



TRELINA SOLAR ENERGY CENTER

INVASIVE SPECIES

MANAGEMENT AND CONTROL PLAN

Facility Operator:

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**Trelina Solar Energy Center
Invasive Species Management and Control Plan
For Construction Activities and Post-Construction Monitoring**

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1.0 Introduction

Trelina Solar Energy Center, LLC (Applicant), a wholly-owned, indirect subsidiary of NextEra Energy Resources, LLC (NEER), is planning to construct, operate, and maintain the Trelina Solar Energy Center, a proposed 79.5 to 80-megawatt (MW) solar energy center located in the Town of Waterloo, Seneca County, New York (Project). Project facilities will include commercial-scale solar arrays, access roads, inverters, fencing, buried electric collection lines, and electrical interconnection facilities. Interconnection facilities will include a 115-kilovolt (kV) switchyard, which will be transferred to New York State Electric and Gas (NYSEG) to own and operate. The proposed collection substation and interconnection facilities will be located on land within the 1,067-acre Project Area, in relative proximity to NYSEG's existing Border City-Station 112 115-kV transmission line.

The Project consists primarily of agricultural land with areas of forest ecological communities and wetland communities interspersed throughout. Construction activities will result in vegetation clearing and soil disturbance in the immediate vicinity of the proposed solar arrays, access roads, electrical collection lines, and associated infrastructure.

Invasive vegetative species are of special concern as their spread may cause some degree of environmental, human health, or economic harm. For example, invasive species will often out-compete native species because they may lack control mechanisms that are present in their native habitats. The result can be a rapid spread of invasive species populations, which can alter ecological communities and diminish biological diversity. Normal dispersal methods for invasive plant species include wind, water, and wildlife; however, anthropogenic means of spread (e.g., construction activity) have the potential to accelerate their distribution and are the primary focus of this Invasive Species Management and Control Plan (ISMCP) for plants.

1.1 Goals and Objectives

The intent of the ISMCP is to outline a clear plan to minimize the spread of invasive species that are present within the Project Area. To prevent their spread, it is necessary to identify the existing invasive species within the Project Area and develop a plan to monitor and control the species during construction, restoration, and operation. The goal of the ISMCP is to maintain a zero percent increase in invasive species distribution and coverage within the Project Area.

Invasive species are regulated by the New York State Department of Environmental Conservation (NYSDEC) pursuant to Environmental Conservation Law (ECL) Sections 9-1709 and 71-0703. Regulations under Part 575 of 6 New York Codes, Rules and Regulations (NYCRR) restrict the sale, purchase, possession, propagation, introduction, importation, and transport of invasive species. This ISMCP is being developed in accordance with this regulation, to prevent the introduction of new, and spread of existing, invasive species within the Project Area.

2.0 Priority Invasive Plant Species within Region

The Project Area is located within the Finger Lakes Partnership for Regional Invasive Species Management (PRISM). There are eight PRISMs within New York State, each of which is made up of resource managers, non-governmental organizations, industry, resource users, citizens and other state agencies and stakeholders (NYSDEC, 2017a). The PRISMs were enacted under Title 17, ECL 9-1705(5)(g). The Finger Lakes PRISM separates priority species, which are highly invasive species either within the region or approaching the region, into three Working Groups (WGs): the Aquatic Working Group (AWG), the Terrestrial Working Group (TWG), and the Agricultural Working Group (AgWG) (FL-PRISM, 2017a).

Table 1 lists the Finger Lakes PRISM Priority Species sorted by Tiers 1 through 4. Tier 1 species are those in the early detection/prevention phase. Tier 2 species are those in the eradication phase with the highest level of early detection response efforts. They may be low in abundance and thus suitable treatment methods are available to make eradications plausible within the Finger Lakes PRISM. Tier 3 species are those in the containment phase. Strategic management efforts are used to slow the spread as the species is too widespread to eradicate in Finger Lakes PRISM, but many surrounding regions could be at risk if left unattended. Tier 4 species are those under local control. Eradication from Finger Lakes PRISM is not feasible, and so the focus is on containing the species to protect sensitive resources.

