



Vascular Plant Inventory of Fort Vancouver National Historic Site

Natural Resource Technical Report NPS/NCCN/NRTR—2010/341



ON THE COVER

Fort Vancouver National Historic Site garden
NPS photo

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Natural Resource Technical Report NPS/NCCN/NRTR—2010/341

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June 2010

U.S. Department of the Interior
National Park Service
Natural Resource Program Center
Fort Collins, Colorado

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Please cite this publication as:

Rocheft, R. M. 2010. Vascular plant inventory of Fort Vancouver National Historic Site. Natural Resource Technical Report NPS/NCCN/NRTR—2010/341. National Park Service, Fort Collins, Colorado.

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Abstract

A vascular plant inventory was conducted at Fort Vancouver National Historic Site between September 2000 and August 2001. Prior to initiating the inventory, data mining efforts developed a preliminary plant list of 60 vascular plant species based on park reports on vegetation resources. Field surveys were conducted to document vascular plant species present, estimate abundance, and to collect voucher specimens of all plant species. Species abundance was estimated for the entire park and for each of five management zones using NPSpecies abundance classes. Field surveys documented 163 vascular plant species and collected 92 herbarium specimens that were deposited in the park's curatorial facility. Approximately 74% of the species were exotic and there were no native species listed as sensitive by the Washington Natural Heritage Program (Washington Natural Heritage Program 2009). The list of exotic species included 1 class A species (giant hogweed, *Heracleum mantegazzianum*), 12 class B species, and 11 Class C species (Appendices A-D).

Acknowledgments

Dr. Kali Robson conducted the field surveys, collected and prepared all herbarium specimens, and organized volunteers (Washington Master Gardeners) to mount the herbarium specimens. Gregg Fauth delineated the study zones, located existing plant records and reports for data mining activities, and reviewed draft reports of survey results. Tessa Langford and Danielle D.M. Gembala accessioned the herbarium specimens into the collection and checked all specimens to insure that they had been correctly labeled. Dr. Doug Wilson provided verification of common camas (*Camassia quamash*) that was missed during field surveys. Ronald Holmes and Lise Grace entered all data into NPSpecies databases and Lise Grace developed the graphics for this report.

Introduction

The National Park Service's primary mission is to conserve unimpaired the natural and cultural resources and values of the national park system for the enjoyment of this and future generations. In 1992, the National Park Service's (NPS) Inventory and Monitoring Program identified a list of candidate elements and processes for initial inventory in all natural resource parks, proposed the establishment of prototype inventory and monitoring parks, and outlined national implementation guidelines. The National Parks Omnibus Management Act of 1998 recognized the need for good scientific information to manage parks. The act mandated a "program of inventory and monitoring of National Park System resources to establish baseline information and to provide information on the long-term trends in the condition of National Park System resources".

Funding acquired through the Natural Resource Challenge (1999) provided the financial resources for National Park Service to initiate biological inventories focusing on vertebrates and vascular plants. The basic goal of this program is to provide park managers with comprehensive, scientifically-based information about the nature and status of selected biological resources occurring within park boundaries in a format that increases its accessibility and utility for making management decisions, for scientific research, and for educating the public. The inventories will also lay the groundwork necessary for park managers to develop effective monitoring programs and to formulate effective management strategies for resource management and protection.

The North Coast and Cascades Network (NCCN) of parks developed a plan to inventory and document vertebrate and vascular plant species in the seven network parks (Figure 1) and initiated this program in 2001 (Rocheft et al. 2009). Fort Vancouver National Historic Site (FOVA) encompasses 210 acres including both intensively landscaped and "natural" areas. During the development of the inventory plan, we searched for vegetation publications and records of plant herbarium specimens to develop a preliminary species list for FOVA. At that time, the only records of plant occurrences in FOVA were an inventory and map of 300 ornamental trees, descriptions of historic vegetation (Taylor and Erigero 1992), and lists of exotic species compiled by park staff (Myers et al. 1996); we did not locate any herbarium specimens. Based on the reports, we compiled a list of 60 vascular plants species. Using this list as a baseline, we identified two objectives for the vascular plant inventory of FOVA: 1) to compile a vascular plant list for the park, 2) to verify this list at the 90% level (Rocheft et al., 2009).

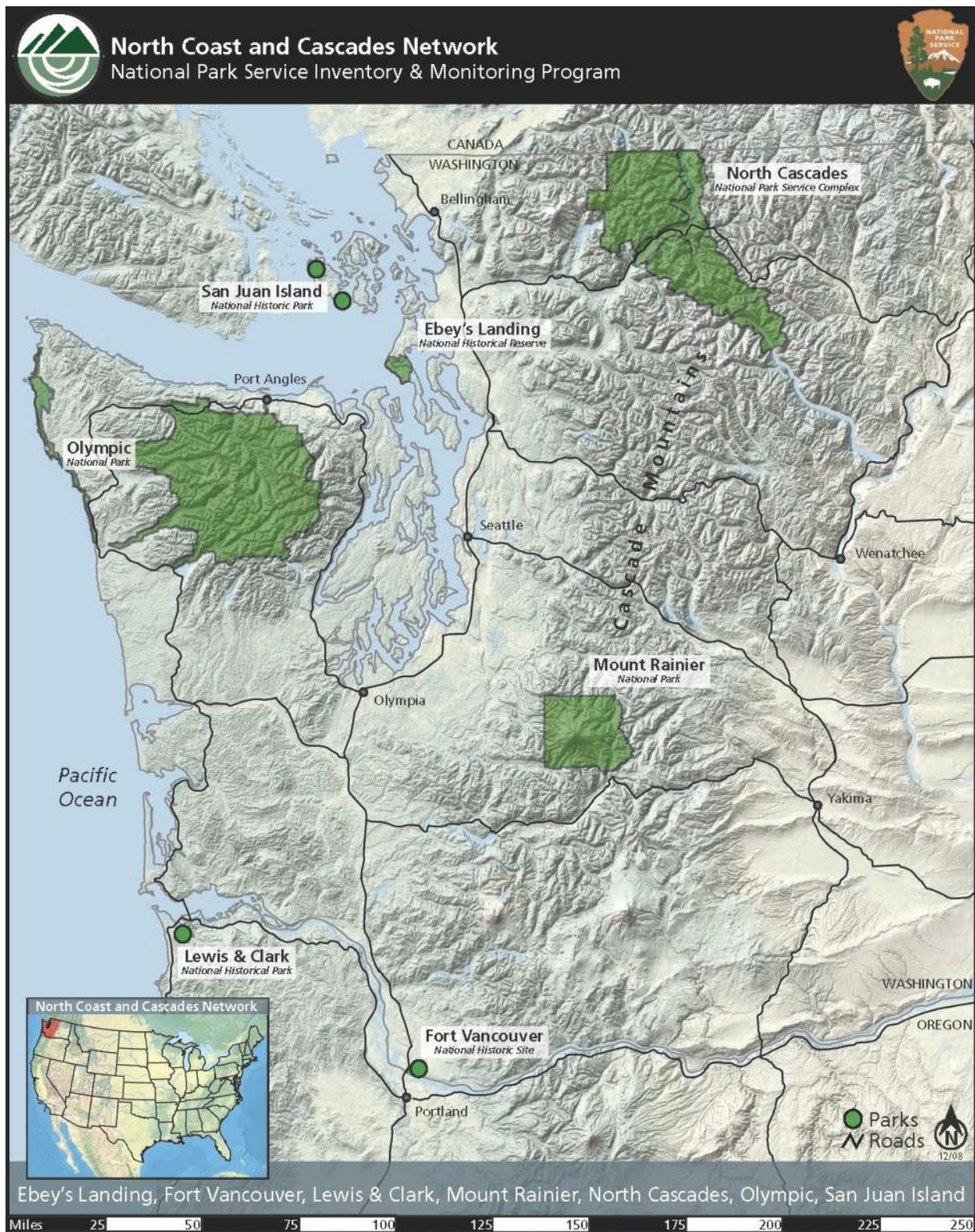


Figure 1. Map illustrating Fort Vancouver National Historic Site within the North Coast and Cascades Network of national parks

