

**PARKS & TRAILS MASTER PLAN AND
NATURAL RESOURCE ANALYSIS**

APPENDIX D

Invasive Species Summary



INVASIVE SPECIES SUMMARY

The presence and risk of continuing dominance of non-native plants is probably the single most important threat to the ecological integrity and social benefits of Hillsboro Park natural areas and greenways. Fortunately, a lot of trial and error has gone into managing common invasive plants, and techniques are improving in terms of both effectiveness and economics.

Based on a 2008 assessment of natural resources, the following invasive species were present in several City of Hillsboro Parks:

- Reed canary grass (*Phalarus arundinacea*)
- Himalayan blackberry (*Rubus discolor*)
- English ivy (*Hedera helix*)
- English hawthorn (*Crateagus laevigata*)
- Scott's broom (*Cytisus scoparius*)
- English holly (*Ilex aquifolium*)

These are described in greater detail below.

Reed canary grass

Reed canary grass (*Phalarus arundinacea*) appears to be present across nearly all of the floodplains, wetlands, and greenways in Hillsboro. This is a perennial, rhizomatous grass that, if growing in the open and left unchecked, can form a 6 foot tall monoculture that excludes most more desirable native plants. It is native to Eurasia, and was deliberately introduced into Oregon in 1918 for use in wet pastures. It is generally restricted to low lying locations that are at least seasonally wet, though it can withstand prolonged periods of drought once it is established. While it is a prolific producer of seeds, it does not germinate well and spreads mostly by rhizomes, including pieces that are broken off and transported by floods.

Any area of disturbed, seasonably wet soil within Hillsboro greenways is a potential spot for reed canary infestation. Floodwaters that carry reed canary root fragments can enter the City from outside, so eliminating it altogether is not possible. Reducing its presence and dominance is an achievable goal. Experience in other areas suggests that it takes 2-3 years of well planned and executed efforts to convert a pure reed canary meadow into a mostly native plant community, and it takes an additional 5-10 years of close monitoring and follow up treatments to prevent significant re-infestation.

Himalayan blackberry

Himalayan blackberry (*Rubus discolor*) is a broadleaved semi-evergreen shrub related to roses. Once established and left unchecked it can form dense, impenetrable mounds up to 9 feet tall. A single cane can spread 20 feet or more, root at the tip, and thus expand the mound. Blackberry is native to Western Europe (not Asia,) and was introduced to the United States in 1885 as a cultivated plant. It became naturalized and widespread along the west coast by the 1940s. It will grow in nearly any type of soil, but does not thrive in true wetlands. Individual canes live 2-3 years, and the thicket of dead canes that develops in untended stands can be a significant fire hazard (though green stems are fire retardant).

Seeds are eaten and dispersed by birds, rodents, fox, bear, and coyotes. Dispersed seeds can remain viable in the soil for several years. Blackberry can invade both open areas and woodlands, though it is less vigorous under a closed tree canopy. It is controllable using conventional or unconventional techniques (mechanical, chemical, goats, chickens,) but given how widespread it is, and how easily it is transported, complete eradication is not feasible.

English ivy

English ivy (*Hedera helix*) is a broadleaved evergreen vine native to Europe. It was brought to the United States in colonial times, and has been widely planted in the Northwest as an ornamental plant. Left unchecked it spreads rapidly, covering woodland floors, climbing trees and causing them to topple over. It is easily dispersed by birds, particularly starlings. Ivy is probably the single greatest threat to the ecological integrity of urban forests in our region. Forests dominated by ivy have much lower diversity of native plants and animals compared with ivy free areas. Contrary to conventional wisdom, ivy is a very poor erosion control because it is too shallow rooted to hold slopes in place. Control of ivy is both necessary and practical, but hand cutting and clearing methods are very expensive (300-1300 hours of labor per acre). Effective and safe chemical control options are available at less than one-tenth the cost of manual control. Ivy at the ground level can reportedly be controlled by intensive grazing of goats at a cost of about \$1000 per acre.

English hawthorn

English hawthorn (*Crateagus laevigata*) is a small tree or large shrub native to Eurasia and North Africa. It has white flowers in May, and red berries in late summer and fall. The berries are eaten by birds, and thus distributed to new sites. English hawthorne invades open areas and woodlands. It can become quite prolific, and has covered over 100 acres of former meadow at Powell Butte Nature Park. It is usually

controlled by cutting and brushing on an herbicide if it is large, or by hand pulling when small.

Scott's broom¹

Scott's broom (*Cytisus scoparius*) is a perennial shrub with yellow flowers that bloom between April and June. In the western United States, it is found as far north as British Columbia to central California, and primarily west of the Cascades. The plant is difficult to control due to its wide tolerance of soil conditions, ability to fix nitrogen and grow for most of the year given adequate precipitation and a mild climate, and its abundant production of viable seeds. In areas where the shrub was introduced, it thrives in pastures, cultivated fields, dry scrubland, native grasslands, along roadsides, dry riverbeds and other waterways. By their second year, Scott's broom can produce up to 60 seed pods per bush. The pods contain 5-8 seeds. An integrated pest management plan, including physical, thermal, managerial, biological, and chemical methods, is the most desirable approach to eradicating Scott's broom.

English holly

English holly (*Ilex aquifolium*) is an evergreen shrub with green leaves and red berries that may grow up to 25 feet high and 12 feet wide. The leaves may be 1 to 3 inches, and its surface and edges contain spines. The flowers are small, white, and sweet smelling. Though it is a common ornamental, English holly can invade open lands, roadsides, waterways, and recreation areas and choke out native plants. It is tolerant of a wide range of soil, moisture, and light conditions. The plant can reproduce with the help of birds spreading the berries or by producing suckers, allowing the plant to root where it touches the ground. It may be controlled by pulling up and disposing of all the plant material, including the root.

¹ Provided by The Nature Conservancy Global Invasive Species Team

