Marsh Road (West) | 47.668788° | -52.755712° | WEST | 25 |
| TB_12 | Woodbridge Lane (West) | 47.645111° | -52.770427° | WEST | 27 |
| TB_13 | Skipper's Landing (East) | 47.638540° | -52.778196° | EAST | 29 |
| TB_14 | Skipper's Landing (West) | 47.637448° | -52.782257° | WEST | 31 |
| TB_15 | Forest River Trail/Clara's Place (South) | 47.642437° | -52.770631° | SOUTH | 33 |
| TB_16 | Tapper's Farm Road (West) | 47.689184° | -52.750138° | WEST | 35 |
| TB_17 | Tapper's Farm Road (South) | 47.687371° | -52.744043° | SOUTH | 37 |
| TB_18 | Tapper's Farm Road (South) | 47.689790° | -52.743748° | SOUTH | 39 |
| TB_19 | Great Pond Road Ext. (Southwest) | 47.656031° | -52.775301° | SOUTHWEST | 41 |
| TB_20 | Tapper's Farm Road (North) | 47.690596° | -52.738817° | NORTH | 43 |
| TB_21 | Tapper's Farm Road (North) | 47.691480° | -52.736958° | NORTH | 45 |
| TB_22 | 636 Bauline Line (Northeast) | 47.682243° | -52.789179° | NORTHEAST | 47 |
| TB_23 | Indian Meal Line / Bypass (South) | 47.647559° | -52.755167° | SOUTH | 49 |
| TB_24 | North Pond (West) | 47.640602° | -52.755099° | WEST | 51 |
| TB_25 | North Pond (West) | 47.643485° | -52.751823° | WEST | 53 |
| TB_26 | Quarry Road (East) / Bypass (North) | 47.641859° | -52.728763° | NORTH | 55 |
| TB_27 | Country Drive (South) | 47.659494° | -52.746459° | SOUTH | 57 |
| TB_28 | Peter's Place (North) | 47.650929° | -52.775757° | NORTH | 59 |
| TB_29 | The Gully / Mahon's Lane (Northwest) | 47.656105° | -52.720176° | NORTHWEST | 61 |
| TB_30 | Jones Pond Park / Torquay PL (North) | 47.655643° | -52.713638° | NORTH | 63 |
| TB_31 | Mayflower Drive Ext. (Southwest) | 47.666079° | -52.781780° | SOUTHWEST | 65 |
| TB_32 | Salerno Pl (South) | 47.651247° | -52.721807° | SOUTH | 67 |
| TB_33 | Duggan Place (Northwest) | 47.650946° | -52.739961° | NORTHWEST | 69 |
| TB_34 | Whitty's Lane / Gully Road (WEST) | 47.674570° | -52.740960° | WEST | 71 |
| TB_35 | 354 Bauline Line / M. Manning Place (West) | 47.668465° | -52.770402° | WEST | 73 |
| TB_36 | Roblin Pl (South) | 47.629791° | -52.730900° | SOUTH | 75 |
| TB_37 | Whitty's Lane / Gully Road (EAST) | 47.675902° | -52.739092° | EAST | 77 |
| TB_38 | Valley Loop Dr (North) | 47.650591° | -52.783414° | NORTH | 79 |
| TB_39 | 863 Torbay Road. (West) | 47.628306° | -52.727162° | WEST | 81 |
| TB_40 | Torbay Common (West) | 47.661643° | -52.739500° | WEST | 83 |

**Site Name:** TB_01

**Loc: Bypass/Camp Carey (West)**

**Date Assessed:** June 22, 2023

**Streets:** Torbay Bypass Road

**Coordinates:** 47.671159

-52.755239


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 1.57 | Lower | 3.62 | Moderate |
| Stream Flow Support (SFS) | 3.23 | Moderate | 7.43 | Higher |
| Water Cooling (WC) | 5.90 | Higher | 1.48 | Lower |
| Sediment Retention & Stabilisation (SR) | 1.76 | Lower | 1.96 | Moderate |
| Phosphorus Retention (PR) | 2.82 | Lower | 1.60 | Moderate |
| Nitrate Removal & Retention (NR) | 2.00 | Moderate | 6.14 | Moderate |
| Carbon Sequestration (CS) | 4.82 | Moderate | | |
| Organic Nutrient Export (OE) | 6.56 | Moderate | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 0.00 | Lower | 0.00 | Lower |
| Aquatic Invertebrate Habitat (INV) | 3.64 | Moderate | 3.91 | Moderate |
| Amphibian & Turtle Habitat (AM) | 5.97 | Moderate | 6.05 | Higher |
| Waterbird Feeding Habitat (WBF) | 5.68 | Moderate | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 4.79 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 7.09 | Moderate | 10.00 | Higher |
| Pollinator Habitat (POL) | 6.51 | Moderate | 10.00 | Higher |
| Native Plant Habitat (PH) | 2.52 | Lower | 7.16 | Higher |
| Public Use & Recognition (PU) | | | 0.91 | Lower |
| Wetland Sensitivity (Sens) | | | 1.45 | Lower |
| Wetland Ecological Condition (EC) | | | 4.22 | Moderate |
| Wetland Stressors (STR) (higher score means more stress) | | | 4.56 | Moderate |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 1.57 | Lower | 3.62 | Moderate |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 3.84 | Lower | 4.69 | Moderate |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 5.70 | Moderate | 5.85 | Higher |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 4.63 | Moderate | 7.61 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 6.24 | Moderate | 9.53 | Higher |
| WETLAND CONDITION (EC) | | | 4.22 | Moderate |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 3.01 | Moderate |

**Bypass/Camp Carey (West) (TB_01)**

**Site Name:** TB_02

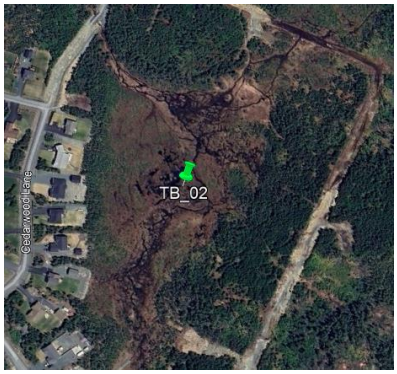
**Loc: Ceadarwood Lane (South)**

**Date Assessed:** June 29, 2023

**Streets:** Edgewater Ln/Ceaderwood Ln

**Coordinates:** 47.636040

-52.765750




| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 3.49 | Lower | 7.51 | Higher |
| Stream Flow Support (SFS) | 2.26 | Moderate | 4.81 | Moderate |
| Water Cooling (WC) | 3.84 | Moderate | 0.88 | Lower |
| Sediment Retention & Stabilisation (SR) | 2.22 | Lower | 1.73 | Moderate |
| Phosphorus Retention (PR) | 3.58 | Lower | 1.46 | Moderate |
| Nitrate Removal & Retention (NR) | 2.72 | Moderate | 10.00 | Higher |
| Carbon Sequestration (CS) | 3.30 | Lower | | |
| Organic Nutrient Export (OE) | 6.56 | Moderate | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 0.00 | Lower | 0.00 | Lower |
| Aquatic Invertebrate Habitat (INV) | 1.92 | Lower | 4.36 | Moderate |
| Amphibian & Turtle Habitat (AM) | 7.02 | Moderate | 3.26 | Moderate |
| Waterbird Feeding Habitat (WBF) | 6.40 | Moderate | 3.33 | Moderate |
| Waterbird Nesting Habitat (WBN) | 4.99 | Moderate | 2.50 | Moderate |
| Songbird, Raptor, & Mammal Habitat (SBM) | 7.30 | Moderate | 2.50 | Moderate |
| Pollinator Habitat (POL) | 7.65 | Higher | 0.00 | Lower |
| Native Plant Habitat (PH) | 3.28 | Lower | 4.21 | Lower |
| Public Use & Recognition (PU) | | | 0.34 | Lower |
| Wetland Sensitivity (Sens) | | | 1.52 | Lower |
| Wetland Ecological Condition (EC) | | | 5.66 | Moderate |
| Wetland Stressors (STR) (higher score means more stress) | | | 3.92 | Moderate |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 3.49 | Lower | 7.51 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 3.27 | Lower | 7.20 | Higher |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 5.10 | Moderate | 4.08 | Moderate |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 5.35 | Moderate | 2.58 | Moderate |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 6.87 | Moderate | 3.22 | Lower |
| WETLAND CONDITION (EC) | | | 5.66 | Moderate |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 2.72 | Lower |

CEDARWOOD LANE (SOUTH) (TB_02)

**Site Name:** TB_03

**Loc: Pineridge Creek Quarry (South)**

**Date Assessed:** June 29, 2023

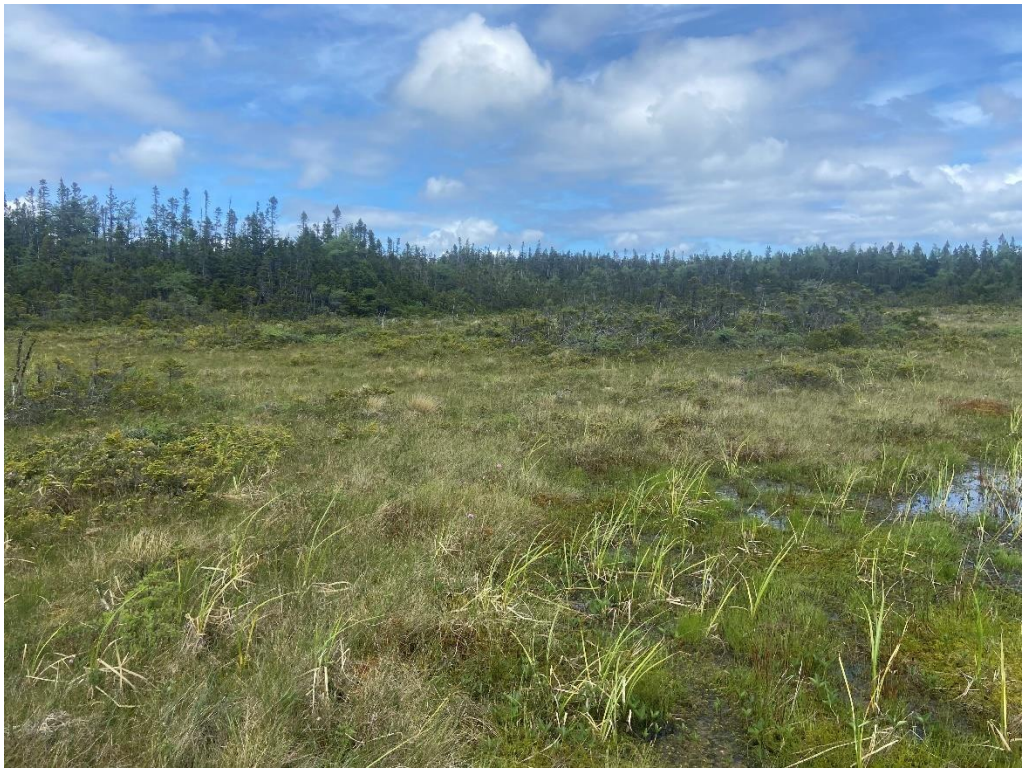
**Streets:** Quarry Road Extension

**Coordinates:** 47.635056

-52.741203


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 7.94 | Higher | 6.06 | Higher |
| Stream Flow Support (SFS) | 0.00 | Lower | 0.00 | Lower |
| Water Cooling (WC) | 3.84 | Moderate | 0.00 | Lower |
| Sediment Retention & Stabilisation (SR) | 10.00 | Higher | 1.93 | Moderate |
| Phosphorus Retention (PR) | 10.00 | Higher | 1.50 | Moderate |
| Nitrate Removal & Retention (NR) | 10.00 | Higher | 4.44 | Moderate |
| Carbon Sequestration (CS) | 7.11 | Higher | | |
| Organic Nutrient Export (OE) | 4.02 | Lower | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 0.00 | Lower | 0.00 | Lower |
| Aquatic Invertebrate Habitat (INV) | 1.69 | Lower | 4.61 | Moderate |
| Amphibian & Turtle Habitat (AM) | 4.60 | Moderate | 7.28 | Higher |
| Waterbird Feeding Habitat (WBF) | 7.15 | Higher | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 4.74 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 9.27 | Higher | 10.00 | Higher |
| Pollinator Habitat (POL) | 7.74 | Higher | 10.00 | Higher |
| Native Plant Habitat (PH) | 4.65 | Moderate | 8.11 | Higher |
| Public Use & Recognition (PU) | | | 1.09 | Lower |
| Wetland Sensitivity (Sens) | | | 6.06 | Higher |
| Wetland Ecological Condition (EC) | | | 5.66 | Moderate |
| Wetland Stressors (STR) (higher score means more stress) | | | 2.32 | Lower |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 7.94 | Higher | 6.06 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 9.64 | Higher | 3.53 | Moderate |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 3.21 | Lower | 3.08 | Moderate |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 5.22 | Moderate | 7.73 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 8.25 | Higher | 9.69 | Higher |
| WETLAND CONDITION (EC) | | | 5.66 | Moderate |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 4.19 | Moderate |