Methods

Due to the manipulated nature of most of the park landscape, we decided that compiling a master list of expected plants would not be very helpful. Instead, we decided that the existing species list would be expanded based on field surveys. The park was divided into five zones reflecting habitat and park management: Park & Picnic, East of Fort, S & E of Airport, Columbia River, and the Orchard & SW (Figure 2). The Columbia River zone is located on the south boundary of the park and encompasses 6.6 ha of shoreline, stabilized banks, walkways, and lawns. The area east of the Fort (15.5 ha) consists primarily of manicured areas such as historical gardens and mowed pastures. The area south and east of the airport (13.2 ha) encompasses the western portion of Pearson Airfield and contains large areas of black cottonwood (*Populus trichocarpa*) and the exotic Himalayan blackberry (*Rubus discolor*). The Orchard & SW zone (13.4 ha) includes a fruit orchard established in 1962, on the site of the historic gardens, and maintained turf (National Park Service 2007).

Inventories were conducted from September 2000 through August 2001 by Dr. Kathleen Robson of Robson Botanical Consultants. Surveys conducted in September and October concentrated on verification of tree species and fall flowering species (primarily exotic species); spring and summer 2001 surveys focused on grasses, forbs, and shrubs. Due to the small size of the park, the inventory method used was to do a complete area search. Each species was documented by abundance class both at the park and study zone level (NPSpecies). Abundance classes were:

- Abundant (abu): Large numbers of individuals; wide ecological amplitude or occurring in habitats covering a large portion of the park.
- Common (com): Large numbers of individuals occurring in habitat that is common, but not covering a large portion of the park.
- Uncommon (uco): Few to moderate numbers of individuals occurring either sporadically in commonly encountered habitats or in uncommon habitats.
- Rare (rare): Few individuals, usually restricted to small areas or in rare habitat.
- Not present (np): Species not encountered in the area. This category was not used for the overall rating of the park, species included in the inventory must occur in at least one area.

Voucher specimens were collected whenever plants were in flower or fruit, otherwise they were documented by location and abundance. Pressed plants were mounted by volunteers from the local Garden Club under the supervision of the Dr. Robson (contractor) and Greg Fauth, Chief of Interpretation and Resource Management (FOVA) and deposited in the FOVA collection.



Figure 2. Map illustrating five study areas for vascular plant surveys

Results

Field surveys documented 163 species, adding 103 species to the preliminary list. Ninety-two species (57%) were verified with herbarium specimens collected during the inventory and deposited in the park's collection (Table 1, Appendices A–D). Most species (74%) were exotic and there were no native species listed as sensitive by the Washington Natural Heritage Program (Washington Natural Heritage Program 2009). The list of exotic species included one class A species (giant hogweed, *Heracleum mantegazzianum*), 12 class B species, and 11 Class C species (Appendices A–D).

Table 1. Summary of vascular plant species documented by the inventory.

Growth Form	Total (No.)	Native Species (No.)	Exotic Species (No.)	Verified by Voucher (no.)
Forbs	100	22	78	68
Graminoids	16	1	15	12
Shrubs	16	9	7	6
Trees	31	10	21	6
Total	163	42	121	92

Although the majority of species encountered are exotic species, native forbs, trees, and shrubs are distributed across the park landscape (Appendix E). Several forbs (e.g. common camas and pearly everlasting) are important prairie species and could be utilized if the park restores prairie habitats to the landscape. The sandy soils of the Columbia River zone supported native species such as willow aster (*Symphotrichum lanceolatum* var. *hesperium*), tall Oregon grape (*Mahonia aquifolium*), Oregon ash (*Fraxinus latifolia*), and lodgepole pine (*Pinus contorta* var. *contorta*). The area is interesting because propagules of species more common in eastern areas of Washington may float to the area along the river as evidenced by the occurrence of the exotic indigobush (*Amorpha fruticosa*) and the native licorice root (*Glycyrrhiza lepidota*).

The zone S & E of Airport contained both native and exotic species. Stands of large black cottonwood (*Populus balsamifera* var. *trichocarpa*) are present as well as Himalayan blackberry (*Rubus discolor*). Areas of sandy soils support native and exotic drought-tolerant species, and in some places fairly extensive cryptogamic crusts (layer of lichens and bryophytes, especially the moss *Racomitrium* spp.) occur. Moist swales provide habitat for common camas (*Camassia quamash*) and many-leaved lupine (*Lupinus polyphyllus*), also documented in this zone. Numbered trees within the Park and Picnic zone were inventoried and numbered lists of tree species were updated and corrected (e.g. trees labeled as *Quercus kelloggii* were actually *Q. garryana*) (see Appendix F).

Discussion

The vascular plant inventory documented 163 vascular plant species within FOVA and established a herbarium within the park's collection. Ninety-three species (57%) of the plant species were verified with vouchers and the remaining species were verified by observation. Now that the park has established a herbarium, it is recommended that vouchers be collected of the remaining species on the list. In particular, it would be beneficial to have vouchers of all trees planted in the picnic area, for future reference, since several were misidentified. When we initiated NCCN vascular plant inventories, we thought that collection of voucher specimens should concentrate on native plant species. However, during the vascular plant inventories in San Juan Island National Historical Park (SAJH) and North Cascades National Park Service Complex (NOCA), we found that identification of ornamental species was difficult because the species were not in ecological plant guides and had important management application (i.e. either as a record of an historical plant use or indicator of a newly established exotic species). Therefore, it is recommended that the park try to collect vouchers of all species within the park boundaries.

Restoration of riparian habitats along the Columbia River and prairies south of the fort are a priority for FOVA (National Park Service 2007). Results of the inventory document the presence of many tree, shrub, and forb species suitable for restoring these habitats. Cluster rose (*Rosa pisocarpa*), common sneezeweed (*Helenium autumnale*), Oregon ash (*Fraxinus latifolia*), Garry oak (*Quercus garryana*), Black cottonwood (*Populus balsamifera* ssp. *trichocarpa*), and snowberry (*Symphoricarpos albus*) are all native species that are present in the park and are commonly found in riparian areas or swales (Easterly et al. 2005). Other species documented during the inventory such as pearly everlasting (*Anaphalis margaritacea*), cotton batting plant (*Pseudognaphalium stramineum*), common camas, (*Camassia quamash*), white panicked aster (*Symphyotrichum lanceolatum* var. *hesperium*) are commonly found in south sound prairies or swales and could be utilized to restore these habitats (Easterly et al 2005 and Dunwiddie et al 2006). Unfortunately, only one native annual grass, switch grass (*Panicum capillare*), was documented in FOVA and several persistent exotic grasses (e.g. reed canary grass, *Phalaris arundinacea*; colonial bentgrass *Agrostis capillaris*; tall fescue, *Schedonurus arundinaceum*) will need to be removed prior to restoration of prairie habitats.

