



Invasive Species Categorization for the Lower Hudson

The following document presents the species categorizations for invasive species in the Lower Hudson region of the Lower Hudson Partnership for Regional Invasive Species Management.

The Lower Hudson region encompasses the following counties: New York (Manhattan), Bronx, Westchester, Putnam, Dutchess, Rockland, Orange and the lower half of Ulster (divided by Route 209).

Species are categorized into Tiers according to a standard state-wide system. New York State ranking evaluations are given for species where they exist. NYS Ranks with an asterisk (*) indicate updated ranks as of 12/22/16.

This list should not be considered complete. Additional species will be evaluated and categorized as time allows. Our categorization decisions have been based on currently known and recorded distributions as well as local expert knowledge of invasive species occurrences. Most species' distributions are incompletely reported -- everyone can help to provide a better picture of the current distributions by reporting observations to the New York State invasive species database, iMapInvasives (<http://imapinvasives.org>).

If you disagree with the assigned category or would like us to consider species which are not addressed here, you may send a note explaining your reasoning to invasives@nynjtc.org.

Members of the Lower Hudson PRISM working group for terrestrial plants include: Linda Rohleder, Daniel Atha, David Decker, Clara Holmes, Tait Johansson, Tom Lewis, Chris Mangels, Jessica Schuler, Tim Wenskus, Michael Young, Ryan Goolic, Chris McArdle, John Zeiger, and Keri VanCamp. Additional contributors include: John Mickelson, Molly Marquand, and Tierney Rosenstock.

Members of the species categorization working group for aquatic plants include: Amy Cahill, Chris Doyle, Emily Mayer, Alejandro Reyes, Mary Rice, Erin Cordiner, Adam Lippman, John Butler, Meredith Taylor, Michael Spada, Nicole White, and Lindsay Yoder. Additional contributors include Catherine McGlynn and Steven Pearson.

Members of the forest pests working group include: Jen Lerner, Jonathan Rosenthal, Radka Wildova, Guy Pardee, and Tim Wenskus.

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Document Change Log

Date	Description of Change
11/29/2017	Corrected typos in common names, added Document Change Log table. Updated working group member names in Introduction.
12/4/2017	Added <i>Impatiens glandulifera</i> (Himalayan balsam, policemen's helmet) to Tier 1, and <i>Symplocos paniculata</i> (sapphireberry) to Tier 2.
1/8/2018	Added <i>Broussonetia papyrifera</i> to Tier 2, moved <i>Digitalis purpurea</i> from Excluded to Tier 5, added the following to Tier 5 <i>Houttuynia cordata</i> , <i>Hyacinthoides hispanica</i> , <i>Lamium galeoboldon</i> , <i>Leucosium aestivum</i> , <i>Macleaya cordata</i> , <i>Mahonia bealei</i> , <i>Petasites japonicus</i> , and <i>Petasites hybridus</i> Added <i>Nandina domestica</i> and <i>Pennisetum alepecouroides</i> to Tier 1.
1/22/2018	Added <i>Primula japonica</i> to Tier 2. Added <i>Prunus avium</i> to Tier 4. Added <i>Corydalis solida</i> and <i>Euphorbia lathyris</i> to Tier 5. Corrected typo on Wild teasel. Added Index.
2/12/2018	Added to Tier 5 <i>Quercus acutissima</i> , <i>Ripidium ravennae</i> , <i>Schoenoplectus mucronatus</i> , <i>Pulmonaria officinalis</i> , <i>Duetzia scabra</i> , <i>Koelreuteria paniculata</i> , and <i>Luzula luzuloides</i> . Added <i>Lysimachia nummularia</i> to Tier 4. Moved <i>Miscanthus sinensis</i> to Tier 2 to treat it consistently with other species by only considering naturalized populations in the decision. Moved <i>Rhodotypos scandens</i> to Tier 3 due to the number of populations now known throughout the LH PRISM region. Moved <i>Reynoutria x bohémica</i> (<i>Fallopia x bohémica</i> , <i>Polygonum xbohémica</i>) to Tier 4 to be grouped with Japanese knotweed since separation of the two is difficult for the average observer. Corrected typo in notes field for <i>Macleaya</i> . Added variety to <i>V. opulus</i> .
4/8/2019	v.2.0. Moved <i>Koelreuteria paniculata</i> , <i>Mahonia bealei</i> , and <i>Spiraea japonica</i> from Tier 5 to Tier 2, moved <i>Kalopanax septemlobus</i> from Tier 1 to Tier 2, moved <i>Malus sieboldii</i> and <i>Phellodendron amurense</i> from Tier 2 to Tier 3, moved <i>Albizia julibrissin</i> from Excluded to Tier 5. Added 28 new terrestrial plants. Added classifications for forest pests and pathogens, and aquatic plants.
3/9/2020	v.2.1. Corrected some spelling and typo errors. Moved <i>Ilex crenata</i> and <i>Marsilea quadrifolia</i> to Tier 2, <i>Wisteria sp.</i> to Tier 4, <i>Caragana arborescens</i> and <i>Rorippa amphibia</i> to Tier 5. Added <i>Imperata cylindrica</i> to Tier 1, <i>Dittrichia graveolens</i> , <i>Butomus umbellata</i> , <i>Ligustrum ovalifolium</i> , <i>Ripidium ravennae</i> , <i>Idesia polycarpa</i> to Tier 2. Added <i>Glechoma hederacea</i> to Tier 4, and added to Tier 5 <i>Anchusa officinalis</i> , <i>Athyrium japonicum</i> , <i>Callicarpa japonica</i> , <i>Conium maculatum</i> , <i>Corydalis cheilanthifolia</i> , <i>Ligustrum vulgare</i> , <i>Linaria dalmatica</i> , <i>Berberis aquifolium</i> , <i>Magnolia tripetala</i> , and <i>Sorbaria sorbifolia</i> .
3/30/2020	v.2.2. Added classifications for 48 aquatic animals.
3/10/2021	v.2.3. Updated classifications for aquatic plants and animals.
4/30/2021	v.2.4. Updated classifications for terrestrial plants.



Tier 1 – Threat Invasive Species of the Lower Hudson PRISM

LH PRISM Threat = these are species that do not yet occur within the Lower Hudson region.

Management guideline: Focus on surveys in likely introduction areas. Prioritize prevention, education and outreach. Eradication of all detected populations where practical.

Tier 1 – Early Detection/Prevention – Highest level of survey efforts. Should conduct delineation surveys and assign to appropriate Tier if detected. (a) inside buffer but not in PRISM, (b) outside PRISM and buffer, but close (eastern North America), (c) Far outside PRISM and buffer (not in east NA) but introduction pathway exists.

TERRESTRIAL AND AQUATIC PLANTS		
Scientific Name	Common Name	NYS Rank
<i>Achyranthes japonica</i>	Japanese chaff flower	H
<i>Aldrovanda vesiculosa</i>	Water wheel	U
<i>Alternanthera philoxeroides</i>	Alligatorweed	H
<i>Carex kobomugi</i>	Asiatic sand sedge, Japanese sedge	M
<i>Carex macrocephala</i>	Largehead sedge	M
<i>Crassula helmsii</i>	Swamp crop, Pygmyweed	H
<i>Cyperus difformis</i>	Variable flat-sedge	M
<i>Dittrichia graveolens</i>	Stinkwort	
<i>Elaeagnus angustifolia</i>	Russian olive	M
<i>Eragrostis curvula</i>	Weeping lovegrass	M
<i>Glyceria maxima</i>	Reed manna grass	H
<i>Gypsophila paniculata</i>	Tall baby’s-breath	H
<i>Hygophila polysperma</i>	Hygrophila, Swampweed	H
<i>Impatiens glandulifera</i>	Himalayan balsam, Policeman’s helmet	M
<i>Imperata cylindrica</i>	Cogon grass	H
<i>Ipomoea aquatica</i>	Swamp morning-glory	H
<i>Lagarosiphon major</i>	Oxygenweed	H
<i>Lepidium latifolium</i>	Broad-leaved pepper-grass	H
<i>Ludwigia adscendens</i>	Water primrose	VH
<i>Ludwigia hexapetala</i>	Uruguayan primrose willow	VH
<i>Ludwigia peploides</i>	Floating primrose willow	VH
<i>Murdannia keisak</i>	Marsh dewflower	H
<i>Myriophyllum aquaticum</i>	Parrot feather	H
<i>Myriophyllum heterophyllum</i> x <i>M. laxum</i>	Broadleaf milfoil hybrid	VH
<i>Nandina domestica</i>	Heavenly bamboo	M

