
WOODY PLANT INVENTORY

FOR FORT WADSWORTH

Staten Island Unit
Gateway National Recreation Area
Staten Island, New York





United States Department of the Interior



NATIONAL PARK SERVICE
Frederick Law Olmsted National Historic Site
99 Warren Street
Brookline, Massachusetts 02146

IN REPLY REFER TO:

H30

February 22, 1995

Memorandum

To: Chief, Development Division, North Atlantic Region

Through: Manager, Olmsted Center for Landscape Preservation *MM*

From: Supervisor, Preservation Maintenance Branch, Olmsted Center for Landscape Preservation

Subject: Woody Plant Inventory, Fort Wadsworth, Staten Island Unit, Gateway National Recreation Area

Enclosed is the final Woody Plant Inventory report and for Fort Wadsworth, prepared by Margie Coffin of the Olmsted Center for Landscape Preservation (OCLP). The project was conducted collaboratively with Gary Koller, Senior Horticulturist, Arnold Arboretum of Harvard University, and Michael Byer, Ph.D., Botanist, Gateway National Recreation Area.

The report and associated maps provide preliminary inventory information on the extant woody trees, shrubs and vines within the proposed National Park Service boundary for Fort Wadsworth. The report also identifies future projects addressing Emergency Landscape Stabilization and Maintenance and the Assessment and Management of Significant Landscape Features. Cost estimates for the highest priority recommendations, which the OCLP can provide assistance on, include;

Emergency Stabilization and Maintenance

- | | |
|---|-----------|
| 1. Stabilize Tree Hazards and Protect Existing Vegetation | \$ 8,300 |
| 2. Assess/Mitigate Root Damage to Historic Structures | \$ 19,300 |
| 3. Prepare Slope Management Plan | \$ 6,400 |

Assessment and Management of Significant Landscape Features

- | | |
|--|-----------|
| 1. Assess Vegetation for Historic Significance and Prepare a Cultural Landscape Inventory/Assessment/Report. | \$ 48,000 |
|--|-----------|

If you have any questions or comments, please do not hesitate to call me at (617)566-1689 or Nora Mitchell, Manager, at (617)223-5059.

Charles Pepper

cc;

Nora Mitchell, OCLP

Larry Gall, NARO

Mary Gibson Scott, GATE

Margie Coffin, OCLP

Woody Plant Inventory at Fort Wadsworth, Staten Island, NY
prepared by Margie Coffin, Olmsted Center for Landscape Preservation, January 1995

In response to a request for technical assistance, the Olmsted Center for Landscape Preservation has prepared this preliminary report on the woody vegetation at Fort Wadsworth. This report contains a summary of inventory notes, management issues and recommendations, a map of vegetation identified, a list of plant species, and supplemental information on pruning techniques and vegetation control.

INVENTORY NOTES

On December 14 - 16, 1994, a plant inventory was conducted at the Fort Wadsworth property in Staten Island, New York. The purpose of the inventory was to identify woody tree, shrub, and vine species within the proposed National Park Service boundary (figure 1: map, June 1994). This was a preliminary inventory to provide immediate information on the existing vegetation. Specifically the team looked for:

- stands of native species
- unique or rare species
- remnants of historical plantings
- uncommon individual specimens or groups of specimens
- plants of remarkable age, size, or character
- hazardous conditions & horticultural problems that should be addressed

With these objectives in mind, the team examined the vegetation in all areas, identified the genus and species of plants in the field, estimated the age of the oldest plants in each area, identified hazardous conditions and work needed. Information is summarized in this report and attached maps (figure 2: Woody Plant Inventory). The inventory was conducted by Gary Koller, Senior Horticulturalist from the Arnold Arboretum of Harvard University, Margie Coffin, Historical Landscape Architect from the Olmsted Center for Landscape Preservation, and Dr. Michael Byer, Botanist for the Gateway National Recreation Area. This was a preliminary inventory to provide immediate information on existing vegetation. Additional field work is necessary to provide a more detailed survey of all extant vegetation.

Because the inventory was conducted in the late fall, most leaves had dropped from the deciduous vegetation. Plants were identified by buds, bud scars, twig and bark characteristics, taste, seed pods, and remaining leaves. The absence of leaves allowed the team to see further into the densely vegetated areas and thereby inventory the composition of these areas.

The inventory focused on the areas within the proposed NPS boundary. Areas beyond this boundary but within the Fort Wadsworth property were visually scanned.

I. Planted Trees and Shrubs

Throughout the property there are trees and shrubs that were intentionally planted during the course of the development of Fort Wadsworth. In some cases the planting pattern is evident such as the rows of London Plane Tree (*Platanus x acerifolia*) along the streets and large specimen trees surrounding residences (figure 3: trees that appear planted). The area that contained the most extensive plantings was the Officer's quarters area, or Mont Sec Avenue, on the west side of the property (figure 3A: Mont Sec Area). In addition many of streets throughout Fort Wadsworth are lined with trees ranging in age from recently planted to 75-100 years old. The area on the east side of the bridge contains many fragments of plantings that are likely remnants from residences that pre-date the area's military use. More information can be found in the Cultural Resource Report being prepared by the Cultural Resources Management Division with consultants Oz Architects and Planners.

While some of the planted shrubs appear around base residences, other shrubs have spread or naturalized. This is particularly evident with the California privet (*Ligustrum ovalifolium*) shrubs growing in both clusters and lines, but also dispersed throughout the wooded areas surrounding the fortifications (figure 4: shrubs that appear planted).

II. Oldest Trees

The age of vegetation within Fort Wadsworth ranges from very recently planted to approximately 150 - 200 years old. The oldest trees may be the enormous Tuliptree (*Liriodendron tulipifera*) with a 50 inch diameter at four feet, a 60 foot canopy and estimated 100 foot height and an adjacent European Beech (*Fagus sylvatica*) beside it with a 67 inch diameter (figure 5: oldest trees). Throughout the site there are trees and shrubs that may be older than 50 years. If Fort Wadsworth is nominated as a historic district, these trees could contribute to its historic integrity. Some of these plants were recorded during the field survey (figure 5A: trees and shrubs that may be over 50 years old). There are likely to be many more plants older than 50 years. A survey focusing on plant age is highly recommended.

III. Retained Plants

In some cases the native vegetation may have been consciously retained during early modifications to the landscape, such as the remaining stands of native trees described below in #4. A more detailed study of old photographs and plans would help to determine what extant vegetation was planted or retained and therefore part of the cultural landscape.

IV. Stands of Native Trees

Several areas within Fort Wadsworth contain stands of mature native trees that likely pre-date the WW I fortifications, and could possibly date from the 19th century estate period. The most notable clusters of native trees included stands of American elm (*Ulmus americana*), sassafras (*Sassafras albidum*), red maple (*Acer rubrum*), silver maple (*Acer saccharinum*) and Kentucky coffeetree (*Gymnocladus dioica*). Each stand consists of 10 - 30 trees and includes non-native shrubs and vines. Additional research on these areas is recommended. Each stand should be examined in greater detail to determine tree age and potential historical/ botanical significance (figure 6: stands of native trees).

V. Stand of Oaks

A woodland remnant in the southwest corner of the Fort Wadsworth property contains a stand of mixed trees, primarily oaks (*Quercus sp.*). This area may not have been disturbed during the 19th century estate period or the development of the site by the military. However, it is important to note this stand is outside of the proposed NPS boundary according to the 6/94 map (figure 7: possible natural area).

VI. Unique/ Uncommon Vegetation

While some species were common throughout the property, others were only found as individual plants or in one location (figure 8: only one or group on site). A survey of uncommon herbaceous vegetation should be conducted in the spring and summer.

VII. Vegetation in Disturbed and Regenerated Areas

Historic photos indicate that several areas at Fort Wadsworth were stripped of their vegetation during the development of the WWI fortifications. In the last 40-50 years a diversity of native and non-native trees, shrubs, vines and herbaceous plants have grown up in these areas. Therefore, these can best be described as disturbed regenerated areas. These areas include a mix of native and non-native, rapidly growing pioneer species such as Norway and sycamore maples (*Acer platanoides* and *pseudoplatanus*), boxelder (*Acer negundo*), boxelder (*Ailanthus altissima*), mulberry (*Morus alba*), black cherry (*Prunus serotina*), black locust (*Robinia pseudoacacia*), Japanese honeysuckle (*Lonicera japonica*), and porcelain berry (*Ampelopsis brevifolia*) (figure 9: disturbed regenerated areas).

MANAGEMENT ISSUES AND RECOMMENDATIONS

A. Hazardous Trees and Arboricultural Care

As part of the vegetation inventory, the team noted the presence of hazardous tree conditions, and identified work needed. Hazards included deadwood and hanging dead limbs over areas of high use such as benches, walks, and play areas. Many healthy trees were in need of arboricultural care. From our preliminary condition assessment we noted the following work needed:

- figure 10: removal of tree stakes and guy wires on trees planted within the past ten years;
- figure 11: removal of deadwood, improved pruning cuts of branch stubs;
- figure 12: removal of dead trees in visitor use areas (may require Section 106 compliance); and
- figure 13: rejuvenation of old shrubs.

Ideally a comprehensive condition assessment could be carried out in the late spring or early summer.

B. Root Damage to Historic Structures

The Regional Archaeologist is concerned about damage to the historic fort structures caused by vegetation that has grown unchecked for many years. For example, trees are now growing up between steps, walls, doors, etc. Tree species that are particularly invasive due to their shallow roots are: Sycamore Maple (*Acer pseudoplatanus*), Norway Maple (*Acer platanoides*), Common Mulberry (*Morus alba*), and Tree-of-Heaven (*Ailanthus altissima*). Other trees and shrubs are growing in close proximity to the fort but have less invasive root systems and thus are not as damaging. These include: Black Cherry (*Prunus serotina*), Gray Birch, (*Betula populifolia*).

A more detailed examination of this issue is recommended to 1) determine which trees are causing the most damage, 2) determine the age of the trees with tree cores 3) determine whether any of the damaging trees have historical significance, 4) determine what will be the most effective long-term maintenance strategy, and 5) undertake a selective removal program without disturbing the soil and with the guidance of the Regional Archeologist, 6) for those plants that require removal, count and document growth rings.

C. Slope Management - Vegetation Removal and Regrowth

Vegetation has been cut on the slope below Fort Tompkins to restore the view of Battery Weed, the shipping channel, and New York Harbor. However much of these woody plants (such as Tree-of-Heaven, Maple, and Black Cherry) are likely to grow back quickly. Roots, left to retain soil on the steep slope, can send up vigorous shoots that grow to a height of ten to fifteen feet in two years. Thus another cut may be necessary within five years. To minimize maintenance and erosion but retain the view, the following is recommended:

- minimize the frequency of cutting and the use of equipment on the slope to reduce erosion;
- leave roots to hold the soil;
- encourage existing herbaceous plants, low woody plants, and vines with the exception of poison ivy; and
- when cutting woody vegetation to regain view, consider a low-impact chemical treatment as described in attached information.

FUTURE PROJECTS

Below is a list of related projects that could be carried out in the future. Future projects that the Olmsted Center for Landscape Preservation could assist with include:

Emergency Stabilization and Maintenance

1. Complete work needed to address hazardous trees and protect existing vegetation as described in item A and figures 10, 11, 12, and 13.
2. Address the issue of root damage to historic structures as discussed above in item B.
3. Develop a slope management plan to fully address the safe and effective maintenance of the vegetation as discussed above in item C.

Assessment and Management of Significant Landscape Features

1. Assess age of vegetation with core sampling. Determine which plants contribute to the historical significance of the property, and whether these plants were planted or retained. Prepare a Cultural Landscape Inventory/ Assessment or Cultural Landscape Report which includes period plans depicting certain stages in the site's history, including buildings and vegetative cover.
2. Conduct a vegetation survey of shrubs and herbaceous plants in the spring and summer, describe vegetation communities within different areas of the property.
3. Develop a vegetation management plan to set vegetation management policies and objectives, identify management techniques and research needs, and create a monitoring program for different vegetation areas.
4. Collect herbarium specimens of all species found on the property so that the identification can be verified by a taxonomist. The specimens will also serve to document the existing conditions at the time of NPS acquisition (see attached preliminary species list).
5. Determine the wildlife value of the property and related vegetation requirements, and protect these areas accordingly.