The FOVA vascular plant survey was the first plant inventory conducted during the North Coast and Cascades Vertebrate and Vascular Plant Inventory (Rocheffort et al. 2009). Although we thought this would be a straight-forward and expedient inventory due to the largely managed landscape, we documented several areas where repeat inventories should be conducted, but initial funding was insufficient. The swales within the study zone south and east of the airport contained common camas which we missed due to timing of the surveys. Repeated surveys of these areas may document other native prairie species that bloom in the early spring. Additionally, a nonvascular plant survey would be very important for the park. Dr. Robson noted the presence of cryptogamic crusts in the swales; these crusts are abundant in many prairies and could be important in restoring prairie communities. During the spring of 2001, Dr. Judy Harpel surveyed some of the trees in the prairie area and recommended that the park initiate a survey of lichen, moss, and fungi to document interesting species in the prairie. These nonvascular species may provide the park with indicators of air quality. Documenting their occurrence will contribute to their general distribution information.. The Columbia River zone was another area of special concern due to the native and exotic species that are dispersed by the river. Indigo bush

(*Amorpha fruticosa*) is a Class B noxious weed that is very uncommon in western Washington. Collaboration with the EPMT (Exotic Plant Management Team) and NCCN vegetation group for annual surveys of this zone may reveal other interesting native and exotic species.

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Appendix A. List of forbs documented in Fort Vancouver National Historic Site

Herbarium Specimen	Family	Scientific Name	Common Name	Origin ¹ (Weed Class) ²
	Amaranthaceae	<i>Amaranthus powellii</i>	Powell's Amaranth	E
H	Apiaceae	<i>Anthriscus caucalis</i>	Bur Chervil	E (B)
H	Apiaceae	<i>Conium maculatum</i>	Poison Hemlock	E (B)
H	Apiaceae	<i>Daucus carota</i>	Queen Anne's Lace	E (B)
	Apiaceae	<i>Heracleum mantegazzianum</i>	Giant Hogweed	E (A)
H	Apocynaceae	<i>Vinca major</i>	Bigleaf Periwinkle	E
	Asteraceae	<i>Anaphalis margaritacea</i>	Pearly Everlasting	N
H	Asteraceae	<i>Anthemis cotula</i>	Stinking Chamomile	E
H	Asteraceae	<i>Artemisia ludoviciana</i> ssp. <i>candicans</i>	White Sagebrush	N
	Asteraceae	<i>Bellis perennis</i>	Lawndaisy	E
	Asteraceae	<i>Bidens cernua</i>	Nodding Beggartick	N
H	Asteraceae	<i>Centaurea cyanus</i>	Garden Cornflower	E
H	Asteraceae	<i>Centaurea diffusa</i>	Diffuse Knapweed	E (B)
H	Asteraceae	<i>Cirsium arvense</i>	Canada Thistle	E (C)
H	Asteraceae	<i>Cirsium vulgare</i>	Bull Thistle	E (C)
H	Asteraceae	<i>Conyza canadensis</i>	Canadian Horseweed	N
H	Asteraceae	<i>Crepis setosa</i>	Bristly Hawksbeard	E
	Asteraceae	<i>Helenium autumnale</i>	Common Sneezeweed	N
	Asteraceae	<i>Hypochaeris glabra</i>	Smooth Cat's Ear	E
H	Asteraceae	<i>Hypochaeris radicata</i>	Hairy Cat's Ear	E (B)
H	Asteraceae	<i>Lactuca serriola</i>	Prickly Lettuce	E
H	Asteraceae	<i>Leontodon hirtus</i>	Lesser Hawkbit	E
H	Asteraceae	<i>Leucanthemum vulgare</i>	Oxeye Daisy	E (B)
H	Asteraceae	<i>Matricaria discoidea</i>	Disc Mayweed	E
H	Asteraceae	<i>Pseudognaphalium stramineum</i>	Cottonbatting Plant	N
H	Asteraceae	<i>Senecio jacobaea</i>	Stinking Willie	E (B)
H	Asteraceae	<i>Senecio vulgaris</i>	Old-Man-In-The-Spring	E (C)
H	Asteraceae	<i>Silybum marianum</i>	Blessed Milkthistle	E
H	Asteraceae	<i>Sonchus asper</i>	Spiny Sowthistle	E
	Asteraceae	<i>Sonchus oleraceus</i>	Common Sowthistle	E

Appendix A. List of forbs documented in Fort Vancouver National Historic Site (continued).

Herbarium Specimen	Family	Scientific Name	Common Name	Origin ¹ (Weed Class) ²
	Asteraceae	<i>Symphyotrichum lanceolatum</i> <i>var. hesperium</i>	White Panicle Aster	N
H	Asteraceae	<i>Symphyotrichum subspicatum</i> <i>var. subspicatum</i>	Douglas Aster	N
H	Asteraceae	<i>Tanacetum parthenium</i>	Feverfew	E
	Asteraceae	<i>Tanacetum vulgare</i>	Common Tansy	E (C)
	Asteraceae	<i>Taraxacum officinale</i>	Common Dandelion	E
H	Asteraceae	<i>Tragopogon dubius</i>	Yellow Salsify	E
H	Asteraceae	<i>Xanthium strumarium</i>	Rough Cocklebur	E
	Bignoniaceae	<i>Campsis radicans</i>	Trumpet Creeper	E
H	Boraginaceae	<i>Cynoglossum officinale</i>	Houndstongue	E (B)
H	Boraginaceae	<i>Myosotis stricta</i>	Strict Forget-Me-Not	E
H	Brassicaceae	<i>Brassica rapa var. rapa</i>	Field Mustard	E
H	Brassicaceae	<i>Hesperis matronalis</i>	Dames Rocket	E
H	Brassicaceae	<i>Lepidium campestre</i>	Field Pepperweed	N
H	Brassicaceae	<i>Lepidium virginicum</i>	Virginia Pepperweed	E
H	Brassicaceae	<i>Raphanus sativus</i>	Cultivated Radish	E
H	Brassicaceae	<i>Sisymbrium officinale</i>	Hedgemustard	E
	Caryophyllaceae	<i>Silene latifolia ssp. alba</i>	Bladder Champion	E (C)
H	Caryophyllaceae	<i>Spergula arvensis</i>	Corn Spurry	E
H	Caryophyllaceae	<i>Spergularia rubra</i>	Red Sandspurry	E
	Caryophyllaceae	<i>Stellaria media</i>	Common Chickweed	E
H	Chenopodiaceae	<i>Chenopodium album</i>	Lambsquarters	E
H	Chenopodiaceae	<i>Chenopodium botrys</i>	Jerusalem Oak Goosefoot	E
	Clusiaceae	<i>Hypericum perforatum</i>	Common St. Johnswort	E (C)
	Convolvulaceae	<i>Convolvulus arvensis</i>	Field Bindweed	E (C)
H	Dennstaedtiaceae	<i>Pteridium aquilinum var.</i> <i>pubescens</i>	Hairy Brackenfern	N
H	Dipsacaceae	<i>Dipsacus fullonum ssp.</i> <i>sylvestris</i>	Fuller's Teasel	E
H	Equisetaceae	<i>Equisetum arvense</i>	Field Horsetail	N
H	Fabaceae	<i>Glycyrrhiza lepidota</i>	American Licorice	N
H	Fabaceae	<i>Lathyrus latifolius</i>	Perennial Pea	N
H	Fabaceae	<i>Lupinus bicolor</i>	Miniature Lupine	N
H	Fabaceae	<i>Lupinus polyphyllus var.</i> <i>pallidipes</i>	Bigleaf Lupine	N

Appendix A. List of forbs documented in Fort Vancouver National Historic Site (continued).

