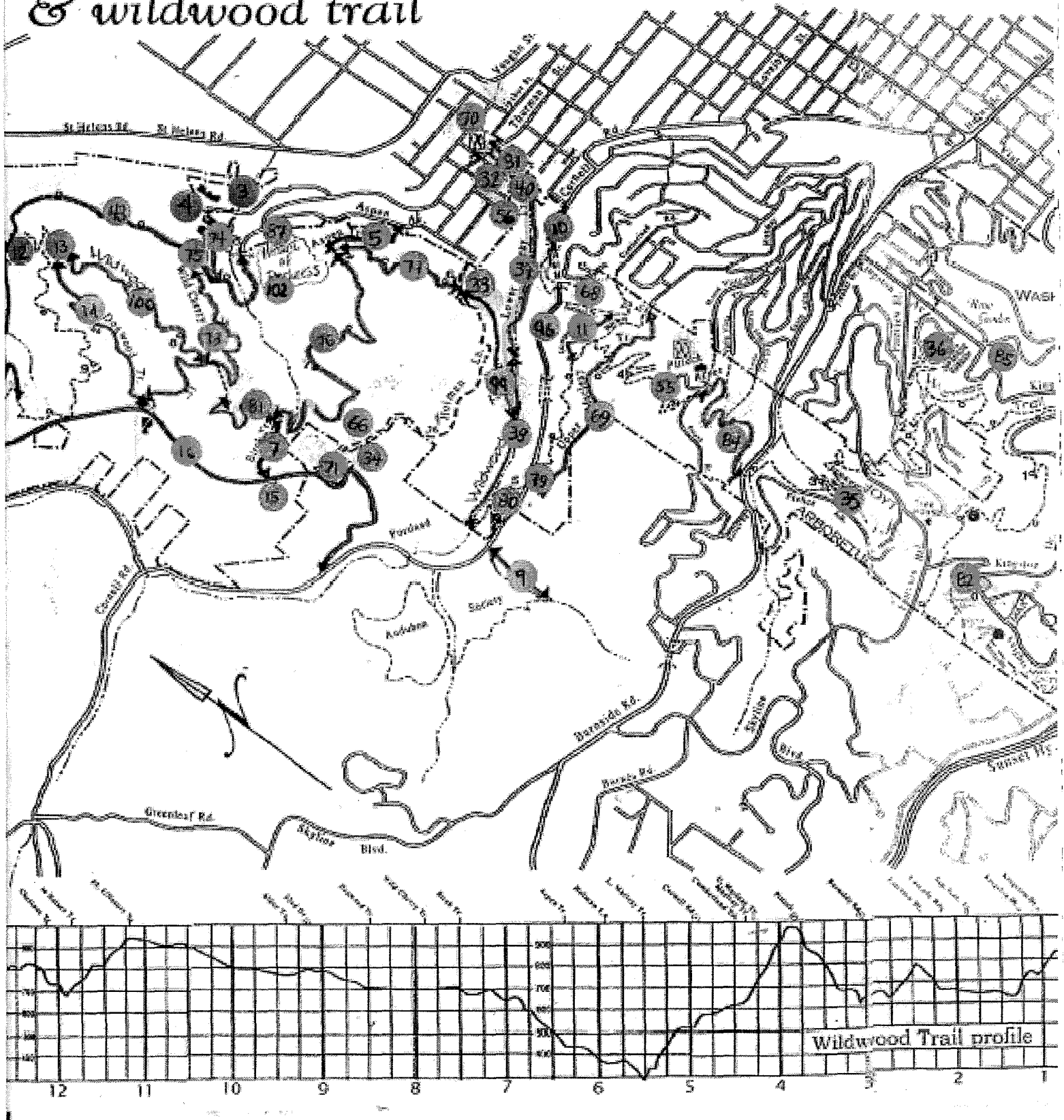


- ① Balch Creek Monitoring Region (See: Appendix A, page 1)
- ② Saltzman Rd. Monitoring Region (See: Appendix A, page 2)
- ③ St. Johns Bridge Monitoring Region (See: Appendix A, page 3)
- ④ Northern Park Monitoring Region (See: Appendix A, page 4)

