CITY OF PORT MOODY

# Invasive Species Management Strategy

Environment and Parks July 2026 FINAL



PORT MOODY
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# Strategy at a Glance

The City of Port Moody's Invasive Species Management Strategy (ISMS) provides a coordinated framework to prevent, detect, manage, and monitor invasive species across City-managed lands. Invasive species pose significant environmental, economic, and social risks by degrading natural ecosystems, reducing biodiversity, impacting City assets, and increasing long-term maintenance costs. These risks are expected to intensify with ongoing urban development and the effects of climate change, which are creating conditions that favour the establishment and spread of invasive species.

The ISMS builds on existing City direction, including the *Official Community Plan (OCP)* and *Climate Action Plan*, which support invasive species management as part of broader efforts to strengthen ecosystems, urban forests, climate resilience, and community livability. Port Moody has also established a strong foundation for ongoing treatment programs, staff training, development review processes, and community stewardship initiatives. Building on these successes, the ISMS identify key gaps and opportunities to improve coordination, consistency, and long-term effectiveness. The strategy emphasizes a proactive approach that prioritizes prevention and early detection, supported by targeted treatment, ecological restoration, and adaptive management.

## Quick Facts

- Invasive species are the second-largest global threat to biodiversity, with estimated global economic damages exceeding $580 billion annually.
- Port Moody's *Climate Action Plan* explicitly supports developing and regularly updating an invasive species management program.
- Climate change is expected to increase invasive species risks through warmer winters, fewer frost days, and longer growing seasons, which improve conditions for establishment and spread.
- Eleven invasive plant species are currently classified by City staff as high priority in Port Moody, meaning they pose the highest environmental, economic, and social risk and are targeted for early detection and rapid response (EDRR), active control, and containment. This classification will be reviewed and confirmed through the 2026 invasive plant inventory.
- A total of 267 knotweed sites were treated in 2025 as part of Port Moody's knotweed treatment program.
- There are 14 invasive plant species and 5 invasive insects on Port Moody's watch lists. These species have been found in Metro Vancouver but have not yet been confirmed in Port Moody. High-risk species include the Emerald ash borer and Japanese beetle, whose arrival would have significant ecological and operational consequences.

## Goals

The Strategy is guided by three overarching goals:

1. **Prevent & Manage** invasive species through risk reduction, early detection, treatment, restoration and monitoring to protect ecological assets and support climate resilience.
2. **Engage & Collaborate** with the community to build awareness, partnerships, and participation in invasive species management.
3. **Adapt & Sustain** a coordinated invasive species management program.

## Priority Actions

The ISMS recommends 21 actions for improving invasive species management in Port Moody. These actions are aimed at:

- Strengthening City bylaws, policies, guidelines, and permit requirements to support enforcement, enable pesticide use for emerging high priority species, and require site-specific Invasive Species Management Plans.
- Standardizing invasive species management procedures and resources through decision frameworks, Terms of Reference, Best Management Practice guidance, training, and restoration and maintenance protocols.
- Reducing the risk of invasive species spread through requirements for planting prescriptions, soil movement, material sourcing, equipment cleaning, and municipal operations and contracts.
- Improving detection, response, tracking, and prioritization through Early Detection and Rapid Response species monitoring, inventory and restoration data tools, treatment monitoring, baseline updates, and a risk-based prioritization framework.
- Integrating invasive species management into Project Delivery-led projects through coordinated Engineering and Environment workflows.
- Strengthening outreach, education, volunteer programming, signage, and partnerships to support awareness, stewardship, coordinated management, restoration, and knowledge sharing.
- Coordinating with local First Nations to support invasive species management, ecological restoration, Traditional Ecological Knowledge, and work within known and high potential archaeological sites.
- Supporting long-term implementation through budget allocations, natural asset management principles, annual review of implementation progress, and input from departments and key partners.

# Goals & Objectives

The Port Moody Invasive Species Management Strategy (ISMS) assesses the current state of invasive species in the City of Port Moody and establishes a strategic framework for prevention, early detection, control, restoration, and long-term monitoring across City-managed lands. The ISMS outlines clear priorities and actions to guide invasive species management efforts, protect natural assets and strengthen resilience to climate change. It also supports community engagement and awareness, and establishes the foundation for a coordinated and sustained invasive species management program over time.

The objectives of the Invasive Species Management Strategy are to:

1. Assess the current state of invasive species and existing invasive species and ecological restoration management practices in Port Moody.
2. Provide guidance to minimize the environmental, economic, and social impacts of invasive species in Port Moody through a coordinated and comprehensive management approach.
3. Advance the implementation of monitoring and control measures to reduce invasive species risks and protect City assets.
4. Build community awareness and participation in invasive species management and ecological restoration to support prevention and early detection.
5. Support the long-term sustainability of a coordinated invasive species management program through clear priorities, partnerships, and ongoing evaluation.

# Introduction

## ► Document Structure

The Port Moody ISMS is divided into the following sections:

**Introduction** - Introduces the concept of invasive species and provides an overview of the current state of invasive species management in Port Moody.

**Management Strategy** - Outlines a management strategy to prevent, detect, monitor, control, and manage invasive species in a coordinated and effective way.

**Implementation Plan** - Identifies priority actions, timeframes, and resource needs to support implementation.

## ► Invasive Species: Impacts and Drivers

### What are Invasive Species?

An invasive species is one that is introduced outside its native range and once established can cause significant environmental, economic, and social impacts. New species can be introduced into ecosystems both on purpose and accidentally but only introduced species that cause negative environmental and/or socioeconomic impacts are considered invasive species.



*Figure 1. Invasive species (L to R): Giant hogweed, Bohemian knotweed, English ivy, Japanese beetle.*

### Rational for Invasive Species Management

Invasive species have wide-ranging environmental, economic, and social impacts. These impacts are interconnected and can affect community well-being, ecological health, and municipal operations. Table 1 provides examples of how invasive species impact the City across these three categories.

*Table 1. Examples of the environmental, economic, and social impacts of invasive species in Port Moody.*

| | |
|---|---|
| **Environmental Impacts** | • Reduce biodiversity and alter ecosystem function<br>• Increased monocultures, simplified habitat structures and decreased ecosystem stability<br>• Reduce wildlife habitat and forage quality<br>• Degrade water quality through soil erosion, sedimentation and increased water temperature<br>• Alter soil characteristics and nutrient regimes<br>• Limit germination and re-growth of native species<br>• Increased wildfire occurrences or intensity by the presence of flammable invasives |
| **Economic Impacts** | • Damage critical infrastructure (drainage systems, roads, building foundations, etc.)<br>• Increase City's infrastructure maintenance and asset management costs by requiring response to damaged infrastructure.<br>• Increase the City's park maintenance and management costs by requiring repeated treatment, restoration, monitoring, disposal, and follow-up maintenance in affected areas.<br>• Unexpected costs and delays for construction projects by requiring site controls, treatment, disposal, restoration, or redesign when invasive species are encountered. Reduce ecosystem services, such as water filtration and air purification, increasing pressure on City infrastructure and public health systems |
| **Social Impacts** | • Pose health and safety risks such as toxic skin reactions and respiratory illness<br>• Causing physical hazards such as reduced visibility of road signs<br>• Alter and degrade valued landscapes and view corridors<br>• Reduce sense of place or connection to local landscapes<br>• Impede recreation access and degrade recreation areas<br>• Impact Indigenous cultural practices and traditional food gathering<br>• Loss of culturally important traditional foods and medicines for Indigenous communities<br>• Stress, weaken or kill trees, causing loss of tree canopy, affecting community health, comfort and quality of life |

Invasive species are widely recognized as the second largest threat to global biodiversity after habitat loss [1] and the annual global economic cost of damages due to biological invasions has been estimated at $582.73 billion CAD [2]. The impacts of invasive species are so widespread and costly because of their ability to disrupt the balance of ecosystems. They often outcompete native plants and animals for space, food, light, water, and other resources, while lacking the predators and natural controls that would normally limit their spread. In many cases, they provide less habitat value than the native species they replace and can actively degrade habitat quality, making ecosystems less suitable for native species and undermining ecosystem services.

The detrimental environmental, economic, and social impacts from invasive species, combined with the ways climate change is expected to support their spread, have led municipalities in British Columbia to invest in invasive species management. BC municipalities spend an estimated average of $170,000 annually on invasive species work[1] with 80% indicating that funding was not sufficient [3].

Invasive species can be difficult and costly to manage once they become established. Many persist through long-lived seedbanks, extensive root systems, or the ability to regenerate from small fragments, while others, such as invasive insects, can spread rapidly, reproduce in large numbers, and cause widespread damage before they are detected. As a result, treatment often requires repeated effort over multiple years, followed by containment, monitoring, site restoration, and long-term management. Effective invasive species management therefore depends on a strategic, long-term approach that reduces new introductions, limits spread, and supports healthy, resilient ecosystems.

Prevention, early detection, and rapid response are the most effective and cost-efficient management tools because invasive species are less costly to manage before populations pass a 'runaway point' and become too widespread for cost-effective controls [4]. A 2022 global study found that, from 1960 to 2020, reported pre-invasion management spending was US$2.8 billion, more than 25 times lower than reported post-invasion management spending of US$72.7 billion [5].

This pattern is reflected in Canadian research on Japanese knotweed, a key invasive species that Port Moody has invested significant effort in managing. A study of knotweed control along a river in Quebec found that manual rapid-response removal of newly rooted rhizome fragments can be effective and relatively affordable in sparsely invaded river corridors. In these corridors, detection and removal took 62% less time than in heavily invaded areas, at an estimated cost of CAN$142 for each potential new knotweed patch removed before establishment [6]. The study did not estimate rapid-response removal costs for heavily invaded areas because repeated annual removal for established knotweed would require use of herbicides or excavations, which are generally restricted in riparian areas, as well as a massive, unsustainable effort where floods continue to generate large numbers of new fragments each year [6].

Examples of the financial and operational consequences of delaying invasive species treatment in Port Moody include:

- **Knotweed** on construction sites can cause significant project delays and require costly management, including multi-year treatment, excavation, soil stockpiling, and ongoing monitoring.
- **English ivy** on trees, if left unmanaged, develops thick, extensive growth that increases removal time and cost, while also elevating the risk of tree failure and canopy loss.

[1] 2020 expenditures for invasive species prevention, detection, control and management, habitat restoration, and research and science activities. Per capita annual expenditure for 33 responding BC municipalities was $1.19.

- **Invasive insects** such as Emerald ash borer, if not addressed early, can lead to widespread tree mortality, requiring expensive removal, replacement, and long-term canopy restoration.

As infestations expand, management becomes more complex and resource-intensive, placing increasing pressure on municipal budgets and long-term asset management. Proactive management, particularly prevention, early detection, and rapid response, is far more cost-effective than addressing well-established infestations. A long-term, strategic approach is therefore essential.

## Invasive Species Drivers: Globalization and Climate Change

Invasive species often travel over significant biogeographic barriers to reach their introduced ranges. This movement is driven by a combination of human activities and natural dispersal processes. Human movement, global trade, and land use practices have historically been the main drivers of invasive introductions, while environmental conditions influence how successfully these invasive species establish and spread.

Many invasive species in North America were first introduced during European settlement, when settlers brought plants, animals, and other organisms from their homelands to support agriculture, gardening, and daily life in a new environment. Over time, this pattern expanded through the process of globalization, which greatly increased the movement of people, goods, and materials around the world and created ample pathways for invasive species to be introduced into new areas.

Climate change is expected to further increase the spread and impact of invasive species. Warmer temperatures, changing precipitation patterns, and more frequent extreme weather events are creating conditions that favour invasive species establishment and expansion. Key climate-related drivers include:

- **New species arrivals**, as shifting temperature and moisture conditions allow species to survive in areas that were previously unsuitable
- **Faster reproduction**, supported by longer growing seasons and earlier spring conditions
- **Greater survival rates and population expansion**, as milder winters allow more individuals to persist and expand populations
- **Increased habitat availability**, as disturbances such as drought, flooding, and wildfire create open or degraded areas that invasive species can quickly colonize
- **Enhanced dispersal**, as floods, storms, and extreme weather events transport seeds and plant fragments over greater distances
- **Increased vulnerability of native ecosystems**, as climate stress weakens native species and reduces resistance to invasion

In recognition of these risks, Port Moody's Climate Action Plan supports invasive species management as part of broader efforts to strengthen natural ecosystems and urban forests so they can better adapt to climate change and help buffer its impacts.

## Geographic Context

The invasive species found in Port Moody are not unique to the city. These introduced species are part of a wider problem, posing challenges across federal, provincial, regional and municipal levels.

At the federal scale, invasive species movement is influenced by national and international trade, travel, and transportation networks that move plants, animals, soil, water, and other materials over long distances. This scale is reflected in regulatory tools related to border control, importation, and nationally significant invasive species threats. At the provincial scale, invasive species spread is shaped by movement within British Columbia through means such as road and rail corridors, waterways, recreation, landscaping, agriculture, and development activities. The Rocky Mountains act as a major biogeographic barrier between British Columbia and the rest of Canada, limiting the natural spread westward of some invasive species from the Prairies and eastern provinces. However, this barrier does not prevent human-caused introductions. Provincial legislation, policy, and guidance help direct how invasive species are prevented, monitored, and managed within the province.

At the regional level, Port Moody is part of the same broader ecosystems as other municipalities in Metro Vancouver, with natural areas connected through shared watersheds, watercourses, wetlands, riparian corridors, forests, and other linked or stepping-stone habitats. These shared ecological corridors, combined with similar environmental conditions and the movement of people, materials, and equipment across the region, create many opportunities for invasive species to spread across jurisdictional boundaries. Similar municipal histories and environmental conditions also mean that land uses, infrastructure, and other assets are often alike across jurisdictions. As a result, invasive species can create many of the same impacts and management challenges throughout the region. Municipalities across Metro Vancouver therefore often contend with the same invasive species and require a mix of regional coordination, local regulatory tools, and practical guidance to respond effectively.

In Port Moody, invasive species management is shaped by human activity, land use, natural asset conditions, development, and municipal operations, which influence where species establish, spread, and require management. This is reflected in City policies and plans that link invasive species to environmentally sensitive areas, riparian corridors, development, parks and trails, restoration, and ongoing operations. As a result, invasive species are addressed not only as an environmental issue, but also as a land use, infrastructure, and operational concern.

Considering the geographic context of invasive species and the regulatory frameworks operating at each scale helps clarify the tools, management context, and best practice guidance that can support effective invasive species management in Port Moody. The following section

outlines the key federal, provincial, regional, and municipal frameworks and initiatives that inform the ISMS.

# ► Regulatory & Policy Context

## Federal and Provincial Regulatory Context

Invasive species are regulated at the federal and provincial levels; each have regulatory tools that influence how invasive plants and pests are managed. Most federal and provincial regulations are focused on invasive species with potential economic harm (agricultural or forest pests). Table 2 summarizes the key federal and provincial regulations supporting invasive species management.

