

Invasive Plants - Coming to America.

Overview of the U.S. National Early Detection and Rapid Response System for Invasive Plants.

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October 3, 2008

Overview of the Invasive Species Issue.

Throughout history, as people colonized the Earth, they brought cultivated plants and domesticated animals along with them. Since European colonization of North America began in the 1500s, over 50,000 taxa of plants and animals (species, varieties, and hybrids) have been introduced to the U.S. and Canada. While most of these species provide great benefits to human society, a small percentage of them have escaped from cultivation and pose a threat to food and fiber production and/or natural areas. To date, about 4,200 species of introduced plants, or about 8.4% of total introductions, have escaped from cultivation and established free-living populations with the country. Recently, scientists at Cornell University estimated that losses to the American economy due to introduced invasive species are about \$138 billion per year. Of this total, costs and losses due to invasive plants are now estimated to be over \$50 billion per year. Unlike chemical pollutants, which can be eliminated from use and will eventually break down in the environment, invasive species continue to reproduce and spread, causing ever increasing problems. Since there is less awareness of this issue than in generations past, it will take a large and concerted effort to develop public support for effectively address this growing threat to our natural and managed biological resources. Clearly, land owners and managers, gardeners and horticulturalists, and others who have a strong connection to the land, have a major role to play in efforts to deal with this 'silent ecological explosion'.

Early Detection and Rapid Response to Plant Invaders. To minimize the establishment and spread of invasive plants in the United States, the U.S. Geological Survey (USGS), the Invasive Plant Atlas of New England (IPANE), and the Invasive Plant Atlas of the MidSouth (IPAMS) are working with agencies and organizations to develop a **National Early Detection and Rapid Response System for Invasive Plants** in the United States.



Photo Caption: Beach Vitex (*Vitex rotundifolia*) a new invader from Asia - overrunning primary ocean dunes at DeBordieu Beach, Georgetown, South Carolina.

System Overview.

In support of this effort, a coordinated framework of interagency partner groups (State Invasive Species Councils, State EDRR Coordinating Committees, and Invasive Plant Task Forces) is being developed at the local, state, and national levels to increase EDRR capacity through:

- **Early detection and reporting** of suspected new plants to appropriate officials

(by trained volunteers, agency field personnel, conservationists, and scientists);

- **ID and vouchering** of suspected new invaders (by cooperating botanists and herbaria);

- **Archiving** new plant records in regional and national plant databases [e.g., the Invasive Plant Atlas of New England (UCONN), the Invasive Plant Atlas of the Mid-South (MSU), and the USDA Plants Database];

- **Rapid assessment** of new plant species for invasiveness (by federal and state scientists); and,

- **Rapid response** to confirmed new invaders [by agencies with dedicated weed eradication programs (e.g., the CA Dept. of Food and Agriculture), and by invasive plant task forces; (e.g., the Carolinas Beach Vitex Task Force)].

Initially, in 2003, an **EDRR System Design Plan** was developed and published by the Federal Interagency Weed Committee (FICMNEW). In phase two of the project, a number of state and regional groups are cooperating to develop the structural elements of the system (state EDRR committees, state councils, etc.). Work to develop EDRR guidelines for volunteer training, rapid assessment, and rapid response, is also proceeding.

Once fully implemented across the United States, the National EDRR System for Invasive Plants will provide an important second line of defense against invasive plants that complements federal efforts to prevent unwanted introductions at U.S. ports of entry. With both prevention and early detection systems in place, the nation will be more able to defend against “plants out of place”.

A New Biological Protection Ethic for the 21st Century. In the second half of the 20th century, enormous strides were made in establishing environmental protection programs for preventing chemical pollution and littering (EPA, Woodsy Owl, etc.), and to promote recycling. As with other public welfare issues, these far-reaching programs were grounded in an ‘environmental protection’ ethic that grew out of the environmental protection movement of the 1960s and 1970s.

As we enter the 21st century, the silent ecological explosion that is being caused by introduced invasive species will require a coordinated effort - comparable to earlier environmental protection efforts. To be sure, increased efforts through prescreening of imported plants, border inspections, early detection and rapid response, and long term management, will provide added protection against biological invasions. However, these programs cannot fully succeed without public support in minimizing the introduction, establishment, and spread of invasive plants. Public support for a ‘biological protection’ ethic on the *responsible use of introduced exotic species* is crucial to our success in dealing with invasive species.

The Role of Land Managers and the Public in Addressing New Invasive Plants. Land managers and the public can greatly assist in the national effort to prevent the introduction and spread of exotic invasive plants. Here’s how.

1. Report unknown plants to state officials.
2. Use non-invasive plants for landscaping.
3. Eradicate new invaders when possible.
4. Volunteer to help remove invasive species from area parks and public lands.
5. Help increase awareness of the invasive species problems.

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