

# 2024 PHRAGMITES MANAGEMENT FIELD SEASON REPORT



**Seguin**  
Township



**generations  
effect**  
Sustainable Solutions  
Practical Results

# ABOUT US



*GenE staff removing Phragmites with long-reach hedge trimmers.*



*GenE and Seguin staff removing Phragmites from a wetland.*

Seguin Township and GBB have a history of collaborating on climate action, species at risk, habitat stewardship, and water quality projects. Building on this relationship, Seguin Township retained GenE to lead a pilot Phragmites management project focused on restoring wetland habitats.

Generations Effect (GenE) is a social enterprise rooted in the Georgian Bay Mnidoo Gamii Biosphere (GBB). We provide consulting and technical services that advance ecological, social and economic well-being, ensuring that we work to maximize benefits to society and ecosystems and giving back to community. We reinvest our profits into initiatives and projects in the Georgian Bay Mnidoo Gamii Biosphere Region.

Our approach is to bring people and ideas together. Through collaboration we bring ingenuity to complex challenges and develop clear strategies to achieve goals with positive, long term outcomes. We look at each project in the context of achieving sustainable development goals as defined by the United Nations. We know that the decisions we make today will have an effect on future generations, so we strive to solve immediate problems with a view to long-term resilience.



*Seguin staff transporting cut Phragmites biomass out of a wetland with a canoe.*



# PROJECT OVERVIEW



*A wetland being selectively cut to manage invasive Phragmites.*

The *Enhancing Wetlands in Seguin Township* project launched in spring 2024 as a year-long pilot initiative to develop Seguin Township's Invasive Plant Management Plan. The project prioritized the identification, mapping, and manual removal of invasive Phragmites and purple loosestrife from wetland habitats, with an overarching goal of restoring ecosystem function and improving ecosystem services.



*GenE and Seguin staff stockpiling and bagging Phragmites biomass.*



*GenE staff demonstrating how to manually remove Phragmites with cane cutters and serrated-spade shovels in the field.*

Funded by the Ministry of the Environment, Conservation and Parks (MECP) through the Wetland Conservation Partner Program (WCPP), this initiative demonstrated how GenE serves the region by addressing environmental challenges with local partners, while upholding the values of the UNESCO-designated Biosphere.

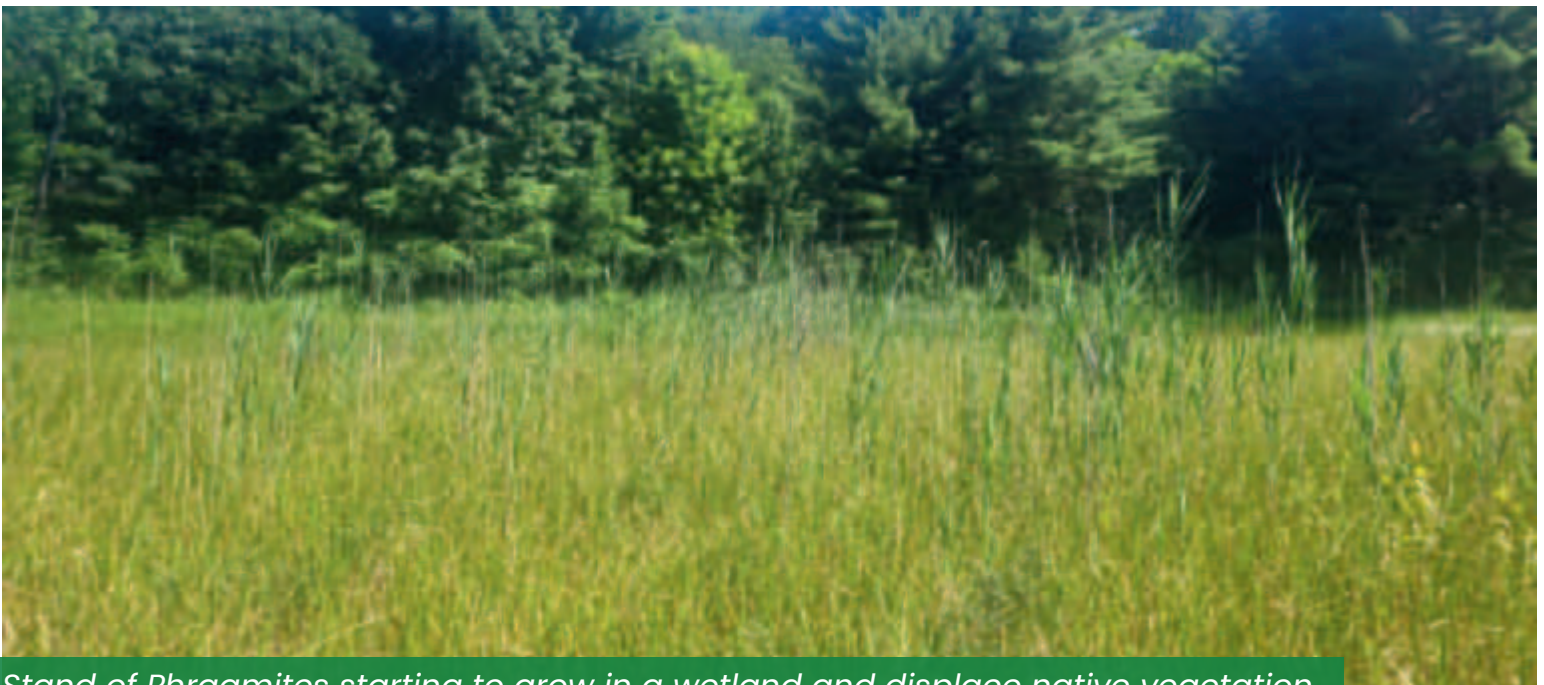
# PROJECT RATIONALE

Wetlands, often referred to as the "kidneys of the landscape," provide essential environmental, economic, and social benefits, including:

- Improving water quality;
- Reducing stormwater impacts and flood risks;
- Enhancing resilience to climate change;
- Supporting recreational and tourism opportunities;
- Providing critical habitats for fish spawning, breeding, and endangered species; and
- Offering ecological and culturally significant goods and services, particularly for Indigenous communities.

A major threat to wetlands in Seguin Township is the invasive species Phragmites (*Phragmites australis* subsp. *australis*). This aggressive plant displaces native vegetation, such as cattails and bulrushes, which are essential to wetland health. The spread of Phragmites diminishes wildlife habitats—especially for species at risk like the Blanding's Turtle and Massasauga Rattlesnake—alters hydrology by accelerating water depletion, and degrades water quality by disrupting nutrient cycles and the physical structure of wetlands. Additionally, Phragmites negatively impacts recreational activities and poses safety risks for drivers by obstructing sightlines along roads.

Recognizing these threats, Seguin Township initiated measures to control Phragmites and protect its wetlands, focusing on restoring natural heritage systems and supporting biodiversity.



Stand of Phragmites starting to grow in a wetland and displace native vegetation.

# METHODS & IMPLEMENTATION

The project focused on controlling invasive Phragmites and purple loosestrife, while simultaneously building local capacity for long-term management through training and collaboration. Following a structured timeline (Table 1), Best Management Practices (BMPs) for Phragmites control were implemented targeting local wetlands. Figure 1 provides a summary of the scouting efforts conducted in May and June of 2024, with a more thorough list of roads and trails scouted provided in Table 2.

