

Invasive Plant Policy for The James G. Kaskey Memorial Park

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INTRODUCTION

Invasive plant species are non-native species that are introduced to an area and quickly become established, often showing extremely aggressive behavior and displacing other plants. Invasive plants can be introduced by accident (e.g. seeds accidentally packaged and transported on cargo ships), or on purpose as ornamental plants (e.g. burning bush was introduced for its fall foliage color). These non-native species are often limited in their natural habitats by pests, disease, or competition, but become unchecked in our region and can outcompete native species as they have no natural predators here. It is important to note though that not all non-native species are invasive, and some native species can be very aggressive in a garden. For this document, the James G. Kaskey Memorial Park adopts the Morris Arboretum of the University of Pennsylvania's definition of a native plant, which is any species of plant that was growing in Pennsylvania prior to the earliest settlement of Europeans in the area. Plants that have arrived in Pennsylvania naturally since this time are also considered native. The nativity status of plants can be checked through the United States Department of Agriculture's PLANTS database (plants.usda.gov).

This following document serves as an invasive plant policy for the James G. Kaskey Memorial Park (Kaskey Park) for how to properly handle invasive plants and how to prioritize removal of these species. Since the garden is close to three neighboring states (New Jersey, Delaware, and Maryland) invasive species in these states are also considered as potential threats. The following sites were consulted to acquire the most accurate, up-to-date, list of invasive species in each state.

Pennsylvania - <http://www.dcnr.state.pa.us/forestry/plants/invasiveplants/>

Maryland - http://www.mdinvasivesp.org/invasive_species_md.html

Delaware - <http://www.dnrec.delaware.gov/>

New Jersey - <http://www.njisst.org/>

It should be noted that the information from New Jersey comes from a non-governmental citizen science organization called the New Jersey Invasive Species Strike Team. While their list is very comprehensive it does include some species that are considered native to the lower 48 states on the USDA PLANTS database. These plants are therefore not considered non-native by the James G. Kaskey Park and cannot be classified as invasive. These species were removed from the New Jersey list prior to the following recommendations being made. All remaining species were then checked for spelling accuracy and correct nomenclature using The Plant List website online (theplantlist.org). With the information gained from these plant lists the following protocols have been proposed and accepted by the Kaskey Park Staff and Faculty Advisory Committee.

POLICY ON REMOVAL AND USE OF INVASIVE PLANT SPECIES

1. No plant listed on the Pennsylvania's DNCR invasive plant website will be planted within the Park, or other greenspace overseen by the biology staff. This policy will go into effect once all landscapes surrounding the Stephen A. Levin Building have been handed over to the oversight of the Biology staff. Landscape architecture plans had already been created and installation begun prior to the creation of this policy so a temporary postponement must be allowed. Plants

that are already in the garden and listed as invasive should be removed per severity of invasive threat as described below.