PINERIDGE CREEK QUARRY (SOUTH) (TB_03)



**Site Name:** TB_04

**Loc: Middle Three Island Pond Road (North)**

**Date Assessed:** June 30, 2023

**Streets:** Middle Three Island Pond Road

**Coordinates:** 47.678030

-52.781600


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 7.75 | Moderate | 3.79 | Moderate |
| Stream Flow Support (SFS) | 0.00 | Lower | 0.00 | Lower |
| Water Cooling (WC) | 3.84 | Moderate | 0.00 | Lower |
| Sediment Retention & Stabilisation (SR) | 10.00 | Higher | 1.42 | Moderate |
| Phosphorus Retention (PR) | 10.00 | Higher | 1.00 | Moderate |
| Nitrate Removal & Retention (NR) | 10.00 | Higher | 3.33 | Moderate |
| Carbon Sequestration (CS) | 6.53 | Moderate | | |
| Organic Nutrient Export (OE) | 5.93 | Moderate | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 0.00 | Lower | 0.00 | Lower |
| Aquatic Invertebrate Habitat (INV) | 4.38 | Moderate | 4.60 | Moderate |
| Amphibian & Turtle Habitat (AM) | 6.72 | Moderate | 6.76 | Higher |
| Waterbird Feeding Habitat (WBF) | 5.81 | Moderate | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 4.94 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 9.04 | Higher | 10.00 | Higher |
| Pollinator Habitat (POL) | 7.74 | Higher | 10.00 | Higher |
| Native Plant Habitat (PH) | 4.04 | Moderate | 8.05 | Higher |
| Public Use & Recognition (PU) | | | 0.34 | Lower |
| Wetland Sensitivity (Sens) | | | 6.08 | Higher |
| Wetland Ecological Condition (EC) | | | 5.66 | Moderate |
| Wetland Stressors (STR) (higher score means more stress) | | | 2.20 | Lower |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 7.75 | Moderate | 3.79 | Moderate |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 9.57 | Higher | 2.63 | Moderate |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 4.74 | Moderate | 3.06 | Moderate |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 5.11 | Moderate | 7.68 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 7.99 | Higher | 9.68 | Higher |
| WETLAND CONDITION (EC) | | | 5.66 | Moderate |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 4.14 | Moderate |

MIDDLE THREE ISLAND POND (NORTH) (TB_04)

**Site Name:** TB_05

**Loc: Middle Three Island Pond Road (North)**

**Date Assessed:** June 30, 2023

**Streets: Corner Path**

**Coordinates:** 47.678350

-52.779690


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 7.94 | Higher | 3.79 | Moderate |
| Stream Flow Support (SFS) | 0.00 | Lower | 0.00 | Lower |
| Water Cooling (WC) | 4.49 | Higher | 0.00 | Lower |
| Sediment Retention & Stabilisation (SR) | 10.00 | Higher | 1.65 | Moderate |
| Phosphorus Retention (PR) | 10.00 | Higher | 1.04 | Moderate |
| Nitrate Removal & Retention (NR) | 10.00 | Higher | 3.33 | Moderate |
| Carbon Sequestration (CS) | 4.67 | Moderate | | |
| Organic Nutrient Export (OE) | 4.17 | Lower | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 0.00 | Lower | 0.00 | Lower |
| Aquatic Invertebrate Habitat (INV) | 0.52 | Lower | 3.55 | Moderate |
| Amphibian & Turtle Habitat (AM) | 3.41 | Lower | 6.49 | Higher |
| Waterbird Feeding Habitat (WBF) | 4.96 | Moderate | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 3.61 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 9.08 | Higher | 10.00 | Higher |
| Pollinator Habitat (POL) | 7.76 | Higher | 10.00 | Higher |
| Native Plant Habitat (PH) | 4.79 | Moderate | 8.07 | Higher |
| Public Use & Recognition (PU) | | | 0.34 | Lower |
| Wetland Sensitivity (Sens) | | | 4.10 | Moderate |
| Wetland Ecological Condition (EC) | | | 5.66 | Moderate |
| Wetland Stressors (STR) (higher score means more stress) | | | 3.32 | Moderate |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 7.94 | Higher | 3.79 | Moderate |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 9.33 | Higher | 2.67 | Moderate |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 3.40 | Lower | 2.37 | Moderate |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 3.68 | Moderate | 7.65 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 8.15 | Higher | 9.68 | Higher |
| WETLAND CONDITION (EC) | | | 5.66 | Moderate |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 3.71 | Moderate |

MIDDLE THREE ISLAND POND ROAD (NORTH) (TB_05)

**Site Name:** TB_06

**Loc: Western Island Pond Trail (East)**

**Date Assessed:** July 18, 2023

**Streets:** Western Island Pond Dr/Victoria Pl

**Coordinates:** 47.639270

-52.775811


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 6.90 | Moderate | 5.46 | Higher |
| Stream Flow Support (SFS) | 0.97 | Lower | 0.00 | Lower |
| Water Cooling (WC) | 3.84 | Moderate | 0.00 | Lower |
| Sediment Retention & Stabilisation (SR) | 10.00 | Higher | 1.59 | Moderate |
| Phosphorus Retention (PR) | 4.04 | Lower | 2.22 | Moderate |
| Nitrate Removal & Retention (NR) | 10.00 | Higher | 10.00 | Higher |
| Carbon Sequestration (CS) | 5.26 | Moderate | | |
| Organic Nutrient Export (OE) | 3.01 | Lower | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 0.00 | Lower | 0.00 | Lower |
| Aquatic Invertebrate Habitat (INV) | 1.77 | Lower | 3.54 | Moderate |
| Amphibian & Turtle Habitat (AM) | 4.99 | Moderate | 5.99 | Higher |
| Waterbird Feeding Habitat (WBF) | 6.90 | Moderate | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 4.14 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 5.72 | Moderate | 10.00 | Higher |
| Pollinator Habitat (POL) | 6.09 | Moderate | 10.00 | Higher |
| Native Plant Habitat (PH) | 2.59 | Lower | 6.66 | Moderate |
| Public Use & Recognition (PU) | | | 1.49 | Lower |
| Wetland Sensitivity (Sens) | | | 3.31 | Moderate |
| Wetland Ecological Condition (EC) | | | 4.58 | Moderate |
| Wetland Stressors (STR) (higher score means more stress) | | | 2.93 | Moderate |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 6.90 | Moderate | 5.46 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 8.66 | Higher | 7.30 | Higher |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 3.12 | Lower | 2.36 | Moderate |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 5.05 | Moderate | 7.60 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 5.44 | Moderate | 9.44 | Higher |
| WETLAND CONDITION (EC) | | | 4.58 | Moderate |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 3.12 | Moderate |

WESTERN ISLAND POND TRAIL (EAST)(TB_06)

**Site Name:** TB_07

**Loc: Western Island Pond Trail/ Cherrywood (South)**

**Date Assessed:** July 18, 2023

**Streets:** Cherrywood Dr.

**Coordinates:** 47.641131

-52.776144


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 2.31 | Lower | 7.55 | Higher |
| Stream Flow Support (SFS) | 7.10 | Higher | 5.93 | Higher |
| Water Cooling (WC) | 5.01 | Higher | 4.41 | Moderate |
| Sediment Retention & Stabilisation (SR) | 5.02 | Moderate | 1.88 | Moderate |
| Phosphorus Retention (PR) | 3.88 | Lower | 2.22 | Moderate |
| Nitrate Removal & Retention (NR) | 3.94 | Higher | 10.00 | Higher |
| Carbon Sequestration (CS) | 5.50 | Moderate | | |
| Organic Nutrient Export (OE) | 7.31 | Higher | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 6.16 | Higher | 6.66 | Higher |
| Aquatic Invertebrate Habitat (INV) | 4.47 | Moderate | 5.86 | Moderate |
| Amphibian & Turtle Habitat (AM) | 7.09 | Higher | 6.38 | Higher |
| Waterbird Feeding Habitat (WBF) | 7.74 | Higher | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 6.64 | Higher | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 6.05 | Moderate | 10.00 | Higher |
| Pollinator Habitat (POL) | 7.61 | Higher | 10.00 | Higher |
| Native Plant Habitat (PH) | 3.82 | Moderate | 7.19 | Higher |
| Public Use & Recognition (PU) | | | 1.40 | Lower |
| Wetland Sensitivity (Sens) | | | 8.75 | Higher |
| Wetland Ecological Condition (EC) | | | 5.66 | Moderate |
| Wetland Stressors (STR) (higher score means more stress) | | | 2.79 | Moderate |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 2.31 | Lower | 7.55 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 5.04 | Lower | 7.35 | Higher |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 6.64 | Higher | 5.67 | Higher |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 6.63 | Higher | 8.30 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 6.72 | Moderate | 9.53 | Higher |
| WETLAND CONDITION (EC) | | | 5.66 | Moderate |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 5.77 | Higher |

WESTERN ISLAND TRAIL/ CHERRYWOOD (SOUTH) (TB_07)

WESTERN ISLAND TRAIL/ CHERRYWOOD (SOUTH) (TB_07)

**Site Name:** TB_08

**Loc: Mayflower Drive**

**Date Assessed:** July 18, 2023

**Streets:** Mayflower Dr/Bauline Line

**Coordinates:** 47.665935

-52.774993


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 1.17 | Lower | 3.84 | Moderate |
| Stream Flow Support (SFS) | 6.77 | Higher | 9.11 | Higher |
| Water Cooling (WC) | 7.98 | Higher | 3.79 | Moderate |
| Sediment Retention & Stabilisation (SR) | 2.06 | Lower | 2.09 | Moderate |
| Phosphorus Retention (PR) | 3.82 | Lower | 2.22 | Moderate |
| Nitrate Removal & Retention (NR) | 2.78 | Moderate | 4.60 | Moderate |
| Carbon Sequestration (CS) | 2.29 | Lower | | |
| Organic Nutrient Export (OE) | 9.49 | Higher | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 7.07 | Higher | 6.63 | Higher |
| Aquatic Invertebrate Habitat (INV) | 7.90 | Higher | 5.82 | Moderate |
| Amphibian & Turtle Habitat (AM) | 6.23 | Moderate | 6.34 | Higher |
| Waterbird Feeding Habitat (WBF) | 7.66 | Higher | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 6.48 | Higher | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 6.01 | Moderate | 10.00 | Higher |
| Pollinator Habitat (POL) | 7.39 | Moderate | 10.00 | Higher |
| Native Plant Habitat (PH) | 4.55 | Moderate | 7.11 | Higher |
| Public Use & Recognition (PU) | | | 1.20 | Lower |
| Wetland Sensitivity (Sens) | | | 4.51 | Moderate |
| Wetland Ecological Condition (EC) | | | 8.55 | Higher |
| Wetland Stressors (STR) (higher score means more stress) | | | 3.90 | Moderate |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 1.17 | Lower | 3.84 | Moderate |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 3.28 | Lower | 3.78 | Moderate |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 8.77 | Higher | 7.67 | Higher |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 6.57 | Higher | 8.30 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 6.69 | Moderate | 9.52 | Higher |
| WETLAND CONDITION (EC) | | | 8.55 | Higher |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 4.20 | Moderate |

MAYFLOWER DRIVE (TB_08)