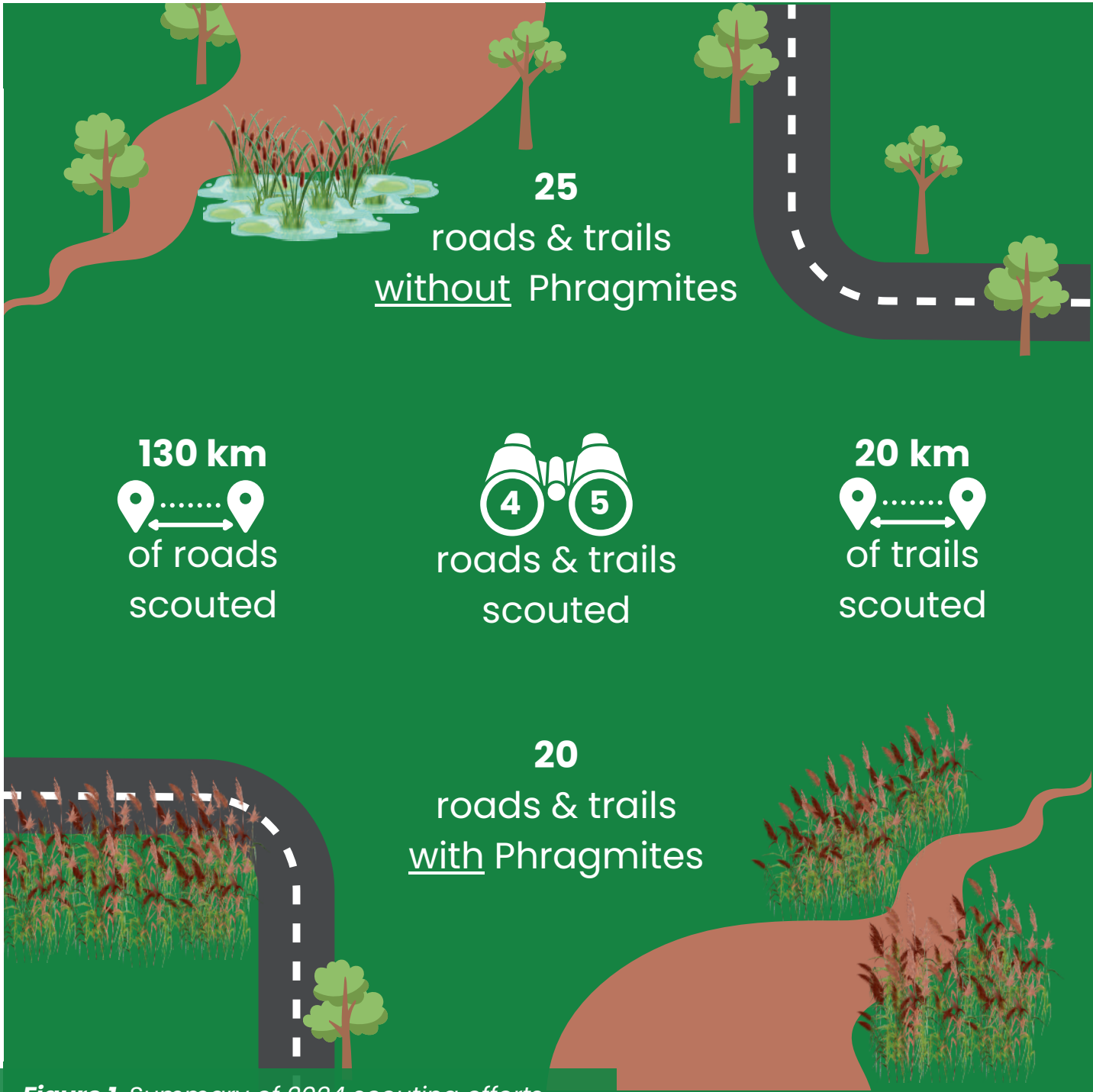


*Phragmites (left) and Purple loosestrife (right).*

**Table 1.** *Enhancing Wetlands in Seguin Township 2024 project timeline.*

Timing	Project Activity
<b>May - June</b>	Conducted Phragmites scouting surveys. Updated the Phragmites distribution map. Engaged with local First Nations. Hosted a Phragmites Identification and Removal Training workshop with staff and community. Purchased equipment.
<b>June - September</b>	Updated reporting and verified priority sites for removal. Started drafting the Invasive Plant Management Plan. Managed, controlled, and disposed of Phragmites and purple loosestrife.
<b>October</b>	Re-visited and monitored treated sites.
<b>October - December</b>	Conducted project reporting. Finalized the Invasive Plant Management Plan.

# METHODS & IMPLEMENTATION



**Figure 1.** Summary of 2024 scouting efforts.

# METHODS & IMPLEMENTATION

**Table 2.** Roads and trails scouted in 2024.

Roads		Trails & Other
<ul style="list-style-type: none"> <li>• Badger Road</li> <li>• Bartlett Drive</li> <li>• Beechwood Drive</li> <li>• Birdwalk Road</li> <li>• Blue Lake Road</li> <li>• Bradshaw Road</li> <li>• Brooks Road</li> <li>• Burgess Road</li> <li>• Clear Lake Road</li> <li>• Cochrane Lake Road</li> <li>• Deerwood Drive</li> <li>• Elliott House Road</li> <li>• Emily Street</li> <li>• Ferris Road</li> <li>• Garden Court</li> <li>• Goodard Crescent</li> <li>• Horseshoe Lae Road</li> <li>• Hunter Drive</li> <li>• HWY 141</li> <li>• HWY 518</li> <li>• HWY 612</li> </ul>	<ul style="list-style-type: none"> <li>• HWY 632</li> <li>• James Bay Junction Road</li> <li>• Lake Joseph Road</li> <li>• Lawson Crescent</li> <li>• Little Otter Lane</li> <li>• McCauley Road</li> <li>• Otter Lake Road</li> <li>• Rankin Lake Road</li> <li>• Rose Point Road</li> <li>• Salmon Lake Road</li> <li>• Sandy Plains Road</li> <li>• Seguin Place Drive</li> <li>• Stanley House Road</li> <li>• Star Lake Road</li> <li>• Steeles Road</li> <li>• Stoneman Drive</li> <li>• Sugar Lake Road</li> <li>• Tall Timbers Road</li> <li>• Tally Ho Swords Road</li> <li>• Turtle Lake Road</li> </ul>	<ul style="list-style-type: none"> <li>• Horseshoe Lake Boat Launch</li> <li>• Humphrey Barn and Nature Trails</li> <li>• Park-To-Park Trail</li> <li>• Rose Point Trail</li> </ul>

# METHODS & IMPLEMENTATION

To prioritize sites for Phragmites management, we consulted experts from Georgian Bay Forever, whose extensive experience guided our decision-making process. The following priority ranking system was used to guide site selection:

- **Small, Sparse Sites:** Begin with small, sparse Phragmites sites. These are easier to eradicate when addressed early, preventing them from spreading into larger, more challenging areas.
- **Previously Treated Sites:** Follow up on previously treated sites in order of smallest to largest. Revisiting these areas ensures any remaining Phragmites is effectively controlled, maintaining progress.
- **High-Value Areas:** Prioritize sites supporting species-at-risk (SAR) populations and/or cultural values. These areas require immediate attention to protect ecological integrity and cultural/community access and use.
- **Large, Dense Sites:** Address larger, denser Phragmites sites last. These areas are more resource-intensive and may require additional support, such as volunteers, to manage effectively.

However, challenges in securing private property permissions for smaller, less dense sites required us to adapt our approach. In some cases, this meant adding a few large, dense sites where access was granted. This adaptive management style allows us to make measurable progress despite logistical constraints.

By applying this structured yet flexible approach, we ensured that our Phragmites management efforts remained strategic and impactful, maximizing ecological benefits within the constraints of land access and available resources.



*Large, dense, aquatic stand of Phragmites.*

# METHODS & IMPLEMENTATION

Key removal methods included mechanical controls, such as selective and clear cutting of invasive Phragmites in aquatic areas. Large, dense stands were clear-cut using long-reach hedge trimmers, while less dense areas were selectively cut to preserve native vegetation, using raspberry cane cutters in aquatic zones or serrated-spade shovels in drier locations. Canoes were employed to access Phragmites stands in high-water areas. Where feasible, plant material was disposed of on-site by leaving it wrapped in a tarp to dry in the sun; otherwise, off-site disposal using a bagging method was carried out by Seguin Public Works, utilizing recycled boat shrink wrap.

