



Invasive Species Categorization for the Lower Hudson

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

The Lower Hudson region encompasses New York county (Manhattan), Bronx, Westchester, Putnam, Dutchess, Rockland, Orange and the lower half of Ulster (divided by Route 206).

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. Currently the list primarily includes terrestrial plants, however it is the intention to include other groups and taxa over time. 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 to be considered by the Lower Hudson PRISM focal species working group prior to the 2018 season.

The current members of the Lower Hudson PRISM focal species working group include: Linda Rohleder, Daniel Atha, David Decker, Tait Johansson, Tom Lewis, and Chris Mangels. Additional contributors include: John Mickelson, Molly Marquand, Tierney Rosenstock and Tim Wenskus.



Tier 1 - Threat Invasive Species of the Lower Hudson PRISM

LH PRISM Threat = these are species that to 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.

Scientific Name	Common Name	NYS Rank
<i>Achyranthes japonica</i>	Japanese chaff flower	H
<i>Carex kobomugi</i>	Asiatic sand sedge, Japanese sedge	M
<i>Crassula helmsii</i>	Swamp crop, Pygmyweed	H
<i>Glyceria maxima</i>	Reed manna grass	H
<i>Hydrocharis morsus-ranae</i>	Frogbit	VH
<i>Imperata cylindrica</i>	Cogon grass	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>Kalopanax septemlobus</i>	Castor aralia	H
<i>Murdannia keisak</i>	Marsh dewflower	H
<i>Oplismenus hirtellus</i> ssp. <i>undulatifolius</i>	Wavyleaf basketgrass	H
<i>Tamarix</i> ssp. (<i>T. chinensis</i> , <i>T. parviflora</i> , <i>T. ramosissima</i>)	Saltcedar, Tamarisk	VH
<i>Vitex rotundifolia</i>	Beach Vitex, Roundleaf chastetree	H

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.

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, hocolate vine	M
<i>Alnus glutinosa</i>	European alder, black alder	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>Corydalis incisa</i>	Purple kaman, Incised fumewort	U*
<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>Elaeagnus angustifolia</i>	Russian olive	M
<i>Elsholtzia ciliata</i>	Crested late summer mint	
<i>Eragrostis curvula</i>	Weeping lovegrass	M
<i>Gypsophila paniculata</i>	Tall baby's-breath	H
<i>Heracleum mantegazzianum</i>	Giant hogweed	H
<i>Hydrilla verticillata</i>	Hydrilla, Water thyme	VH
<i>Lespedeza cuneata</i>	Chinese bush-clover	H
<i>Ligustrum sinense</i>	Chinese privet	H
<i>Lysimachia vulgaris</i>	Garden yellow-loosestrife	H
<i>Malus hupehensis</i>	Tea crabapple	
<i>Malus sieboldii (M. toringo)</i>	Toringo crabapple	U
<i>Perilla frutescens</i>	Beefsteak plant	M
<i>Phellodendron amurense</i>	Amur corktree	H

<i>Photinia villosa</i>	Oriental Photinia	H*
<i>Pueraria montana</i>	Kudzu	VH
<i>Rhodotypos scandens</i>	Black jetbead	M
<i>Salix atrocinerea</i>	Large gray willow	VH
<i>Salvia glutinosa</i>	Jupiter's distaff, Sticky sage	M*
<i>Silphium perfoliatum</i>	Cup-plant, Rosinweed	H
<i>Viburnum dilatatum</i>	Linden arrowwood	M
<i>Viburnum plicatum</i>	Japanese snowball	NA
<i>Viburnum sieboldii</i>	Siebold's arrowwood	M
<i>Wisteria floribunda</i>	Japanese wisteria	M
<i>Wisteria sinensis</i>	Chinese wisteria	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.

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]

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

Malus hupehensis – [Notes to be provided]

Malus sieboldii (*M. toringo*)-

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

Rhodotypos scandens - significant problem near original plantings. Current known distribution localized enough for eradication possibility.

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

Viburnum dilatatum – aggressive invader, critical not to let this one get out of control, already widespread in New Jersey and Long Island, a handful of larger locations and a few smaller escapees found in our region, but not so many that we can't consider it eradicatable

Viburnum plicatum - [Notes to be provided]

Viburnum sieboldii – [Notes to be provided]

Wisteria floribunda – [Notes to be provided]

Wisteria sinensis – [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.