*Table 2. Summary of federal and provincial regulations related to invasive species management.*

| Jurisdiction | Regulation / Bylaw | Relevance |
|---|---|---|
| **Federal** | *Plant Protection Act*<br><br>*Seeds Act* | Restrict the entry of regulated pests into Canada. Administered by the Canadian Food Inspection Agency. |
| | *Fisheries Act* - Aquatic Invasive Species Regulations | Prohibit actions around aquatic invasive species (importation, possession, transportation, release and introduction). |
| | *Species at Risk Act* (SARA) | Legally requires protection of listed species, residences (e.g. dens, nest, etc.), and critical habitat. Invasive species prevention, treatment, restoration, mitigation, monitoring, or permitting may be necessary where invasive species or invasive species control activities could affect those protected values. |
| | *Pest Control Products Act* | Regulates the products used for the control of pests. Administered by the Pest Management Regulatory Agency of Health Canada. |
| **First Nations** | Referrals | Referrals are required when invasive species management and restoration activities may affect Indigenous rights, title, culturally significant areas, traditional land use, or known or potential archaeology sites. |
| **Provincial** | *Community Charter* | Grants municipalities authority to regulate activities, protect the natural environment, and enact bylaws, enabling local governments to manage invasive species on both public and private lands. |
| | *Heritage Conservation Act* | Restricts ground disturbance (i.e. digging, soil removal, excavation, etc.) where invasive species removal or restoration activities could affect known or potential archaeological sites. Provincial permits are required to alter or disturb these sites. |

| Jurisdiction | Regulation / Bylaw | Relevance |
|---|---|---|
| **Provincial** | *Weed Control Act* and Regulation | Identifies plants that are classified as noxious weed species in BC. Places a duty on all landowners to control these species. |
| | *Integrated Pest Management Act* and Regulation | The primary regulatory tools governing the sale and use of pesticides in BC. These tools establish conditions for the sale and use of pesticides in the province through a classification system and regulatory provisions for licenses, certification, permits, Pest Management Plans and ministry responsibilities.<br><br>The regulation contains public notification, consultation, reporting and record keeping provisions as well as standards for Integrated Pest Management programs and use of pesticides aimed to ensure protection of human health and the environment. |

The Canadian Food Inspection Agency (CFIA) plays a national regulatory role in invasive species management to help protect the Canadian environment and the economy from impacts associated with the introduction and spread of regulated plant pests and invasive plants. Their work includes invasive species surveillance, public reporting, movement restrictions for commodities associated with invasive plants and pests, compliance requirements, and response coordination for high-risk pests such as Japanese beetle. In BC, the CFIA supports the Japanese beetle response by identifying regulated areas and requiring movement certificates for regulated materials moved out of those areas to reduce human-assisted spread. The CFIA also regulates plant pests and materials that may carry them, including plants, plant products, soil, and other articles that can spread pests or invasive plants.

In addition to regulatory tools and the role of the CFIA, the federal and provincial frameworks and strategies, summarized in Table 3, provide broader direction for invasive species management.

*Table 3. Summary of federal and provincial frameworks and strategies related to invasive species management.*

| Jurisdiction | Framework / Strategy | Relevance |
|---|---|---|
| **Federal** | Kunming-Montreal Global Biodiversity Framework | Sets global biodiversity targets to 2030. Target 6 focuses specifically on invasive alien species and calls for countries to reduce their introduction and establishment by at least 50% by 2030, while controlling or eradicating established invasive species in priority areas. Target 2 aims to restore 30% of all degraded ecosystems by 2030 and is closely linked with Target 6. |
| | Canada's 2030 Nature Strategy | Provides a national roadmap for achieving the Kunming-Montreal Global Biodiversity targets to halt and reverse biodiversity loss across the |

| | | |
|---|---|---|
| | | country. It builds on a bottom-up approach that recognizes the roles of provinces, territories, Indigenous partners, and local governments, while supporting coordinated action across jurisdictions to advance biodiversity conservation and restoration. |
| **Provincial** | Climate Preparedness and Adaptation Strategy | Outlines a province-wide approach for reducing climate risks and building more resilient communities, infrastructure, watersheds, species, and ecosystems. For invasive species management, it supports climate-informed prevention, monitoring, and response as changing conditions increase invasive species risks. |
| | Draft BC Biodiversity and Ecosystem Health Framework | Outlines a holistic, province-wide approach for stewarding B.C.'s lands and waters, enhancing biodiversity and ecological integrity, and building more resilient ecosystems. For invasive species management, the draft framework supports coordinated, ecosystem-based action to prevent and reduce threats to native species, restore degraded ecosystems, protect priority areas, and align stewardship responsibilities across governments, First Nations, sectors, and community. |
| | BC Government Invasive Species Strategic Plan | Helps support timely action on new invasive species before they become more widespread and costly for local governments to manage. |
| | Early Detection and Rapid Response Plan for British Columbia | Provides direction for identifying, assessing, and responding to new invasive species incursions anywhere in BC. |

## Municipal Policy and Regulatory Context

Port Moody has several policies, plans, bylaws, and guidelines that recognize invasive species and influence how they are managed across City lands, natural areas, and development contexts. These include:

- **High-level plans** that help set Port Moody's vision and priorities for the natural environment
- **Associated plans and strategies** that influence invasive species management by addressing connected issues such as urban forestry, parks management, and trail networks
- **Bylaws, guidelines and policies** that help implement invasive species management on City property and in areas affected by development and redevelopment

Together, these documents establish the broader municipal policy and regulatory context for invasive species management. The ISMS will provide a coordinated framework for action that aligns with this broader policy landscape. The table below summarizes key policies, plans, and bylaws and how they address invasive species within Port Moody across these different levels.

The Management Strategy portion of the ISMS includes a discussion of Regulatory Tools and recommended actions to strengthen the City's bylaws related to invasive species management.

*Table 4. Summary of policies, plans and bylaws that impact invasive species management.*

| | Plan, Policy or Bylaw | Relevance |
|---|---|---|
| **High-level plans** | *Official Community Plan (2026)* | • Long-term policy framework for guiding growth, land use, environmental protection, and community development.<br>• Supports development and implementation of an invasive species management strategy focused on prevention, reduction, control, and mitigation.<br>• Links invasive species work to broader goals around biodiversity, ecosystem health, climate resilience, riparian protection, and urban forest protection.<br>• Requires restoration planning for sensitive areas affected by development or disturbance, with invasive species removal identified as a key part of ecosystem restoration alongside native planting, habitat enhancement, and watercourse improvements.<br>• Development permit guidelines support Invasive Species Management Plans, active control measures following best management practices, revegetation with native species, and maintenance and monitoring in riparian and other sensitive natural areas. |
| | *2023-2026 Council Strategic Plan* | • Sets Council's strategic priorities and objectives and is aligned with the direction of the OCP and broader community values.<br>• Resilient natural environment is one of four priority areas which aims to protect natural assets, advance climate change mitigation and adaptation, and enhance and expand open spaces. |
| | *Climate Action Plan (2020)* | • Long-term framework for responding to climate change and supporting community livability.<br>• The Natural Environment focus area emphasizes restoring and strengthening ecosystems and urban forests so they can better adapt to climate change and help reduce climate-related impacts.<br>• A key action includes the development of an invasive species management program. |
| **Associated plans and strategies** | *Parks and Recreation Master Plan (2015)* | • 10-year framework for guiding park planning, services, and management, and includes a vision centred on a respected, protected, and enhanced natural environment.<br>• Identifies invasive species management as an ongoing parks operations challenge. |
| | *Urban Forest Management Strategy (2023)* | • Long-term strategy and vision for managing and sustaining the urban forest to 2050.<br>• Recognizes invasive species as an important urban forest threat, particularly as climate change creates conditions for new species to establish and contribute to forest decline. |

| | Plan, Policy or Bylaw | Relevance |
|---|---|---|
| **Associated plans and strategies** | *Trail Network Plan (2025)* | • Long-term strategy for managing and improving the trail system over 30 years.<br>• Supports trail standards, controlled access measures, and maintenance practices that reduce ecological impacts.<br>• Encourages stewardship programs such as invasive species removal and education on responsible trail use, identifies invasive species presence as an indicator of trailside habitat health, and requires environmental assessment and best practice guidance for new trail construction and maintenance. |
| | *Integrated Stormwater Management Plans (ISMPs)* | • Provide action plans for managing stormwater and watershed health across Port Moody's watersheds. Examples include the Chines Creek and Stoney Creek ISMPs.<br>• Support invasive species management by identifying riparian and watershed restoration priorities where invasive removal, native replanting, and public education can help improve water quality, habitat, and watershed resilience. |
| | *Community Wildfire Protection Plan (2019)* | • Guides fire risk management in the wildland-urban interface.<br>• Recognizes that forest health issues, including invasive species, can increase wildfire risk, and notes that fuel treatment activities can also contribute to invasive species spread if not carefully managed. |
| **Bylaws, guidelines and policies** | *Naturescape Principles Policy (2019)* | • Corporate policy that provides direction for managing lands and private property in and around Environmentally Sensitive Areas.<br>• Applies to civic projects and developers and residents are encouraged to follow the same approach where appropriate.<br>• Principles include active prevention and control of invasive species, prioritizing high-risk species, and supporting residents in managing invasive plants on their own properties. |
| | *Climate Resilient Landscaping Standards for Public Lands (2022)* | • Best practice guidance for landscaping practices that improve climate resiliency.<br>• Advises users to avoid planting invasive species and to control them through regular maintenance. |
| | *Sustainability Report Card* | • Requirement for rezoning, heritage revitalization agreement, heritage alteration permit, and some development permit applications.<br>• Awards points for removing invasive plant species from natural areas as part of development-related work. |
| | *Zoning Bylaw* | • When required through development, Riparian Area Restorative and Enhancement Works include invasive plant removal and native planting.<br>• Excludes invasive plants from the definition of landscaping and defines them as species regulated under the BC *Weed Control Act* and/or the Community Charter. |

| | Plan, Policy or Bylaw | Relevance |
|---|---|---|
| **Bylaws, guidelines and policies** | *Subdivision and Development Servicing Bylaw No. 2831* | • Contains no reference to invasive species except to exclude 'weeds' from the definition of "Landscaping". |
| | *Unsightly Premises Bylaw No. 1488* | • Prohibits owners or occupiers of real property from allowing property to become overgrown with noxious weeds or noxious or destructive insects<br>• Does not define 'noxious'. |
| | *Sidewalk and Boulevard Maintenance Bylaw No. 2426* | • Requires property owners and occupiers to keep sidewalks and boulevards free of weeds, including noxious weeds.<br>• Defines noxious weeds as those regulated under the BC *Weed Control Act*. |
| | *Environmentally Sensitive Area Management Strategy, 2003* | • Identifies priority habitats and ecological areas for protection and restoration, providing a foundational framework for targeting invasive species management efforts where ecological values are highest.<br>• Highlights invasive species as a key threat to biodiversity and ecosystem function, reinforcing the need for coordinated control, monitoring, and restoration. |
| | *Parks and Community Facilities Rules and Regulation Bylaw No. 3321* | • Prohibits the introduction of invasive species of plant or animal origin to the land or into any natural stream, creek, ditch, or pond, or any man-made water feature, fountain, or pond within a park.<br>• Does not define the term invasive species. |
| | *Pesticide Use Control Bylaw No. 2575* | • Regulates pesticide use on both City and private lands and allows pesticides to be used for the control or eradication of noxious weeds.<br>• Definition of noxious weeds is limited to the following four knotweed species listed in Schedule B: Bohemian, Giant, Japanese, and Himalayan. |
| | *Municipal Ticket Information Authorization Bylaw, 2020, No. 3218.* | • Gives the City authority to issue bylaw infraction tickets and collect fines.<br>• Supports enforcement of several bylaws relevant to invasive species management, including the *Parks and Community Facilities Rules and Regulations Bylaw*, *Pesticide Use Control Bylaw*, *Sidewalk and Boulevard Maintenance Bylaw*, *Unsightly Premises Bylaw*, and *Zoning Bylaw*. |

## Metro Vancouver Context

In 2015, the Regional Invasive Species Working Group was formed to support more coordinated invasive species management across Metro Vancouver. The member municipality representatives meet regularly to assist with ongoing efforts to increase coordination, awareness, detection, tracking, and control of invasive species throughout and beyond the Metro Vancouver Region. A Port Moody representative has attended these meetings regularly since inception and has been co-chair since 2023. This working group has produced a suite of resources tailored to the region to improve invasive species management, including Best

Management Practices (BMPs) and factsheets for over two dozen invasive species, and guidelines for disposal of invasive plants.

The Invasive Species Council of Metro Vancouver (ISCMV) is a non-profit society dedicated to improving invasive species management across the region. It provides educational and technical support through seasonal forums, presentations, workshops, and fee-for-service coordination of municipal stewardship events. ISCMV has also played a key role in developing Metro Vancouver's BMPs and factsheets.

### Neighbouring Jurisdictions

Due to proximity and shared geography, Port Moody faces many of the same challenges as neighbouring municipalities in managing invasive species. Neighbouring municipalities use a range of complementary approaches to manage invasive species. Common initiatives include public education through online resources, annual treatment programs for priority species (Knotweed species and Giant hogweed), and targeted Early Detection and Rapid Response (EDRR) efforts. Many jurisdictions also undertake invasive plant removal and ecological restoration in parks and natural areas, often supported by active stewardship groups and volunteer programs. Regional collaboration is common, including participation on the Regional Invasive Species Working Group and collaboration with the Invasive Species Council of Metro Vancouver for technical support and stewardship coordination, and with the Canadian Food Inspection Agency to address regulated species such as Japanese beetle.

## ► Current State: Invasive Species in Port Moody

### Sources, Modes of Spread and Vulnerabilities

Invasive species are introduced and spread through two main dispersal pathways: natural processes and human-related activities. While natural pathways such as wind, water, wildlife, and birds contribute to the movement of seeds and plant material, human actions are the primary driver of new introductions and rapid spread across the landscape. Common human activities through which invasive species are introduced and spread include land-use practices that create disturbance, accidental or intentional movement of invasive species, improper disposal of plant material, movement through transportation and recreation corridors, and movement of infested soil, plants, and equipment.

There are many place-based factors that influence the natural dispersal processes and human activities that occur within a region, including local environmental conditions, historic and present-day land uses, patterns of human-activity and other social, economic and cultural conditions. The unique combination of these factors can make some communities more vulnerable than others to specific pathways of introduction, spread, and establishment.

Recognizing the factors that make Port Moody uniquely vulnerable to invasive species introduction and spread is an important step in strengthening prevention, early detection, and response. These factors include:

- **Historic anthropogenic disturbances:** Many of Port Moody's natural areas have been altered and degraded over time by colonial land use and development activities, including logging, industrial use, urban development, and debris dumping. These disturbances often leave behind exposed mineral soils and degraded growing conditions that favour invasive species, while making it harder for native plant communities to recover and compete.
- **Interconnected waterways and greenways:** Port Moody is located at the head of Burrard Inlet and the City also contains wetlands, watercourses, and riparian habitats, all of which are especially vulnerable to invasive species. Aquatic invasive species can be introduced when they attach to boats or are released from ballast water in ships. Plant fragments and seeds can also spread through natural water movement or through direct introduction into waterways by people. Once they enter riparian or forested corridors, invasive species can easily spread. Where invasives establish along watercourses, the streams act as dispersal pathways that allow invasive species to establish along streambanks, moving further downstream over time.
- **Overland transportation corridors:** Transportation routes such as highways and the Canadian Pacific Railway that passes through Port Moody can act as corridors for invasive species spread. Vehicles, maintenance activities, and disturbed conditions along these routes can help move seeds and plant material and create favourable conditions for establishment.
- **Horticultural practices:** Invasive plants can escape and spread into parks, natural areas or riparian corridors from adjacent gardens, landscaped areas, water gardens and intensively managed spaces. Invasive plant fragments and seeds may also be introduced through improper or illegal dumping of yard waste, debris, and unwanted plants. For example, many infestations of English ivy and Yellow archangel originated from dumping of garden waste, and Yellow flag iris is a popular horticultural plant that can invade waterways.
- **Infested materials:** Invasive species can establish and spread through the use and transfer of infested materials such as nursery stock and seed mixes, imported substrates such as soil and gravel, and movement of untreated timber and firewood. For example, Emerald ash borer can be transported in infested firewood and untreated ash wood, while Japanese beetle can be moved through infested nursery stock, soil, and other growing media.
- **Parks and natural areas recreation and management:** High levels of park use can contribute to invasive species spread through the movement of seeds and plant fragments on clothing, footwear, equipment, and pets. Furthermore, routine maintenance activities such as road, trail, vegetation, and turfgrass maintenance can further contribute to the spread of invasive species, if best management practices are not followed.
- **Introductions from pets and aquariums:** The intentional or accidental release of pets and aquarium species into natural areas can result in the introduction and establishment of a new invasive species. In BC, European rabbits are a popular pet that have been released into parks and natural areas. They outcompete native species for food and

habitat, prevent regeneration of native plants by overgrazing, and can cause soil erosion by the creation of extensive burrows.

