Covered dump truck
ISCBC

Invasive Species Council of BC

Best Management Practices for Soil Movement and Disposal

Invasive Species and Why You Should Care

When soil, gravel, mulch, and other organic matter containing an invasive species is moved or disturbed, it can frequently result in the establishment or re-establishment of an unwanted species. Following best management practices will help prevent spread and reduce the risk of potential impacts on human health, infrastructure, agriculture and the environment in BC.

By identifying issues, developing a response, and carefully executing a plan that utilizes best practices, problems can be managed up front instead of becoming overwhelming or surprising.

The following Best Management Practices will help reduce the risk of transporting invasive species to new locations.

Prevention of invasive species introduction and spread should always be the first consideration in any project. By managing invasive species we will lessen the impacts to the environment, economy and to human health. Inevitably, many projects require the movement of soil, whether developing a new building project, building a new road, or any other activity requiring soil relocation. The key is to follow best practices to ensure that invasive species are managed on-site and are not spread to new areas.

1/ Know Your Legal Obligations

The first step before commencement of operations should always include a review of provincial regulations and local bylaws, requirements, or options that are applicable in the area where the operation is to take place. Many local governments have bylaws that regulate development and the removal of soil or fill, including requirements for invasive species management. In addition, when determining options for disposal it is important to be aware that some landfills accept invasive species or soil, while others do not. By knowing these requirements and options from the outset, the development process can move forward more easily, with a successful outcome.

2 / Know Your Soil
Identify Invasive Species and Plan Accordingly

Whether small or large soil removal operations, invasive species and fragments of invasive plants can be undetected.

The most effective method of preventing transfer of invasive species is to eliminate that species from the soil prior to movement. Before moving the soil for any reason, the soil surface should be inspected for evidence of invasive species. It is best to inspect both the area to be excavated and adjacent areas as root material, seeds, or insects may have entered the excavation zone from nearby infestations.

The Invasive Species Council of BC and regional invasive species committees provide an abundance of information to assist with the identification of species. Your regional committee can provide advice about species of particular concern in your area: bcinvasives.ca/about/partners/bc-stakeholders/regional-committee-map

Photo: L. Rainville

3 / Control It Before You Move It

Where possible, the invasive species should be treated on the site where they were found. The effectiveness of a range of control strategies, from pesticide application to manual removal, will depend on the species. Several invasive species are not adequately controlled by single treatments and while the visible portions of an invasive species may be dead, parts hidden underground can remain viable. Excavation or other soil disturbance may stimulate growth by providing access to light, water, and air. It is important to ensure careful application of pesticide according to its label. Therefore, **pre-movement treatment and control must be thorough!**

Photo provided by:
Ministry of Transportation and Infrastructure

4 / Move the Soil Responsibly, Not the Invasive Species

Soil is typically moved by dump truck with a rock screen that covers the box to prevent flying debris. The normal screen is not sufficient to prevent plant fragments being freed by vibrations and wind that occur during transport. Heavy tarpaulins that cover the top of the box are necessary to ensure that fragments are not spread. As well it is necessary to ensure that the sides and back of the vehicle are secured with no chance of soil, seeds and fragments escaping. In high risk or special attention areas, trailers with containment used for hauling mineral ores may be required. Alternate measures may need to be taken if transporting soil infested by invasive insects.

5 / Ensure Clean Equipment Before and After Moving Infested Soils

Even with careful loading, prior to leaving the source site, the truck exterior and wheels should be washed thoroughly and movement through infested areas should be avoided. After dumping the load at the receiving site, the interior of the box should be washed and the tarpaulin re-secured for a return trip.

6 / Treat Infested Soil Wisely Determine Best Method of Soil Treatment

Most control of invasive species has focused on eradicating plant matter or live insects. Limited research has been completed on management of soil that guarantees that plant fragments or insects are inactive. For some persistent species such as knotweeds, the cautionary principle will apply: **do more than expected and always follow directions as per the pesticide label**.

7 / Manage Source Materials Know Before You Import Soil

The import of fill, especially topsoil, to a site must include verifiable information on the source site. Without realizing it, a vendor may blend infested material with topsoil and resell it without treatment. After this topsoil is applied to a restoration site or a newly-landscaped location, an invasive plant or insect may establish. Monitoring at the site should be undertaken. **Know your soil provider. Require assurance that the material is weed free.**

8 / Revegetate Disturbed Sites

Most invasive species establish on sites where the soil has been disturbed and spread from there. It is important to revegetate sites quickly, or establish an interim cover crop that will ultimately be replaced by the final landscaping or planting.

As critical as acquiring soil without invasives is important, the seeds and plants used for revegetation must also be free of invasive species.

Currently there are few tools that exist for the successful eradication and control of certain invasive species. While it is well-recognized that there is need for development of new, improved options, prevention of invasive species spread and establishment should always be the first priority.

For more information and guidance on preventing and managing for invasive species, visit the Invasive Species Council of BC's suite of online resources at:

www.bcinvasives.ca/resources/publications including:

- » Invasive Species Toolkit for Local Government
- » Aboriginal Community Toolkit for Invasive Plant Management