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>Ampelopsis brevipedunculata</i> (<i>A. glandulosa</i>)	Porcelain berry, Amur peppervine	H
<i>Anthriscus sylvestris</i>	Wild chervil	H
<i>Aralia elata</i>	Japanese angelica-tree	VH
<i>Caragana arborescens</i>	Siberian peashrub	H
<i>Cardamine impatiens</i>	Narrowleaf bittercress	H
<i>Clematis terniflora</i>	Japanese virgin's-bower, Yam-leaved virgin's-bower	H
<i>Cynanchum louiseae</i>	Black swallowwort	VH
<i>Euonymus fortunei</i>	Winter creeper, Climbing spindle-tree	H
<i>Euphorbia cyparissias</i>	Cypress spurge	H
<i>Euphorbia esula</i>	Leafy 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>Lonicera maackii</i>	Amur honeysuckle	VH
<i>Miscanthus sinensis</i>	Chinese silver grass	H*
<i>Paulownia tomentosa</i>	rincess tree, Empress tree	M
<i>Persicaria perfoliata</i> (<i>Polygonum perfoliatum</i>)	Mile-a-minute weed, Asiatic tearthumb	VH
<i>Pyrus calleryana</i>	Bradford pear	M
<i>Reynoutria japonica</i> (<i>Fallopia japonica</i> , <i>Polygonum cuspidatum</i>)	Japanese knotweed	VH



<i>Ulmus pumila</i>	Siberian elm	M
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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.

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 – 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.

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.

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.

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>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>Iris pseudacorus</i>	Yellow iris	H
<i>Lonicera japonica</i>	Japanese 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>Pastinaca sativa</i>	Wild parsnip	M*
<i>Phalaris arundinacea</i>	Reed canarygrass	H
<i>Phragmites australis</i>	Common reed grass	VH
<i>Reynoutria x bohemica</i>	Bohemian knotweed	VH

<i>(Fallopia x bohemica, Polygonum xbohemica)</i>		
<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>Trapa natans</i>	Water chestnut	VH

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.



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.

Scientific Name	Common Name	NYS Rank
<i>Amorpha fruticosa</i>	False indigo bush	NA
<i>Buddleja davidii</i>	Orange-eye butterfly-bush	L
<i>Euonymus europaeus</i>	European spindle-tree (spindle-tree)	M
<i>Ilex crenata</i>	Japanese holly	L
<i>Kolkwitzia amabilis</i>	Beautybush	
<i>Lonicera tatarica</i>	Tartarian honeysuckle	VH
<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>Ornithogalum umbellatum</i>	Common star-of-Bethlehem	M*
<i>Populus alba</i>	White poplar	M
<i>Reynoutria sachalinensis</i> (<i>Fallopia sachalinensis</i>)	Giant knotweed	VH
<i>Spiraea japonica</i>	Japanese spiraea, Japanese meadowsweet	M
<i>Viburnum lantana</i>	Wayfaring-tree	M
<i>Viburnum opulus</i>	European cranberry bush, Guelder rose	M
<i>Vinca minor</i>	Common periwinkle, Lesser periwinkle	M

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.

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



now.

Ilex crenata - Frequent though rarely abundant on L.I.; few reports in LH PRISM

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

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 S-most 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)

Ornithogalum umbellatum – reports of spread in mid-Atlantic states

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.

Spirea japonica – currently known escaped populations do not exhibit aggressive invasive tendencies. Monitor for now.

Viburnum lantana –

Viburnum opulus –

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.

Scientific Name	Common Name	NYS Rank
<i>Albizia julibrissin</i>	Silk tree, Mimosa	L
<i>Arctium minus</i>	Lesser burdock	
<i>Artemisia absinthium</i>	Common wormwood, Oldman wormwood	
<i>Cichorium intybus</i>	Chicory	NA
<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>Digitalis purpurea</i>	Purple foxglove	M
<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>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>Phalaris canariensis</i>	Annual canarygrass, Common canarygrass	NA
<i>Phleum pratense</i>	Timothy	M
<i>Trifolium repens</i>	White clover	
<i>Tussilago farfara</i>	Coltsfoot	M
<i>Typha x glauca</i>	Hybrid cattail	H
<i>Verbascum thapsus</i>	Common mullein	NA

NOTES:

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).

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.