2. To prioritize plants for removal from the garden, any plant that is listed as invasive in all four states should be actively sought after and removed in any way possible and as quickly as possible. These plants warrant use of herbicides to ensure complete eradication from the garden. Constant vigilance should be given to ensure these plants do not reestablish within the Kaskey Park, or other greenspace overseen by the biology staff, once they are removed. Large mature trees that are present in the garden and are invasive in all four states should be removed quickly, but for various restraints cannot all be removed at once. A constant effort should be made to remove large invasive tree species. When possible replacement trees should be planted. Plants listed as invasive in all four states are considered red-list invasive plant species (Table 1).
3. Plants that are listed as invasive in three out of the four states consulted should be removed when seen in the garden, though are considered to not be as severe of a threat as the red-list invasive plants mentioned above. These are considered orange-list invasive plant species. When working in an area all orange-list invasive plants should be removed and when woody plants are present herbicides may be required to ensure complete removal of the plant (Table 2). Large mature trees labeled as orange-listed invasive species should be targeted for removal after all red-listed invasive mature trees are removed. When possible replacement trees should be planted.
4. Plants placed on the PA DCNR list but are not classified as red or orange list invasive plants should also be removed from the garden but are not as high priority as the other plants mentioned above. Good alternatives should be researched and used to replace these invasive plants, though this does not necessarily mean with native plant species. Bare soil and empty gardens can promote the establishment of new invasive plants so a plan for replacement should be created before these PA-invasive plants are removed, and plants should be quickly installed to replace them. These are labeled as yellow-list invasive plant species (Table 3).
5. Some species identified for removal are present in large quantities, or are only visible for certain periods of the year. These problematic species include, but are not limited to, *Hedera helix*, *Ficaria verna*, *Ornithogalum nutans*, and *Ornithogalum umbellatum*. For these problematic invasive plants an effort must be continuously made each year to limit their spread and to reduce their population numbers. Red-list invasive species should always be prioritized, but all problematic invasive species should be targeted at the opportune times of the year for their removal.
6. Plants not listed as invasive in Pennsylvania, but invasive in one or two of the neighboring states do not need to be removed from the garden, but should be watched for signs of potential invasive behaviors (Table 4). Some of these plants may be considered common weeds in the garden and should still be removed for aesthetics and display purposes but are not considered invasive.

Table 1 RED-LIST INVASIVE PLANT SPECIES

SPECIES	Common name
<i>Acer platanoides</i>	Norway maple
<i>Ailanthus altissima</i>	Tree of Heaven
<i>Alliaria petiolata</i>	Garlic mustard
<i>Ampelopsis glandulosa</i> var. <i>Brevipedunculata</i>	Porcelain berry
<i>Berberis thunbergii</i>	Japanese barberry
<i>Cardamine impatiens</i>	Narrowleaf bittercress
<i>Celastrus orbiculatus</i>	Oriental bittersweet
<i>Centaurea stoebe</i>	Spotted knapweed
<i>Cirsium arvense</i>	Canada thistle
<i>Egeria densa</i>	Brazilian waterweed
<i>Elaeagnus umbellata</i>	Autumn olive
<i>Euonymus fortunei</i>	Winter creeper
<i>Ficaria verna</i>	Lesser celandine
<i>Frangula alnus</i>	Glossy buckthorn
<i>Hedera helix</i>	English ivy
<i>Humulus scandens</i>	Japanese hops
<i>Hydrilla verticillata</i>	Hydrilla
<i>Lonicera japonica</i>	Japanese honeysuckle
<i>Lonicera tatarica</i>	Tartarian honeysuckle
<i>Lythrum salicaria</i>	Purple loosestrife
<i>Microstegium vimineum</i>	Japanese stiltgrass
<i>Miscanthus sinensis</i>	Chinese silvergrass
<i>Myriophyllum aquaticum</i>	Parrot feather
<i>Myriophyllum spicatum</i>	Eurasian water-milfoil
<i>Perilla frutescens</i>	Beefsteak plant
<i>Phalaris arundinacea</i>	Reed canarygrass
<i>Polygonum perfoliatum</i>	Mile-a-minute weed
<i>Pueraria montana</i> var. <i>Lobata</i>	Kudzu vine
<i>Pyrus calleryana</i>	Callery/bradfor pear
<i>Reynoutria japonica</i>	Japanese knotweed
<i>Rhamnus cathartica</i>	Common buckthorn
<i>Rhodotypos scandens</i>	Jetbead
<i>Rosa multiflora</i>	Multiflora rose
<i>Trapa natans</i>	Water chestnut
<i>Wisteria sinensis</i>	Chinese wisteria