Decennial Monitoring Site Map

FOREST PARK & wildwood trail



Decennial Monitoring Site Map

Wildwood Trail Log

Vol. Memorial	0.00	Aspen Trail	6.36	Firelane 5	16.69
en Trail (40-1/2 loop)	0.11	Birch Trail	7.49	Oil line road	19.45
teretum Viewpoint	0.43	Wild Cherry Trail	7.66	Gas line road	19.96
ed Garden Trail	1.67	Dogwood Trail	8.47	Ridge Trail	20.99
de Drive	2.15	53rd Drive	9.18	Hardisty Trail	21.62
y Boulevard	2.42	Alder Trail	9.40	Springville Road	22.45
de Road	3.06	Firelane 1/Nature Trail	11.18	Water Burster road	24.00
Acres Parking Lot	3.84	Nature Trail cutoff	11.83	Germentown Road	24.63
Wickway Trail	4.28	Chestnut Trail	12.14	Firelane 8	25.02
y Trail	4.37	Firelane 2	12.74	Firelane 10	25.45
land Trail	4.47	Maple Trail	12.84	Newton Street	26.30
l Road	4.95	Firelane 3	13.64	BPA Road	27.45
Wickway Trail	5.50	Tie to Maple Trail	13.47	Firelane 15	28.38
n Lane	5.83	Saltzman Road	16.01	Newton Road	30.16

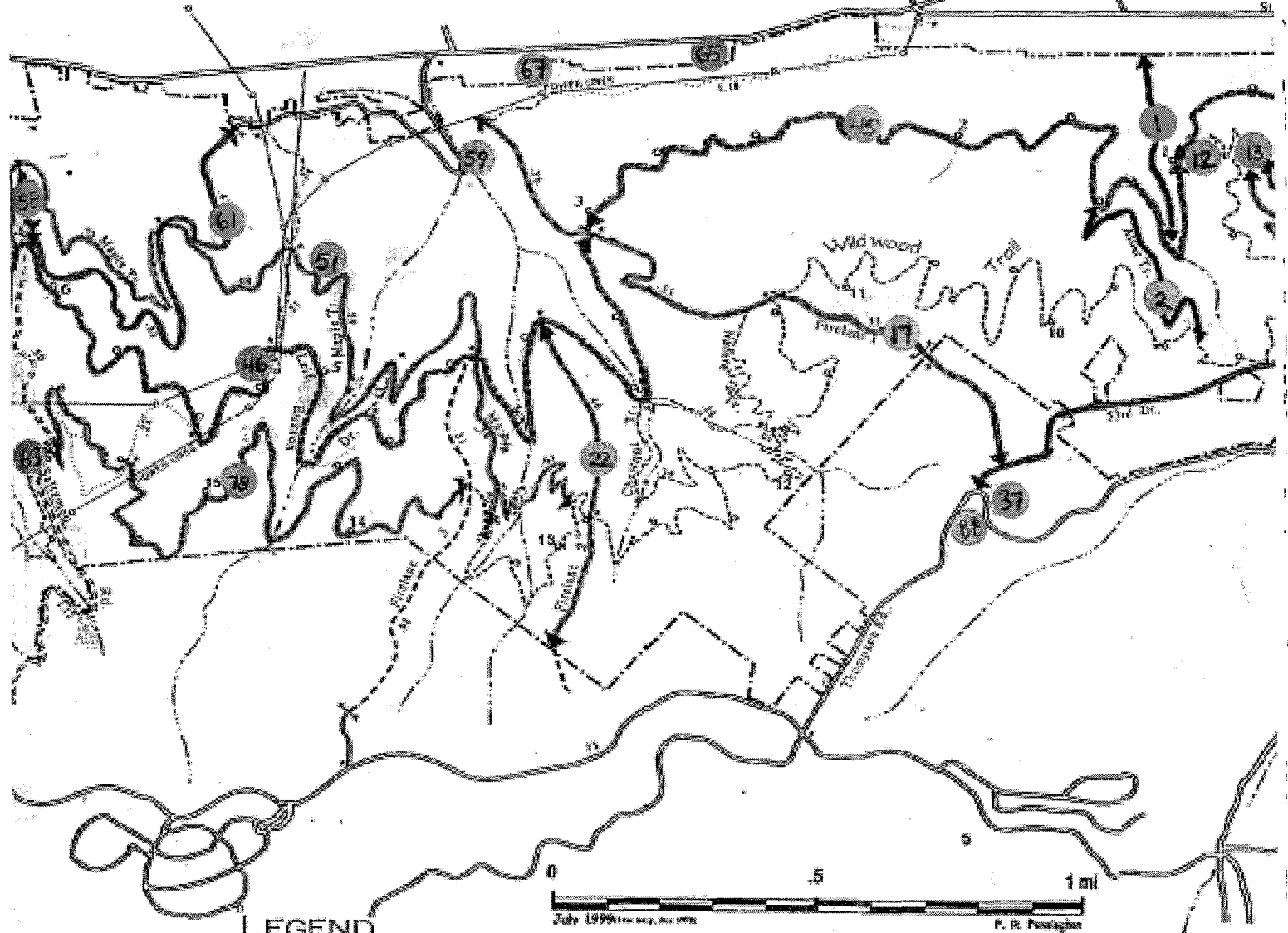
Open to Bicycles:

