



SAVING THE LAST GREAT PLACES ON EARTH

invasive species

Preventing and containing
the global spread of invaders





Invasive species are threatening environments, economies and human health around the world. The Nature Conservancy, with partners, works to prevent new invasions and contain established invasive species. With more than two decades experience in invasive species management, the Conservancy is tackling the challenge through science leadership, effective land and water management, and encouraging better business practices and stronger public policies.



invasive species threaten lives & economies around the world

The estimated damage from invasives worldwide totals more than \$1.4 trillion—five percent of the global economy.

Invasive species damage the lands and waters that native plants and animals need to survive, hurt economies and threaten human well-being.

Invasive species are the subset of non-native plants, animals and microorganisms that spread quickly and aggressively when introduced by humans to areas beyond their normal ranges. Often these introduced species cause dramatic environmental changes that lead to significant declines or extinctions in native populations. The most harmful invaders can completely transform diverse and productive ecosystems into nearly sterile lands and waters.



Networking across the Pacific | Pacific island nations have been particularly vulnerable, suffering from invasions by more than 150 severely damaging alien plant and animal species. To overcome these threats, The Nature Conservancy joined forces in 2005 with multilateral organizations, government agencies and other conservation groups to launch the Pacific Invasives Learning Network. The Network engages teams responsible for agriculture, international trade, conservation, natural resource management and other issues from 12 island nations and archipelagoes in Melanesia, Micronesia and Polynesia (including Hawaii). Network members share techniques and resources to combat invasive species already within their borders and develop strategies to prevent new ones from entering.

Invasive species are spreading around the world at an accelerating rate. Rapid increases in global trade and travel are enabling more and more animals, plants and diseases to be transported from their native environments into new territories. No ecosystem on the planet is immune from these invasions, which have caused one-third of all species extinctions in the past 400 years and are contributing to the greatest extinction of species since the death of the dinosaurs.

Invasive species are the second leading cause for the loss of biodiversity.

These invasions are not only causing harm to biodiversity. Economies and public health are suffering—from the Galapagos Islands to Georgia, from Indonesia to Indiana.

- In the Great Lakes, waterfront industries pay billions to clear pipes clogged by the Asian zebra mussel, which arrived in the ballast water of a Caspian Sea tanker.
- The Indian mongoose, imported to Caribbean and Pacific islands to control rat populations, not only failed to affect rat numbers, but is blamed for the extinction of at least 12 island species and inflicts \$50 million in damages each year in Puerto Rico and Hawaii alone.
- The Asian long-horned beetle hitchhiked in solid wood packing crates from China to Canada and the United States. The beetle attacks many hardwood species, threatening the timber, maple syrup, nursery and fall foliage tourism industries across the northeastern United States and southeastern Canada.
- The South American cactus moth has invaded several Caribbean countries and the southern United States. If it spreads into Mexico, it could threaten an \$80 million annual industry based on cactus, which is an important source of food for humans and livestock.

Curtailing these impacts requires a concerted global effort to prevent and contain the spread of invasive species. Our livelihoods, our natural heritage and our quality of life depend upon it.

our global strategy for prevention & containment

The Nature Conservancy has more than two decades of experience controlling invasive species and lessening their impact on native lands, waters and species. We began by working in our own network of private reserves in the United States, later broadening our scope to work with other land managers and communities around the world to tackle invaders across public and private lands and waters.

Today, we are increasingly focused on preventing invasions before they occur. Prevention and early detection are the most effective and cost-efficient strategies to combat invasive species. Once an invasive species enters an ecosystem, control and removal of the species becomes significantly more difficult and expensive. Prevention can save millions in future costs of control, human health impacts and agricultural losses. And while there are countless potential invaders, most invade through only a few key pathways. We focus on identifying and closing these pathways without impeding trade or travel.