Table 2 ORANGE-LIST INVASIVE PLANT SPECIES

SPECIES	Common name
<i>Akebia quinata</i>	Chocolate vine
<i>Albizia julibrissin</i>	Silk tree mimosa
<i>Anthriscus sylvestris</i>	Wild chervil
<i>Aralia elata</i>	Japanese Angelica tree
<i>Arthraxon hispidus</i>	Small carpetgrass
<i>Broussonetia papyrifera</i>	Paper mulberry
<i>Buddleja davidii</i>	Butterfly bush
<i>Cabomba caroliniana</i>	Carolina fanwort
<i>Cirsium vulgare</i>	Bull thistle
<i>Conium maculatum</i>	Poison hemlock
<i>Eichhornia crassipes</i>	Water hyacinth
<i>Euonymus alatus</i>	Winged burning bush
<i>Hemerocallis fulva</i>	Daylily
<i>Heracleum mantegazzianum</i>	Giant hogweed
<i>Iris pseudacorus</i>	Yellow flag Iris
<i>Lespedeza cuneata</i>	Chinese bushclover
<i>Ligustrum obtusifolium</i>	Border privet
<i>Lonicera fragrantissima</i>	Sweet Breath of Spring
<i>Lonicera maackii</i>	Amur honeysuckle
<i>Morus alba</i>	White mulberry
<i>Murdannia keisak</i>	Marsh dayflower
<i>Paulownia tomentosa</i>	Princess-tree
<i>Phellodendron amurense</i>	Amur corktree
<i>Phragmites australis</i>	Common phragmites
<i>Phyllostachys aurea</i>	Running bamboo
<i>Potamogeton crispus</i>	Curly pondweed
<i>Reynoutria sachaliensis</i>	Giant knotweed
<i>Rubus phoenicolasius</i>	Wineberry
<i>Saccharum ravennae</i>	Ravenna grass
<i>Sorghum halepense</i>	Johnsongrass
<i>Spiraea japonica</i>	Japanese spiraea
<i>Viburnum plicatum</i>	Japanese snowball
<i>Vincetoxicum nigrum</i>	Black swallow-wort
<i>Wisteria floribunda</i>	Japanes wisteria

Table 3 YELLOW-LIST INVASIVE PLANT SPECIES - REMOVE & REPLACE

SPECIES	Common name
<i>Acer pseudoplatanus</i>	Sycamore maple
<i>Acer tataricum</i> subsp. <i>Ginnala</i>	Amur maple
<i>Aegopodium podagraria</i>	Goutweed
<i>Alnus glutinosa</i>	European black alder
<i>Berberis vulgaris</i>	European barberry
<i>Bromus sterilis</i>	Poverty brome
<i>Bromus tectorum</i>	Cheatgrass
<i>Carduus nutans</i>	Musk thistle
<i>Centaurea jacea</i>	Brown knapweed
<i>Centaurea nigra</i>	Black knapweed
<i>Chelidonium majus</i>	Greater celandine
<i>Datura stramonium</i>	Jimsonweed
<i>Elaeagnus angustifolia</i>	Russian olive
<i>Epilobium hirsutum</i>	Smallflower and hairy willow herb
<i>Epilobium parviflorum</i>	Smallflower willow herb
<i>Galega officinalis</i>	Goat's rue
<i>Hesperis matronalis</i>	Dame's rocket
<i>Holcus lanatus</i>	Common velvet grass
<i>Lespedeza juncea</i> var. <i>Sericea</i>	Shrubby bushclover
<i>Ligustrum</i>	Privets
<i>Ludwigia peploides</i>	Creeping water primrose
<i>Lysimachia nummularia</i>	Moneywort
<i>Oplismenus undulatifolius</i>	Wavyleaf basketgrass
<i>Ornithogalum nutans</i>	Drooping Star-of-bethlehem
<i>Ornithogalum umbellatum</i>	Star-of-bethlehem
<i>Pachysandra terminalis</i>	Japanese pachysandra
<i>Pastinaca sativa</i>	Wild parsnip
<i>Persicaria longiseta</i>	Bristled knotweed
<i>Poa trivialis</i>	Rough bluegrass
<i>Schedonorus x arundinaceus</i>	Tall fescue
<i>Securigera varia</i>	Crown-vetch
<i>Sorghum bicolor</i>	Shattercane
<i>Tetradium daniellii</i>	Bee-bee tree
<i>Typha angustifolia</i>	Narrowleaf cattail
<i>Typha x glauca</i>	Hybrid cattail
<i>Ulmus pumila</i>	Siberian elm
<i>Viburnum opulus</i>	Guelder rose
<i>Vinca major</i>	Bigleaf periwinkle
<i>Vinca minor</i>	Common periwinkle
<i>Vincetoxicum rossicum</i>	Pale Swallow-wort

