



Invasive Species Early Detection in Cumberland Piedmont

Importance

Exotic pest plants are negatively impacting the native and highly endemic floras of Cumberland Piedmont Network (CUPN) parks, reducing biological diversity, degrading natural landscapes, and disrupting natural ecological processes at multiple spatial and temporal scales.

Ecological impacts of invasive plants include loss of endangered and threatened species, disruption to natural community and successional processes, disruption of native plant and animal associations, and alteration of natural fire regimes.

The need to track changes in invasive plant populations is critical to determine the success of exotic plant control, to detect early invasions and predict new invasions before they cause significant impact. In a series of reports (2003-2007), NatureServe has identified invasive plants as the major threat to natural vegetation communities at most CUPN parks.

Monitoring Objectives

- 1) Develop and maintain a list of target “watch” species that occur in localized areas of parks, are extremely rare, or are not currently present within a park, but have the potential to cause major ecological or economic problems if they were to become established.
- 2) Detect incipient populations (i.e., small or localized) and new introductions of these target non-native species before they become established in areas of high and moderate management significance.
- 3) Develop, maintain, and distribute appropriate target species identification information for all CUPN field crews, cooperators, resource managers and volunteers.
- 4) Develop and maintain an early detection tracking system.
- 5) Target limited management resources toward highest priority risks.

Protocol Status

The early detection protocol is under development in 2012 through a cooperative agreement with Pennsylvania State University. Most of the field component for early detection will be conducted through the vegetation monitoring protocol which was implemented in 2011 for all CUPN parks. Lists of target invasives, and field guides are completed.

Contacts

Teresa Leibfreid at teresa_leibfreid@nps.gov for invasive plants
Kurt Helf at kurt_helf@nps.gov for insect pests



Non-native Wisteria

Management Applications

The Cumberland Piedmont Network and Appalachian Highlands Network share an established Exotic Plant Management Team stationed at Blue Ridge Parkway. This team is currently evaluating parks for invasive plant inventory and control issues. Through the efforts of this team, combined with incoming reports from NatureServe that describe which natural communities are most threatened by exotic plants/pests, priorities will emerge that will allow the CUPN program to focus on higher priority species that pose the most significant threat.

Natural vegetation communities without a current invasive species problem will be a high priority for treatment of new invasions. Through a grid system of random plots already established across the network parks, the vegetation monitoring teams will document both existing and new species, so that parks can treat populations before they become established.

Early detection efforts will also contribute to regional and national distribution databases. The CUPN will provide data to EDDMapS a web-based mapping system for documenting invasive species distribution, launched in 2005 by the Center for Invasive Species and Ecosystem Health at the University of Georgia.