Appendix 22-8:

Invasive Species Management and Control Plan



INVASIVE SPECIES MANAGEMENT AND CONTROL PLAN

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Excelsior Energy Center

Invasive Species Management and Control Plan

For Construction Activities and Post-Construction Monitoring

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Attachment A. New York State Prohibited and Regulated Invasive Plants, September 10, 2014

1.0 Introduction

Excelsior Energy Center, LLC (Excelsior Energy Center or the Applicant), a wholly-owned, indirect subsidiary of NextEra Energy Resources, LLC (NextEra), is planning to construct, operate, and maintain the Excelsior Energy Center, a proposed 280 MW solar energy generation project and a 20 MW / 4 hour duration energy storage system located in the Town of Byron, Genesee County, New York (the Project). Project facilities will include commercial-scale solar arrays, access roads, inverters, fencing, buried electric collection lines, energy storage systems, and electrical interconnection facilities. Interconnection facilities will include a 345 kV switchyard, which will be transferred to the New York Power Authority (NYPA) to own and operate. The proposed collection substation and interconnection facilities will be located on land within the Project Area, in relative proximity to the NYPA 345 kV Line #NR2 between Niagara and N. Rochester substations.

The Project site consists of a patchwork of agricultural land, forests, successional old field, and wetland ecological communities. Construction activities may result in vegetation clearing and soil disturbance in the immediate vicinity of some proposed solar arrays, access roads, electrical collection lines, and associated infrastructure.

Invasive vegetative species are of special concern because their spread may cause environmental, human health, or economic harm on the large scale. For example, invasive species often out-compete native species because invasive species often lack control mechanisms that are present in their native habitats. The result can alter ecological communities and diminish biological diversity. Normal dispersal methods for invasive plant species include wind, water, vegetative propagation, and wildlife; however, anthropogenic means of spread (e.g., construction activity) are of particular interest in this Invasive Species Management and Control Plan (ISMCP) for plants. Because invasive plant species will readily spread in disturbed areas, construction activities related to the Project have the potential to accelerate their distribution and are the primary focus of this ISMCP.

1.1 Goals and Objectives

The intention of the ISMCP is to outline a clear plan to minimize the spread of invasive species 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 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 in western New York and falls under the Western New York (WNY) Partnership for Regional Invasive Species Management (PRISM). There are eight PRISMs within New York State, each of which consists of the NYSDEC and their partners, including resource managers and users, non-governmental organizations, industry, citizens, and other state agencies and stakeholders (NYSDEC, 2019a). The PRISMs were enacted under Title 17, ECL 9-1705(5) (g). The WNY-PRISM prioritizes invasive species based on the ability to perform prevention, early detection, and control efforts. The WNY PRISM separates the species into five tiers: Tier 1 Early Detection/Prevention, Tier 2 Eradication, Tier 3 Containment, Tier 4 Local Control, and Tier 5 Monitor. Tier 1 Early Detection/Prevention represents the highest level of early detection survey efforts. Tier 2 Eradication represents the highest level of early detection response effort and eradication is feasible. Tier 3 Containment represents invasive species that are likely too widespread for eradication and therefore require strategic management to slow their spread. Eradication is possible of Tier 3 Containment invasive species only if there are adequate resources and effective control methods. Tier 4 Local Control means eradication is not possible within the PRISM and therefore strategic localized management is necessary to protect highpriority resources from these invasive species. Tier 5 Monitor represents species that require more research, mapping, and monitoring to better understand their invasiveness (Western New York Partnership for Regional Invasive Species Management, 2019).

The WNY PRISM identifies the following terrestrial plants and insects as Tier 1 through Tier 4 invasive species in the region (Note: Tier 5 species are not included. Tier 5 species include naturalized species and cultivated-only species that are known to be invasive in other regions but are not yet invasive here).