## Impacts to City Assets

As outlined in the previous section, Port Moody has unique environmental and socioeconomic factors that increase the city's vulnerability to certain types of invasive species introduction and spread. These factors can extend to the impacts that invasive species have on the City's natural and built assets and community wellbeing. Table 5 outlines the impacts that key invasive species found in Port Moody may have on city assets.

*Table 5. Impacts of invasive species on City of Port Moody assets.*

| Assets or Values | Key Species of Concern | Impact |
|---|---|---|
| Built Infrastructure | Knotweed species | Knotweed can damage concrete and asphalt, threatening roads, sidewalks, bridges, and building foundations. |
| | Aquatic invasive species | Can obstruct drainage systems and ditches, reducing drainage capacity and increasing flood risk during heavy rainfall. |
| Sensitive Ecosystems | All invasive species currently present in Port Moody | Displace or consume native species, leading to lower biodiversity and less complex habitat structure. They can also interfere with food webs and key ecological functions, such as water movement and nutrient cycling, reducing ecosystem health and the services these systems provide. |
| Streambank Stability | Knotweed species | Studies have found that streambanks dominated by knotweed are more prone to erosion and more likely to fail during high-flow events. |
| Human Health and Safety | Giant hogweed | Sap causes severe skin burns and blistering when exposed to sunlight. |
| Recreation, access and aesthetic value | Himalayan blackberry | Himalayan blackberry can form dense, thorny growth along trails, park edges, and other disturbed areas, restricting access, reducing visibility, and increasing maintenance requirements. |
| Urban Forest | English ivy | As ivy climbs, it adds weight increasing the risk of breakage or tree failure. It can also trap moisture against bark, contributing to decay. These factors result in increased hazards to people and/or infrastructure, costly tree removals, and impacts to urban tree canopy targets. |
| Wildlife | Common burdock | Common burdock's hooked burrs can entangle bats, posing risks of injury or death, making it a wildlife concern. Managing burdock supports Port Moody's Bat Friendly Community designation. |

## Invasive Species Priorities

### Invasive Plant Species

Port Moody's Invasive Species management program will determine management priorities by using a combination of regional **risk ranking**, **stage of invasion**, and **location factors**. Together, these considerations help identify where eradication, containment, or asset-based control is most appropriate.

The first step is to assess each species based on its relative risk and current stage of invasion in Port Moody:

- **Regional Risk Ranking:**
  The Invasive Species Council of Metro Vancouver evaluated the relative risk of invasive plant species in the Metro Vancouver region based on five categories: ecological impacts, social and economic impacts, biological characteristics, distribution, and feasibility of control. Each species is assigned a score on a scale of 0 to 100, where higher scores indicate greater overall risk [7].
- **Stage of Invasion:**
  Invasive species spread across the landscape over time, progressing through four stages of invasion (see Stage of Invasion inset). The City's upcoming 2026 invasive plant inventory will help estimate the stage of invasion, based on current distribution and abundance, for species present locally.

**Stage of Invasion**

Invasive species typically move through four invasion stages, and each stage calls for a different management response (Figure 1).

1. **Pre-introduction stage**. The species is not yet present in the environment. At this stage, the priority is **prevention** through public awareness, education, and actions that support healthy, resilient ecosystems so the species does not become established.
2. **Introduction stage**. The species is present only in small numbers and at low levels of infestation. Populations are limited and often made up of scattered individuals. With early detection and rapid response, **eradication** is often still achievable.
3. **Expansion stage**. The species begins spreading outward from initial infestation areas and dispersing over short distances. As affected areas grow, eradication becomes less realistic. **Containment** and targeted control measures become the main strategy to limit further spread.
4. **Post-expansion stage**. The species is now widespread across the landscape and capable of dispersing over long distances. Infestations are large and well established. At this point, broad eradication is no longer feasible, and management usually focuses on **control for asset protection**: controlling the species at priority sites to reduce impacts on valued land, infrastructure, or other assets.

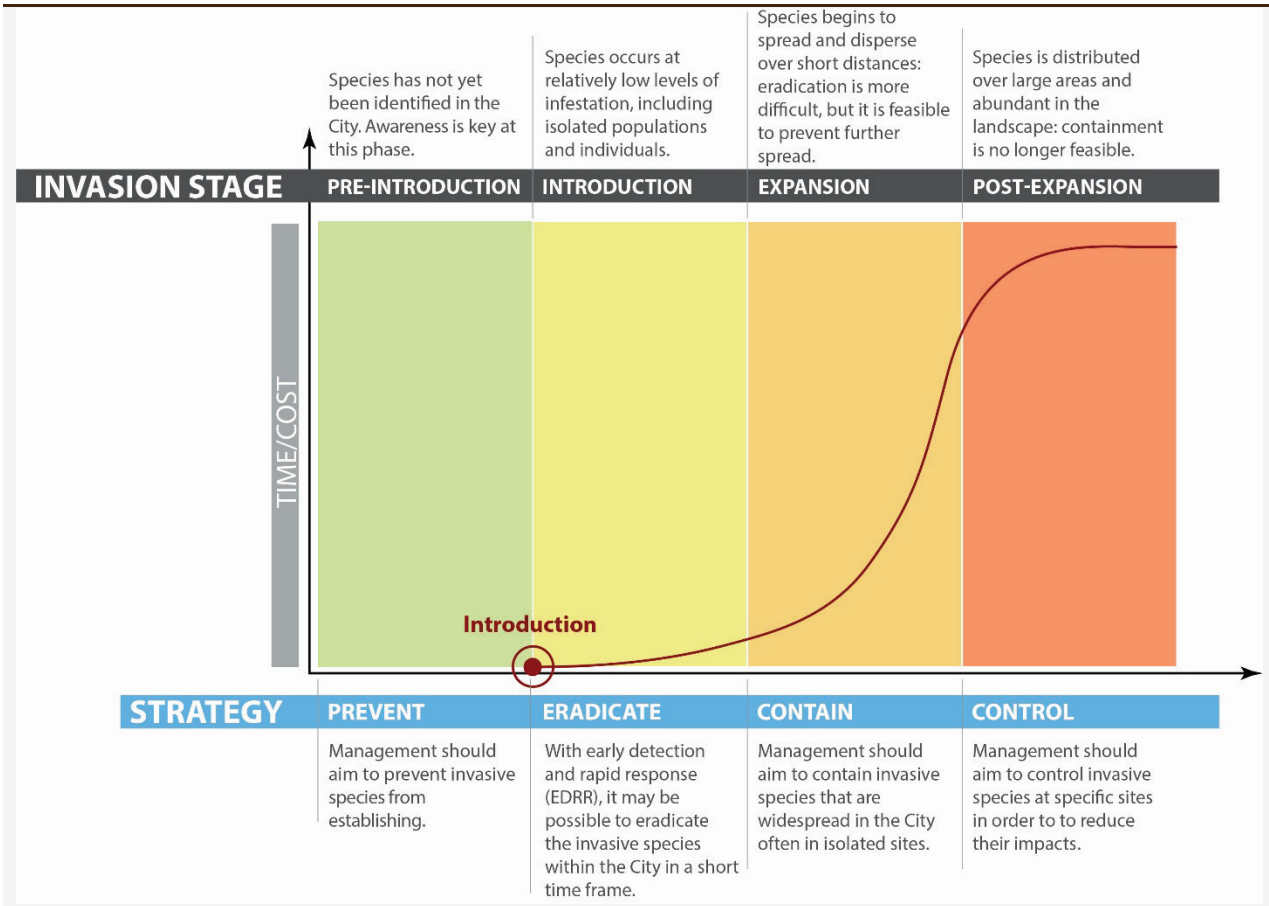


*Figure 2. Stages of invasion.*

There is often a delay between the first appearance of an invasive species in a landscape and the point at which it begins to spread rapidly. One explanation is that this lag period reflects the time needed for the species to adjust or evolve in ways that improve its ability to survive and reproduce under local conditions [8]. In the context of a changing climate, invasive species may develop traits that could allow for faster growth and spread in the future. This process reinforces the need for strong early detection and rapid response measures for newly emerging invasive species. As a species becomes more widespread and abundant, the likelihood of major environmental, economic, and social impacts increases. At the same time, management becomes more costly and less likely to succeed on a broad scale.

Species with the highest risk and earliest stage of invasion should receive the highest priority, as these are most feasible to eradicate and pose the greatest potential future impact if left unmanaged.

*Table 6. Determination of Management Strategy for individual invasive species.*

| Risk Ranking | Stage of Invasion | Recommended Management Strategy |
|---|---|---|
| Very High risk (70-100) | Introduction / Early Detection | Eradicate where feasible |
| | Expansion | Contain to prevent further spread |
| | Post Expansion | Control to protect priority assets/sites |
| High risk (50-70) | Introduction or Expansion | Targeted control or containment, depending on feasibility and location |
| Moderate risk (<50) | Any stage | Monitor*, manage opportunistically or address through routine maintenance |

* Risk profiles can change when new information becomes available.

Once the species-level management strategy is identified, priorities can be further refined based on protection of values, assets or existing opportunities such as:

- **Environmentally sensitive areas**, including riparian areas, wetlands, shorelines, mature forests, and habitat for species at risk.
- **High-use public areas**, including trails, parks, viewpoints, and recreation corridors where invasive species affect access, safety, or public enjoyment.
- **Infrastructure and asset protection areas**, including roads, retaining walls, utilities, drainage features, and other built assets vulnerable to damage or increased maintenance costs.
- **Restoration-ready sites**, where invasive species removal can be followed by planting, monitoring, and maintenance to reduce reinvasion.
- **Partnership opportunities**, where work can be coordinated with stewardship groups, adjacent landowners, other agencies, or capital projects.

Location factors are also important to consider at the site level, including prioritizing treatment of:

- **Least-invaded areas first**, where treatment is more likely to prevent establishment and protect intact habitat.
- **Upstream or upslope infestations first**, followed by downstream areas, to reduce reinvasion by seed, fragments, or runoff.
- **Edges of infestations before core areas**, especially for widespread species, to slow expansion and contain spread.
- **Known spread pathways**, including trailheads, roadsides, maintenance corridors, dumping sites, and areas receiving imported soil or landscape materials.

The City categorizes invasive plant species into two lists: Priority (List A) and Secondary (List B). The determination of category is tied to both risk and stage of invasion as follows:

- **Priority Managed Species (List A):** those that pose the greatest environmental, economic, or social risk within the municipal boundary. These species are typically

characterized by high invasiveness, significant environmental impacts, and potential for rapid spread. Management efforts for these species emphasize active control, EDRR, and containment.

- **Secondary Managed Species (List B):** those that are widespread within the municipality but still have localized ecological impacts or potential for containment in specific areas. These species may not be practical to eradicate citywide but should be managed strategically to limit spread, protect high-value sites, and support community stewardship.

Table 7 lists all species currently classified as List A or List B, along with their regional risk ranking scores and estimated stage of invasion. It also identifies each species' regulatory status, including whether it is regulated under the *Weed Control Act* and its Provincial Priority status. An additional nine species known to occur in the City are also included; these may be candidates for List B, pending confirmation through the upcoming invasive plant inventory.

The stage of invasion presented in Table 7 is preliminary. With the exception of knotweed, a comprehensive, City-wide invasive plant inventory has not yet been completed. Current understanding is based on field knowledge, opportunistic mapping of observed occurrences and recorded occurrences on the InvasivesBC (formerly IAPP) and iNaturalist platforms. A more comprehensive inventory is planned for summer 2026, which will refine the stage of invasion for each species and support more defensible, evidence-based decisions on management strategies.

The inventory will also enable location-based factors to be incorporated, allowing the location-based priorities outlined above to be applied and a more targeted, priority-driven management plan to be developed. This framework should be revisited and updated over time as new information becomes available and new invasive species are introduced.

*Table 7. Priority invasive plants in the City of Port Moody.*

| Common Name | Risk Score* | Stage of Invasion (estimated**) | Regulatory or Provincial Priority Status*** |
|---|---|---|---|
| **Priority List A** | | | |
| Knotweed species | 80 | Expansion | WCA, PPIS-Regional Contain/Control |
| English ivy | 80 | Post expansion | WCA, PPIS-Manage |
| Giant hogweed | 78 | Introduction | WCA, PPIS-Prov Contain |
| Yellow flag iris | 78 | Introduction | WCA, PPIS-Regional Contain/Control |
| Cordgrass species | 76 | Introduction | WCA, PPIS-EDRR |
| Purple loosestrife | 76 | Introduction | WCA, PPIS-Regional Contain/Control |

| Common Name | Risk Score* | Stage of Invasion (estimated**) | Regulatory or Provincial Priority Status*** |
|---|---|---|---|
| Scotch broom | 71 | Introduction | WCA, PPIS-Regional Contain/Control |
| Orange hawkweed | 67 | Introduction | WCA, PPIS-Manage |
| Canada thistle | 63 | Introduction | WCA |
| Common burdock | 63 | Introduction | WCA |
| Himalayan balsam | 47 | Expansion | PPIS-Regional Contain/Control |
| **Priority List B** | | | |
| Himalayan blackberry | 84 | Post expansion | PPIS-Regional Contain/Control |
| Butterfly bush | 67 | Introduction | |
| English holly | 63 | Post expansion | PPIS-Manage |
| Yellow archangel | 57 | Expansion | PPIS-Regional Contain/Control |
| Hedge bindweed | 57 | Expansion | |
| Cherry laurel | 55 | Post expansion | PPIS-Regional Contain/Control |
| Common hops | 49 | Introduction | |
| Small flowered touch-me-not | 43 | Expansion | |
| Periwinkle | 43 | Expansion | |
| **Recommended Additions to Priority List B** | | | |
| Reed canary grass | 71 | Introduction | |
| Spurge laurel | 65 | Expansion | PPIS-Manage |
| Bamboo species | 57 | Introduction | |

* ISCMV regional risk ranking (published version is outdated)
** Stage of invasion estimated based on typical stage in neighbouring cities who have carried out City wide inventories
*** WCA: Regulated under the BC Weed Control Act; PPIS: Provincial Priority Invasive Species; Top 25: 2025 Provincial public land “Top 25” invasive plant species priorities

### *Other Invasive Species*

Table 8 provides a high-level overview of other invasives species (non-plants) which are present in the City and/or region. Species are included if they are commonly actively managed in our region or are worthy of attention for prevention and awareness purposes.