**Site Name:** TB_09

**Loc: Karon Drive (South)**

**Date Assessed:** July 20, 2023

**Streets:** Pulpit Rock Rd/Karon Dr

**Coordinates:** 47.633830

-52.728080


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 2.83 | Lower | 10.00 | Higher |
| Stream Flow Support (SFS) | 3.39 | Moderate | 5.88 | Higher |
| Water Cooling (WC) | 4.68 | Higher | 2.13 | Moderate |
| Sediment Retention & Stabilisation (SR) | 2.80 | Lower | 3.35 | Moderate |
| Phosphorus Retention (PR) | 3.22 | Lower | 4.44 | Higher |
| Nitrate Removal & Retention (NR) | 3.43 | Moderate | 10.00 | Higher |
| Carbon Sequestration (CS) | 3.02 | Lower | | |
| Organic Nutrient Export (OE) | 7.30 | Higher | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 0.00 | Lower | 0.00 | Lower |
| Aquatic Invertebrate Habitat (INV) | 5.15 | Moderate | 4.14 | Moderate |
| Amphibian & Turtle Habitat (AM) | 5.98 | Moderate | 6.13 | Higher |
| Waterbird Feeding Habitat (WBF) | 7.26 | Higher | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 5.47 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 5.80 | Moderate | 10.00 | Higher |
| Pollinator Habitat (POL) | 7.00 | Moderate | 10.00 | Higher |
| Native Plant Habitat (PH) | 4.19 | Moderate | 6.94 | Higher |
| Public Use & Recognition (PU) | | | 0.00 | Lower |
| Wetland Sensitivity (Sens) | | | 3.10 | Moderate |
| Wetland Ecological Condition (EC) | | | 7.83 | Higher |
| Wetland Stressors (STR) (higher score means more stress) | | | 6.49 | Higher |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 2.83 | Lower | 10.00 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 3.27 | Lower | 7.97 | Higher |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 6.22 | Moderate | 4.96 | Higher |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 5.50 | Moderate | 7.61 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 6.33 | Moderate | 9.49 | Higher |
| WETLAND CONDITION (EC) | | | 7.83 | Higher |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 4.80 | Higher |

KARON DRIVE (SOUTH) (TB_09)

**Site Name:** TB_10

**Loc: Bridge Road (South)**

**Date Assessed:** July 20, 2023

**Streets:** Byrne's Pl

**Coordinates:** 47.652910

-52.736230


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 2.90 | Lower | 3.45 | Moderate |
| Stream Flow Support (SFS) | 3.39 | Moderate | 3.72 | Moderate |
| Water Cooling (WC) | 3.84 | Moderate | 1.01 | Lower |
| Sediment Retention & Stabilisation (SR) | 2.97 | Lower | 1.37 | Moderate |
| Phosphorus Retention (PR) | 3.36 | Lower | 1.11 | Moderate |
| Nitrate Removal & Retention (NR) | 3.60 | Moderate | 4.44 | Moderate |
| Carbon Sequestration (CS) | 3.72 | Moderate | | |
| Organic Nutrient Export (OE) | 7.16 | Higher | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 0.00 | Lower | 0.00 | Lower |
| Aquatic Invertebrate Habitat (INV) | 6.46 | Higher | 4.28 | Moderate |
| Amphibian & Turtle Habitat (AM) | 6.77 | Moderate | 6.14 | Higher |
| Waterbird Feeding Habitat (WBF) | 6.96 | Moderate | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 5.48 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 6.12 | Moderate | 10.00 | Higher |
| Pollinator Habitat (POL) | 7.10 | Moderate | 10.00 | Higher |
| Native Plant Habitat (PH) | 4.36 | Moderate | 7.06 | Higher |
| Public Use & Recognition (PU) | | | 0.00 | Lower |
| Wetland Sensitivity (Sens) | | | 7.32 | Higher |
| Wetland Ecological Condition (EC) | | | 7.83 | Higher |
| Wetland Stressors (STR) (higher score means more stress) | | | 2.79 | Moderate |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 2.90 | Lower | 3.45 | Moderate |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 3.57 | Lower | 3.38 | Moderate |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 6.18 | Moderate | 3.64 | Moderate |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 5.40 | Moderate | 7.61 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 6.48 | Moderate | 9.51 | Higher |
| WETLAND CONDITION (EC) | | | 7.83 | Higher |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 5.05 | Higher |

BRIDGE ROAD (SOUTH) (TB_10)

**Site Name:** TB_11

**Loc: Barn Marsh Road (West)**

**Date Assessed:** July 20, 2023

**Streets:** Barn Mash Road/Bauline Line

**Coordinates:** 47.668788

-52.755712


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 8.17 | Higher | 9.13 | Higher |
| Stream Flow Support (SFS) | 0.00 | Lower | 0.00 | Lower |
| Water Cooling (WC) | 1.59 | Moderate | 0.00 | Lower |
| Sediment Retention & Stabilisation (SR) | 10.00 | Higher | 2.53 | Moderate |
| Phosphorus Retention (PR) | 10.00 | Higher | 2.08 | Moderate |
| Nitrate Removal & Retention (NR) | 10.00 | Higher | 10.00 | Higher |
| Carbon Sequestration (CS) | 5.41 | Moderate | | |
| Organic Nutrient Export (OE) | 4.00 | Lower | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 0.00 | Lower | 0.00 | Lower |
| Aquatic Invertebrate Habitat (INV) | 0.52 | Lower | 3.39 | Moderate |
| Amphibian & Turtle Habitat (AM) | 4.28 | Moderate | 6.10 | Higher |
| Waterbird Feeding Habitat (WBF) | 5.71 | Moderate | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 3.62 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 7.21 | Moderate | 10.00 | Higher |
| Pollinator Habitat (POL) | 7.47 | Moderate | 10.00 | Higher |
| Native Plant Habitat (PH) | 3.94 | Moderate | 7.46 | Higher |
| Public Use & Recognition (PU) | | | 1.53 | Lower |
| Wetland Sensitivity (Sens) | | | 4.85 | Moderate |
| Wetland Ecological Condition (EC) | | | 5.66 | Moderate |
| Wetland Stressors (STR) (higher score means more stress) | | | 6.67 | Higher |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 8.17 | Higher | 9.13 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 9.43 | Higher | 7.43 | Higher |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 2.76 | Lower | 2.26 | Moderate |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 4.21 | Moderate | 7.61 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 6.84 | Moderate | 9.58 | Higher |
| WETLAND CONDITION (EC) | | | 5.66 | Moderate |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 5.76 | Higher |

BARN MARSH ROAD (WEST) (TB_11)

**Site Name:** TB_12

**Loc: Woodbridge Lane (West)**

**Date Assessed:** July 21, 2023

**Streets:** Woodbridge Ln

**Coordinates:** 47.695111

-52.770427


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 1.59 | Lower | 10.00 | Higher |
| Stream Flow Support (SFS) | 2.19 | Moderate | 6.68 | Higher |
| Water Cooling (WC) | 8.99 | Higher | 7.47 | Higher |
| Sediment Retention & Stabilisation (SR) | 3.56 | Moderate | 9.77 | Higher |
| Phosphorus Retention (PR) | 2.10 | Lower | 7.85 | Higher |
| Nitrate Removal & Retention (NR) | 3.58 | Moderate | 10.00 | Higher |
| Carbon Sequestration (CS) | 0.00 | Lower | | |
| Organic Nutrient Export (OE) | 9.16 | Higher | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 10.00 | Higher | 7.35 | Higher |
| Aquatic Invertebrate Habitat (INV) | 8.64 | Higher | 5.13 | Moderate |
| Amphibian & Turtle Habitat (AM) | 7.69 | Higher | 4.27 | Higher |
| Waterbird Feeding Habitat (WBF) | 7.61 | Higher | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 6.89 | Higher | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 0.00 | Lower | 0.00 | Lower |
| Pollinator Habitat (POL) | 0.00 | Lower | 0.00 | Lower |
| Native Plant Habitat (PH) | 3.46 | Lower | 3.33 | Lower |
| Public Use & Recognition (PU) | | | 0.00 | Lower |
| Wetland Sensitivity (Sens) | | | 2.42 | Lower |
| Wetland Ecological Condition (EC) | | | 7.11 | Higher |
| Wetland Stressors (STR) (higher score means more stress) | | | 3.74 | Moderate |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 1.59 | Lower | 10.00 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 2.94 | Lower | 9.60 | Higher |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 8.21 | Higher | 6.95 | Higher |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 8.22 | Higher | 8.16 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 2.31 | Lower | 2.22 | Lower |
| WETLAND CONDITION (EC) | | | 7.11 | Higher |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 3.08 | Moderate |

WOODBRIDGE LANE (WEST) (TB_12)

**Site Name:** TB_13

**Loc: Skipper's Landing (East)**

**Date Assessed:** July 21, 2023

**Streets:** Skippers landing/Western Pond Island Dr.

**Coordinates:** 47.778196

-52.778196


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 0.83 | Lower | 8.64 | Higher |
| Stream Flow Support (SFS) | 3.23 | Moderate | 4.94 | Moderate |
| Water Cooling (WC) | 2.81 | Moderate | 2.05 | Moderate |
| Sediment Retention & Stabilisation (SR) | 0.00 | Lower | 2.64 | Moderate |
| Phosphorus Retention (PR) | 1.26 | Lower | 2.22 | Moderate |
| Nitrate Removal & Retention (NR) | 1.99 | Moderate | 10.00 | Higher |
| Carbon Sequestration (CS) | 1.30 | Lower | | |
| Organic Nutrient Export (OE) | 4.37 | Lower | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 0.00 | Lower | 0.00 | Lower |
| Aquatic Invertebrate Habitat (INV) | 2.19 | Lower | 1.77 | Moderate |
| Amphibian & Turtle Habitat (AM) | 4.87 | Moderate | 3.42 | Moderate |
| Waterbird Feeding Habitat (WBF) | 5.06 | Moderate | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 4.89 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 0.00 | Lower | 0.00 | Lower |
| Pollinator Habitat (POL) | 0.00 | Lower | 0.00 | Lower |
| Native Plant Habitat (PH) | 2.40 | Lower | 3.33 | Lower |
| Public Use & Recognition (PU) | | | 0.00 | Lower |
| Wetland Sensitivity (Sens) | | | 4.59 | Moderate |
| Wetland Ecological Condition (EC) | | | 5.66 | Moderate |
| Wetland Stressors (STR) (higher score means more stress) | | | 3.14 | Moderate |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 0.83 | Lower | 8.64 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 1.56 | Lower | 7.48 | Higher |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 3.76 | Lower | 3.93 | Moderate |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 4.01 | Moderate | 7.34 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 1.60 | Lower | 2.22 | Lower |
| WETLAND CONDITION (EC) | | | 5.66 | Moderate |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 3.87 | Moderate |

SKIPPERS LANDING (EAST) (TB_13)

**Site Name:** TB_14

**Loc: Skipper's Landing (West)**

**Date Assessed:** July 21, 2023

**Streets:** Island Pond Pl

**Coordinates:** 47.689184

-52.750138


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 0.00 | Lower | 7.72 | Higher |
| Stream Flow Support (SFS) | 4.52 | Higher | 6.94 | Higher |
| Water Cooling (WC) | 5.81 | Higher | 5.20 | Moderate |
| Sediment Retention & Stabilisation (SR) | 1.89 | Lower | 2.44 | Moderate |
| Phosphorus Retention (PR) | 3.73 | Lower | 2.22 | Moderate |
| Nitrate Removal & Retention (NR) | 3.45 | Moderate | 10.00 | Higher |
| Carbon Sequestration (CS) | 2.72 | Lower | | |
| Organic Nutrient Export (OE) | 6.21 | Moderate | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 7.94 | Higher | 7.61 | Higher |
| Aquatic Invertebrate Habitat (INV) | 10.00 | Higher | 5.72 | Moderate |
| Amphibian & Turtle Habitat (AM) | 9.18 | Higher | 4.56 | Higher |
| Waterbird Feeding Habitat (WBF) | 8.49 | Higher | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 9.05 | Higher | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 0.00 | Lower | 0.00 | Lower |
| Pollinator Habitat (POL) | 0.00 | Lower | 0.00 | Lower |
| Native Plant Habitat (PH) | 3.34 | Lower | 3.33 | Lower |
| Public Use & Recognition (PU) | | | 0.00 | Lower |
| Wetland Sensitivity (Sens) | | | 3.64 | Moderate |
| Wetland Ecological Condition (EC) | | | 5.66 | Moderate |
| Wetland Stressors (STR) (higher score means more stress) | | | 2.96 | Moderate |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 0.00 | Lower | 7.72 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 3.34 | Lower | 7.44 | Higher |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 8.32 | Higher | 6.44 | Higher |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 8.05 | Higher | 8.22 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 2.22 | Lower | 2.22 | Lower |
| WETLAND CONDITION (EC) | | | 5.66 | Moderate |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 3.30 | Moderate |