Table 1: Tier 1 Early Detection

Common Name	Scientific Name	Regional Distribution	Identified in Project Area
Balsam Woolly Adelgid	Adelges piceae	Not Present	No
Hardy Kiwi	Actinidia arguta	Not Present	No
Himalyan Balsam	Impatiens glandulifera	Not Present	No
Kudzu	Pueraria montana	Not Present	No
Common Name	Scientific Name	Regional Distribution	Identified in Project Area
Porcelain Berry	Ampelopsis brevipedunculata	Not Present	No
Wavyleaf Basketgrass	Oplismenus undulatifolius	Not Present	No

Table 2: Tier 2 Early Detection

Common Name	Scientific Name	Regional Distribution	Identified in Project Area
Hemlock Woolly Adelgid	Adelges tsugae	Early Detection	No
Japanese Angelica Tree	Aralia elata	Early Detection	No
Japanese Stiltgrass	Microstegium vimineum	Early Detection	No
Mile-a-Minute	Persicaria perfoliata	Early Detection	No
Slender False Brome	Brachypodium sylvaticum	Locally Common	No

Table 3: Tier 3 Containment

Common Name	Scientific Name	Regional Distribution	Identified in Project Area
Alewife	Alosa pseudoharengus	Locally Common	No
Flowering Rush	Butomus umbellatus	Locally Common	No
Giant Hogweed	Heracleum mantegazzianum	Scattered	No
Oriental Bittersweet	Celastrus orbiculatus	Locally Common	No
Swallow-wort, Black	Cynanchum Iouiseae	Common	No

Table 4: Tier 4 Local Control

Common Name	Scientific Name	Regional Distribution	Identified in Project Area
Autumn Olive	Elaeagnus umellata	Common	No
Black Locust	Robinia pseudoacacia	Common	Yes
Border Privet	Ligustrum obtusifolium	Common	No

Brittle Naiad	Najas minor	Common	No
Bush Honeysuckles	Lonicera spp.	Widespread	No
Canada Thistle	Cirsium arvense	Widespread	Yes
Cattails - Narrowleaf, Hybrid	Typha angustifolia, T. x glauca	Widespread	No
Common Buckthorn	Rhamnus cathartica	Widespread	Yes
Common Reed	Phragmites australis	Widespread	Yes
Dames Rocket	Hesperis matronalis	Widespread	Yes
Garlic Mustard	Alliaria petiolata	Widespread	Yes
Alder / Glossy Buckthorn	Frangula alnus	Widespread	Yes
Japanese Barberry	Berberis thunbergii	Widespread	Yes
Japanese Honeysuckle	Lonicera japonica	Unknown*	Yes
Knotweeds	Reynoutria spp.	Widespread	No
Lesser Celandine	Ficaria verna	Common	No
Mugwort	Artemisia vulgaris	Widespread	No
Multi-flora Rose	Rosa multi-flora	Widespread	Yes
Norway Maple	Acer platanoides	Widespread	No
Purple Loosestrife	Lythrum salicaria	Widespread	No
Reed Canary grass	Phalaris arundinacea	Widespread	Yes
Spotted Knapweed	Centaurea maculosa	Common	No
Swallow-wort, Pale	Cynanchum rossicum	Common	Yes
Wild Parsnip	Pastinaca sativa	Widespread	No
Yellow Flag Iris	Iris pseudacorus	Common	Yes

2.1 Invasive Plant Species Identified within Project Area

As part of the ecological resource survey, field efforts were conducted for the Excelsior Energy Center in the spring and summer of 2019. During the field surveys, TRC biologists documented occurrences of invasive species within the Project Area. As part of the field efforts, TRC identified 14 invasive vegetative species, which are listed as prohibited on the *Prohibited and Regulated Invasive Plants* list published by the NYSDEC on September 10, 2014 (see Attachment A) or listed as a priority invasive according to the WNY-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 in low densities throughout the Project Area:

- alder (aka glossy) buckthorn (Frangula alnus),
- black locust (Robinia pseudoacacia),
- common buckthorn (Rhamnus cathartica),
- common reed (Phragmites australis),
- Canada thistle (Cirsium arvense),
- dames rocket (Hesperis matronalis)*,
- garlic mustard (Alliaria petiolate),
- Japanese barberry (Berberis thunbergii),
- Japanese honeysuckle (Lonicera japonica),
- Morrow honeysuckle (Lonicera morrowii)**,
- multiflora rose (Rosa multiflora),
- reed canary grass (Phalaris arundinacea)*,
- pale swallow wart (Vincetoxicum rossicum), and
- yellow flag iris (Iris pseudacorus).

*Not Listed as prohibited on the NYSDEC *Prohibited and Regulated Invasive Plants* list; Identified as invasive by WNY PRISM

**Not identified by WNY PRISM; Listed as prohibited on the NYSDEC *Prohibited and Regulated Invasive Plants* list

Of the 14 species identified within the Project Area, 13 of the invasive species are listed as Tier 4 Local Control invasive plant species on the WNY-PRISM regional invasive species list and 12 are also listed as prohibited on the NYSDEC *Prohibited and Regulated Invasive Plants* list.

3.0 Invasive Insect Species in Vicinity of the Project Area

As previously mentioned, TRC biologists documented observed occurrences of invasive species within the Project Area during ecological resource survey field efforts. 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 WNY-PRISM. Additional information regarding this species is presented 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 50 counties, including Genesee County (NYSDEC, 2020). 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, 2017).

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.).



Photo 5. Emerald ash borer adult (NYSDEC, 2017b).

New York State has implemented programs to help with early detection of EAB to prevent the spread, and all of Genesee 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 required only for removals occurring during the non-flight season of the EAB, which is between September 1 and April 30 (NYSDEC, 2017). 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, 2017).

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.

4.0 Control Measures

To prevent introduction and spread of the listed species, management actions can be grouped into four main categories including: 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 particular species and its density within the target area.

- 1. Material Inspection: Material inspection includes ensuring 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 should be limited to minimize the possibility of spreading invasive species. Importation of these materials should be limited by reusing excavated products to the maximum extent practicable. Imported construction materials should 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 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 should 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 onto and off of a work site within the Project Area.

4. Restoration: Invasive species spread most readily in disturbed soil. Consequently, stabilizing the site quickly will limit the amount of time that invasive species may become established in a particular area. Therefore, once construction is complete, disturbed areas should be regraded and stabilized (with seed and mulch) as quickly as possible. Once the site is regraded, native seed mixes should be applied along with seed-free mulch to reestablish vegetative cover. Best management practices (BMPs) should 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 on and off site.

5.0 Monitoring

Prior to the start of construction, crews should be educated regarding the contents of the ISMCP to ensure that their activities on site comply with the BMPs outlined in it. Monitoring should 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 potential anthropogenic spread.

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, Excelsior 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. Interim reports will be produced for each year of monitoring, and a final report will be prepared detailing the success of the ISMCP. Reports will be provided to the NYSDEC. Evaluation of measures implemented will be completed following each monitoring period, and adaptive management

employed where appropriate to ensure objectives of the ISMCP are met. 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

- New York State Department of Environmental Conservation [NYSDEC]. 2017a. Partnerships for Regional Invasive Species Management (PRISM). Accessed January 2020 from: http://www.dec.ny.gov/animals/47433.html
- NYSDEC. 2020. Confirmed Emerald Ash Borer in New York State by County. Accessed January 2020 from:

 https://www.dec.ny.gov/docs/lands_forests_pdf/eabdistribution2019.pdf
- New York Invasive Species Information [NYIS]. 2017. 6 NYCRR Park 575 Prohibited and Regulated Invasive Species. Retrieved April 2020 from: http://www.nyis.info/?action=nycrr_575
- NYIS. n.d. Emerald ash borer (*Agrilus planipennis*). Accessed January 2020 from: http://nyis.info/invasive species/emerald-ash-borer/
- Western New York Partnership for Regional Invasive Species Management (WNY-PRISM) 2019. Priority Invasives. Accessed on January 2020 from: https://www.wnyprism.org/priority-invasives.