Leif Erikson Rd., Saltzman Rd., Springville Rd.,
BPA Rd., Newton St., Firelanes 1, 3, 10, 12, & 15,
and Halsen Ln

Open to Horses:

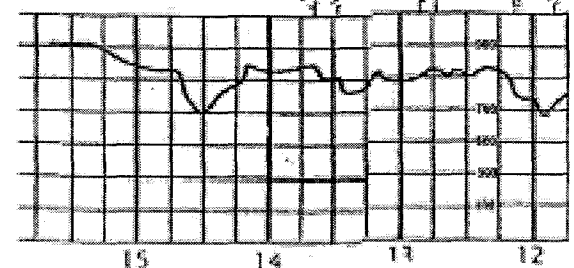
BPA Rd., Newton St., Leif Erikson Dr., Saltzman Rd.,
Springville Rd., and Firelanes 1, 7, 10, 12, & 15

F
&



LEGEND

WILDWOOD TRAIL	x-x	LOCKED GATE
Connecting Routes	37	MILE MARKER-Wildwood Tr
SERVICE ROADS	05	MILE MARKER-Leif Erikson Dr
MAINTAINED TRAIL	37	mileage between stars
INFORMAL ROUTE	37	STREAM
City stairs	37	PARK BOUNDARY
Roads & Streets	37	OUTLYING PARKING
parked	37	PARKS BUR RESTROOM
unparked	37	