Table 1: Finger Lakes PRISM Priority Species by Tier

Scientific Name	Common Name	Tier
<i>Egeria densa</i>	Brazilian waterweed	1
<i>Ludwigia peploides</i>	Floating primrose-willow	1
<i>Myriophyllum aquaticum</i>	Parrot-feather	1
<i>Nymphoides peltate</i>	Yellow floating heart	1

Table 1: Finger Lakes PRISM Priority Species by Tier

Scientific Name	Common Name	Tier
<i>Pueraria montana</i>	Kudzu	1
<i>Stratiotes aloides</i>	Water soldier	1
<i>Ampelopsis glandulosa</i> var. <i>brevipedunculata</i>	Porcelain berry	2
<i>Cardamine impatiens</i>	Narrowleaf bittercress	2
<i>Euphorbia esula</i>	Leafy spurge	2
<i>Hydrocharis morsus-ranae</i>	European frogbit	2
<i>Celastrus orbiculatus</i>	Oriental bittersweet	3
<i>Cynanchum louiseae</i>	Black swallow-wort	3
<i>Cynanchum rossicum</i>	Pale swallow-wort	3
<i>Hydrilla verticillate</i>	Hydrilla	3
<i>Myriophyllum heterophyllum</i>	Broadleaf water-milfoil	3
<i>Ranunculus ficaria</i>	Lesser celandine	3
<i>Trapa natans</i>	Water chestnut	3
<i>Acer platanoides</i>	Norway maple	4
<i>Ailanthus altissima</i>	Tree of heaven	4
<i>Alliaria petiolate</i>	Garlic mustard	4
<i>Iris pseudacorus</i>	Yellow iris	4
<i>Lythrum salicaria</i>	Purple loosestrife	4
<i>Potamogeton crispus</i>	Curly leaved pondweed	4
<i>Pyrus calleryana</i>	Callery pear	4
<i>Rosa multiflora</i>	Multiflora rose	4
<i>Eichhornia crassipes</i>	Water hyacinth	4
<i>Pistia stratiotes</i>	Water lettuce	4

2.1 Invasive Plant Species Identified within Project Area

As part of the ecological resource survey, field efforts were conducted for the Trelina Solar Energy Center in the summer of 2019. During these surveys, TRC biologists documented observed occurrences of invasive species throughout the Project Area. Ten invasive vegetative species were identified that are listed as prohibited on the *Prohibited and Regulated Invasive Plants* list published by the NYSDEC on September 10, 2014 (Attachment A) or listed as a priority invasive according to the Finger Lakes PRISM. Inclusion on the prohibited list means that they cannot be possessed, sold, imported, purchased, transported or introduced and therefore, construction activities which would knowingly cause distribution of these species is prohibited.

The following invasive plant species were identified throughout the Project Area:

- Autumn olive (*Elaeagnus umbellata*)
- Canada thistle (*Cirsium arvense*)
- Chinese privet (*Ligustrum sinense*)
- Common buckthorn (*Rhamnus cathartica*)
- Common reed (*Phragmites australis*)
- Garlic mustard (*Alliaria petiolata*)
- Japanese Knotweed (*Polygonum cuspidatum*)
- Japanese stiltgrass (*Microstegium vimineum*)
- Morrow honeysuckle (*Lonicera morrowii*)
- Rambler rose (*Rosa multiflora*)
- Pale swallow-wort (*Cynanchum rossicum*)
- Purple loosestrife (*Lythrum salicaria*)

All invasive species identified within the Project Area are listed in the *Prohibited and Regulated Invasive Plants* list. Multiflora rose and purple loosestrife are also on the Finger Lakes PRISM Priority List as Tier 4 species. They are described in more detail below.

2.2 Multiflora Rose (*Rosa multiflora*)

This species is listed as a Tier 4 invasive species within the Finger Lakes PRISM. Multiflora rose is a perennial shrub, capable of growing 10-15 feet in height and 9-13 feet in width. It can be identified by its red-to-green twigs with numerous recurved thorns. It is extremely prolific and can

form dense thickets in open woodlands, along forest edges, fence rows, right-of-ways, and roadsides. Small plants can be removed by hand, but larger plants need to be removed with mechanical or chemical methods over the course of several years (New York Invasive Species [NYIS], 2020a).

2.3 Purple loosestrife (*Lythrum salicaria*)

This species is listed as a Tier 4 invasive species within the Finger Lakes PRISM. Purple loosestrife is an erect, herbaceous wetland plant that grows 3-7 feet tall. It can be identified by its showy purple flowers that appear from July to September. It spreads quickly through both vegetative growth and seed dispersal, crowding out native wetland plants and altering biodiversity and water flow (NYIS, 2020b).

Small patches can be removed by hand, but for large infestations, mechanical or chemical management is possible, though it will take multiple years to completely remove adult plants. Additionally, four species of beetles have been released in the United States as biocontrol agents for purple loosestrife and have had some measure of success controlling purple loosestrife populations (NYIS, 2020b).