SKIPPER’S LANDING (WEST) (TB_14)

**Site Name:** TB_15

**Loc: Forest River Trail/ Clara's Place (South)**

**Date Assessed:** July 17, 2023

**Streets:** Forest River Rd/Western Island Pond Dr

**Coordinates:** 47.642437

-52.770631


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 0.39 | Lower | 8.45 | Higher |
| Stream Flow Support (SFS) | 0.00 | Lower | 0.00 | Lower |
| Water Cooling (WC) | 5.66 | Higher | 0.00 | Lower |
| Sediment Retention & Stabilisation (SR) | 3.60 | Moderate | 8.55 | Higher |
| Phosphorus Retention (PR) | 3.65 | Lower | 7.15 | Higher |
| Nitrate Removal & Retention (NR) | 2.86 | Moderate | 10.00 | Higher |
| Carbon Sequestration (CS) | 2.01 | Lower | | |
| Organic Nutrient Export (OE) | 3.72 | Lower | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 6.98 | Higher | 10.00 | Higher |
| Aquatic Invertebrate Habitat (INV) | 9.82 | Higher | 6.39 | Higher |
| Amphibian & Turtle Habitat (AM) | 8.93 | Higher | 6.04 | Higher |
| Waterbird Feeding Habitat (WBF) | 7.48 | Higher | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 8.08 | Higher | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 5.31 | Moderate | 10.00 | Higher |
| Pollinator Habitat (POL) | 6.65 | Moderate | 10.00 | Higher |
| Native Plant Habitat (PH) | 4.35 | Moderate | 6.71 | Moderate |
| Public Use & Recognition (PU) | | | 2.07 | Lower |
| Wetland Sensitivity (Sens) | | | 3.64 | Moderate |
| Wetland Ecological Condition (EC) | | | 5.66 | Moderate |
| Wetland Stressors (STR) (higher score means more stress) | | | 5.93 | Higher |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 0.39 | Lower | 8.45 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 3.34 | Lower | 9.28 | Higher |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 7.31 | Higher | 4.26 | Moderate |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 7.61 | Higher | 8.60 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 6.04 | Moderate | 9.45 | Higher |
| WETLAND CONDITION (EC) | | | 5.66 | Moderate |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 4.79 | Higher |

FOREST RIVER TRAIL/ CLARA'S PLACE (SOUTH) (TB_15)

**Site Name:** TB_16

**Loc: Tapper's Farm Road (West)**

**Date Assessed:** August 3, 2023

**Streets:** farmers Rd

**Coordinates:** 47.689184

-52.750138


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 2.31 | Lower | 3.44 | Moderate |
| Stream Flow Support (SFS) | 2.74 | Moderate | 7.18 | Higher |
| Water Cooling (WC) | 1.73 | Moderate | 2.29 | Moderate |
| Sediment Retention & Stabilisation (SR) | 1.73 | Lower | 1.87 | Moderate |
| Phosphorus Retention (PR) | 2.92 | Lower | 5.56 | Higher |
| Nitrate Removal & Retention (NR) | 2.85 | Moderate | 5.06 | Moderate |
| Carbon Sequestration (CS) | 3.11 | Lower | | |
| Organic Nutrient Export (OE) | 7.29 | Higher | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 0.00 | Lower | 0.00 | Lower |
| Aquatic Invertebrate Habitat (INV) | 4.36 | Moderate | 4.31 | Moderate |
| Amphibian & Turtle Habitat (AM) | 7.25 | Higher | 6.14 | Higher |
| Waterbird Feeding Habitat (WBF) | 6.99 | Moderate | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 5.34 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 6.07 | Moderate | 10.00 | Higher |
| Pollinator Habitat (POL) | 6.39 | Moderate | 10.00 | Higher |
| Native Plant Habitat (PH) | 4.18 | Moderate | 6.84 | Higher |
| Public Use & Recognition (PU) | | | 0.48 | Lower |
| Wetland Sensitivity (Sens) | | | 2.53 | Lower |
| Wetland Ecological Condition (EC) | | | 4.58 | Moderate |
| Wetland Stressors (STR) (higher score means more stress) | | | 3.27 | Moderate |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 2.31 | Lower | 3.44 | Moderate |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 2.88 | Lower | 4.86 | Moderate |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 5.66 | Moderate | 5.89 | Higher |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 5.59 | Moderate | 7.61 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 5.97 | Moderate | 9.47 | Higher |
| WETLAND CONDITION (EC) | | | 4.58 | Moderate |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 2.90 | Moderate |

TAPPER’S FARM ROAD (WEST) (TB_16)

**Site Name:** TB_17

**Loc: Tapper's Farm Road (South)**

**Date Assessed:** August 3, 2023

**Streets:** Farmer's Rd

**Coordinates:** 47.687371

-52. 744043


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 8.47 | Higher | 3.07 | Moderate |
| Stream Flow Support (SFS) | 0.00 | Lower | 0.00 | Lower |
| Water Cooling (WC) | 0.00 | Lower | 0.00 | Lower |
| Sediment Retention & Stabilisation (SR) | 4.30 | Moderate | 1.73 | Moderate |
| Phosphorus Retention (PR) | 8.12 | Moderate | 5.56 | Higher |
| Nitrate Removal & Retention (NR) | 10.00 | Higher | 5.06 | Moderate |
| Carbon Sequestration (CS) | 7.32 | Higher | | |
| Organic Nutrient Export (OE) | 5.68 | Moderate | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 0.00 | Lower | 0.00 | Lower |
| Aquatic Invertebrate Habitat (INV) | 0.85 | Lower | 0.10 | Lower |
| Amphibian & Turtle Habitat (AM) | 0.12 | Lower | 3.79 | Moderate |
| Waterbird Feeding Habitat (WBF) | 0.00 | Lower | 0.00 | Lower |
| Waterbird Nesting Habitat (WBN) | 0.00 | Lower | 0.00 | Lower |
| Songbird, Raptor, & Mammal Habitat (SBM) | 6.00 | Moderate | 10.00 | Higher |
| Pollinator Habitat (POL) | 5.93 | Moderate | 10.00 | Higher |
| Native Plant Habitat (PH) | 3.98 | Moderate | 6.69 | Moderate |
| Public Use & Recognition (PU) | | | 0.83 | Lower |
| Wetland Sensitivity (Sens) | | | 4.72 | Moderate |
| Wetland Ecological Condition (EC) | | | 4.22 | Moderate |
| Wetland Stressors (STR) (higher score means more stress) | | | 2.61 | Lower |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 8.47 | Higher | 3.07 | Moderate |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 8.72 | Higher | 4.84 | Moderate |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 3.65 | Lower | 0.07 | Lower |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 0.07 | Lower | 2.28 | Lower |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 5.65 | Moderate | 9.45 | Higher |
| WETLAND CONDITION (EC) | | | 4.22 | Moderate |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 3.67 | Moderate |

TAPPER'S FARM ROAD (SOUTH) (TB_17)

**Site Name:** TB_18

**Loc: Tapper's Farm Road (South)**

**Date Assessed:** August 3, 2023

**Streets:** Farmer's Rd

**Coordinates:** 47.689790

-52.743748


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 8.74 | Higher | 3.15 | Moderate |
| Stream Flow Support (SFS) | 0.97 | Lower | 0.00 | Lower |
| Water Cooling (WC) | 0.00 | Lower | 0.00 | Lower |
| Sediment Retention & Stabilisation (SR) | 5.01 | Moderate | 1.63 | Moderate |
| Phosphorus Retention (PR) | 8.42 | Moderate | 5.56 | Higher |
| Nitrate Removal & Retention (NR) | 10.00 | Higher | 5.06 | Moderate |
| Carbon Sequestration (CS) | 7.32 | Higher | | |
| Organic Nutrient Export (OE) | 5.68 | Moderate | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 0.00 | Lower | 0.00 | Lower |
| Aquatic Invertebrate Habitat (INV) | 3.89 | Moderate | 0.24 | Lower |
| Amphibian & Turtle Habitat (AM) | 0.38 | Lower | 3.93 | Higher |
| Waterbird Feeding Habitat (WBF) | 0.00 | Lower | 0.00 | Lower |
| Waterbird Nesting Habitat (WBN) | 0.00 | Lower | 0.00 | Lower |
| Songbird, Raptor, & Mammal Habitat (SBM) | 6.40 | Moderate | 10.00 | Higher |
| Pollinator Habitat (POL) | 6.42 | Moderate | 10.00 | Higher |
| Native Plant Habitat (PH) | 4.68 | Moderate | 6.94 | Higher |
| Public Use & Recognition (PU) | | | 0.83 | Lower |
| Wetland Sensitivity (Sens) | | | 4.86 | Moderate |
| Wetland Ecological Condition (EC) | | | 5.66 | Moderate |
| Wetland Stressors (STR) (higher score means more stress) | | | 2.58 | Lower |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 8.74 | Higher | 3.15 | Moderate |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 8.84 | Higher | 4.82 | Moderate |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 4.15 | Lower | 0.16 | Lower |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 0.23 | Lower | 2.36 | Lower |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 6.13 | Moderate | 9.49 | Higher |
| WETLAND CONDITION (EC) | | | 5.66 | Moderate |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 3.72 | Moderate |

TAPPER'S FARM ROAD (SOUTH) (TB_18)

**Site Name:** TB_19

**Loc: Great Pond Road Ext. (Southwest)**

**Date Assessed:** August 18, 2023

**Streets:** Great Pond Rd

**Coordinates:** 47.656031

-52.775301


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 6.60 | Moderate | 4.43 | Higher |
| Stream Flow Support (SFS) | 0.00 | Lower | 0.00 | Lower |
| Water Cooling (WC) | 3.37 | Moderate | 0.00 | Lower |
| Sediment Retention & Stabilisation (SR) | 10.00 | Higher | 1.85 | Moderate |
| Phosphorus Retention (PR) | 10.00 | Higher | 1.00 | Moderate |
| Nitrate Removal & Retention (NR) | 10.00 | Higher | 10.00 | Higher |
| Carbon Sequestration (CS) | 3.81 | Moderate | | |
| Organic Nutrient Export (OE) | 4.06 | Lower | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 0.00 | Lower | 0.00 | Lower |
| Aquatic Invertebrate Habitat (INV) | 0.37 | Lower | 2.92 | Moderate |
| Amphibian & Turtle Habitat (AM) | 4.37 | Moderate | 5.47 | Higher |
| Waterbird Feeding Habitat (WBF) | 5.46 | Moderate | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 3.58 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 5.62 | Moderate | 10.00 | Higher |
| Pollinator Habitat (POL) | 6.74 | Moderate | 10.00 | Higher |
| Native Plant Habitat (PH) | 2.83 | Lower | 6.82 | Higher |
| Public Use & Recognition (PU) | | | 0.34 | Lower |
| Wetland Sensitivity (Sens) | | | 4.28 | Moderate |
| Wetland Ecological Condition (EC) | | | 4.22 | Moderate |
| Wetland Stressors (STR) (higher score means more stress) | | | 2.37 | Lower |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 6.60 | Moderate | 4.43 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 9.23 | Higher | 7.14 | Higher |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 3.00 | Lower | 1.95 | Moderate |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 4.07 | Moderate | 7.55 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 5.90 | Moderate | 9.47 | Higher |
| WETLAND CONDITION (EC) | | | 4.22 | Moderate |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 3.32 | Moderate |

GREAT POND ROAD EXT. (SOUTHWEST) (TB_19)