Decennial Monitoring Site Map

Side Trail Lengths

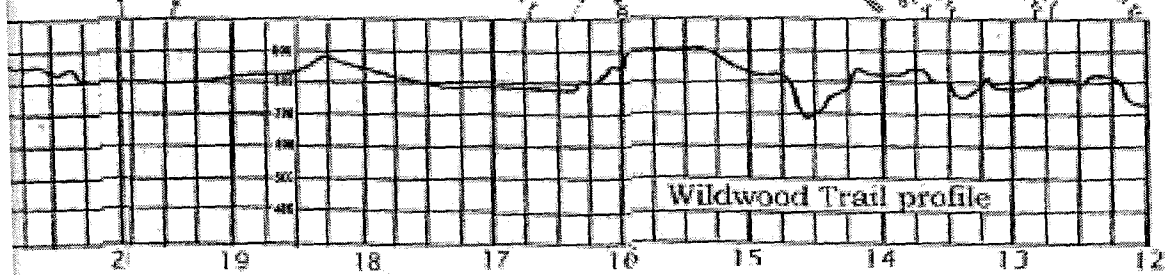
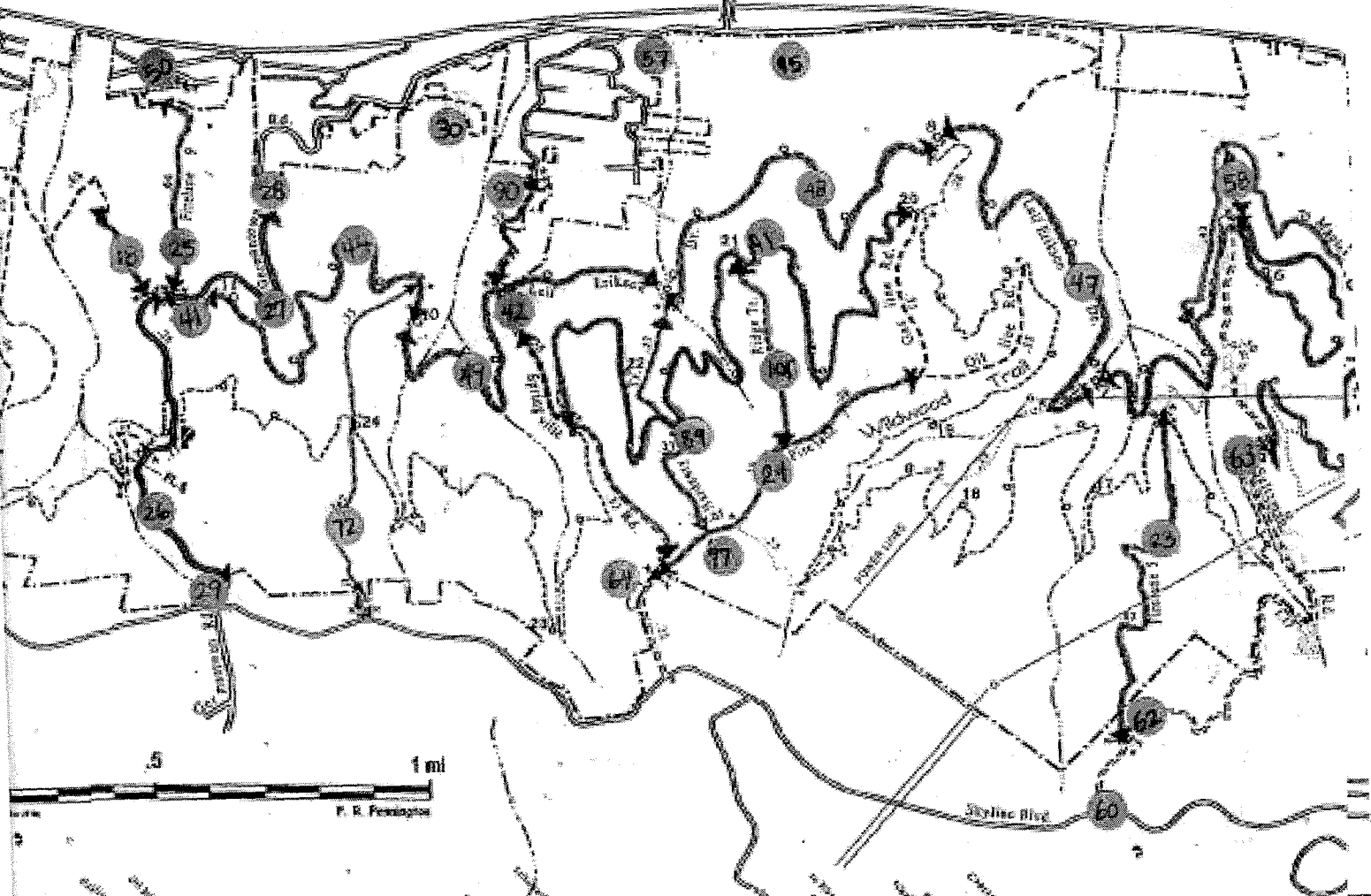
Alder Trail	0.84	Ford's 12	1.51	Nature Trail	1.00
Aspen Trail	0.23	Ford's 15	1.35	Ridge Trail	0.40
Birch Trail	0.22	Hardesty Trail	0.48	Saltzman Road	2.00
BPA Road	1.60	Holman Lane	0.00	Turner Trail	0.17
Chastnut Trail	0.40	Left Enkazo Drive	11.22	Upper Mackay Trail	0.81
Cumberland Trail	0.41	Lower Mackay Trail	0.89	Wild Cherry Trail	0.87
Dalwood Trail	1.00	Maple Trail	3.48		