Herbarium Specimen	Family	Scientific Name	Common Name	Origin ¹ (Weed Class) ²
	Fabaceae	<i>Medicago lupulina</i>	Black Medick	E
	Fabaceae	<i>Melilotus officinalis</i>	Yellow Sweetclover	E
H	Fabaceae	<i>Psoralea lanceolata</i>	Lemon Scurfpea	N
	Fabaceae	<i>Trifolium arvense</i>	Rabbitfoot Clover	E
H	Fabaceae	<i>Trifolium dubium</i>	Suckling Clover	E
H	Fabaceae	<i>Trifolium incarnatum</i>	Crimson Clover	E
H	Fabaceae	<i>Trifolium pratense</i>	Red Clover	E
	Fabaceae	<i>Trifolium repens</i>	White Clover	E
H	Fabaceae	<i>Vicia villosa</i>	Winter Vetch	E
	Geraniaceae	<i>Erodium cicutarium</i>	Redstem Stork's Bill	E
	Geraniaceae	<i>Geranium robertianum</i>	Robert Geranium	E (B)
H	Lamiaceae	<i>Lamium purpureum</i>	Purple Deadnettle	E
H	Lamiaceae	<i>Mentha arvensis</i>	Wild Mint	N
H	Lamiaceae	<i>Mentha suaveolens</i>	Apple Mint	E
	Lamiaceae	<i>Nepeta cataria</i>	Catnip	E
	Liliaceae ³	<i>Camassia quamash</i>	Common camas	N
H	Malvaceae	<i>Malva neglecta</i>	Common Mallow	E
H	Onagraceae	<i>Oenothera villosa</i> ssp. <i>strigosa</i>	Hairy Evening Primrose	N
H	Orobanchaceae	<i>Orobanche minor</i>	Hellroot	E
	Oxalidaceae	<i>Oxalis corniculata</i>	Creeping Woodsorrel	E
H	Plantaginaceae	<i>Plantago lanceolata</i>	Narrowleaf Plantain	E
H	Plantaginaceae	<i>Plantago major</i> var. <i>major</i>	Common Plantain	E
H	Plantaginaceae	<i>Plantago psyllium</i>	Sand Plantain	E
H	Polygonaceae	<i>Polygonum aviculare</i>	Prostrate Knotweed	E
H	Polygonaceae	<i>Polygonum lapathifolium</i>	Curlytop Knotweed	E
H	Polygonaceae	<i>Rumex acetosella</i>	Common Sheep Sorrel	E
H	Polygonaceae	<i>Rumex crispus</i>	Curly Dock	E
H	Polygonaceae	<i>Rumex obtusifolius</i>	Bitter Dock	E
	Polypodiaceae	<i>Polypodium glycyrrhiza</i>	Licorice Fern	N
	Ranunculaceae	<i>Ranunculus repens</i>	Creeping Buttercup	E
H	Ranunculaceae	<i>Ranunculus sardous</i>	Hairy Buttercup	E
	Rosaceae	<i>Argentina egedii</i> ssp. <i>egedii</i>	Pacific Silverweed	N
	Rubiaceae	<i>Galium aparine</i>	Stickywilly	N

Appendix A. List of forbs documented in Fort Vancouver National Historic Site (continued).

Herbarium Specimen	Family	Scientific Name	Common Name	Origin ¹ (Weed Class) ²
	Scrophulariaceae	<i>Digitalis purpurea</i>	Purple Foxglove	E
H	Scrophulariaceae	<i>Linaria vulgaris</i>	Butter and Eggs	E (C)
	Scrophulariaceae	<i>Verbascum blattaria</i>	Moth Mullein	E
	Scrophulariaceae	<i>Verbascum thapsus</i>	Common Mullein	E
H	Solanaceae	<i>Solanum dulcamara</i>	Climbing Nightshade	E
H	Solanaceae	<i>Solanum physalifolium</i>	Hoe Nightshade	E

¹E = exotic origin, N = native

²Refers to classification as designated in the 2009 Washington State Noxious Weed List: A = non-native species whose distribution in Washington state is still limited and eradication is required by law; B = non-native species limited to portions of the state, control is designated in regions where they are not yet widespread; C = noxious weeds already widespread or of special interest to agriculture.

³Although not documented during the field surveys, this species has been verified by observation by Doug Wilson, FOVA archeologist.

Appendix B. List of graminoid species documented within Fort Vancouver National Historic Site.

Herbarium Specimen	Family	Scientific Name	Common Name	Origin ¹ (Weed Class) ²
H	Poaceae	<i>Agrostis capillaris</i>	Colonial Bentgrass	E
H	Poaceae	<i>Anthoxanthum odoratum</i>	Sweet Vernalgrass	E
H	Poaceae	<i>Arrhenatherum elatius</i>	Tall Oatgrass	E
H	Poaceae	<i>Avena fatua</i>	Wild Oat	E
H	Poaceae	<i>Bromus hordeaceus ssp. hordeaceus</i>	Soft Brome	E
H	Poaceae	<i>Bromus sterilis</i>	Poverty Brome	E
H	Poaceae	<i>Bromus tectorum</i>	Cheatgrass	E
	Poaceae	<i>Digitaria sanguinalis</i>	Hairy Crabgrass	E
H	Poaceae	<i>Echinochloa crusgalli</i>	Large Barnyard-Grass	E
H	Poaceae	<i>Holcus lanatus</i>	Common Velvetgrass	E
H	Poaceae	<i>Lolium perenne ssp. multiflorum</i>	Italian Ryegrass	E
H	Poaceae	<i>Panicum capillare</i>	Witchgrass	N
H	Poaceae	<i>Phalaris arundinacea</i>	Reed Canarygrass	E (C)
	Poaceae	<i>Poa annua</i>	Annual Bluegrass	E
	Poaceae	<i>Schedonorus arundinaceum</i>	Tall Fescue	E
H	Poaceae	<i>Vulpia myuros</i>	Rat-Tail Fescue	E

¹E = exotic origin, N = native

²Refers to classification as designated in the 2009 Washington State Noxious Weed List: A = non-native species whose distribution in Washington state is still limited and eradication is required by law; B = non-native species limited to portions of the state, control is designated in regions where they are not yet widespread; C = noxious weeds already widespread or of special interest to agriculture.

Appendix C. List of shrub species documented in Fort Vancouver National Historic Site.

Herbarium Specimen	Family	Scientific Name	Common Name	Origin ¹ (Weed Class) ²
	Anacardiaceae	<i>Toxicodendron diversilobum</i>	Pacific Poison Oak	N
	Berberidaceae	<i>Mahonia aquifolium</i>	Hollyleaved Barberry	N
	Berberidaceae	<i>Mahonia repens</i>	Creeping Barberry	N
H	Buddlejaceae	<i>Buddleja davidii</i>	Orange Eye Butterflybush	E (B)
H	Caprifoliaceae	<i>Symphoricarpos albus</i> var. <i>laevigatus</i>	Common Snowberry	N
H	Caprifoliaceae	<i>Viburnum rhytidophyllum</i>	Leatherleaf Arrowwood	E
	Ericaceae	<i>Arctostaphylos uva-ursi</i>	Kinnikinnick	N
	Ericaceae	<i>Gaultheria shallon</i>	Salal	N
H	Fabaceae	<i>Amorpha fruticosa</i>	Indigo Bush	E (B)
	Fabaceae	<i>Cytisus scoparius</i>	Scotch Broom	E (B)
	Rosaceae	<i>Rosa eglanteria</i>	Sweetbriar Rose	E
	Rosaceae	<i>Rosa pisocarpa</i>	Cluster Rose	N
H	Rosaceae	<i>Rubus discolor</i>	Himalayan Blackberry	E (C)
	Rosaceae	<i>Rubus laciniatus</i>	Cutleaf Blackberry	E (C)
H	Rosaceae	<i>Rubus leucodermis</i>	Whitebark Raspberry	N
	Rosaceae	<i>Rubus ursinus</i>	California Blackberry	N

¹E = exotic origin, N = native

²Refers to classification as designated in the 2009 Washington State Noxious Weed List: A = non-native species whose distribution in Washington state is still limited and eradication is required by law; B = non-native species limited to portions of the state, control is designated in regions where they are not yet widespread; C = noxious weeds already widespread or of special interest to agriculture.

