

# New Hampshire

## INVASIVE SPECIES STRATEGIC PLAN TEMPLATE

Developed by the NH Invasive Species Committee  
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### INVASIVE SPECIES

Invasive species are defined as non-native species “whose introduction causes or is likely to cause economic or environmental harm or harm to human health” (NH RSA 430:52.VII). Approximately 50,000 non-native species are estimated to have been introduced to the United States either intentionally or accidentally. Of these, an estimated 5,000 plant species have been naturalized (Pimentel 2011), 350 of which experts say are harmful invaders (Babbitt, 1998).

Invasive species have a significant economic impact in the United States. Pimentel (2011) estimates that annual economic costs associated with invasive species damage and control amount to approximately \$34 billion for invasive plants, \$46.8 billion for invasive vertebrates, \$14.7 billion for invasive invertebrates (mainly insects), and \$13.1 billion for invasive pathogens.

Studies of invasive species have shown how they can reduce biodiversity (Sakai et al. 2001), impact endangered or threatened species, reduce wildlife habitat, impact water quality, and reduce our ecosystem’s ability to provide basic ecological services (Stein 1996). Exotic species have been implicated in the decline of 42% of species listed as threatened or endangered by the U.S. Fish and Wildlife Service (Stein 1996). Invasive species are regarded as the third highest threat to at-risk species in New Hampshire, behind only development and pollution (NHFG 2015) and the second-leading threat nationwide (Stein 1996).

### THE NEED FOR GUIDANCE

Invasive species management is typically being done on a small scale at individual sites. A framework for communication and coordination would enhance efficiencies, particularly since effective invasive species management needs to be done with an eye to both local and regional scales. These efficiencies are likely to include coordination of priorities, sharing of effective methodologies, coordinated use of volunteers, shared outreach messaging, and collaboration on project implementation. This template was developed to assist others with the development of an invasive species strategic plan. This guidance can be used in part or whole, as needed.

### SOURCES CITED

Babbitt B. 1998. Statement by Secretary of the Interior Bruce Babbitt on Invasive Alien Species. "Science in Wildland Weed Management" Symposium, Denver, CO, April 8, 1998. Accessed online February 2017 (<http://www.nps.gov/plants/alien/pubs/bbstat.htm>).

New Hampshire Fish and Game Department. 2015. The New Hampshire Wildlife Action Plan. New Hampshire Fish and Game Department, Concord, NH. Ch 4.

Pimentel, D. 2011. Biological Invasions: Economic and Environmental Costs of Alien Plant, Animal and Microbe Species, 2<sup>nd</sup> Edition. Taylor & Francis Group. Boca Raton, Fl. Pp 5-6, 412. Accessed excerpt online February 2017.  
<https://books.google.com/books?hl=en&lr=&id=wDbNBQAAQBAJ&oi=fnd&pg=PA411&dq=Pimentel,+D.,+L.+Lach,+R.+Zuniga+and+D.+Morrison.+2005.+Update+on+the+Environmental+and+Economic+costs+associated+with+alien-invasive+species+in+the+United+States.+Ecological+Economics,+Vol.+52.+Pp+273%E2%80%93+288.&ots=Xcdpj-Vn2r&sig=5C-pF1rhWNeUXac8-ASwJSgtUUI#v=onepage&q&f=false>

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Stein, B.A. and S.R. Flack, eds. 1996. America's Least Wanted: Alien Species Invasions of U.S. Ecosystems. The Nature Conservancy, Arlington, VA.

## INVASIVE STRATEGIC PLAN OBJECTIVES

### 1. ADVISING AND COORDINATION

#### OBJECTIVE 1.1

**Provide guidance on invasive species management.**

- 1.1.1. Identify and prioritize invasive species for monitoring, prevention, early detection/rapid response (EDRR), and containment/control. *See Resource section for links to current invasive plant lists for New Hampshire.*
- 1.1.2. Develop a management plan and implement containment and control measures.
- 1.1.3. Provide technical expertise and guidance on policy, legislation, and regulatory matters.

#### OBJECTIVE 1.2

**Promote adequate and sustainable funding for invasive species research, prevention, and/or management.**

- 1.2.1. Provide letters of support to invasive species grant applications.
- 1.2.2. Support volunteer programs to assist with invasive species project implementation.

#### OBJECTIVE 1.3

**Coordinate with interested partners.**

- 1.3.1. Support organizations dedicated to the management of invasive species.
- 1.3.2. Continue to seek advice from partners.