<i>Nelumbo nucifera</i>	Sacred lotus	M
<i>Nitellopsis obtusa</i>	Starry stonewort	VH
<i>Oplismenus hirtellus</i> ssp. <i>undulatifolius</i>	Wavyleaf basketgrass	H
<i>Pennisetum alepecurioides</i>	Fountain grass	
<i>Pistia stratiotes</i>	Water lettuce	VH
<i>Tamarix</i> ssp. (<i>T. chinensis</i> , <i>T. parviflora</i> , <i>T. ramosissima</i>)	Saltcedar, Tamarisk	VH
<i>Salvinia minima</i>	Water fern	H
<i>Salvinia molesta</i>	Giant Salvinia	H
<i>Schoenoplectiella mucronata</i>	Bog bulrush	H
<i>Stratiotes aloides</i>	Water soldiers	H
<i>Tripidium ravennae</i> (<i>Ripidium ravennae</i>)	Ravena grass	
<i>Vitex rotundifolia</i>	Beach Vitex, Roundleaf chastetree	H

PATHOGENS		
Scientific Name	Common Name	NYS Rank
<i>Amylostereum areolatum</i>	Sirex wasp fungus	H
<i>Ceratocystis fagacearum</i>	Oak wilt	
<i>Geosmithia morbida</i>	Walnut canker; Thousand cankers disease	M
<i>Phytophthora ramorum</i>	Sudden oak death	M

TERRESTRIAL AND AQUATIC INVERTEBRATES		
Scientific Name	Common Name	NYS Rank
<i>Adelges piceae</i>	Balsam woody adelgid	H
<i>Anoplophora glabripennis</i>	Asian longhorn beetle	H
<i>Apis mellifera scutellata</i> x <i>A. m. ligustica</i> , <i>A.m. iberiensis</i>	Africanized honey bee	M
<i>Bythotrephes cederstroemi</i>	Spiny waterflea	VH
<i>Cercopagis pengo</i>	Fishhook waterflea	VH
<i>Cipangopaludina japonica</i>	Japanese mystery snail	M
<i>Daphnia lumholtzi</i>	waterflea	M
<i>Dreisseena rostriformis bugensis</i>	Quagga mussel	VH
<i>Ips typographus</i>	European spruce beetle	
<i>Lycorma delicatula</i>	Spotted lanternfly	

<i>Lymantria dispar asiatica or Lymantria dispar japonica</i>	Asian gypsy moth	H
<i>Myrmica rubra</i>	European fire ant	
<i>Orconectes virilis</i>	Virile crayfish	VH
<i>Pityophthorus juglandis</i>	Walnut twig beetle	M
<i>Potamopyrgus antipodarum</i>	New Zealand mud snail	H
<i>Procambrus clarkia</i>	Red swamp crayfish	
<i>Rapana venosa</i>	Veined rapa whelk	H
<i>Sirex noctilio</i>	Sirex woodwasp	H
<i>Solenopsis invicta</i>	Red imported fire ant	
<i>Styela plicata</i>	Asian sea squirt	M
<i>Tetropium fuscum</i>	Brown spruce longhorned beetle	
<i>Trichoferus campestris</i>	Velvet longhorn beetle	

TERRESTRIAL AND AQUATIC VERTEBRATES		
Scientific Name	Common Name	NYS Rank
<i>Channa argus</i>	Northern snakehead	H
<i>Channa marulius</i>	Bullseye snakehead	M
<i>Channa micropeltes</i>	Giant snakehead	L
<i>Cyprinella lutrensis</i>	Red shiner	M
<i>Gymnocephalus cernuus</i>	Eurasian ruffe	M
<i>Hypophthalmichthys harmandi</i>	Largescale silver carp	M
<i>Hypophthalmichthys molitrix</i>	Silver carp	H
<i>Hypophthalmichthys nobilis</i>	Bighead carp	M
<i>Monopterus albus</i>	Asian swamp eel	M
<i>Mylopharyngodon piceus</i>	Black carp	M
<i>Neogobius melanostomus</i>	Round goby	H
<i>Proterorhinus semilunaris (P.marmoratus)</i>	Tubenose goby	M
<i>Pterois sp.</i>	Lionfish	M
<i>Pylodictis olivaris</i>	Flathead Catfish	VH
<i>Sus scrofa (excluding Sus scrofa domestica)</i>	Eurasian boar	VH
<i>Tinca tinca</i>	Tench	H
<i>Xenopus laevis</i>	African clawed frog	M

NOTES:

Impatiens glandulifera – From the Global Invasive Species Database

(<http://www.iucngisd.org/gisd/species.php?sc=942> accessed 12/4/2017) “*Impatiens glandulifera*, or Himalayan balsam, is a problematic invasive which has spread throughout Europe, parts of North America and New Zealand following introductions as an ornamental. It is an annual herb which thrives in riparian zones and disturbed areas. Its high reproductive rate, early germination, propensity for establishing thick stands, rich nectar production, hardiness, and habitat tolerance and plasticity have allowed it to spread rapidly, dominate landscapes, and compete with and displace native plant species. Eradication has proven very difficult once established and preventative measures are recommended.”

Nandina domestica – is placed in Tier 1 due to its link to two incidents of bird kills from eating the berries reported from southern states. This plant is known to invade forested areas in the south.

Pennisetum alepeuroides – has been reported to have naturalized in NY (Long Island), NJ, PA as well as Midwestern states. The National Park Service plant alert states this species “could become a serious weed in natural areas.”

Tier 2 – Emerging Invasive Species in the Lower Hudson PRISM

LH PRISM Emerging = these species are just starting to become established in localized parts of the Lower Hudson region.

Management Guideline: Eradication, or Containment and spread prevention along with restricting the area of invasion by focusing on removing outlying and border populations. These species should be a high priority for surveys, prevention, and education and outreach.

Tier 2 – Eradication – Highest level of response efforts. High impact species with low enough abundance to make eradication feasible within the PRISM. Need delineation surveys to determine extent.

TERRESTRIAL AND AQUATIC PLANTS		
Scientific Name	Common Name	NYS Rank
<i>Actinidia arguta</i>	Hardy kiwi	H?*
<i>Actinidia polygama</i>	Silver vine	U*
<i>Akebia quinata</i>	Five-leaf Akebia, Chocolate vine	M
<i>Arthraxon hispidus</i>	Small carpetgrass, Hairy jointgrass	H
<i>Arum italicum</i>	Italian arum	
<i>Arundo donax</i>	Giant reed	H
<i>Brachypodium sylvaticum</i>	Slender false brome	VH
<i>Broussonetia papyrifera</i>	Paper Mulberry	
<i>Butomus umbellata</i>	Flowering rush	
<i>Cabomba caroliniana</i>	Fanwort	H
<i>Callicarpa dichotoma</i>	Purple beautyberry	
<i>Corydalis incisa</i>	Purple keman, Incised fumewort	U*
<i>Corydalis solida</i>	Spring fumewort	
<i>Cynanchum rossicum</i>	Pale swallow-wort	VH
<i>Cytisus scoparius</i>	Scotch broom	H
<i>Dioscorea oppositifolia</i>	Chinese yam	H
<i>Dipsacus laciniatus</i>	Cut-leaf teasel	H
<i>Egeria densa</i>	Brazilian elodea	H
<i>Eichhornia crassipes</i>	Water hyacinth	M
<i>Elsholtzia ciliata</i>	Crested late summer mint	
<i>Heracleum mantegazzianum</i>	Giant hogweed	H
<i>Hydrilla verticillata</i>	Hydrilla, Water thyme	VH
<i>Hydrocharis morsus-ranae</i>	European frogbit	VH
<i>Imperata cylindrica</i>	Cogon grass	
<i>Ilex crenata</i>	Japanese holly	L

<i>Kalopanax septemlobus</i>	Castor aralia	H
<i>Koelreuteria paniculata</i>	Golden rain tree	
<i>Lespedeza cuneata</i>	Chinese bush-clover	H
<i>Ligustrum ovalifolium</i>	California privet	
<i>Ligustrum sinense</i>	Chinese privet	H
<i>Lysimachia vulgaris</i>	Garden yellow-loosestrife	H
<i>Malus hupehensis</i>	Tea crabapple	
Mahonia bealei (Berberis bealei)	Leatherleaf mahonia, Beale's barberry	
<i>Marsilea quadrifolia</i>	European water-fern	M
<i>Myriophyllum heterophyllum</i>	Broadleaf water-milfoil	VH
<i>Myriophyllum spicatum</i>	Eurasian watermilfoil	VH
<i>Nymphoides peltata</i>	Yellow floating-heart	H
<i>Perilla frutescens</i>	Beefsteak plant	M
<i>Primula japonica</i>	Japanese primrose	
<i>Prunus subhirtella</i> (incl. var. <i>pendula</i> and var. <i>ascendens</i>)	Higan cherry	
<i>Pueraria montana</i>	Kudzu	VH
<i>Rubus bifrons</i>	Himalayan blackberry	
<i>Rubus laciniatus</i>	Cut-leaf blackberry	
<i>Salvia glutinosa</i>	Jupiter's distaff, Sticky sage	M*
<i>Silphium perfoliatum</i>	Cup-plant, Rosinweed	H
<i>Spiraea japonica</i>	Japanese spirea, Japanese meadowsweet	M
<i>Styphnolobium japonicum</i>	Pogoda tree	
<i>Symplocos paniculata</i>	Sapphireberry	
<i>Syringa reticulata</i>	Tree lilac	
<i>Viburnum plicatum</i>	Japanese snowball	NA