Equipment pictured in Figure 2, was utilized throughout the project to effectively manage and control Phragmites, ensuring successful removal and restoration of wetland habitats.



Figure 2. Equipment used to manage Phragmites.

# METHODS & IMPLEMENTATION

The project utilized the EDDMapS Pro (Early Detection and Distribution Mapping System) app to track and monitor Phragmites stands, enabling an adaptive management approach. Data was recorded in the app at three key stages:

1. **Initial Observation (Spring)**: Documented the size, location, and density of Phragmites stands.
2. **Post-Removal (Summer)**: Recorded the treatment method and amount of biomass removed following manual removal.
3. **Post-Cut Assessment (Fall)**: Evaluated the effectiveness of control efforts by assigning a qualitative regrowth score: no regrowth, minor regrowth, moderate regrowth, or major regrowth.

This system provided real-time updates on Phragmites distribution, supported the assessment of spread, and offered valuable insights into the success of control measures. These capabilities ensure informed, data-driven decision-making throughout the project.



EDDMapS Pro  
for iOS



EDDMapS Pro for  
Android



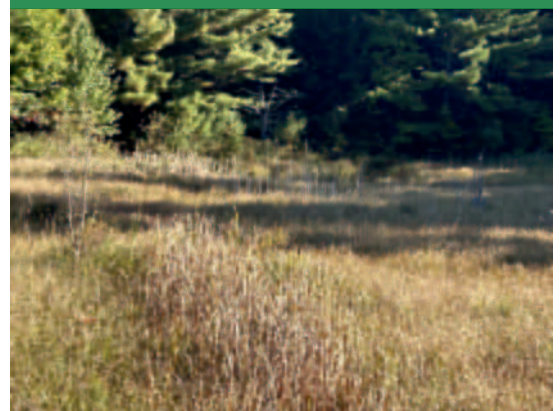
*Initial Observation (Spring)*



*Post-Removal (Summer)*



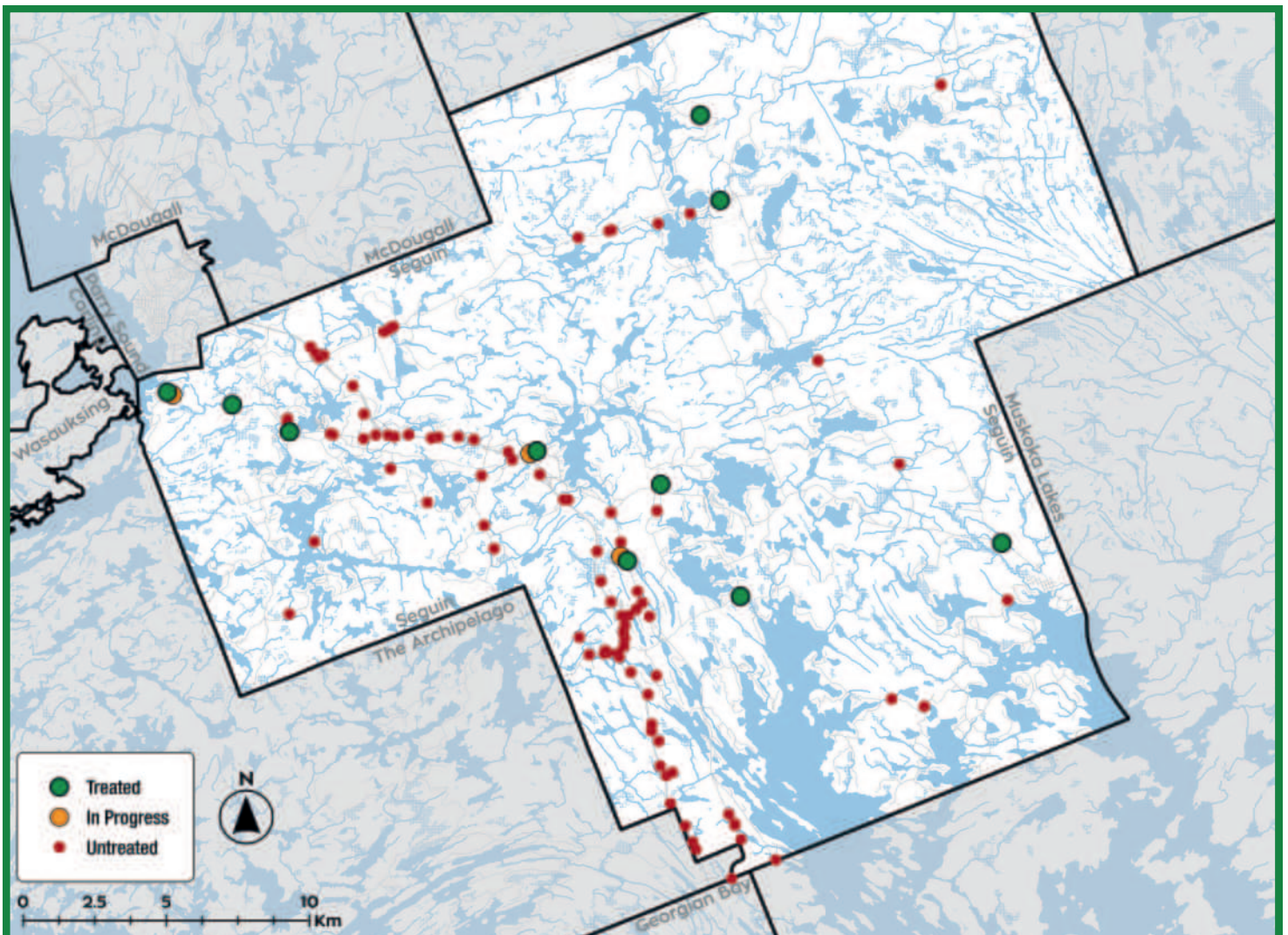
*Post-Cut Assessment (Fall)*



# RESULTS

A total of 13 sites were managed for Phragmites in the 2024 field season (see Figure 3):

- Complete removal of Phragmites from 8 aquatic sites and 1 terrestrial site.
- Complete chemical treatment of Phragmites at 1 terrestrial site (by a third-party contractor hired by Seguin Township).
- Partial removal of Phragmites from an additional 3 aquatic sites.
- Removal of over 3,550 kg of Phragmites biomass, preventing further spread and regrowth.
- Restoration of 29 hectares of wetland habitat, enhancing ecosystem services such as water filtration, flood mitigation, and wildlife support.




**Figure 3.** Locations of complete site treatments (green), partial/in progress site treatments (orange), and untreated sites (red) in Seguin Township.


# RESULTS


## Complete Site Treatments

### Blackwater Road Site

 45°24'24.4"N 79°47'32.7"W