**Site Name:** TB_20

**Loc: Tapper's Farm Road (North)**

**Date Assessed:** August 18, 2023

**Streets:** Farmer's Rd

**Coordinates:** 47.690596

-52.738817


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 6.50 | Moderate | 2.85 | Moderate |
| Stream Flow Support (SFS) | 0.97 | Lower | 0.00 | Lower |
| Water Cooling (WC) | 2.67 | Moderate | 0.00 | Lower |
| Sediment Retention & Stabilisation (SR) | 10.00 | Higher | 1.44 | Moderate |
| Phosphorus Retention (PR) | 5.48 | Lower | 5.56 | Higher |
| Nitrate Removal & Retention (NR) | 10.00 | Higher | 7.22 | Higher |
| Carbon Sequestration (CS) | 4.21 | Moderate | | |
| Organic Nutrient Export (OE) | 5.78 | Moderate | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 0.00 | Lower | 0.00 | Lower |
| Aquatic Invertebrate Habitat (INV) | 5.07 | Moderate | 4.02 | Moderate |
| Amphibian & Turtle Habitat (AM) | 6.99 | Moderate | 6.12 | Higher |
| Waterbird Feeding Habitat (WBF) | 5.13 | Moderate | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 4.41 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 7.82 | Higher | 10.00 | Higher |
| Pollinator Habitat (POL) | 6.08 | Moderate | 10.00 | Higher |
| Native Plant Habitat (PH) | 3.82 | Moderate | 7.23 | Higher |
| Public Use & Recognition (PU) | | | 0.73 | Lower |
| Wetland Sensitivity (Sens) | | | 6.76 | Higher |
| Wetland Ecological Condition (EC) | | | 7.11 | Higher |
| Wetland Stressors (STR) (higher score means more stress) | | | 2.61 | Lower |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 6.50 | Moderate | 2.85 | Moderate |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 8.71 | Higher | 5.98 | Higher |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 4.70 | Moderate | 2.68 | Moderate |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 5.15 | Moderate | 7.61 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 6.86 | Moderate | 9.54 | Higher |
| WETLAND CONDITION (EC) | | | 7.11 | Higher |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 4.69 | Higher |

TAPPER’S FARM ROAD (NORTH) (TB_20)

**Site Name:** TB_21

**Loc: Tapper's Farm Road (North)**

**Date Assessed:** August 18, 2023

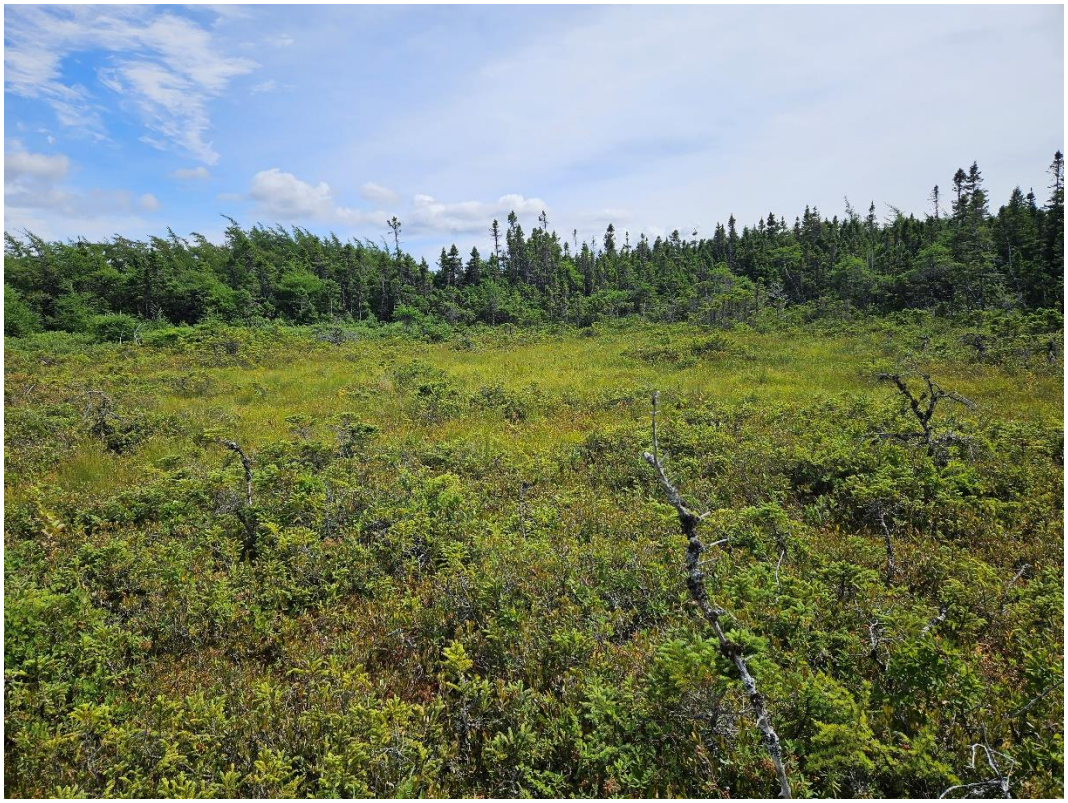
**Streets:** Farmer's Rd

**Coordinates:** 47.691480

-52.736958


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 6.32 | Moderate | 2.72 | Moderate |
| Stream Flow Support (SFS) | 0.00 | Lower | 0.00 | Lower |
| Water Cooling (WC) | 0.56 | Lower | 0.00 | Lower |
| Sediment Retention & Stabilisation (SR) | 10.00 | Higher | 1.02 | Lower |
| Phosphorus Retention (PR) | 10.00 | Higher | 1.00 | Moderate |
| Nitrate Removal & Retention (NR) | 10.00 | Higher | 2.59 | Lower |
| Carbon Sequestration (CS) | 3.62 | Lower | | |
| Organic Nutrient Export (OE) | 3.53 | Lower | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 0.00 | Lower | 0.00 | Lower |
| Aquatic Invertebrate Habitat (INV) | 2.37 | Lower | 3.44 | Moderate |
| Amphibian & Turtle Habitat (AM) | 5.43 | Moderate | 5.84 | Higher |
| Waterbird Feeding Habitat (WBF) | 6.36 | Moderate | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 3.88 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 5.82 | Moderate | 10.00 | Higher |
| Pollinator Habitat (POL) | 6.82 | Moderate | 10.00 | Higher |
| Native Plant Habitat (PH) | 2.70 | Lower | 6.90 | Higher |
| Public Use & Recognition (PU) | | | 0.00 | Lower |
| Wetland Sensitivity (Sens) | | | 3.42 | Moderate |
| Wetland Ecological Condition (EC) | | | 5.66 | Moderate |
| Wetland Stressors (STR) (higher score means more stress) | | | 1.99 | Lower |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 6.32 | Moderate | 2.72 | Moderate |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 9.20 | Higher | 2.06 | Lower |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 2.57 | Lower | 2.29 | Moderate |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 4.75 | Moderate | 7.58 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 5.97 | Moderate | 9.48 | Higher |
| WETLAND CONDITION (EC) | | | 5.66 | Moderate |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 2.70 | Lower |

TAPPER’S FARM ROAD (NORTH) (TB_21)



**Site Name:** TB_22

**Loc: 636 Bauline Line (Northeast)**

**Date Assessed:** August 24, 2023

**Streets:** Bauline Line

**Coordinates:** 47.682243

-52.789179


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 1.12 | Lower | 4.60 | Higher |
| Stream Flow Support (SFS) | 6.13 | Higher | 9.22 | Higher |
| Water Cooling (WC) | 3.98 | Moderate | 5.79 | Moderate |
| Sediment Retention & Stabilisation (SR) | 1.33 | Lower | 7.94 | Higher |
| Phosphorus Retention (PR) | 2.38 | Lower | 6.00 | Higher |
| Nitrate Removal & Retention (NR) | 2.39 | Moderate | 10.00 | Higher |
| Carbon Sequestration (CS) | 2.97 | Lower | | |
| Organic Nutrient Export (OE) | 8.10 | Higher | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 0.00 | Lower | 0.00 | Lower |
| Aquatic Invertebrate Habitat (INV) | 5.02 | Moderate | 4.24 | Moderate |
| Amphibian & Turtle Habitat (AM) | 7.08 | Higher | 5.99 | Higher |
| Waterbird Feeding Habitat (WBF) | 6.46 | Moderate | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 5.63 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 6.15 | Moderate | 10.00 | Higher |
| Pollinator Habitat (POL) | 7.13 | Moderate | 10.00 | Higher |
| Native Plant Habitat (PH) | 4.44 | Moderate | 7.08 | Higher |
| Public Use & Recognition (PU) | | | 0.00 | Lower |
| Wetland Sensitivity (Sens) | | | 6.84 | Higher |
| Wetland Ecological Condition (EC) | | | 8.55 | Higher |
| Wetland Stressors (STR) (higher score means more stress) | | | 2.72 | Lower |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 1.12 | Lower | 4.60 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 2.62 | Lower | 8.99 | Higher |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 6.95 | Higher | 7.82 | Higher |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 5.46 | Moderate | 7.60 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 6.52 | Moderate | 9.51 | Higher |
| WETLAND CONDITION (EC) | | | 8.55 | Higher |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 4.78 | Higher |

636 BAULINE LINE (NORTHEAST) (TB_22)

**Site Name:** TB_23

**Loc: Indian Meal Line / Bypass (South)**

**Date Assessed:** August 24, 2023

**Streets:** Torbay Bypass Rd./Indian Meal Line

**Coordinates:** 47.647559

-52.755167


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 6.74 | Moderate | 7.85 | Higher |
| Stream Flow Support (SFS) | 0.00 | Lower | 0.00 | Lower |
| Water Cooling (WC) | 4.54 | Higher | 0.00 | Lower |
| Sediment Retention & Stabilisation (SR) | 10.00 | Higher | 2.86 | Moderate |
| Phosphorus Retention (PR) | 10.00 | Higher | 4.44 | Higher |
| Nitrate Removal & Retention (NR) | 10.00 | Higher | 5.56 | Moderate |
| Carbon Sequestration (CS) | 3.33 | Lower | | |
| Organic Nutrient Export (OE) | 5.79 | Moderate | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 0.00 | Lower | 0.00 | Lower |
| Aquatic Invertebrate Habitat (INV) | 4.02 | Moderate | 2.56 | Moderate |
| Amphibian & Turtle Habitat (AM) | 7.23 | Higher | 3.83 | Moderate |
| Waterbird Feeding Habitat (WBF) | 6.29 | Moderate | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 5.31 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 0.00 | Lower | 0.00 | Lower |
| Pollinator Habitat (POL) | 0.00 | Lower | 0.00 | Lower |
| Native Plant Habitat (PH) | 4.04 | Moderate | 3.33 | Lower |
| Public Use & Recognition (PU) | | | 1.47 | Lower |
| Wetland Sensitivity (Sens) | | | 7.07 | Higher |
| Wetland Ecological Condition (EC) | | | 8.55 | Higher |
| Wetland Stressors (STR) (higher score means more stress) | | | 4.61 | Moderate |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 6.74 | Moderate | 7.85 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 9.17 | Higher | 4.92 | Moderate |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 4.69 | Moderate | 1.70 | Lower |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 5.50 | Moderate | 7.38 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 2.69 | Lower | 2.22 | Lower |
| WETLAND CONDITION (EC) | | | 8.55 | Higher |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 5.84 | Higher |

INDIAN MEAL LINE / BYPASS (SOUTH) (TB_23)