PATHOGENS

Scientific Name	Common Name	NYS Rank

TERRESTRIAL AND AQUATIC INVERTEBRATES

Scientific Name	Common Name	NYS Rank
<i>Bithynia tentaculata</i>	Faucet snail	H
<i>Carcinus maenas</i>	European green crab	M
<i>Corbicula fluminea</i>	Asian clam	H

<i>Dendroctonus frontalis</i>	Southern pine beetle	
<i>Eriocheir sinensis</i>	Chinese mitten crab	M
<i>Gambusia holbrooki</i>	Eastern mosquitofish	H
<i>Haemaphysalis longicornis</i>	Longhorned tick	
<i>Hemigrapsus sanguineus</i>	Asian shore crab	VH
<i>Hemimysis anomala</i>	Bloody red shrimp	M
<i>Litylenchus crenatae mccannii</i>	Beech leaf disease nematode	
<i>Operophtera brumata</i>	Winter moth	
<i>Viviparus georgianus</i>	Banded Mystery Snail	VH

TERRESTRIAL AND AQUATIC VERTEBRATES		
Scientific Name	Common Name	NYS Rank
<i>Ctenopharyngodon idella</i>	Grass carp	M
<i>Misgurnus anguillicaudatus</i>	Oriental weatherfish	VH
<i>Scardinius erthrophthalmus</i>	Rudd	M

NOTES:

Actinidia polygama – [Notes to be provided]

Akebia quinata – significant problem near original plantings. Distribution localized enough for eradication possibility.

Alnus glutinosa – invasiveness rank should probably be re-evaluated. Experience with infestations near the city indicates bad invader. Potentially very bad in wetlands, waterways – worth controlling early. Few populations outside of NYC area in LH PRISM.

Arum italicum – highly invasive in other areas of the country, toxic to mammals (irritant), bird dispersed, shade-tolerant, tolerates a diversity of soil moisture, difficult to eradicate. 4 spontaneous populations found in Lower Hudson currently.

Broussonetia payrifera – spontaneous infestation is known in two counties in our PRISM, one large dense infestation has occurred. At least one southern state ranks this as significant threat (NC).

Corydalis incisa – spreading rapidly along the Bronx River corridor.

Elaeagnus angustifolia – widespread invasive in the West and Midwest. Low abundance numbers here.

Elsholtzia ciliata – significant infestation in Connecticut.

Eragrostis curvula- [Notes to be provided]

Ilex crenata – The species is somewhat cryptic and definitely underreported. There are many reports from Philadelphia, through NYC all the way to Hartford. It is sun or shade tolerant, spreading by seed, bird dispersed, moist or dry soil and widely cultivated. As its selected as an alternative to boxwood, propagule pressure from cultivated specimens will increase. Areas on Staten Island where it is fairly dense.

Koeleruteria paniculata - has been observed to produce dense thickets in NJ and spreading along roadsides in south NJ and further south in Baltimore area. Escaping and naturalizing in NY and CT.



Malus hupehensis – [Notes to be provided]

Lonicera maackii – Identification confusion among the bush honeysuckles, may be inaccurately reported.

Perilla frutescens – significant invasive in the mid-Atlantic region. Know infestation in Central Park in the LH PRISM.

Primula japonica – has been observed in several locations in the Lower Hudson and neighboring states spreading extensively in wet areas. Due to its large leaves, potential to cover large areas of wetland habitat, we feel it has potential to have impact, is likely to be more difficult to control if numbers grow, and so it's prudent to control escaped populations before they spread further.

Salvia glutinosa – a significant large infestation in Dutchess County. Sticky seeds, spreading.

Symplocos paniculata – Several known infestations in southern New York and Connecticut had many stems and dense understories of seedlings. Some are multiple acres (Long Island, and CT). Also a copious fruit producer.

Viburnum plicatum – [Notes to be provided]

Tier 3 – Established Invasive Species of the Lower Hudson PRISM

LH PRISM Established = these species are common or abundant through most of the Lower Hudson valley but not in most of the surrounding regions.

Management guideline: Focus on containment and spread prevention with special attention to borders with areas uninvaded by this species and threatened conservation targets. Surveys should detect this species to help prevent spread.

Tier 3 – Containment – Target strategic management to slow the spread, as likely too widespread for eradication, but many surrounding regions could be at risk if left unattended.

TERRESTRIAL AND AQUATIC PLANTS		
Scientific Name	Common Name	NYS Rank
<i>Acer pseudoplatanus</i>	Sycamore maple	H
<i>Aegopodium podagraria</i>	Bishop's goutweed (bishop's weed)	M
<i>Alnus glutinosa</i>	European alder, black alder	M
<i>Ampelopsis brevipedunculata</i> (A. glandulosa)	Porcelain berry, Amur peppervine	H
<i>Anthriscus sylvestris</i>	Wild chervil	H
<i>Aralia elata</i>	Japanese angelica-tree	VH
<i>Cardamine impatiens</i>	Narrowleaf bittercress	H
<i>Clematis terniflora</i>	Japanese virgin's-bower, Yam-leaved virgin's-bower	H
<i>Euonymus fortunei</i>	Winter creeper, Climbing spindle-tree	H
<i>Euphorbia cyparissias</i>	Cypress spurge	H
<i>Ficaria verna</i>	Lesser celandine, fig buttercup	VH
<i>Frangula alnus</i>	Smooth buckthorn	H*
<i>Humulus japonicus</i>	Japanese hops	H
<i>Ligustrum obtusifolium</i>	Border privet	H
<i>Malus sieboldii</i> (M. toringo)	Toringo crabapple	U
<i>Miscanthus sinensis</i>	Chinese silver grass	H*
<i>Paulownia tomentosa</i>	Princess tree, Empress tree	M
<i>Persicaria perfoliata</i> (<i>Polygonum perfoliatum</i>)	Mile-a-minute weed, Asiatic tearthumb	VH
<i>Phellodendron amurense</i>	Amur corktree	H
<i>Photinia villosa</i>	Oriental Photinia	H*
<i>Pyrus calleryana</i>	Bradford pear	M
<i>Rhodotypos scandens</i>	Black jetbead	M

<i>Salix atrocinerea</i>	Large gray willow	VH
<i>Trapa natans</i>	Water chestnut	VH
<i>Ulmus pumila</i>	Siberian elm	M
<i>Viburnum dilatatum</i>	Linden arrowwood	M
<i>Viburnum sieboldii</i>	Siebold's arrowwood	M

PATHOGENS		
Scientific Name	Common Name	NYS Rank
<i>Batrachochytrium dendrobatidis</i>	Chytrid fungus	
<i>Xyella fastidiosa</i>	Bacterial leaf scorch	

TERRESTRIAL AND AQUATIC INVERTEBRATES		
Scientific Name	Common Name	NYS Rank
<i>Adelges tsugae</i>	Hemlock woolly adelgid	H
<i>Agrilus planipennis</i>	Emerald ash borer	VH
<i>Amyntas spp.</i>	Asian earthworms	H
<i>Bipalium adventitium</i>	Broadhead planarian	
<i>Cipangopaludina chinensis</i>	Chinese mystery snail	VH
<i>Dreissena polymorpha</i>	Zebra mussel	VH
<i>Fiorinia externa</i>	Elongated hemlock scale	
<i>Oronectes rusticus</i>	Rusty crayfish	H
<i>Phytomyza gymnostoma</i>	Allium leaf miner	

AQUATIC VERTEBRATES		
Scientific Name	Common Name	NYS Rank
<i>Carassius auratus</i>	Goldfish	VH

NOTES:

Aegopodium podagraria – under-reported in the Lower Hudson. Is more common than reports indicate.

Lonicera maackii – Due to Identification confusion among the bush honeysuckles, may be inaccurately reported but focal group members believe it to be less common than *L. morrowii* in the Lower Hudson.

Malus sieboldii (*M. toringo*) – likely not able to be eradicated. Dense aggressive infestations at Vassar and in NYC.

Miscanthus sinensis- likely too widely planted to conceive of eradication so Tier 2 not feasible, but is emerging as an invader in areas of the Lower Hudson so we consider it Tier 3.

Paulownia tomentosa – invader of coastal areas in our region and spreading up Hudson river.