Vietnam War Memorial
 Marquam Trail (40-41) to
 Hayt Arboretum Waypoint
 Japanese Garden Trail
 Cascade Drive
 Fairview Boulevard
 Burnside Road
 Pittock Acres Parking Lot
 Upper Mackay Trail
 Mackay Trail
 Cumberland Trail
 Cornell Road
 Lower Mackay Trail
 Holman Lane

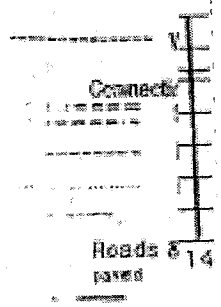
Open to Bicycle
 Left Enkazo
 BPA Rd, N. &
 and Holman
 Open to Horse
 BPA Rd, N. &
 Springfield E

WILLAMETTE

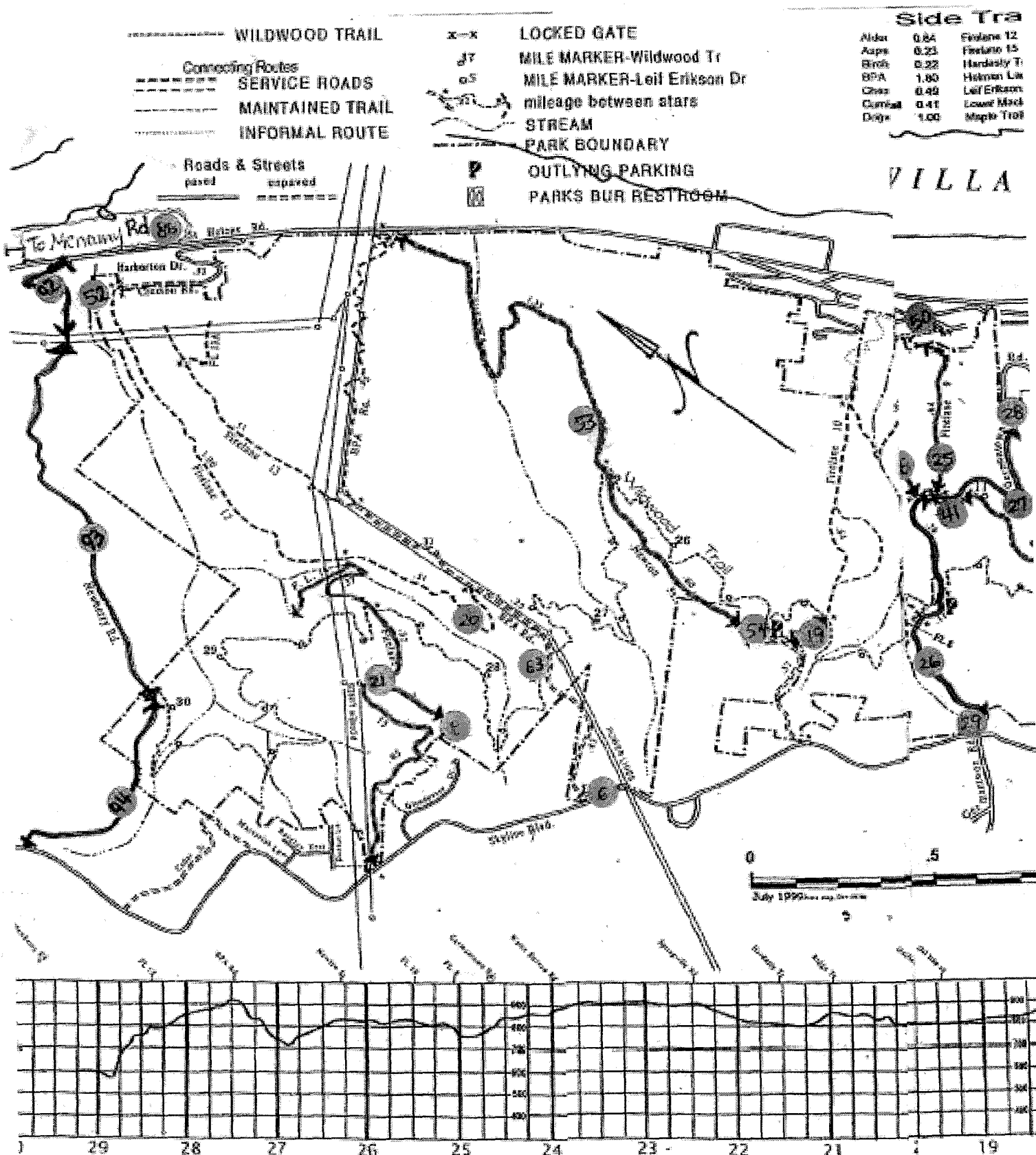
RIVER



Wildwood Trail profile



Decennial Monitoring Site Map



Decennial Monitoring Site Index

<u>Ref #</u>	<u>Site</u>
1	Alder Creek: Base at St. Helens
2	Alder Trail
3	Alexandria Ravine
4	Alexandria St.: Beyond dead end/Illegal trail past White
5	Aspen trail and the "Heart of Darkness"
6	B.P.A Rd: at Skyline Blvd.
7	Birch trail: between Wildwood tr. and 53rd
8	Bobby's Meadow: near Firelane #15
9	Collins' Sanctuary trail
10	Cornell Rd.: before 1st tunnel
11	Cumberland trail
12	Dogwood tr.: intersection w/ Leif Ericson Rd.
13	Dogwood tr.: intersection w/ Wildwood tr.
14	Dogwood tr: 53rd St. -> Wildwood Jxn.
15	Fifty-third Dr: across street from Birch entrance.
16	Fifty-third Dr: between Birch Trail head and Thompson
17	Firelane #1