Table 4 WATCH LIST

SPECIES	Common name
<i>Acer palmatum</i>	Japanese maple
<i>Achyranthes bidentata</i>	Japanese chaff flower
<i>Acorus calamus</i>	Sweet flag
<i>Actinidia arguta</i>	Hardy kiwi
<i>Agrostis gigantea</i>	Giant bentgrass
<i>Agrostis stolonifera</i> var. <i>Stolonifera</i>	Spreading bentgrass
<i>Ajuga reptans</i>	Carpet bugleweed
<i>Aldrovanda vesiculosa</i>	Water wheel plant
<i>Allium vineale</i>	Wild garlic
<i>Artemisia annua</i>	Annual wormwood
<i>Artemisia stelleriana</i>	Oldwoman
<i>Artemisia vulgaris</i>	Mugwort
<i>Arum italicum</i>	Italian arum
<i>Berberis julianae</i>	Wintergreen barberry
<i>Berberis repens</i>	Creeping mahonia
<i>Brassica nigra</i>	Black mustard
<i>Bromus japonicus</i>	Japanese brome
<i>Callitriche stagnalis</i>	Water starwort
<i>Carduus acanthoides</i>	Plumeless thistle
<i>Carex kobomugi</i>	Japanese sand sedge
<i>Caulerpa taxifolia</i>	Marine macroalgae
<i>Centaurea nigrescens</i>	Short-fringed knapweed
<i>Citrus trifoliata</i>	Hardy orange
<i>Clematis flammula</i>	Fragrant clematis
<i>Clematis terniflora</i>	Japanese clematis
<i>Coincya monensis</i>	Wallflower-cabbage
<i>Commelina communis</i> var. <i>Communis</i>	Light-blue Asiatic dayflower
<i>Convolvulus arvensis</i>	Field bindweed
<i>Cornus kousa</i>	Kousa dogwood
<i>Corydalis incisa</i>	Purple kaman
<i>Cruciata glabra</i>	Yellow spring bedstraw
<i>Cuscuta japonica</i>	Purple stemmed dodder
<i>Cynodon dactylon</i>	Bermuda grass
<i>Cyperus difformis</i>	Variable flatsedge
<i>Cyrtomium falcatum</i>	Japanese net-veined holly fern
<i>Cytisus scoparius</i>	Scotch broom
<i>Daucus carota</i>	Wild carrot
<i>Deutzia scabra</i>	Duetzia
<i>Digitaria sanguinalis</i>	Hairy crabgrass
<i>Dioscorea polystachya</i>	Chinese yam
<i>Dipsacus fullonum</i>	Common teasel
<i>Dipsacus laciniatus</i>	Cutleaf teasel

