YESAB Assessments:

Toolkit for identifying and mitigating risks related to terrestrial invasive species

Photo of Bird Vetch (*Vicia cracca*), an invasive plant in Yukon. By Maxine White.

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Introduction

The *Yukon Environmental and Socio-economic Assessment Act* ensures that projects undertaken in Yukon consider the environmental and socio-economic effects of those projects. One potential impact of projects is the introduction and spread of invasive species into areas where they weren't present before. This can lead to negative impacts on the local environment, society and the economy.

Given this potential for invasive species to alter habitat, affect human health and incur large economic costs, these impacts must be considered to fully measure the potential effects of a proposed project on Yukon's environment and society. Following best practices for managing invasive species and mitigating their impacts can help reduce their effects on local environmental and socio-economic conditions.

This toolkit was designed to help those participating in the *Yukon Environmental and Socioeconomic Assessment Act* process, including project proponents, assessors and regulators, better identify the risks of spreading terrestrial invasive species through a proposed project's activities. It also helps choose the appropriate mitigation strategies to reduce these risks.

The main focus of this toolkit is preventing the introduction and spread of terrestrial invasive species. Given this, it does not focus on invasive species control methods, nor does it focus on preventing the spread of aquatic invasive species.

The toolkit is informed by research on invasive species management and best management practices as well as existing resources and tools developed by Yukon Invasive Species Council, other organizations and jurisdictions. Throughout, you will find links to resources that will help you to evaluate invasive species risks and identify appropriate mitigation measures.

Regardless of whether or not a project requires an assessment by the Yukon Environmental and Socio-economic Assessment Board (YESAB), it is always important to consider how the project's activities may contribute to the spread of invasive species, and to take actions to reduce this risk through mitigation strategies and best management practices.

Invasive species in Yukon

Invasive species are defined as a species of plant, animal, aquatic life or micro-organism that is not native (to Yukon/an ecosystem) and whose introduction or spread is likely to have net negative effects on our society, our economy, our environment, or our health. They can reduce biodiversity by displacing native vegetation and altering habitats.

Compared to other parts of North America, Yukon has few established invasive species. Because of this, we are able to focus on preventing invasive species from establishing and spreading across the territory. Controlling invasive species once they establish is much costlier and time-intensive.

In Yukon, most known invasive species are terrestrial vascular plants. There are over twenty invasive plants on the Yukon Invasive Species Council's watch list. Some species are widespread across the territory, such as White Sweetclover (*Melilotus albus*), while others are only known from few locations, like Creeping Thistle (*Cirsium arvense*).

Invasive plants usually thrive in recently disturbed landscapes and act as early successional plants. They grow quickly and reproduce efficiently, allowing them to rapidly colonize an area. They tend to produce large amounts of seed and some may reproduce vegetatively.

Invasive species can be introduced and spread into areas where they were absent prior to human activity. In particular, plant materials, including seeds, can be moved by vehicles, equipment, and people. Activities that displace soil or native vegetation can also create disturbed areas where invasive species can establish and thrive, free of competition from native species.

In Yukon, invasive plants can typically be found in areas that have been disturbed by human activity, including in and around Whitehorse and most Yukon communities. They spread along roadways and highways and into disturbed areas nearby, such as gravel pits and rest areas.

Aquatic invasive species also pose a risk to Yukon's environment. There is growing concern about the potential introduction of Zebra and Quagga mussels (*Dreissena polymorpha & Dreissena bugensis*), invasive aquatic species spreading across North America. Aquatic invasive species are not within the scope of this toolkit. Learn more

about preventing the spread of aquatic invasive speices on the Government of Yukon's aquatic invasive species webpage.

Prioritizing invasive species management on projects in Yukon

Some projects pose a higher risk of spreading invasive species into new areas and causing negative environmental or socio-economic effects. Because of this, it's important to prioritize actions to prevent the spread of invasive species on high risk projects.