Pyrus calleryana – A few populations are extensive enough that control is not feasible but is emerging as an invader in areas of the Lower Hudson so we consider it Tier 3.

Rhodotypos scandens – significant problem near original plantings.

Ulmus pumila – a significant invader in Long Island, NYC and along the Hudson. Very under-reported.

Tier 4- Widespread Invasive Species of the Lower Hudson PRISM

LH PRISM Widespread = these are species that are abundant throughout the Lower Hudson valley and also in most or all of the surrounding regions.

Management guideline: lower priority for management *unless* it is to protect conservation targets or to prevent spread into areas where it does not currently exist.

Tier 4- Local Control – Eradication from PRISM not feasible; focus on localized management over time to contain, exclude, or suppress to protect high-priority resources like rare species or recreation assets. Be strategic when deciding if/where to control.

TERRESTRIAL AND AQUATIC PLANTS		
Scientific Name	Common Name	NYS Rank
<i>Acer platanoides</i>	Norway maple	VH
<i>Ailanthus altissima</i>	Tree-of-heaven	H*
<i>Alliaria petiolata</i>	Garlic mustard	VH
<i>Artemisia vulgaris</i>	Mugwort, Common mugwort	H
<i>Berberis thunbergii</i>	Japanese barberry	VH
<i>Berberis vulgaris</i>	Common barberry, European barberry	M
<i>Celastrus orbiculatus</i>	Oriental bittersweet	VH
<i>Centaurea stoebe</i>	Spotted knapweed	H
<i>Centaurea jacea</i>	Brown knapweed, Brown starthistle	M
<i>Centaurea nigra</i>	Black knapweed, Lesser knapweed	M
<i>Cirsium arvense</i>	Canada thistle	H
<i>Cirsium vulgare</i>	Bull thistle	M
<i>Cynanchum louiseae</i>	Black swallowwort	VH
<i>Dipsacus fullonum</i>	Fuller's teasel, Wild teasel	H
<i>Elaeagnus umbellata</i>	Autumn olive	VH
<i>Euonymus alatus</i>	Burning-bush, Winged spindle-tree	VH
<i>Euphorbia esula</i>	Leafy spurge	H
<i>Glechoma hederacea</i>	Ground ivy	
<i>Hedera helix</i>	English ivy	M
<i>Iris pseudacorus</i>	Yellow iris	H
<i>Lonicera japonica</i>	Japanese honeysuckle	VH
<i>Lonicera maackii</i>	Amur honeysuckle	VH
<i>Lonicera morrowii</i>	Morrow's Honeysuckle	VH
<i>Lythrum salicaria</i>	Purple loosestrife	VH
<i>Microstegium vimineum</i>	Japanese stilt grass	VH
<i>Morus alba</i>	White mulberry	M

<i>Myosotis scorpioides</i>	True forget-me-not, Water forget-me-not	U
<i>Myriophyllum spicatum</i>	Eurasian watermilfoil	VH
<i>Najas minor</i>	Brittle naiad	M
<i>Pachysandra terminalis</i>	Japanese Pachysandra, Japanese Spurge	
<i>Pastinaca sativa</i>	Wild parsnip	M*
<i>Phalaris arundinacea</i>	Reed canarygrass	H
<i>Phragmites australis</i>	Common reed grass	VH
<i>Potamogeton crispus</i>	Curly-leaf pondweed	H
<i>Prunus avium</i>	Bird cherry	M
<i>Reynoutria x bohemica</i> (<i>Fallopia x bohemica</i> , <i>Polygonum xbohemica</i>)	Bohemian knotweed	VH
<i>Reynoutria japonica</i> (<i>Fallopia japonica</i> , <i>Polygonum cuspidatum</i>)	Japanese knotweed	VH
<i>Rhamnus cathartica</i>	Common buckthorn	VH
<i>Robinia pseudoacacia</i>	Black locust	VH
<i>Rosa multiflora</i>	Multiflora rose	VH
<i>Rubus phoenicolasius</i>	Wineberry	VH
<i>Wisteria floribunda</i>	Japanese wisteria	M
<i>Wisteria sinensis</i>	Chinese wisteria	M

PATHOGENS		
Scientific Name	Common Name	NYS Rank
<i>Cryphonectria parasitica</i>	Chestnut blight	
<i>Discula destructiva</i>	Dogwood anthracnose	
<i>Geomyces destructans</i>	White-nose syndrome	VH
<i>Neonectria spp.</i>	Beech bark disease	
<i>Ophiostoma spp.</i>	Dutch elm disease	
<i>Rhizosphaera kalkhoffii</i>	Rhizosphaera needlecast disease	

TERRESTRIAL INVERTEBRATES		
Scientific Name	Common Name	NYS Rank
<i>Cryptococcus fagisuga</i>	Beech scale	H
<i>Drosophila suzukii</i>	Spotted wing drosophila	
<i>Halyomorpha halys</i>	Brown marmorated stink bug	
<i>Lilioceris lili</i>	Lily leaf beetle	
<i>Lymantria dispar dispar</i>	European gypsy moth	H

<i>Pyrrhalta viburni</i>	Viburnum leaf beetle	
<i>Tomicus piniperda</i>	Pine shoot beetle	

TERRESTRIAL AND AQUATIC VERTEBRATES		
Scientific Name	Common Name	NYS Rank
<i>Cygnus olor</i>	Mute swan	H
<i>Cyprinus carpio</i>	Common carp	VH
<i>Trachemys scripta elegans</i>	Red-eared slider	M

NOTES:

Berberis vulgaris – can be locally abundant, but generally not common, widespread throughout our region

Centaurea sp.- all listed together due to difficulty of distinguishing *C. jacea* and *C. nigra* from *C. stoebe* and that they do co-occur. They are widespread and have been in the US for a longtime.

Cirsium vulgare – It is widespread but it’s more of an incidental invader that might be managed with other invasives but should not be a primary management target. Can be problematic in disturbed, degraded sites.

Morus alba – significant invader, hybridizes with *M. rubra* so is a threat to our native species

Myosotis scorpioides – very widespread, problematic in marsh habitats. Can be easily confused with native species. Identification should be confirmed prior to control.

Pastinaca sativa – widespread, mostly in roadside and ruderal habitat. Can be problematic for human health.

Reynoutria x bohemica - this species is likely commonly misidentified as Japanese knotweed. Surveyors and managers should take care to obtain a correct identification prior to reporting.

Reynoutria japonica - This species is commonly confused with *Reynoutria x bohemica* and is actually less common in the region than records indicate. Surveyors and managers should take care to obtain a correct identification prior to reporting.

Tier 5 - Watch Invasive Species of the Lower Hudson PRISM

LHPRISM Watch = these are non-native species that are not known to be invasive in the region, or there is a lack of information available to evaluate their invasiveness, but may be exhibiting the potential to become invasive at locations within the PRISM.

Management guideline: Focus on survey and reporting

Tier 5 (Monitor) – Species that need more research, mapping, and monitoring to understand their invasiveness. This includes naturalized species and cultivated-only species that are known to be invasive in other regions but are not yet invasive here.

TERRESTRIAL AND AQUATIC PLANTS		
Scientific Name	Common Name	NYS Rank
<i>Acer ginnala</i>	Amur maple	M
<i>Acer palmatum</i>	Japanese maple	
<i>Albizia julibrissin</i>	Silk tree, Mimosa	L
<i>Amorpha fruticosa</i>	False indigo bush	NA
<i>Anchusa officinalis</i>	Common bugloss	
<i>Athyrium japonicum</i>	Japanese ladyfern	
<i>Belamcanda chinensis</i>	Blackberry lily	
<i>Berberis aquifolium</i>	Mahonia, Oregon grape	
<i>Berberis bealei</i>	leatherleaf mahonia	
<i>Berberis julianae</i>		
<i>Buddleja davidii</i>	Orange-eye butterfly-bush	L
<i>Callicarpa japonica</i>	Japanese beautyberry	
<i>Caragana arborescens</i>	Siberian peashrub	H
<i>Carex flacca</i>	Blue sedge	
<i>Cephalotaxus harringtonia</i>	Japanese plum yew	
<i>Cercidiphyllum japonicum</i>	Katsura tree	
<i>Clerodendrum trichotomum</i>	Harlequin glorybower	
<i>Conium maculatum</i>	Poison hemlock	
<i>Cornus kousa</i>	Kousa dogwood	
<i>Corydalis cheilanthifolia</i>	Fern-leaved corydalis	
<i>Cyperus iria</i>	rice-field flatsedge, rice flatsedge, iria flatsedge, grasshopper's cyperus, umbrella sedge	
<i>Digitalis grandiflora</i>	Yellow foxglove	
<i>Digitalis purpurea</i>	Purple foxglove	M
<i>Deutzia scabra</i>	Fuzzy pride-of-Rochester	