 Selective cutting (serrated-spade shovels)


 0.013 ha of Phragmites removed

 Effectiveness TBD (post-cut monitoring results pending)



*Initial observation at Blackwater Road Site.*

### Clear Lake Road Wetland

 45°15'18.7"N 79°46'39.6"W

 Selective cutting (cane cutters and serrated-spade shovels)

 0.3 ha of Phragmites removed

 200 kg of Phragmites removed


 Minor regrowth



*Initial (left) and post-removal observation (right) at Clear Lake Rd Wetland.*


# RESULTS


## Horseshoe Lake Road East Wetland

 45°18'06.5"N 79°52'01.9"W

 Selective cutting (cane cutters and serrated-spade shovels)

 0.14 ha of Phragmites removed


 220 kg of Phragmites removed


 No regrowth



*Initial (left) and post-removal observation (right) at Horseshoe Lake Rd E Wetland.*

## Humphrey Barn and Nature Trails Wetland

 45°17'24.9"N 79°48'46.3"W

 Selective cutting (cane cutters and serrated-spade shovels)

 0.3 ha of Phragmites removed

 570 kg of Phragmites removed

 Minor regrowth



*Initial (left) and post-removal observation (right) at Humphrey Barn and Nature Trails Wetland.*

# RESULTS

## James Bay Junction Road Wetland



45°18'34.1"N 79°58'40.3"W



Selective cutting (cane cutters)



0.32 ha of Phragmites removed



40 kg of Phragmites removed



Minor regrowth



Initial (left) and post-removal observation (right) at James Bay Junction Road wetland.

## Memories of Muskoka East Wetland



45°15'57.0"N 79°49'39.8"W



Selective cutting (cane cutters and serrated-spade shovels)



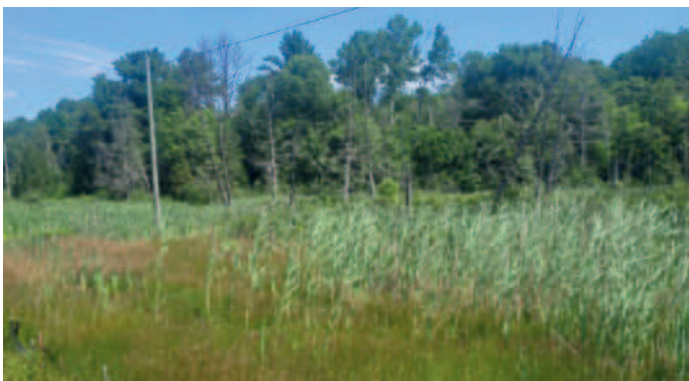
0.10 ha of Phragmites removed



110 kg of Phragmites removed



Minor regrowth



Initial (left) and post-removal observation (right) of Phragmites at Memories of Muskoka East Wetland.

# RESULTS

## Nippissing Road Wetland



45°16'18.1"N 79°39'41.8"W



Selective cutting (serrated-spade shovels)



0.001 ha of Phragmites removed



5 kg of Phragmites removed



Minor regrowth



Initial (left) and post-removal observation (right) at Nippissing Road Wetland.

## Orrville Community Centre Site



45°22'46.3"N 79°47'01.0"W



Herbicide spray (Glyphosate-based product)



0.019 ha of Phragmites removed




Effectiveness TBD (post-treatment monitoring results pending)



Initial observation at Orrville Community Centre Site.

