

# IAP Reference Guide - Part I

## Module 1.3: Invasive Alien Plant Prevention

In this module, you will learn:

- The importance of encouraging prevention;
- What should be done to encourage prevention; and,
- What activities you should be aware of.

## **Public Awareness**

Early detection is essential to slowing the spread of invasive plants. Early detection of invasive alien plant infestations can be enhanced by recruiting the public to report invasive plants as they appear. There is a much better chance of gaining control of invasive plants when their populations are small. An informed public that can identify invasive alien plant species can help prevent invasive plants from spreading or populations from building. There are many other people and agencies involved in invasive alien plant management, therefore, it is best to have a coordinated effort for building public awareness.

## **Encouraging Prevention**

Did you know that prevention is the most economic and effective method of managing invasive plants? Prevention involves impeding dispersal and hindering establishment of invasive plants. Preventing weed spread to un-infested areas is an important aspect of invasive plant management. Recognizing new invasive plant problems and detecting them early can also simplify their control. Effective prevention requires an understanding of invasive alien plant biology and population dynamics.

Management practices that maintain the native vegetation in a vigorous, productive condition should be emphasized to deter the establishment and spread of invasive plants. In general, prevention can be achieved through modifications of cultural practices and an integrated approach to land use. Forest and range activities must be carried out in a manner that prevents the introduction or spread of invasive plants.

## **What can be done?**

### **Minimize horticultural escapes**

Most introduced ornamental plants that adorn our yards and gardens cannot survive outside cultivation. Plants that do become established outside of cultivation (i.e. invasive plants) often cause significant damage in natural areas. Sales of most known or potential invasive alien plant species are generally unregulated. Many invasive plants of the yard and garden are widespread and are generally not regulated in greenhouse or landscaping retailers. Attention should be given to the biology of garden plants prior to purchasing. Avoid aggressive and spreading species.

### **Minimize soil disturbance**

It is imperative that an invasive plant resistant plant community is established through appropriate forest and range management. This can be encouraged by:

- Managing for a late seral plant community. While it is important to acknowledge that some invasive plants will still be able to establish in the late seral or potential natural community (PNC) plant communities, earlier seral stages are more susceptible to colonization by invasive plants;
- Managing grazing to prevent excessive soil disturbance at salt areas, watering sites, stock trails and corrals. Some disturbance is inevitable at these sites, so they must be checked frequently for invasive plants; and,
- Minimizing soil disturbance during road construction and maintenance.

Recall that sometimes land disturbance may be unavoidable. For example, forest fires in BC are often unavoidable. They disturb the land and create particular concerns with respect to invasive plants.

Areas that are repeatedly disturbed, such as recreation sites or livestock congregation areas, are susceptible to invasive alien plant invasion. The first step in reducing the risk of invasive alien plant infestation on these sites is to reduce disturbance through sound management. For example, salting and riding can distribute livestock over the range and reduce disturbance. Once these disturbances are reduced, vegetation can recover and make the site less susceptible to invasive alien plant invasion.

### Act quickly to re-establish vegetation

Vegetation should be re-established on disturbed areas within two weeks of the disturbance. Use a seed mix which includes fast, early growing species of grasses and legumes that considers local site characteristics and objectives for the area. Considerations include methods, plant species, rates, timing, biogeoclimatic unit, soil types, slope, aspect and expected uses.



Did you know that all seed sold in Canada is subject to the federal **Seeds Act** and thus subject to tolerances for prohibited and primary noxious invasive plant seed?

Section 3(1) of the **Seeds Act** states:

3. (1) Except as provided by the regulations, no person shall:

(a) sell, import into Canada or export from Canada any seed unless the seed conforms to the prescribed standard and is marked and packed and the package labeled as prescribed, or

(b) sell or advertise for sale in Canada or import into Canada seed of a variety that is not registered in the prescribed manner.