SPECIES	Common name
<i>Echinochloa crus-gali</i>	Barnyard grass
<i>Elaeagnus pungens</i>	Thorny elaeagnus
<i>Elaeagnus rhamnoides</i>	Seaberry
<i>Eleutherococcus sieboldianus</i>	Five-leaf aralia
<i>Eragrostis curvula</i>	Weeping lovegrass
<i>Euonymus europaeus</i>	European spindle tree
<i>Falcaria vulgaris</i>	Sickleweed
<i>Fallopia baldschuanica</i>	Bukhara fleecy flower
<i>Fatoua villosa</i>	Hairy crabweed
<i>Festuca trachyphylla</i>	Ovina fescue
<i>Galanthus nivalis</i>	Snowdrops
<i>Galium mollugo</i>	Madder bedstraw
<i>Glechoma hederacea</i>	Ground-ivy
<i>Glossostigma cleistanthum</i>	Mudmat
<i>Hedera hibernica</i>	Atlantic ivy
<i>Hieracium flagellare</i>	Hawkweed
<i>Hosta ventricosa</i>	Blue plantain lily
<i>Houttuynia cordata</i>	Chameleon-plant
<i>Hyacinthoides hispanica</i>	Spanish bluebells
<i>Hydrocharis morsus-ranae</i>	European frog-bit
<i>Hypericum perforatum</i>	Alien St. John's-wort
<i>Hypochaeris radicata</i>	Spotted cat's-ear
<i>Ilex crenata</i>	Japanese holly
<i>Impatiens glandulifera</i>	Himalayan balsam
<i>Imperata cylindrica</i>	Cogongrass
<i>Iris domesticus</i>	Blackberry lily
<i>Kalopanax septemlobus</i>	Castor aralia
<i>Koelreuteria elegans</i>	Golden raintree
<i>Koelreuteria paniculata</i>	Golden raintree
<i>Kummerowia stipulacea</i>	Korean clover
<i>Lamium galeobdolon</i>	Yellow archangel
<i>Lespedeza thunbergii</i>	Thunberg's bushclover
<i>Leucanthemum vulgare</i>	Oxeye daisy
<i>Leucojum aestivum</i>	Summer snowflake
<i>Ligustrum ovalifolium</i>	California privet
<i>Ligustrum sinense</i>	Chinese privet
<i>Ligustrum vulgare</i>	European privet
<i>Lilium lancifolium</i>	Tiger lily
<i>Lonicera caprifolium</i>	Italian woodbine
<i>Lonicera standishii</i>	Standish's honeysuckle
<i>Lotus corniculatus</i>	Bird's-foot trefoil
<i>Ludwigia peploides</i> subsp. <i>Glabrescens</i>	Floating seedbox
<i>Lycopus europaeus</i>	European bugleweed
<i>Lythrum hyssopifolia</i>	Hyssop loosestrife

SPECIES	Common name
<i>Macleaya cordata</i>	Plume poppy
<i>Magnolia kobus</i>	Kobus magnolia
<i>Mahonia bealei</i>	Beale's Oregon-grape
<i>Malus baccata</i>	Siberian crabapple
<i>Malus toringo</i>	Japanese crabapple
<i>Marsilea quadrifolia</i>	European water-clover
<i>Morus australis</i>	Chinese mulberry
<i>Myosotis scorpioides</i>	True forget-me-not
<i>Najas minor</i>	Brittle naiad
<i>Narcissus pseudonarcissus</i>	Daffodil
<i>Nasturtium officinale</i>	Watercress
<i>Nitellopsus obtusa</i>	Starry stonewort
<i>Nymphoides peltata</i>	Yellow floating heart
<i>Oenanthe javanica</i>	Java dropwort
<i>Oplismenus hirtellus</i>	Wavyleaf basketgrass
<i>Osmanthus heterophyllus</i>	Holly osmanthus
<i>Parthenocissus tricuspidata</i>	Boston ivy
<i>Pennisetum alopecuroides</i>	Chinese fountain grass
<i>Pennisetum setaceum</i>	Black fountain grass
<i>Persicaria hydropiper</i>	Marshpepper smartweed
<i>Persicaria orientalis</i>	Prince's plume smartweed
<i>Phalaris canariensis</i>	Canarygrass
<i>Photinia villosa</i>	Oriental redbud
<i>Phragmites australis</i> subsp. <i>Australis</i>	European reed
<i>Pilosella caespitosa</i>	Meadow hawkweed
<i>Pimpinella saxifraga</i>	Burnet-saxifrage
<i>Pinus thunbergii</i>	Japanese black pine
<i>Poa compressa</i>	Canada bluegrass
<i>Populus alba</i>	White cottonwood
<i>Populus x canescens</i>	Gray poplar
<i>Potentilla reptans</i>	Creeping cinquefoil
<i>Prunus avium</i>	Sweet cherry
<i>Prunus subhirtella</i> var. <i>Pendula</i>	Ornamental cherry
<i>Pyrus betulifolia</i>	Birch leaf cherry
<i>Quercus acutissima</i>	Sawtooth oak
<i>Ranunculus bulbosus</i>	Bulbous buttercup
<i>Ranunculus repens</i>	Creeping buttercup
<i>Rhamnus davurica</i>	Dahurian buckthorn
<i>Rhamnus utilis</i>	Chinese buckthorn
<i>Ribes rubrum</i>	Garden red current
<i>Rorippa sylvestris</i>	Creeping yellowcress
<i>Rosa canina</i>	Dog rose
<i>Rosa luciae</i>	Memorial rose
<i>Rottboellia cochinchinensis</i>	Itchgrass