New York State Prohibited and Regulated

Invasive Plants

September 10, 2014













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?

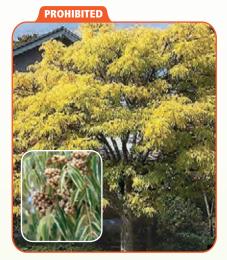
Prohibited invasive species cannot be knowingly possessed with the intent to sell, import, purchase, transport or introduce. In addition, no person shall sell, import, purchase, transport, introduce or propagate prohibited invasive species. Regulated invasive species, on the other hand, are species which 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.



Amur Cork Tree Phellodendron amurense



Amur Honeysuckle Lonicera maackii



Autumn Olive Elaeagnus umbellata



Beach Vitex Vitex rotundifolia



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



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



Border Privet Ligustrum obtusifolium



Broad-leaved Pepper-grass *Lepidium latifolium*



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



Chinese Lespedeza Lespedeza cuneata



Chinese Yam Dioscorea polystachya (D. batatas)



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



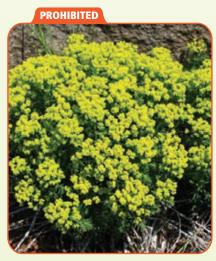
Common Buckthorn Rhamnus cathartica



Cup-plant Silphium perfoliatum



Cut-leaf Teasel Dipsacus Iaciniatus



Cypress Spurge *Euphorbia cyparissias*



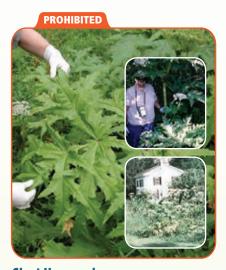
Fly Honeysuckle Lonicera x bella



Garden Loosestrife Lysimachia vulgaris



Garlic Mustard Alliaria petiolata



Giant Hogweed Heracleum mantegazzianum



Giant Knotweed Reynoutria sachalinensis (Fallopia sachalinensis, Polygonum sachalinensis)



Golden Bamboo Phyllostachys aurea



Gray Florist's Willow Salix atrocinerea



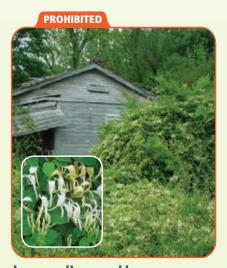
Japanese Angelica Tree Aralia elata



Japanese Barberry Berberis thunbergii



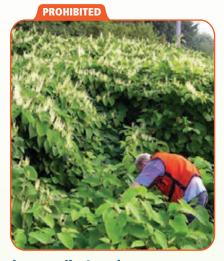
Japanese Chaff Flower
Achyranthes japonica



Japanese Honeysuckle Lonicera japonica



Japanese Hops Humulus japonicus



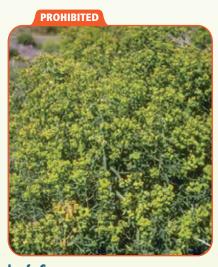
Japanese Knotweed Reynoutria japonica (Fallopia japonica, Polygonum cuspidatum)



Japanese Stilt Grass Microstegium vimineum



Kudzu Pueraria montana



Leafy Spurge Euphorbia esula



Lesser Celandine Ficaria verna (Ranunculus ficaria)