List of Plant Species

<u>Code</u>	<u>Botanical Name</u>	<u>Common Name</u>
Ax	Abelia x grandiflora	Glossy Abelia
An	Acer negundo	Box Elder
Au	Acer palmatum	Japanese Maple
Ac	Acer platanoides	Norway Maple
Ap	Acer pseudoplatanus	Sycamore Maple
Ar	Acer rubrum	Red Maple
As	Acer saccharinum	Silver Maple
Am	Acer saccharum	Sugar Maple
Ah	Aesculus hippocastanum	Horsechestnut
Aa	Ailanthus altissima	Tree-of-Heaven
Af	Amorpha fruticosa	Indigobush Amorpha
Ab	Ampelopsis brevifolia	Porcelain Berry
Bt	Berberis thunbergii	Japanese Barberry
Ba	Betula alleghaniensis	Yellow Birch
Bl	Betula lenta	Sweet Birch
Bp	Betula populifolia	Gray Birch
Ce	Celastrus orbiculatus	Oriental Bittersweet
Co	Celtis occidentalis	Hackberry
Cp	Chamaecyparis pisifera 'Filifera Nana'	Sawara Cypress
Ct	Chamaecyparis thyoides	White Cedar
Cl	Clematis paniculata	Sweetautumn Clematis
Cf	Cornus florida	Flowering Dogwood
Cm	Cornus mas	Corneliancherry Dogwood
Cs	Cornus sericea 'Flaviramea'	Golden-twigg Dogwood
Cj	Cryptomeria japonica	Japanese Cryptomeria
Dl	Deutzia x lemoinei	Lemoine Deutzia
Ds	Deutzia sp.	Deutzia
Eu	Elaeagnus umbellata	Autumn-olive
Ea	Euonymus alata 'Compacta'	Compact Winged Euonymus
Ek	Euonymus kiatschovica	Spreading Euonymus
Es	Euonymus sp.	Goldtip Euonymus
Fs	Fagus sylvatica	European Beech
Fi	Forsythia x intermedia	Border Forsythia
Fs	Forsythia suspensa	Weeping Forsythia
Fa	Fraxinus americana	White Ash
Gt	Gleditsia triacanthos	Honeylocust
Gi	Gleditsia triacanthos inermis	Thornless Honeylocust
Gd	Gymnocladus dioicus	Kentucky Coffeetree
Hh	Hedera helix	English Ivy
Hs	Hibiscus syriacus	Rose-of-Sharon

Hm	<i>Hydrangea macrophylla</i>	Bigleaf Hydrangea
Hp	<i>Hydrangea paniculata</i>	Panicle Hydrangea
Ib	<i>Ilex cornuta</i> 'Burfordii'	Burford's Chinese Holly
Ic	<i>Ilex crenata</i>	Japanese Holly
Io	<i>Ilex opaca</i>	American Holly
Jn	<i>Juglans nigra</i>	Black Walnut
Jc	<i>Juniperus chinensis</i>	Chinese Juniper
Jt	<i>Juniperus chinensis torulosa</i> 'Hollywood'	Hollywood Juniper
Jh	<i>Juniperus horizontalis</i>	Creeping Juniper
Jb	<i>Juniperus horizontalis</i> 'Blue Chip'	Blue Chip Juniper
Jv	<i>Juniperus virginiana</i>	Eastern Red Cedar
Kl	<i>Kalmia latifolia</i>	Mountain Laurel
Lf	<i>Leucothoe fontanesiana</i>	Drooping Leucothoe
Lo	<i>Ligustrum ovalifolium</i>	California Privet
Ls	<i>Liquidambar styraciflua</i>	Sweetgum
Lt	<i>Liriodendron tulipifera</i>	Tuliptree
Lj	<i>Lonicera japonica</i>	Japanese Honeysuckle
Mg	<i>Magnolia soulangeana</i>	Saucer Magnolia
Ms	<i>Malus</i> sp.	Apple/Crabapple seedlings
Ma	<i>Morus alba</i>	Common Mulberry
Mp	<i>Myrica pennsylvanica</i>	Bayberry
Pa	<i>Parthenocissus tricuspidata</i>	Boston Ivy
Pw	<i>Paulownia tomentosa</i>	Princess Tree
Pc	<i>Philadelphus coronarius</i>	Mock Orange
Pe	<i>Picea abies</i>	Norway Spruce
Pg	<i>Picea pungens glauca</i>	Colorado Blue Spruce
Pj	<i>Pieris japonica</i>	Japanese Pieris
Pn	<i>Pinus nigra</i>	Austrian Pine
Pi	<i>Pinus strobus</i>	Eastern White Pine
Pt	<i>Pinus thunbergii</i>	Japanese Black Pine
Px	<i>Platanus x acerifolia</i>	London Plane Tree
Py	<i>Polygonum cuspidatum</i>	Japanese Knotweed
Pd	<i>Populus deltoides</i>	Cottonwood
Pu	<i>Populus</i> sp.	Poplar species
Ps	<i>Prunus serotina</i>	Black Cherry
Pk	<i>Prunus serrulata</i> 'Kwansan'	Kwansan Cherry
Pr	<i>Prunus</i> sp.	Cherry
Pp	<i>Prunus persica</i>	Peach
Po	<i>Pseudosasa japonica</i>	Arrow Bamboo
Pl	<i>Pyracantha coccinea</i> 'Lelandei'	Lelandei Scarlet Firethorn
Pb	<i>Pyrus calleryana</i> 'Bradford'	Bradford's Callery Pear
Qa	<i>Quercus alba</i>	White Oak
Qc	<i>Quercus coccinea</i>	Scarlet Oak
Qp	<i>Quercus palustris</i>	Pin Oak

Qr	<i>Quercus rubra</i>	Red Oak
Qv	<i>Quercus velutina</i>	Black Oak
Rc	<i>Rhododendron catawbiense</i>	Catawba Rhododendron
Rs	<i>Rhododendron</i> sp.	Azalea
Rj	<i>Rhododendron</i> 'P.J.M.'	P.J.M. Rhododendron
Rh	<i>Rhodotypos scandens</i>	Jetbead
Rg	<i>Rhus glabra</i>	Smooth Sumac
Rr	<i>Rhus radicans</i>	Poison Ivy
Rt	<i>Rhus typhina</i>	Staghorn Sumac
Rp	<i>Robinia pseudoacacia</i>	Black Locust
Ro	<i>Rosa species</i>	Rose species
Rm	<i>Rosa multiflora</i>	Multiflora Rose
Ru	<i>Rubus</i> sp.	Raspberry/ Blackberry species
Sc	<i>Sambucus canadensis</i>	American Elderberry
Sa	<i>Sassafras albidum</i>	Sassafras
Sj	<i>Sophora japonica</i>	Japanese Pagoda Tree
Sr	<i>Smilax rotundifolia</i>	Greenbrier
Sv	<i>Spiraea x vanhouttei</i>	Bridal-wreath Spirea
St	<i>Stephanandra incisa</i>	Lace Shrub
Sy	<i>Syringa vulgaris</i>	Common Lilac
Tb	<i>Taxus baccata</i> 'Repandens'	Prostrate English Yew
Tc	<i>Taxus cuspidata</i>	Japanese Yew
Tm	<i>Taxus x media</i>	Anglojap Yew
Tx	<i>Taxus</i> sp.	Yew species
To	<i>Thuja occidentalis</i>	American Arborvitae
Tl	<i>Tilia cordata</i>	Little-leaved European Linden
Ti	<i>Tilia</i> sp.	Linden species
Ts	<i>Tsuga canadensis</i>	Canadian Hemlock
Ua	<i>Ulmus americana</i>	American Elm
Us	<i>Ulmus</i> sp.	Elm species
Vc	<i>Vaccinium corymbosum</i>	Highbush Blueberry
Vm	<i>Vinca minor</i>	Periwinkle groundcover
Vp	<i>Viburnum plicatum</i> var. <i>tomentosum</i>	Doublefile Viburnum
Vs	<i>Vitis</i> sp.	Grape sp., likely Fox Grape
Wf	<i>Weigela florida</i>	Flowering Weigela

WOODY PLANT INVENTORY FORT WADSWORTH STATEN ISLAND, NEW YORK

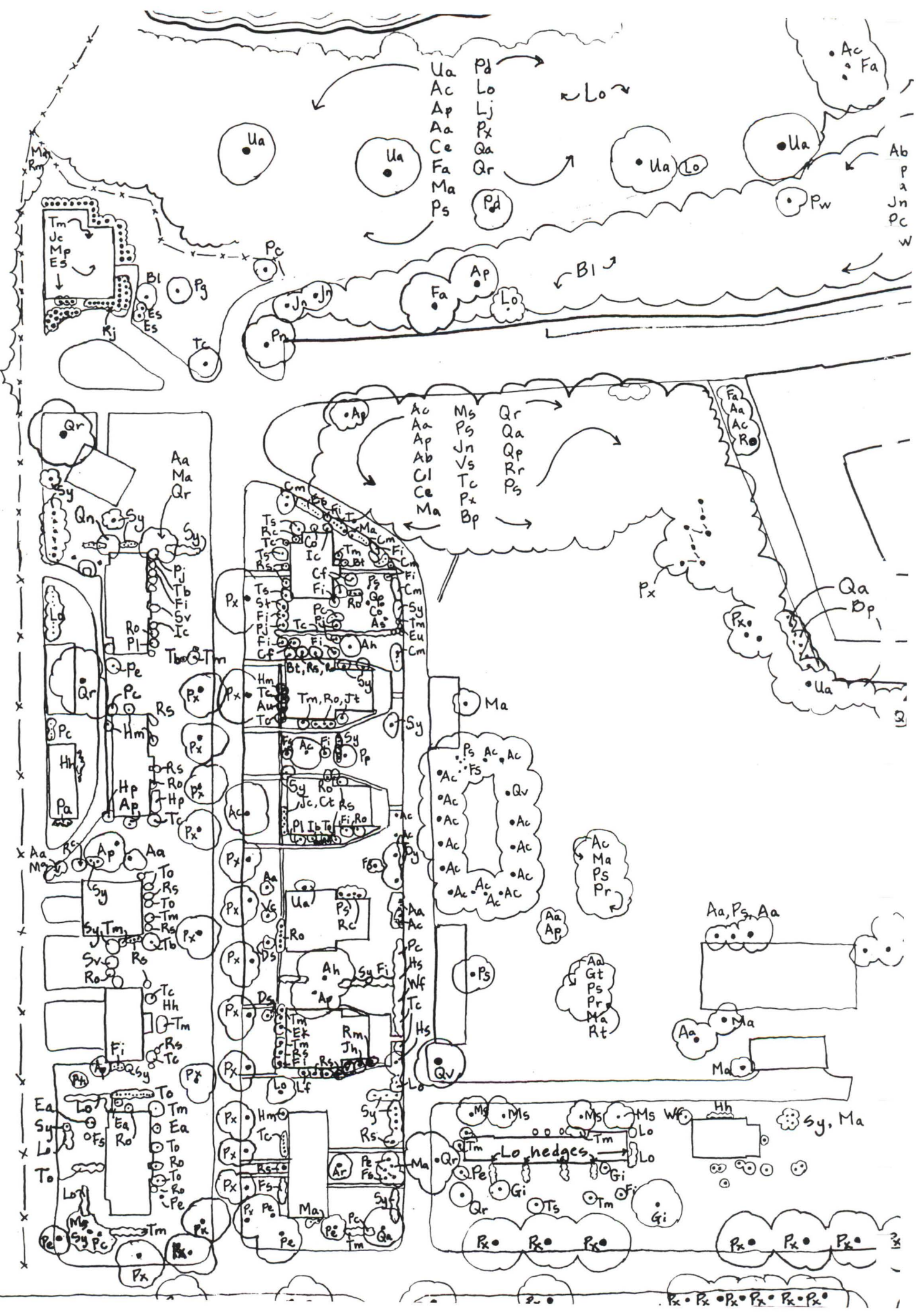
Inventory of woody trees, shrubs and vines conducted on December 14, 1994 by
Oliver Keller, Robert Heston, David Schuman
Dr. Michael Rye, Botanist, Gateway National Recreation Area
Margaret Cullen, Historical Landscape Architect, Olmsted Center for Landscape Preservation
Map prepared using 1984 aerial photograph