SPECIES	Common name
<i>Rubus armeniacus</i>	Himalaya blackberry
<i>Rubus laciniatus</i>	Evergreen blackberry
<i>Rubus triphyllus</i>	Three-leaf blackberry
<i>Salix babylonica</i>	Chinese willow
<i>Salvia glutinosa</i>	Jupiter's distaff
<i>Salvinia adnata</i>	Giant salvinia
<i>Schoenoplectiella mucronata</i>	Bog bulrush
<i>Setaria faberi</i>	Nodding foxtail
<i>Setaria pumila</i>	Dwarf yellow foxtail
<i>Setaria verticillata</i>	Bristly foxtail
<i>Setaria viridis</i>	Green foxtail
<i>Silene flos-cuculi</i>	Ragged robin
<i>Stellaria aquatica</i>	Giant chickweed
<i>Stellaria media</i>	Common chickenweed
<i>Stratiotes aloides</i>	Water soldier
<i>Styrax japonicus</i>	Japanese snowbell
<i>Taraxacum campyloides</i>	Dandelion
<i>Thlaspi alliaceum</i>	Roadside penny-cress
<i>Tribulus terrestris</i>	Puncturevine
<i>Tussilago farfara</i>	Colts-foot
<i>Ulmus parvifolia</i>	Chinese elm
<i>Ulmus procera</i>	English elm
<i>Verbascum thapsus</i>	Great mullein
<i>Viburnum dilatatum</i>	Linden viburnum
<i>Viburnum lantana</i>	Wayfaringtree viburnum
<i>Viburnum setigerum</i>	Tea viburnum
<i>Viburnum sieboldii</i>	Siebold's viburnum
<i>Vicia tetrasperma</i>	Lentil vetch
<i>Zelkova serrata</i>	Japanese zelkova

Appendix I.