3.0 Invasive Insect Species in Vicinity of the Project Area

TRC biologists documented observed occurrences of invasive species within the Project Area during ecological resource survey field efforts (Exhibit 22). No invasive insect species or signs of infestation were observed as part of this field effort; however, one insect species, the emerald ash borer (*Agrilus planipennis*) is listed as a Tier 4 Local Control invasive insect within the Finger Lakes-PRISM and additional information regarding this species is resented below.

3.1 Emerald Ash Borer (*Agrilus planipennis*)

The emerald ash borer (EAB) (*Agrilus planipennis*) is an invasive beetle, native to Asia, which was first identified in the United States in 2002 (in Michigan). In New York, the EAB was first identified in Cattaraugus County in 2009, and has now spread to more than 30 counties, including Seneca County (NYSDEC, 2017b). This insect infects ash (*Fraxinus* spp.) trees and causes tree canopy dieback, yellowing and browning of leaves, leading to death of infected trees within two to four years (NYSDEC, 2017b).

The EAB has a one-year life cycle and four stages of life: adult, egg, larva and pupa. The EAB emerges from beneath the bark tree of ash species beginnings in late-May or early-June (NYIS, n.d.), with the adult flight season complete by early August. The adult life span is approximately three weeks and the adults are most active during the day in sunny, warm weather. In wet or cooler weather, adult EAB shelter beneath the bark of ash trees (NYIS, n.d.).

New York State has implemented programs to help with early detection of EAB to prevent the spread, and all of Seneca County is included in the May 2017 Restricted Zone for the EAB. Restricted Zones include quarantines around known EAB infestations. Within these zones, regulated articles may not be removed from the zone without a compliance agreement or permit from the New York State Department of Agriculture and Markets (NYSDAM). These permits are applicable only during the non-flight season of the EAB, which is between September 1 and April 30 (NYSDEC, 2017b). Regulated articles include ash wood, ash logs, ash firewood (untreated), ash nursery stock, and wood chips (only between April 15 and May 15). Additionally, in accordance with 6 NYCRR Part 575 (Prohibited and Regulated Invasive Species), the EAB itself may not be moved in any life stage, unless for management, control, identification or disposal (NYSDEC, 2017b).

The Project will comply with the Restricted Zone requirements and will contact the NYSDEC's Firewood and Invasive Insects Hotline at (866) 640-0652 if a suspected infestation or sighting is identified as part of the Project. Additionally, the Project will not transport ash products offsite to avoid the unknowing spread of EAB.

4.0 Control Measures

Management actions for preventing the introduction and spread of listed species are grouped into four main categories: material inspection, targeted species treatment and removal, sanitation, and restoration. Within each category, specific actions or combinations thereof can be taken depending on characteristics of a species and its density within the target area.

1. **Material Inspection:** Material inspection includes the use of products such as seed, mulch, topsoil, fill, sand, and stone that are free of invasive species. Movement of these materials both into and out of the Project Area will be limited to minimize the possibility of spreading invasive species. Importation of these materials will be limited by reusing

excavated products to the maximum extent practicable. Imported construction materials will be obtained from reputable sources and thoroughly inspected for the presence of invasive species prior to transportation or use on the site. Materials will be used immediately to limit the amount of time they are stockpiled.

2. **Targeted Species Treatment and Removal:** Targeted removal is used in instances where invasive species are encountered during construction and cannot be avoided. Removal in that instance would prevent spread of the species to other areas of the Project Area. Targeted removal includes options such as hand-pulling, burning, cutting, burying, excavating, or herbicide application which will either kill, or limit the ability of a species to propagate. Herbicide application, if applicable, shall be carried out in accordance with Part 325 of 6 NYCRR, Application of Pesticides. Removal methods will be determined based on the species and density of the encountered invasive. Invasive species that are removed should be either, left in the infested area, or placed in a secure container for proper disposal offsite.
3. **Sanitation:** As it relates to invasive species control, sanitation includes the cleaning of clothing and equipment prior to movement or use within the Project Area. Seeds and viable plant parts can easily be transported to different locations on clothing and equipment. When working in an area known to have invasive species present, washing stations will be established to thoroughly clean machinery and clothing. It is important to note that cleaning should be conducted both prior to equipment arriving on site and prior to it leaving, to prevent the spread of invasive species on and off the work site within the Project Area.
4. **Restoration:** Invasive species spread most readily in disturbed soil and stabilizing the site quickly will limit the amount of time that invasive species have to get established in a particular area. Therefore, once construction is complete, disturbed areas will be regraded and stabilized (with seed and mulch) as quickly as possible. Once the site is regraded, native seed mixes will be applied along with seed free mulch to reestablish vegetative cover. Best management practices (BMPs) will also be implemented in accordance with the Stormwater Pollution Prevention Plan to prevent erosion and limit the potential for spread of invasive species bearing soil offsite.

