

# Ecological Restoration

## Kittery Parks Commission

For some time now, a number of well-known invasive plants have been steadily and silently consuming more and more territory here at Fort Foster. And as these invaders have continued to out-compete native species and broaden their foothold over the years, they've destroyed bird and animal habitat, diminished native biodiversity, and degraded the natural landscape of this ecologically diverse and vital Gerrish Island community.

The Kittery Parks Commission is committed to restoring the health of this wonderful park and has begun a multi-phased restoration project. In the coming weeks and months, these areas will be seeded with native plants and grasses. For your information, the following is a brief overview of the plant species that we have begun to remove in order to control the spread of these invasive species.

Asiatic bittersweet is a perennial, deciduous vine that can grow up to 17.3 m (60 ft.). Bittersweet causes major damage to native plants and trees by girdling. Mechanical damage of trees and other plants is also caused by the additional weight added onto the branches, causing the branches to break. The vigorous growth of the vine also shades other species. Seeds are dispersed by birds, but in the fall, people often use Bittersweet for wreathes and floral arrangements because of its colorful fruits. Oftentimes, the plant is simply thrown away which causes even further seed dispersal.

Japanese barberry is a dense deciduous shrub 0.5-2.4 m (2-8 ft.) tall. It flowers from mid April to May in the Northeast and its fruits mature from July to October. Japanese barberry forms dense stands in natural habitats including canopy forests, open woodlands, wetlands, pastures, and meadows and alters soil pH, nitrogen levels, and biological activity in the soil. It is readily dispersed by birds, which can bring the seeds many meters away from the parent plants. The threat is such that the plant is illegal for sale in Canada, and included on some lists of banned plants in New England.

Exotic bush honeysuckles are upright, generally deciduous shrubs that range from 6 to 15 feet in height. The 1-2 1/2 inch, egg-shaped leaves are opposite along the stem and short-stalked. Older stems are often hollow. Honeysuckles can rapidly invade and overtake a site, forming a dense shrub layer that crowds and shades out native plant species. They alter habitats by decreasing light availability, by depleting soil moisture and nutrients, and possibly by releasing toxic chemicals that prevent other plant species from growing in the vicinity. Exotic bush honeysuckles may compete with native bush honeysuckles for pollinators, resulting in reduced seed set for native species. In addition, the fruits of exotic bush honeysuckles, while abundant and rich in carbohydrates, do not offer migrating birds the high-fat, nutrient-rich food sources needed for long flights that are supplied by native plant species.

Alliaria petiolata is an herbaceous biennial whose flowering form can reach 1 m (3.3 ft.) in height. The first year plants are a basal rosette of leaves that remain green throughout the winter. They develop into mature flowering plants the following spring. The leaves give off a strong garlic odor when crushed. Garlic mustard can outcompete native herbaceous species, depriving them of light, moisture and space. It also negatively impacts mycorrhizal fungi that are important underground symbionts for northern hardwood species, allowing it to compete with these woody species. In some states this plant threatens native butterfly species by outcompeting their native host plants. When the butterflies lay their eggs on Garlic mustard the larvae do not seem to survive as well. Each plant can produce up to 3000 seeds.

For more information about these and other invasive plant species, visit the IPANE website (Invasive Plant Atlas of New England) at [www.ipane.org](http://www.ipane.org).

Asiatic bittersweet  
(*Celastrus orbiculatus*)

Japanese barberry  
(*Berberis thunbergii*)

Morrows honeysuckle  
(*Lonicera morrowii*)

Garlic mustard  
(*Alliaria petiolata*)