To determine the risks and potential impacts of spreading invasive species, you need to consider the following factors:

- Presence of invasive species on or near the project site(s)
- Environmental and socio-economic conditions near project site(s) that could be negatively impacted by invasive species
- Project activities that increase risk of spreading invasive species

This toolkit includes sections on each of these factors to help you determine whether a project's location and activities increase the risk that it spread invasive species.

The following questions will help identify the types of projects that present a higher or lower risk. Projects with one or more higher risk aspects should prioritize following best practices to prevent the spread of invasive species. Some best practices to follow are highlighted as well. Learn more in the toolkit section about best management practices.

Project location and context

Areas with high human activity typically have established invasive species populations, so there is a lower risk that introducing invasive species could have negative effects. In contrast, there's higher risk of negative effects from introducing invasive species areas with low or no previous human activity.

Is the proposed project located in an area of high industry or human activity, such as urban areas or well-established placer mining fields?	YES: lower priority	Follow best management practices to reduce the risk of spreading invasive species through the area.

Is the proposed project taking place in a pristine area with little to no previous human activity?	YES: higher priority	Prioritize best practices to prevent the movement of invasive species into pristine areas. Plan ahead, reduce soil disturbance and monitor sites to detect introductions early.

Invasive species presence

The risk of spreading invasive species goes up significantly if they are present on or near areas that will be used by a project, including access roads, staging grounds, and the project site. If there are areas free of invasive species nearby, especially if these are important environmental or socio-economic areas, the risk of negative effects from invasive plants increases.

Learn more in the toolkit section on finding invasive species near project sites.

Are invasive species already present both on the project site and in the surrounding areas?	Yes: lower priority	Avoid working in areas with invasive species and clean equipment and gear before leaving the infested areas.
Are invasive species absent on both the project site and the surrounding areas?	YES: higher priority	Prevent the movement of invasive species by cleaning equipment and gear before leaving infested areas, use invasive species-free materials, and monitor for new introductions.

Long-term site plans and reclamation

If a project intends to return the site to its original state, it's important to prevent invasive species from establishing. If invasive species establish on a project site, they can make it difficult and costly for the proponent to reclaim the site when the project's

life cycle ends. Learn more in the toolkit section about maintaining native plant populations.

Will the proposed project site be returned to its original state through reclamation?	YES: higher priority	Actively prevent introduction by taking measures to reduce this risk, such as cleaning vehicles and equipment, using invasive species free materials.
Will the proposed project lead to the construction of permanent infrastructure?	YES: lower priority	Monitor the project site for invasive species introductions and remove them to prevent them from establishing.

Environmental effects

Some areas have environmental conditions that make them more susceptible to negative effects from invasive species. Learn more in the toolkit section on environmental conditions.

Are there important environmental conditions near the proposed project that could be negatively impacted by invasive species?	YES: higher priority	Focus preventative actions and monitoring activities on areas with important environmental conditions, such as conservation areas or habitats with rare species.

Socio-economic effects

Invasive species can have a negative effect on the local economy and society. If a project is located near industries, infrastructure, tourism, recreational or cultural and heritage sites. Learn more in the toolkit section on socio-economic conditions.

Are there important socio-economic conditions near the proposed project that could be impacted by invasive species?	YES: higher priority	Focus prevention and monitoring activities on areas with important socio-economic conditions.

Project activities

Project activities can often act as pathways for spreading invasive species. In particular, some activities increase the risk of moving invasive species into areas where invasive species weren't present before, or create optimal conditions for invasive species to establish. Learn more in the toolkit section on best management practices.

Will project materials or equipment be imported from urban areas (Whitehorse, communities) or other jurisdictions, such as Alberta, British Columbia, or Alaska?	YES: higher priority	Prevent the movement of invasive species by cleaning all equipment before leaving urban areas or entering Yukon from other jurisdictions. Make sure materials are free of invasive species.
Will the project involve altering the local vegetation, including revegetation or reseeding activities?	YES: higher priority	Maintain native plant populations by using native or non-invasive species, using invasive species-free seeds, or allowing natural vegetation to regrow where appropriate.
Will the project involve significant soil disturbance with soil that will remain exposed, such as when building new access roads or clearing vegetation from an area?	YES: higher priority	Reduce the risk of invasive species establishing on disturbed soils by minimizing disturbance, covering exposed soil, and encouraging regrowth of native species. Monitor disturbed areas to detect and remove invasive species early.