List of Plant Species

Code	Botanical Name	Common Name
A1	<i>Abies balsamea</i>	Giant Spruce
A2	<i>Abies grandis</i>	Red Spruce
A3	<i>Abies balsamea</i>	Japanese Spruce
A4	<i>Abies balsamea</i>	White Spruce
A5	<i>Abies balsamea</i>	Black Spruce
A6	<i>Abies balsamea</i>	Blue Spruce
A7	<i>Abies balsamea</i>	White Spruce
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A96	<i>Abies balsamea</i>	Blue Spruce
A97	<i>Abies balsamea</i>	White Spruce
A98	<i>Abies balsamea</i>	Black Spruce
A99	<i>Abies balsamea</i>	Blue Spruce
A100	<i>Abies balsamea</i>	White Spruce

Figure 2: Woody Plant Inventory

Figure 3A: Mont Sec Area



Inventory of woody trees, shrubs and vines conducted on December 16, 18, 1994 by
 Gary Koller, Senior Horticulturist, Arnold Arboretum
 Dr. Michael Byer, Botanist, Gateway National Recreation Area
 Margaret Coffin, Historical Landscape Architect, Olmsted Center for Landscape Preservation

Map prepared using 1994 aerial photograph

[illegible]

CRUMMET CENTER FOR LANDSCAPE PRESERVATION 	Project: Woody Plant Inventory Fort Wadsworth Statens Island, New York Drawn by: MC January 1995 Checked: Revised:	North Scale: 1" = approx. 100' Sheet 1 of 1 Existing Conditions [December 14 - 16, 1994]
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Figure 4 Shrubs that appear planted

WOODY PLANT INVENTORY FORT WADSWORTH STATEN ISLAND, NEW YORK

Inventory of woody trees, shrubs and vines conducted on December 14, 1994 by
Gary Keller, Senior Horticulturist, Arnold Arboretum
Dr. Michael Rye, Research, Gateway National Recreation Area
Margaret Caffin, Historical Landscape Architect, Olmsted Center for Landscape Preservation
Map prepared using 1984 aerial photograph

List of Plant Species

Code	Botanical Name	Common Name
A1	Acer glaberrimum	Green Ash
A2	Acer negundo	Box Elder
A3	Acer palmatum	Japanese Maple
A4	Acer platanoides	Norway Maple
A5	Acer pseudoplatanus	Sycamore Maple
A6	Acer rubrum	Red Maple
A7	Acer saccharum	Silver Maple
A8	Acer saccharinum	Black Maple
A9	Aesculus hippocastanum	Horsechestnut
B1	Alnus incana	Tree of Heaven
B2	Amelanchier canadensis	Indigo-bush Amelanchier
B3	Amelanchier laevis	Japanese Berry
B4	Betula alba	European Birch
B5	Betula alleghaniensis	Yellow Birch
B6	Betula lenta	Sweet Birch
B7	Betula papyrifera	Gray Birch
C1	Catalpa bignonioides	Discal Bignoniaceae
C2	Celtis occidentalis	Hickberry
C3	Chamaecyparis pinnatifida	Pinus sp.
C4	Chamaecyparis thyoides	White Cedar
C5	Clematis integrifolia	American Clematis
C6	Cornus florida	Flowering Dogwood
C7	Cornus mas	European Dogwood
C8	Cornus sericea	Japanese Dogwood
C9	Corymbus japonicus	Japanese Corymbus
D1	Desmodium illinoense	Common Desmodium
D2	Desmodium sp.	Desmodium
D3	Diostea umbellata	American Elm
D4	Diostea sp.	Common Wreath
D5	Diostea sp.	Spreading Wreath
D6	Diostea sp.	Spreading Wreath
D7	Diostea sp.	Spreading Wreath
D8	Diostea sp.	Spreading Wreath
D9	Diostea sp.	Spreading Wreath
D10	Diostea sp.	Spreading Wreath
D11	Diostea sp.	Spreading Wreath
D12	Diostea sp.	Spreading Wreath
D13	Diostea sp.	Spreading Wreath
D14	Diostea sp.	Spreading Wreath
D15	Diostea sp.	Spreading Wreath
D16	Diostea sp.	Spreading Wreath
D17	Diostea sp.	Spreading Wreath
D18	Diostea sp.	Spreading Wreath
D19	Diostea sp.	Spreading Wreath
D20	Diostea sp.	Spreading Wreath
D21	Diostea sp.	Spreading Wreath
D22	Diostea sp.	Spreading Wreath
D23	Diostea sp.	Spreading Wreath
D24	Diostea sp.	Spreading Wreath
D25	Diostea sp.	Spreading Wreath
D26	Diostea sp.	Spreading Wreath
D27	Diostea sp.	Spreading Wreath
D28	Diostea sp.	Spreading Wreath
D29	Diostea sp.	Spreading Wreath
D30	Diostea sp.	Spreading Wreath
D31	Diostea sp.	Spreading Wreath
D32	Diostea sp.	Spreading Wreath
D33	Diostea sp.	Spreading Wreath
D34	Diostea sp.	Spreading Wreath
D35	Diostea sp.	Spreading Wreath
D36	Diostea sp.	Spreading Wreath
D37	Diostea sp.	Spreading Wreath
D38	Diostea sp.	Spreading Wreath
D39	Diostea sp.	Spreading Wreath
D40	Diostea sp.	Spreading Wreath
D41	Diostea sp.	Spreading Wreath
D42	Diostea sp.	Spreading Wreath
D43	Diostea sp.	Spreading Wreath
D44	Diostea sp.	Spreading Wreath
D45	Diostea sp.	Spreading Wreath
D46	Diostea sp.	Spreading Wreath
D47	Diostea sp.	Spreading Wreath
D48	Diostea sp.	Spreading Wreath
D49	Diostea sp.	Spreading Wreath
D50	Diostea sp.	Spreading Wreath
D51	Diostea sp.	Spreading Wreath
D52	Diostea sp.	Spreading Wreath
D53	Diostea sp.	Spreading Wreath
D54	Diostea sp.	Spreading Wreath
D55	Diostea sp.	Spreading Wreath
D56	Diostea sp.	Spreading Wreath
D57	Diostea sp.	Spreading Wreath
D58	Diostea sp.	Spreading Wreath
D59	Diostea sp.	Spreading Wreath
D60	Diostea sp.	Spreading Wreath
D61	Diostea sp.	Spreading Wreath
D62	Diostea sp.	Spreading Wreath
D63	Diostea sp.	Spreading Wreath
D64	Diostea sp.	Spreading Wreath
D65	Diostea sp.	Spreading Wreath
D66	Diostea sp.	Spreading Wreath
D67	Diostea sp.	Spreading Wreath
D68	Diostea sp.	Spreading Wreath
D69	Diostea sp.	Spreading Wreath
D70	Diostea sp.	Spreading Wreath
D71	Diostea sp.	Spreading Wreath
D72	Diostea sp.	Spreading Wreath
D73	Diostea sp.	Spreading Wreath
D74	Diostea sp.	Spreading Wreath
D75	Diostea sp.	Spreading Wreath
D76	Diostea sp.	Spreading Wreath
D77	Diostea sp.	Spreading Wreath
D78	Diostea sp.	Spreading Wreath
D79	Diostea sp.	Spreading Wreath
D80	Diostea sp.	Spreading Wreath
D81	Diostea sp.	Spreading Wreath
D82	Diostea sp.	Spreading Wreath
D83	Diostea sp.	Spreading Wreath
D84	Diostea sp.	Spreading Wreath
D85	Diostea sp.	Spreading Wreath
D86	Diostea sp.	Spreading Wreath
D87	Diostea sp.	Spreading Wreath
D88	Diostea sp.	Spreading Wreath
D89	Diostea sp.	Spreading Wreath
D90	Diostea sp.	Spreading Wreath
D91	Diostea sp.	Spreading Wreath
D92	Diostea sp.	Spreading Wreath
D93	Diostea sp.	Spreading Wreath
D94	Diostea sp.	Spreading Wreath
D95	Diostea sp.	Spreading Wreath
D96	Diostea sp.	Spreading Wreath
D97	Diostea sp.	Spreading Wreath
D98	Diostea sp.	Spreading Wreath
D99	Diostea sp.	Spreading Wreath
D100	Diostea sp.	Spreading Wreath

Liriodendron tulipifera
Fagus sylvatica

Figure 5: Oldest Trees

Map prepared using 1994 aerial photograph

Map prepared using 1994 aerial photograph

[illegible]

NOTE: Not a complete survey, follow up recommended!

WOODY PLANT INVENTORY FORT WADSWORTH STATEN ISLAND, NEW YORK

Inventory of woody trees, shrubs and vines conducted on December 14, 1994 by
Gary Koller, Susan Hentschel, Arnold Arboretum
Dr. Michael Byst, Susan, Glenview National Recreation Area
Margaret Coffin, Historical Landscape Architects, Olmsted Center for Landscape Preservation
Map prepared using 1994 aerial photograph

List of Plant Species

Code	Botanical Name	Common Name
A1	Absinthia grandiflora	Grass Ache
A2	Acer negundo	Box Elder
A3	Acer palmatum	Japanese Maple
A4	Acer platanoides	Norway Maple
A5	Actinopanax	Japanese Maple
A6	Aster rubrum	Red Maple
A7	Aster multiflorus	Silver Maple
A8	Aster multiflorus	Silver Maple
A9	Aster multiflorus	Silver Maple
A10	Aster multiflorus	Silver Maple
A11	Aster multiflorus	Silver Maple
A12	Aster multiflorus	Silver Maple
A13	Aster multiflorus	Silver Maple
A14	Aster multiflorus	Silver Maple
A15	Aster multiflorus	Silver Maple
A16	Aster multiflorus	Silver Maple
A17	Aster multiflorus	Silver Maple
A18	Aster multiflorus	Silver Maple
A19	Aster multiflorus	Silver Maple
A20	Aster multiflorus	Silver Maple
A21	Aster multiflorus	Silver Maple
A22	Aster multiflorus	Silver Maple
A23	Aster multiflorus	Silver Maple
A24	Aster multiflorus	Silver Maple
A25	Aster multiflorus	Silver Maple
A26	Aster multiflorus	Silver Maple
A27	Aster multiflorus	Silver Maple
A28	Aster multiflorus	Silver Maple
A29	Aster multiflorus	Silver Maple
A30	Aster multiflorus	Silver Maple
A31	Aster multiflorus	Silver Maple
A32	Aster multiflorus	Silver Maple
A33	Aster multiflorus	Silver Maple
A34	Aster multiflorus	Silver Maple
A35	Aster multiflorus	Silver Maple
A36	Aster multiflorus	Silver Maple
A37	Aster multiflorus	Silver Maple
A38	Aster multiflorus	Silver Maple
A39	Aster multiflorus	Silver Maple
A40	Aster multiflorus	Silver Maple
A41	Aster multiflorus	Silver Maple
A42	Aster multiflorus	Silver Maple
A43	Aster multiflorus	Silver Maple
A44	Aster multiflorus	Silver Maple
A45	Aster multiflorus	Silver Maple
A46	Aster multiflorus	Silver Maple
A47	Aster multiflorus	Silver Maple
A48	Aster multiflorus	Silver Maple
A49	Aster multiflorus	Silver Maple
A50	Aster multiflorus	Silver Maple
A51	Aster multiflorus	Silver Maple
A52	Aster multiflorus	Silver Maple
A53	Aster multiflorus	Silver Maple
A54	Aster multiflorus	Silver Maple
A55	Aster multiflorus	Silver Maple
A56	Aster multiflorus	Silver Maple
A57	Aster multiflorus	Silver Maple
A58	Aster multiflorus	Silver Maple
A59	Aster multiflorus	Silver Maple
A60	Aster multiflorus	Silver Maple
A61	Aster multiflorus	Silver Maple
A62	Aster multiflorus	Silver Maple
A63	Aster multiflorus	Silver Maple
A64	Aster multiflorus	Silver Maple
A65	Aster multiflorus	Silver Maple
A66	Aster multiflorus	Silver Maple
A67	Aster multiflorus	Silver Maple
A68	Aster multiflorus	Silver Maple
A69	Aster multiflorus	Silver Maple
A70	Aster multiflorus	Silver Maple
A71	Aster multiflorus	Silver Maple
A72	Aster multiflorus	Silver Maple
A73	Aster multiflorus	Silver Maple
A74	Aster multiflorus	Silver Maple
A75	Aster multiflorus	Silver Maple
A76	Aster multiflorus	Silver Maple
A77	Aster multiflorus	Silver Maple
A78	Aster multiflorus	Silver Maple
A79	Aster multiflorus	Silver Maple
A80	Aster multiflorus	Silver Maple
A81	Aster multiflorus	Silver Maple
A82	Aster multiflorus	Silver Maple
A83	Aster multiflorus	Silver Maple
A84	Aster multiflorus	Silver Maple
A85	Aster multiflorus	Silver Maple
A86	Aster multiflorus	Silver Maple
A87	Aster multiflorus	Silver Maple
A88	Aster multiflorus	Silver Maple
A89	Aster multiflorus	Silver Maple
A90	Aster multiflorus	Silver Maple
A91	Aster multiflorus	Silver Maple
A92	Aster multiflorus	Silver Maple
A93	Aster multiflorus	Silver Maple
A94	Aster multiflorus	Silver Maple
A95	Aster multiflorus	Silver Maple
A96	Aster multiflorus	Silver Maple
A97	Aster multiflorus	Silver Maple
A98	Aster multiflorus	Silver Maple
A99	Aster multiflorus	Silver Maple
A100	Aster multiflorus	Silver Maple