5.0 Monitoring

Prior to the start of construction, crews will be educated regarding the contents of the ISMCP to ensure that their activities on site comply with the BMPs outlined in it. Monitoring will be conducted throughout the duration of the Project to ensure that the ISMCP is being implemented appropriately and that the goals outlined in it are being met. It is important to note that invasive species identified on site prior to construction are likely to spread even in the absence of further human intervention. It is therefore necessary to distinguish between natural movement of invasive species and anthropogenic movement caused by Project related construction activities. The ISMCP goal of a zero-net increase in the number of invasive species present and their distribution in the Project Area is based on the latter.

Post-construction invasive species monitoring will be conducted for a period of no less than five years following completion of Project related activities on site. More specifically, Trelina Solar Energy Center, LLC proposes that the post-construction monitoring of invasive species will be conducted in year one, year three, and year five following completion of construction and restoration. This is to ensure that ISMCP goals are met, as germination and spread of invasive species can continue long after construction activities have concluded. Movement of invasive species, as identified by visual inspection of a qualified biologist, will be treated in accordance with the control measures listed above, as deemed appropriate based on the characteristics of the invasive species. A final report will be prepared detailing the success of the ISMCP. Failure to meet the goals of the ISMCP will result in revision of the control plan and extension of the post construction monitoring phase for a period of two years from implementation of the revised plan.

6.0 References

NYIS. n.d. Emerald ash borer (*Agrilus planipennis*). Accessed March 2020.

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New York Invasive Species Information (NYIS). 2017. 6 NYCRR Park 575 Prohibited and Regulated Invasive Species. Retrieved April 2020 from

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New York State Department of Environmental Conservation (NYSDEC). 2017a. Partnerships for Regional Invasive Species Management (PRISM). Accessed April 2020.

<http://www.dec.ny.gov/animals/47433.html>

NYSDEC. 2017b. Emerald ash borer (EAB). Accessed February 2020.

<http://www.dec.ny.gov/animals/7253.html>

Attachment A

New York State Prohibited and Regulated Invasive Plants

New York State Prohibited and Regulated Invasive Plants

September 10, 2014



NYS DEPARTMENT OF
ENVIRONMENTAL CONSERVATION



NYS DEPARTMENT OF
AGRICULTURE AND MARKETS

New York State Department of Environmental Conservation
NYCRR Part 575 Invasive Species Regulations
Questions and Answers

<http://www.dec.ny.gov/regulations/2359.html>

What are invasive species?

Invasive species means a species that is nonnative to a particular ecosystem, and whose introduction causes or is likely to cause economic or environmental harm or harm to human health.

Why are invasive species a problem?

Invasive species can harm natural communities and systems (plants and animals found in particular physical environments) by out-competing native species, reducing biological diversity, altering community structure and, in some cases, changing ecosystems. Invasive species threaten New York's food supply, not only agriculture but also harvested wildlife, fish and shellfish; our landscaping, parks, gardens, and pets; and our recreation resources and even animal and human health. All New Yorkers have a stake in the invasive species issue.

How will these regulations help?

These regulations are to help control invasive species by reducing the introduction and spread of them by limiting commerce in such species. By preventing introduction of new invasive species, New York will save time, effort, and money in the future.

How were the lists included in the regulations developed?

The lists of prohibited and regulated species were developed using the species assessment and listing process outlined in the 2010 report "A Regulatory System for Non-native Species," which can be found at <http://www.dec.ny.gov/animals/63402.html>.

When will the regulations be implemented?

The final regulations (or a summary) were published in the State Register September 10, 2014, they become effective 6 months thereafter.

What is the difference between prohibited and regulated invasive species?

Prohibited invasive species cannot be knowingly possessed with the intent to sell, import, purchase, transport or introduce. In addition, no person shall sell, import, purchase, transport, introduce or propagate prohibited invasive species. Regulated invasive species, on the other hand, are species which cannot be knowingly introduced into a free-living state, or introduced by a means that one should have known would lead to such an introduction, although such species shall be legal to possess, sell, buy, propagate and transport.

What species have grace periods established in the regulations?

A one-year grace period is included in the regulations for Japanese Barberry (*Berberis thunbergii*), during which existing stock of this species may be sold.

Who will enforce the regulations?

The regulations will be enforced by the Department of Environmental Conservation, with assistance from the Department of Agriculture and Markets.

