

Asian Long-Horned Beetle

Asian long-horned beetles bore into hardwood trees such as maple, elm, birch, and poplar. The adult female chews a crater through the tree bark and inserts a single egg into the inner cambium layer. The larvae bore deep into the heartwood and eventually kill the tree.

Native region: Asia

Introduction: 1996; accidentally introduced to New York in cargo

Spread: Adults can fly up to 400 miles in search of a host tree, where they lay eggs

Range: Isolated populations in hardwood forests and urban trees in parts of the Northeast and Midwest U.S.



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Brown Tree Snake

Brown tree snakes are mildly venomous and use constriction and venom to immobilize their prey. This species lives in trees, shrubs, and forests and preys on birds, reptiles, and bats. They feed at night and have decimated the bird population on the island of Guam.

Native region: Australia, Indonesia, New Guinea

Introduction: 1945-1952; accidentally introduced to Guam as a stowaway in ship cargo

Spread: Easily transported as stowaways in ship and air cargo

Range: Primarily found on trees on the island of Guam



Troy Bell

Burmese Python

Burmese pythons are some of the world's largest snakes. They have few predators and prey on native species.

Native region: Southeast Asia

Introduction: Uncertain; wild populations were likely established by escaped or intentionally released pets

Spread: Can be established through releasing pets in the warmer regions of the U.S.

Range: Wetlands, grasslands, and forests near permanent sources of water in South Florida



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Common Buckthorn

Common buckthorn is a shrub or small tree that can grow to 25 feet in height. It forms dense stands that crowd out native species and dominate ecosystems.

Native region: Europe and Western Asia

Introduction: Early 1800s as an ornamental shrub

Spread: Birds and wildlife eat the seeds and help spread the plant, and regrowth can occur after cutting or burning

Range: Widespread in forests and urban areas throughout the Northeastern, Midwestern, and Western U.S.



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Emerald Ash Borer

Emerald ash borers are beetles whose larvae feed under the bark of ash trees. They burrow back and forth between the bark and outer sapwood when they feed, creating S-shaped patterns in the wood. They survive for several years in living trees and can survive in firewood and other products.

Native region: Asia and Eastern Russia

Introduction: 1990s; accidentally introduced in Michigan in a shipment of wood packing material

Spread: Spreads with the movement of forestry products such as firewood, wood chips, and lumber

Range: Prevalent in hardwood forests and urban trees in parts of the East and Midwest



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Eurasian Watermilfoil

Eurasian watermilfoil is a submersed aquatic plant that roots in sediment and grows through the water, forming dense canopies on the surface of lakes and rivers. It impedes boats and recreational activities, prevents sunlight from penetrating the water, and crowds out native species.

Native region: Europe and Asia

Introduction: Likely introduced to the U.S. in ship ballast or as aquarium and water garden plant

Spread: Extremely adaptable to a variety of conditions, it spreads by stem fragments produced naturally and as a result of breakage by boat motors or wave action; spreads to other water bodies by hitchhiking on boats and trailers

Range: Lakes and rivers throughout the U.S.



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Mike Netherland, USACE

Feral Pig

Feral pigs have grayish guard hairs and are typically dark in color. They disturb soil and vegetation by extensively rooting.

Native region: Europe and Asia

Introduction: 1500s, Spanish explorers first imported pigs as a food source, and in the 1930s, ranchers introduced European wild hogs

Spread: Reproduce year round and form large free-ranging populations

Range: Prevalent in forested and agricultural areas throughout the Southeast and South through Texas, and in regions of the Midwest, Oregon, and California



NASA



US Department of Agriculture

Giant Salvinia

Giant salvinia is a floating aquatic fern that reproduces so fast it can double in number in about nine days. Dense mats of giant salvinia growing on the water surface prevent light penetration and oxygen transfer, which can cause problems for native aquatic organisms that need sunlight and oxygen for growth.

Native region: Brazil

Introduction: 1990s, a popular aquarium plant first reported in South Carolina waterways

Spread: Disperses by fragmenting and can be transported by boats, trailers, wading birds, and waterfowl

Range: Prevalent in lakes and in the backwaters of rivers throughout the South, but reported from Virginia to California and Hawaii



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Hydrilla

Hydrilla is an aquatic plant that grows almost entirely underwater, forming a dense canopy at the water's surface. The dense growth interferes with boating, swimming, and fishing, clogs irrigation and flood control channels, and can alter water quality and dissolved oxygen levels. Hydrilla can grow one inch a day, and can reach lengths of 30 feet.