**Site Name:** TB_24

**Loc: North Pond (West)**

**Date Assessed:** August 29, 2023

**Streets:** Cedarwood Ln/ Pumphouse Rd

**Coordinates:** 47.640602

-52.755099


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 1.83 | Lower | 2.60 | Moderate |
| Stream Flow Support (SFS) | 7.10 | Higher | 6.81 | Higher |
| Water Cooling (WC) | 4.45 | Higher | 4.25 | Moderate |
| Sediment Retention & Stabilisation (SR) | 2.84 | Lower | 7.38 | Higher |
| Phosphorus Retention (PR) | 3.16 | Lower | 5.67 | Higher |
| Nitrate Removal & Retention (NR) | 2.65 | Moderate | 10.00 | Higher |
| Carbon Sequestration (CS) | 2.79 | Lower | | |
| Organic Nutrient Export (OE) | 8.10 | Higher | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 6.78 | Higher | 3.64 | Moderate |
| Aquatic Invertebrate Habitat (INV) | 6.21 | Higher | 4.19 | Moderate |
| Amphibian & Turtle Habitat (AM) | 7.06 | Higher | 4.21 | Higher |
| Waterbird Feeding Habitat (WBF) | 7.42 | Higher | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 6.09 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 0.00 | Lower | 0.00 | Lower |
| Pollinator Habitat (POL) | 0.00 | Lower | 0.00 | Lower |
| Native Plant Habitat (PH) | 6.34 | Higher | 3.33 | Lower |
| Public Use & Recognition (PU) | | | 0.83 | Lower |
| Wetland Sensitivity (Sens) | | | 6.46 | Higher |
| Wetland Ecological Condition (EC) | | | 7.83 | Higher |
| Wetland Stressors (STR) (higher score means more stress) | | | 1.95 | Lower |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 1.83 | Lower | 2.60 | Moderate |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 3.01 | Lower | 8.84 | Higher |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 7.28 | Higher | 5.95 | Higher |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 6.45 | Higher | 7.78 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 4.23 | Moderate | 2.22 | Lower |
| WETLAND CONDITION (EC) | | | 7.83 | Higher |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 4.21 | Moderate |

NORTH POND (WEST) (TB_24)

**Site Name:** TB_25

**Loc: North Pond (West)**

**Date Assessed:** August 29, 2023

**Streets:** Pumphouse Rd

**Coordinates:** 47.643485

-52.751823


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 5.80 | Moderate | 4.48 | Higher |
| Stream Flow Support (SFS) | 0.00 | Lower | 0.00 | Lower |
| Water Cooling (WC) | 3.46 | Moderate | 0.00 | Lower |
| Sediment Retention & Stabilisation (SR) | 10.00 | Higher | 2.03 | Moderate |
| Phosphorus Retention (PR) | 10.00 | Higher | 1.32 | Moderate |
| Nitrate Removal & Retention (NR) | 10.00 | Higher | 10.00 | Higher |
| Carbon Sequestration (CS) | 2.04 | Lower | | |
| Organic Nutrient Export (OE) | 2.43 | Lower | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 6.99 | Higher | 10.00 | Higher |
| Aquatic Invertebrate Habitat (INV) | 8.96 | Higher | 6.13 | Higher |
| Amphibian & Turtle Habitat (AM) | 10.00 | Higher | 4.86 | Higher |
| Waterbird Feeding Habitat (WBF) | 9.41 | Higher | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 9.84 | Higher | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 0.00 | Lower | 0.00 | Lower |
| Pollinator Habitat (POL) | 0.00 | Lower | 0.00 | Lower |
| Native Plant Habitat (PH) | 2.40 | Lower | 3.33 | Lower |
| Public Use & Recognition (PU) | | | 2.26 | Moderate |
| Wetland Sensitivity (Sens) | | | 2.97 | Lower |
| Wetland Ecological Condition (EC) | | | 3.25 | Lower |
| Wetland Stressors (STR) (higher score means more stress) | | | 4.31 | Moderate |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 5.80 | Moderate | 4.48 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 9.00 | Higher | 7.23 | Higher |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 6.34 | Moderate | 4.09 | Moderate |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 8.62 | Higher | 8.49 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 1.60 | Lower | 2.22 | Lower |
| WETLAND CONDITION (EC) | | | 3.25 | Lower |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 3.64 | Moderate |

NORTH POND (WEST) ( TB_25)

**Site Name:** TB_26

**Loc: Quarry Road (east) / Bypass (North)**

**Date Assessed:** August 29, 2023

**Streets:** Quarry Rd Extension

**Coordinates:** 47.641859

-52.728763


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 1.28 | Lower | 7.98 | Higher |
| Stream Flow Support (SFS) | 4.58 | Higher | 5.87 | Higher |
| Water Cooling (WC) | 1.73 | Moderate | 4.62 | Moderate |
| Sediment Retention & Stabilisation (SR) | 1.88 | Lower | 2.89 | Moderate |
| Phosphorus Retention (PR) | 2.53 | Lower | 4.44 | Higher |
| Nitrate Removal & Retention (NR) | 3.49 | Moderate | 10.00 | Higher |
| Carbon Sequestration (CS) | 0.00 | Lower | | |
| Organic Nutrient Export (OE) | 7.74 | Higher | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 0.00 | Lower | 0.00 | Lower |
| Aquatic Invertebrate Habitat (INV) | 5.11 | Moderate | 3.70 | Moderate |
| Amphibian & Turtle Habitat (AM) | 7.26 | Higher | 5.97 | Higher |
| Waterbird Feeding Habitat (WBF) | 6.80 | Moderate | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 3.36 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 5.77 | Moderate | 10.00 | Higher |
| Pollinator Habitat (POL) | 7.00 | Moderate | 10.00 | Higher |
| Native Plant Habitat (PH) | 3.07 | Lower | 6.93 | Higher |
| Public Use & Recognition (PU) | | | 0.26 | Lower |
| Wetland Sensitivity (Sens) | | | 6.00 | Higher |
| Wetland Ecological Condition (EC) | | | 6.75 | Higher |
| Wetland Stressors (STR) (higher score means more stress) | | | 5.50 | Higher |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 1.28 | Lower | 7.98 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 2.73 | Lower | 7.89 | Higher |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 6.26 | Moderate | 5.30 | Higher |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 5.37 | Moderate | 7.60 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 6.14 | Moderate | 9.49 | Higher |
| WETLAND CONDITION (EC) | | | 6.75 | Higher |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 5.75 | Higher |

QUARRY ROAD (EAST)/ BYPASS (NORTH) (TB_26)

**Site Name:** TB_27

**Loc: Country Drive (South)**

**Date Assessed:** September 11, 2023

**Streets:** Dan's Loop/Country Dr

**Coordinates:** 47.659494

-52.746459


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 6.49 | Moderate | 10.00 | Higher |
| Stream Flow Support (SFS) | 0.67 | Lower | 0.00 | Lower |
| Water Cooling (WC) | 1.12 | Moderate | 0.00 | Lower |
| Sediment Retention & Stabilisation (SR) | 10.00 | Higher | 2.61 | Moderate |
| Phosphorus Retention (PR) | 2.74 | Lower | 3.33 | Higher |
| Nitrate Removal & Retention (NR) | 10.00 | Higher | 10.00 | Higher |
| Carbon Sequestration (CS) | 1.20 | Lower | | |
| Organic Nutrient Export (OE) | 3.02 | Lower | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 0.00 | Lower | 0.00 | Lower |
| Aquatic Invertebrate Habitat (INV) | 3.62 | Moderate | 4.28 | Moderate |
| Amphibian & Turtle Habitat (AM) | 6.73 | Moderate | 6.54 | Higher |
| Waterbird Feeding Habitat (WBF) | 6.48 | Moderate | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 4.33 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 7.75 | Moderate | 10.00 | Higher |
| Pollinator Habitat (POL) | 6.96 | Moderate | 10.00 | Higher |
| Native Plant Habitat (PH) | 4.80 | Moderate | 7.47 | Higher |
| Public Use & Recognition (PU) | | | 0.00 | Lower |
| Wetland Sensitivity (Sens) | | | 8.53 | Higher |
| Wetland Ecological Condition (EC) | | | 8.55 | Higher |
| Wetland Stressors (STR) (higher score means more stress) | | | 4.77 | Moderate |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 6.49 | Moderate | 10.00 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 7.99 | Higher | 7.66 | Higher |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 2.86 | Lower | 2.86 | Moderate |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 5.12 | Moderate | 7.65 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 7.13 | Moderate | 9.58 | Higher |
| WETLAND CONDITION (EC) | | | 8.55 | Higher |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 6.65 | Higher |

COUNTRY DRIVE (SOUTH) (TB_27)

**Site Name:** TB_28

**Loc: Peter's Place (North)**

**Date Assessed:** September 15, 2023

**Streets:** Flora Dr/Peter's Pl

**Coordinates:** 47.650929

-52.775757


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 1.53 | Lower | 6.83 | Higher |
| Stream Flow Support (SFS) | 3.87 | Moderate | 6.52 | Higher |
| Water Cooling (WC) | 2.57 | Moderate | 5.94 | Higher |
| Sediment Retention & Stabilisation (SR) | 2.02 | Lower | 8.79 | Higher |
| Phosphorus Retention (PR) | 2.75 | Lower | 6.67 | Higher |
| Nitrate Removal & Retention (NR) | 1.64 | Lower | 10.00 | Higher |
| Carbon Sequestration (CS) | 0.00 | Lower | | |
| Organic Nutrient Export (OE) | 7.98 | Higher | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 6.85 | Higher | 5.72 | Moderate |
| Aquatic Invertebrate Habitat (INV) | 3.36 | Moderate | 4.53 | Moderate |
| Amphibian & Turtle Habitat (AM) | 9.05 | Higher | 4.07 | Higher |
| Waterbird Feeding Habitat (WBF) | 7.02 | Moderate | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 6.57 | Higher | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 0.00 | Lower | 0.00 | Lower |
| Pollinator Habitat (POL) | 0.00 | Lower | 0.00 | Lower |
| Native Plant Habitat (PH) | 4.17 | Moderate | 3.33 | Lower |
| Public Use & Recognition (PU) | | | 0.00 | Lower |
| Wetland Sensitivity (Sens) | | | 0.93 | Lower |
| Wetland Ecological Condition (EC) | | | 3.49 | Lower |
| Wetland Stressors (STR) (higher score means more stress) | | | 3.15 | Moderate |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 1.53 | Lower | 6.83 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 2.18 | Lower | 9.24 | Higher |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 6.21 | Moderate | 6.09 | Higher |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 7.47 | Higher | 7.98 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 2.78 | Lower | 2.22 | Lower |
| WETLAND CONDITION (EC) | | | 3.49 | Lower |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 2.04 | Lower |

PETER’S PLACE (NORTH) (TB_28)

**Site Name:** TB_29

**Loc: The Gully / Mahon's Lane (Northwest)**

**Date Assessed:** September 19, 2023

**Streets:** Mahon's lane/Lynchs Lane

**Coordinates:** 47.656105

-52.720176


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 2.07 | Lower | 7.55 | Higher |
| Stream Flow Support (SFS) | 3.35 | Moderate | 4.87 | Moderate |
| Water Cooling (WC) | 6.23 | Higher | 5.37 | Moderate |
| Sediment Retention & Stabilisation (SR) | 4.45 | Moderate | 9.06 | Higher |
| Phosphorus Retention (PR) | 2.48 | Lower | 7.36 | Higher |
| Nitrate Removal & Retention (NR) | 3.78 | Moderate | 10.00 | Higher |
| Carbon Sequestration (CS) | 1.72 | Lower | | |
| Organic Nutrient Export (OE) | 9.77 | Higher | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 8.17 | Higher | 10.00 | Higher |
| Aquatic Invertebrate Habitat (INV) | 10.00 | Higher | 6.32 | Higher |
| Amphibian & Turtle Habitat (AM) | 8.44 | Higher | 6.14 | Higher |
| Waterbird Feeding Habitat (WBF) | 7.53 | Higher | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 6.91 | Higher | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 5.57 | Moderate | 10.00 | Higher |
| Pollinator Habitat (POL) | 6.17 | Moderate | 10.00 | Higher |
| Native Plant Habitat (PH) | 4.05 | Moderate | 6.64 | Moderate |
| Public Use & Recognition (PU) | | | 6.94 | Higher |
| Wetland Sensitivity (Sens) | | | 4.11 | Moderate |
| Wetland Ecological Condition (EC) | | | 7.11 | Higher |
| Wetland Stressors (STR) (higher score means more stress) | | | 5.58 | Higher |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 2.07 | Lower | 7.55 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 3.78 | Lower | 9.40 | Higher |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 8.67 | Higher | 5.92 | Higher |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 7.32 | Higher | 8.61 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 5.72 | Moderate | 9.44 | Higher |
| WETLAND CONDITION (EC) | | | 7.11 | Higher |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 4.85 | Higher |

THE GULLY / MAHONES LANE (NORTHWEST) (TB_29)