TERRESTRIAL PLANTS

PROHIBITED



Amur Cork Tree *Phellodendron amurense*

PROHIBITED



Amur Honeysuckle *Lonicera maackii*

PROHIBITED



Autumn Olive *Elaeagnus umbellata*

PROHIBITED



Beach Vitex *Vitex rotundifolia*

PROHIBITED



Black Swallow-wort *Cynanchum louiseae*
(*C. nigrum*, *Vincetoxicum nigrum*)

PROHIBITED



Bohemian Knotweed *Reynoutria x bohemica*
(*Fallopia x bohemica*, *Polygonum x bohemica*)

PROHIBITED



Border Privet *Ligustrum obtusifolium*

PROHIBITED



Broad-leaved Pepper-grass
Lepidium latifolium

PROHIBITED



Canada Thistle *Cirsium arvense*
(*C. setosum*, *C. incanum*, *Serratula arvensis*)

TERRESTRIAL PLANTS

PROHIBITED



Chinese Lespedeza *Lespedeza cuneata*

PROHIBITED



Chinese Yam *Dioscorea polystachya (D. batatas)*

PROHIBITED



Cogon Grass *Imperata cylindrica*
(*I. arundinacea*, *Lagurus cylindricus*)

PROHIBITED



Common Buckthorn *Rhamnus cathartica*

PROHIBITED



Cup-plant *Silphium perfoliatum*

PROHIBITED



Cut-leaf Teasel *Dipsacus laciniatus*

PROHIBITED



Cypress Spurge *Euphorbia cyparissias*

PROHIBITED



Fly Honeysuckle *Lonicera x bella*

PROHIBITED



Garden Loosestrife *Lysimachia vulgaris*

TERRESTRIAL PLANTS

PROHIBITED



Garlic Mustard *Alliaria petiolata*

PROHIBITED



Giant Hogweed *Heracleum mantegazzianum*

PROHIBITED



Giant Knotweed *Reynoutria sachalinensis*
(*Fallopia sachalinensis*, *Polygonum sachalinensis*)

PROHIBITED



Golden Bamboo *Phyllostachys aurea*

PROHIBITED



Gray Florist's Willow *Salix atrocinerea*

PROHIBITED



Japanese Angelica Tree *Aralia elata*

PROHIBITED



Japanese Barberry *Berberis thunbergii*

PROHIBITED



Japanese Chaff Flower *Achyranthes japonica*

PROHIBITED



Japanese Honeysuckle *Lonicera japonica*

TERRESTRIAL PLANTS

PROHIBITED



Japanese Hops *Humulus japonicus*

PROHIBITED



Japanese Knotweed *Reynoutria japonica*
(*Fallopia japonica*, *Polygonum cuspidatum*)

PROHIBITED



Japanese Stilt Grass *Microstegium vimineum*

PROHIBITED



Kudzu *Pueraria montana*

PROHIBITED



Leafy Spurge *Euphorbia esula*

PROHIBITED



Lesser Celandine *Ficaria verna*
(*Ranunculus ficaria*)

PROHIBITED



Mile-a-minute Weed *Persicaria perfoliata*
(*Polygonum perfoliatum*)

PROHIBITED



Morrow's Honeysuckle *Lonicera morrowii*

PROHIBITED



Mugwort *Artemisia vulgaris*

TERRESTRIAL PLANTS

PROHIBITED



Multiflora Rose *Rosa multiflora*

PROHIBITED



Narrowleaf Bittercress *Cardamine impatiens*

PROHIBITED



Oriental Bittersweet *Celastrus orbiculatus*

PROHIBITED



Pale Swallow-wort *Cynanchum rossicum*
(*C. medium*, *Vincetoxicum medium*, *V. rossicum*)

PROHIBITED



Porcelain Berry *Ampelopsis brevipedunculata*

PROHIBITED



Slender False Brome
Brachypodium sylvaticum

PROHIBITED



Small Carpetgrass *Arthraxon hispidus*

PROHIBITED



Spotted Knapweed *Centaurea stoebe*
(*C. biebersteinii*, *C. diffusa*, *C. maculosa* misapplied,
C. xpsammogena)