Native region: Southeast Asia and Australia

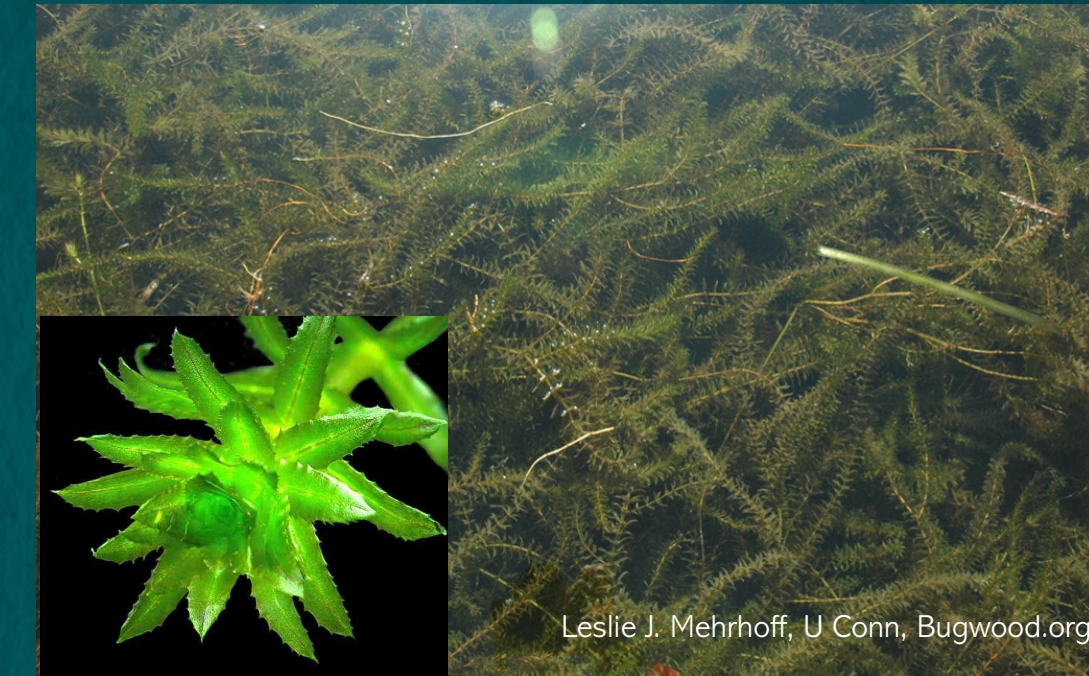
Introduction: 1950s in Florida, a popular aquarium plant

Spread: Reproduces and spreads to new areas by stem fragments that hitchhike on boats and trailers; also produces tubers and turions that can grow into new plants

Range: Lakes and rivers throughout the southern U.S., north to New England, west to California and Washington



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Japanese Honeysuckle

Japanese honeysuckle is a climbing, woody vine that crowds out native plant species. Reaching lengths of up to 80 feet, it can twist around trunks and stems of native plants and form a dense canopy, which smothers underlying plants.

Native region: East Asia

Introduction: Early 1800s; introduced as an ornamental plant, and as deer browse and erosion control

Spread: Produces abundant seed that is dispersed by birds and can develop new plants from root crowns or runners

Range: Widespread in forests and urban areas throughout the South, New England, and the Great Lakes regions



James R. Allison, Georgia Department of Natural Resources, Bugwood.org



Kudzu

Often called “the vine that ate the South,” kudzu kills or degrades native plants by smothering them under blankets of leaves and girdling woody stems and tree trunks.

Native region: Asia

Introduction: First introduced in 1876 as an ornamental plant, and widely used in the 1930s and '40s for erosion control

Spread: As many as 30 vines can grow from a single crown, and vines can grow 60 feet in a season at a rate of one foot per day

Range: All terrestrial environments in the Southern U.S., north to Maryland, and west to Arkansas and Texas



Nancy Loewenstein, Auburn University, Bugwood.org



Vicky Somma



Nutria

Nutria are large, semi-aquatic rodents that damage wetland habitats by burrowing and feeding on aquatic vegetation. They contribute to erosion and disturb agricultural areas, causing damage to rice and sugarcane crops.