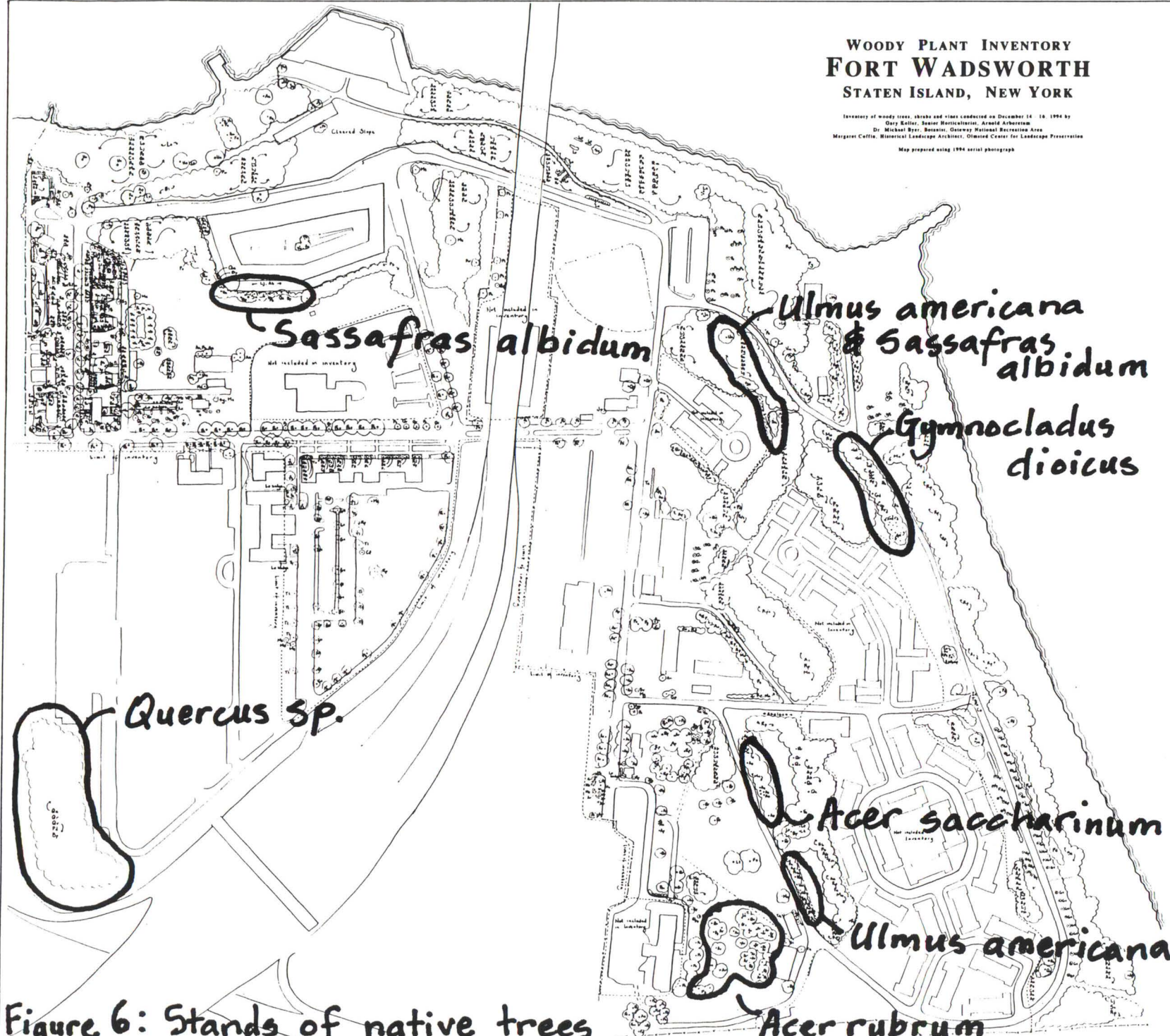


Figure 6: Stands of native trees
(mixed ages)

WOODY PLANT INVENTORY FORT WADSWORTH STATEN ISLAND, NEW YORK

Inventory of woody trees, shrubs and vines conducted on December 14 - 16, 1994 by
Gary Keller, Senior Horticulturist, Arnold Arboretum
Dr. Michael Dyer, Botanist, Gateway National Recreation Area
Margaret Coffin, Historical Landscape Architect, Olmsted Center for Landscape Preservation
Map prepared using 1994 aerial photograph