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



Morrow's Honeysuckle Lonicera morrowii



Mugwort Artemisia vulgaris



Multiflora Rose Rosa multiflora



Narrowleaf Bittercress Cardamine impatiens



Oriental Bittersweet Celastrus orbiculatus



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



Porcelain Berry Ampelopsis brevipedunculata



Slender False Brome *Brachypodium sylvaticum*



Small Carpetgrass *Arthraxon hispidus*



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



Sycamore Maple Acer pseudoplatanus



Tartarian Honeysuckle Lonicera tatarica



Wavyleaf Basketgrass Oplismenus hirtellus



Wild Chervil Anthriscus sylvestris



Wineberry Rubus phoenicolasius



Yellow Groove Bamboo *Phyllostachys aureosulcata*



Black Locust Robinia pseudoacacia



Burning Bush Euonymus alatus



Chinese Silver Grass Miscanthus sinensis



Japanese Virgin's Bower *Clematis terniflora*



Norway Maple Acer platanoides

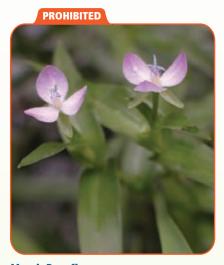


Winter Creeper Euonymus fortunei

WETLAND PLANTS



Common Reed Grass *Phragmites australis*



Marsh Dewflower Murdannia keisak



Purple Loosestrife Lythrum salicaria



Reed Manna Grass Glyceria maxima



Smooth Buckthorn Frangula alnus (Rhamnus frangula)



Yellow Iris Iris pseudacorus

AQUATIC PLANTS



Brazilian Waterweed Egeria densa



Broadleaf Water-milfoil Hybrid Myriophyllum heterophyllum x M. laxum



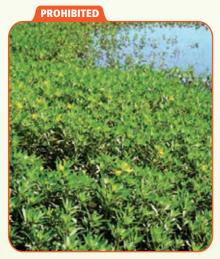
Curly Pondweed Potamogeton crispus



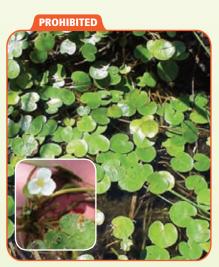
Eurasian Water-milfoil *Myriophyllum spicatum*



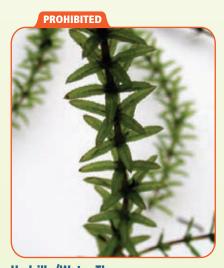
Fanwort Cabomba caroliniana



Floating Primrose Willow Ludwigia peploides



Frogbit Hydrocharis morsus-ranae

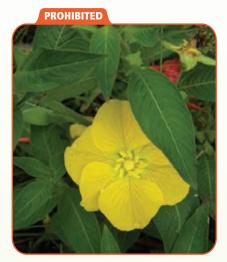


Hydrilla/Water Thyme Hydrilla verticillata



Parrot-feather Myriophyllum aquaticum

AQUATIC PLANTS



Uruguayan Primrose Willow Ludwigia hexapetala (L. grandiflora)



Water Chestnut Trapa natans



Yellow Floating Heart Nymphoides peltata

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TERRESTRIAL PLANTS, PROHIBITED: Amur Cork Tree: large photo and inset - Patrick Breen, Oregon State University, Bugwood.org; Amur Honeysuckle: large photo - John M. Randall, The Nature Conservancy, Bugwood.org, inset - Chuck Bargeron, University of Georgia, Bugwood.org; Autumn Olive: James R. Allison, Georgia Department of Natural Resources, Bugwood.org; Beach Vitex: Forest and Kim Starr, Starr Environmental, Bugwood.org; Black Swallow-wort: Leslie J. Mehrhoff, University of Connecticut, Bugwood.org; Bohemian Knotweed: Robert Vidéki, Doronicum Kft., Bugwood.org; Border Privet: Leslie J. Mehrhoff, University of Connecticut, Bugwood.org; Broad-leaved Pepper-grass: Steve Dewey, Utah State University, Bugwood.org; Canada Thistle: Steve Dewey, Utah State University, Bugwood.org; Chinese Lespedeza: James H. 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, lowa 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 Loosestrife: 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 Westbrooks, 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 Bargeron, 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 Bargeron, 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; Mile-a-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, gobotany.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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