# RESULTS

## Park-To-Park Wetland

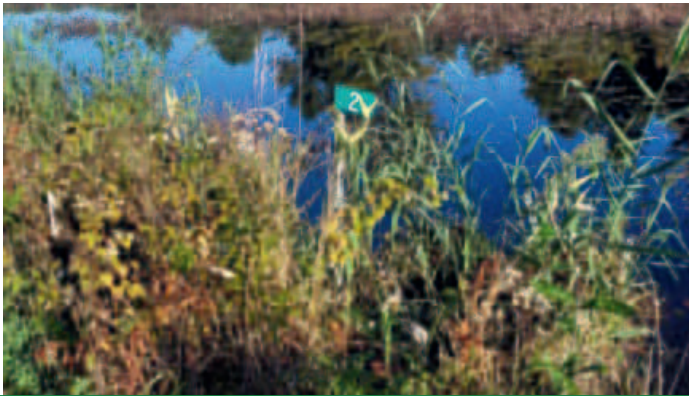
 45°19'03.5"N 80°00'10.0"W

 Selective cutting (cane cutters and serrated-spade shovels)

 0.005 ha of Phragmites removed


 10 kg of Phragmites removed


 Moderate regrowth




*Initial (left) and post-removal observation (right) at Park-To-Park Wetland.*

## Rose Point Road West Wetland

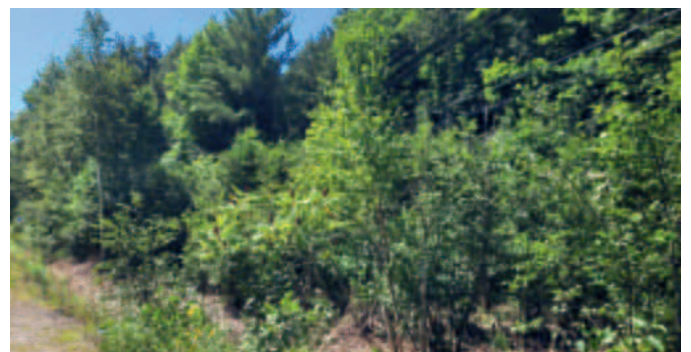
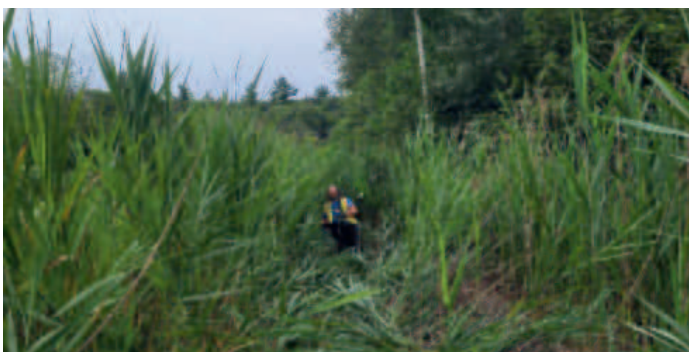
 45°19'17.2"N 80°01'52.8"W

 Selective cutting (cane cutters, hedge trimmers and serrated-spade shovels)

 0.40 ha of Phragmites removed

 700 kg of Phragmites removed

 Moderate regrowth








*Initial (left) and post-removal observation (right) at Rose Point Road West Wetland.*

# RESULTS

## Partial Site Treatments






### Horseshoe Lake Road West Wetland

-  45°18'04.2"N 79°52'06.8"W
-  Selective cutting (cane cutters)
-  0.28 ha of Phragmites removed
-  100 kg of Phragmites removed
-  Moderate regrowth



*Initial observation at Horseshoe Lake Road West Wetland.*






### Memories of Muskoka West Wetland

-  45°16'06.4"N 79°49'49.4"W
-  Selective cutting (cane cutters, hedge trimmers, and serrated-spade shovels)
-  0.10 ha of Phragmites removed
-  800 kg of Phragmites removed
-  Minor regrowth



*During the removal of Phragmites at Memories of Muskoka West Wetland.*

### Rose Point Road East Wetland

-  45°19'17.5"N 80°01'52.2"W
-  Selective cutting (cane cutters, hedge trimmers, and serrated-spade shovels)
-  0.40 ha of Phragmites removed
-  800 kg of Phragmites removed
-  Moderate regrowth



*During the removal of Phragmites at Rose Point Road East Wetland.*

# OUTCOMES

## PROJECT OUTCOMES

1. Updated inventory of Phragmites stands through the use of reporting tools like iNaturalist and EDDMapS, creating an accessible dataset for future management.
2. Community engagement and education via:
  - a. a Phragmites Identification and Reporting poster shared online and at major community hubs;
  - b. multiple social media posts engaging the public to identify and report Phragmites; and,
  - c. an Invasive Phragmites Identification and Management Workshop attended by over 30 participants.
3. Fostered community collaboration and support by co-hosting a Community Phragmites Cut event, engaging local volunteers in hands-on conservation efforts.
4. Strengthened local capacity for invasive species management, laying the groundwork for long-term stewardship of wetland ecosystems.



Phragmites Identification and Reporting Poster.