Appendix D. List of tree species of Fort Vancouver National Historic Site.

Herbarium Specimen	Family	Scientific Name	Common Name	Origin ¹ (Weed Class) ²
H	Aceraceae	<i>Acer macrophyllum</i>	Bigleaf Maple	N
	Aceraceae	<i>Acer platanoides</i>	Norway Maple	E
	Aceraceae	<i>Acer rubrum</i>	Red Maple	E
H	Anacardiaceae	<i>Rhus glabra</i>	Smooth Sumac	N
	Aquifoliaceae	<i>Ilex aquifolium</i>	English Holly	E
	Cornaceae	<i>Cornus nuttallii</i>	Pacific Dogwood	N
	Cupressaceae	<i>Chamaecyparis lawsoniana</i>	Port Orford Cedar	E
	Cupressaceae	<i>Platycladus orientalis</i>	Oriental Arborvitae	E
	Cupressaceae	<i>Thuja plicata</i>	Western Redcedar	N
	Fabaceae	<i>Robinia pseudoacacia</i>	Black Locust	E
	Fagaceae	<i>Quercus palustris</i>	Pin Oak	E
	Platanaceae	<i>Platanus hybrida</i>	London Planetree	E
	Juglandaceae	<i>Juglans nigra</i>	Black Walnut	E
	Fabaceae	<i>Gleditsia triacanthos</i>	Honeylocust	E
	Fagaceae	<i>Quercus garryana</i>	Oregon White Oak	N
	Oleaceae	<i>Fraxinus latifolia</i>	Oregon Ash	N
	Pinaceae	<i>Abies concolor</i>	White Fir	E
	Pinaceae	<i>Cedrus deodara</i>	Deodar Cedar	E
	Pinaceae	<i>Picea glauca</i>	White Spruce	E
	Pinaceae	<i>Pinus contorta</i> var. <i>contorta</i>	Beach Pine	N
	Pinaceae	<i>Pinus monticola</i>	Western White Pine	E
	Pinaceae	<i>Pinus ponderosa</i>	Ponderosa Pine	E
	Pinaceae	<i>Pinus sylvestris</i>	Scots Pine	E
	Pinaceae	<i>Pseudotsuga menziesii</i>	Douglas-Fir	N
H	Rosaceae	<i>Crataegus monogyna</i>	Oneseed Hawthorn	E
	Rosaceae	<i>Prunus cerasifera</i>	Cherry Plum	E
H	Salicaceae	<i>Populus balsamifera</i> ssp. <i>trichocarpa</i>	Black Cottonwood	N
	Salicaceae	<i>Populus nigra</i>	Lombardy Poplar	E
H	Salicaceae	<i>Salix scouleriana</i>	Scouler's Willow	N
H	Simaroubaceae	<i>Ailanthus altissima</i>	Tree of Heaven	E
	Taxodiaceae	<i>Sequoiadendron giganteum</i>	Giant Sequoia	E

¹E = exotic origin, N = native

²Refers to classification as designated in the 2009 Washington State Noxious Weed List: A = non-native species whose distribution in Washington state is still limited and eradication is required by law; B = non-native species limited to portions of the state, control is designated in regions where they are not yet widespread; C = noxious weeds already widespread or of special interest to agriculture.

³Although not documented during the field surveys, this species has been verified by observation by Doug Wilson, FOVA archeologist.

Appendix E. Species abundance by study zone.

Scientific Name	Common Name	Park Overall	Columbia River	E of Fort	S & E of Airport	S & W of Orchard	Park & Picnic
<i>Abies concolor</i>	White Fir	uco	np	np	np	np	*uco
<i>Acer macrophyllum</i>	Bigleaf Maple	com	np	np	np	uco	*com
<i>Acer platanoides</i>	Norway Maple	com	np	np	np	np	*com
<i>Acer rubrum</i>	Red Maple	com	np	np	np	np	*com
<i>Agrostis sp.</i>	Bentgrass	com	uco	uco	abu	com	uco
<i>Ailanthus altissima</i>	Tree-of-Heaven	uco	np	np	np	uco	np
<i>Amaranthus powellii</i>	Powell's Amaranth	uco	np	uco	uco	np	np
<i>Amorpha fruticosa</i>	Indigobush	com	abu	np	np	np	np
<i>Anaphalis margaritacea</i>	Pearly Everlasting	uco	uco	uco	uco	uco	np
<i>Anthemis cotula</i>	Mayweed	uco	np	com	uco	uco	np
<i>Anthoxanthum odoratum</i>	Sweet Vernalgrass	com	np	uco	com	uco	np
<i>Arctostaphylos uva-ursi</i>	Kinnikinnick	uco	*uco	*com	np	np	np
<i>Arrhenatherum eliatum</i>	Tall Oatgrass	com	uco	uco	abu	abu	np
<i>Artemisia ludoviciana</i> <i>var. latiloba</i>	Western Mugwort	uco	uco	np	np	np	np
<i>Artemisia sp.</i>	Wormwood	rare	rare	np	np	np	np
<i>Bellis perennis</i>	English Daisy	com	uco	uco	uco	uco	com
<i>Bidens cernuum</i>	Nodding Beggarticks	uco	uco	np	np	np	np
<i>Brassica campestris</i>	Field Mustard	uco	np	com	uco	uco	np
<i>Buddleja davidii</i>	Butterfly Bush	uco	np	np	np	uco	np
<i>Camassia quamash</i>	Common camas	rare	np	np	rare	np	np
<i>Campsis radicans</i>	Trumpet Vine	rare	rare	np	np	np	np
<i>Cedrus deodara</i>	Deodar Cedar	uco	np	np	np	np	*uco
<i>Centaurea diffusa</i>	Diffuse Knapweed	com	uco	np	com	uco	np
<i>Chamaecyparis lawsoniana</i>	Port Orford Cedar	uco	np	np	np	np	uco
<i>Chenopodium album</i>	Lambsquarters	uco	np	uco	uco	np	np
<i>Chenopodium botrys</i>	Jerusalem-oak Goosefoot	uco	np	uco	uco	np	np
<i>Cirsium arvense</i>	Canada Thistle	com	uco	uco	com	com	np
<i>Cirsium vulgare</i>	Bull Thistle	uco	uco	uco	uco	uco	np
<i>Conium maculatum</i>	Poison Hemlock	abu	uco	com	abu	abu	np
<i>Convolvulus arvensis</i>	Field Bindweed	uco	uco	uco	uco	uco	uco
<i>Conyza canadensis</i>	Horseweed	com	uco	uco	com	com	np
<i>Cornus nuttallii</i>	Pacific Dogwood	rare	np	np	np	np	*rare
<i>Crataegus monogyna</i>	Common Hawthorn	uco	uco	np	uco	uco	uco
<i>Crepis setosa</i>	Rough Hawksbeard	uco	np	uco	uco	uco	np
<i>Cynoglossum officinale</i>	Common Houndstongue	uco	np	np	uco	np	np
<i>Cytisus scoparius</i>	Scot's Broom	com	uco	uco	com	com	np
<i>Daucus carota</i>	Queen Anne's Lace	abu	uco	com	abu	abu	uco

Appendix E. Species abundance by study zone (continued).