<i>Eleutherococcus sieboldianus</i> (<i>E. pentaphyllus</i>)	Five-leaved aralia	
<i>Epilobium hirsutum</i>	Great hairy willow-herb	
<i>Euonymus europaeus</i>	European spindle-tree (spindle-tree)	M
<i>Euphorbia lathyris</i>	Mole plant	M
<i>Houttuynia cordata</i>	Chameleon plant	U
<i>Hyacinthoides hispanica</i>	Spanish bluebells	
<i>Idesia polycarpa</i>	Igiri tree, Wonder tree	
<i>Kolkwitzia amabilis</i>	Beautybush	
<i>Lamium galeoboldon</i>	Yellow archangel	M
<i>Leucojum aestivum</i>	Summer snowflake	U
<i>Ligustrum vulgare</i>	European privet	
<i>Linaria dalmatica</i>	Dalmatian toadflax	
<i>Lonicera fragrantissima</i>	sweet breath of spring, winter honeysuckle, fragrant honeysuckle, winter jasmine	
<i>Lonicera tatarica</i>	Tartarian honeysuckle	VH
<i>Luzula luzuloides</i>	Oak forest woodrush	
<i>Lysimachia clethroides</i>	Gooseneck yellow-loosestrife	N-A
<i>Lysimachia punctata</i>	Spotted loosestrife, Large yellow-loosestrife	M
<i>Lythrum virgatum</i>	European wand loosestrife	VH*
<i>Macleaya cordata</i>	Plume poppy	
<i>Magnolia tripetala</i>	Umbrella magnolia	
<i>Neillia incisa</i> (<i>Stephanandra incisa</i>)	laceshrub	
<i>Ornithogalum nutans</i>	Nodding Star of Bethlehem	
<i>Ornithogalum umbellatum</i>	Common star-of-Bethlehem	M*
<i>Petasites japonicus</i>	Fuki, Butterbur	
<i>Petasites hybridus</i>	Butterbur	M*
<i>Pinellia ternata</i>	Crow-dipper	
<i>Populus alba</i>	White poplar	M
<i>Pulmonaria officinalis</i>	Lungwort	
<i>Quercus acutissima</i>	Sawtooth oak	M
<i>Reynoutria sachalinensis</i> (<i>Fallopia sachalinensis</i>)	Giant knotweed	VH
<i>Ripidium ravennae</i>	Ravena grass	
<i>Rorippa amphibia</i> (<i>Nasturtium amphibium</i>)	Yellow watercress	U
<i>Rosa rugosa</i>	Rugosa rose	M
<i>Sorbaria sorbifolia</i>	False spiraea	
<i>Styrax japonicus</i>	Japanese snowbell	

<i>Ulmus parvifolia</i>	Chinese elm, lacebark elm	
<i>Viburnum lantana</i>	Wayfaring-tree	M
<i>Viburnum opulus var. opulus</i>	European cranberry bush, Guelder rose	M
<i>Vinca minor</i>	Common periwinkle, Lesser periwinkle	M
<i>Zelkova serrata</i>	Japanese zelkova	

PATHOGENS		
Scientific Name	Common Name	NYS Rank
	White pine needle damage	

TERRESTRIAL AND AQUATIC INVERTEBRATES		
Scientific Name	Common Name	NYS Rank
<i>Crassostrea ariakensis</i>	Suminoe oyster	H
<i>Didemnum vexillum</i>	Carpet tunicate	M
<i>Piceacecis abietiperda</i>	Norway spruce shoot gall midge	

AQUATIC VERTEBRATES		
Scientific Name	Common Name	NYS Rank
<i>Clarias batrachus</i>	Walking catfish	M
<i>Gambusia affinis</i>	Western mosquitofish	VH

Notes:

Amorpha fruticosa – Considered native across much of U.S., as close to NY as PA (BONAP). This may lead to misguided planting of it as a ‘native species’. This species appears to be showing invasive tendencies in NJ.

Buddleja davidii – request reevaluation of NYS invasiveness ranking. Pennsylvania infestation of acres. Report of escapees along railroad track in Dutchess co, gardeners reporting escapees in Westchester.

Corydalis solida – there have been a handful of reported naturalized populations Dutchess and Ulster Co. also Hartford, CT. This species is perennial and produces both tubers and seeds. Due to tuber production, it may prove difficult to control manually once established. May be spreading in contaminated soils.

Digitalis grandiflora – has been found in one naturalized population.

Digitalis purpurea – has been seen spreading from garden setting into woods edge with prolific

reproduction

Euonymus europaeus – present in small numbers, not really exhibiting invasive tendencies. Monitor for now.

Euphorbia lathyris – it is unclear if much suitable habitat exists in the Lower Hudson but one population has been reported in our region

Houttuynia cordata – the Global Invasive Species Database says “high reproductive and vegetative growth rate and quickly overtakes the gardens where it is planted. Control of this species is difficult as it will reproduce rhizomatically from fragments” and garden forums indicate that this species is difficult to eradicate. There have been no naturalized populations reported in the PRISM other than existing plantings expanding.

Hyacinthoides hispanica – more investigation is needed into whether this species is producing spontaneous populations

Kolkwitzia amabilis - Reported as escaped in several states, not yet officially recorded in NY, but T. Lewis has observed it naturalizing within LH PRISM.

Lamium galeobaldon – an aggressive ground cover but mostly spreading from plantings

Leucosium aestivum – persists from cultivation but it is unclear if any spontaneous populations are produced

Lonicera tatarica - this species was recorded as Tier 5 because of the confusion among bush honeysuckles and lack of clarity about the recorded locations for this species. There have been less confirmed records of escapees than other bush honeysuckles. (Note: *Lonicera x bella* is treated separately).

Lysimachia clethroides – Naturalized in southernmost NY and parts of CT

Lysimachia punctata - Apparently more widespread than *L. clethroides* but similarly near areas of cultivation

Lythrum virgatum - Not as-yet known from NY but reported in PA and MA (BONAP)

Macleaya cordata – has been recorded in one park in NYC and is known to be very aggressive in gardens.

Ornithogalum umbellatum – reports of spread in mid-Atlantic states

Petasites ssp. (*P. japonicus*, *P. hybridus*) – garden forum comments report this species has highly invasive with specific reports of escapes into wetland areas. It has been observed in our region spreading along a stream corridor from a planting and spreading across a road from a garden setting.

Populus alba – Listed as invasive in CT and as an emerging invasive in NJ.

Reynoutria sachalinensis - this species was recorded as Monitor because it does not seem to be exhibiting as aggressive tendencies as the other knotweed species in the Lower Hudson region.

Viburnum lantana –

Viburnum opulus var. *opulus* – a few sites are known in our region, but overall distribution is unclear

Vinca minor - Widely planted groundcover plant that readily spreads into natural areas from planted locations or cut yard debris. Does not appear to reproduce by seed.

Excluded Species from the Lower Hudson PRISM List

The focal species working group has chosen to exclude these species from the list at the current time. This may be because the species has a low invasiveness rank, no known local occurrences, and/ or too much uncertainty about possible impacts. Species may be reviewed for inclusion at a later date.

TERRESTRIAL AND AQUATIC PLANTS		
Scientific Name	Common Name	NYS Rank
<i>Arctium minus</i>	Lesser burdock	
<i>Artemisia absinthium</i>	Common wormwood, Oldman wormwood	
<i>Cichorium intybus</i>	Chicory	NA
<i>Commelina communis</i>	Asiatic dayflower	
<i>Convallaria majalis</i>	European lily-of-the-valley	
<i>Convolvulus arvensis</i>	Field bindweed	NA
<i>Daucus carota</i>	Wild carrot, Queen Anne's lace	NA
<i>Digitaria ischaemum</i>	Smooth crabgrass	
<i>Digitaria sanguinalis</i>	Hairy crabgrass	
<i>Digitaria velutina</i>	Velvet fingergrass	NA
<i>Epilobium parviflorum</i>	Small-flowered hairy willowherb	
<i>Epipactis helleborine</i>	Broadleaf helleborine	L*
<i>Ginkgo biloba</i>	Ginkgo	H
<i>Hemerocaulis fulva</i>	Common daylily	L
<i>Hypericum perforatum</i>	Common St. Johns-wort	L
<i>Lotus corniculatus</i>	Birds-foot trefoil	M
<i>Lychnis flos-cuculi</i>	Ragged robin	NA
<i>Melilotus albus</i>	White sweetclover	NA
<i>Melilotus officinalis</i>	Yellow sweetclover	NA
<i>Nasturtium officinale</i>	Watercress	M
<i>Phalaris canariensis</i>	Annual canarygrass, Common canarygrass	NA
<i>Phleum pratense</i>	Timothy	M
<i>Robinia hispida</i>	Bristly locust	L
<i>Trifolium repens</i>	White clover	
<i>Tussilago farfara</i>	Coltsfoot	M
<i>Typha x glauca</i>	Hybrid cattail	H
<i>Vallisneria spiralis</i>	Eel grass	M
<i>Verbascum thapsus</i>	Common mullein	NA

PATHOGENS

Scientific Name	Common Name	NYS Rank

TERRESTRIAL INVERTEBRATES		
Scientific Name	Common Name	NYS Rank

VERTEBRATES		
Scientific Name	Common Name	NYS Rank
<i>Marsilea quadrifolia</i>	Blue tilapia	M
<i>Oreochromis niloticus</i>	Nile tilapia	M
<i>Petromyzon marinus</i>	Sea lamprey	
<i>Sander lucioperca</i> (<i>Stizostedion lucioperca</i>)	Zander	M

NOTES:

Digitaria velutina - Does not appear to occur anywhere close to NY. *D. ciliaris*, Southern crabgrass, reportedly reaches southern NY but is not considered native (NYFA). *D. violascens*, Violet crabgrass, is introduced in N. America but reported from MA (GoBotany).

