



Illinois Forestry Development Council

Critical Issues Facing Illinois Forests and Forestry

Critical Issue: The Need to Address the Invasion of Exotic Species (both Plant and Insect) into Native Illinois Forest Landscapes

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What is an Exotic Species? Exotic species are non-native plants and animals not found in their present home region in pre-settlement North America. Exotic species become invasive when, finding few competitors or predators in their new environs, they gain ground and spread quickly. Invasive exotic species can alter ecosystem structure and often displace and eliminate native species from the landscape.

Many of Illinois' invasive exotic plant species first were introduced as ornamentals and spread unintentionally due to seed dispersal and natural propagation. Other invasive exotic plants were introduced purposefully to Illinois forests with the good intention of enhancing wildlife habitat. Similarly, many invasive exotic animal species, particularly fish, insects and other invertebrates, arrived by accident as unanticipated byproducts of travel and commerce.

Why Should We Care about Exotic Species? Foresters and other scientists widely consider invasive exotic species the single most serious threat to native ecosystem biodiversity. Invasive species threaten the productive and recreational capacity of Illinois forests by infesting trees, overwhelming landscapes, and choking inland waterways. The number of Illinois forest acres impacted ecologically and economically by exotic species is expected to increase steadily without implementation of coordinated control efforts and reestablishment of native vegetation.

What is the Extent of the Illinois Exotic Species Problem? Current estimates identify one-fifth to one-third of existing Illinois plants as exotic. Rapidly spreading woody shrubs are considered the most serious threat to state forest biodiversity by the Illinois Department of Natural Resources (IDNR). Aggressive shrub species such as Autumn olive (*Elaeagnus umbellata*) and thorny Multiflora rose (*Rosa multiflora*) are only two of the most undesirable

Rows of the
invasive exotic
shrub Autumn olive
aggressively spread
across the
landscape

-Photo credit:
W. Mangun



“Invasive species are threatening our forests and remaining grasslands. A huge landowner educational program is a must to overcome this issue.”

-Illinois citizen comment



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in Illinois. The familiar woody vine, Japanese honeysuckle (*Lonicera japonica*), while valued as deer browse, replaces native plants in all forest types over a wide range of sites. Illinois forests have also struggled with outbreaks of exotic pathogens and insects. The European gypsy moth (*Lymantria dispar*) periodically defoliates broad swaths of northeastern Illinois forests. Its larvae (caterpillars) feed on leaves and can cause tree stress and decline, particularly in isolated forest fragments. The uninvited Asian longhorned beetle (*Anoplophora glabripennis*) recently wreaked havoc on trees of the Chicago urban forest. Adult beetles infest trees laying their larvae in the heartwood, larvae which feed on tree tissue until ready to emerge as new adults. The Illinois Natural History Survey estimates that invasive species cost the Illinois economy millions of dollars annually in damage and control measures.

What are Some Possible Solutions? Unfortunately, it is difficult to eradicate exotic invasive species once they have become established. The key to exotic species control must be early detection and intervention. The public must be educated to increase their awareness and enlist their assistance. An informed public is a vigilant public. Research, educational materials, and volunteer coordination by Illinois Natural History Survey scientists play critical roles in this effort.

Adequate funding and staffing must continue for the interdisciplinary IDNR Invasive Species Working Group. An integrated approach to exotic species control tailored to local conditions is warranted. The exotic species problem must be attacked before it can further attack Illinois ecosystems.

Additional Reading

GAO. (2005). *Invasive Species: Cooperation and Coordination Are Important for Effective Management of Invasive Weeds*, GAO-05-185. Washington, DC: U.S. Government Accountability Office. Available via Internet at:

<http://www.gao.gov/new.items/d05185.pdf>.

Miller, J.H. (2003). *Nonnative Invasive Plants of Southern Forests: A field guide for identification and control, Revised, Gen. Tech. Rep. SRS-62*. Asheville, NC: USDA Forest Service, Southern Research Station.

National Invasive Species Council. (2001). *Meeting the Invasive Species Challenge: National Invasive Species Management Plan*. Washington, DC: The Council. Available via Internet at: <http://www.Invasivespecies.gov/council/mpfinal.pdf>.