Invasive Species Early Detection
PROGRAM BRIEF

National Park Service · Northeast Region
U.S. Department of the Interior

Eastern Rivers and Mountains Network
Inventory & Monitoring Program

Allegheny Portage Railroad NHS - Bluestone NSR - Delaware Water Gap NRA - Fort Necessity NB - Friendship Hill NHS - Gauley River NRA - Johnstown Flood NMem - New River Gorge NR - Upper Delaware SRR

IMPORTANCE

An "invasive species" is an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health. The known ecological impacts of invasive species include loss of threatened and endangered species, altered structure and composition of terrestrial and aquatic communities, and reduction in overall species diversity. Early detection followed by rapid management response can eradicate incipient populations of invasive species before they have a chance to become widely established, thus eliminating the need for costly and resource intensive control programs. Only when invasions are caught early will the chance of eradication remain high.

Emerald ash borer (*Agrilus plannipenis*)

"Damages associated with alien invasive species effects and their control amount to approximately $120 billion per year."

-- Pimental et al., 2005

WHAT WE ARE DOING

In May 2008, the Eastern Rivers and Mountains Network (ERMN) vegetation monitoring crew began searching for priority invasive plants and pests during routine monitoring activities at ERMN parks. Knowledgeable monitoring crew members provide additional "eyes and ears" to detect incipient species occurrences while in the parks. Park natural resource managers, Exotic Plant Management Teams, and other National Park Service scientists also participate. If you work in the parks and would like to get involved, please contact the Invasive Species Early Detection (ISED) Coordinator.

"Every person working or recreating in a national park has the potential to serve as an early detector."

-- Williams et al. 2007

WHAT WE ARE FINDING

As of January 2011, 24 new invasive plant and pest occurrences have been documented at six parks. New species occurrences included Japanese barberry (*Berberis thunbergii*), narrowleaf bittercress (*Cardamine impatiens*), privet (*Ligustrum* sp.), gypsy moth (*Lymantria dispar*), Amur corktree (*Phellodendron amurense*), Japanese knotweed (*Polygonum cuspidatum*), mile-a-minute (*Polygonum perfoliatum*), linden arrowwood (*Viburnum dilatatum*), emerald ash borer (*Agrilus planipennis*) and viburnum leaf beetle (*Pyrrhalta viburni*). Of the 18 new plant occurrences, 12 consisted of single specimens and/or small populations and were hand-pulled, chemically or biologically treated.

Pimentel, D., R. Zuniga, and D. Morrison. 2005. Update on the environmental and economic costs associated with alien-invasive species in the United States. Ecological Economics. 52(3): 273-288.

Williams, A. E., S. O'Neil, E. Speith, and J. Rodgers. 2007. Early detection monitoring of invasive plant species in the San Francisco Bay Area Network: a volunteer-based approach. Natural Resource Report NPS/PWR/SFAN/NRR—2007/00N. National Park Service Pacific West Regional Office, Oakland, California.

CONTACT INFORMATION

Jennifer Stingelin Keefer, ISED Coordinator
Jennifer_Stingelin_Keefer@partner.nps.gov
http://nature.nps.gov/im/units/ermn/

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