Phalaris canariensis - Evidently occurs in many parts of NY and New England but its current status in LH PRISM is not clear.

Typha x glauca – we have decided not to place this species in a Tier because of disagreement in the profession about whether it should be considered native (it is a spontaneous hybrid of two native or potentially native species).

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Actinidia polygama 2
Adelges piceae 1
Adelges tsugae 3
Aegopodium podagraria 3
 Africanized honey bee 1
 African clawed frog 1
Ailanthus altissima 4
Agrilus planipennis 3
Akebia quinata 2
 Akebia, Five-leaf 2
Albizia julibrissin 5
 Alder, Black
 Alder, European 3
Aldrovanda vesiculosa 1
Alliaria petiolata 4
 Alligatorweed 1
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Ampelopsis brevipedunculata (*A. glandulosa*) 3
Amyntas spp. 3
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 Amur honeysuckle 3
 Amur maple 5
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Artemisia absinthium Excluded
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<i>Berberis bealei</i> 2	Bullseye snakehead 1
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<i>Berberis vulgaris</i> 4	Burdock, Lesser Excluded
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Black carp 1	<i>Callicarpa dichotoma</i> 2
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Black knapweed 4	Canada thistle 4
Black locust 4	Canarygrass, Annual Excluded
Black swallowwort 4	Canarygrass, Common Excluded
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<i>Broussonetia papyrifera</i> 2	<i>Centaurea nigra</i> 4
Brown knapweed 4	<i>Centaurea stoebe</i> 4
Brown marmorated stink bug 4	<i>Cephalotaxus harringtonia</i> 5
Brown spruce longhorned beetle 1	<i>Ceratocystis fagacearum</i> 1
Brown star-thistle 4	<i>Cercidiphyllum japonicum</i> 2
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Chameleon plant	5	Common wormwood	Excluded
<i>Channa argus</i>	1	<i>Conium maculatum</i>	5
<i>Channa marulius</i>	1	<i>Convallaria majalis</i>	Excluded
<i>Channa micropeltes</i>	1	<i>Convolvulus arvensis</i>	Excluded
Chastetree, Roundleaf	1	<i>Corbicula fluminea</i>	2
Cherry, Bird	4	Corktree, Amur	3
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Chicory	Excluded	<i>Corydalis incisa</i>	2
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Chinese mitten crab	2	Crabapple, Toringo	3
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Chinese privet	2	Crabgrass, Smooth	Excluded
Chinese silver grass	2	Cranberry bush, European	5
Chinese wisteria	4	<i>Crassostrea ariakensis</i>	5
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Chocolate vine	2	Crayfish, Virile	1
Chytrid fungus	3	Crested late summer mint	2
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<i>Cipangopaludina chinensis</i>	3	<i>Cryphonectria parasitica</i>	4
<i>Cipangopaludina japonica</i>	1	<i>Cryptococcus fagisuga</i>	4
<i>Cirsium arvense</i>	4	<i>Ctenopharyngodon idella</i>	2
<i>Cirsium vulgare</i>	4	Cup-plant	2
<i>Clarias batrachus</i>	5	Cut-leaf blackberry	2
<i>Clematis terniflora</i>	3	Cut-leaf teasel	2
<i>Clerodendrum trichotomum</i>	5	<i>Cygnus olor</i>	4
Climbing spindle-tree	3	<i>Cynanchum louiseae</i>	3
Clover, White	Excluded	<i>Cynanchum rossicum</i>	2
Cogon grass	1	<i>Cyperus difformis</i>	1
Coltsfoot	Excluded	Cypress spurge	3
<i>Commelina communis</i>	Excluded	<i>Cyprinella lutrensis</i>	1
Common barberry	4	<i>Cyprinus carpio</i>	4
Common buckthorn	4	<i>Cytisus scoparius</i>	2
Common bugloss	5	Dalmatian toadflax	5
Common canarygrass	Excluded	<i>Daphnia lumholtzi</i>	1
Common daylily	Excluded	<i>Daucus carota</i>	Excluded
Common mugwort	4	<i>Dendroctonus frontalis</i>	2
Common mullein	Excluded	<i>Deutzia scabra</i>	5
Common periwinkle	5	Dewflower, Marsh	1
Common reed grass	4	<i>Didemnum vexillum</i>	5
Common St. Johns-wort	Excluded	<i>Digitalis grandiflora</i>	5
Common star-of-Bethlehem	5	<i>Digitalis purpurea</i>	5

Digitaria ischaemum Excluded
Digitaria sanguinalis Excluded
Digitaria velutina Excluded
Dioscorea oppositifolia 2
Dipsacus fullonum 4
Dipsacus laciniatus 2
Discula destructiva 4
Dittrichia graveolens 2
 Dogwood Anthracnose 4
Dreissena polymorpha 3
Dreissena rostriformis bugensis 1
Drosophila suzukii 4
 Dutch elm disease 4
 Eastern mosquitofish 2
 Eel grass Excluded
Egeria densa 2
Eichhornia crassipes 2
Elaeagnus angustifolia 2
Elaeagnus umbellata 4
Eleutherococcus sieboldianus or pentaphyllus 5
 Elm, Siberian 3
 Elodea, Brazillian 2
 Elongate hemlock scale 3
Elsholtzia ciliata 2
 Emerald ash borer 3
 Empress tree 3
 English ivy 4
Epilobium parviflorum Excluded
Epipactis helleborine Excluded
Eriocheir sinensis 2
Eragrostis curvula 2
Euonymus alatus 4
Euonymus europaeus 5
Euonymus fortune 3
Euphorbia cyparissias 3
Euphorbia esula 3
Euphorbia lathyris 5
 Eurasian boar 1
 Eurasian watermilfoil 4
 European alder 2
 European barberry 4
 European cranberry bush 5
 European fire ant 1
 European frogbit 2
 European green crab 2
 European gypsy moth 4
 European lily-of-the-valley Excluded
 European privet 5
 European spindle-tree (spindle-tree) 5
 European spruce beetle 1
 European wand loosestrife 5
 European water-fern 2
 False indigo bush 5
 False spiraea 5
 Fanwort, Carolina 2
 Faucet snail 2
 Fern, water 1, 2
 Fernleaved corydalis 5
Ficaria verna 3
 Field bindweed Excluded
 Fig buttercup 3
Fiorinia externa 3
 Fishhook waterflea 1
 Five-leaf Akebia 2
 Five-leaved aralia 5
 Flathead catfish 1
 Floating primrose willow 1
 Flowering rush 2
 Forget-me-not, True 4
 Forget-me-not, Water 4
 Fountain grass 1
 Foxglove, Purple 5
 Foxglove, Yellow 5
Frangula alnus 3
 Frogbit, European 2
 Fuki 5
 Fuller's teasel 4
 Fumewort, Incised 2
 Fumewort, Spring 5
 Fuzzy pride-of-Rochester 5
Gambusia affinis 5
Gambusia holbrooki 2
 Garden yellow-loosestrife 2
 Garlic mustard 4
Geosmithia morbida 1
Geomyces destructans 4
 Giant hogweed 2
 Giant knotweed 5
 Giant reed 2
 Giant Salvinia 1