*Table 8. Priority invasive insects and animals in the City of Port Moody.*

| Common Name | Impact | Description | Overview of Response Strategy | Nearest Known Presence |
|---|---|---|---|---|
| **Invasive Insects** | | | | |
| Emerald ash borer | Tree mortality | Federally regulated pest. A major threat that kills ash trees within a few years of infestation. | Monitoring and rapid containment response to remove infested ash trees; public outreach; preventative treatment of high value ash trees through injection every 1-3 years; replanting with diverse non-host species. | First confirmed in Vancouver (May 2024) |
| European chafer beetle | Impacts turf grass and sports fields | Attracts wildlife (e.g. crows, raccoons, skunks) which destroy turf and sports fields. | Preventative measures to build turf resilience; public education; seasonally timed treatment; restricted movement of infested substrates. | Confirmed in Port Moody and widespread throughout Metro Vancouver region |
| European fire ant | Human and animal health | Painful repeated stings to humans, pets and wildlife. Impacts biodiversity by displacing native ants and other insects. | Species confirmation through baiting surveys; public outreach; treatment with pesticide; containment through restricted movement of substrates. | Many recorded occurrences throughout Metro Vancouver region |
| Japanese beetle | Feed on roots and vegetative matter of a wide range of plants. | Federally regulated pest that causes significant damage to over 300 plant species, including flowers, shrubs, trees, as well as turf grass and sports fields. | Work with CFIA: intensive trapping to determine extent; public outreach; targeted pesticide treatment of soil and turf; establish restriction zone for movement of soil, plants and green waste. | Port Coquitlam, Burnaby |
| Spongy moth | Defoliates shrubs and trees | Federally regulated pest. Caterpillars defoliate trees and shrubs, particularly oak, maple, and fruit trees. | Work with CFIA: intensive trapping to determine extent; public outreach; targeted pesticide treatment (aerial or ground based). | Actively managed in region |

| Common Name | Impact | Description | Overview of Response Strategy | Nearest Known Presence |
|---|---|---|---|---|
| **Invasive Animals** | | | | |
| American bullfrog | Biodiversity | Outcompetes native frogs and preys extensively on native fauna. | Population monitoring; public education; containment through trapping and removal of early life stages. | Distributed throughout Metro Vancouver region |
| Eastern and European cottontail rabbit | Biodiversity; asset damage | Overgrazes and damages native vegetation. Causes soil disturbance and erosion. Attracts predators that can lead to unintended impacts on native wildlife. Damages assets such as sports fields and road shoulders. | Population monitoring; public education to discourage feeding and abandonment; control measures (e.g. live trapping, fertility control, habitat modification); exclusion fencing; restoration of damaged areas. | Confirmed in Port Moody and distributed throughout Metro Vancouver region |
| Green frog | Biodiversity | Outcompetes native frogs and prey extensively on native fauna. Displaces native frogs. | Population monitoring; public education; containment through trapping and removal of early life stages. | Distributed throughout Metro Vancouver region |

## Management Activities to Date

Port Moody's invasive species management program is led by the Environment team within the Environment and Parks division of the Community Services Department. To date, management activities have centred on three main areas: seasonal control of high-priority invasive species, ecological restoration, and review of construction projects (including engineering projects and development applications).

### Seasonal control of high-priority invasive species

The Environment team leads invasive species removal and disposal on City-managed lands, with most work carried out in-house and additional support provided by contractors where needed. Management is guided by a City-led invasive species list informed by annual field observations and supported by treatment windows for each species, including provincially regulated species. This approach helps direct effort to species of greatest ecological or operational concern at the appropriate time of year. For example, Burdock is treated as a priority because of the risk it poses to bat habitat, which is consistent with Port Moody's Bat Friendly Community designation. Other teams within the Environment and Parks division also contribute through routine operations. For instance, the trails team trims back Himalayan blackberry and English ivy where they obstruct trail access or sightlines.

Volunteer stewardship also plays an important role by supporting invasive species control on City-managed lands and extending the reach of limited staff resources. Public input can influence priorities, particularly where community concern draws attention to species such as English ivy.

Knotweed management is a distinct focus area within the City's current program and is primarily delivered through contracted treatment. City operations support this work through established no-mow protocols around treatment areas. The Environment team communicates these treatment areas to Operations and Parks Management staff through flagging, signage, and direct communication with the Operations Supervisor where infestations occur in maintained areas such as roadsides and ditches. Other staff within the divisions also help identify knotweed on City-managed lands and report it to the Environment team.

### Ecological Restoration

Ecological restoration in the City of Port Moody focuses on re-establishing native vegetation and improving habitat conditions in areas where invasive species have been removed. Restoration field work in Port Moody is supported through a combination of in-house staff, contractors, and volunteer partnerships. For example, the Urban Forestry team will plant native trees in a restoration site and Environment team will plant understory shrubs and herbaceous vegetation to create a functional forest ecosystem. Restoration primarily occurs in areas that have been cleared of knotweed and other high-priority invasive species. These restoration efforts aim to stabilize treated areas, prevent reinfestation, and enhance ecological function over time. Where

possible, planting plans prioritize the establishment of native species that align with local First Nations preferred planting lists, supporting both ecological restoration and cultural values.

**Review of development/construction projects**

The OCP outlines objectives related to restoring degraded ecosystems through actions such as invasive removal, native replanting, and watercourse and habitat enhancements. Accordingly, the Environment team supports invasive species management through review of development applications to ensure adherence to OCP policies. Where invasive species are present, staff request Invasive Plant Management Plans to provide site-specific best management practices for the management of invasives during construction. These plans are focused on preventing the spread of invasive species as a result of soil disturbance, equipment movement, and improper disposal, which can exacerbate infestations both on-site and in surrounding areas. The City's Environmentally Sensitive Area Development Permit Area 4 Guidelines also note that areas and works identified through due diligence as containing invasive species should be treated as areas requiring habitat enhancement and restoration. Where the development is located within/adjacent to environmentally sensitive areas (i.e. Development Permit Area 4), the applicants may also be requested to provide a Habitat Restoration Plan, which specifies native planting requirements, along with a maintenance and monitoring period.

In City projects managed by Project Delivery Services, Project Managers work with the Environment team on a case-by-case basis to identify invasive species risks and determine appropriate management approaches. Where city projects are within or adjacent to environmentally sensitive areas, ecological restoration will also be included in the project. On larger projects, contractors may be required to retain a Qualified Environmental Professional, although the Environment team remains closely involved in review and coordination. This project-based involvement helps address invasive species risks associated with site disturbance, soil movement, and construction activity, and ensures that ecosystems are restored following construction.

## Key Program Gaps and Opportunities

To support development of the ISMS, the current program was reviewed to identify key gaps and opportunities to strengthen prevention, management, engagement, coordination, and long-term implementation. It was determined that Port Moody's invasive species management program has a strong foundation, including qualified staff with technical expertise and experience, an established knotweed program, active restoration work, supportive internal teams, and strong public interest in environmental protection. However, the program faces evolving resource needs due to the increasing pressure from the spread of invasive species. Key gaps and opportunities are summarized in Table 9.

*Table 9. Key gaps and opportunities for Port Moody's invasive species management program.*

| Program Gap | Relevance | Opportunity |
|---|---|---|
| *Invasive species management is not consistently supported by clear bylaw and regulatory authority across City documents.* | This lack of support can limit the City's ability to require consistent invasive species prevention, treatment, disposal, restoration, and monitoring measures across development, private property, and City-led projects. | Clarify and strengthen City bylaws, procedures, and application requirements so invasive species definitions, species coverage, and management expectations are applied more consistently across development review, City projects, and emerging invasive species risks. |
| *Invasive species are not consistently integrated into capital project planning, procurement, and delivery.* | Late identification can cause project delays, increase costs, create avoidable spread risks, and place additional pressure on the Environment team to provide case-by-case direction. | Integrate invasive species screening, site review, BMPs, budget considerations, and contractor requirements earlier in project planning, procurement, and construction processes. |
| *Treatment, restoration, and monitoring priorities are not yet supported by a formal prioritization framework.* | Without a consistent framework, decisions rely heavily on staff judgment and may not consistently direct limited resources to the highest-risk species, pathways, ecological assets, or public-use areas. | Develop a formal prioritization framework to guide where treatment, restoration, and monitoring should occur first, with attention to riparian areas, ESAs, trails, major roads, facility assets, and flagship parks. |
| *Invasive species spread prevention practices are not consistently embedded across disposal, soil disturbance, maintenance, and construction activities.* | Improper biomass disposal, soil movement, mowing, trail work, and construction activities can spread invasive species into sensitive ecosystems and increase future treatment costs. | Strengthen operational guidance, BMPs, disposal procedures, and project requirements to reduce spread risks during maintenance, construction, restoration, and public use activities. |
| *Invasive species data and tracking systems are fragmented and not easily accessed, updated, or used across departments.* | The baseline dataset is not widely accessible or easy to update, limiting its usefulness for planning, field response, restoration tracking, and long-term monitoring. | Improve the invasive species inventory and tracking system so data can be accessed, updated, and used by relevant staff through GIS-based tools and internal platforms such as ViewPort. |
| *Staff roles, responsibilities, and knowledge vary across teams.* | The shared staffing model creates efficiencies, but unclear responsibilities and inconsistent training can lead to missed detections, improper handling, uneven reporting, duplicated effort, and gaps in follow-through. | Clarify roles, responsibilities, and escalation pathways, and provide recurring training for field staff, project managers, Engineering, Operations, Urban Forestry, contractors, and consultants. |

| Program Gap | Relevance | Opportunity |
|---|---|---|
| *Archaeological assessment requirements can impact project timing if not considered in early stages of project planning.* | This can affect project timing, methods, and feasibility where work involves ground disturbance, excavation, planting, or restoration in areas with known or high potential for archaeology sites. | Strengthen early coordination processes so archaeological considerations, local First Nations interests, referral requirements, permitting needs, and notification protocols are identified and incorporated into invasive species treatment and restoration planning. |
| *Program funding and staffing may lag behind growing and changing invasive species management demands.* | Budgeted resources may constrain treatment, restoration, monitoring, data management, training, and outreach. | Strengthen long-term program capacity through stable funding, grant support, dedicated field leadership, and staffing levels that support year-round coordination and implementation. |
| *Public education, stewardship, and partnerships require more structure and capacity.* | Public support is strong, but improper yard waste disposal, limited awareness, and growing pressure on natural areas continue to create spread risks. Partnerships can extend program reach but require coordination. | Expand targeted education, signage, volunteer materials, social media campaigns, workshops, and partnership streams with schools, stewardship groups, Indigenous communities, non-profits, and properties near sensitive areas. |

# Management Strategy

The City has been actively managing invasive species for many years, with its approach evolving in response to increasing threats, improved understanding, and growing awareness. Many aspects of the current program are strong and effective, providing a solid foundation for continued success.

This section builds on that foundation by organizing the City's approach into a clear management framework that identifies how invasive species will be prevented, managed, and addressed over time.

The Management Strategy is structured around three overarching goals. Each goal is supported by a set of strategic components, which describe the key areas of work, and a series of actions that identify specific steps required for implementation. This structure provides a clear link between high-level direction and on-the-ground implementation.

Three goals guide Port Moody's Invasive Species Management Strategy:

**Goal 1: Prevent & Manage** invasive species through risk reduction, early detection, treatment, restoration, and monitoring to protect ecological assets and support climate resilience.

**Goal 2: Engage & Collaborate** with the community to build awareness, partnerships, and participation in invasive species management.

**Goal 3: Adapt & Sustain** a coordinated invasive species management program.

## ► Goal 1: Prevent & Manage

This section focuses on reducing the introduction and spread of invasive species, managing existing infestations, and restoring affected ecosystems. The City has established a strong foundation in these areas, and this Strategy builds that work by improving consistency, coordination, and prioritization across management activities.

This goal is delivered through the following focus areas:

- Regulatory Tools
- Prevention Practices
- Early Detection
- Inventory
- Treatment and Restoration
- Maintenance, Monitoring, and Adaptive Management

Together, these focus areas support a proactive and integrated approach to invasive species management.

## Regulatory Tools

Regulation through bylaws enables the City to respond more effectively to emerging high-risk invasive species. Bylaws serve both as educational and enforcement tools, helping to communicate risks while supporting coordinated action across public and private lands. They also provide the authority for City staff to require action from private property owners where there is a significant risk of spread, and to support invasive species management and ecological restoration during development processes.

The City has several bylaws which pertain to controlling invasive species as outlined in the Introduction: Municipal Policy and Regulatory Context section of this document.. There are several opportunities to strengthen these bylaws (Table 10).

*Table 10. Regulatory limitations and opportunities.*

| Existing Bylaw / Regulation | Relevance | Limitation | Opportunity |
|---|---|---|---|
| *Unsightly Premises Bylaw* | Compels property owners to control noxious weeds and/or destructive insects from a maintenance or aesthetic point of view. | Target species are limited to noxious weeds and destructive insects, which are not defined.<br><br>Does not convey the ecological impact of invasive species. | Consider including a broader range of invasive species by altering the language and providing a broader definition;<br>or create a standalone invasive species bylaw (see *Invasive Species Bylaws in BC* inset below). |
| *Sidewalk and Boulevard Maintenance Bylaw* | Compels property owners to control noxious weeds from a maintenance or aesthetic point of view. | Target species are limited to noxious weeds, which are defined as 'any weed designated by the weed control regulation to be a noxious weed pursuant the Weed Control Act R.S.B.C. 1996, c 487'.<br>Does not convey the ecological impact of invasive species. | Expand to include a broader range of invasive species by altering the language and providing a broader definition;<br>or create a standalone invasive species bylaw (see *Invasive Species Bylaws in BC* inset below). |
| *Parks and Community Facilities Rules and Regulation Bylaw* | Prohibits the introduction of invasive species of plant or animal origin to the land or into any natural stream, creek, ditch, or pond, or any man-made water feature, fountain, or pond within a park. | 'Invasive species' is not defined | Define invasive species (see *Invasive Species Bylaws in BC* inset below). |

| Existing Bylaw / Regulation | Relevance | Limitation | Opportunity |
|---|---|---|---|
| *Pesticide Use Bylaw* | Allows for control or eradication of noxious weeds using pesticides. | 'Noxious weeds' are currently limited to four species of knotweed | Expand to include a broader range of invasive species by altering the language and providing a broader definition to enable the City to rapidly respond to emerging, high risk invasive species, including insects. |
| *Subdivision and Development Servicing Bylaw* | Regulates the subdivision of lands and establishes standard of services that are to be provided in subdivided land. | No reference to invasive species except to exclude 'weeds' from the definition of "Landscaping". | Consider expanding development application requirements in the future to explicitly include invasive species management plans where invasive species are present or may be affected by proposed works. The City currently requests these plans on a regular basis, but the requirement is not clearly tied to an identified approval authority or application standard. |

The City currently requests Invasive Plant Management Plans, on a case-by-case basis, as part of the development application review; however, this requirement is not currently included on the Development Application checklist or supported by a specific bylaw/policy. Any formalization would require updates to bylaws, policies, or application requirements and Council approval. This authority sets clear expectations, consistent standards, and effective enforcement. This could include the addition of Invasive Plant Management Plans to the Development Application checklists, as well as to add requirements for invasive species assessments and management plans into the *Subdivision and Development Servicing Bylaw*.

**Invasive Species Bylaws in BC**

The BC *Local Government Act* and *Community Charter* grant municipalities authority to develop bylaws for the management of invasive species[2]. Several BC municipalities have invasive species related bylaws. Strong examples of recently enacted invasive species related bylaws include Whistler, Squamish, and Lillooet. The common elements of these bylaws are:

- Requiring property owners to **control listed noxious or invasive plants on private land** (with a defined list of species), building on the duty already set out in the BC *Weed Control Act* and giving municipalities local enforcement tools.
- **Prohibiting the planting, sale, distribution, or spread** of invasive species.
- Requiring treatment, removal and disposal adhere to specified **Best Management Practices**.
- **Preventing spread** through soil and vegetation movement by adding conditions to development, excavation, and landscaping activities (e.g., clean equipment, avoid importing infested soil, dispose of green waste properly).

Whistler, Squamish and Lillooet's bylaws define Invasive Species as those listed in Section 1 of the Schedule to the *Spheres of Concurrent Jurisdiction – Environment and Wildlife Regulation* under the *Community Charter*, S.B.C. 2003, c. 26 as an "alien invasive species". This list includes invasive plants, invertebrates and vertebrates, which is a notable expansion on the traditional use and enforcement of the BC *Weed Control Act* which only pertains to plants and is generally considered to be out of date in terms of which species are listed.

**ACTION 1**

Update City bylaws identified in Table 10, and relevant policies and guidelines to strengthen invasive species management enforcement, enable pesticide use for emerging high priority species, and strengthen the authority for requiring site-specific Invasive Species Management Plans.

