

SYMPOSIA

INVASIVE SPECIES MANAGEMENT

SIGNIFICANT INVASIVE SPECIES OF THE MID-SOUTH STATES. V. Maddox, J. Byrd, and J. Madsen. GeoResources Institute, Mississippi State University, Mississippi State, MS 39762.

ABSTRACT

There are approximately 223,000 species of vascular plants on Earth. Of these, around 8,000 are considered invasive weed species and approximately 250 weed species are serious invasives. Various lists have been generated on invasive species, from the noxious weed lists to more comprehensive lists of all known invasive plants in a given locale or state. The intent here is to focus on invasive species that pose a serious threat to natural areas in the mid-south. Web databases and other information were assimilated to identify twelve species that might be considered the most invasive species in mid-south natural areas. Based upon information gathered, the twelve species identified were: alligator weed (*Alternanthera philoxeroides*), Brazilian vervain (*Verbena brasiliensis*), callery pear (*Pyrus calleryana*), Chinese privet (*Ligustrum sinense*), Chinese tallow tree (*Triadica sebifera*), cogongrass (*Imperata cylindrica*), Eurasian water milfoil (*Myriophyllum spicatum*), hydrilla (*Hydrilla verticillata*), Japanese honeysuckle (*Lonicera japonica*), Kudzu (*Pueraria montana* var. *lobata*), Nepalese browntop (*Microstegium vimineum*), and water hyacinth (*Eichhornia crassipes*). Alligator weed, Eurasian water milfoil, hydrilla, and water hyacinth are aquatic exotic invasives. The remaining species are terrestrial, although most are facultative species. Of the twelve species Japanese honeysuckle is the most widespread terrestrial species and Eurasian water milfoil is the most widespread aquatic species in the United States. They are likewise widespread in the mid-south. Japanese honeysuckle was introduced into cultivation in 1806. Chinese tallow tree, a facultative species introduced into cultivation in 1850, is a very serious exotic invasive in the mid-south coastal plain. It is on the noxious weed list in Mississippi, but still used as an ornamental in parts of the mid-south. Another serious facultative species is Chinese privet. Introduced into cultivation in 1912, Chinese privet is still sold and utilized as an ornamental, although awareness has intensified. Callery pear was introduced into cultivation in 1908. 'Bradford' callery pear is a common cultivar used in residential and commercial landscapes. Now escaped, it is found in at least 12 states. Kudzu was introduced from Japan in 1876 and recognized as forage in 1905. Forty-one years later 300,000 acres of kudzu were in forage production and it was also extensively planted for soil erosion control. Now considered a serious weed, it is found in at least 24 states. Cogongrass is not as widespread in the United States, but it is considered highly invasive. Of the twelve species mentioned, it is one of only three herbaceous terrestrial invasive species. Brazilian vervain, another facultative species, has escaped in at least 15 states. It has been sold as an ornamental and widely naturalized in much of the mid-south. Nepalese browntop is a shade tolerant grass species listed as a state noxious weed in 43 states since its introduction into Tennessee in 1919. It has been listed as a class C noxious weed in Alabama and one of the top ten worst weeds in Georgia according to the Georgia EPPC. Of the four aquatic invasive species, two are emergent and two are submergent species. Alligator weed and water hyacinth are emergents native to the New World and now widespread in the Southeast. Eurasian water milfoil and hydrilla are mostly submergent, but flower above the water's surface. Aside from natural dispersal, all four invasive aquatic species can be spread by boating equipment. For some of the twelve species, control would not be economically feasible. However, control of emerging invasive species may prove more feasible. Control efforts are currently being directed toward other species mentioned. Multifaceted, multidisciplinary approaches may be required to more fully understand the ecology of emerging exotic invasives. Predictive modeling, Mapping, GIS, and other existing and developing tools will be essential in this effort. Aside from existing invasives, more attention is needed in prevention of other invasive species.