PROHIBITED



Sycamore Maple *Acer pseudoplatanus*

TERRESTRIAL PLANTS

PROHIBITED



Tartarian Honeysuckle *Lonicera tatarica*

PROHIBITED



Wavyleaf Basketgrass *Oplismenus hirtellus*

PROHIBITED



Wild Chervil *Anthriscus sylvestris*

PROHIBITED



Wineberry *Rubus phoenicolasius*

PROHIBITED



Yellow Groove Bamboo
Phyllostachys aureosulcata

TERRESTRIAL PLANTS

REGULATED



Black Locust *Robinia pseudoacacia*

REGULATED



Burning Bush *Euonymus alatus*

REGULATED



Chinese Silver Grass *Miscanthus sinensis*

REGULATED



Japanese Virgin's Bower
Clematis terniflora

REGULATED



Norway Maple *Acer platanoides*

REGULATED



Winter Creeper *Euonymus fortunei*

WETLAND PLANTS

PROHIBITED



Common Reed Grass *Phragmites australis*

PROHIBITED



Marsh Dewflower *Murdannia keisak*

PROHIBITED



Purple Loosestrife *Lythrum salicaria*

PROHIBITED



Reed Manna Grass *Glyceria maxima*

PROHIBITED



Smooth Buckthorn *Frangula alnus*
(*Rhamnus frangula*)

PROHIBITED



Yellow Iris *Iris pseudacorus*

AQUATIC PLANTS

PROHIBITED



Brazilian Waterweed *Egeria densa*

PROHIBITED



Broadleaf Water-milfoil Hybrid
Myriophyllum heterophyllum x M. laxum

PROHIBITED



Curly Pondweed *Potamogeton crispus*

PROHIBITED



Eurasian Water-milfoil
Myriophyllum spicatum

PROHIBITED



Fanwort *Cabomba caroliniana*

PROHIBITED



Floating Primrose Willow
Ludwigia peploides

PROHIBITED



Frogbit *Hydrocharis morsus-ranae*

PROHIBITED



Hydrilla/Water Thyme *Hydrilla verticillata*

PROHIBITED



Parrot-feather *Myriophyllum aquaticum*

AQUATIC PLANTS

PROHIBITED



Uruguayan Primrose Willow
Ludwigia hexapetala (*L. grandiflora*)

PROHIBITED



Water Chestnut *Trapa natans*

PROHIBITED



Yellow Floating Heart *Nymphoides peltata*

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Miller, USDA Forest Service, Bugwood.org; **Chinese Yam:** Chris Evans, Illinois Wildlife Action Plan, Bugwood.org; **Cogon Grass:** Nancy Loewenstein, Auburn University, Bugwood.org; **Common Buckthorn:** large photo - Chris Evans, Illinois Wildlife Action Plan, Bugwood.org, inset - Paul Wray, Iowa State University, Bugwood.org; **Cup-plant:** Leslie J. Mehrhoff, University of Connecticut, Bugwood.org; **Cut-leaf Teasel:** Chris Evans, Illinois Wildlife Action Plan, Bugwood.org; **Cypress Spurge:** Todd Pfeiffer, Klamath County Weed Control, Bugwood.org; **Fly Honeysuckle:** Leslie J. Mehrhoff, University of Connecticut, Bugwood.org; **Garden Loosetrife:** Leslie J. Mehrhoff, University of Connecticut, Bugwood.org; **Garlic Mustard:** Chris Evans, Illinois Wildlife Action Plan, Bugwood.org; **Giant Hogweed:** large photo - Thomas B. Denholm, New Jersey Department of Agriculture, www.forestryimages.org, top inset - Terry English, USDA APHIS PPQ, www.forestryimages.org, bottom inset - Randy Westbrook, U.S. Geological Survey, www.forestryimages.org; **Giant Knotweed:** Jan Samanek, State Phytosanitary Administration, Bugwood.org; **Golden Bamboo:** James R. Allison, Georgia Department of Natural Resources, Bugwood.org; **Gray Florist's Willow:** Leslie J. Mehrhoff, University of Connecticut, Bugwood.org; **Japanese Angelica Tree:** large photo - T. Davis Sydnor, The Ohio State University, Bugwood.org, inset - John M. Randall, The Nature Conservancy, Bugwood.org; **Japanese Barberry:** large photo and inset - John Ruter, University of Georgia, Bugwood.org; **Japanese Chaff Flower:** Chris Evans, Illinois Wildlife Action Plan, Bugwood.org; **Japanese Honeysuckle:** large photo and inset - Chuck Barger, University of Georgia, Bugwood.org; **Japanese Hops:** Leslie J. Mehrhoff, University of Connecticut, Bugwood.org; **Japanese Knotweed:** Tom Heutte, USDA Forest Service, Bugwood.org; **Japanese Stilt Grass:** Chuck Barger, University of Georgia, Bugwood.org; **Kudzu:** large photo - James H. Miller, USDA Forest Service, Bugwood.org, top inset - Forest and Kim Starr, Starr Environmental, Bugwood.org, bottom inset - James H. Miller, USDA Forest Service, Bugwood.org; **Leafy Spurge:** Norman E. Rees, USDA Agricultural Research Service - Retired, Bugwood.org; **Lesser Celandine:** Leslie J. Mehrhoff, University of Connecticut, Bugwood.org; **Minute Weed:** Leslie J. Mehrhoff, University of Connecticut, Bugwood.org; **Morrow's Honeysuckle:** large photo - Leslie J. Mehrhoff, University of Connecticut, Bugwood.org, inset - Stacey Leicht, University of Connecticut, Bugwood.org; **Mugwort:** large photo - Christian Fischer, WikimediaCommons.org, inset - Ohio State Weed Lab Archive, The Ohio State University, Bugwood.org; **Multiflora Rose:** James R. Allison, Georgia Department of Natural Resources, Bugwood.org; **Narrowleaf Bittercress:** Leslie J. Mehrhoff, University of Connecticut, Bugwood.org; **Oriental Bittersweet:** large photo - James H. Miller, USDA Forest Service, Bugwood.org, inset - James R. Allison, Georgia Department of Natural Resources, Bugwood.org; **Pale Swallow-wort:** Leslie J. Mehrhoff, University of Connecticut, Bugwood.org; **Porcelain Berry:** James H. Miller, USDA Forest Service, Bugwood.org; **Slender False Brome:** Botanischer Garten, Frankfurt, Germany - Creative Commons Universal Public Domain; **Small Carpetgrass:** Leslie J. Mehrhoff, University of Connecticut, Bugwood.org; **Spotted Knapweed:** Bruce Ackley, The Ohio State University, Bugwood.org; **Sycamore Maple:** large photo - Leslie J. Mehrhoff, University of Connecticut, Bugwood.org, inset - John Ruter, University of Georgia, Bugwood.org; **Tartarian Honeysuckle:** large photo - Patrick Breen, Oregon State University, Bugwood.org, inset - Ohio State Weed Lab Archive, The Ohio State University, Bugwood.org; **Wavyleaf Basketgrass:** Kerrie L. Kyde, Maryland Department of Natural Resources, Bugwood.org; **Wild Chervil:** Leslie J. Mehrhoff, University of Connecticut, Bugwood.org; **Wineberry:** Leslie J. Mehrhoff, University of Connecticut, Bugwood.org; **Yellow Groove Bamboo:** Caryn Rickel, Institute of Invasive Bamboo Research, Bugwood.org