Native region: South America

Introduction: 1930s; introduced for fur production and likely escaped or were intentionally released when the fur industry declined

Spread: Mating season lasts all year; gestation is about 4 months and 1-11 pups may be born; can adapt to a wide range of environmental conditions

Range: Prevalent in wetlands, lakes, and rivers in the South, Atlantic coast, and Pacific Northwest



Purple Loosestrife

Purple loosestrife readily adapts to wetlands and quickly establishes and expands to form dense stands that restrict native wetland plant species and reduce wildlife habitat.

Native region: Europe and Asia

Introduction: First reported in New England in 1814

Spread: Produces vast quantities of seed; seeds are very small and disperse easily by water or as a hitchhiker in mud that adheres to wildlife, livestock, and people

Range: Wetlands throughout the U.S.



Salt Cedar / Tamarisk

Salt cedar is a shrub or small tree that develops a deep tap root that allows it to absorb a large quantity of water. It outcompetes native plant species, and provides little food value for native wildlife species. It deposits large amounts of salt on the soil surface.

Native region: Asia and Europe

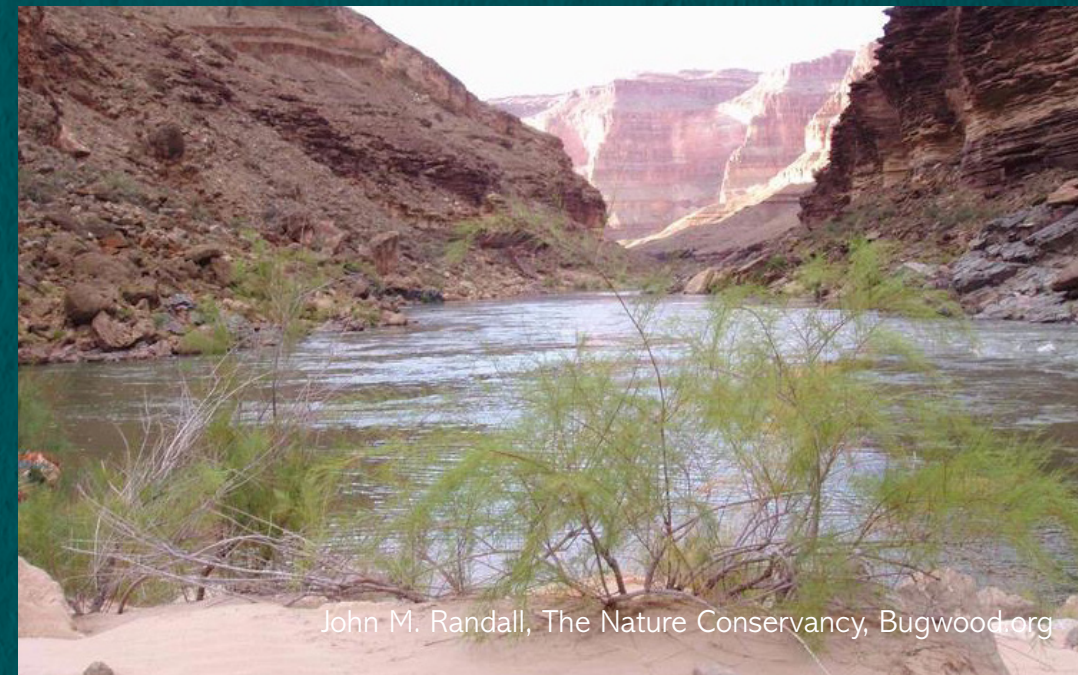
Introduction: 1823; an ornamental plant that was introduced by nurseries on the East Coast, and later on the West Coast

Spread: Each flower produces thousands of seeds that can spread by wind or water

Range: Prevalent near water in desert regions of the West



Jerzy Opiola



John M. Randall, The Nature Conservancy, Bugwood.org



Sea Lamprey

Sea lamprey are parasites that prey on other fish species by sucking their blood and body fluids. They resemble eels, but are members of an ancient family of “jawless fishes” that were around before the time of the dinosaurs.