18	Firelane #10: 1/4 mile from Germantown Rd.
19	Firelane #10: btwn Wildwood tr & Newton St.
20	Firelane #12: inside Hole in Forest Park
21	Firelane #15
22	Firelane #2
23	Firelane #5
24	Firelane #7
25	Firelane #9
26	Germantown Rd.
27	Germantown Rd., Lower
28	Germantown Rd.: after 9920 address

Decennial Monitoring Site Index

<u>Ref #</u>	<u>Site</u>
29	Germantown Rd.: by Skyline blvd.
30	Girl Scout camp
31	Headquarters: Freezone
32	Hill off N.W 31st St.
33	Holman lane: At or near meadow
34	Holman lane: near 53rd
35	Hoyt Arboretum
36	Japanese Gardens
37	Jim Coon's property
38	L. Macleay tr.: beyond Twin Bridges to Wildwood mile
39	L. Macleay tr.: btwn 1st foot bridge & Twin Bridges
40	L. Macleay: from Thurman St bridge to 1st foot bridge
41	Leif Ericson and Germantown junction
42	Leif Ericson and Springville junction
43	Leif Ericson: Thurman trailhead -> mile 1
44	Leif Ericson: mile 10-> int. w/ Germantown Rd.
45	Leif Ericson: miles 1-3
46	Leif Ericson: miles 3-7
47	Leif Ericson: miles 7-8
48	Leif Ericson: miles 8-9
49	Leif Ericson: miles 9-10
50	Linton X
51	Maple trail
52	Miller Creek
53	Newton St, Length of
54	Newton St: top, by meadow
55	Pittock Mansion
56	Quimby & 32nd -> 33rd St. (St Mary's test plot area.)