Using science to engage a nation | South African lovegrass (*Eragrostis plana*) has destroyed the pasture value of 10 percent of Brazil's southern grazing lands and severely damaged the area's cattle industry. The Nature Conservancy and Instituto Hórus launched Brazil's first nationwide survey of invasives, documenting more than 200 invasive plant and animal species. This comprehensive assessment led to the first national symposium on invasives in 2005. As a result, the government created a technical advisory group to continue raising awareness of invasives and stop their spread across the country. The Nature Conservancy sponsored a similar assessment in the Caribbean, and we now are working with partner governments and agencies to create a coordinated plan for preventing and controlling invasive species across the region.

To keep destructive invaders from taking hold, we must act before invasive species attack our natural resources and economic well-being.

The Nature Conservancy works to prevent and control the spread of invasive species in all 50 United States and across more than 30 countries. We work through:

Science Leadership

The Nature Conservancy provides science-based information that governments and policymakers need to make informed decisions about combating invasive species. Our scientific assessments focus prevention and control efforts on the most damaging invaders.

Management and Restoration

The Conservancy has pioneered techniques for controlling invasive species and restoring native habitats that have been damaged by invasions. Our preserves are field laboratories for this work, and we share lessons learned with our partners worldwide.

Better Business Practices

We work with the private sector to close pathways through which invasives are transported, such as ballast water, shipping containers, packaging and trade in exotic pets and plants. Together with industry stakeholders, we are prompting influential businesses, institutions and professionals to voluntarily adopt practices that minimize the introduction and spread of invasive species without harming trade and travel.

Stronger Public Policies

Reducing the ecological and economic impacts of invasive species over the long-term requires supportive public policies. We build awareness about the effects of invasive species on natural areas, the economy and human health. We engage policymakers and public agencies in developing incentives, establishing regulations and allocating adequate funds to prevent and control invasions across the globe.

Our Unique Role

The Nature Conservancy is directing more attention and resources to combating the threat of invasive species than any other conservation organization. Our collaborative approach and science-based strategies have been refined through two decades of experience managing invasive species on our own preserves. Through our on-the-ground presence, we have established the relationships with influential business leaders, policymakers and conservation partners that are needed to make progress on this challenging issue.

Our Global Invasive Species Initiative—a network of Conservancy scientists and staff focused on invasive species—helps us be more effective at all levels, from partnering with individual landowners, businesses and communities to informing and influencing international policymakers and multilateral organizations. Part of a global network of professionals, Initiative staff identify and communicate recent developments, new invaders and the practices that are most effective against invasive species. The Global Invasive Species Initiative provides worldwide leadership by catalyzing high impact partnerships, developing policy strategies and leading research, science and innovation on emerging issues. Our global initiatives on marine, freshwater and forest systems help us address invasions in these environments.



Stopping unintended invasions | Gardening, landscaping and horticulture are major pathways for invasive plants spreading across the United States. In collaboration with the American Nursery and Landscape Association, Missouri Botanic Garden and others, The Nature Conservancy helped create a “Voluntary Code of Conduct” that aims, among other things, to minimize unintended harm of plant introductions. The Conservancy is working with the nursery industry, landscape architects, botanical gardens and garden clubs to reduce the use and spread of invasive horticultural plants. Several horticultural firms have already signed the code, and dozens more endorse their implementation.

working
together
we can make a difference

Through **cooperation** among governments, businesses, communities and private organizations, nations are finding innovative ways to **prevent** the destructive economic, social and environmental impacts of invasive species.

Not all invasions can be prevented or eliminated, but their **impacts can be reduced**.

Avoiding worst-case scenarios and lessening the impacts of invasions requires smart, strategic investments and coordinated actions.

The Nature Conservancy provides the information, tools and leadership needed to win more battles against invasive species.

visit us at
nature.org/invasivespecies

quick facts about The Nature Conservancy

- 1 million individual members
- Works in more than 30 countries and all 50 United States
- Protected more than 47 million hectares (117 million acres) of land around the world
- Protected approximately 8,000 kilometers (5,000 miles) of rivers worldwide
- Owns and manages the largest private system of nature preserves in the world
- Trained field workers in 24 states and countries to map the spread of invasive species and track effects of management using innovative technology

The mission of The Nature Conservancy is to protect the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive.



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