Giant snakehead 1
 Ginkgo Excluded
Ginkgo biloba Excluded
Glechoma herderacea 4
Glyceria maxima 1
 Golden raintree 2
 Goldfish 3
 Gooseneck yellow-loosestrife 5
 Goutweed, Bishop's 3
 Grape, Oregon 5
 Grass carp 2
 Ground ivy 4
 Guelder rose 5
Gymnocephalis cernuus 1
Gypsophila paniculate 2
Haemaphysalis longicornis 2
 Hairy crabgrass Excluded
 Hairy jointgrass 2
Halyomorpha halys 4
 Hardy kiwi 2
 Harlequin glorybower 5
 Heavenly bamboo 1
Hedera helix 4
 Helleborine, Broadleaf Excluded
Hemerocaulis fulva Excluded
Hemigrapsis sanguineus 2
Hemimysis anomala 2
 Hemlock, Poison
 Hemlock woolly adelgid 3
Heracleum mantegazzianum 2
 Himalayan balsam 1
 Hogweed, Giant 2
 Holly, Japanese 2
 Honeysuckle, Amur 3
 Honeysuckle, Japanese 4
 Honeysuckle, Morrow's 4
 Honeysuckle, Tartarian 5
 Hops, Japanese 3
Houttuynia cordata 5
Humulus japonicus 3
 Hyacinth, water 2
Hyacinthoides hispanica 5
 Hybrid cattail Excluded
Hydrilla verticillata 2
 Hydrilla 2
Hydrocharis morsus-ranae 1
Hygrophila polysperma 1
Hypericum perforatum Excluded
Hypophthalmichthys harmandi 1
Hypophthalmichthys molitrix 1
Hypophthalmichthys nobilis 1
Idesia polycarpa 2
Ilex crenata 2
Impatiens glandulifera 1
Imperata cylindrica 1
 Incised fumewort 2
Ipomoea aquatica 1
Iris pseudacorus 4
 Iris, Yellow 4
 Italian arum 2
 Ivy, English 4
 Ivy, ground 4
 Japanese angelica-tree 3
 Japanese barberry 4
 Japanese chaff flower 1
 Japanese holly 2
 Japanese honeysuckle 4
 Japanese hops 3
 Japanese knotweed 4
 Japanese ladyfern 5
 Japanese maple 5
 Japanese meadowsweet 5
 Japanese mystery snail 1
 Japanese plum yew 5
 Japanese primrose 2
 Japanese sedge 1
 Japanese snowball 2
 Japanese snowbell 5
 Japanese spirea 2
 Japanese stilt grass 4
 Japanese virgin's-bower 3
 Japanese wisteria 4
 Japanese zelkova 5
 Jetbead, Black 3
 Jointgrass, Hairy 2
 Jupiter's distaff 2
 Katsura tree 2
Kalopanax septemlobus 2
 Keman, Purple 2
 Kiwi, Hardy 2

Knapweed, Black 4
 Knapweed, Brown 4
 Knapweed, Lesser 4
 Knapweed, Spotted 4
 Knotweed, Bohemian 4
 Knotweed, Giant 5
 Knotweed, Japanese 4
Koelreuteria paniculata 2
Kolkwitzia amabilis 5
 Kousa dogwood 5
 Kudzu 2
 Ladyfern, Japanese 5
Lagarosiphon major 1
Lamium galeoboldon 5
 Large gray willow 2
 Large yellow-loosestrife 5
 Largescale silver carp 1
 Leafy spurge 3
 Leatherleaf mahonia 2
Lepidium latifolium 1
Lespedeza cuneata 2
 Lesser burdock Excluded
 Lesser celandine 3
 Lesser knapweed 4
 Lesser periwinkle 5
 Lettuce, water 1
Leucojum aestivum 5
Ligustrum obtusifolium 3
Ligustrum ovalifolium 2
Ligustrum sinense 2
Ligustrum vulgare 5
 Lily leaf beetle 4
 Lily-of-the-valley, European Excluded
Linaria dalmatica 5
 Linden arrowwood 2
 Linden viburnum 2
 Lionfish 1
Litylenchus crenatae mccannii 2
 Locust, Black 4
 Lotus, Sacred 1
Lonicera japonica 4
Lonicera maackii 3
Lonicera morrowii 4
Lonicera tatarica 5
 Longhorned tick 2
 Loosestrife, European wand 5
 Loosestrife, Garden yellow 5
 Loosestrife, Gooseneck yellow 5
 Loosestrife, Large yellow 5
 Loosestrife, Purple 4
 Loosestrife, spotted 5
Lotus corniculatus Excluded
 Lovegrass, Weeping 2
Ludwigia adscendens 1
Ludwigia grandiflora ssp. hexapetala 2
Ludwigia peploides 1
 Lungwort 5
Luzula luzuloides 5
Lychnis flos-cuculi Excluded
Lycorma delicatula 1
Lymantria dispar dispar 4
Lymantria dispar asiatica or Lymantria dispar japonica 1
Lysimachia clethroides 5
Lysimachia nummularia 4
Lysimachia punctata 5
Lysimachia vulgaris 2
Lythrum salicaria 4
Lythrum virgatum 5
Macleaya cordata 5
Magnolia tripetala 5
 Magnolia, umbrella 5
 Mahonia 5
Mahonia bealei 2
Malus hupehensis 2
Malus sieboldii 3
Malus toringo 3
 Maple, Norway 4
 Maple, Sycamore 3
 Marsh dewflower 1
Marsilea quadrifolia 2
 Meadowsweet, Japanese 2
Melilotus albus Excluded
Melilotus officinalis Excluded
Microstegium vimineum 4
 Mile-a-minute weed 3
 Mimosa 5
 Mint, Crested late summer 2
Miscanthus sinensis 2
Misgurnus anguillicaudatus 2

Mole plant	5	<i>Ophiostoma spp</i>	4
Moneywort	4	<i>Oplismenus hirtellus ssp. undulatifolius</i>	1
<i>Monopterus albus</i>	1	<i>Orconectes rusticus</i>	3
Morning-glory, swamp	1	Oregon grape	5
Morrow's Honeysuckle	4	Orange-eye butterfly-bush	5
<i>Morus alba</i>	4	<i>Orconectes virilis</i>	1
Mugwort	4	<i>Oreochromis aureus</i>	Excluded
Mulberry, Paper	2	<i>Oreochromus niloticus</i>	Excluded
Mulberry, White	4	Oriental bittersweet	4
Mullein, Common	Excluded	Oriental Photinia	2
Multiflora rose	4	Oriental weatherfish	2
<i>Murdannia keisak</i>	1	<i>Ornithogalum umbellatum</i>	5
Mustard, Garlic	4	Oxygenweed	1
Mute swan	4	Pale swallowwort	2
<i>Mylopharyngodon piceus</i>	1	Paper Mulberry	2
<i>Myosotis scorpioides</i>	4	Parrotfeather	1
<i>Myriophyllum aquaticum</i>	1	Parsnip, Wild	4
<i>Myriophyllum heterophyllum x M. laxum</i>	1	<i>Pastinaca sativa</i>	4
<i>Myriophyllum heterophyllum</i>	2	<i>Paulownia tomentosa</i>	3
<i>Myriophyllum spicatum</i>	4	Pear, Bradford	3
<i>Myrmica rubra</i>	1	Peashrub, Siberian	5
Naiad, brittle	4	<i>Pennisetum alepecuroides</i>	1
<i>Najas minor</i>	4	Pepper-grass, Broad-leaved	1
<i>Nandina domestica</i>	1	Peppervine, Amur	3
Narrowleaf bittercress	3	<i>Perilla frutescens</i>	2
<i>Nasturtium amphibium</i>	5	Periwinkle, Common	5
<i>Nasturtium officinale</i>	Excluded	Periwinkle, Lesser	5
<i>Nelumbo nucifera</i>	1	<i>Persicaria perfoliata (Polygonum perfoliatum)</i>	3
Nematode, Beech leaf disease		<i>Petasites hybridus</i>	5
<i>Neogobius melanostomus</i>	1	<i>Petasites japonicus</i>	5
<i>Neonectria spp</i>	4	<i>Petromyzon marinus</i>	Excluded
New Zealand mud snail	1	<i>Phalaris arundinacea</i>	4
Nile tilapia	Excluded	<i>Phalaris canariensis</i>	Excluded
<i>Nitellopsis obtusa</i>	1	<i>Phellodendron amurense</i>	3
Northern snakehead	1	<i>Phleum pretense</i>	Excluded
Norway maple	4	<i>Photinia villosa</i>	2
Norway spruce shoot gall midge	5	Photinia, Oriental	2
<i>Nymphoides peltata</i>	2	<i>Phragmites australis</i>	4
Oak forest woodrush	5	<i>Phytomyza gymnostama</i>	3
Oak, Sawtooth	5	<i>Phytophthora ramorum</i>	1
Oak wilt	1	<i>Piceacecis abietiperda</i>	5
Oldman wormwood	Excluded	<i>Pinellia ternata</i>	5
Olive, Autumn	4	Pine shoot beetle	4
Olive, Russian	2	<i>Pistia stratiotes</i>	1
<i>Operophtera brumata</i>	2	<i>Pityophthorus juglandis</i>	1

