

NCBG INVASIVE SPECIES RANKING AND PRIORITY LIST

GENERAL DESCRIPTION:

The purpose of this survey is to have NCBG staff create an invasive species list and rank each of the species. Species will be ranked by assessing their threat and impact as well as their ease of management. The results will be displayed graphically (in a matrix) to show the relation of their threat to ease of control. Revisions and additions can be made using this system as new information becomes available.

The information will be used to create an invasive species ranking and a priority list for management of invasive species on NCBG properties. The information will also be used to create a management plan based on the ranking and priorities and will be applied to the following:

1. All NCBG lands
2. Each individual NCBG property

The information, if collected and applicable, could also apply to specific places within each NCBG area. For example, data could be collected and applied to Big Oak Woods in Mason Farm.

PURPOSE OF THE RANKING AND PRIORITY LIST:

The information generated from this system can be used for a variety of purposes which include but are not limited to:

- creating management goals, priorities, and plans
 - Including planning for time, numbers of staff/volunteers needed, and resources required
 - Enhancing GIS data for improved planning and possible research
- outreach to individuals, organizations, and institutions on the priorities, needs, and management of invasive plants on NCBG properties
- education to raise awareness and control of invasive plants on NCBG properties
- reduce ecological and economic harm caused by invasive plants
- designing research projects, creating partnerships, and/or looking at local/regional patterns of invasive species

DATA AND INFORMATION:

Each of the questions on the survey has a pre-assigned maximum point value, with each answer to the question ranging from 0 to the maximum value for that question. The questions are weighted by total values possible. Data will be collected and entered by both **Species** and **NCBG property**. Values will be totaled by the threat and ease of control for each **Species** and **Property**. Averages will also be calculated across properties generating the threat and ease of control for all NCBG properties. This

collection will allow analysis by species and property, either all properties or selected properties or property.

These data will be used to create a matrix showing the threat caused by invasive species and their ease of control. These data and the matrix will also create a ranking list and priority list for invasive species management on NCBG properties. Combining this information with specific outside information on control methods on each species should help create management plans, the staff and resources needed, determine the timing of management efforts, and track the effectiveness of management. This information is dynamic and will change as new data is provided.

Some of these data are subjective and not quantitative; therefore it is imperative that the survey is completed with the best knowledge possible.

STANDARD SPECIES DATA AND QUESTIONS:

Threat:

1. What is the reproductive ability of the invasive species?
 - a. Highly successful reproduction. (The species reproduces with several of the following: both sexual and vegetative reproduction, produces 1000+ seeds, aggressively resprouts after damage, has long seed viability, or exhibits other aggressive reproductive methods).
10 pts
 - b. Moderately successful (reproduces with 1 to few of the above). 5 pts
 - c. Not reproductively aggressive. 0 pts

2. What is the competitive ability of the invasive species? Competitive ability includes more rapid nutrient or water uptake, changing soil chemistry, increased shade, allelopathy, more attractive to pollinators, etc.
 - a. A poor competitor 0 pts
 - b. A moderate competitor 5 pts
 - c. A strong competitor 10 pts

3. What is the invasive species' effect on ecosystem function such as changing fire or hydrology regimes, nutrient dynamics, soil conditions, etc.?
 - a. No effect on ecosystem processes. 0 pts
 - b. Alters processes, but has minimal or no impact an native species. 5 pts
 - c. Alters processes, but has a recognizable effect on native species. 10 pts
 - d. Highly alters process to exclude most species. 15 pts

4. What is the effect on ecological community such as elimination or extreme decline of native species, elimination or creation of vegetation layers, creation of a new canopy, hybridization with native species, etc.?
 - a. No effect on community structure. 0 pts
 - b. Affects but does not completely alter the community. 5 pts
 - c. Moderate effect on community by altering one or a few species or vegetation layers. 10 pts
 - d. Completely alters community structure by eliminating most natives and changing multiple vegetation layers. 15 pts