Scientific Name	Common Name	Park Overall	Columbia River	E of Fort	S & E of Airport	S & W of Orchard	Park & Picnic
<i>Digitalis purpurea</i>	Foxglove	uco	np	np	uco	uco	np
<i>Digitaria sanguinalis</i>	Hairy Crabgrass	uco	uco	uco	uco	uco	np
<i>Dipsacus sylvestris</i>	Teasel	com	np	np	com	com	np
<i>Echinochloa crusgalli</i>	Large Barnyard-grass	com	uco	com	com	uco	uco
<i>Eleocharis</i>	Spikerush	uco	uco	np	np	np	np
<i>Epilobium spp.</i>	Willow-herb	com	com	com	com	com	uco
<i>Equisetum</i>	Horsetail	uco	np	np	uco	np	np
<i>Erodium cicutarium</i>	Cranesbill	abu	uco	abu	com	abu	uco
<i>Fraxinus latifolia</i>	Oregon ash	com	com	np	uco	uco	*com
<i>Galium aparine</i>	"Bedstraw, Cleavers"	com	uco	uco	com	com	uco
<i>Gaultheria shallon</i>	Salal	uco	*uco	np	np	np	np
<i>Geranium robertianum</i>	Herb Robert	uco	np	uco	uco	uco	np
<i>Geranium sp.</i>	Geranium	com	uco	com	com	com	com
<i>Gleditsia triacanthos</i>	Honey Locust	uco	np	np	np	np	*com
<i>Glycyrrhiza lepidota</i>	Licorice-root	rare	rare	np	np	np	np
<i>Gnaphalium chilense</i>	Cotton-batting Cudweed	uco	np	uco	uco	np	np
<i>Helenium autumnale</i>	Sneezeweed	rare	rare	np	np	np	np
<i>Hypericum perforatum</i>	St. Johnswort	com	uco	uco	abu	com	uco
<i>Hypochaeris glabra</i>	Smooth Cats-ear	uco	uco	uco	uco	uco	uco
<i>Hypochaeris radicata</i>	Hairy Cats-ear	com	uco	com	com	com	com
<i>Ilex aquifolium</i>	English Holly	com	np	np	np	np	*com
<i>Juglans nigra</i>	Balck Walnut	uco	np	np	np	np	*uco
<i>Lamium purpureum</i>	Purple Deadnettle	com	uco	com	com	com	uco
<i>Lathyrus latifolia</i>	Everlasting Pea	com	uco	uco	com	com	np
<i>Leucanthemum vulgare</i>	Feverfew	uco	uco	uco	np	uco	uco
<i>Leucanthemum vulgare</i>	Oxeye Daisy	com	uco	uco	com	com	uco
<i>Linaria vulgaris</i>	Butter & Eggs	com	uco	uco	com	com	uco
<i>Lolium multiflorum</i>	Italian Ryegrass	uco	uco	com	uco	uco	uco
<i>Lupinus polyphyllus</i> var. <i>pallipides</i>	Bigleaf Lupine	com	np	np	com	np	np
<i>Lychnis alba</i>	White Campion	com	uco	com	com	com	uco
<i>Mahonia aquifolium</i>	Tall Oregon-grape	com	*com	np	uco	uco	*com
<i>Mahonia repens</i>	Creeping Oregon-grape	uco	*uco	np	np	np	np
<i>Malus sp</i>	Apple	com	np	np	np	*com	*com
<i>Malva neglecta</i>	Common Mallow	uco	np	uco	uco	uco	uco
<i>Melilotus albus</i>	White Sweetclover	com	uco	uco	uco	com	np
<i>Melilotus luteus</i>	Yellow Sweetclover	com	uco	uco	uco	com	np
<i>Mentha arvensis</i>	Field Mint	uco	uco	np	np	np	np
<i>Nepeta cataria</i>	Catnip	uco	np	np	np	uco	np

Appendix E. Species abundance by study zone (continued).

Scientific Name	Common Name	Park Overall	Columbia River	E of Fort	S & E of Airport	S & W of Orchard	Park & Picnic
<i>Oenothera strigosa</i>	Common Evening-primrose	com	uco	uco	abu	com	np
<i>Oxalis corniculata</i>	creeping woodsorrel	uco	uco	uco	np	uco	uco
<i>Panicum capillare</i>	Common Witchgrass	com	np	uco	com	com	np
<i>Phalaris arundinacea</i>	Reed Canarygrass	com	uco	np	abu	com	np
<i>Picea glauca</i>	White Spruce	uco	np	np	np	np	*uco
<i>Pinus contorta</i> var. <i>contorta</i>	Shore Pine	uco	*com	np	np	np	np
<i>Pinus monticola</i>	Western White Pine	rare	np	np	np	np	*rare
<i>Pinus ponderosa</i>	Ponderosa Pine	com	np	np	np	*uco	*com
<i>Pinus sylvestris</i>	Scots Pine	uco	np	np	np	np	*uco
<i>Plantago lanceolata</i>	English Plantain	com	uco	com	com	com	com
<i>Plantago major</i> var. <i>major</i>	Common Plantain	com	uco	com	com	com	com
<i>Plantago psyllium</i>	Sand Plantain	uco	np	np	uco	np	np
<i>Platanus acerifolia</i>	London Plane Tree	com	np	np	np	np	*com
<i>Platycladus orientalis</i>	Oriental Arborvitae	uco	np	np	np	np	*uco
<i>Poa annua</i>	Annual Bluegrass	abu	com	com	uco	abu	abu
<i>Polygonum aviculare</i>	Knotweed	uco	uco	uco	uco	uco	uco
<i>Polygonum lapathifolium</i>	Willowweed	uco	np	uco	np	np	np
<i>Polygonum sp.</i>	Smartweed	uco	uco	uco	com	uco	np
<i>Polypodium glycyrrhiza</i>	Licorice Fern	rare	rare	np	np	np	np
<i>Populus balsamifera</i> ssp. <i>trichocarpa</i>	Black Cottonwood	abu	abu	np	abu	uco	np
<i>Potentilla anserina</i> var. <i>pacifica</i>	Pacific Silverweed	rare	rare	np	np	np	np
<i>Prunus spp.</i>	Flowering Cherry, Plum"	com	np	np	np	np	*com
<i>Pseudotsuga menziesii</i>	Douglas Fir	com	*uco	uco	np	uco	*abu
<i>Psoralea sp.</i>	Scurf-pea	uco	np	np	com	np	np
<i>Quercus garryana</i>	Oregon White Oak	com	np	np	np	rare	*com
<i>Quercus palustris</i>	Pin Oak	com	np	np	np	np	*com
<i>Raphanus sativus</i>	Wild Radish	com	np	com	com	com	np
<i>Rhus glabra</i>	Smooth sumac	rare	np	np	rare	np	np
<i>Robinia pseudoacacia</i>	Black Locust	uco	uco	np	np	uco	np
<i>Rosa eglanteria</i>	Eglantine	uco	np	np	com	uco	np
<i>Rosa pisocarpa</i>	Wild Clustered Rose	uco	np	np	np	com	np
<i>Rubus discolor</i>	Himalayan Blackberry	abu	abu	uco	abu	abu	np
<i>Rubus laciniatus</i>	Evergreen Blackberry	uco	np	uco	uco	uco	np
<i>Rubus leucodermis</i>	Blackcap	rare	np	np	uco	np	np
<i>Rubus ursinus</i>	Pacific Blackberry	com	np	np	com	abu	np
<i>Rumex acetosella</i>	Sheep Sorrel	com	np	uco	com	com	uco
<i>Rumex crispus</i>	Curly Dock	com	np	uco	com	com	np

Appendix E. Species abundance by study zone (continued).

