

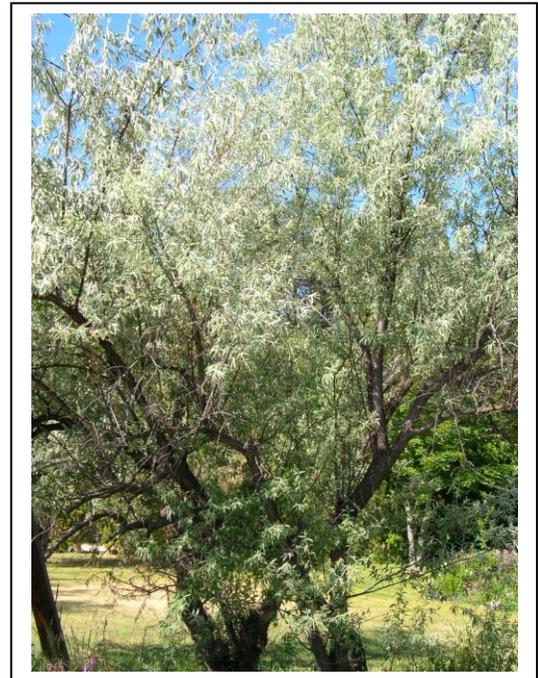
# Invasive Trees

## INTRODUCTION

**Siberian elm** (*Ulmus pumila*) was introduced to North America in the mid-1800s for its hardiness, fast growth and ability to thrive in varying moisture conditions. It is native to Northern China, eastern Siberia, Manchuria and Korea. It will quickly form thickets of seedlings around seed-producing trees, bare ground areas, animal and insect mounds, and other disturbed sites. These fast growing trees quickly overtake native vegetation, especially shade-intolerant species, reducing forage for livestock and wildlife, as well as often leading to further invasion by additional weedy species.

**Russian olive** (*Elaeagnus angustifolia*), also known as oleaster or silverberry, is native to Europe and western Asia. It was originally planted in the United States in the late 1800s, as a windbreak tree, mostly because of its incredible tolerance of extreme weather. It has become a major problem in the Pacific Northwest, invading riparian woodlands and even threatening large, hardy native trees such as cottonwoods. It can form dense stands that alter vegetation structure, nutrient cycling and even the hydrology of a system. It occurs in a variety of soil and moisture conditions, but generally prefers sandy floodplains and is often associated with open, moist riparian habitats.

**Tree-of-heaven** (*Ailanthus altissima*) is native to central China. In the late 1800s, it arrived on the west coast of North America, brought to California by Chinese miners during the gold rush. It is a prolific seed producer and can successfully compete with native vegetation. It reportedly produces toxins that prevent the establishment of other species. The root system is aggressive enough to cause damage to sewers and foundations.



## IDENTIFICATION

**Siberian elm:** Reaches heights of 9-18 metres (30 – 60 feet) with an open rounded crown and slender, spreading branches. Its bark is dark gray or brown and rough. Leaves are smooth and dark green above, but paler and nearly hairless beneath. Seeds are produced early in the spring, and spread by the wind, inside fruit that is winged, round and smooth that hangs in clusters.

**Russian olive:** Can grow up to 9 metres (30 feet) in height and is often quite thorny. The upper surface of its lance-shaped leaves are light green in color and are covered with silvery star-shaped hairs, whereas, the lower surface of its leaves are silvery white and densely covered with scales. Its small, light yellow flowers are highly aromatic and usually borne early in the growing season, shortly after leaf emergence (June-July). An abundance of yellow-red, olive-shaped fruits are produced and readily eaten by many species of birds, facilitating the dispersal of seeds.

**Tree-of-heaven:** Reaches an impressive 24 metres (80 feet) in height and 1.8 metres (6 feet) in diameter. It has pinnately compound leaves that are 0.3 – 1.2 metres (1-4 feet) in length with 10-41 leaflets. Also resembles the sumacs and hickories, but is easily recognized by the glandular, notched base on each leaflet and by the offensive odour it emits. It blooms in late spring creating small flowers ranging in color from green to orange. The fruit produced is flat, papery and twisted.

## INTEGRATED MANAGEMENT

To effectively control these aggressive trees, seedlings can be hand-pulled when the soil is moist. Once they become firmly established, the most effective control method is the cut-stump herbicide treatment during late spring. This method is both labour-intensive and expensive, but can be highly effective.

Bulldozing, mowing and brush-cutting can also be effective, but only if all re-sprouts are continually cut and removed which will likely take many consecutive years of treatment. Girdling may also be an inexpensive and useful technique for controlling these undesirable trees. Girdling involves manually cutting away bark and cambial tissues around the trunks of trees. This control method should be undertaken using an ordinary axe in the spring when the trees are actively growing. Note that hardwoods are known to re-sprout below the girdle unless the cut is treated with herbicides.

## BIOLOGICAL CONTROL

There are currently no biological control methods for invasive trees.

For more information about the Okanagan-Similkameen Invasive Plant Program please visit our website at [www.oasiss.ca](http://www.oasiss.ca) or contact us by telephone at 250-404-0115. For further information on invasive plants in BC check out the provincial websites at: [www.weedsbc.ca](http://www.weedsbc.ca) or [www.bcinvases.ca](http://www.bcinvases.ca).