Ease of Control:

1. Does the invasive species produce a seed bank?
 - a. No or very minimal. 0 pts
 - b. Yes, seeds remain viable ≤ 2 years. 5 pts
 - c. Yes, seeds remain viable 3-5 years. 10 pts

2. Does the invasive species exhibit vegetative regeneration?
 - a. No or very minimal. 0 pts
 - b. Yes, resprouts from roots/stump. 5 pts
 - c. Yes, resprouts from any plant part. 10 pts

3. What effort and resources would it take to control and/or eradicate the invasive species?
 - a. One to no action 0 pts
 - b. Periodic action and/or single resource needed (easy and inexpensive) 5 pts
 - c. Annual action using one to multiple resources 10 pts
 - d. Repeated action within one year and/or using multiple resources (high expense and large number of hours) 15 pts

4. What is the impact of the control methods to native species and habitat?
 - a. Control methods cause little to no detrimental impact to native species or habitat. 0 pts
 - b. Control methods cause some unacceptable damage or temporary reductions in native species and moderate damage to the habitat. 5 pts
 - c. Control methods cause significant reductions in native species and/or severe damage to the habitat. 10 pts

Sources:

Handbook for Ranking Exotic Plants for Management and Control; Natural Resources Report NPS/NRMWRO/NRR93/08; R.D. Hiebert and J Stubbendieck

An Invasive Species Assessment Protocol, Version 1; NatureServe

Alien Plant Ranking System, USDA

NCBG INVASIVE SPECIES SURVEY:

Name of person completing survey _____

Species (Scientific) _____ and (Common) _____

NCBG property in which the invasive species is located _____

Location within the property (if applicable) _____
(e.g., Big Oak Woods, Coastal Plain Garden)

Answer the following questions with the most accurate information as possible for each invasive species. If the taxon is not included on the list, but is of concern, please complete the survey.

Part I. Assessment of threat caused by invasive species.

1. What is the extent of the population(s) of invasive species on the property of concern (as a percent of the total property area).
 - a. 0-10% 0 pts
 - b. 10-35% 3 pts
 - c. 35-60% 7 pts
 - d. 60-85% 10 pts
 - e. 85-100% 15 pts

2. How are the populations the invasive species growing and how is the invasive species spreading in the absence of control methods on the property of concern?
 - a. Species is in natural decline or the area is decreasing. 0 pts
 - b. Species is maintaining its current size or number, or the species is in equilibrium and therefore is not increasing. 1 pts
 - c. Species is increasing population size and/or spreading in the area. 3 pts
 - d. Species is spreading into undisturbed and/or high quality habitats. 5 pts

3. What is the threat of the invasive species to high quality natural areas on the property?
 - a. Species is limited to roadsides, trail sides, sewer easements etc. 5 pts
 - b. Species is found less disturbed natural areas, but not in high quality habitats and natural areas. 10 pts
 - c. Species is found in high quality natural areas or poses immediate threat to these areas. 15 pts.

4. What is the threat caused by the invasive species to rare plants?
 - a. No or very low threat. 0 pts
 - b. Species may threaten rare plants, especially if left uncontrolled in the future. 7 pts
 - c. Species immediately threatens one or more rare plant species 15 pts

Part II. Management and control assessment.

1. What is the level of accessibility to the invasive species populations?
 - a. Easily accessibly by people and equipment (e.g. Roadsides) 0 pts
 - b. Moderately accessible (some difficulty for people or large difficulty for equipment like the end of trails) or a combination of both easy and difficult accessibility. 5 pts
 - c. Difficult accessibility for people and equipment 10 pts

2. What is the abundance of source populations?
 - a. No close sources. 0 pts
 - b. Few close sources but with unlikely dispersal. 3 pts
 - c. Few close sources with likely dispersal. 7 pts
 - d. Many sources with easy dispersal into the NCBG property. 10 pts

Part III. List any comments or special concerns you have about this species or its management.