Scientific Name	Common Name	Park Overall	Columbia River	E of Fort	S & E of Airport	S & W of Orchard	Park & Picnic
<i>Rumex obtusifolius</i>	Broadleaved Dock	com	np	uco	com	com	np
<i>Salix fluviatilis?</i>	Columbia River Willow	uco	uco	np	np	np	np
<i>Salix scouleriana</i>	Scouler's Willow	uco	np	np	uco	np	np
<i>Senecio jacobaea</i>	Tansy Ragwort	uco	np	np	com	np	np
<i>Senecio vulgaris</i>	Common Groundsel	uco	uco	uco	uco	uco	uco
<i>Sequoiadendron giganteum</i>	Giant Sequoia	com	np	np	np	uco	*com
<i>Schedonorus arundinaceum</i>	Tall Fescue	abu	uco	com	abu	abu	com
<i>Sisymbrium officinale</i>	Hedge Mustard	uco	uco	uco	uco	uco	np
<i>Solanum dulcamara</i>	Climbing Nightshade	com	uco	uco	com	com	np
<i>Solanum sarrachoides</i>	Hairy Nightshade	uco	uco	np	np	np	np
<i>Sonchus spp.</i>	Sowthistle	com	uco	com	com	com	uco
<i>Spergula arvensis</i>	Cornspurry	com	uco	com	uco	com	uco
<i>Stellaria media</i>	Chickweed	com	uco	com	uco	com	com
<i>Symphoricarpos albus</i>	Common Snowberry	uco	uco	np	uco	np	np
<i>Symphotrichum lanceolatum</i> var. <i>hesperium</i>	Willow Aster	rare	rare	np	np	np	np
<i>Symphotrichum subspicatum</i> var. <i>subspicatum</i>	Douglas' Aster	uco	np	np	uco	np	np
<i>Tanacetum vulgare</i>	Common Tansy	uco	np	np	uco	uco	np
<i>Taraxacum officinale</i>	Dandelion	com	uco	com	com	com	com
<i>Thuja plicata</i>	Western Red Cedar	uco	np	np	np	*uco	*uco
<i>Toxicodendron diversilobum</i>	Poison Oak	uco	uco	np	com	np	np
<i>Tragopogon dubius</i>	Salsify	uco	uco	uco	uco	uco	np
<i>Trifolium arvense</i>	Hare's-foot Clover	uco	np	np	uco	np	np
<i>Trifolium dubium</i>	Small Hop Clover	com	np	com	uco	uco	uco
<i>Trifolium incarnatum</i>	Crimson Clover	uco	np	*com	np	np	np
<i>Trifolium pratense</i>	Red Clover	com	uco	com	com	uco	uco
<i>Trifolium repens</i>	White Clover	com	com	com	uco	com	com
<i>Verbascum blattaria</i>	Moth Mullein	uco	np	uco	uco	uco	np
<i>Verbascum thapsus</i>	Woolly Mullein	com	uco	com	com	uco	np
<i>Veronica spp</i>	Speedwell	com	uco	uco	uco	uco	com
<i>Viburnum rhytidophyllum</i>	Leatherleaf Viburnum	uco	np	np	np	*uco	np
<i>Vicia villosa</i>	Woolly Vetch	com	np	uco	com	com	np
<i>Xanthium strumarium</i>	Common Cocklebur	uco	uco	np	uco	uco	np

Note: Abundance classes are defined in text; com= common, uco = uncommon, np = not present, *indicates species that may have been cultivated.

Appendix F. Inventory of numbered trees in the picnic area.

Number	Common Name	Scientific Name
1	Ponderosa Pine	<i>Pinus ponderosa</i>
2	Douglas Fir	<i>Pseudotsuga menziesii</i>
3–5	Ponderosa Pine	<i>Pinus ponderosa</i>
6–9	Douglas Fir	<i>Pseudotsuga menziesii</i>
10	Ponderosa Pine	<i>Pinus ponderosa</i>
11–12	White Spruce	<i>Picea glauca</i>
13	Ponderosa Pine	<i>Pinus ponderosa</i>
14	White Spruce	<i>Picea glauca</i>
15–23	Ponderosa Pine	<i>Pinus ponderosa</i>
24–25	Douglas Fir	<i>Pseudotsuga menziesii</i>
26–28	Ponderosa Pine	<i>Pinus ponderosa</i>
29	Crabapple	<i>Malus sp.</i>
30	English Holly	<i>Ilex aquifolium</i>
31	Ponderosa Pine	<i>Pinus ponderosa</i>
32	Douglas Fir	<i>Pseudotsuga menziesii</i>
33	Ponderosa Pine	<i>Pinus ponderosa</i>
34	Douglas Fir	<i>Pseudotsuga menziesii</i>
35–36	Ponderosa Pine	<i>Pinus ponderosa</i>
37	Douglas Fir	<i>Pseudotsuga menziesii</i>
38	Red Maple	<i>Acer rubrum</i>
39	Ponderosa Pine	<i>Pinus ponderosa</i>
40–46	Douglas Fir	<i>Pseudotsuga menziesii</i>
47–49	Red Maple	<i>Acer rubrum</i>
50–53	Douglas Fir	<i>Pseudotsuga menziesii</i>
54–55	Ponderosa Pine	<i>Pinus ponderosa</i>
56	White Spruce	<i>Picea glauca</i>
57	Douglas Fir	<i>Pseudotsuga menziesii</i>
58	Apple	<i>Malus sp.</i>
59	Ponderosa Pine	<i>Pinus ponderosa</i>
60–61	Douglas Fir	<i>Pseudotsuga menziesii</i>
62–65	Ponderosa Pine	<i>Pinus ponderosa</i>
66	Douglas Fir	<i>Pseudotsuga menziesii</i>
67	Ponderosa Pine	<i>Pinus ponderosa</i>
68	Douglas Fir	<i>Pseudotsuga menziesii</i>
69	Oregon Ash	<i>Fraxinus latifolia</i>
70–71	Bigleaf Maple	<i>Acer macrophyllum</i>
72–77	Honey Locust	<i>Gleditsia triacanthos</i>
78	Ponderosa Pine	<i>Pinus ponderosa</i>
79–81	Douglas Fir	<i>Pseudotsuga menziesii</i>
82–87	Ponderosa Pine	<i>Pinus ponderosa</i>
88	Douglas Fir	<i>Pseudotsuga menziesii</i>

Appendix F. Inventory of numbered trees in the picnic area (continued).