# RECOMMENDATIONS

To address remaining data gaps in Phragmites observations, it is important to conduct an inventory of Phragmites locations in areas of Seguin Township that were not surveyed in 2024. For next year’s field season, it is important to continue monitoring and management of the 10 sites treated during the 2024 field season. Sustained efforts at these sites will further enhance wetland health and ecosystem functionality. Specific recommendations for these sites are provided in Table 3 and 4.

**Table 3.** Management recommendations for sites treated in 2024.

Completed Sites in 2024	
Site	Management Recommendation
<b>Blackwater Road Site</b>	Enter site into EDDMapS (patch size, treatment details and post-treatment monitoring results). Continued monitoring and management through selective cutting.
<b>Clear Lake Road Wetland</b>	Continued monitoring and management through selective cutting.
<b>Horseshoe Lake Road East Wetland</b>	Continued monitoring. If monitoring finds regrowth occurring, manage through selective cutting.
<b>Humphrey Barn and Nature Trails Wetland</b>	Continued monitoring and management through selective cutting. AND/OR Explore the professional opinions of licensed herbicide applicators for management of this site with chemical controls.* *NOTE: This wetland has two distinct patches of Phragmites. Herbicide application is more suitable for the drier area along the trail.

# RECOMMENDATIONS

<b>James Bay Junction Road Wetland</b>	Continued monitoring and management through selective cutting.
<b>Memories of Muskoka East Wetland</b>	Continued monitoring and management through selective cutting.
<b>Nippissing Road Wetland</b>	Continued monitoring and management through selective cutting.
<b>Orrville Community Centre Site</b>	Continued monitoring and management through chemical control.
<b>Park-To-Park Trail Wetland</b>	Continued monitoring and management through selective cutting.
<b>Rose Point Road West Wetland</b>	Continued monitoring and management through selective cutting.* *NOTE: Due to proximity to Wasauksing First Nation, herbicide application is not recommended.



*GenE and GBB staff managing a large, dense patch of Phragmites in a wetland.*

# RECOMMENDATIONS

**Table 4.** Management recommendation for sites partially treated in 2024.

Partially Managed Sites in 2024	
Site	Management Recommendations
<b>Horseshoe Lake Road West Wetland</b>	Continued monitoring and management through selective cutting.
<b>Memories of Muskoka West Wetland</b>	Continued monitoring. Explore the professional opinions of licensed herbicide applicators for management of this site with chemical controls (imazapyr-based). AND/OR Continued monitoring and management through selective cutting.* *NOTE: This wetland has two very large and dense stands of Phragmites, meaning mechanical control of this site will require a lot of time and human power.
<b>Rose Point Road East Wetland</b>	Continued monitoring and management through selective cutting.* *NOTE: Due to proximity to Wasauksing First Nation, herbicide application is not recommended.

Moving forward, a long-term, adaptive management strategy is recommended to ensure the continued effectiveness of control measures. This approach will allow for ongoing adjustments based on monitoring results and emerging research. By regularly assessing the success of management actions and responding to ecological changes, adaptive management ensures strategies remain relevant and effective. Similarly, an integrated approach to managing future invasive plant species is advised. This would involve collaboration, regular monitoring, and species-specific strategies tailored to the plant's impact.

# RECOMMENDATIONS



*Phragmites out-competing native vegetation in a wetland.*

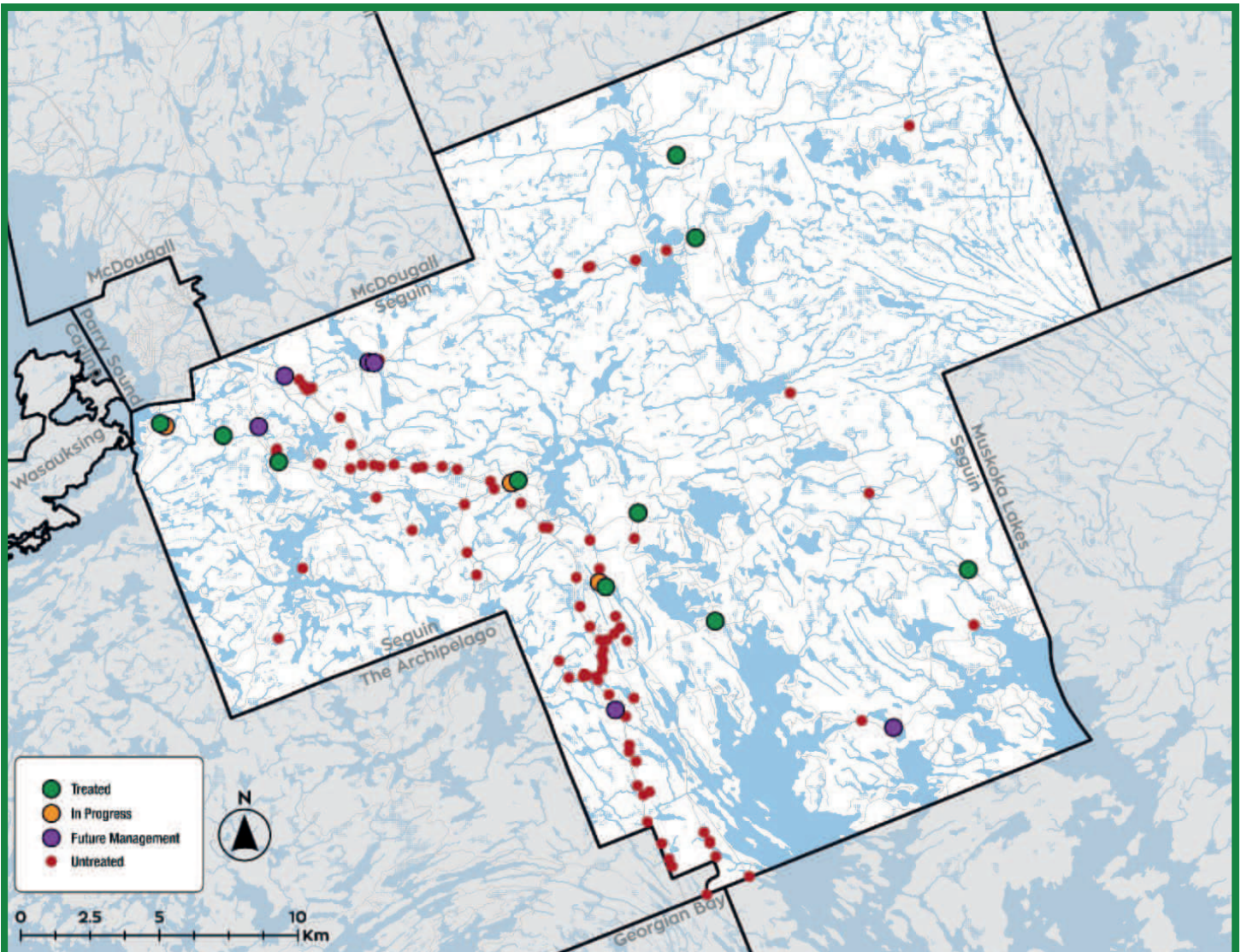
## ADDITIONAL SITES FOR FUTURE MANAGEMENT

