



IZAAK WALTON LEAGUE OF AMERICA

Fact Sheet

Invasive Species and Wetlands

Invasive plants and other organisms are some of the greatest threats to wetlands and other natural ecosystems in the United States. The U.S. spends \$13 billion per year to prevent and contain the spread of invasives. For all invasives combined, the price tag is \$138 billion per year in total economic damages and associated control costs

Invasive species are those plants, animals, and microbes not native to a region which, when introduced either accidentally or intentionally, out-compete native species for available resources, reproduce prolifically, and dominate regions and ecosystems. Because they often arrive in new areas unaccompanied by their native predators, invasive species can be difficult to control. Left unchecked, many invasive species have the potential to transform entire ecosystems, as native species and those that depend on them for food, shelter, and habitat, disappear.

Consider the following:

- Federal officials estimate that the total costs of invasive species in the United States are nearly \$138 billion each year.
- Nearly half of the species listed as threatened or endangered under the Endangered Species Act are at risk due to competition with or predation by non-native species.
- Invasive exotic plants prevent seedling establishment of native trees and shrubs and reduce vigor of mature trees through shading.
- Invasive plants destroy wildlife habitat and provide refuge for insects and diseases that attack adjacent farm crops and beneficial plants.
- Changes to natural ecological processes, such as plant community succession, caused by invasive species can disrupt native plant-animal associations such as pollination, seed dispersal and host-plant relationships.
- Invasive exotic plants change the characteristics of the soil structure and chemistry and alter hydrological flows and conditions.
- Invasive exotic plants often do not hold and protect the soil the way native plants do, increasing erosion and the sediment in streams, which can reduce fish populations and water quality.
- Exotic plants are often less resistant to wildfire than native plants.

- Invasive plants can reduce land values and the aesthetics of an enjoyable landscape.
- Native plant species can hybridize with exotic species, altering their genetic makeup.
- Exotic plants affect ranching and agricultural operations by reducing forage and crop quality and yields (on average 10-15%).
- Invasive exotic plants prevent seedling establishment of native trees and shrubs and reduce vigor of mature trees through shading.
- Purple loosestrife, a highly aggressive plant invader of wetlands, can produce up to 2.7 million seeds per plant yearly, and spreads across approximately 480,000 additional hectares of wetlands each year.
- Humans are the primary agents of dispersal of non-native species, both by accidental and deliberate introductions.

Background

Organisms are considered exotic (non-native, alien, foreign, introduced, non-indigenous) when they occur artificially in locations beyond their known historical natural ranges. Non-native can refer to species brought in from other continents, regions, ecosystems and even other habitats. Species exotic to the U.S. include those transported from Europe, Asia, Africa, South America, Australia and other parts of the world. It also includes any species moved by people from one locality in the U.S. to a new one. For example, black locust (*Robinia pseudoacacia*) is native to the southern Appalachian region of the eastern U.S. Because of its rapid growth and hardiness, it was planted all around the U.S. for living fences, erosion control, windbreaks and other purposes. Even though it is native to the U.S., black locust is considered exotic anywhere it occurs outside its known historical natural range of southern Appalachia.

European settlers brought hundreds of plants to North America from their homelands for food, medicinal, ornamental, and other purposes. Introductions of exotic plants continue today, and are increasing due to an increasing human population, increased international travel, and the intentional and accidental movement of large numbers of species between continents as a result of expanded international trade. Many introduced plants have become naturalized across the continent and some are replacing North American native plant species. These naturalized plants, however much a part of our current landscapes and ecosystems, are nonetheless exotic, since they were moved here by people rather than by natural means. Because the historical distributions of some species are unknown or unclear, research continues to attempt to unravel the tangle of human and natural influences responsible for their current ranges.

The most important aspect of an exotic plant is how it responds to a new environment. An invasive species is one that displays rapid growth and spread, allowing it to establish over large areas. Free from the vast and complex array of natural controls present in their native lands, including herbivores, parasites, and diseases, exotic plants may experience rapid and unrestricted growth in new environments. Invasive plants reproduce rapidly. Their phenomenal growth allows them to overwhelm and displace existing vegetation and form dense one-species stands.

Disturbance

Invasive species are especially problematic in areas that have been disturbed by human activities such as road building, residential development, forest clearing, logging operations, grazing, mining, ditching of marshes for mosquito control, mowing, erosion control and fire prevention and control activities. Natural disturbances, such as fires, floods, tornadoes, landslides, and tree falls also provide avenues for invasive species to get started. Invasive species colonize open areas before native plants have a chance to grow and can then shade out or choke natives.

Importance of Native Plants

Approximately 18,000 plants are native to the ecosystems of North America. Our native flora (i.e., all U.S. native plants) provides the foundation of the historic American landscape and defines the various ecosystems and regions of the country. These plants were essential sources of nutrition and other materials for Native American Indians, and continue to provide us with food, fiber and medicine today.

Sources: The National Biological Information Infrastructure, U.S. Forest Service, and the Plant Conservation Alliance's Alien Plant Working Group.

Founded in 1922, the Izaak Walton League of America is dedicated to common sense conservation that protects America's hunting, fishing, and outdoor heritage relying on solution-oriented conservation, education, and the promotion of outdoor recreation for the benefit of our citizens. The League has more than 40,000 members and supporters in 21 state divisions and more than 300 local chapters in 32 states.