**ACTION 2**

Develop a decision framework to define when site-specific Invasive Plant Management Plans (IPMPs) are required for development applications and construction projects and establish a standardized Terms of Reference for IPMPs.

[2] ISCBC Invasive Species Toolkit for Local Government, Real Estate Professionals and Land Managers (2018).

## Prevention Practices

Prevention is the most effective and least costly approach to invasive species management. Once a species becomes established and begins to spread, eradication is unlikely and management costs increase significantly. The widely used “invasion curve” (Figure 2. Stages of invasion.) highlights the importance of early action through prevention, education, and careful management of high-risk pathways such as soil and substrate movement, equipment use, plant selection, and disposal practices.

The City has an established foundation of prevention practices. The Environment team provides training and guidance to staff across departments, with Parks Maintenance, Trails, Horticulture, and Urban Forestry staff receiving regular instruction through workshops, crew talks, and ongoing in-house support. Educational sessions are also provided to other departments as needed. Operations staff adhere to no-mow zones in knotweed treatment areas.

Despite these established activities, there are opportunities to strengthen prevention practices and ensure more consistent application across the organization. Invasive species training is not currently delivered consistently across all operational and planning teams; expanding training to additional staff groups, strengthening onboarding for seasonal staff, and providing regular refresher training would improve awareness and organizational capacity. Clearer and more consistent application of best management practices, particularly related to soil disturbance, equipment use, and disposal, would further reduce the risk of unintentional spread. Best management practices to reduce the introduction and spread of invasive species have been compiled into a user-friendly resource (Appendix 1) to support consistent application across municipal operations.

A key component of prevention is ensuring invasive species are not introduced through planting activities, including landscape plans, seed mixes used for erosion control and restoration projects. All planting prescriptions, developed by staff, consultants, contractors, and developers, should exclude species listed on the BC Priority Invasive Species List and the Watch List in Appendix 2. Consistent application of this requirement across all planting programs will reduce the risk of new introductions.

In addition, preventing invasive insects requires careful management of high-risk pathways such as the movement of firewood, nursery stock, soil, and green waste. Procuring certified pest-free materials, complying with regulatory requirements, and increasing urban forest diversity will reduce the risk and potential impacts of invasive species such as Emerald ash borer and Japanese beetle.

**ACTION 3**

Create a user-friendly resource document with curated links and guidance to support consistent application of invasive species best management practices across municipal works. Maintain and update this resource regularly as practices and information evolve.

**ACTION 4**

Develop and implement standardized requirements for soil movement, material sourcing, and equipment cleaning across municipal operations and contracts, consistent with provincial and regional best management practices, to reduce the risk of invasive species spread.

**ACTION 5**

Require all staff involved in invasive species management receive regular training on species identification, reporting, and best management practices, and integrate training into onboarding and relevant operational procedures.

**ACTION 6**

During City project and development application reviews, continue to ensure that planting prescriptions prepared by internal staff, consultants, contractors, and developers, exclude species listed on the current BC Priority Invasive Species List. This includes seed blends, restoration plans, landscape plans, and seasonal displays.

### Early Detection

Early detection through awareness, monitoring and reporting further reduces the risk of introduction and spread. This approach is commonly referred to as Early Detection and Rapid Response (EDRR). The costs associated with EDRR are minimal compared to the significantly higher costs of managing species that have already established and spread.

At the provincial level, British Columbia has an EDRR Plan that outlines procedures for responding quickly and effectively to new invasive species that pose a risk to the province. The Province also maintains an up-to-date list of priority invasive species and actively manages occurrences of those classified as 'Provincial EDRR'.

At the local level, municipalities should report sightings of provincially designated EDRR species to the Province. In addition, some species may be considered EDRR priorities within a local context. Appendix 2 includes a Watch List of invasive species that could be introduced to Port Moody from other parts of the region. Familiarity with these species and clear response protocols supports rapid response and containment.

New infestations may be detected through both passive and active surveillance methods. Passive surveillance refers to incidental observations of invasive species made by staff, contractors, partners, or the public during regular activities. Active surveillance refers to planned searches for invasive species and typically focuses on high-priority invasive species, specific geographic areas, and known or likely pathways for introduction and spread.

Strategies for detecting new infestations that employ both passive and active surveillance techniques include:

- **Staff and contractor observations**: visual observations made during regular municipal work to detect invasive species early. The most effective early detection strategy is to ensure that City staff and contractors can recognize EDRR species during field work. This can be supported by simple identification resources and clear internal reporting procedures so suspected species can be reported, verified, and acted on quickly (e.g. reports from parks, roads, drainage, utilities, capital projects, planning, development review, bylaw, and contractor field staff during routine work).
- **Public and partner reporting**: observations from residents, stewardship groups, neighbouring jurisdictions, agencies, Indigenous governments, utility providers, and other partners to identify potential new infestations, supported by clear reporting pathways and partner notification networks (e.g. municipal service requests, iNaturalist monitoring, or reports from ISCMV, InvasivesBC, and stewardship groups). Some municipalities publish an email address on their website specifically for reporting invasive species and some provide an online reporting form.
- **Disturbance inspections**: follow-up inspections at disturbed sites where invasive species are more likely to establish, including checks built into existing municipal inspections and maintenance activities (e.g. inspections after construction, soil movement, mowing, ditching, trail work, utility work, illegal dumping).

**ACTION 7**

Establish a formal process to detect and respond to new invasive species occurrences, including monitoring for provincial Early Detection and Rapid Response (EDRR), assigning responsibility for inspection, identification, mapping, treatment, and reporting.

## Inventory

Accurate, accessible invasive species inventory and restoration data are essential to support effective prioritization, operational planning, and long-term performance tracking. A clear understanding of invasive plant distribution and treatment history strengthens day-to-day management and informed decision making.

The City's current invasive species inventory is constrained by an outdated baseline dataset, fragmented tracking methods, and limited accessibility across divisions. Data are maintained in multiple formats and systems, limiting consistent updates, comprehensive city-wide mapping, and effective use by field staff.

To address these challenges, the City will enhance the usability of invasive plant inventory and restoration data by standardizing tracking tools, consolidating records into user-friendly GIS platforms, and providing accessible training resources for staff. The City will also undertake periodic updates to the city-wide baseline invasive plant inventory to ensure data remain current and reliable over time.

Monitoring efforts for known infestations should be integrated into the inventory system so that staff can record follow-up inspections, missed occurrences, and changes in population abundance and distribution since first detection. The strategies listed in the previous section for detecting new infestations can also support monitoring and post-treatment follow-up of known infestations.

Where appropriate, the City may also support community-based monitoring by enabling stewardship groups and trained volunteers to contribute observations through clear reporting pathways, standardized data collection tools, and verification procedures. This approach can expand the City's ability to detect new infestations, monitor known infestations and treated sites, and track restoration outcomes, while maintaining data quality and consistency.

**ACTION 8**

Create user-friendly tracking tools to enhance the usability and accuracy of the invasive plant inventory and restoration data layers, and ensuring the City-wide baseline inventory is fully updated every 10 years.

## Treatment and Restoration

Effective treatment and ecological restoration are essential to protecting and enhancing ecosystem health in the City. Controlling invasive species helps restore ecological integrity, supports biodiversity, and strengthens resilience to climate change. Invasive species can also pose risks to public health and safety, as well as to cultural and recreational values, making their management both an ecological and community priority.

The City faces risk from existing infestations as well as potential future introductions of new invasive species. These risks vary by species and location. Given that funding and resources are limited, it is critical to prioritize management efforts based on risk, impact, and feasibility. A clear, flexible prioritization framework for treatment and restoration will enable the City to respond effectively to emerging threats while maximizing the impact of available resources. A proposed framework is described in Appendix 4.

The prioritization framework also needs to take into account some site-specific factors that may need to be addressed prior to planning the work, such as whether the site is within a known or high potential archaeology site, located inside a Pesticide Free Zone, or falls within the Great blue heron no disturbance nesting season buffer.

The City already actively manages invasive species in many facets of its operation. This section proposes a way to organize invasive species treatment and restoration into four work areas, each with specific objectives, target species and management approaches:

1. **Targeted Invasive Species Management**
2. **Ecological Restoration and Revegetation**

3. **Managed Urban Landscapes**

4. **Capital and Infrastructure Projects**

**1. Targeted Invasive Species Management**

Emergent and early-stage invasive species that pose the highest environmental, economic, or social risks warrant targeted, City-wide management through early detection and rapid response (EDRR), and coordinated control efforts. These species are prioritized because their high potential for spread and impact justifies intervention at a stage where eradication or effective containment remains feasible, either across the City or at individual sites. Staff will utilize the prioritization framework to maximize the effectiveness of the invasive species management with the available resources.

Targeted management applies to:

- Invasive species listed on the current BC Priority Invasive Species List, including those categorized as Provincial Containment, Regional Containment/Control, and Management, which includes the species on the City's List A and B
- Invasive species categorized as Prevent or Early Detection and Rapid Response (EDRR) on the current BC Priority Invasive Species List, which are prioritized when new or emerging infestations are identified
- Species on the City's Watch List (Appendix 2) or other emerging invasive species considered to pose a high local risk
- Emerging high risk invasive insects

In the case of provincially designated EDRR species, treatment requires coordination with provincial agencies. In the case of emergent, high risk invasive insects, coordination with the Canadian Food Inspection Agency (CFIA) may be required to develop and implement response plans.

A collaborative approach across public and private lands is necessary to ensure control efforts are aligned and maximize the effectiveness of eradication and containment initiatives for these high priority species. This is achieved through education, outreach, and the application of regulatory tools where appropriate to reduce sources of spread originating on private land. It is also achieved as part of the development application process, where landowners are required to complete invasive species assessments to identify the presence of targeted species and undertake treatment as a condition of development approval.

There is benefit in collaborating with other land managers and agencies, including Metro Vancouver, Fraser Health, CN Rail, and BC Hydro, to promote coordinated management across all land tenures within the City.

**Knotweed Treatment in Port Moody**

The City has been actively treating knotweed species since 2016, with 267 sites included in the 2025 treatment program. While the majority of the knotweed sites are easily treated, some of the infestations are Knotweed is commonly found in riparian areas, where treatment is constrained by provincial regulations. In British Columbia, the use of herbicides is restricted within 10 metres of natural watercourses. On public lands, glyphosate is the only active ingredient permitted within this 10-metre Pesticide-Free Zone (PFZ), in accordance with the BC Integrated Pest Management Act and Regulation and applicable Pesticide Management Plans (PMPs). However, herbicide application is not permitted within 1 metre of the high-water mark (HWM) [9] As a result, portions of knotweed growing within this 1-metre zone in Port Moody have not been treated.

There are currently two options for addressing knotweed within 1 metre of the HWM:

1. **Bend and spray technique:** Knotweed canes growing within 1 metre of the HWM are bent and secured outside the restricted zone, allowing them to be treated. This method has been trialed by several local municipalities and can be partially effective; however, it typically does not achieve complete control within this area.
2. **Applying for a pesticide use permit (PUP):** Herbicide application within the PFZ or directly in water may be permitted through a PUP issued by the Province. A roadmap to the PUP application process is provided in Appendix 3. The PUP process includes a comprehensive public consultation with relevant stakeholders and the broader community.

### 2. Ecological Restoration and Revegetation

Ecological restoration and revegetation efforts are directed toward natural areas where invasive species removal has been completed, including forests, wetlands, riparian areas, and other environmentally sensitive areas. This work area encompasses soil stabilization, revegetation, and long-term maintenance to support the recovery of native plant communities and ecosystem function. Establishing healthy, resilient ecosystems is critical to reducing the risk of re-invasion, enhancing biodiversity, and ensuring long-term environmental benefits.

Given the varying levels and extents of habitat degradation across Port Moody's expansive natural areas, a prioritization framework is needed to guide where restoration should occur. The framework is designed to respond to three questions:

1. Where will restoration provide the greatest environmental, economic and social benefit?
2. Where is intervention most likely to succeed?
3. Where can limited resources achieve lasting outcomes?

Once sites are prioritized for restoration, a site-specific assessment is needed to inform the development of a restoration plan. Restoration plans typically include a site assessment and map, treatment plan, planting prescription, and maintenance and monitoring plan. Implementation and maintenance is phased over multiple years, recognizing that successful restoration requires sustained efforts over the long term.

**3. Managed Urban Landscapes**
Invasive species are widespread within Port Moody's landscaped and built environments, including trails, mowed areas, horticultural beds, and areas surrounding infrastructure. The objective of the Managed Urban Landscapes work area is to contain and control invasive species within these settings while preventing new introductions and spread through appropriate planting, maintenance, and operational practices.

This work area includes management of invasive species that:

- pose a risk to adjacent natural areas or contribute to the spread of invasive species into environmentally sensitive areas;
- affect access, safety, or public enjoyment of parks and facilities, particularly within high-use public spaces, trails, viewpoints, and recreation corridors; or
- threaten the function, condition, or longevity of City infrastructure and assets, including roads, retaining walls, utilities, drainage features, and other built assets vulnerable to damage or increased maintenance costs.

This work area complements Ecological Restoration and Revegetation efforts by reducing the spread of invasive species from built environments into adjacent ecosystems while maintaining safe, functional, and aesthetically appropriate public spaces. In some cases, there will be opportunities to transition high-maintenance sites under this work area into ecological restoration sites where repeated control efforts are required to limit spread from adjacent natural areas, such as large blackberry infestations expanding along trail corridors. This opportunity is included in the ecological restoration prioritization framework in Appendix 4.

**4. Capital and Infrastructure Projects**
Capital and infrastructure projects present an opportunity to integrate invasive species management into all stages of Project Delivery Services. Invasive species included in this work area are those that are included in the Targeted Invasive Species Management work area, species that may pose a risk to project success, or those that can opportunistically be removed as part of project works to prevent spread and improve site conditions.

Invasive species management is integrated into all applicable project phases, including planning, design, construction, and close-out. Key actions include:

- **Guidance and standards:** Provide clear, upfront guidance and standard practices for Project Delivery teams to support consistent implementation and reduce reliance on Environment staff for routine direction.
- **Early coordination:** Facilitate coordination between Engineering and Environment staff, including joint site visits, to identify invasive species risks early and inform project scope, design, and budgeting.
- **Procurement integration:** Incorporate invasive species requirements into bid documents, including known risks, applicable best management practices (BMPs), and contractor expectations.
- **Contractor alignment:** Conduct kickoff meetings with the successful contractor and their Qualified Environmental Professional (QEP) to confirm invasive species requirements, management plans, and implementation approach.

- **Long-term maintenance and monitoring:** Establish programs to maintain and monitor treatment and restoration sites post-construction to support successful restoration outcomes.

**Best Management Practices**

Metro Vancouver has produced Best Management Practice guides for most invasive plant species found in the region. These guides are specifically designed for the Metro Vancouver region and are updated regularly. The most appropriate treatment method is selected based on the species, site, and through the framework of Integrated Pest Management.

Improper disposal of invasive species can be a major vector of spread, especially for insect pests, infested substrates, and plant material from certain extremely resilient invasive plant species (e.g., knotweeds). There can also be issues with whether green waste is being composted at temperatures high enough to kill all invasive material and seeds. Metro Vancouver has produced resources detailing disposal options for invasive and toxic plants for practitioners.

Any site with exposed, bare soil is at risk of colonization by invasive plants. Bare soil may be the result of invasive plant removal or natural or human caused disturbance. Depending on the degree of disturbance, restoration may be warranted to ensure native plant communities re-establish before invasive plants can colonize.