Number	Common Name	Scientific Name
89	Ponderosa Pine	<i>Pinus ponderosa</i>
90–93	Deodar Cedar	<i>Cedrus deodara</i>
94–96	Norway Maple	<i>Acer platanoides</i>
97–106	Douglas Fir	<i>Pseudotsuga menziesii</i>
107	Western Red Cedar	<i>Thuja plicata</i>
108–109	Giant Sequoia	<i>Sequoiadendron giganteum</i>
110	London Plane Tree	<i>Platanus acerifolia</i>
111–114	White Fir	<i>Abies concolor</i>
115–116	Pin Oak	<i>Quercus palustris</i>
117	London Plane Tree	<i>Platanus acerifolia</i>
118–120	Douglas Fir	<i>Pseudotsuga menziesii</i>
121–122	Oregon Ash	<i>Fraxinus latifolia</i>
123	Douglas Fir	<i>Pseudotsuga menziesii</i>
124	Oregon Ash	<i>Fraxinus latifolia</i>
125–127	Pin Oak	<i>Quercus palustris</i>
128–129	Oregon Ash	<i>Fraxinus latifolia</i>
130–131	London Plane Tree	<i>Platanus acerifolia</i>
132	Douglas Fir	<i>Pseudotsuga menziesii</i>
133–134	Red Maple	<i>Acer rubrum</i>
135–136	Douglas Fir	<i>Pseudotsuga menziesii</i>
137	Red Maple	<i>Acer rubrum</i>
138–139	Norway Maple	<i>Acer platanoides</i>
140	Red Maple	<i>Acer rubrum</i>
141–142	Douglas Fir	<i>Pseudotsuga menziesii</i>
143	Red Maple	<i>Acer rubrum</i>
144–154	Douglas Fir	<i>Pseudotsuga menziesii</i>
155–157	Pin Oak	<i>Quercus palustris</i>
158–161	Ponderosa Pine	<i>Pinus ponderosa</i>
162–165	Douglas Fir	<i>Pseudotsuga menziesii</i>
166–169	Ponderosa Pine	<i>Pinus ponderosa</i>
170	Douglas Fir	<i>Pseudotsuga menziesii</i>
171	Ponderosa Pine	<i>Pinus ponderosa</i>
172–175	English Holly	<i>Ilex aquifolium</i>
176	Bigleaf Maple	<i>Acer macrophyllum</i>
177–178	Oregon Ash	<i>Fraxinus latifolia</i>
179	Oregon White Oak	<i>Quercus garryana</i>
180	Giant Sequoia	<i>Sequoiadendron giganteum</i>
181	Flowering Cherry	<i>Prunus</i> sp. 'Pink Perfection'
182–183	Port Orford Cedar	<i>Chamaecyparis lawsoniana</i>
184	Giant Sequoia	<i>Sequoiadendron giganteum</i>
185	Douglas Fir	<i>Pseudotsuga menziesii</i>
186	Deodar Cedar	<i>Cedrus deodara</i>
187	Giant Sequoia	<i>Sequoiadendron giganteum</i>

Appendix F. Inventory of numbered trees in the picnic area (continued).

Number	Common Name	Scientific Name
188	Deodar Cedar	<i>Cedrus deodara</i>
189	Pin Oak	<i>Quercus palustris</i>
190–191	Oregon White Oak	<i>Quercus garryana</i>
192	Western White Pine	<i>Pinus monticola</i>
193–194	Douglas Fir	<i>Pseudotsuga menziesii</i>
195	English Holly	<i>Ilex aquifolium</i>
196–198	Douglas Fir	<i>Pseudotsuga menziesii</i>
199–202	Port Orford Cedar	<i>Chamaecyparis lawsoniana</i>
203–208	Oregon White Oak	<i>Quercus garryana</i>
209	English Holly	<i>Ilex aquifolium</i>
210–211	Giant Sequoia	<i>Sequoiadendron giganteum</i>
212	Black Walnut	<i>Juglans nigra</i>
213–214	Douglas Fir	<i>Pseudotsuga menziesii</i>
215	Oriental Arborvitae	<i>Platycladus orientalis</i>
216	Flowering Plum (Purple-leaf)	<i>Prunus cerasifera</i> 'Atropurpurea'
217	Pin Oak	<i>Quercus palustris</i>
218	Ponderosa Pine	<i>Pinus ponderosa</i>
219	White Fir	<i>Abies concolor</i>
220–222	Oregon White Oak	<i>Quercus garryana</i>
223	Scots Pine	<i>Pinus sylvestris</i>
224	Black Walnut	<i>Juglans nigra</i>
225–227	Ponderosa Pine	<i>Pinus ponderosa</i>
228–240	Douglas Fir	<i>Pseudotsuga menziesii</i>
241–242	Flowering Cherry	<i>Prunus</i> sp. 'Pink Perfection'
243	Douglas Fir	<i>Pseudotsuga menziesii</i>
244–245	Flowering Cherry	<i>Prunus</i> sp. 'Pink Perfection'
246–248	Bigleaf Maple	<i>Acer macrophyllum</i>
249	Flowering Cherry	<i>Prunus</i> sp. 'Pink Perfection'
250	Bigleaf Maple	<i>Acer macrophyllum</i>
251	Douglas Fir	<i>Pseudotsuga menziesii</i>
252	Bigleaf or Norway Maple	<i>Acer macrophyllum</i> or <i>A. platanoides</i>
253	Calif. Blk Oak	<i>Quercus kelloggii</i> (prob. <i>Q. garryana</i>)
254	Western Red Cedar	<i>Thuja plicata</i>
255	Douglas Fir	<i>Pseudotsuga menziesii</i>
256–257	Port Orford Cedar	<i>Chamaecyparis lawsoniana</i>
258	Lombardy Poplar	<i>Populus nigra</i> 'Italica'
259	English Holly	<i>Ilex aquifolium</i>
260	Common Hawthorn	<i>Crataegus monogyna</i>
261	Port Orford Cedar	<i>Chamaecyparis lawsoniana</i>
262	Ponderosa Pine	<i>Pinus ponderosa</i>
263	Giant Sequoia	<i>Sequoiadendron giganteum</i>
264–265	Honey or Black Locust	<i>Gleditsia</i> or <i>Robinia</i>
266	Flowering Cherry	<i>Prunus</i> sp. 'Pink Perfection'

Appendix F. Inventory of numbered trees in the picnic area (continued).

Number	Common Name	Scientific Name
267–268	Douglas Fir	<i>Pseudotsuga menziesii</i>
269–270	Honey or Black Locust	<i>Gleditsia</i> or <i>Robinia</i>
271–275	Black Cottonwood	<i>Populus balsamifera</i> var. <i>trichocarpa</i>
276–277	California Black Oak	<i>Quercus kelloggii</i> (prob. <i>Q. garryana</i>)
278	Ponderosa Pine	<i>Pinus ponderosa</i>
279	Douglas Fir	<i>Pseudotsuga menziesii</i>
280–281	Ponderosa Pine	<i>Pinus ponderosa</i>
282	Douglas Fir	<i>Pseudotsuga menziesii</i>
283–284	Ponderosa Pine	<i>Pinus ponderosa</i>
285	Douglas Fir	<i>Pseudotsuga menziesii</i>
286	Pacific Dogwood	<i>Cornus nuttallii</i>
287	Ponderosa Pine	<i>Pinus ponderosa</i>
288	Douglas Fir	<i>Pseudotsuga menziesii</i>
289	Honey Locust	<i>Gleditsia triacanthos</i>
290	Oregon Ash	<i>Fraxinus latifolia</i>
291	White Fir	<i>Abies concolor</i>
292	Port Orford Cedar	<i>Chamaecyparis lawsoniana</i>
293	Honey or Black Locust	<i>Gleditsia</i> or <i>Robinia</i>
294	Port Orford Cedar	<i>Chamaecyparis lawsoniana</i>
295–296	Honey or Black Locust	<i>Gleditsia</i> or <i>Robinia</i>
297	Apple	<i>Malus</i> sp.
298	Cherry	<i>Prunus</i> sp. 'Pink Perfection'
299	Bigleaf or Norway Maple	<i>Acer macrophyllum</i> or <i>A. platanoides</i>
300	Apple	<i>Malus</i> sp.

The Department of the Interior protects and manages the nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its special responsibilities to American Indians, Alaska Natives, and affiliated Island Communities.

NPS 389/103429, June 2010

National Park Service
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