If the questions above identify a project as a higher priority one or more times, project proponents, assessors and regulators should place more focus on ensuring that

mitigation measures are in place to prevent the spread of terrestrial invasive species through the project's activities.

The following sections of the toolkit will help determine if the proposed project should prioritize invasive plant management and to learn which best practices to follow to mitigate the risks of introducing invasive species.

- Environmental conditions
- Socio-economic conditions
- Best management practices

Aquatic invasive species

Aquatic invasive species spread when they are moved from one body to another, often by boats or equipment. Best management practices for aquatic invasive species are not within the scope of this toolkit.

If the project involves activities on waterbodies, including boating and fishing, and equipment for these activities is coming from outside Yukon, there may be a high risk of introducing aquatic invasive species to the territory. If you have further questions about aquatic invasive species in Yukon, visit the Government of Yukon's aquatic invasive species webpage or contact fisheries@gov.yk.ca.

Using the toolkit with YESAB project proposals and assessments

The best way to prevent the spread of invasive species through project activities is to plan to incorporate invasive species best management practices throughout the project's lifecycle.

Project proponents should demonstrate that they have considered invasive species related risks in Form 1 of their YESAB proposal. They should also include how they will use best management practices to reduce the risks posed by invasive species.

Invasive species should be addressed in the following sections of Form 1:

Part 5 - Project Description

- This section describes aspects of the planning, construction, operation, ongoing restoration activities, decommissioning and reclamation phases of the proposed project.
- The project plan should reflect the mitigation measures that the proponent will use to reduce the risks relating to invasive species.

Part 6 - Description of Existing Environmental and Socio-economic conditions

- Environmental
    - Invasive species
        - Describe whether invasive species are present at or near the project site, or at other sites used during project activities, including access roads.
        - If present, identify the species and the known extent of the infestation.
        - Use the toolkit to learn how to find invasive species near project sites
    - Environmental features and conditions
        - Describe other important environmental conditions that could be affected by invasive species.
        - For example, disturbed areas like fire burns or recent construction zones are more likely to be infested by invasive species than undisturbed forest.
        - Use the toolkit to learn about environmental conditions that could be affected by invasive species.
- Socio-economic conditions
    - Describe socio-economic conditions that may be affected by invasive species.
        - For example, agricultural crops could be negatively affected by the spread of some invasive plants or insects.
    - Learn more about socio-economic conditions that could be affected by invasive species.

Part 7 – Identification of potential environmental and socioeconomic effects and proposed mitigation measures.

- Describe project activities that have potential environmental or socio-economic effects and identify proposed mitigation measures.
- Learn more on mitigating invasive species related risks.

Environmental and socio-economic conditions

Presence of invasive species

If invasive species are present on the project site or in the surrounding areas, there's a higher risk that project activities could spread them into uninfested areas, especially if they are transporting people, equipment or materials between infested areas and pristine, non-infested areas.

Vehicles, equipment and people can transport invasive species, including plant materials such as seeds and rhizomes when they move around. This may spread the invasive species infestation both on the project site and into the surrounding areas.

Knowing whether invasive species on Yukon's watch list are present on a project site or in the surrounding area will help determine how likely it is that project activities could spread invasive species.

Find invasive species near project sites

In Yukon, the following areas have established invasive species populations:

- In and around Yukon's communities, including Whitehorse
- Along most highways and roads

Most known invasive species in Yukon are terrestrial plants. Conducting an invasive species survey during the summer growing season is the best way to find out whether invasive plants grow on the project site or in the surrounding areas.