### 2. EDUCATION AND OUTREACH

#### OBJECTIVE 2.1

**Provide invasive species outreach and education.**

- 2.1.1. Have a web page with invasive species information.
  - 2.1.1.1. Provide centralized FAQ sheets, publications, and web links on invasive species, their control, Best Management Practices (BMPs), and regulatory information.
  - 2.1.1.2. Provide links to the state's invasive species lists.
  - 2.1.1.3. Provide links to lists of native trees, shrubs, subshrubs, and lianas.
- 2.1.2. Provide information on the effectiveness of various management techniques.

## **OBJECTIVE 2.2**

### **Coordinate with partners to support education and outreach.**

- 2.2.1. Facilitate forums on invasive species issues.
- 2.2.2. Advance regional communication and outreach initiatives.
- 2.2.3. Identify invasive species research needs and collaborate with partners to meet those needs.
  - 2.2.3.1. Support research and initiatives to assess the potential impacts of climate change on invasive species, including temperature changes, alteration of weather patterns, sea level rise, and other factors associated with climate change on the spread and management of invasive species.
- 2.2.4. Raise public awareness of plants that are on the state's invasive species lists, their impacts to native and managed ecosystems, and applicable rules/regulations.
  - 2.2.4.1. Include consideration of the potential impacts of climate change, including temperature changes, alteration of weather patterns, sea level rise, and other factors associated with climate change on the spread and management of invasive species.
  - 2.2.4.2. Support efforts to educate the public on invasive species identification, such as the Dept. of Agriculture, Markets & Food (DAMF) New Hampshire Guide to Upland Invasive Species publication.
- 2.2.5. Support the use of native species, especially those that can be used for landscaping, erosion control, and restoration.

## **3. PREVENTION AND EARLY DETECTION / RAPID RESPONSE (EDRR)**

### **OBJECTIVE 3.1**

#### **Identify high risk invasive species and their pathways to prevent their entry and dissemination.**

- 3.1.1. Work with partners and landowners in your community to share information on prioritized invasive species, and their distributions to prevent introductions.
- 3.1.2. Review and support BMPs to prevent invasive species introductions.

### **OBJECTIVE 3.2**

#### **Support improved detection and reporting of EDRR species.**

- 3.2.1. Encourage collection and submission to public herbaria voucher specimens for new state occurrences of invasive species.
- 3.2.2. Support and coordinate the use of information technology such as EDDMapS ([www.EDDMapS.org](http://www.EDDMapS.org)) to track EDRR species.

### **OBJECTIVE 3.3**

#### **Support rapid response contingency planning and control of EDRR species.**

- 3.3.1. Provide technical support to resource managers for EDRR planning and implementation.
- 3.3.2. Communicate with appropriate entities regarding the importance of EDRR.
- 3.3.3. Promote utilization of EDDMapS or GIS modeling to prioritize regions, habitats, and populations vulnerable to invasion.

## **4. CONTAINMENT, CONTROL, REHABILITATION, AND MONITORING**

### **OBJECTIVE 4.1**

#### **Support baseline monitoring and surveillance of priority invasive species to determine which are spreading to new ecoregions or increasing populations within ecoregions, as well as identifying prominent pathways, causes, and resources most at risk.**

- 4.1.1. Promote the use of EDDMapS in support of mapping efforts.

- 4.1.2. Encourage others to assist with monitoring.

#### **OBJECTIVE 4.2**

**Support the containment of invasive species that are established in New Hampshire to prevent greater spread.**

- 4.2.1. Compile management strategies and decision tools for use by resource managers at various scales.
- 4.2.2. Support efforts to restrict pathways to the spread of priority invasive species.
- 4.2.3. Promote the use of Integrated Vegetation Management (IVM), monitoring, and habitat rehabilitation approaches to help maximize the balance of effectiveness, costs, and impacts of invasive species control.

#### **5. RESOURCES:**

EDDMapS: <https://www.eddmaps.org/>

NH Conservation Districts: <https://www.agriculture.nh.gov/divisions/scc/conservation-districts.htm>

NH Department of Agriculture, Markets and Food: <https://www.agriculture.nh.gov/divisions/plant-industry/invasive-plants.htm>

NH Department of Environmental Services: <https://www.des.nh.gov/home-and-recreation/boating-and-fishing/invasive-species>

NH Department of Natural & Cultural Resources: <https://www.dncr.nh.gov/>

NH Fish and Game Department: <https://www.wildlife.state.nh.us/>

UNH Extension: <https://extension.unh.edu/>

UNH Invasives Academy: <https://extension.unh.edu/resource-tags/nh-invasives-academy>

USDA Natural Resources Conservation Service: <https://www.nrcs.usda.gov/NewHampshire>