Native region: Atlantic Ocean

Introduction: 1835; first discovered in Lake Ontario, and later in Lake Erie in 1921

Spread: Spread originally through the Welland Canal, and quickly through the Great Lakes

Range: Widespread throughout the Great Lakes and tributaries



Joanna Gilkeson, USFWS



Stephen Ausmus, USDA



Silver & Bighead Carp

Closely related species, silver and bighead carp can cause ecosystem damage in many ways: as large, aggressive fish they can outcompete natives; as opportunistic feeders, they eat large quantities of plankton; and they breed rapidly, overwhelming water courses.

Native region: Asia

Introduction: 1972-73; first introduced in aquaculture to control phytoplankton and zooplankton levels, and a likely escapee from a fish farm

Spread: Quickly become the dominant species in new habitats

Range: Widespread in large rivers and some lakes in Mississippi, Ohio, and Missouri River basins



Water Hyacinth

Water hyacinth is a floating aquatic plant that threatens native plants and fish by blocking sunlight and lowering dissolved oxygen levels. It forms dense colonies that impede boat traffic and clog irrigation channels.

Native region: South America

Introduction: 1884; a popular water garden plant first introduced into Louisiana waterways

Spread: Reproduces new plants from lateral stems and from seed

Range: Prevalent in lakes and slow flowing rivers throughout the South, but also reported in Wisconsin, California, and New York



Yellow Star Thistle

Yellow star thistle grows up to five feet in height in woodlands, pastures, and roadsides. It is toxic to horses, fatally affecting their nervous systems. Quick to establish in open fields, this species causes problems on military bases in the West, when parachutes, clothing, and personnel come in contact with its thorny spines.

Native region: Europe and Asia

Introduction: 1800s; accidentally in contaminated crop seed

Spread: Seed is transported primarily by road maintenance equipment, vehicle undercarriages, movement of contaminated hay and seed, and to a lesser extent by humans and animals

Range: Concentrated in grasslands of California & western states, but can be found as far east as New York



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Zebra & Quagga Mussels

Closely related species, zebra and quagga mussels outcompete native species and can adhere to just about anything: boats, water pipes, and navigation buoys. Large clusters of zebra and quagga mussels disrupt hydropower and water treatment facilities, smother native mussels, and alter aquatic food chains.

Native region: Eurasia, particularly Russia

Introduction: Zebra mussels were first reported in 1986, followed by quagga mussels in 1989; both were introduced via untreated ship ballast water in the Great Lakes

Spread: Easily spread by boats and can float into new water courses

Range: Prevalent in the Great Lakes and documented in more than 130 river systems in the U.S. and Canada; also established in many lakes and reservoirs



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US Geological Survey



D. Jude, Univ. of Michigan

Round Goby Fish

The round goby is a small gray or olive-green bottom-feeding fish that lives in fresh or brackish water. It lives on the bottom of ponds, lakes, and rivers, eating the eggs of native fish and disrupting their aquatic habitats. They have a black spot at the base of the first dorsal fin and a single fused pelvic fin on their belly that they use as a suction cup to hold onto the bottom substrate.

Native region: The Black and Caspian Seas in Eurasia (Near Turkey, Bulgaria, Ukraine, Iran)

Introduction: 1990; accidentally introduced through ballast water from Eurasian cargo ships released into the Great Lakes.

Spread: Spread through rivers and canals and transported into other water bodies in bait buckets and boat live-wells.

Range: Lives primarily in the Great Lakes region and parts of the Mississippi River basin



Eric Engbretson, US Fish and Wildlife Service, Bugwood.org

Phragmites

Phragmites is a tall species of reed that can grow up to 15 feet in height. It typically lives in wetlands and marshes, and grows in dense stands that can push out native species. It destroys wildlife's native habitat, negatively impacts wetland ecosystems, and affects the flow of water. Native populations do occur in the United States and they are sometimes very difficult to distinguish from the exotics.

Native region: Europe, Asia, Africa

Introduction: Late 1700s or early 1800s; accidentally introduced from ballast material

Spread: Through rhizomes, plant fragments and seeds

Range: Ponds, lakes, coastal marshes and ditches across North America



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