COMMONWEALTH OF PENNSYLVANIA COMPLETE INVASIVE PLANT SPECIES LIST

SPECIES	COMMON NAME
<i>Acer platanoides</i>	Norway maple
<i>Acer pseudoplatanus</i>	Sycamore maple
<i>Acer tataricum subsp. ginnala</i>	Amur maple
<i>Aegopodium podagraria</i>	Goutweed
<i>Ailanthus altissima</i>	Tree of Heaven
<i>Akebia quinata</i>	Chocolate Vine
<i>Albizia julibrissin</i>	Silk Tree Mimosa
<i>Alliaria petiolata</i>	Garlic Mustard
<i>Alnus glutinosa</i>	European black alder
<i>Ampelopsis glandulosa var. brevipedunculata</i>	Porcelain Berry
<i>Anthriscus sylvestris</i>	Wild Chervil
<i>Aralia elata</i>	Japanese angelica tree
<i>Arthraxon hispidus</i>	Small Carpetgrass
<i>Berberis thunbergii</i>	Japanese barberry
<i>Berberis vulgaris</i>	European barberry
<i>Bromus sterilis</i>	Poverty Brome
<i>Bromus tectorum</i>	Cheatgrass
<i>Broussonetia papyrifera</i>	Paper Mulberry
<i>Buddleja davidii</i>	Butterfly bush
<i>Cabomba caroliniana</i>	Carolina fanwort
<i>Cardamine impatiens</i>	Narrowleaf bittercress
<i>Carduus nutans</i>	Musk thistle
<i>Celastrus orbiculatus</i>	Oriental bittersweet
<i>Centaurea jacea</i>	Brown knapweed
<i>Centaurea nigra</i>	Black knapweed
<i>Centaurea stoebe</i>	Spotted knapweed
<i>Chelidonium majus</i>	Greater celandine
<i>Cirsium arvense</i>	Canada thistle
<i>Cirsium vulgare</i>	Bull thistle
<i>Conium maculatum</i>	Poison hemlock
<i>Datura stramonium</i>	Jimsonweed
<i>Egeria densa</i>	Brazilian waterweed
<i>Elaeagnus angustifolia</i>	Russian olive
<i>Elaeagnus umbellata</i>	Autumn olive
<i>Epilobium hirsutum</i>	Smallflower and hairy willow herb
<i>Epilobium parviflorum</i>	Smallflower willow herb
<i>Euonymus alatus</i>	Winged burning bush
<i>Euonymus fortunei</i>	Winter creeper
<i>Ficaria verna</i>	Lesser celandine

<i>Frangula alnus</i>	Glossy buckthorn
<i>Galega officinalis</i>	Goat's Rue
<i>Hedera helix</i>	English ivy
<i>Hemerocallis fulva</i>	Daylily
<i>Heracleum mantegazzianum</i>	Giant hogweed
<i>Hesperis matronalis</i>	Dame's Rocket
<i>Holcus lanatus</i>	Common velvet grass
<i>Humulus scandens</i>	Japanese hops
<i>Hydrilla verticillata</i>	Hydrilla
<i>Iris pseudacorus</i>	Yellow flag Iris
<i>Lespedeza cuneata</i>	Chinese bushclover
<i>Lespedeza juncea var. sericea</i>	Shrubby bushclover
<i>Ligustrum</i>	Privets
<i>Lonicera fragrantissima</i>	Sweet Breath of Spring
<i>Lonicera japonica</i>	Japanese honeysuckle
<i>Lonicera tatarica</i>	Tartarian Honeysuckle
<i>Ludwigia peploides</i>	Creeping Water Primrose
<i>Lysimachia nummularia</i>	Moneywort
<i>Lythrum salicaria</i>	Purple loosestrife
<i>Microstegium vimineum</i>	Japanese Stiltgrass
<i>Miscanthus sinensis</i>	Chinese silvergrass
<i>Morus alba</i>	White mulberry
<i>Myriophyllum aquaticum</i>	Parrot Feather
<i>Myriophyllum spicatum</i>	Eurasian water-milfoil
<i>Oplismenus undulatifolius</i>	Wavyleaf basketgrass
<i>Ornithogalum nutans</i>	Drooping Star-of-Bethlehem
<i>Ornithogalum umbellatum</i>	Star-of-Bethlehem
<i>Pachysandra terminalis</i>	Japanese pachysandra
<i>Pastinaca sativa</i>	Wild parsnip
<i>Paulownia tomentosa</i>	Princess-tree
<i>Perilla frutescens</i>	Beefsteak plant
<i>Persicaria longiseta</i>	Bristled Knotweed
<i>Phalaris arundinacea</i>	Reed Canarygrass
<i>Phellodendron amurense</i>	Amur Corktree
<i>Phragmites australis</i>	Common Phragmites
<i>Phyllostachys aurea</i>	Running Bamboo
<i>Poa trivialis</i>	Rough bluegrass
<i>Polygonum perfoliatum</i>	Mile-a-minute weed
<i>Potamogeton crispus</i>	Curly Pondweed
<i>Pueraria montana var. lobata</i>	Kudzu Vine
<i>Pyrus calleryana</i>	Callery/Bradfor Pear
<i>Reynoutria japonica</i>	Japanese Knotweed
<i>Reynoutria sachaliensis</i>	giant knotweed
<i>Rhamnus cathartica</i>	Common Buckthorn

