



Invasive Exotic Plants

Resource Brief

Importance

Invasive exotic plants are species that aggressively compete with and displace native plant communities. The result can be loss and destruction of forage and habitat for wildlife, reduced biodiversity, loss of forest productivity, reduced groundwater levels, soil degradation, diminished recreational enjoyment, and economic harm. Although certain plant species were introduced in the United States for agriculture, erosion control (kudzu), or ornamental purposes (Japanese barberry, English ivy) many are now considered invasive threats.

Right: Mile-a-minute vine climbing a tree at Catoctin Mountain Park.



NPS/Paradis

Inventory and Monitoring

The NCRN began long-term monitoring of the distribution and abundance of invasive exotics plants in 2006. This monitoring occurs in conjunction with forest vegetation and forest insect pest protocols, so it does not include exotic invasives that occupy grasslands, edge habitats such as roadways, or open marshes. The NCRN monitors more than 400 forest vegetation plots in the region, 100 per year on a four-year rotation.

In each 30-meter diameter plot, there are twelve small quadrats (0.5 × 2 meters) where select invasive exotic herbaceous plants are monitored. All trees within the plot are documented as are vines growing on them. Shrubs and saplings are monitored within three, 6-meter diameter sub-plots.

Results

All of the following results are based on the extensive data NCRN gathered between 2005-2009. No NCRN park is free of invasive exotics.

Trees—Exotic tree species are present throughout the region but are primarily a localized problem in forests. They made up 1.6% of all trees, 1.1% of all saplings, and 2.4% of all seedlings. The most commonly occurring are tree of heaven (*Ailanthus altissima*), white mulberry (*Morus alba*), and Osage orange (*Maclura pomifera*).

Vines—Vines that grow into the crown of a tree, can increase tree

mortality by shading leaves or toppling trees due to the increased weight. About a quarter (25.2%) of the vines growing on monitored trees are exotic vines. The most commonly occurring are Japanese honeysuckle (*Lonicera japonica*) and English ivy (*Hedera helix*).

Shrubs—Invasive exotics accounted for 9.7% of all individual shrubs, and 6.5% of all shrub seedlings. Amur honeysuckle (*Lonicera maackii*) and autumn olive (*Elaeagnus umbellata*) were by far the most common.

Herbaceous Plants—The percent of plots with herbaceous invasive exotics varies considerably between parks, but only in Prince William Park did they account for less than 50%. While most of the herbaceous invasive exotics are not widespread, several are found in a large number of plots throughout the region. The most common species are Japanese honeysuckle (*Lonicera japonica*) which can grow either as a groundcover or a climbing vine, Japanese stiltgrass (*Microstegium vimineum*), and garlic mustard (*Allaria petiolata*). Both Japanese stiltgrass and Japanese knotweed (*Polygonum cuspidatum*) had a high percent cover on the plots they invaded.