TERRESTRIAL PLANTS, REGULATED: **Black Locust:** large photo - Rob Routledge, Sault College, Bugwood.org, inset - Vern Wilkins, Indiana University, Bugwood.org; **Burning Bush:** Leslie J. Mehrhoff, University of Connecticut, Bugwood.org; **Chinese Silver Grass:** James H. Miller, USDA Forest Service, Bugwood.org; **Japanese Virgin's Bower:** Leslie J. Mehrhoff, University of Connecticut, Bugwood.org; **Norway Maple:** large photo - Leslie J. Mehrhoff, University of Connecticut, Bugwood.org, inset - Rob Routledge, Sault College, Bugwood.org; **Winter Creeper:** James H. Miller, USDA Forest Service, Bugwood.org

WETLAND PLANTS, PROHIBITED: **Common Reed Grass:** Joseph M. DiTomaso, University of California - Davis, Bugwood.org; **Marsh Dewflower:** Linda Lee, University of South Carolina, Bugwood.org; **Purple Loosestrife:** John D. Byrd, Mississippi State University, Bugwood.org; **Reed Manna Grass:** large photo - WikimediaCommons.org, top and bottom insets - Leslie J. Mehrhoff, University of Connecticut, Bugwood.org; **Smooth Buckthorn:** Leslie J. Mehrhoff, University of Connecticut, Bugwood.org; **Yellow Iris:** Nancy Loewenstein, Auburn University, Bugwood.org

AQUATIC PLANTS, PROHIBITED: **Brazilian Waterweed:** Robert Vidéki, Doronicum Kft., Bugwood.org; **Broadleaf Water-milfoil Hybrid:** Donald Cameron, geobotany.newenglandwild.org; **Curly Pondweed:** Leslie J. Mehrhoff, University of Connecticut, Bugwood.org; **Eurasian Water-milfoil:** Alison Fox, University of Florida, www.forestryimages.org; **Fanwort:** large photo - Robert Vidéki, Doronicum Kft., Bugwood.org, inset - Leslie J. Mehrhoff, University of Connecticut, Bugwood.org; **Floating Primrose Willow:** John M. Randall, The Nature Conservancy, Bugwood.org; **Frogbit:** large photo - Mark Malchoff, Lake Champlain Sea Grant Program, inset - Leslie J. Mehrhoff, University of Connecticut, Bugwood.org; **Hydrilla/Water Thyme:** Jon Rodgers, http://www.galvbayinvasives.org; **Parrot-feather:** John M. Randall, The Nature Conservancy, Bugwood.org; **Uruguayan Primrose Willow:** Karan A. Rawlins, University of Georgia, Bugwood.org; **Water Chestnut:** large photo - John M. Randall, The Nature Conservancy, Bugwood.org, inset - Steve Hurst, USDA NRCS PLANTS Database, Bugwood.org; **Yellow Floating Heart:** Leslie J. Mehrhoff, University of Connecticut, Bugwood.org