List of Plant Species

Code	Botanical Name	Common Name
Ab	<i>Abies grandifolia</i>	Glass Fir
Ac	<i>Actinidia chinensis</i>	Box Elder
Ad	<i>Adiantum</i>	Japanese Maple
Al	<i>Alnus incana</i>	Honey Maple
Ap	<i>Alnus platensis</i>	Spencer Maple
Ar	<i>Acer rubrum</i>	Red Maple
As	<i>Acer saccharum</i>	Sugar Maple
At	<i>Acer tomentosum</i>	Sugar Maple
Av	<i>Arctostaphylos</i>	Western Red Cedar
Aw	<i>Arctostaphylos</i>	Western Red Cedar
Ba	<i>Betula alleghaniensis</i>	Yellow Birch
Bc	<i>Betula nigra</i>	Swamp Birch
Bd	<i>Betula papyrifera</i>	Gray Birch
Ca	<i>Calceolaria</i>	Ornamental Sweetgum
Cc	<i>Calceolaria</i>	Hackberry
Cd	<i>Chamaecyparis pacifica</i>	White Cedar
Cf	<i>Chamaecyparis</i>	American Cypripedium
Cg	<i>Clematis vitalba</i>	Flowering Clematis
Ci	<i>Cornus florida</i>	Japanese Cypripedium
Cm	<i>Cornus mas</i>	Carolinian Black Dogwood
Cn	<i>Cornus sericea</i>	Black Dogwood
Cp	<i>Cyprina japonica</i>	Japanese Cypripedium
Dc	<i>Davallia</i>	Japanese Cypripedium
De	<i>Davallia</i>	Japanese Cypripedium
Di	<i>Dioscorea</i>	Japanese Cypripedium
Ds	<i>Dioscorea</i>	Japanese Cypripedium
Es	<i>Elaeagnus umbellata</i>	Spreading Broomrape
Et	<i>Elaeagnus</i>	Spreading Broomrape
Ex	<i>Elaeagnus</i>	Spreading Broomrape
Fa	<i>Fagus sylvatica</i>	European Beech
Fb	<i>Fagus sylvatica</i>	European Beech
Fc	<i>Fagus sylvatica</i>	European Beech
Fe	<i>Fagus sylvatica</i>	European Beech
Ff	<i>Fagus sylvatica</i>	European Beech
Fg	<i>Fagus sylvatica</i>	European Beech
Fh	<i>Fagus sylvatica</i>	European Beech
Fi	<i>Fagus sylvatica</i>	European Beech
Fj	<i>Fagus sylvatica</i>	European Beech
Fk	<i>Fagus sylvatica</i>	European Beech
Fl	<i>Fagus sylvatica</i>	European Beech
Fm	<i>Fagus sylvatica</i>	European Beech
Fn	<i>Fagus sylvatica</i>	European Beech
Fo	<i>Fagus sylvatica</i>	European Beech
Fp	<i>Fagus sylvatica</i>	European Beech
Fq	<i>Fagus sylvatica</i>	European Beech
Fr	<i>Fagus sylvatica</i>	European Beech
Fs	<i>Fagus sylvatica</i>	European Beech
Ft	<i>Fagus sylvatica</i>	European Beech
Fu	<i>Fagus sylvatica</i>	European Beech
Fv	<i>Fagus sylvatica</i>	European Beech
Fw	<i>Fagus sylvatica</i>	European Beech
Fx	<i>Fagus sylvatica</i>	European Beech
Fy	<i>Fagus sylvatica</i>	European Beech
Fz	<i>Fagus sylvatica</i>	European Beech
Ga	<i>Gaultheria</i>	Japanese Cypripedium
Gb	<i>Gaultheria</i>	Japanese Cypripedium
Gc	<i>Gaultheria</i>	Japanese Cypripedium
Gd	<i>Gaultheria</i>	Japanese Cypripedium
Ge	<i>Gaultheria</i>	Japanese Cypripedium
Gf	<i>Gaultheria</i>	Japanese Cypripedium
Gg	<i>Gaultheria</i>	Japanese Cypripedium
Gh	<i>Gaultheria</i>	Japanese Cypripedium
Gi	<i>Gaultheria</i>	Japanese Cypripedium
Gj	<i>Gaultheria</i>	Japanese Cypripedium
Gk	<i>Gaultheria</i>	Japanese Cypripedium
Gl	<i>Gaultheria</i>	Japanese Cypripedium
Gm	<i>Gaultheria</i>	Japanese Cypripedium
Gn	<i>Gaultheria</i>	Japanese Cypripedium
Go	<i>Gaultheria</i>	Japanese Cypripedium
Gp	<i>Gaultheria</i>	Japanese Cypripedium
Gq	<i>Gaultheria</i>	Japanese Cypripedium
Gr	<i>Gaultheria</i>	Japanese Cypripedium
Gs	<i>Gaultheria</i>	Japanese Cypripedium
Gt	<i>Gaultheria</i>	Japanese Cypripedium
Gu	<i>Gaultheria</i>	Japanese Cypripedium
Gv	<i>Gaultheria</i>	Japanese Cypripedium
Gw	<i>Gaultheria</i>	Japanese Cypripedium
Gx	<i>Gaultheria</i>	Japanese Cypripedium
Gy	<i>Gaultheria</i>	Japanese Cypripedium
Gz	<i>Gaultheria</i>	Japanese Cypripedium
Ha	<i>Halepistylon</i>	Japanese Cypripedium
Hb	<i>Halepistylon</i>	Japanese Cypripedium
Hc	<i>Halepistylon</i>	Japanese Cypripedium
Hd	<i>Halepistylon</i>	Japanese Cypripedium
He	<i>Halepistylon</i>	Japanese Cypripedium
Hf	<i>Halepistylon</i>	Japanese Cypripedium
Hg	<i>Halepistylon</i>	Japanese Cypripedium
Hh	<i>Halepistylon</i>	Japanese Cypripedium
Hi	<i>Halepistylon</i>	Japanese Cypripedium
Hj	<i>Halepistylon</i>	Japanese Cypripedium
Hk	<i>Halepistylon</i>	Japanese Cypripedium
Hi	<i>Halepistylon</i>	Japanese Cypripedium
Ho	<i>Halepistylon</i>	Japanese Cypripedium
Hp	<i>Halepistylon</i>	Japanese Cypripedium
Hq	<i>Halepistylon</i>	Japanese Cypripedium
Hr	<i>Halepistylon</i>	Japanese Cypripedium
Hs	<i>Halepistylon</i>	Japanese Cypripedium
Ht	<i>Halepistylon</i>	Japanese Cypripedium
Hu	<i>Halepistylon</i>	Japanese Cypripedium
Hv	<i>Halepistylon</i>	Japanese Cypripedium
Hw	<i>Halepistylon</i>	Japanese Cypripedium
Hx	<i>Halepistylon</i>	Japanese Cypripedium
Hy	<i>Halepistylon</i>	Japanese Cypripedium
Hz	<i>Halepistylon</i>	Japanese Cypripedium
Ia	<i>Illicium</i>	Japanese Cypripedium
Ib	<i>Illicium</i>	Japanese Cypripedium
Ic	<i>Illicium</i>	Japanese Cypripedium
Id	<i>Illicium</i>	Japanese Cypripedium
Ie	<i>Illicium</i>	Japanese Cypripedium
If	<i>Illicium</i>	Japanese Cypripedium
Ig	<i>Illicium</i>	Japanese Cypripedium
Ih	<i>Illicium</i>	Japanese Cypripedium
Ii	<i>Illicium</i>	Japanese Cypripedium
Ij	<i>Illicium</i>	Japanese Cypripedium
Ik	<i>Illicium</i>	Japanese Cypripedium
Il	<i>Illicium</i>	Japanese Cypripedium
Im	<i>Illicium</i>	Japanese Cypripedium
In	<i>Illicium</i>	Japanese Cypripedium
Io	<i>Illicium</i>	Japanese Cypripedium
Ip	<i>Illicium</i>	Japanese Cypripedium
Iq	<i>Illicium</i>	Japanese Cypripedium
Ir	<i>Illicium</i>	Japanese Cypripedium
Is	<i>Illicium</i>	Japanese Cypripedium
It	<i>Illicium</i>	Japanese Cypripedium
Iu	<i>Illicium</i>	Japanese Cypripedium
Iv	<i>Illicium</i>	Japanese Cypripedium
Iw	<i>Illicium</i>	Japanese Cypripedium
Ix	<i>Illicium</i>	Japanese Cypripedium
Iy	<i>Illicium</i>	Japanese Cypripedium
Iz	<i>Illicium</i>	Japanese Cypripedium
Ja	<i>Juniperus</i>	Japanese Cypripedium
Jb	<i>Juniperus</i>	Japanese Cypripedium
Jc	<i>Juniperus</i>	Japanese Cypripedium
Jd	<i>Juniperus</i>	Japanese Cypripedium
Je	<i>Juniperus</i>	Japanese Cypripedium
Jf	<i>Juniperus</i>	Japanese Cypripedium
Jg	<i>Juniperus</i>	Japanese Cypripedium
Jh	<i>Juniperus</i>	Japanese Cypripedium
Ji	<i>Juniperus</i>	Japanese Cypripedium
Jj	<i>Juniperus</i>	Japanese Cypripedium
Jk	<i>Juniperus</i>	Japanese Cypripedium
Jl	<i>Juniperus</i>	Japanese Cypripedium
Jm	<i>Juniperus</i>	Japanese Cypripedium
Jn	<i>Juniperus</i>	Japanese Cypripedium
Jo	<i>Juniperus</i>	Japanese Cypripedium
Jp	<i>Juniperus</i>	Japanese Cypripedium
Jq	<i>Juniperus</i>	Japanese Cypripedium
Jr	<i>Juniperus</i>	Japanese Cypripedium
Js	<i>Juniperus</i>	Japanese Cypripedium
Jt	<i>Juniperus</i>	Japanese Cypripedium
Ju	<i>Juniperus</i>	Japanese Cypripedium
Jv	<i>Juniperus</i>	Japanese Cypripedium
Jw	<i>Juniperus</i>	Japanese Cypripedium
Jx	<i>Juniperus</i>	Japanese Cypripedium
Jy	<i>Juniperus</i>	Japanese Cypripedium
Jz	<i>Juniperus</i>	Japanese Cypripedium
Ka	<i>Kalmia</i>	Japanese Cypripedium
Kb	<i>Kalmia</i>	Japanese Cypripedium
Kc	<i>Kalmia</i>	Japanese Cypripedium
Kd	<i>Kalmia</i>	Japanese Cypripedium
Ke	<i>Kalmia</i>	Japanese Cypripedium
Kf	<i>Kalmia</i>	Japanese Cypripedium
Kg	<i>Kalmia</i>	Japanese Cypripedium
Kh	<i>Kalmia</i>	Japanese Cypripedium
Ki	<i>Kalmia</i>	Japanese Cypripedium
Kj	<i>Kalmia</i>	Japanese Cypripedium
Kk	<i>Kalmia</i>	Japanese Cypripedium
Kl	<i>Kalmia</i>	Japanese Cypripedium
Km	<i>Kalmia</i>	Japanese Cypripedium
Kn	<i>Kalmia</i>	Japanese Cypripedium
Ko	<i>Kalmia</i>	Japanese Cypripedium
Kp	<i>Kalmia</i>	Japanese Cypripedium
Kq	<i>Kalmia</i>	Japanese Cypripedium
Kr	<i>Kalmia</i>	Japanese Cypripedium
Ks	<i>Kalmia</i>	Japanese Cypripedium
Kt	<i>Kalmia</i>	Japanese Cypripedium
Ku	<i>Kalmia</i>	Japanese Cypripedium
Kv	<i>Kalmia</i>	Japanese Cypripedium
Kw	<i>Kalmia</i>	Japanese Cypripedium
Kx	<i>Kalmia</i>	Japanese Cypripedium
Ky	<i>Kalmia</i>	Japanese Cypripedium
Kz	<i>Kalmia</i>	Japanese Cypripedium
La	<i>Larix</i>	Japanese Cypripedium
Lb	<i>Larix</i>	Japanese Cypripedium
Lc	<i>Larix</i>	Japanese Cypripedium
Ld	<i>Larix</i>	Japanese Cypripedium
Le	<i>Larix</i>	Japanese Cypripedium
Lf	<i>Larix</i>	Japanese Cypripedium
Lg	<i>Larix</i>	Japanese Cypripedium
Lh	<i>Larix</i>	Japanese Cypripedium
Li	<i>Larix</i>	Japanese Cypripedium
Lj	<i>Larix</i>	Japanese Cypripedium
Lk	<i>Larix</i>	Japanese Cypripedium
Ll	<i>Larix</i>	Japanese Cypripedium
Lm	<i>Larix</i>	Japanese Cypripedium
Ln	<i>Larix</i>	Japanese Cypripedium
Lo	<i>Larix</i>	Japanese Cypripedium
Lp	<i>Larix</i>	Japanese Cypripedium
Lq	<i>Larix</i>	Japanese Cypripedium
Lr	<i>Larix</i>	Japanese Cypripedium
Ls	<i>Larix</i>	Japanese Cypripedium
Lt	<i>Larix</i>	Japanese Cypripedium
Lu	<i>Larix</i>	Japanese Cypripedium
Lv	<i>Larix</i>	Japanese Cypripedium
Lw	<i>Larix</i>	Japanese Cypripedium
Lx	<i>Larix</i>	Japanese Cypripedium
Ly	<i>Larix</i>	Japanese Cypripedium
Lz	<i>Larix</i>	Japanese Cypripedium
Ma	<i>Malus</i>	Japanese Cypripedium
Mb	<i>Malus</i>	Japanese Cypripedium
Mc	<i>Malus</i>	Japanese Cypripedium
Md	<i>Malus</i>	Japanese Cypripedium
Me	<i>Malus</i>	Japanese Cypripedium
Mf	<i>Malus</i>	Japanese Cypripedium
Mg	<i>Malus</i>	Japanese Cypripedium
Mh	<i>Malus</i>	Japanese Cypripedium
Mi	<i>Malus</i>	Japanese Cypripedium
Mj	<i>Malus</i>	Japanese Cypripedium
Mk	<i>Malus</i>	Japanese Cypripedium
Ml	<i>Malus</i>	Japanese Cypripedium
Mm	<i>Malus</i>	Japanese Cypripedium
Mn	<i>Malus</i>	Japanese Cypripedium
Mo	<i>Malus</i>	Japanese Cypripedium
Mp	<i>Malus</i>	Japanese Cypripedium
Mq	<i>Malus</i>	Japanese Cypripedium
Mr	<i>Malus</i>	Japanese Cypripedium
Ms	<i>Malus</i>	Japanese Cypripedium
Mt	<i>Malus</i>	Japanese Cypripedium
Mu	<i>Malus</i>	Japanese Cypripedium
Mv	<i>Malus</i>	Japanese Cypripedium
Mw	<i>Malus</i>	Japanese Cypripedium
Mx	<i>Malus</i>	Japanese Cypripedium
My	<i>Malus</i>	Japanese Cypripedium
Mz	<i>Malus</i>	Japanese Cypripedium
Na	<i>Nyssa</i>	Japanese Cypripedium
Nb	<i>Nyssa</i>	Japanese Cypripedium
Nc	<i>Nyssa</i>	Japanese Cypripedium
Nd	<i>Nyssa</i>	Japanese Cypripedium
Ne	<i>Nyssa</i>	Japanese Cypripedium
Nf	<i>Nyssa</i>	Japanese Cypripedium
Ng	<i>Nyssa</i>	Japanese Cypripedium
Nh	<i>Nyssa</i>	Japanese Cypripedium
Ni	<i>Nyssa</i>	Japanese Cypripedium
Nj	<i>Nyssa</i>	Japanese Cypripedium
Nk	<i>Nyssa</i>	Japanese Cypripedium
Nl	<i>Nyssa</i>	Japanese Cypripedium
Nm	<i>Nyssa</i>	Japanese Cypripedium
Nn	<i>Nyssa</i>	Japanese Cypripedium
No	<i>Nyssa</i>	Japanese Cypripedium
Np	<i>Nyssa</i>	Japanese Cypripedium
Nq	<i>Nyssa</i>	Japanese Cypripedium
Nr	<i>Nyssa</i>	Japanese Cypripedium
Ns	<i>Nyssa</i>	Japanese Cypripedium
Nt	<i>Nyssa</i>	Japanese Cypripedium
Nu	<i>Nyssa</i>	Japanese Cypripedium
Nv	<i>Nyssa</i>	Japanese Cypripedium
Nw	<i>Nyssa</i>	Japanese Cypripedium
Nx	<i>Nyssa</i>	Japanese Cypripedium
Ny	<i>Nyssa</i>	Japanese Cypripedium
Nz	<i>Nyssa</i>	Japanese Cypripedium
Ob	<i>Osagea</i>	Japanese Cypripedium
Oc	<i>Osagea</i>	Japanese Cypripedium
Od	<i>Osagea</i>	Japanese Cypripedium
Oe	<i>Osagea</i>	Japanese Cypripedium
Of	<i>Osagea</i>	Japanese Cypripedium
Og	<i>Osagea</i>	Japanese Cypripedium
Oh	<i>Osagea</i>	Japanese Cypripedium
Oi	<i>Osagea</i>	Japanese Cypripedium
Oj	<i>Osagea</i>	Japanese Cypripedium
Ok	<i>Osagea</i>	Japanese Cypripedium
Ol	<i>Osagea</i>	Japanese Cypripedium
Om	<i>Osagea</i>	Japanese Cypripedium
On	<i>Osagea</i>	Japanese Cypripedium
Oo	<i>Osagea</i>	Japanese Cypripedium
Op	<i>Osagea</i>	Japanese Cypripedium
Oq	<i>Osagea</i>	Japanese Cypripedium
Or	<i>Osagea</i>	Japanese Cypripedium
Os	<i>Osagea</i>	Japanese Cypripedium
Ot	<i>Osagea</i>	Japanese Cypripedium
Ou	<i>Osagea</i>	Japanese Cypripedium
Ov	<i>Osagea</i>	Japanese Cypripedium
Ow	<i>Osagea</i>	Japanese Cypripedium
Ox	<i>Osagea</i>	Japanese Cypripedium
Oy	<i>Osagea</i>	Japanese Cypripedium
Oz	<i>Osagea</i>	Japanese Cypripedium
Pa	<i>Parthenocissus</i>	Japanese Cypripedium
Pb	<i>Parthenocissus</i>	Japanese Cypripedium
Pc	<i>Parthenocissus</i>	Japanese Cypripedium
Pd	<i>Parthenocissus</i>	Japanese Cypripedium
Pe	<i>Parthenocissus</i>	Japanese Cypripedium
Pf	<i>Parthenocissus</i>	Japanese Cypripedium
Pg	<i>Parthenocissus</i>	Japanese Cypripedium
Ph	<i>Parthenocissus</i>	Japanese Cypripedium
Pi	<i>Parthenocissus</i>	Japanese Cypripedium
Pj	<i>Parthenocissus</i>	Japanese Cypripedium
Pk	<i>Parthenocissus</i>	Japanese Cypripedium
Pl	<i>Parthenocissus</i>	Japanese Cypripedium
Pm	<i>Parthenocissus</i>	Japanese Cypripedium
Pn	<i>Parthenocissus</i>	Japanese Cypripedium
Po	<i>Parthenocissus</i>	Japanese Cypripedium
Pp	<i>Parthenocissus</i>	Japanese Cypripedium
Pq	<i>Parthenocissus</i>	Japanese Cypripedium
Pr	<i>Parthenocissus</i>	Japanese Cypripedium
Ps	<i>Parthenocissus</i>	Japanese Cypripedium
Pt	<i>Parthenocissus</i>	Japanese Cypripedium
Pu	<i>Parthenocissus</i>	Japanese Cypripedium
Pv	<i>Parthenocissus</i>	Japanese Cypripedium
Pw	<i>Parthenocissus</i>	Japanese Cypripedium
Px	<i>Parthenocissus</i>	Japanese Cypripedium
Py	<i>Parthenocissus</i>	Japanese Cypripedium
Pz	<i>Parthenocissus</i>	Japanese Cypripedium
Qa	<i>Quercus</i>	Japanese Cypripedium
Qb	<i>Quercus</i>	Japanese Cypripedium
Qc	<i>Quercus</i>	Japanese Cypripedium
Qd	<i>Quercus</i>	Japanese Cypripedium
Qe	<i>Quercus</i>	Japanese Cypripedium
Qf	<i>Quercus</i>	Japanese Cypripedium
Qg	<i>Quercus</i>	Japanese Cypripedium
Qh	<i>Quercus</i>	Japanese Cypripedium
Qi	<i>Quercus</i>	Japanese Cypripedium
Qj	<i>Quercus</i>	Japanese Cypripedium
Qk	<i>Quercus</i>	Japanese Cypripedium
Ql	<i>Quercus</i>	Japanese Cypripedium
Qm	<i>Quercus</i>	Japanese Cypripedium
Qn	<i>Quercus</i>	Japanese Cypripedium
Qo	<i>Quercus</i>	Japanese Cypripedium
Qp	<i>Quercus</i>	Japanese Cypripedium
Qq	<i>Quercus</i>	Japanese Cypripedium
Qr	<i>Quercus</i>	Japanese Cypripedium
Qs	<i>Quercus</i>	Japanese Cypripedium
Qt	<i>Quercus</i>	Japanese Cypripedium
Qu	<i>Quercus</i>	Japanese Cypripedium
Qv	<i>Quercus</i>	Japanese Cypripedium
Qw	<i>Quercus</i>	Japanese Cypripedium
Qx	<i>Quercus</i>	Japanese Cypripedium
Qy	<i>Quercus</i>	Japanese Cypripedium
Qz	<i>Quercus</i>	Japanese Cypripedium
Ra	<i>Rosa</i>	Japanese Cypripedium
Rb	<i>Rosa</i>	Japanese Cypripedium
Rc	<i>Rosa</i>	Japanese Cypripedium
Rd	<i>Rosa</i>	Japanese Cypripedium
Re	<i>Rosa</i>	Japanese Cypripedium
Rf	<i>Rosa</i>	Japanese Cypripedium
Rg	<i>Rosa</i>	Japanese Cypripedium
Rh	<i>Rosa</i>	Japanese Cypripedium
Ri	<i>Rosa</i>	Japanese Cypripedium
Rj	<i>Rosa</i>	Japanese Cypripedium
Rk	<i>Rosa</i>	Japanese Cypripedium
Rl	<i>Rosa</i>	Japanese Cypripedium
Rm	<i>Rosa</i>	Japanese Cypripedium
Rn	<i>Rosa</i>	Japanese Cypripedium
Ro	<i>Rosa</i>	Japanese Cypripedium
Rp	<i>Rosa</i>	Japanese Cypripedium
Rq	<i>Rosa</i>	Japanese Cypripedium
Rr	<i>Rosa</i>	Japanese Cypripedium