- Learn to identify invasive plant species on Yukon's watch list
    - Visit the Yukon Invasive Species Council's website
    - Participate in a Spotter's Network Workshop

If a site survey is not possible, review existing resources such as regional surveys or invasive species databases to find out whether any invasive plants have been reported near your project site.

Consider all areas the project might use, including:

- Project site(s)
- Roads and highways used to access the project
- Origin of equipment and materials
- Off-site staging grounds for equipment and materials
- Work campsites
- Sources for project materials (such as soil or gravel).

The following resources provide more details on where invasive species have been reported in Yukon:

- **Fact sheets on priority invasive plant species in Yukon**
    - The Yukon Invasive Species Council's fact sheets on invasive plants that are a priority to control in Yukon include a description of the location(s) where the species have been found across the territory.

- **Survey of invasive plants along Yukon highways**
    - Many projects involve travelling along Yukon's highways to access their site. In the territory, most highways have some form of invasive plant infestations.
    - To find out which invasive plant species are present along highways, (gravel pits, campgrounds and other pullouts) near the project site, review the maps found in the 2016 Invasive Plant Roadside Survey, Yukon Territory report.

- **iNaturalist - Reports on the Yukon Invasive Species project page**
    - On the Yukon Invasive Species Council's project page, you'll find a map of all invasive species sightings in Yukon reported on iNaturalist.
    - This website and mobile application helps people identify plants and animals. Members record and share their observations, including the location of the species sighting, and experts confirm their reports.

- **Alaska Exotic Plants Information Clearinghouse (AKEPIC)**
    - This Alaskan database and mapping application provides geospatial information for non-native plant species in Alaska, and surrounding jurisdictions, including Yukon. This database lists lists all non-native plants, not just invasive species.

- **Regional invasive species surveys**
    - Invasive species are more common in areas with lots of human activity, including Whitehorse and other communities.
    - Surveys of invasive species have been conducted in the following Yukon regions:
        - Dawson City
            - Mapping invasive plants in downtown Dawson City, 2008
        - Teslin
            - Results of Surveying Teslin's Invasive Plant Community (2015)
        - Kluane National Park and Reserve
            - Invasive Species in Kluane National Park and Reserve: 2016 Management

The following organizations can provide additional support on identifying invasive species located near project sites:

- Yukon Invasive Species Council
- Yukon Conservation Data Centre

Environmental conditions

Some conditions create environments that are more susceptible to negative effects from invasive species. Identifying areas near the project site(s) that could be affected by the spread of invasive species helps prioritize prevention and control activities.

Impacts of invasive plants on the environment include:

- Changing soil composition, such as by fixing nitrogen
- Altering ecological succession patterns
- Outcompeting and displacing native plant species

If invasive species establish on project sites, this can affect the project's restoration activities. Controlling and eradicating invasive species can be costly and time-consuming. The plants can alter the ecosystem, making it difficult to return to its previous state.

Projects should prevent invasive species from being introduced or establishing in these areas by following best practices for invasive species management.

When identifying current environmental conditions that may be affected by a proposed project, consider the impact that invasive species could have on the following environmental factors.

Disturbed areas

Invasive plants thrive in areas where the soil and vegetation have been disturbed. If disturbed areas already exist on the project site or in the surrounding area, there is a greater risk that project activities could introduce invasive plants or spread them into areas free of invasive species.

Disturbed areas to consider include:

- Fire-burn areas (both controlled fires and wildfires)
    - View Yukon wildfire maps
- Logged or cleared areas
- Construction areas

Watercourses

Invasive species may spread if plant parts get transported by water to other sites downstream. Changes in water levels may leave exposed shorelines where invasive plants can establish and alter the ecosystem.

For example, in Alaska, White Sweetclover (*Melilotus albus*) has formed numerous dense populations on the glacial-fed river floodplains of the Stikine, Matanuska, and Nenana rivers, reducing the cover and density of native species where it's established.