**Site Name:** TB_30

**Loc: Jones Pond Park / Torquay PL (North)**

**Date Assessed:** September 19, 2023

**Streets:** Upton Pl

**Coordinates:** 47.656105

-52.720176


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 2.02 | Lower | 7.11 | Higher |
| Stream Flow Support (SFS) | 3.81 | Moderate | 4.60 | Moderate |
| Water Cooling (WC) | 9.33 | Higher | 5.43 | Moderate |
| Sediment Retention & Stabilisation (SR) | 4.68 | Moderate | 7.92 | Higher |
| Phosphorus Retention (PR) | 2.80 | Lower | 5.83 | Higher |
| Nitrate Removal & Retention (NR) | 3.54 | Moderate | 10.00 | Higher |
| Carbon Sequestration (CS) | 0.00 | Lower | | |
| Organic Nutrient Export (OE) | 9.10 | Higher | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 4.90 | Moderate | 6.13 | Higher |
| Aquatic Invertebrate Habitat (INV) | 8.52 | Higher | 4.72 | Moderate |
| Amphibian & Turtle Habitat (AM) | 4.23 | Moderate | 6.45 | Higher |
| Waterbird Feeding Habitat (WBF) | 5.93 | Moderate | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 4.50 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 8.02 | Higher | 10.00 | Higher |
| Pollinator Habitat (POL) | 6.60 | Moderate | 10.00 | Higher |
| Native Plant Habitat (PH) | 6.02 | Moderate | 7.44 | Higher |
| Public Use & Recognition (PU) | | | 0.00 | Lower |
| Wetland Sensitivity (Sens) | | | 5.60 | Moderate |
| Wetland Ecological Condition (EC) | | | 10.00 | Higher |
| Wetland Stressors (STR) (higher score means more stress) | | | 2.96 | Moderate |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 2.02 | Lower | 7.11 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 3.72 | Lower | 8.96 | Higher |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 8.51 | Higher | 5.17 | Higher |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 4.92 | Moderate | 8.26 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 7.45 | Moderate | 9.57 | Higher |
| WETLAND CONDITION (EC) | | | 10.00 | Higher |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 4.28 | Moderate |

JONES POND PARK/ TORQUAY PLACE (NORTH) (TB_30)

**Site Name:** TB_31

**Loc: Mayflower Drive Ext. (Southwest)**

**Date Assessed:** September 22, 2023

**Streets:** Mayflower Dr

**Coordinates:** 47.666079

-52.781780


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 2.53 | Lower | 4.26 | Higher |
| Stream Flow Support (SFS) | 2.90 | Moderate | 8.56 | Higher |
| Water Cooling (WC) | 2.81 | Moderate | 2.03 | Moderate |
| Sediment Retention & Stabilisation (SR) | 2.12 | Lower | 1.42 | Moderate |
| Phosphorus Retention (PR) | 2.99 | Lower | 1.00 | Moderate |
| Nitrate Removal & Retention (NR) | 2.06 | Moderate | 3.33 | Moderate |
| Carbon Sequestration (CS) | 4.34 | Moderate | | |
| Organic Nutrient Export (OE) | 8.23 | Higher | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 0.00 | Lower | 0.00 | Lower |
| Aquatic Invertebrate Habitat (INV) | 4.05 | Moderate | 4.44 | Moderate |
| Amphibian & Turtle Habitat (AM) | 6.42 | Moderate | 6.71 | Higher |
| Waterbird Feeding Habitat (WBF) | 5.78 | Moderate | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 4.67 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 8.91 | Higher | 10.00 | Higher |
| Pollinator Habitat (POL) | 7.67 | Higher | 10.00 | Higher |
| Native Plant Habitat (PH) | 1.68 | Lower | 7.99 | Higher |
| Public Use & Recognition (PU) | | | 1.40 | Lower |
| Wetland Sensitivity (Sens) | | | 4.57 | Moderate |
| Wetland Ecological Condition (EC) | | | 5.66 | Moderate |
| Wetland Stressors (STR) (higher score means more stress) | | | 2.15 | Lower |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 2.53 | Lower | 4.26 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 3.61 | Lower | 2.63 | Moderate |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 6.37 | Higher | 6.79 | Higher |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 4.90 | Moderate | 7.67 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 7.49 | Moderate | 9.67 | Higher |
| WETLAND CONDITION (EC) | | | 5.66 | Moderate |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 3.36 | Moderate |

MAYFLOWER DRIVE EXT. (SOUTHWEST) (TB_31)

**Site Name:** TB_32

**Loc: Salerno Pl (South)**

**Date Assessed:** September 22, 2023

**Streets:** Salerno Pl

**Coordinates:** 47.651807

-52.721807


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 0.61 | Lower | 4.56 | Higher |
| Stream Flow Support (SFS) | 6.45 | Higher | 3.57 | Moderate |
| Water Cooling (WC) | 3.37 | Moderate | 3.98 | Moderate |
| Sediment Retention & Stabilisation (SR) | 1.29 | Lower | 2.61 | Moderate |
| Phosphorus Retention (PR) | 3.36 | Lower | 3.33 | Higher |
| Nitrate Removal & Retention (NR) | 2.27 | Moderate | 10.00 | Higher |
| Carbon Sequestration (CS) | 4.13 | Moderate | | |
| Organic Nutrient Export (OE) | 8.49 | Higher | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 0.00 | Lower | 0.00 | Lower |
| Aquatic Invertebrate Habitat (INV) | 3.67 | Moderate | 3.46 | Moderate |
| Amphibian & Turtle Habitat (AM) | 7.32 | Higher | 5.37 | Higher |
| Waterbird Feeding Habitat (WBF) | 5.34 | Moderate | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 4.23 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 5.42 | Moderate | 10.00 | Higher |
| Pollinator Habitat (POL) | 6.67 | Moderate | 10.00 | Higher |
| Native Plant Habitat (PH) | 2.01 | Lower | 6.74 | Higher |
| Public Use & Recognition (PU) | | | 2.01 | Lower |
| Wetland Sensitivity (Sens) | | | 3.27 | Moderate |
| Wetland Ecological Condition (EC) | | | 8.55 | Higher |
| Wetland Stressors (STR) (higher score means more stress) | | | 5.32 | Higher |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 0.61 | Lower | 4.56 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 3.45 | Lower | 7.66 | Higher |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 6.99 | Higher | 3.82 | Moderate |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 5.35 | Moderate | 7.54 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 5.68 | Moderate | 9.46 | Higher |
| WETLAND CONDITION (EC) | | | 8.55 | Higher |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 4.29 | Moderate |

SALERNO PLACE (SOUTH) (TB_32)

**Site Name:** TB_33

**Loc: Duggan Place (Northwest)**

**Date Assessed:** September 22, 2023

**Streets:** Duggen pl

**Coordinates:** 47. 650946

-52.739961


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 2.53 | Lower | 6.06 | Higher |
| Stream Flow Support (SFS) | 3.23 | Moderate | 4.37 | Moderate |
| Water Cooling (WC) | 3.37 | Moderate | 1.96 | Moderate |
| Sediment Retention & Stabilisation (SR) | 2.18 | Lower | 2.10 | Moderate |
| Phosphorus Retention (PR) | 3.40 | Lower | 1.67 | Moderate |
| Nitrate Removal & Retention (NR) | 2.77 | Moderate | 7.04 | Higher |
| Carbon Sequestration (CS) | 3.95 | Moderate | | |
| Organic Nutrient Export (OE) | 9.28 | Higher | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 0.00 | Lower | 0.00 | Lower |
| Aquatic Invertebrate Habitat (INV) | 4.53 | Moderate | 3.95 | Moderate |
| Amphibian & Turtle Habitat (AM) | 7.06 | Higher | 5.77 | Higher |
| Waterbird Feeding Habitat (WBF) | 5.88 | Moderate | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 5.14 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 6.06 | Moderate | 10.00 | Higher |
| Pollinator Habitat (POL) | 7.18 | Moderate | 10.00 | Higher |
| Native Plant Habitat (PH) | 3.94 | Moderate | 7.07 | Higher |
| Public Use & Recognition (PU) | | | 1.40 | Lower |
| Wetland Sensitivity (Sens) | | | 7.66 | Higher |
| Wetland Ecological Condition (EC) | | | 8.55 | Higher |
| Wetland Stressors (STR) (higher score means more stress) | | | 2.55 | Lower |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 2.53 | Lower | 6.06 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 3.51 | Lower | 5.32 | Higher |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 7.19 | Higher | 3.90 | Moderate |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 5.34 | Moderate | 7.58 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 6.46 | Moderate | 9.51 | Higher |
| WETLAND CONDITION (EC) | | | 8.55 | Higher |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 5.11 | Higher |

DUGGAN PLACE (NORTHWEST) (TB_33)

**Site Name:** TB_34

**Loc: Whitty's Lane / Gully Road (West)**

**Date Assessed:** September 22, 2023

**Streets:** Whitty's Ln/Gully Rd

**Coordinates:** 47. 674570

-52. 740960


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 1.20 | Lower | 5.93 | Higher |
| Stream Flow Support (SFS) | 5.81 | Higher | 7.70 | Higher |
| Water Cooling (WC) | 3.37 | Moderate | 4.84 | Moderate |
| Sediment Retention & Stabilisation (SR) | 1.58 | Lower | 2.27 | Moderate |
| Phosphorus Retention (PR) | 2.60 | Lower | 1.50 | Moderate |
| Nitrate Removal & Retention (NR) | 2.58 | Moderate | 5.83 | Moderate |
| Carbon Sequestration (CS) | 3.83 | Moderate | | |
| Organic Nutrient Export (OE) | 8.46 | Higher | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 0.00 | Lower | 0.00 | Lower |
| Aquatic Invertebrate Habitat (INV) | 3.35 | Moderate | 4.14 | Moderate |
| Amphibian & Turtle Habitat (AM) | 7.52 | Higher | 5.89 | Higher |
| Waterbird Feeding Habitat (WBF) | 6.48 | Moderate | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 5.25 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 5.86 | Moderate | 10.00 | Higher |
| Pollinator Habitat (POL) | 6.68 | Moderate | 10.00 | Higher |
| Native Plant Habitat (PH) | 2.96 | Lower | 6.87 | Higher |
| Public Use & Recognition (PU) | | | 3.31 | Moderate |
| Wetland Sensitivity (Sens) | | | 2.18 | Lower |
| Wetland Ecological Condition (EC) | | | 7.11 | Higher |
| Wetland Stressors (STR) (higher score means more stress) | | | 2.38 | Lower |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 1.20 | Lower | 5.93 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 3.24 | Lower | 4.52 | Moderate |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 6.85 | Higher | 6.63 | Higher |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 5.68 | Moderate | 7.59 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 5.93 | Moderate | 9.48 | Higher |
| WETLAND CONDITION (EC) | | | 7.11 | Higher |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 2.28 | Lower |

WHITTY'S LANE/ GULLY ROAD (WEST) (TB_34)

**Site Name:** TB_35

**Loc: 354 Bauline Line / M. Manning Place (West)**

**Date Assessed:** September 28, 2023

**Streets:** Bauline Line

**Coordinates:** 47. 668465

-52. 770402


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 2.83 | Lower | 5.76 | Higher |
| Stream Flow Support (SFS) | 1.72 | Lower | 7.37 | Higher |
| Water Cooling (WC) | 5.48 | Higher | 1.16 | Lower |
| Sediment Retention & Stabilisation (SR) | 1.17 | Lower | 1.52 | Moderate |
| Phosphorus Retention (PR) | 4.06 | Lower | 3.33 | Higher |
| Nitrate Removal & Retention (NR) | 3.18 | Moderate | 10.00 | Higher |
| Carbon Sequestration (CS) | 3.95 | Moderate | | |
| Organic Nutrient Export (OE) | 6.35 | Moderate | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 0.00 | Lower | 0.00 | Lower |
| Aquatic Invertebrate Habitat (INV) | 2.92 | Lower | 3.79 | Moderate |
| Amphibian & Turtle Habitat (AM) | 7.19 | Higher | 5.70 | Higher |
| Waterbird Feeding Habitat (WBF) | 5.84 | Moderate | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 4.61 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 5.92 | Moderate | 10.00 | Higher |
| Pollinator Habitat (POL) | 7.30 | Moderate | 10.00 | Higher |
| Native Plant Habitat (PH) | 3.43 | Lower | 7.06 | Higher |
| Public Use & Recognition (PU) | | | 3.31 | Moderate |
| Wetland Sensitivity (Sens) | | | 3.70 | Moderate |
| Wetland Ecological Condition (EC) | | | 5.66 | Moderate |
| Wetland Stressors (STR) (higher score means more stress) | | | 3.96 | Moderate |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 2.83 | Lower | 5.76 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 3.58 | Lower | 7.48 | Higher |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 5.23 | Moderate | 5.74 | Higher |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 5.36 | Moderate | 7.57 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 6.42 | Moderate | 9.51 | Higher |
| WETLAND CONDITION (EC) | | | 5.66 | Moderate |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 3.83 | Moderate |