Decennial Monitoring Site Index

<u>Ref #</u>	<u>Site</u>
57	Risky Ravine
58	Rock Quarry Tr. btwn. Saltzman & Maple
59	Saltzman Creek
60	Saltzman Rd. and Skyline Blvd junction
61	Saltzman Rd.: base to Leif Ericson
62	Saltzman Rd.: near Firelane #5 gate
63	Saltzman Rd.: near Wildwood tr.
64	Springville parking area.
65	St. Helens Rd.: 1/4 mile north of Yeon St (adjacent to
66	Stenzel Property
67	Trash Trap NW 13A: 55th & Wilbridge
68	Tunnel trail
69	Upper Macleay tr.
70	Vaughn Street stairs
71	Voss Property
72	Waterline Rd.: btwn Wildwood tr. & L. Ericson
73	Wildcherry tr.: above Leif Ericson
74	Wildcherry tr.: below Leif Ericson
75	Wildcherry tr.: junction with Leif Ericson
76	Wildwood tr.: Birch tr. jxn. ->Aspen tr.
77	Wildwood tr.: btwn Holman ln. and Aspen tr.
78	Wildwood tr.: btwn Saltzman and Firelane #3
79	Wildwood tr.: just above Cornell Rd.
80	Wildwood tr.: just below Cornell Rd'
81	Wildwood tr.: miles 7.25 ->7.75
82	Wildwood tr.: near Vietnam memorial
83	Wildwood tr.: north of B.P.A road
84	Wildwood tr.: Pittock mansion -> Burnside

Decennial Monitoring Site Index

<u>Ref #</u>	<u>Site</u>
85	Washington Park: Kingston Dr. near Rose Gardens
86	McNamee Road
87	Belgrave Rd. and land below Extension/Annex
88	Opposite of Jim Coon's property
89	Hardesty Trail
90	Springville Road: Bottom Near St. Helens
91	Wildwood Trail: Miles 20 - 22.5

Appendix B.

Species referred to in report:

Invasive species:

Alliaria petiolata (Garlic Mustard)
 Conium maculatum (Poison Hemlock)
 Aesculus hippocastanum (Horse Chestnut)
 Clematis vitalba (Traveller's Joy)
 Convolvulus sepium (Morning Glory)
 Cytisus scoparius (Scot's Broom)
 Ilex aquifolium (English Holly)
 Hedera helix L. (English ivy)
 Polygonum japonicum (Japanese knotweed)

Prunus laurocerasus (English Laurel)
 Rubus discolor (Himalayan Blackberry)
 Vinca minor and Vinca major (Periwinkle)

Native Species:

Acer macrophyllum (Big Leaf Maple)
 Adiantum pedatum (Maiden Hair Fern)
 Alnus rubra (Red Alder)
 Blechnum spicant (Deer Fern)
 Polystichum munitum (Sword Fern)
 Pseudotsuga menziesii (Douglas Fir)
 Tsuga heterophylla (Western Hemlock)

Glossary of Terms

Active Restoration: An activity intended to accelerate the return of biodiversity and increase habitat health, such as planting native species.

Biomass reduction: Reducing the amount of a plant species at a site.

Categories of Worksite Effectiveness:

- Ineffective: Work accomplished had no significant impact on the site's biodiversity and or level of infestation.
- Semi-Effective: Work accomplished maintained the site's infestation and/or biodiversity at a steady state.
- Effective: Work accomplished increased the bio-diversity of the site and or reduced the level of infestation
- Very Effective: Work accomplished the site has either returned the site to its natural state or has eliminated an isolated spot or patch before it could become a more severe infestation.