Important habitats and protected areas

Invasive species can affect habitats by fragmenting, altering or replacing local plant communities, which can have cascading effects on other species or ecosystem processes. While invasive species can threaten all natural ecosystems, some habitats are naturally more vulnerable to invasion than others.

Some areas are protected for conservation or because they serve an important purpose to specific species, such as serving as breeding grounds or migration corridors. Keeping invasive species out of these areas helps maintain these areas in their natural state.

Resources on important habitats and protected areas in Yukon:

- Yukon parks and conservation areas
- Wildlife key areas (locations used by wildlife for important, seasonal life functions)
- National parks, reserves and protected areas

Rare or endangered species

Invasive species are one of the leading causes of species extinction worldwide. By altering habitats and displacing native species, invasive species may negatively impact populations of rare or endangered species.

To find out whether rare or endangered species may be present near the project site:

- View mapped Yukon Conservation Data Centre data
- Contact the Yukon Conservation Data Centre

Socio-economic conditions

Invasive species can also have effects on the local economy and society. For example, they can impact local industries such as agriculture and tourism or reduce safety along highways. If invasive species could have socio-economic effects on areas near the project site, prioritize protecting these areas from the spread of invasive species.

Cost of control and eradication

Controlling, managing and eradicating invasive species is expensive and time consuming. The longer invasive species are established and spread in an area, the more expensive control will be.

Project proponents may incur greater costs if they have to control invasive species on their project sites or in the surrounding areas. Invasive plants can impact a project's restoration activities by increasing the amount of area that needs to be restored, and prolonging the time it takes to complete restoration efforts.

If the proposed project is located near some of the following industries or important cultural and heritage sites, spreading invasive species could have a negative socio-economic effects.

Agriculture

Invasive species may negatively impact agricultural activities. For example, some invasive plants are harmful to grazing animals, or reduce forage quality and quantity.

Resources for more information on agriculture near the project site:

- Yukon Agricultural Association directory of farms
    - Map listing many farms in Yukon.
- Department of Energy, Mines and Resources' Agriculture branch.
- Yukon Lands Viewer
    - Map of agricultural lands in Yukon

Highways, roads and right of ways

Invasive plants commonly spread along highways, roads and right-of-ways. Vegetation in these areas is often controlled to manage sightlines, disturbing the area and creating optimal conditions for invasive plants.

Controlling invasive plants along highways and roads can become costly to highway and road managers, and by extension, to taxpayers.

Invasive plants along highways and roads can also create safety risks for animals and people travelling. For example, White Sweetclover can attract wildlife to the sides of

highways. The height and density of these invasive plants can obstruct animals from the view of drivers, potentially increasing the risk of collisions with wildlife.

- 2016 Invasive Plant Roadside Survey, Yukon Territory report.

Forestry and forest products

Invasive species may also impact forestry operations and the harvest of forest products by competing with desired species for light, nutrients, and water. Some forestry activities may also contribute to the spread of invasive species, as they can disturb the soil and native vegetation.

For more information on Yukon's forestry and forest product industries:

- Government of Yukon Forest Management Branch
- Yukon Wood Products Association

Tourism, recreational and cultural and heritage sites

Invasive species can negatively impact tourism and recreation activities by obstructing infrastructure such as trails and reducing the aesthetics of an affected area. This may make these areas less attractive for outdoor recreation, tourism.

For example, in Yukon, Fireweed (*Epilobium angustifolium*) used to grow abundantly along the side of highways, to the delight of tourists and locals alike. However, White Sweetclover has overtaken the sides of most of Yukon's highways, reducing the aesthetics of the affected areas.

Yukon is also home to many cultural and heritage sites, including important cultural areas valued by Yukon First Nations. Introductions of invasive species may make it difficult and expensive to maintain cultural and heritage sites in their historical state.

Tourism, recreation and cultural activities near a project site can also increase the risk of invasive species spreading in the area, as people participating in these activities may spread invasive species by transporting them on their shoes, bikes, or off-road recreational vehicles.