Inventory of woody trees, shrubs and vines conducted on December 14 - 16, 1994 by
 Gary Kuller, Senior Horticulturist, Arnold Arboretum
 Dr. Michael Byar, Botanist, Gateway National Recreation Area
 Margaret Coffin, Historical Landscape Architect, Olmsted Center for Landscape Preservation
 Map prepared using 1994 aerial photograph

Inventory of woody trees, shrubs and vines conducted on December 14 - 16, 1994 by
 Gary Kuller, Senior Horticulturist, Arnold Arboretum
 Dr. Michael Byar, Botanist, Gateway National Recreation Area
 Margaret Coffin, Historical Landscape Architect, Olmsted Center for Landscape Preservation
 Map prepared using 1994 aerial photograph

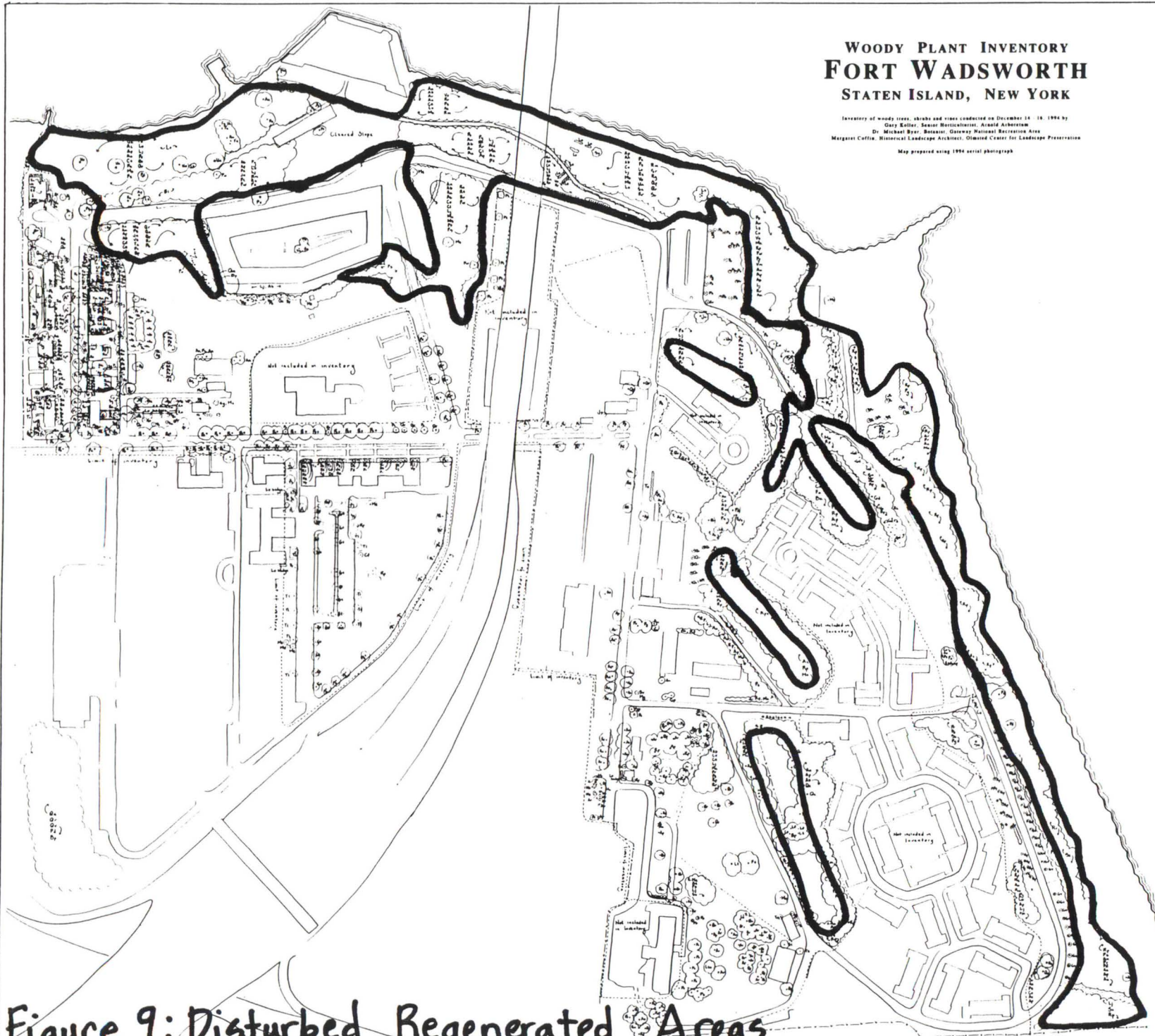
[illegible]

Figure 9: Disturbed Regenerated Areas

Inventory of woody trees, shrubs and vines conducted on December 14-16, 1994 by
 Gary Kellner, Senior Horticulturist, Arnold Arboretum
 Dr. Michael Byer, Botanist, Gateway National Recreation Area
 Margaret Coffie, Historical Landscape Architect, Olmsted Center for Landscape Preservation

Map prepared using 1994 aerial photograph

Inventory of woody trees, shrubs and vines conducted on December 14-16, 1994 by
 Gary Keller, Senior Horticulturist, Arnold Arboretum
 Dr. Michael Byer, Botanist, Gateway National Recreation Area
 Margaret Coffie, Historical Landscape Architect, Olmsted Center for Landscape Preservation

Map prepared using 1994 aerial photograph

[illegible]

Figure 10: Remove tree stakes & guy wires on trees planted w/in past 10 years.

Inventory of woody trees, shrubs and vines conducted on December 14, 18, 1994 by
 Gary Koller, Senior Horticulturist, Arnold Arboretum
 Dr. Michael Byer, Botanist, Gateway National Recreation Area
 Margaret Coffin, Historical Landscape Architect, Olmsted Center for Landscape Preservation

Map prepared using 1994 aerial photograph

Map prepared using 1994 aerial photograph

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OUSTED CENTER
 FOR
 LANDSCAPE
 PRESERVATION

 NATIONAL PARK SERVICE

Project:
Woody Plant Inventory
Fort Wadsworth
Statens Island, New York

Drawn by: MC
January 1995

North

Scale: 1" = approx. 100'

Sheet 1 of 1

Existing Conditions

December 14 - 16, 1994

Figure 11: Remove deadwood
Improve pruning cuts of
branch stubs.

Inventory of woody trees, shrubs and vines conducted on December 16 - 18, 1994 by
 Gary Koller, Senior Horticulturist, Arnold Arboretum
 Dr. Michael Byer, Botanist, Gateway National Recreation Area
 Margaret Coffin, Historical Landscape Architect, Olmsted Center for Landscape Preservation

Map prepared using 1994 aerial photograph

Inventory of woody trees, shrubs and vines conducted on December 16 - 18, 1994 by
 Gary Eklies, Senior Horticulturist, Arnold Arboretum
 Dr. Michael Byer, Botanist, Gateway National Recreation Area
 Margaret Coffin, Historical Landscape Architect, Olmsted Center for Landscape Preservation

Map prepared using 1994 aerial photograph

[illegible]

Figure 12: removal of dead tree

Inventory of woody trees, shrubs and vines conducted on December 14 - 16, 1994 by
 Gary Kuller, Senior Horticulturist, Arnold Arboretum
 Dr. Michael Byer, Botanist, Gateway National Recreation Area
 Margaret Coffin, Historical Landscape Architect, Olmsted Center for Landscape Preservation

Map prepared using 1994 aerial photograph

[illegible]

CMRSTED CENTER 1000 LAMING AVE PRESERVATION 	Project: Woody Plant Inventory Fort Wadsworth Staten Island, New York Drawn by: BCF January 1995 Checked: Revisited:	North Scale: 1" = approx 100' Sheet 1 of 1 Fainting conditions: [number 14-16, 1994]
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Figure 13: Rejuvenation of old shrubs

Attachment: Low-impact Chemical Treatments to Control Regrowth of Vegetation on slope

First, determine which vegetation will be removed or controlled and which vegetation should be retained. If maintaining a view is the primary objective, low growing shrubs, woody vines and herbaceous plants are most likely to be retained and should be marked for protection.