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Amur Honeysuckle	<i>Lonicera maackii</i>	3	Mugwort	<i>Artemisia vulgaris</i>	6
Autumn Olive	<i>Elaeagnus umbellata</i>	3	Multiflora Rose	<i>Rosa multiflora</i>	7
Beach Vitex	<i>Vitex rotundifolia</i>	3	Narrowleaf Bittercress	<i>Cardamine impatiens</i>	7
Black Locust	<i>Robinia pseudoacacia</i>	9	Norway Maple	<i>Acer platanoides</i>	9
Black Swallow-wort	<i>Cynanchum louiseae</i> (<i>C. nigrum</i> , <i>Vincetoxicum nigrum</i>)	3	Oriental Bittersweet	<i>Celastrus orbiculatus</i>	7
Bohemian Knotweed	<i>Reynoutria x bohemica</i> (<i>Fallopia x bohemica</i> , <i>Polygonum x bohemica</i>)	3	Pale Swallow-wort	<i>Cynanchum rossicum</i> (<i>C. medium</i> , <i>Vincetoxicum medium</i> , <i>V. rossicum</i>)	7
Border Privet	<i>Ligustrum obtusifolium</i>	3	Porcelain Berry	<i>Ampelopsis brevipedunculata</i>	7
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Cup-plant	<i>Silphium perfoliatum</i>	4	Winter Creeper	<i>Euonymus fortunei</i>	9
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Giant Hogweed	<i>Heracleum mantegazzianum</i>	5	Purple Loosestrife	<i>Lythrum salicaria</i>	10
Giant Knotweed	<i>Reynoutria sachalinensis</i> (<i>Fallopia sachalinensis</i> , <i>Polygonum sachalinensis</i>)	5	Reed Manna Grass	<i>Glyceria maxima</i>	10
Golden Bamboo	<i>Phyllostachys aurea</i>	5	Smooth Buckthorn	<i>Frangula alnus</i> (<i>Rhamnus frangula</i>)	10
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Japanese Barberry	<i>Berberis thunbergii</i>	5	AQUATIC PLANTS		
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Japanese Honeysuckle	<i>Lonicera japonica</i>	5	Broadleaf Water-milfoil Hybrid	<i>Myriophyllum heterophyllum</i> x <i>M. laxum</i>	11
Japanese Hops	<i>Humulus japonicus</i>	6	Curly Pondweed	<i>Potamogeton crispus</i>	11
Japanese Knotweed	<i>Reynoutria japonica</i> (<i>Fallopia japonica</i> , <i>Polygonum cuspidatum</i>)	6	Eurasian Water-milfoil	<i>Myriophyllum spicatum</i>	11
Japanese Stilt Grass	<i>Microstegium vimineum</i>	6	Fanwort	<i>Cabomba caroliniana</i>	11
Japanese Virgin's Bower	<i>Clematis terniflora</i>	9	Floating Primrose Willow	<i>Ludwigia peploides</i>	11
Kudzu	<i>Pueraria montana</i>	6	Frogbit	<i>Hydrocharis morsus-ranae</i>	11
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<i>Alliaria petiolata</i>	Garlic Mustard	5	<i>Oplismenus hirtellus</i>	Wavyleaf Basketgrass	8
<i>Ampelopsis brevipedunculata</i>	Porcelain Berry	7	<i>Persicaria perfoliata</i>	Mile-a-minute Weed	6
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<i>Berberis thunbergii</i>	Japanese Barberry	5	<i>Pueraria montana</i>	Kudzu	6
<i>Brachypodium sylvaticum</i>	Slender False Brome	7	<i>Reynoutria japonica</i>	Japanese Knotweed	6
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<i>Centaurea stoebe</i>	Spotted Knapweed	7	<i>Reynoutria sachalinensis</i>	Giant Knotweed	5
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<i>Euphorbia cyparissias</i>	Cypress Spurge	4	<i>Murdannia keisak</i>	Marsh Dewflower	10
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<i>Lagurus cylindricus)</i>			<i>Ludwigia hexapetala</i>	Uruguayan Primrose Willow	11
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