- National parks, reserves and protected areas
- Heritage trails and walking tours
- Play Clean Go campaign

Mitigating invasive species related risks

Project activities can lead to the spread of invasive species in two key ways:

- As a **vector**
    - Invasive species, including their seeds and eggs, can be carried to new places by vehicles, equipment, clothing, boots, and project materials.
- As a source of **soil disturbance**
    - Invasive species establish more readily on exposed, disturbed soil.

Many projects going through the YESAB assessment process include activities that can spread invasive species. Following best practices when undertaking these activities helps mitigate the risks of spreading invasive species.

The likelihood of spreading invasive species increases when there are infestations near the project site or in areas that will be used by people and equipment, including roads and staging grounds. However, even if there are no known invasive species infestations by the project site, it's always wise to take preventative measures to ensure they aren't accidentally introduced.

Best management practices

Best management practices aimed at preventing the spread of invasive species are efficient ways to mitigate risks posed by project activities. These practices help reduce the likelihood that invasive species spread into new areas, and limit the creation of conditions that are optimal for the establishment of invasive species, particularly plants.

Plan ahead to reduce invasive species risks

Project activities should be planned to incorporate best management practices to reduce the risk of spreading invasive species, from site preparation to decommissioning the project.

Examples of activities: Pre-project species surveys and site visits, training for staff

- Integrate invasive species prevention practices into all stages of the project, including design, construction, vegetation management and maintenance.
- Schedule activities to minimize the potential for spreading of invasive species
    - If there are invasive species on site, plan to work from area with lowest to highest infestation levels.
- Contact knowledgeable local experts on botany, vegetation management and invasive species for support.

Prevent movement of invasive species

Workers, materials and equipment moving between sites and around the project site may transport invasive species into new areas. Keep vehicles, equipment, tools, and people free of materials like soil and plant parts that can carry invasive species. Identify the pathways and activities that may move invasive species around, and learn how to mitigate those risks.

Examples of activities: Transportation of staff or equipment, travel through infested areas (including along infested roads and highways) travel off roads, clearing vegetation. Transportation of project materials, including soil, mulch, aggregate, wood products and landscaping materials.

- Inspect and clean vehicles, equipment, tools and workers for invasive species and soil before entering and leaving the project site.
    - Use a practical, effective cleaning method, including: brushes and brooms, car washes, high pressure air or water, portable washing stations.
    - Pay particular attention to areas that catch soil and seeds, such as wheel wells and tracks, blades, and vehicle undercarriage.
    - For workers, pay close attention to boots and pants.
    - Designate cleaning areas on site to contain potentially infested materials.
- Inspect and clean equipment, vehicles or materials imported from infested areas, including Whitehorse and other communities or other jurisdictions (Alberta, British Columbia), when leaving the area.

    - This is also important if accessing a remote site by helicopter or plane.
- Time project activities that risk spreading terrestrial invasive species at the start of the growing season to avoid spreading invasive plant vegetation, including roots, rhizomes and seeds.
- Use project materials such as soil and mulch that are invasive species free.
    - Store project materials in areas that are free of invasive plants.
    - Where possible, use onsite materials rather than importing from other areas.
- Avoid working in and around areas where invasive species are present.
    - If activities must take place in infested areas, always clean equipment and clothing before moving from the infested area into uninfested area.

Reduce disturbance of soil

Invasive species often establish in disturbed areas. As disturbance may be unavoidable, stabilizing disturbed soils quickly helps prevent invasive plants from establishing, and monitoring disturbed areas helps detect and control introduced species early.

Examples of activities: Soil disturbance includes any activities where soil is displaced, moved, removed or brought in from other areas, including: excavation, removing vegetation, driving off-road or building roads and paths.

- Minimize soil disturbance.
    - Use existing roads, access points and staging areas.
    - Consider ways to reduce soil disturbance during construction activities.
- Cover exposed soil after it has been disturbed with a layer of mulch to reduce germination or introduction of invasive plants until revegetation can occur.
- Avoid unnecessary compaction of soils.