For vegetation selected for removal, if vegetation is still standing, apply a systemic herbicide in the late spring or early summer to the tree using a "Hypohatchet" tree-injector. For trees greater than 3" in diameter, require several injection points, typically one application per inch of dbh (diameter at four feet height).

If pretreatment using a "Hypohatchet" tree-injector is not possible, then at the time of cutting paint cut surface of stumps using a herbicide applicator wand with a systemic herbicide. When applied to a fresh cut, the chemical will be translocated throughout the root system and reduce the amount of sprouting.

Three or four weeks after cutting, stumps should be examined for new sprouts. If sprouts appear to be vigorous, herbicide may be applied directly to the new sprouts using an applicator wand to wipe the leaves with herbicide.

If herbicides are not an option, cut stumps may be mulched heavily to discourage resprouting.

The best systemic herbicides to use are those that break down very quickly. Those with the active ingredient glyphosate are known to break down quickly such as "Round-up" for upland plants and "Rodeo" for wetland plants. Herbicides similar to "Round-up" include "Accord" which is also a glyphosate, or "Garlon 4" which can be applied late in the season. The latter systemic penetrates the bark and cambium layer effectively when applied with a "Hypohatchet" tree-injector. Two or three weeks after stems are injected, stems can be cut back to the ground.

WOODY PLANT INVENTORY FORT WADSWORTH STATEN ISLAND, NEW YORK

Inventory of woody trees, shrubs and vines conducted on December 14, 16, 1994 by:
Gary Koller, Senior Horticulturist, Arnold Arboretum
Dr. Michael Rynn, Botanist, Gateway National Recreation Area
Margaret Coffin, Historical Landscape Architect, Glenside Center for Landscape Preservation
Map prepared using 1994 aerial photograph.