If resources allow, additional sites should be added to the priority list. These sites are listed in Table 5 and shown in purple in Figure 4, with an initial recommendation to begin management using the mechanical control method of selective cutting. Regular monitoring after implementing controls will be essential to assess progress and adjust management methods as needed.

**Table 5.** *Additional sites to prioritize for treatment in future years.*

Site	Location
Haines Lake North Wetland	45°20'27.2"N 79°56'07.9"W
Haines Lake South Wetland	45°20'26.5"N 79°55'58.9"W
Oastler Park Drive Wetland	45°19'13.4"N 79°59'12.0"W
Stanley House Road Wetland	45°13'10.8"N 79°41'48.3"W
Hunter Drive Wetland	45°20'12.4"N 79°58'27.8"W
Lawson Bay Road South Wetland	45°13'36.6"N 79°49'27.4"W

# RECOMMENDATIONS



**Figure 4.** Locations of complete site treatments (green), partial/in progress site treatments (orange), untreated sites (red), and future management sites (purple) in Seguin Township.

# RECOMMENDATIONS

## LOGISTICS AND EQUIPMENT

Additionally, it is important for the Township to plan ahead for disposal options by evaluating the specific sites they intend to manage. This will help determine the amount of reused boat shrink wrap required, ensuring they are well-prepared. Planning also needs to account for the density of vegetation at each site, as areas with significant biomass—such as Phragmites monocultures—will require considerable human effort and time to manage. To improve efficiency and reduce the risk of injury from lifting heavy awkward bundles of biomass, having equipment like a backhoe on-site for loading trucks and trailers will save time and minimize physical strain. By proactively addressing these logistical needs, Seguin Township can ensure an effective, sustainable, and safe management process.



*Seguin Public Works and GenE staff loading cut Phragmites biomass into trailer.*

# RECOMMENDATIONS



*Phragmites growing in a wetland.*

## HEALTH AND SAFETY

Staff working in wetlands with elevated water levels or traversing bog mats must take specific precautions to mitigate health and safety risks. All staff should wear high-visibility clothing, including reflective vests or shirts in poor-visibility conditions such as dense Phragmites stands. Well-fitted, waterproof waders and slip-resistant footwear are essential for preventing falls and maintaining stability on uneven or submerged surfaces. Staff should move slowly, take their time, and remain vigilant for deep areas or sudden drops in the terrain. Staff should be trained in how to safely unfasten their waders in the event that they become trapped or pulled under water. Additionally, wearing personal flotation devices (PFD's) can help mitigate the risk of being pulled or falling below the water's surface. It is critical for staff to work in pairs, stay aware of their surroundings, and communicate regularly. Supervisors and/or Health and Safety Representatives should review their health and safety procedures to ensure they adequately address these types of fieldwork conditions, with a consideration for including a depth-of-water threshold beyond which staff should avoid working in water.

Working along roadways also presents significant health and safety risks, which can be mitigated through proper planning and procedures. All staff should receive thorough training on road safety, covering topics such as identifying danger zones, establishing clear work areas, and maintaining safe distances from traffic. Staff must wear appropriate personal protective equipment (PPE), including high-visibility clothing. Prior to beginning work, traffic control measures should be implemented, such as the use of flaggers, temporary lane closures, reduced speed limits, and barricades or traffic signals to clearly mark the work area. Additionally, effective communication with the public is essential—informing the public about planned work in advance enables them to adjust their routes, helping to reduce traffic volumes around the work site.