Maintain native plant populations

Environments with healthy plant communities are better able to resist establishment of invasive species. Maintain native and non-invasive species to reduce the risk of spreading invasive species.

Examples of activities: Managing and clearing vegetation, including: mowing, manual and mechanized clearing and trimming or burning. Replanting or reseeding disturbed soils.

- Use native or non-invasive species for revegetation and landscaping activities.
- Encourage revegetation of disturbed sites to prevent invasive plants from establishing.
    - Allow natural revegetation through succession when site conditions are appropriate, such as when both the project site and the surrounding areas are free of invasive plants.
    - If reseeding, use native plant species or non-invasive species.
        - Read seed labels to make sure no invasive plants are in the mix. Test seed mixes to find out if invasive plants are present.
    - Work with revegetation experts to determine which approach is best for the project site.

Practice early detection and rapid response

Detecting and eradicating invasive species when infestations are small and more easily controlled is essential to prevent them from establishing and spreading further. It can also significantly reduce the cost of managing invasive species.

By regularly monitoring project sites and the surrounding areas, new infestations can more quickly be identified, reported, and controlled.

- Provide invasive species prevention training and identification resources to staff and contractors before starting work.
    - Learn to identify invasive species on Yukon's watch list
    - Participate in a Spotter's Network Workshop
- Conduct a survey of the project site(s) for invasive species infestations before beginning project activities, and report any observations.
- Monitor project site and surrounding area throughout duration of the project to identify if invasive species are introduced or spreading.

    - Pay particular attention to areas where invasive species may be introduced, including:
        - Access routes
        - On-site cleaning areas
        - Waste disposal area
        - Project material storage areas

Control and eradicate invasive species populations

If invasive species are present on the project site or in the surrounding area, control or eradicate the infestations as soon as possible to prevent them from spreading further through project activities.

Invasive plants are typically controlled by removing them, either by hand pulling or mowing. Other methods include covering the infested areas with tarps or fabric to prevent light from reaching the plants, or removing the topsoil where invasive plant seeds and roots remain.

Control methods vary depending on the species, the size of the infestation, and the type of habitats that surround it. The Yukon Invasive Species Council or other vegetation experts can help you determine the appropriate methods.

- Ensure that invasive species control treatments are applied within the appropriate time window.
- After initial control, monitor the area throughout the growing season and in successive years as additional control activities may be needed.
- Avoid working in areas where invasive species have been controlled, as plant parts like seeds and roots may still be present in the soil.
- Properly dispose of soil, seeds, and other materials that may contain invasive species materials.

Learn more about invasive species control methods:

- How to control invasive plants (Coastal Invasive Plant Council)

- Disposal and control of invasive plant species (Alaska Department of Transportation and Public Facilities)

More resources on invasive species best management practices

- Best practices for preventing the spread of invasive species during forest management activities (BC Invasive Species Council)
- Invasive Species Best Management Practices For Transportation and Utility Rights-of-Way (Wisconsin)
- Preventing the Spread of Invasive Plants: Best Management Practices for Land Managers (California Invasive Plant Council)

Reporting invasive species

Reporting sightings of invasive species is essential to detecting new infestations and controlling them before they spread further. Project proponents can contribute to this effort by monitoring their project sites for invasive species, including invasive plants, and reporting their sightings.

- Learn more about Early Detection and Rapid Response
- Learn to identify invasive plants: Spotter's Network

Information to report

Report any sightings of invasive species or of unusual species that seem to be growing or spreading out of control.

- Species (if known)
    - If species is unknown, include a thorough description
    - Include photos, including close ups of plant parts for identification and of the surrounding area to show the extent of the infestation.
- Size and density of infestation
- Coordinates or description of the infestation site's location
- Date of sighting
- Your contact information

Ways to report invasive species sightings

- Online through iNaturalist
- To the Yukon Invasive Species Council
    - Online Reporting Form
    - By phone: (867) 335-0827
    - By email: info@yukoninvasives.com

Sources and resources for more information

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