List of Plant Species

Code	Botanical Name	Common Name
AA	<i>Abies x grandifolia</i>	Glossy Abies
AB	<i>Acer glabrum</i>	Box Elder
AC	<i>Acer palmatum</i>	Japanese Maple
AD	<i>Acer platanoides</i>	Norway Maple
AE	<i>Acer pseudoplatanus</i>	Sycamore Maple
AF	<i>Acer rubrum</i>	Red Maple
AG	<i>Acer saccharinum</i>	Silver Maple
AH	<i>Acer saccharum</i>	Sugar Maple
AI	<i>Actinidia chinensis</i>	Kiwifruit
AL	<i>Alnus incana</i>	Common Alder
AM	<i>Amelanchier canadensis</i>	Shadblow
AN	<i>Amelanchier florida</i>	Flowering Dogwood
AO	<i>Amelanchier laevis</i>	Shadblow
AP	<i>Amelanchier spicata</i>	Shadblow
AR	<i>Arbutus menziesii</i>	Strawberry Tree
AS	<i>Asplenium platyneuron</i>	Rock Fern
AT	<i>Asplenium septentrionale</i>	Rock Fern
AV	<i>Asplenium septentrionale</i>	Rock Fern
AW	<i>Asplenium septentrionale</i>	Rock Fern
AX	<i>Asplenium septentrionale</i>	Rock Fern
AY	<i>Asplenium septentrionale</i>	Rock Fern
AZ	<i>Asplenium septentrionale</i>	Rock Fern
BA	<i>Betula alba</i>	White Birch
BB	<i>Betula pendula</i>	Weeping Birch
BC	<i>Betula pumila</i>	Gray Birch
BD	<i>Betula rotundifolia</i>	Round-leaf Birch
BE	<i>Betula utilis</i>	European Birch
BF	<i>Betula utilis</i>	European Birch
BG	<i>Betula utilis</i>	European Birch
BH	<i>Betula utilis</i>	European Birch
BI	<i>Betula utilis</i>	European Birch
BJ	<i>Betula utilis</i>	European Birch
BK	<i>Betula utilis</i>	European Birch
BL	<i>Betula utilis</i>	European Birch
BM	<i>Betula utilis</i>	European Birch
BN	<i>Betula utilis</i>	European Birch
BO	<i>Betula utilis</i>	European Birch
BP	<i>Betula utilis</i>	European Birch
BQ	<i>Betula utilis</i>	European Birch
BR	<i>Betula utilis</i>	European Birch
BS	<i>Betula utilis</i>	European Birch
BT	<i>Betula utilis</i>	European Birch
BU	<i>Betula utilis</i>	European Birch
BV	<i>Betula utilis</i>	European Birch
BW	<i>Betula utilis</i>	European Birch
BX	<i>Betula utilis</i>	European Birch
BY	<i>Betula utilis</i>	European Birch
BZ	<i>Betula utilis</i>	European Birch
CA	<i>Celastrus scandens</i>	Wintercreeper
CB	<i>Celastrus scandens</i>	Wintercreeper
CC	<i>Celastrus scandens</i>	Wintercreeper
CD	<i>Celastrus scandens</i>	Wintercreeper
CE	<i>Celastrus scandens</i>	Wintercreeper
CF	<i>Celastrus scandens</i>	Wintercreeper
CG	<i>Celastrus scandens</i>	Wintercreeper
CH	<i>Celastrus scandens</i>	Wintercreeper
CI	<i>Celastrus scandens</i>	Wintercreeper
CJ	<i>Celastrus scandens</i>	Wintercreeper
CK	<i>Celastrus scandens</i>	Wintercreeper
CL	<i>Celastrus scandens</i>	Wintercreeper
CM	<i>Celastrus scandens</i>	Wintercreeper
CN	<i>Celastrus scandens</i>	Wintercreeper
CO	<i>Celastrus scandens</i>	Wintercreeper
CP	<i>Celastrus scandens</i>	Wintercreeper
CQ	<i>Celastrus scandens</i>	Wintercreeper
CR	<i>Celastrus scandens</i>	Wintercreeper
CS	<i>Celastrus scandens</i>	Wintercreeper
CT	<i>Celastrus scandens</i>	Wintercreeper
CU	<i>Celastrus scandens</i>	Wintercreeper
CV	<i>Celastrus scandens</i>	Wintercreeper
CW	<i>Celastrus scandens</i>	Wintercreeper
CX	<i>Celastrus scandens</i>	Wintercreeper
CY	<i>Celastrus scandens</i>	Wintercreeper
CZ	<i>Celastrus scandens</i>	Wintercreeper
DA	<i>Daphne genkwa</i>	Winter Daphne
DB	<i>Daphne genkwa</i>	Winter Daphne
DC	<i>Daphne genkwa</i>	Winter Daphne
DD	<i>Daphne genkwa</i>	Winter Daphne
DE	<i>Daphne genkwa</i>	Winter Daphne
DF	<i>Daphne genkwa</i>	Winter Daphne
DG	<i>Daphne genkwa</i>	Winter Daphne
DH	<i>Daphne genkwa</i>	Winter Daphne
DI	<i>Daphne genkwa</i>	Winter Daphne
DJ	<i>Daphne genkwa</i>	Winter Daphne
DK	<i>Daphne genkwa</i>	Winter Daphne
DL	<i>Daphne genkwa</i>	Winter Daphne
DM	<i>Daphne genkwa</i>	Winter Daphne
DN	<i>Daphne genkwa</i>	Winter Daphne
DO	<i>Daphne genkwa</i>	Winter Daphne
DP	<i>Daphne genkwa</i>	Winter Daphne
DQ	<i>Daphne genkwa</i>	Winter Daphne
DR	<i>Daphne genkwa</i>	Winter Daphne
DS	<i>Daphne genkwa</i>	Winter Daphne
DT	<i>Daphne genkwa</i>	Winter Daphne
DU	<i>Daphne genkwa</i>	Winter Daphne
DV	<i>Daphne genkwa</i>	Winter Daphne
DW	<i>Daphne genkwa</i>	Winter Daphne
DX	<i>Daphne genkwa</i>	Winter Daphne
DY	<i>Daphne genkwa</i>	Winter Daphne
DZ	<i>Daphne genkwa</i>	Winter Daphne
EA	<i>Elaeagnus umbellata</i>	Winter Olive
EB	<i>Elaeagnus umbellata</i>	Winter Olive
EC	<i>Elaeagnus umbellata</i>	Winter Olive
ED	<i>Elaeagnus umbellata</i>	Winter Olive
EE	<i>Elaeagnus umbellata</i>	Winter Olive
EF	<i>Elaeagnus umbellata</i>	Winter Olive
EG	<i>Elaeagnus umbellata</i>	Winter Olive
EH	<i>Elaeagnus umbellata</i>	Winter Olive
EI	<i>Elaeagnus umbellata</i>	Winter Olive
EJ	<i>Elaeagnus umbellata</i>	Winter Olive
EK	<i>Elaeagnus umbellata</i>	Winter Olive
EL	<i>Elaeagnus umbellata</i>	Winter Olive
EM	<i>Elaeagnus umbellata</i>	Winter Olive
EN	<i>Elaeagnus umbellata</i>	Winter Olive
EO	<i>Elaeagnus umbellata</i>	Winter Olive
EP	<i>Elaeagnus umbellata</i>	Winter Olive
EQ	<i>Elaeagnus umbellata</i>	Winter Olive
ER	<i>Elaeagnus umbellata</i>	Winter Olive
ES	<i>Elaeagnus umbellata</i>	Winter Olive
ET	<i>Elaeagnus umbellata</i>	Winter Olive
EU	<i>Elaeagnus umbellata</i>	Winter Olive
EV	<i>Elaeagnus umbellata</i>	Winter Olive
EW	<i>Elaeagnus umbellata</i>	Winter Olive
EX	<i>Elaeagnus umbellata</i>	Winter Olive
EY	<i>Elaeagnus umbellata</i>	Winter Olive
EZ	<i>Elaeagnus umbellata</i>	Winter Olive
FA	<i>Fagus sylvatica</i>	European Oak
FB	<i>Fagus sylvatica</i>	European Oak
FC	<i>Fagus sylvatica</i>	European Oak
FD	<i>Fagus sylvatica</i>	European Oak
FE	<i>Fagus sylvatica</i>	European Oak
FF	<i>Fagus sylvatica</i>	European Oak
FG	<i>Fagus sylvatica</i>	European Oak
FH	<i>Fagus sylvatica</i>	European Oak
FI	<i>Fagus sylvatica</i>	European Oak
FJ	<i>Fagus sylvatica</i>	European Oak
FK	<i>Fagus sylvatica</i>	European Oak
FL	<i>Fagus sylvatica</i>	European Oak
FM	<i>Fagus sylvatica</i>	European Oak
FN	<i>Fagus sylvatica</i>	European Oak
FO	<i>Fagus sylvatica</i>	European Oak
FP	<i>Fagus sylvatica</i>	European Oak
FQ	<i>Fagus sylvatica</i>	European Oak
FR	<i>Fagus sylvatica</i>	European Oak
FS	<i>Fagus sylvatica</i>	European Oak
FT	<i>Fagus sylvatica</i>	European Oak
FU	<i>Fagus sylvatica</i>	European Oak
FV	<i>Fagus sylvatica</i>	European Oak
FW	<i>Fagus sylvatica</i>	European Oak
FX	<i>Fagus sylvatica</i>	European Oak
FY	<i>Fagus sylvatica</i>	European Oak
FZ	<i>Fagus sylvatica</i>	European Oak
GA	<i>Gleditsia triacanthos</i>	Black Locust
GB	<i>Gleditsia triacanthos</i>	Black Locust
GC	<i>Gleditsia triacanthos</i>	Black Locust
GD	<i>Gleditsia triacanthos</i>	Black Locust
GE	<i>Gleditsia triacanthos</i>	Black Locust
GF	<i>Gleditsia triacanthos</i>	Black Locust
GG	<i>Gleditsia triacanthos</i>	Black Locust
GH	<i>Gleditsia triacanthos</i>	Black Locust
GI	<i>Gleditsia triacanthos</i>	Black Locust
GJ	<i>Gleditsia triacanthos</i>	Black Locust
GK	<i>Gleditsia triacanthos</i>	Black Locust
GL	<i>Gleditsia triacanthos</i>	Black Locust
GM	<i>Gleditsia triacanthos</i>	Black Locust
GN	<i>Gleditsia triacanthos</i>	Black Locust
GO	<i>Gleditsia triacanthos</i>	Black Locust
GP	<i>Gleditsia triacanthos</i>	Black Locust
GQ	<i>Gleditsia triacanthos</i>	Black Locust
GR	<i>Gleditsia triacanthos</i>	Black Locust
GS	<i>Gleditsia triacanthos</i>	Black Locust
GT	<i>Gleditsia triacanthos</i>	Black Locust
GU	<i>Gleditsia triacanthos</i>	Black Locust
GV	<i>Gleditsia triacanthos</i>	Black Locust
GW	<i>Gleditsia triacanthos</i>	Black Locust
GX	<i>Gleditsia triacanthos</i>	Black Locust
GY	<i>Gleditsia triacanthos</i>	Black Locust
GZ	<i>Gleditsia triacanthos</i>	Black Locust
HA	<i>Hedera helix</i>	English Ivy
HB	<i>Hedera helix</i>	English Ivy
HC	<i>Hedera helix</i>	English Ivy
HD	<i>Hedera helix</i>	English Ivy
HE	<i>Hedera helix</i>	English Ivy
HF	<i>Hedera helix</i>	English Ivy
HG	<i>Hedera helix</i>	English Ivy
HH	<i>Hedera helix</i>	English Ivy
HI	<i>Hedera helix</i>	English Ivy
HJ	<i>Hedera helix</i>	English Ivy
HK	<i>Hedera helix</i>	English Ivy
HL	<i>Hedera helix</i>	English Ivy
HM	<i>Hedera helix</i>	English Ivy
HN	<i>Hedera helix</i>	English Ivy
HO	<i>Hedera helix</i>	English Ivy
HP	<i>Hedera helix</i>	English Ivy
HQ	<i>Hedera helix</i>	English Ivy
HR	<i>Hedera helix</i>	English Ivy
HS	<i>Hedera helix</i>	English Ivy
HT	<i>Hedera helix</i>	English Ivy
HU	<i>Hedera helix</i>	English Ivy
HV	<i>Hedera helix</i>	English Ivy
HW	<i>Hedera helix</i>	English Ivy
HX	<i>Hedera helix</i>	English Ivy
HY	<i>Hedera helix</i>	English Ivy
HZ	<i>Hedera helix</i>	English Ivy
IA	<i>Ilex aquifolium</i>	English Holly
IB	<i>Ilex aquifolium</i>	English Holly
IC	<i>Ilex aquifolium</i>	English Holly
ID	<i>Ilex aquifolium</i>	English Holly
IE	<i>Ilex aquifolium</i>	English Holly
IF	<i>Ilex aquifolium</i>	English Holly
IG	<i>Ilex aquifolium</i>	English Holly
IH	<i>Ilex aquifolium</i>	English Holly
II	<i>Ilex aquifolium</i>	English Holly
IJ	<i>Ilex aquifolium</i>	English Holly
IK	<i>Ilex aquifolium</i>	English Holly
IL	<i>Ilex aquifolium</i>	English Holly
IM	<i>Ilex aquifolium</i>	English Holly
IN	<i>Ilex aquifolium</i>	English Holly
IO	<i>Ilex aquifolium</i>	English Holly
IP	<i>Ilex aquifolium</i>	English Holly
IQ	<i>Ilex aquifolium</i>	English Holly
IR	<i>Ilex aquifolium</i>	English Holly
IS	<i>Ilex aquifolium</i>	English Holly
IT	<i>Ilex aquifolium</i>	English Holly
IU	<i>Ilex aquifolium</i>	English Holly
IV	<i>Ilex aquifolium</i>	English Holly
IW	<i>Ilex aquifolium</i>	English Holly
IX	<i>Ilex aquifolium</i>	English Holly
IY	<i>Ilex aquifolium</i>	English Holly
IZ	<i>Ilex aquifolium</i>	English Holly
JA	<i>Jasminum officinale</i>	Common Jasmine
JB	<i>Jasminum officinale</i>	Common Jasmine
JC	<i>Jasminum officinale</i>	Common Jasmine
JD	<i>Jasminum officinale</i>	Common Jasmine
JE	<i>Jasminum officinale</i>	Common Jasmine
JF	<i>Jasminum officinale</i>	Common Jasmine
JG	<i>Jasminum officinale</i>	Common Jasmine
JH	<i>Jasminum officinale</i>	Common Jasmine
JI	<i>Jasminum officinale</i>	Common Jasmine
JJ	<i>Jasminum officinale</i>	Common Jasmine
JK	<i>Jasminum officinale</i>	Common Jasmine
JL	<i>Jasminum officinale</i>	Common Jasmine
JM	<i>Jasminum officinale</i>	Common Jasmine
JN	<i>Jasminum officinale</i>	Common Jasmine
JO	<i>Jasminum officinale</i>	Common Jasmine
JP	<i>Jasminum officinale</i>	Common Jasmine
JQ	<i>Jasminum officinale</i>	Common Jasmine
JR	<i>Jasminum officinale</i>	Common Jasmine
JS	<i>Jasminum officinale</i>	Common Jasmine
JT	<i>Jasminum officinale</i>	Common Jasmine
JU	<i>Jasminum officinale</i>	Common Jasmine
JV	<i>Jasminum officinale</i>	Common Jasmine
JW	<i>Jasminum officinale</i>	Common Jasmine
JX	<i>Jasminum officinale</i>	Common Jasmine
JY	<i>Jasminum officinale</i>	Common Jasmine
JZ	<i>Jasminum officinale</i>	Common Jasmine
KA	<i>Kalmia latifolia</i>	Mountain Laurel
KB	<i>Kalmia latifolia</i>	Mountain Laurel
KC	<i>Kalmia latifolia</i>	Mountain Laurel
KD	<i>Kalmia latifolia</i>	Mountain Laurel
KE	<i>Kalmia latifolia</i>	Mountain Laurel
KF	<i>Kalmia latifolia</i>	Mountain Laurel
KG	<i>Kalmia latifolia</i>	Mountain Laurel
KH	<i>Kalmia latifolia</i>	Mountain Laurel
KI	<i>Kalmia latifolia</i>	Mountain Laurel
KJ	<i>Kalmia latifolia</i>	Mountain Laurel
KK	<i>Kalmia latifolia</i>	Mountain Laurel
KL	<i>Kalmia latifolia</i>	Mountain Laurel
KM	<i>Kalmia latifolia</i>	Mountain Laurel
KN	<i>Kalmia latifolia</i>	Mountain Laurel
KO	<i>Kalmia latifolia</i>	Mountain Laurel
KP	<i>Kalmia latifolia</i>	Mountain Laurel
KQ	<i>Kalmia latifolia</i>	Mountain Laurel
KR	<i>Kalmia latifolia</i>	Mountain Laurel
KS	<i>Kalmia latifolia</i>	Mountain Laurel
KT	<i>Kalmia latifolia</i>	Mountain Laurel
KU	<i>Kalmia latifolia</i>	Mountain Laurel
KV	<i>Kalmia latifolia</i>	Mountain Laurel
KW	<i>Kalmia latifolia</i>	Mountain Laurel
KX	<i>Kalmia latifolia</i>	Mountain Laurel
KY	<i>Kalmia latifolia</i>	Mountain Laurel
KZ	<i>Kalmia latifolia</i>	Mountain Laurel
LA	<i>Larix laricina</i>	Norway Spruce
LB	<i>Larix laricina</i>	Norway Spruce
LC	<i>Larix laricina</i>	Norway Spruce
LD	<i>Larix laricina</i>	Norway Spruce
LE	<i>Larix laricina</i>	Norway Spruce
LF	<i>Larix laricina</i>	Norway Spruce
LG	<i>Larix laricina</i>	Norway Spruce
LH	<i>Larix laricina</i>	Norway Spruce
LI	<i>Larix laricina</i>	Norway Spruce
LJ	<i>Larix laricina</i>	Norway Spruce
LK	<i>Larix laricina</i>	Norway Spruce
LL	<i>Larix laricina</i>	Norway Spruce
LM	<i>Larix laricina</i>	Norway Spruce
LN	<i>Larix laricina</i>	Norway Spruce
LO	<i>Larix laricina</i>	Norway Spruce
LP	<i>Larix laricina</i>	Norway Spruce
LQ	<i>Larix laricina</i>	Norway Spruce
LR	<i>Larix laricina</i>	Norway Spruce
LS	<i>Larix laricina</i>	Norway Spruce
LT	<i>Larix laricina</i>	Norway Spruce
LU	<i>Larix laricina</i>	Norway Spruce
LV	<i>Larix laricina</i>	Norway Spruce
LW	<i>Larix laricina</i>	Norway Spruce
LX	<i>Larix laricina</i>	Norway Spruce
LY	<i>Larix laricina</i>	Norway Spruce
LZ	<i>Larix laricina</i>	Norway Spruce
MA	<i>Malus domestica</i>	Domestic Apple
MB	<i>Malus domestica</i>	Domestic Apple
MC	<i>Malus domestica</i>	Domestic Apple
MD	<i>Malus domestica</i>	Domestic Apple
ME	<i>Malus domestica</i>	Domestic Apple
MF	<i>Malus domestica</i>	Domestic Apple
MG	<i>Malus domestica</i>	Domestic Apple
MH	<i>Malus domestica</i>	Domestic Apple
MI	<i>Malus domestica</i>	Domestic Apple
MJ	<i>Malus domestica</i>	Domestic Apple
MK	<i>Malus domestica</i>	Domestic Apple
ML	<i>Malus domestica</i>	Domestic Apple
MM	<i>Malus domestica</i>	Domestic Apple
MN	<i>Malus domestica</i>	Domestic Apple
MO	<i>Malus domestica</i>	Domestic Apple
MP	<i>Malus domestica</i>	Domestic Apple
MQ	<i>Malus domestica</i>	Domestic Apple
MR	<i>Malus domestica</i>	Domestic Apple
MS	<i>Malus domestica</i>	Domestic Apple
MT	<i>Malus domestica</i>	Domestic Apple
MU	<i>Malus domestica</i>	Domestic Apple
MV	<i>Malus domestica</i>	Domestic Apple
MW	<i>Malus domestica</i>	Domestic Apple
MX	<i>Malus domestica</i>	Domestic Apple
MY	<i>Malus domestica</i>	Domestic Apple
MZ	<i>Malus domestica</i>	Domestic Apple
NA	<i>Nyssa sylvatica</i>	Black Gum
NB	<i>Nyssa sylvatica</i>	Black Gum
NC	<i>Nyssa sylvatica</i>	Black Gum
ND	<i>Nyssa sylvatica</i>	Black Gum
NE	<i>Nyssa sylvatica</i>	Black Gum
NF	<i>Nyssa sylvatica</i>	Black Gum
NG	<i>Nyssa sylvatica</i>	Black Gum
NH	<i>Nyssa sylvatica</i>	Black Gum
NI	<i>Nyssa sylvatica</i>	Black Gum
NJ	<i>Nyssa sylvatica</i>	Black Gum
NK	<i>Nyssa sylvatica</i>	Black Gum
NL	<i>Nyssa sylvatica</i>	Black Gum
NM	<i>Nyssa sylvatica</i>	Black Gum
NN	<i>Nyssa sylvatica</i>	Black Gum
NO	<i>Nyssa sylvatica</i>	Black Gum
NP	<i>Nyssa sylvatica</i>	Black Gum
NQ	<i>Nyssa sylvatica</i>	Black Gum
NR	<i>Nyssa sylvatica</i>	Black Gum
NS	<i>Nyssa sylvatica</i>	Black Gum
NT	<i>Nyssa sylvatica</i>	Black Gum
NU	<i>Nyssa sylvatica</i>	Black Gum
NV	<i>Nyssa sylvatica</i>	Black Gum
NW	<i>Nyssa sylvatica</i>	Black Gum
NX	<i>Nyssa sylvatica</i>	Black Gum
NY	<i>Nyssa sylvatica</i>	Black Gum
NZ	<i>Nyssa sylvatica</i>	Black Gum
OA	<i>Ostrya virginica</i>	White Oak