Plume poppy 5	Red swamp crayfish 1
Pogoda tree 2	Red-eared slider 4
Poison hemlock 5	Reed canarygrass 4
Policeman's helmet 1	Reed manna grass 1
Poplar, White 5	Reed, Giant 2
Poppy, Plum 5	<i>Reynoutria japonica (Fallopia japonica,</i>
<i>Populus alba</i> 5	<i>Polygonum cuspidatum)</i> 4
Porcelain berry 3	<i>Pylodictis olivaris</i> 1
<i>Potamogeton crispus</i> 3	<i>Reynoutria sachalinensis (Fallopia sachalinensis)</i> 5
<i>Potamopyrgus antipodarum</i> 1	<i>Reynoutria x bohémica (Fallopia x bohémica,</i>
Pride-of-Rochester, Fuzzy 5	<i>Polygonum xbohémica)</i> 4
Primrose willow, Floating 1	<i>Rhamnus cathartica</i> 4
Primrose willow, Uruguayan	Rhizosphaera needlecast disease 4
Primrose, Japanese 2	<i>Rhodotypos scandens</i> 3
Primrose, Water 1	<i>Ripidium ravennae</i> 2
<i>Primula japonica</i> 2	<i>Robinia hispida</i> Excluded
Princess tree 3	<i>Robinia pseudoacacia</i> 4
Privet, Border 3	<i>Rorippa amphibia</i> 5
Privet, California 2	<i>Rosa multiflora</i> 4
Privet, Chinese 2	<i>Rosa rugosa</i> 5
Privet, European 5	Rose, Guelder 5
<i>Procambrus clarkii</i> 1	Rose, Multiflora 4
<i>Protorhinus semilunaris</i> 1	Rosinweed 2
<i>Prunus avium</i> 4	Round goby 1
<i>Prunus subhirtella</i> 2	Roundleaf chastetree 1
<i>Pterois</i> sp. 1	<i>Rubus laciniatus</i> 2
<i>Pueraria montana</i> 2	<i>Rubus phoenicolasius</i> 4
<i>Pulmonaria officinalis</i> 5	Rudd 2
Purple beautyberry 2	Ruffe 1
Purple foxglove 5	Rush, flowering 2
Purple kerman 2	Russian olive 2
Purple loosestrife 4	Rusty crayfish 3
Pygmyweed 1	Sacred lotus 1
<i>Pyrrhalta viburni</i> 4	Sage, Sticky 2
<i>Pyrus calleryana</i> 3	<i>Salix atrocinerea</i> 2
Quagga mussel 1	Saltcedar 1
Queen Anne's lace Excluded	<i>Salvia glutinosa</i> 2
<i>Quercus acutissima</i> 5	Salvinia, giant 1
<i>R. kalkhoffii</i> 4	<i>Salvinia minima</i> 1
Ragged robin Excluded	<i>Salvinia molesta</i> 1
Raintree, Golden 2	Sapphireberry 2
<i>Rapana venosa</i> 1	<i>Sander lucioperca</i> Excluded
Raveena grass 2	Sawtooth oak 5
Red imported fire ant 1	<i>Scardinius erythrophthalmus</i> 2
Red shiner 1	<i>Schoenoplectiella mucronata</i> 1

Scotch broom 2
 Sea lamprey Excluded
 Sedge, Asiatic sand 1
 Sedge, Japanese 1
 Sedge, Largehead 1
 Siberian elm 3
 Siberian peashrub 5
 Siebold's arrowwood 2
 Silk tree 5
Silphium perfoliatum 2
 Silver carp 1
 Silver vine 2
Sirex noctilio 1
 Sirex wasp fungus 1
 Sirex woodwasp 1
 Slender false brome 2
 Small carpetgrass 2
 Small-flowered hairy willowherb Excluded
 Smooth buckthorn 3
 Smooth crabgrass Excluded
 Snowball, Japanese 2
 Snowflake, Summer 5
Solenopsis invicta 1
Sorbaria sorbifolia 5
 Southern pine beetle 2
 Spanish bluebells 5
 Spindle-tree, Climbing 3
 Spindle-tree, European 5
 Spindle-tree, Winged 4
 Spiny waterflea 1
 Spiraea, False 5
Spiraea japonica 2
 Spiraea, Japanese 2
 Spotted knapweed 4
 Spotted lanternfly 1
 Spotted loosestrife 5
 Spotted wing drosophila 4
 Spring fumewort 5
 Spurge, Cypress 3
 Spurge, Leafy 3
 St. Johns-wort, Common Excluded
 Star-of-Bethlehem, Common 5
 Star-thistle, Brown 4
 Starry stonewort 1
 Sticky sage 2
 Stilt grass, Japanese 4
 Stinkwort 2
 Stonewort, starry 1
Stratiotes aloides 1
Styela plicata 1
Styphnolobium japonicum 2
Styrax japonicus 5
 Sudden oak death 1
 Suminoe oyster 5
Sus scrofa (excluding Sus scrofa domestica) 1
 Summer snowflake 5
 Swallowwort, Black 3
 Swallowwort, Pale 2
 Swamp morning-glory 1
 Swamp stonecrop 1
 Swampweed 1
 Sweetclover, White Excluded
 Sweetclover, Yellow Excluded
 Sycamore maple 3
Symplocos paniculate 2
Syringa reticulata 2
 Tall baby's-breath 2
 Tamarisk 1
Tamarix ssp. (T. chinensis, T. parviflora, T. ramosissima) 1
 Tartarian honeysuckle 5
 Tea crabapple 2
 Tearthumb, Asiatic 3
 Teasel, Fuller's 4
 Teasel, Wild 4
 Tench 1
Tetropium fuscum 1
 Thistle, Bull 4
 Thistle, Canada 4
 Thyme, Water 2
 Timothy Excluded
Tinca tinca 1
 Toadflax, Dalmatian 5
Tomicus piniperda 4
 Toringo crabapple 3
Trachemys scripta elegans 4
Trapa natans 4
 Tree lilac 2
 Tree-of-heaven 4
 Trefoil, Birds-foot Excluded

Trichoferus campestris 1
Trifolium repens Excluded
Tripidium ravennae 2
 True forget-me-not 4
 Tubenose goby 1
Tussilago farfara Excluded
Typha x glauca Excluded
Ulmus parvifolia 5
Ulmus pumila 3
 Umbrella magnolia 5
 Uruguayan primrose willow 1
 Variable-leaf watermilfoil 2
Vallisneria spiralis Excluded
 Veined rapa whelk 1
 Velvet fingergrass Excluded
 Velvet longhorned beetle 1
Verbascum Thapsus Excluded
Viburnum dilatatum 2
Viburnum lantana 5
 Viburnum leaf beetle 4
Viburnum opulus 5
Viburnum plicatum 2
Viburnum sieboldii 2
Vinca minor 5
 Virgin's bower, Japanese 3
 Virgin's bower, Yam-leaved 3
 Virile crayfish 1
Vitex rotundifolia 1
 Vitex, Beach 1
Viviparus georgianus 2
 Walking catfish 5
 Walnut canker; Thousand cankers disease 1
 Walnut twig beetle 1
 Water chestnut 3
 Water flea 1
 Water fern, 1
 Water-fern, European 2
 Water forget-me-not 4
 Water hyacinth 2
 Water lettuce 1
 Water primrose 1
 Water soldiers 1
 Water thyme 2
 Watercress Excluded
 Watercress, yellow 5
 Watermilfoil, Broadleaf hybrid 1
 Watermilfoil, Broadleaf 2
 Watermilfoil, Eurasian 4
 Watermilfoil, Variable-leaf 2
 Waterwheel 1
 Wavyleaf basketgrass 1
 Wayfaring-tree 5
 Weeping lovegrass 2
 Western mosquitofish 5
 White clover Excluded
 White mulberry 4
 White-nose syndrome 4
 White pine needle damage 5
 White poplar 5
 White sweetclover Excluded
 Wild carrot Excluded
 Wild chervil 3
 Wild parsnip 4
 Wild teasel 4
 Willow, Floating primrose willow 1
 Willow, Large gray 2
 Willow, Uruguayan primrose 1
 Willowherb, small-flowered hairy Excluded
 Wineberry 4
 Winged spindle-tree 4
 Winter creeper 3
 Winter moth 2
Wisteria floribunda 4
Wisteria sinensis 4
 Wisteria, Chinese 4
 Wisteria, Japanese 4
 Wonder tree 2
 Woodrush, Oak forest 5
 Wormwood, Common Excluded
 Wormwood, Oldman Excluded
Xenopus laevis 1
Xylella fastidiosa 3
 Yam, Chinese 2
 Yam-leaved virgin's-bower 3
 Yellow archangel 5
 Yellow foxglove 5
 Yellow watercress 5
 Zander Excluded
 Zebra mussel 3
Zelkova serrata 5