Successful restoration planning considers the site ecology, biogeoclimatic site series classification [11], and successional stage of the site (the natural progression of a forest ecosystem over time following disturbance). The site series (moisture and nutrient regime) determines which native plant species are appropriate for a site. Urban natural areas are typically stalled in an early successional stage due to the lack of conifer seed sources. In order to ensure the tree canopy persists in the future, there is value in including planting and seeding with native conifer tree species (which are much longer lived than deciduous species such as red alder, black cottonwood and bigleaf maple) to help move forest succession along its natural progression.

**ACTION 9**

Implement and maintain an invasive species prioritization framework to support consistent, risk-based decision-making for invasive plant control and restoration and establish a process for periodic review and updates to reflect new species introductions, climate-related risks, and changes in invasion stages.

**ACTION 10**

Develop and implement a formal process for coordination with local First Nations within known and high potential archaeological sites to support invasive species management activities, including clear protocols for referral, permitting, notification, and incorporation of Indigenous interests and requirements into project planning and implementation.

**ACTION 11**

Obtain a provincial Pesticide Use Permit to enable the City to treat knotweed within the Pesticide Free Zones adjacent to watercourses.

**ACTION 12**

Develop a restoration and maintenance protocol for disturbed and treated sites that prioritizes preventing invasive species introduction, minimizing soil disturbance, and guiding the selection, installation and maintenance of native plant species and includes defined restoration success criteria and indicators.

**ACTION 13**

Develop and implement a standardized process for integrating invasive species management into Project Delivery led projects through coordinated Engineering and Environment workflows.

### Maintenance, Monitoring and Adaptive Management

Monitoring is a critical component of any invasive species management program. It ensures that treatments are effective, supports the timely management of regrowth, and enables early detection of new invasive species. Monitoring also helps identify unintended outcomes of control methods or restoration efforts, allowing management approaches to be adjusted as needed.

An adaptive management approach is essential, particularly for emerging species when control and restoration methods are being tested and refined. Monitoring results should be used to inform ongoing decision-making and improve program effectiveness over time.

The following list outlines information that may be recorded as part of a monitoring program. It is not exhaustive, and not all components will be required in every situation:

- **Treatment**: date, lead staff or contractor, target species, treatment method, area treated, volume removed, disposal method, pre-treatment photo documentation (e.g., photo plots), and cost
- **Restoration**: date, lead staff or contractor, plant species, sizes and quantities, spacing, site preparation (e.g., silt fencing, mulch, geotextile), and cost
- **Maintenance**: date, lead staff or contractor, target species, method, area treated, volume removed, survival rate of planted stock, next anticipated maintenance date, and cost

Maintenance of newly planted restoration sites should be planned and budgeted for a minimum of five years following installation. Monitoring should continue beyond this maintenance period to ensure early detection of any resurgence of invasive plants.

Monitoring is particularly important in areas where soil disturbance has occurred or where substrates (e.g., soil, gravel, sand) have been imported, whether due to construction, trail maintenance, high-use activities, or natural events. Disturbed and exposed soils are highly susceptible to colonization by invasive species, and it is difficult to guarantee that imported materials are entirely free of invasive propagules.

**ACTION 14**

Develop and implement a standardized data collection and monitoring procedure for City invasive plant treatment sites to ensure adequate follow up treatment, restoration planting and long-term maintenance procedures are being followed and updated on a regular basis.

## ► Goal 2: Engage & Collaborate

This section focuses on building awareness, strengthening partnerships, and supporting participation in invasive species management. Human activities are a primary pathway for the introduction and spread of invasive species, making effective engagement a critical component of management efforts. This Strategy builds on existing work by enhancing communication, improving coordination, and expanding collaboration to support prevention, early detection, and stewardship.

This goal is delivered through the following focus areas:

- Education and Outreach
    - Public Communication and Awareness
- Partnerships and Collaboration
    - Volunteer and Stewardship Programs
    - First Nations Engagement and Knowledge Sharing

Together, these components support a coordinated and community-driven approach to invasive species management, fostering shared responsibility and collective action.

### Education and Outreach

In Port Moody, public support for environmental protection is strong, and residents are generally well-informed and engaged on environmental issues. The City has an established foundation of outreach and stewardship programming related to invasive species. Initiatives include:

- Invasive Species Awareness Month,
- Social media and website outreach,
- Student program (Park pop-up outreach),
- Volunteer invasive plant removal days, and
- Volunteer native planting events.

Information about invasive species is available through Port Moody's website, including how to report invasive species sightings, either by connecting directly with City staff or contributing to provincial mapping through the Invasive Species Council of BC.

There is an opportunity to build on this strong foundation by enhancing and aligning communication and outreach efforts. Messaging can be made consistent by aligning with the ISMS and regional BMPs and taking advantage of existing education campaigns and materials. Diversifying how information is delivered and providing regular, seasonally relevant content will improve accessibility and reach a broader audience. Targeted outreach to specific groups, such as schools, residents, businesses, developers, and properties adjacent to environmentally sensitive areas, can promote practical, audience-specific actions and reduce unintentional spread. Expanding the use of social media, offering workshops, strengthening educational components at volunteer events, and improving signage and promotional materials will further support engagement. Together, these actions will help attract and retain volunteers and get the message out to a broader audience.

Community involvement in removal and restoration activities helps build awareness and fosters a sense of ownership. A wide range of community partners, including schools and youth groups, service clubs, environmental organizations, resident associations, strata councils, and stewardship groups, represents a large audience and base of support for volunteer events.

**Communication Resources**
There are many established educational campaigns and invasive species communication resources available for local governments to use in BC:

*PlayCleanGo* is a patented outreach campaign that partners with environmental and recreational organizations to provide educational resources that raise awareness about how and why invasive species spread across North America.

*Clean, Drain, Dry* empowers recreational watercraft users, marinas and stewardship groups to take actions that prevent spreading invasive species between waterways.

*Don't Let It Loose* is a public awareness and behaviour change campaign that aims to prevent the intentional and accidental release of non-native species into the environment.

*Grow Green Guide* offers gardeners a guide to growing and maintaining a sustainable garden or lawn. It provides plant selections specific to Metro-Vancouver's climate and encourages the use of non-invasive plants.

*Grow Me Instead* helps British Columbian gardeners identify invasive garden plants and promotes non-invasive and native alternatives to commonly used invasive species.

*Metro Vancouver Invasive Plant Fact Sheets* are short, species-specific guidance documents produced by the Invasive Species Council of Metro Vancouver to help the general public identify priority invasive plants, understand their impact and provide options for preventing and controlling them.

*Resources for Educators* are available on the Invasive Species Council of BC website, including a collection of curriculum-linked educational materials, activities and lesson plans that focus on invasive species, biodiversity, and stewardship.

**Public Outreach Strategies**

Local governments use a mix of education, visibility and hands-on engagement to raise awareness about invasive species. Effective approaches include:

**Public Education & Communications**

- Social media campaigns (seasonal posts, species spotlights, existing campaign messaging)
- Invasive Species Action Month – lead by the Invasive Species Council of British Columbia (ISCBC)
- Website resources and interactive maps
- Newsletters, inserts, and email updates
- Short videos, reels, and infographics explaining identification and impacts

**Signage & On-the-Ground Awareness**

- Educational signage in parks, trails, and natural areas, including installing boot brush stations at high use trail heads
- Temporary signs at active treatment or restoration sites
- Interpretive displays highlighting specific invasive species or restoration sites
- Signs at heavily used illegal green waste dump sites explaining the ecological harm of such activities

**Workshops & Events**

- Public workshops on identification and removal techniques
- Training sessions for volunteers, contractors, and community groups
- Booths at community events, farmers markets, and festivals
- Hand on workshops using invasive plant materials (e.g. ivy basket weaving, dye making, etc.)

**Volunteer & Stewardship Programs**

- Community invasive plant pulls and restoration events
- “Adopt-a-park” or stewardship group programs
- Citizen science initiatives (reporting sightings via apps like iNaturalist)
- Volunteer recognition through social media posts or community awards

**School & Youth Engagement**

- Classroom programs and curriculum integration
- School planting or restoration projects
- Youth ambassador or eco-leader programs

**Targeted Outreach**

- Materials tailored to specific audiences (e.g., hikers, gardeners, developers, pet owners)
- Industry-specific guidance (construction, landscaping, horticulture)
- Multilingual resources to reach broader communities

**Tools & Resources**

- ID guides, pocket cards, and mobile-friendly resources from the ISCBC Resource Library
- Reporting tools or apps for public sightings
- Before/after visuals to show impact of management

**Improper Green Waste Dumping**

Improper green waste dumping is one of the most common ways that invasive species can establish in natural areas. It often occurs when residents or landscapers dispose of garden clippings or unwanted plants in these areas, allowing invasive species to regrow from stem or root fragments or spread by seed. This behaviour may result from limited invasive species awareness, an effort to avoid disposal fees or a desire to avoid transporting organic materials to proper disposal centres. Invasive species spread that results from such dumping can damage native vegetation, degrade habitat, and create recurring management costs for the City.

In Port Moody, residents can properly dispose of small amounts of green waste through the City's green waste collection program, wherein green waste is collected on a weekly basis and disposed of at the Surrey Biofuel Facility. Large amounts of yard waste must be taken to the United Boulevard Recycling and Waste Centre. Encouraging residents and landscapers to use these official disposal options, particularly when green waste may contain invasive plant material, can help limit the spread of invasive species. Raising awareness about invasive species and providing clear guidance on proper disposal of organic materials will also help reduce improper and illegal dumping. These efforts may include adding invasive species education to Port Moody's green waste collection information webpage.

**ACTION 15**

Update and enhance the volunteer and outreach program to align messaging with the ISMS and regional Best Management Practices, while improving promotion and delivery to strengthen volunteer recruitment, participation, and community stewardship.

**ACTION 16**

Develop and execute an invasive species communication plan with clear messages and priorities for delivery through digital channels, on-site signage and in-person events.

**ACTION 17**

Develop and deliver targeted invasive species outreach and education programs for key audiences, including schools, residents, businesses, and developments adjacent to Environmentally Sensitive Areas while establishing partnerships to support site-specific stewardship and management practices.

## Partnerships and Collaboration

Effective invasive species management in a municipal context relies on strong partnerships and collaboration across organizations and jurisdictions. Local governments cannot address invasive species challenges in isolation, as pathways of spread and ecological impacts extend beyond municipal boundaries. Working with other levels of government, non-profits, stewardship groups, academic institutions, Indigenous communities, regional initiatives, and other land owners and managers helps align efforts, share knowledge, and leverage resources and expertise. These partnerships support coordinated management approaches and improve access to the latest research and best practices. Continued collaboration also fosters consistent messaging and strengthens the collective capacity to prevent, detect, and manage invasive species across the region.

The City actively participates in the Regional Invasive Species Working Group (RISWG), is a member of the Invasive Species Council of BC (ISCBC) Local Government Network and works with the Canadian Food Inspection Agency (CFIA) to coordinate response efforts for potential Emerald ash borer outbreaks. The City also works with the Lower Mainland Green Team to support stewardship events and expand volunteer engagement. Additional opportunities to stay connected with regional practitioners include participation in Invasive Species Council of Metro Vancouver forums, as well as ISCBC's annual forum and webinars. The City may also consider partnerships with organizations such as ISCMV to support stewardship events and expand volunteer engagement.

The City may also explore opportunities to work with owners and managers of non-City lands, including private property owners, Crown land managers, utility and transportation corridor managers, health authorities, and other institutional landowners. Where appropriate, the City can support invasive species removal and restoration on these lands through clear referral pathways, permits, permissions, volunteer opportunities, stewardship agreements, or coordinated treatment planning. The City can play an active role in advocating to higher levels of government for additional regulatory tools, funding, and guidance to strengthen invasive species management. For example, Port Moody can support efforts to encourage the Province to ban the sale of invasive plants in BC.

**ACTION 18**

Maintain and strengthen partnerships to advance coordinated invasive species management, restoration, and knowledge sharing by: participating in regional working groups and initiatives; engaging in relevant forums, webinars, and information-sharing networks; pursuing collaborative opportunities that provide benefit to the City; contributing to discussions with senior government on legislative needs, guidance and resourcing.

**ACTION 19**

Collaborate with local First Nations to advance invasive species management and ecological restoration, including ways to incorporate cultural and Traditional Ecological Knowledge.

## ► Goal 3: Adapt & Sustain

This section focuses on sustaining and strengthening a coordinated invasive species management program to support long-term effectiveness. The City has established a strong foundation, and this Strategy builds on that work by enhancing organizational structure, clarifying roles and responsibilities, and supporting ongoing program evaluation and adaptation. As service expectations and program demands increase, maintaining and expanding staff capacity and budget resources will be critical to continued success.

This goal is delivered through the following focus areas:

- Program Coordination
    - Roles and Responsibilities
    - Monitoring and Reporting
- Resource Allocation and Capacity Building
- Adaptive Management and Continuous Improvement

Together, these components support a resilient and sustainable invasive species management program that remains effective, responsive, and aligned with evolving priorities.

**Strategies for Increasing Staff Capacity**

Internal staff training on invasive species identification and reporting processes is needed to support effective EDRR and long-term invasive species management. However, a comprehensive in-house training program can take significant staff time and budget to design, deliver, and maintain. Strategies to support staff training without adding significant pressure to existing staff capacity include:

**Use existing staff training channels**

- Integrate invasive species training into existing onboarding, safety talks, seasonal staff orientation, contractor start-up meetings, and volunteer orientation.
- Track staff completion of required training through existing onboarding, health and safety, or learning management processes where possible.

**Keep training concise and role specific**

- Require short introductory training for staff who regularly work outdoors, review development applications, manage capital projects, or oversee contractors.
- Use short refresher sessions before peak growing season rather than relying on longer annual training sessions.

**Make simple field guides**

- Develop a brief internal “how to report” guide that explains when to report, what information to collect, where to submit observations, and who to notify internally.
- Create a short list of local priority species for staff to recognize, with photos, look-alike notes, common locations, and reporting triggers.
- Provide field crews with quick-reference materials, such as laminated ID sheets, QR codes, mobile links, or brief reporting checklists.

**Reduce the need to create new training programs and resources**

- Partner with regional invasive species organizations to deliver occasional training, field walks, or species identification sessions.
- Record training and educational sessions so they can be reused for new staff onboarding and made available as refresher resources for existing staff.
- Leverage existing resources and training program offerings. For example:
    - The BC Inter-Ministry Invasive Species Working Group's Introduction to Invasive Species online training course is a free online training course developed to support government staff, contractors, and volunteers working on public lands. It provides a useful baseline for prevention, management, and reporting.
    - The ISCMV offers regional technical training support for government agencies, contractors, maintenance crews, environmental professionals, outdoor workers, and stewardship groups across Metro Vancouver. The training focuses on practical identification, prevention, and management practices that can reduce spread, improve project outcomes, and support more effective regional invasive species management.
    - *The ISCBC Resource Library* is a free online library including best management practices, factsheets, reports and field guides that can be used to support staff training with ready-made identification, prevention, reporting, and management materials, reducing the need for the City to develop new resources from scratch.

**Funding Opportunities**

A variety of municipal funding tools and external grants are available to support the City in implementing and enhancing invasive species management.

**Municipal Funding Tools:**

Core, stable funding is essential to support ongoing operations and maintain staff capacity. In addition, targeted and supplemental funding can support priority initiatives such as larger invasive species removal and habitat restoration projects, extending seasonal staffing, undertaking invasive plant inventories, or developing targeted education and outreach campaigns.

- **Operational budget funding**: Stable funding through the City's operating budget would provide a reliable, year-round source of support for core invasive species management activities, including staffing, coordination, monitoring, rapid response, and ongoing control efforts.
- **Capital or reserve funding**: Where invasive species management aligns with asset protection, park upgrades, drainage or watershed improvements, or restoration projects, capital funding or reserve funds may support one-time or phased initiatives.
- **Development-related contributions**: Invasive species management requirements or mitigation measures may be integrated into development approvals, park dedication, or environmental restoration associated with development projects.
- **Service partnerships and cost-sharing**: Cost-sharing arrangements with regional

agencies, neighbouring municipalities, utilities, or land-owning partners may help support management efforts across shared landscapes or watersheds.