### Minimize invasive alien plant dispersal

Invasive plant seeds can be dispersed by wind, water, animals, people and machinery. Some invasive plants are also spread when root fragments are transported to new locations. The following techniques can assist in minimizing invasive plant dispersal:

Vector	Solution
<b>Natural Vectors</b>	<ul style="list-style-type: none"> <li>• Many invasive plant species, such as several thistles, have specialized featherlike structures (pappus) attached to their seed coat. This pappus allows the seed to readily disperse by wind.</li> <li>• Seeds and root fragments are also carried by water.</li> <li>• Invasive plants should be killed before flowering, but, if treated after flowering, they should be dug up or clipped and the seed heads bagged to prevent seed dispersal. The refuse should be taken to land fills where the material will be buried deep and/or the surrounded area treated for escaped invasive plants.</li> </ul>
<b>Human Carriage</b>	<ul style="list-style-type: none"> <li>• Human transport of invasive plant seeds is a concern. Hikers, tree planters, and other forest or range workers should be encouraged to check clothing and equipment for invasive plant seeds. For example, Hound's-Tongue.</li> </ul>
<b>Livestock and Wildlife</b>	<ul style="list-style-type: none"> <li>• Both livestock and wildlife graze on some invasive plant species and seeds can be moved to new locations through digestive systems or when animals cache them for later use. Therefore, ensure seeds in the digestive system are allowed to pass through the animal before moving it to a non-infested area. This can usually be accomplished by holding the livestock for three days in an invasive plant free area. Examples of livestock include cattle, horses, working dogs, and pets.</li> <li>• Birds may also transport seeds.</li> <li>• Examples of frequently transported seeds include those of Burdock, Hound's-Tongue, and Sulphur Cinquefoil.</li> <li>• Ensure livestock is invasive plant-free when moving into a non-infested area. All seeds attached to the coat should be removed.</li> </ul>
<b>Vehicle</b>	<ul style="list-style-type: none"> <li>• Inspect the undercarriage of logging trucks and other vehicles and remove attached invasive plants prior to leaving an invasive plant infested area.</li> <li>• Before machinery moves into an invasive plant-free area, or livestock are trailed to an invasive plant free area consider spraying, mowing or hand pulling, along the route to be traveled into the invasive plant-free area.</li> <li>• For example, Knapweeds.</li> </ul>
<b>Horticulture</b>	<ul style="list-style-type: none"> <li>• Garden refuse can cause the spread of invasive plants, for example, Toadflax and Knotweed.</li> <li>• Avoid/remove and discard creeping rootstock ornamentals in a designated landfill.</li> <li>• Do not put invasive plants in the compost.</li> <li>• Remove problem plants before selling your property.</li> <li>• Avoid growing non-native herbal remedy plants.</li> <li>• Avoid using invasive plants in dried flower arrangements, for example, teasel.</li> <li>• Wildflower seed mixtures can contain a percentage of invasive plant seeds. In order to prevent their establishment and spread, consumers should buy mixtures that are free of invasive plant seed.</li> </ul>
<b>Soil &amp; gravel transport</b>	<ul style="list-style-type: none"> <li>• Investigate which plant species exist at a site ahead of time and confine soil &amp; gravel contaminated with invasive plants so it can be treated.</li> </ul>
<b>Road and Utilities Construction &amp; Maintenance</b>	<ul style="list-style-type: none"> <li>• Where possible, limit road maintenance to the road surface to retain the vegetated areas along roads.</li> <li>• Ensure the gravel used for a road construction contains no invasive plant seed or rhizominous plant parts.</li> <li>• For example, Knotweeds.</li> </ul>

## What activities should you be aware of?

Examples of activities that may cause the introduction or spread of invasive plants include:

### For Forestry

- road building and maintenance (propagating plant parts – roots, stems and seeds)
- building landings and skid trails;
- harvesting that exposes mineral soil;
- post harvest site preparation;
- movement of machinery related to the above activities; and,
- log hauling (seed dispersal).

For guidelines pertaining to invasive plants information to be included in operational plans as required by the *Forest and Range Practices Act*, refer to the Provincial Invasive Plant Guidelines in Part IV of this guide.

### For Range

- grazing that creates early or mid seral plant communities;
- trampling around salting sites and other congregation areas;
- building of stock trails, water developments and corrals; and,
- herding livestock (trampling that creates exposed mineral soil and seed dispersal).

### For Horticulture

- unrestricted importation and planting of potential invasive species; and,
- careless disposal of garden refuse.

### For Recreation

- disturbance of soil by ATV's and other recreational activities; and,
- transport of invasive species attached to recreational vehicles (for example, Milfoil).