354 Bauline Line / M. Manning Place (West) (TB_35)

**Site Name:** TB_36

**Loc: Roblin Place (South)**

**Date Assessed:** September 28, 2023

**Streets:** Roblin Pl / Kelly's Ln

**Coordinates:** 47. 629791

-52.730900


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 1.07 | Lower | 10.00 | Higher |
| Stream Flow Support (SFS) | 3.81 | Moderate | 6.41 | Higher |
| Water Cooling (WC) | 3.98 | Moderate | 4.79 | Moderate |
| Sediment Retention & Stabilisation (SR) | 1.96 | Lower | 2.27 | Moderate |
| Phosphorus Retention (PR) | 1.54 | Lower | 3.33 | Higher |
| Nitrate Removal & Retention (NR) | 2.80 | Moderate | 5.19 | Moderate |
| Carbon Sequestration (CS) | 0.02 | Lower | | |
| Organic Nutrient Export (OE) | 6.12 | Moderate | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 0.00 | Lower | 0.00 | Lower |
| Aquatic Invertebrate Habitat (INV) | 4.57 | Moderate | 2.18 | Moderate |
| Amphibian & Turtle Habitat (AM) | 6.43 | Moderate | 3.92 | Higher |
| Waterbird Feeding Habitat (WBF) | 6.56 | Moderate | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 4.02 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 0.00 | Lower | 0.00 | Lower |
| Pollinator Habitat (POL) | 0.00 | Lower | 0.00 | Lower |
| Native Plant Habitat (PH) | 2.54 | Lower | 3.33 | Lower |
| Public Use & Recognition (PU) | | | 0.00 | Lower |
| Wetland Sensitivity (Sens) | | | 6.86 | Higher |
| Wetland Ecological Condition (EC) | | | 6.75 | Higher |
| Wetland Stressors (STR) (higher score means more stress) | | | 3.25 | Moderate |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 1.07 | Lower | 10.00 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 2.19 | Lower | 4.39 | Moderate |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 5.37 | Moderate | 5.44 | Higher |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 4.98 | Moderate | 7.39 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 1.69 | Lower | 2.22 | Lower |
| WETLAND CONDITION (EC) | | | 6.75 | Higher |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 5.05 | Higher |

ROBLIN PLACE (SOUTH) (TB_36)

**Site Name:** TB_37

**Loc: Whitty's Lane / Gully Road (East)**

**Date Assessed:** September 29, 2023

**Streets:** Whitty's Lane / Gully Road

**Coordinates:** 47.675902

-52.739092


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 1.07 | Lower | 6.01 | Higher |
| Stream Flow Support (SFS) | 4.45 | Higher | 8.08 | Higher |
| Water Cooling (WC) | 4.54 | Higher | 6.47 | Higher |
| Sediment Retention & Stabilisation (SR) | 1.67 | Lower | 8.36 | Higher |
| Phosphorus Retention (PR) | 1.38 | Lower | 6.50 | Higher |
| Nitrate Removal & Retention (NR) | 2.80 | Moderate | 10.00 | Higher |
| Carbon Sequestration (CS) | 1.76 | Lower | | |
| Organic Nutrient Export (OE) | 8.04 | Higher | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 0.00 | Lower | 0.00 | Lower |
| Aquatic Invertebrate Habitat (INV) | 6.24 | Higher | 4.18 | Moderate |
| Amphibian & Turtle Habitat (AM) | 7.56 | Higher | 5.90 | Higher |
| Waterbird Feeding Habitat (WBF) | 6.44 | Moderate | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 5.33 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 5.91 | Moderate | 10.00 | Higher |
| Pollinator Habitat (POL) | 6.90 | Moderate | 10.00 | Higher |
| Native Plant Habitat (PH) | 3.53 | Lower | 6.95 | Higher |
| Public Use & Recognition (PU) | | | 0.00 | Lower |
| Wetland Sensitivity (Sens) | | | 6.32 | Higher |
| Wetland Ecological Condition (EC) | | | 7.83 | Higher |
| Wetland Stressors (STR) (higher score means more stress) | | | 3.12 | Moderate |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 1.07 | Lower | 6.01 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 2.35 | Lower | 9.14 | Higher |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 6.93 | Higher | 7.16 | Higher |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 5.71 | Moderate | 7.59 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 6.17 | Moderate | 9.49 | Higher |
| WETLAND CONDITION (EC) | | | 7.83 | Higher |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 4.72 | Higher |

WHITTY’S LANE/ GULLY ROAD (EAST) (TB_37)

**Site Name:** TB_38

**Loc: Valley Loop Drive (North)**

**Date Assessed:** September 29, 2023

**Streets:** Scenic View Dr.

**Coordinates:** 47.650591

-52.783414


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 1.64 | Lower | 6.95 | Higher |
| Stream Flow Support (SFS) | 6.77 | Higher | 6.81 | Higher |
| Water Cooling (WC) | 4.54 | Higher | 4.17 | Moderate |
| Sediment Retention & Stabilisation (SR) | 2.24 | Lower | 8.03 | Higher |
| Phosphorus Retention (PR) | 3.27 | Lower | 6.17 | Higher |
| Nitrate Removal & Retention (NR) | 2.94 | Moderate | 10.00 | Higher |
| Carbon Sequestration (CS) | 0.92 | Lower | | |
| Organic Nutrient Export (OE) | 7.82 | Higher | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 6.43 | Higher | 6.51 | Higher |
| Aquatic Invertebrate Habitat (INV) | 4.97 | Moderate | 4.01 | Moderate |
| Amphibian & Turtle Habitat (AM) | 7.44 | Higher | 4.15 | Higher |
| Waterbird Feeding Habitat (WBF) | 7.24 | Higher | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 5.54 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 0.00 | Lower | 0.00 | Lower |
| Pollinator Habitat (POL) | 0.00 | Lower | 0.00 | Lower |
| Native Plant Habitat (PH) | 5.63 | Moderate | 3.33 | Lower |
| Public Use & Recognition (PU) | | | 1.40 | Lower |
| Wetland Sensitivity (Sens) | | | 4.66 | Moderate |
| Wetland Ecological Condition (EC) | | | 4.58 | Moderate |
| Wetland Stressors (STR) (higher score means more stress) | | | 4.28 | Moderate |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 1.64 | Lower | 6.95 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 2.81 | Lower | 9.03 | Higher |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 6.93 | Higher | 5.90 | Higher |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 6.39 | Higher | 8.07 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 3.75 | Lower | 2.22 | Lower |
| WETLAND CONDITION (EC) | | | 4.58 | Moderate |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 4.47 | Higher |

VALLEY LOOP DRIVE (NORTH) (TB_38)

**Site Name:** TB_39

**Loc: 863 Torbay Road (West) / Cahill Fab**

**Date Assessed:** September 29, 2023

**Streets:** Torbay Rd

**Coordinates:** 47.628306

-52.727162


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 1.97 | Lower | 10.00 | Higher |
| Stream Flow Support (SFS) | 4.32 | Moderate | 7.09 | Higher |
| Water Cooling (WC) | 5.10 | Higher | 4.38 | Moderate |
| Sediment Retention & Stabilisation (SR) | 2.77 | Lower | 7.75 | Higher |
| Phosphorus Retention (PR) | 1.98 | Lower | 6.04 | Higher |
| Nitrate Removal & Retention (NR) | 3.06 | Moderate | 10.00 | Higher |
| Carbon Sequestration (CS) | 0.00 | Lower | | |
| Organic Nutrient Export (OE) | 7.96 | Higher | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 5.12 | Moderate | 6.37 | Higher |
| Aquatic Invertebrate Habitat (INV) | 5.21 | Moderate | 5.02 | Moderate |
| Amphibian & Turtle Habitat (AM) | 6.33 | Moderate | 6.58 | Higher |
| Waterbird Feeding Habitat (WBF) | 6.75 | Moderate | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 3.81 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 7.60 | Moderate | 10.00 | Higher |
| Pollinator Habitat (POL) | 7.37 | Moderate | 10.00 | Higher |
| Native Plant Habitat (PH) | 4.47 | Moderate | 7.55 | Higher |
| Public Use & Recognition (PU) | | | 0.00 | Lower |
| Wetland Sensitivity (Sens) | | | 3.25 | Moderate |
| Wetland Ecological Condition (EC) | | | 7.11 | Higher |
| Wetland Stressors (STR) (higher score means more stress) | | | 3.85 | Moderate |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 1.97 | Lower | 10.00 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 2.51 | Lower | 8.97 | Higher |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 6.81 | Higher | 6.29 | Higher |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 5.58 | Moderate | 8.29 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 7.04 | Moderate | 9.59 | Higher |
| WETLAND CONDITION (EC) | | | 7.11 | Higher |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 3.55 | Moderate |

## 863 Torbay Road (West) / Cahill Fab (TB_39)

**Site Name:** TB_40

**Loc: Torbay Common (West)**

**Date Assessed:** October 6, 2023

**Streets:** 8 Kinsmen Place/ Torbay Rd

**Coordinates:** 47.661643

-52. 739500


| Wetland Functions or Other Attributes: | Function Score (Normalised) | Function Rating | Benefits Score (Normalised) | Benefits Rating |
|---|---|---|---|---|
| Water Storage & Delay (WS) | 1.51 | Lower | 10.00 | Higher |
| Stream Flow Support (SFS) | 4.32 | Moderate | 5.65 | Higher |
| Water Cooling (WC) | 4.54 | Higher | 5.75 | Moderate |
| Sediment Retention & Stabilisation (SR) | 2.28 | Lower | 9.93 | Higher |
| Phosphorus Retention (PR) | 1.74 | Lower | 7.99 | Higher |
| Nitrate Removal & Retention (NR) | 3.62 | Moderate | 10.00 | Higher |
| Carbon Sequestration (CS) | 0.00 | Lower | | |
| Organic Nutrient Export (OE) | 7.35 | Higher | | |
| Anadromous Fish Habitat (FA) | 0.00 | Lower | 0.00 | Lower |
| Resident Fish Habitat (FR) | 5.09 | Moderate | 6.44 | Higher |
| Aquatic Invertebrate Habitat (INV) | 5.42 | Moderate | 4.49 | Moderate |
| Amphibian & Turtle Habitat (AM) | 6.75 | Moderate | 6.02 | Higher |
| Waterbird Feeding Habitat (WBF) | 6.98 | Moderate | 10.00 | Higher |
| Waterbird Nesting Habitat (WBN) | 3.13 | Moderate | 10.00 | Higher |
| Songbird, Raptor, & Mammal Habitat (SBM) | 5.75 | Moderate | 10.00 | Higher |
| Pollinator Habitat (POL) | 6.15 | Moderate | 10.00 | Higher |
| Native Plant Habitat (PH) | 3.77 | Moderate | 6.68 | Moderate |
| Public Use & Recognition (PU) | | | 0.10 | Lower |
| Wetland Sensitivity (Sens) | | | 5.30 | Moderate |
| Wetland Ecological Condition (EC) | | | 8.55 | Higher |
| Wetland Stressors (STR) (higher score means more stress) | | | 6.22 | Higher |
| **Summary Ratings for Grouped Functions:** | | | | |
| HYDROLOGIC Group (WS) | 1.51 | Lower | 10.00 | Higher |
| WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS) | 2.77 | Lower | 9.65 | Higher |
| AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC) | 6.38 | Higher | 5.52 | Higher |
| AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN) | 5.68 | Moderate | 8.25 | Higher |
| TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL) | 5.68 | Moderate | 9.45 | Higher |
| WETLAND CONDITION (EC) | | | 8.55 | Higher |
| WETLAND RISK (average of Sensitivity & Stressors) | | | 5.76 | Higher |

TORBAY COMMON (WEST) (TB_40)