<i>Rhodotypos scandens</i>	Jetbead
<i>Rosa multiflora</i>	Multiflora rose
<i>Rubus phoenicolasius</i>	Wineberry
<i>Saccharum ravennae</i>	Ravenna grass
<i>Schedonorus x arundinaceus</i>	Tall fescue
<i>Securigera varia</i>	Crown-vetch
<i>Sorghum bicolor</i>	Shattercane
<i>Sorghum halepense</i>	Johnsongrass
<i>Spiraea japonica</i>	Japanese spiraea
<i>Tetradium daniellii</i>	Bee-bee tree
<i>Trapa natans</i>	Water chestnut
<i>Typha angustifolia</i>	Narrowleaf cattail
<i>Typha x glauca</i>	Hybrid cattail
<i>Ulmus pumila</i>	Siberian elm
<i>Viburnum opulus</i>	Guelder Rose
<i>Viburnum plicatum</i>	Japanese snowball
<i>Vinca major</i>	Bigleaf periwinkle
<i>Vinca minor</i>	Common Periwinkle
<i>Vincetoxicum nigrum</i>	Black swallow-wort
<i>Vincetoxicum rossicum</i>	Pale Swallow-wort
<i>Wisteria floribunda</i>	Japanes Wisteria
<i>Wisteria sinensis</i>	Chinese wisteria

Appendix II.

INVASIVE PLANT SPECIES VOLUNTARY CODES OF CONDUCT FOR BOTANIC GARDENS & ARBORETA Endorsed by American Public Gardens Association, February 2002

- Conduct an institution-wide review examining all departments and activities that provide opportunities to stem the proliferation of invasive species and inform visitors. For example, review or write a collections policy that addresses this issue; examine such activities as seed sales, plant sales, book store offerings, wreath-making workshops, etc.
- Avoid introducing invasive plants by establishing an invasive plant assessment procedure. Predictive risk assessments are desirable, and should also include responsible monitoring on the garden site or through partnerships with other institutions. Institutions should be aware of both direct and indirect effects of plant introduction, such as biological interference in gene flow, disruption of pollinator relationships, etc.
- Consider removing invasive species from plant collections. If a decision is made to retain an invasive plant, ensure its control and provide strong interpretation to the public explaining the risk and its function in the garden.
- Seek to control harmful invasive species in natural areas managed by the garden and assist others in controlling them on their property, when possible.
- Promote non-invasive alternative plants or, when possible, help develop non-invasive alternatives through plant selection or breeding.
- If your institution participates in seed or plant distribution, including through Index Seminum, do not distribute known invasive plants except for bona-fide research purposes, and consider the consequences of distribution outside your biogeographic region. Consider a statement of caution attached to species that appear to be potentially invasive but have not been fully evaluated.
- Increase public awareness about invasive plants. Inform why they are a problem, including the origin, mechanisms of harm, and need for prevention and control. Work with the local nursery and seed industries to assist the public in environmentally safe gardening and sales. Horticulture education programs, such as those at universities, should also be included in education and outreach efforts. Encourage the public to evaluate what they do in their own practices and gardens.
- Participate in developing, implementing, or supporting national, regional, or local early warning systems for immediate reporting and control. Participate also in the creation of regional lists of concern.
- Botanical gardens should try to become informed about invasiveness of their species in other biogeographic regions, and this information should be compiled and shared in a manner accessible to all.
- Become partners with other organizations in the management of harmful invasive species.

Follow all laws on importation, exportation, quarantine, and distribution of plant materials across political boundaries, including foreign countries. Be sensitive to conventions and treaties that deal with this issue, and encourage affiliated organizations (plant societies, garden clubs, etc.) to do the same.