**Grant and External Funding Opportunities:**
Local governments can pursue external grants where invasive species management aligns with broader funding priorities such as watershed health, habitat restoration, biodiversity, climate resilience, natural asset management, youth employment, or community stewardship. Relevant opportunities may include federal, provincial, and partner-based funding programs, such as:

- **Canada Summer Jobs**: A federal program that supports work experience opportunities for youth aged 15–30, which may assist with seasonal invasive species control, monitoring, outreach, or field support.
- **Provincial invasive species funding**: The Province of BC periodically provides funding for invasive species management through regional invasive species committees and other delivery partners. In 2025, nearly $3 million was distributed province-wide to support invasive species initiatives.
- **Habitat Conservation Trust Foundation (HCTF) grants**: HCTF funds fish, wildlife, and habitat conservation projects in BC and may be applicable where invasive species removal supports habitat restoration, riparian enhancement, species at risk recovery, or ecological monitoring.
- **Habitat Stewardship Program for Species at Risk**: A federal funding program that supports projects benefiting species at risk and their habitats, including invasive species management activities that directly reduce threats to listed species.
- **TD Friends of the Environment Foundation**: Supports smaller-scale environmental education, stewardship, park enhancement, and community greening projects, particularly where volunteer or partner involvement is strong.
- **Partner-based grant opportunities**: Funding accessed through collaborations with Indigenous governments, non-profit organizations, stewardship groups, or academic institutions, where the City acts as a delivery partner or co-applicant.

## ACTION 20

Adjust and prioritize budget allocations, informed by natural asset management principles, to better align invasive species management with the protection of ecological services and long-term asset performance.

## ACTION 21

Conduct an annual review of implementation progress, accomplishments, and priorities, led by Environmental Services, with targeted input from relevant departments and key partners.

# Implementation Plan

The implementation plan provides a clear roadmap for advancing each of the recommended actions. The proposed actions fall under the three goals, as outlined below.

Goal 1: **Prevent & Manage** invasive species through prevention, early detection, treatment, restoration and monitoring to protect ecological assets and support climate resilience.

Goal 2: **Engage & Collaborate** with the community to build awareness, collaboration and participation in invasive species management.

Goal 3: **Adapt & Sustain** a coordinated invasive species management program.

Each action is assigned an implementation priority, timeframe and estimated cost to guide implementation. Priorities are assigned as high, medium and low. Timeframes span short (0-2 years), medium (2-5 years), long (over 5 years), and ongoing (initiatives regularly undertaken within City processes). Implementation will be phased, with future funding requirements to be considered through Capital Program and Operational budget planning. Cost ranges are assigned to each action and vary from already budgeted or included in staff time ($) to actions costing greater than $100,000 ($$$$).

## Implementation Key

| Priority | Timeframe | Cost |
|---|---|---|
| • Low<br>• Medium<br>• High | • Ongoing<br>• Short - 0-2 years<br>• Medium - 2-5 years<br>• Long - 5+ years | • $ - in staff time or already budgeted<br>• $$ - <$20,000<br>• $$$ - $20,000-$100,000 |

| | Implementation Plan | | | | | |
|---|---|---|---|---|---|---|
| **Goal** | **Action #** | **Action** | **Priority** | **Timeline** | **Cost** | **Supporting Staff Team** |
| **Goal #1: Prevent and Manage** | 1 | Update City bylaws identified in Table 10, and relevant policies and guidelines to strengthen invasive species management enforcement, enable pesticide use for emerging high-priority species, and strengthen the authority for requiring site-specific Invasive Species Management Plans. | Medium | Medium | $$ | Bylaws |
| | 2 | Develop a decision framework for site-specific Invasive Plant Management Plans (IPMPs) to clarify when they are required for development applications and construction projects. Also, develop standardized Terms of Reference for IPMPs and require their incorporation into contracts that detail regular reporting and management standards. | High | Short | $ | |
| | 3 | Create a user-friendly resource document with curated links and guidance to support consistent application of Invasive Species best management practices across municipal works. Maintain and update this resource regularly as practices and information evolve. | High | Short | $ | |
| | 4 | Develop and implement standardized requirements for soil movement, material sourcing, and equipment cleaning across municipal operations and contracts, consistent with provincial and regional best management practices, to reduce the risk of invasive species spread. | Medium | Medium | $ | |
| | 5 | Require all staff and contractors involved in invasive species management receive regular training on species identification, reporting, and best management practices, and integrate training into onboarding, contract requirements, and relevant operational procedures. | High | Ongoing | $ | |

| Goal | Action # | Action | Priority | Timeline | Cost | Supporting Staff Team |
|---|---|---|---|---|---|---|
| Goal #1: Prevent and Manage | 6 | During project and development application reviews, ensure that all planting prescriptions prepared by internal staff, consultants, contractors, and developers, exclude species listed on the current BC Priority Invasive Species List. This includes seed blends, restoration plans, landscape plans, and seasonal displays. | High | Ongoing | $ | Parks, Planning |
| | 7 | Establish a formal process to detect and respond to new invasive species occurrences, including monitoring for provincial Early Detection and Rapid Response (EDRR), assigning responsibility for identification, mapping, and treatment, and reporting. | High | Medium | $ | |
| | 8 | Create user-friendly tracking tools to enhance the usability and accuracy of the invasive plant inventory and restoration data layers, and ensuring the City-wide baseline inventory is fully updated every 10 years. | High | Short | $$ | IS (GIS), Parks |
| | 9 | Implement and maintain an invasive species prioritization framework to support consistent, risk-based decision-making for invasive plant control and restoration, and establish a process for periodic review and updates to reflect new species introductions, climate-related risks, and changes in invasion stages. | High | Short | $ | |
| | 10 | Develop and implement a formal process for coordination with local First Nations within known and high potential archeological sites to support invasive species management activities, including clear protocols for referral, permitting, notification, and incorporation of Indigenous interests and requirements into project planning and implementation. | High | Short | $$ | Strategic Initiatives |
| | 11 | Obtain a Pesticide Use Permit to treat knotweed within Pesticide Free Zones. | Medium | Long | $$$ | |

| Goal | Action # | Action | Priority | Timeline | Cost | Supporting Staff Team |
|---|---|---|---|---|---|---|
| **Goal #1: Prevent and Manage** | 12 | Develop a restoration and maintenance protocol for disturbed and treated sites that prioritizes preventing invasive species introduction, minimizing soil disturbance, and guiding the selection, installation and maintenance of native plant species and includes defined restoration success criteria and indicators. | Medium | Medium | $ | |
| | 13 | Develop and implement a standardized process for integrating invasive species management into Project Delivery led projects through coordinated Engineering and Environment workflows. | High | Short | $ | Engineering Infrastructure, Project Delivery Services |
| | 14 | Develop and implement a standardized data collection and monitoring procedure for City invasive plant treatment sites to ensure adequate follow up treatment, restoration planting and long-term maintenance procedures are being followed and updated on a regular basis. | High | Short | $ | IS (GIS) |
| **Goal #2: Engage and Collaborate** | **15** | Update and enhance the volunteer and outreach program to align messaging with the ISMS and regional BMPs, while improving promotion and delivery to strengthen volunteer recruitment, participation, and community stewardship. | Medium | Medium (or ongoing?) | $ | Communications |
| | 16 | Develop and execute an Invasive Species communication plan with clear messages and priorities for delivery through digital channels, on-site signage and in-person events. | Low | Medium | $ | Communications |
| | 17 | Develop and deliver targeted invasive species outreach and education programs for key audiences, including schools, residents, businesses, and developments adjacent to Environmentally Sensitive Areas while establishing partnerships to support site-specific stewardship and management practices. | Medium | Long | $$$ | Communications |

| Goal | Action # | Action | Priority | Timeline | Cost | Supporting Staff Team |
|---|---|---|---|---|---|---|
| **Goal #2: Engage and Collaborate** | 15 | Maintain and strengthen partnerships to advance coordinated invasive species management, restoration, and knowledge sharing by: participating in regional working groups and initiatives; engaging in relevant forums, webinars, and information-sharing networks; pursuing collaborative opportunities that provide benefit to the City; contributing to discussions with senior government on legislative needs, guidance and resourcing. | Medium | Ongoing | $ | |
| | 19 | Collaborate with local First Nations to advance invasive species management and ecological restoration, including ways to incorporate cultural and Traditional Ecological Knowledge. | High | Long | $$$ | |
| **Goal #3: Adapt and Sustain** | 20 | Adjust and prioritize budget allocations, informed by natural asset management principles, to better align invasive species management with the protection of ecological services and long-term asset performance. | Medium | Ongoing | $-$$ | |
| | 21 | Conduct an annual review of implementation progress, accomplishments, and priorities, led by Environmental Services, with targeted input from relevant departments and key partners. | High | Ongoing | $ | |

The implementation plan should be reviewed periodically to track progress, confirm priorities, and adjust actions as conditions change. An annual review can be used to document completed actions, identify barriers, refine near-term priorities, and confirm budget needs for the following year. More comprehensive updates to the Strategy should occur every five to ten years, or sooner if there are major changes in invasive species risks, provincial regulations, climate-related impacts, available funding, or City priorities. This review process will help keep the ISMS current, practical, and aligned with evolving management needs.

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# Appendix

## ► Appendix 1: Prevention and treatment BMPs

**INVASIVE PLANT SPREAD PREVENTION PRACTICES (by activity)**

Recreation:

- Stay on trails; do not create or use unsanctioned/informal trails
- Keep dogs on leash
- Check for soil, seeds and plant fragments on shoes, clothes, and gear at trailhead at start and end of activity. Use a boot brush.
- Refrain from picking or moving plants, flowers, seed heads or wood
- Follow all signage within parks including notifications of invasive plant treatments
- For water-based activities: Clean, Drain, Dry boats, paddles and equipment

Imported materials (e.g. gravel, soil, mulch):

- Reuse on-site materials where appropriate to reduce risk of introductions
- Minimize movement of soil between sites, especially from disturbed or unknown areas
- Store imported materials in contained areas; avoid placing stockpiles near natural areas or watercourses
- Inventory site prior to importation and if possible, treat existing invasive plants
- Clean trucks, tools and equipment before and after transporting materials
- Take steps to ensure that imported materials are free of invasive plants such as inspecting the source site prior to transport, visually inspect loads for plant fragments or seeds
- Reject or isolate suspect materials before they are used
- Stabilize soils quickly (e.g. planting, mulching) to prevent colonization
- Monitor post-importation (one and three years' post-disturbance is recommended in the BC Parks BMPs [12].

Park/trail maintenance:

- Ensure all equipment, tools, clothing, boots, and gear is clean prior to entering trail (free of soil, seeds, and plant fragments) and when leaving
- Stay on trails as much as possible
- Avoid unnecessary soil disturbance
- Take steps to ensure soil or gravel placed on trails are free of invasive plants (e.g., do not move soil from areas where invasive plants exist and do not stockpile materials or store equipment near existing infestations)
- Identify invasive plants present in work areas to minimize risk of spread; schedule work outside of seed dispersal periods
- Do not mow or brush invasive plants that spread through fragmentation (e.g. knotweed)

- Monitor sites for invasive plants following site disturbance; the BC Parks BMPs for Invasive Plants recommends monitoring one and three years post-disturbance [12].
- Re-vegetate/stabilize disturbed areas as quickly as possible following disturbance

Roadside, grass areas and right-of-way maintenance:

- Survey the mowing area first to understand where invasive plant infestations are located, and clearly mark problem areas as appropriate
- Evaluate infestations to determine if invasive plants should be left undisturbed to avoid further spread
- Use appropriate control methods (mechanical, manual or chemical) for invasive plants rather than relying on mowing
- Coordinate invasive plant treatment with maintenance schedules
- Do not mow invasive plants after they flower or have gone to seed
- Do not mow invasive plants that spread through fragmentation (e.g. knotweed)
- Start mowing in areas with no invasive plants and end in areas with the most invasive plants
- Mow at a height of 15 cm above ground level; raise mower height to reduce soil disturbance
- Avoid unnecessary grading or disturbance along roadsides and rights-of-way
- Re-vegetate/stabilize disturbed areas as quickly as possible following disturbance
- Seed or plant disturbed areas with native or non-invasive species to outcompete invasives
- Maintain healthy vegetation cover to reduce opportunities for invasion
- Clean mowers, trimmers and vehicles between sites, especially when moving from infested to clean areas
- Ensure crews can identify priority invasive species
- Provide clear guidance on BMPs and operational expectations
- Regularly inspect roadsides, medians, and ROWs, which are common invasion corridors
- Treat new infestations early to prevent spread along transportation networks

Site disturbance from construction:

- Identify invasive plants in the work area prior to site disturbance and incorporate measures to prevent spread into project (e.g., work in areas with invasive plants last so equipment can remain clean as long as possible)
- Develop an Invasive Species Management Plan or include requirements in environmental management plans
- Include invasive species requirements in contracts, specifications, and bid documents
- Require contractors to follow Best Management Practices (BMPs)
- Conduct site inspections to ensure compliance
- Treat invasive plants prior to disturbance or incorporate invasive treatment into project
- Ensure contaminated soil and plant parts are appropriately managed and disposed of to prevent spread

- Designate an area to clean equipment, monitor this area, and have a plan for treatment and appropriate disposal of invasive plant material
- Use clean equipment at start of work
- Clean equipment periodically during projects to remove seeds and vegetative plant parts, especially where there are priority invasive plants present and before moving to a new area; clean equipment at end of project
- Re-vegetate/stabilize disturbed areas as quickly as possible following disturbance
- Seed or plant disturbed areas with native or non-invasive species to outcompete invasives
- Maintain healthy vegetation cover to reduce opportunities for invasion
- Avoid using straw or hay for erosion control; if seed mixes are necessary, use invasive-free mixes, and obtain and check certificates of seed analysis from suppliers to ensure that seeds are not contaminated with invasive plants
- Follow above noted BMPs for imported substrates.
- Monitor sites for invasive plants following site disturbance; the BC Parks BMPs for Invasive Plants recommend monitoring one and three years' post-construction [12]
- Ensure invasive plant priorities for monitoring and management are consistent with those in this plan

**TREATMENT OF INVASIVE SPECIES AND RESTORATION – GENERAL AND PREVENTATIVE PRACTICES**

Invasive plant removal and restoration:

- Identify sensitive ecological features
- Mitigate impacts to native plants and wildlife; undertake bird nesting survey if required by regulation or if large area is being cleared during nesting season
- Retain native plants in removal areas to encourage natural regeneration and restoration
- Clearly define the work areas to prevent spread beyond treatment area; work from least infested area to most infested area
- Use best management practices (BMPs) for removal and disposal of target species
- Ensure that removal activities, including timing, disposal, etc., do not result in further spread or environmental damage
- Use tarps or containment methods when transporting plant material
- Limit soil disturbance as much as possible; revegetate disturbed areas promptly, ideally with suitable native plants
- Use erosion control and mulch or other stabilization methods to reduce soil exposure and sediment movement
- Clean boots, tools and equipment before arriving at and leaving the site
- Monitor removal and restoration sites for several years post treatment, and quickly treat any new invasive plants
- Ensure staff, contractors and community volunteers are properly trained in species identification and aware of BMPs so their activities are effective and do not inadvertently spread invasive plants or cause environmental damage

Treatment Timing:

- Always consider whether invasive plant removal could impact breeding birds during nesting season (March 1 to August 31). For removals involving machines (e.g. excavators, brush saws, etc.) or near known nesting sites, carry out a nesting survey in advance of removals. For removals involving non-powered hand tools (e.g. shovels, clippers, etc.) ensure practitioners know to watch for nests and understand what type of bird behaviour indicates an active nest is present. If an active nest is found, immediately stop work in the area until the nest is no longer active, or have a Qualified Environmental Professional (QEP) establish an appropriate buffer to designate a no-work zone.
- Avoid manual removal once the plant has produced seeds. If removal must be done at this time, carefully cut seed heads and bag for transport to minimize further spread.
- Avoid manual removal when soil is frozen, very dry or very wet to ensure roots can be properly removed and to minimize damage to soil structure.

Riparian Areas:

- For chemical treatment, adhere to regulations governing the use of pesticides in the 10m pesticide free zone (see Chemical control section below).
- Consider the impact of control techniques and the resulting bare soil on adjacent water courses.
- Time removal works during a period that minimizes risk to fish species, outside of the fish window.
- Adhere to provincial and federal riparian regulations. It is recommended to consult with a Qualified Environmental Professional when working around water bodies.

Disposal:
Metro Vancouver maintains an up to date information sheets on invasive species and toxic plant disposal options for practitioners and commercial customers.

Chemical Control:
When alternative methods to prevent or control invasive plants are unsuccessful, professionals often turn to herbicides. With the exception of substances listed on Schedule 2 of the BC Integrated Pest Management Regulation, the use of herbicides is highly regulated in British Columbia. Site characteristics must be considered with herbicide prescribed, based on site goals and objectives and in accordance with legal requirements. This summary of BC's Integrated Pest Management Act provides an overview of the provincial legislation.

Only companies or practitioners with a valid Pesticide Licence and staff who are certified applicators (or working under a certified applicator) may apply herbicide on invasive plants located on public lands in BC. Applicators must be either the land manager/owner or have permission from the land manager/owner prior to herbicide application.

On private property, the owner may obtain a Residential Applicators Certificate (for Domestic class products only) or use a qualified company. Residents do not require a Residential Applicator Certificate for certain uses of domestic class glyphosate, including treatment of plants that are poisonous for people to touch, invasive plants and noxious weeds listed in legislation, and weeds growing through cracks in hard surfaces such as asphalt or concrete. Refer to the Pesticides & Pest Management and Home Landscape Pesticide Use for more information.

- Provincial legislation prohibits the use of herbicides within 10 metres of natural water courses and 30 metres of domestic or agricultural water sources on public lands. On private lands only, herbicide labels need to be followed (which means for glyphosate products and Milestone™, treatment can happen up to the water's edge). On public lands, glyphosate is the only active ingredient that can be applied within the 10 metre Pesticide-Free Zone (PFZ) in BC in accordance with the BC Integrated Pest Management Act and Regulation and all public land Pesticide Management Plans (PMPs). Glyphosate can only be applied up to 1 metre away from the high-water mark (HWM). The 30 metre no-treatment zone around a water supply intake or well used for domestic or agricultural purposes may be reduced if the licence or PMP holder is "reasonably satisfied" that a smaller no treatment zone is sufficient to ensure that pesticide will not enter the intake or well.
- When managing knotweeds with herbicide in riparian areas:
    - Observe and mark all PFZs while on site.
    - The HWM should be determined by careful evaluation by the applicator.
    - Distances in PFZs should be measured as horizontal distance.
    - Herbicides restricted in a PFZ must not enter these zones by leaching (lateral mobility) through soil or by drift of spray mist or droplets.
    - Treatments should be conducted when water levels are low (e.g. summer months) to reduce risk.
    - Note that efficacy may be dependent on site conditions, including moisture in the soil.
    - Consider using the bend and spray treatment method.

# ► Appendix 2: Watch lists

The invasive plant watch list species below have been detected in other parts of the Metro Vancouver region but have not yet been detected in Port Moody.

Any future detections of species that appear on the plant watch list should be added to the City's EDRR program immediately (further risk assessment is warranted if the plant is not on the Provincial Priority List). Where a detected plant species is also identified as a provincial EDRR candidate, the occurrence should be reported to the Province.

*Table 11. Invasive plant Watch List for Port Moody.*

| Common Name | Scientific Name | Provincial Priority List Status* | Nearest Known Occurrence | Note |
|---|---|---|---|---|
| Brazilian elodea | *Egeria densa* | EDRR | Richmond | Freshwater aquatic |
| Common reed | *Phragmites australis subsp. australis* | EDRR | Richmond | |
| Flowering rush | *Butomus umbellatus* | EDRR | Hatzic Lake, Mission | Freshwater aquatic |
| Garlic mustard | *Alliaria petiolata* | Provincial Containment | Burnaby, Surrey | |
| Gorse | *Ulex europaeus* | Regional Containment | West Vancouver, Vancouver | |
| Italian arum | *Arum italicum* | | Vancouver | Horticultural species |
| Japanese butterbur | *Petasites japonica* | Provincial Containment | Burnaby | Horticultural species |
| Lesser celandine | *Ficaria verna* | | Port Moody (new), Burnaby, Vancouver | |
| Mouse-ear hawkweed | *Hieracium pilosella* | EDRR | Vancouver | |
| Pickerelweed | *Pontederia cordata* | | Burnaby | Freshwater aquatic |
| Pokeweed | *Phytolacca americana* | | Vancouver | |
| Shiny geranium | *Geranium lucidum* | Regional Containment | Surrey | |
| Water hyacinth | *Eichhornia crassipes* | EDRR | Surrey | Freshwater aquatic |
| Water lettuce | *Pistia stratiotes* | EDRR | Surrey | Freshwater aquatic |
| Yellow floating heart | *Nymphoides peltate* | EDRR | VanDusen (ornamental pond), Surrey, Fraser Valley | Freshwater aquatic |

* Priority Invasive Species in BC

The insect and animal watch list species below have been detected in other parts of the Metro Vancouver region or are considered priorities for monitoring but have yet to been detected in Port Moody.

Any future detections of species that appear on the insect and animal Watch Lists should be added to the City's EDRR program immediately. Where a detected species is also federally regulated, the occurrence should be reported to the CFIA.

*Table 12. Invasive insect and animal Watch List for Port Moody.*

| Common Name | Scientific Name | Nearest Known Occurrence | Status in Canada* |
|---|---|---|---|
| Asian giant hornet | *Vespa mandarinia* | Fraser Valley (2021; eradicated) | Unregulated, but if found, report to CFIA. Invasive Species Centre Article |
| Box tree moth | *Cydalima perspectalis* | Ontario (2025) | Regulated by CFIA |
| Emerald ash borer | *Agrilus planipennis* | Vancouver (2025) | Regulated by CFIA |
| European fire ant | *Myrmica rubra* | Many locations in Metro Vancouver | Unregulated. MV BMP |
| Golden mussel | *Limnoperna fortune* | California (2024) | Unregulated. Province of BC factsheet |
| Japanese beetle | *Popillia japonica* | Burnaby, Port Coquitlam (2025) | Regulated by CFIA |
| Spongy moths (Asian & European) | *Lymantria spp.* | Delta (2025) | Regulated by CFIA |
| Spotted lantern fly | *Lycorma delicatula* | Eastern Canada/US | Regulated by CFIA |

* List of pests regulated by CFIA

# ► Appendix 3: Roadmap to Pesticide Use Permit for knotweed treatment in Pesticide Free Zone

In British Columbia, pesticide use near water is regulated under the *Integrated Pest Management Act* and *Integrated Pest Management Regulation*. A 10 m pesticide free zone (PFZ) is required around bodies of water, dry streams, and classified wetlands, measured horizontally from the high-water mark (HWM). For noxious weed and invasive plant management, glyphosate may be applied within the 1-10 meter PFZ; however, pesticide use within 1 meter of the HWM requires additional provincial review and may require a Pesticide Use Permit (PUP).

For proposed knotweed treatment in the PFZ, particularly for the 0-1 m zone and below the HWM, the City of Port Moody must first contact Integrated Pest Management Program by telephone: (250) 387-9537 or email: IPMPBC@gov.bc.ca. The Province will determine if a permit is required and the City must then complete a PUP application package. The package includes the completed PUP application form and a $1,000 application fee. The general roadmap for obtaining a PUP is as follows:

### Intake Phase[3]

1. **Confirm regulatory pathway:** Contact the provincial Integrated Pest Management Program/the Ministry of Environment to confirm whether a PUP is required for the proposed knotweed treatment within the 0-1 m zone or in water.
2. **Define treatment scope:** Identify the knotweed treatment areas, land ownership, proximity to water, access constraints, proposed treatment methods, timing windows, and rationale for chemical treatment.
3. **Prepare application materials:** Complete the provincial PUP application form and prepare supporting maps showing treatment area boundaries, nearby communities, watercourses/waterbodies, and other relevant geographic features. The application should describe the target pest(s), purpose of the control program, integrated pest management approach, rationale for pesticide use, proposed herbicide, application methods, and environmental protection measures.
4. **Submit application and fee:** Submit the completed application package, supporting maps, and application fee to the Ministry.

### Application Phase

1. **Draft treatment plan and begin First Nation engagement:** Develop a draft treatment plan for provincial review and initiate First Nation engagement.
2. **Submit treatment plan and request permit application number:** Submit draft treatment plan to the province and request permit application number to initiate public consultation.

[3] Integrated Pest Management Act - Pesticide Use Permit Application Process

3. **Public notification/consultation:** Once the permit number has been issued by the Ministry, the applicant must publicly advertise the proposed chemical treatment/PUP application within 45 days.

### Review and Decision Phase

1. **Submit consultation/engagement reports and final treatment plan:** Submit public consultation report within 90 days of advertising and First Nation engagement reports, alongside final treatment plans and other required application records.
2. **Respond to provincial review comments:** The Ministry may request additional information, clarification, revisions to treatment methods, or additional mitigation measures before issuing a decision.
3. **Implement permit conditions:** If issued, the PUP will specify where, when, and how treatment may occur, including herbicide use restrictions, notification requirements, environmental protection measures, record keeping, and reporting. All pesticide applications must be completed by appropriately licensed/certified applicators and in accordance with the PUP, pesticide label, and applicable legislation.
4. **Track permit term and reporting requirements:** PUPs may be issued for a maximum of 3 years, depending on the permit decision and treatment program. The City should track permit expiry, reporting deadlines, and any renewal requirements if continued treatment is needed.

Active Pesticide Use Permits in place for knotweed treatment in BC are posted online. This includes the permit itself, the management plan and frequently asked questions related to each PUP.

# ► Appendix 3: Roadmap to PUP for knotweed treatment in PFZ

In British Columbia, pesticide use near water is regulated under the *Integrated Pest Management Act* and *Integrated Pest Management Regulation*. A 10 m pesticide-free zone (PFZ) is required around bodies of water, dry streams, and classified wetlands, measured horizontally from the high-water mark (HWM). For noxious weed and invasive plant management, glyphosate may be applied within the 1-10 meter PFZ; however, pesticide use within 1 meter of the HWM requires additional provincial review and may require a Pesticide Use Permit (PUP).

For proposed knotweed treatment in the PFZ, particularly for the 0-1 m zone and below the HWM, the City of Port Moody should first contact Integrated Pest Management Program Telephone: (250) 387-9537 or Email: IPMPBC@gov.bc.ca. The Province will determine if a permit is required and the City must then complete a PUP application package. The package includes the completed PUP application form and a $1,000 application fee. The general roadmap for obtaining a PUP is as follows:

*Intake Phase*[4]

1. **Confirm regulatory pathway**
   Contact the provincial Integrated Pest Management Program/the Ministry of Environment to confirm whether a PUP is required for the proposed knotweed treatment, particularly for treatment within the 0-1 m zone or in the water.
2. **Define treatment scope**
   Identify the knotweed treatment areas, land ownership, proximity to water, access constraints, proposed treatment methods, timing windows, and rationale for chemical treatment.
3. **Prepare application materials**
   Complete the provincial PUP application form and prepare supporting maps showing treatment area boundaries, nearby communities, watercourses/waterbodies, and other relevant geographic features. The application should describe the target pest(s), purpose of the control program, integrated pest management approach, rationale for pesticide use, proposed herbicide, application methods, and environmental protection measures.
4. **Submit application and fee**
   Submit the completed application package, supporting maps, and application fee to the Ministry.

*Application Phase*

5. **Draft treatment plan and begin First Nation engagement**
   Develop a draft treatment plan for provincial review and initiate First Nation engagement.
6. **Submit treatment plan and request permit application number**

Submit draft treatment plan to the province and request permit application number to initiate public consultation.

7. **Public notification/consultation**
   Once the permit number has been issued by the Ministry, the applicant must publicly advertise the proposed chemical treatment/PUP application within 45 days.

*Review and Decision Phase*

8. **Submit consultation/engagement reports and final treatment plan**
   Submit public consultation report within 90 days of advertising and First Nation engagement reports, alongside final treatment plans and other required application records.
9. **Respond to provincial review comments**
   The Ministry may request additional information, clarification, revisions to treatment methods, or additional mitigation measures before issuing a decision.
10. **Implement permit conditions**
    If issued, the PUP will specify where, when, and how treatment may occur, including herbicide use restrictions, notification requirements, environmental protection measures, record keeping, and reporting. All pesticide applications must be completed by appropriately licensed/certified applicators and in accordance with the PUP, pesticide label, and applicable legislation.
11. **Track permit term and reporting requirements**
    PUPs may be issued for a maximum of 3 years, depending on the permit decision and treatment program. The City should track permit expiry, reporting deadlines, and any renewal requirements if continued treatment is needed.

# ► Appendix 4: Ecological restoration prioritization framework

The following section outlines a proposed framework for prioritizing ecological restoration within Port Moody's natural areas. This framework is intended to serve as an initial approach that can be refined over time based on new technical information, such as the invasive plant inventory planned for summer 2026, evolving City priorities, and available resources.

A key principle of this framework is that restoration efforts should not simply focus on the "worst" sites first. Instead, priority should be given to sites that are strategically important, where restoration is most likely to succeed, and where investment of limited resources can achieve meaningful and lasting ecological outcomes.

An additional overarching consideration is the value of prioritizing highly visible sites where restoration efforts can support public education, increase awareness of invasive species issues, and demonstrate the benefits of ecological restoration to the community.

*Table 13. Proposed ecological restoration prioritization framework.*

| Priority/Factor | Site Type / Consideration |
|---|---|
| **Priority 1: Restoration of areas that already have investment or ongoing costs** | |
| 1A | Revegetation of invasive plant treatment areas (e.g. knotweed treatment sites) |
| 1B | Restoration of areas where ongoing maintenance is required as part of the Managed Urban Landscape work area (e.g. blackberry originating from natural areas impacting trails) |
| 1C | Restoration of areas that will reduce the number of public complaints or safety concerns. |
| 1D | Restoration in collaboration with work undertaken by adjacent land managers or stewardship groups |
| **Priority 2: Restoration to protect or enhance ecological integrity and function** | |
| Prioritization involves a spatial overlay of two layers: ESAs and the 2026 invasive plant inventory. From there the following factors would be considered to identify candidate sites for restoration: | |
| Factor 1 – ESA | ESAs (within an ESA or adjacent to and impacting an ESA); there is opportunity to further prioritize based on ESA type |
| Factor 2 – Risk | Presence of higher risk invasive species |
| Factor 3 – Abundance & Distribution | Prioritize areas with lower abundance and distribution of invasive species (e.g. earlier stages of invasion) |
| Factor 4 – Feasibility | Restoration is most feasible for sites with:<br>• Easy access<br>• Lower likelihood to need long term maintenance due to proximity/greater density of intact native plant community and low risk of re-invasion from adjacent or upstream infestations<br>• Low risk of future disturbance |

An alternative approach would be to reverse the prioritization by first undertaking a spatial analysis to identify the City's highest ecological priority areas (Priority 2 in Table 13) and then focus resources on locations where existing expenditures and management activities align with the greatest ecological benefit.