Girdle: The removal of a section of vines all the way around the trunk of the tree.

Growing Edge: The expanding perimeter of an ivy infestation. Typically refers to vegetative reproduction.

Ivy Desert: Severe ivy infestation where mature, often fruiting ivy shrouds trees, and ivy groundcover has formed an extremely thick mat obliterating herb and shrub layers.

Lifesaver: Ivy removal from a tree that begins with making two cuts: one at shoulder height, one at ankle height. Vines are stripped from the lower section of the tree and pulled from the ground in a six foot radius around the tree. This is the recommended method for tree removal.

Logroll: Removal technique perfect for thick groundcover ivy, in an area with few native plants. Form a line shoulder to shoulder facing away from the ivy mat. Pull the edge up and roll the ivy toward you. Cut along sides of log roll with loppers to designate perimeter. Stop before it gets too large and unwieldy to handle, go back over the area stripped of ivy to check for missed vines.

Mulch the ivy into manageable pieces and spread pulled vines over the area affected.

Passive restoration: The process of natural recovery of a native plant population.

Reach: A ravine or system of ravines that form part of a major water drainage

Swiss cheese: Ivy groundpull that is not part of a larger ivy removal work plan. Implies pulling a small area in the middle of a large infestation. This is highly ineffective as it often is covered over by ivy in the next growing season.

Urban Edge: The portion of a natural area that abuts any manmade development.

Vegetative Reproduction: reproduction other than by seed

Witches Brew: Cohabitation of multiple invasives: usually including Himalayan Blackberry, Clematis and ivy. Found in a hole in the canopy and along urban edges.

Ground Cover Categories

Ivy Growth and Impacts

Restoration and Monitoring Requirements

<p><i>Sparse Vines</i></p> <p>Ivy vines hidden among native plant population</p> <p><i>Impact:</i> Little impact on herb, shrub, or canopy layers.</p>	<p><i>Isolated Area</i></p> <p>One experienced person can remove all visible vines and sprouts in no more than one hour. Spot should be monitored in a year and then again in two years for seedlings and regrowth. Plan of attack should include removal of nearby seed source.</p> <p><i>Size:</i> Like a puddle and not connected to any other ivy invasion. Result of seed dispersal.</p>
	<p><i>Continuous Growth</i></p> <p>Depends on size of patch. Not appropriate for unskilled volunteers. An experienced person can remove all visible ivy vines and sprouts within a 50 sq. ft area in approx. 30-45 minutes. Check nearby areas for possible seed source and return in a year to check for new sprouts and regrowth.</p>
<p><i>Extensive Vines</i></p> <p>Vines cross, forming some loose mats less than 6" deep.</p> <p><i>Impact:</i> Few native plants in herb layer, but smaller effects on shrub layer.</p>	<p><i>Isolated Area</i></p> <p>Size: Up to 10,000 square feet, or approx. 1/4 acre and not connected to any other ivy invasion but is expanding. Likely sprouted from seed.</p> <p>Depending on experience, need 100 to 200 person-hours to remove all visible vines within 1/4 acre. 10 people would require 2 to 4 five-hour workdays to perform same work. Should be monitored in six months and then once a year for two years to check for regrowth. Plan of attack should include removal of adjacent seed source.</p>
	<p><i>Continuous Growth</i></p> <p>Size: No clear boundaries; often found near urban edges.</p> <p>Biomass reduction in the form of lifesavers; prevent mature growth from producing seeds. See section on Tree Encroachment. Once lifesavers are complete, remove ivy between trees. See isolated patch removal requirements. Monitor for regrowth in six months, then every year for several years.</p>
<p><i>Dense Mats</i></p> <p>Vines cross into dense mats, most less than 6" deep.</p> <p><i>Impact:</i> Few native plants in herb layer, but smaller effects on shrub layer.</p>	<p><i>Isolated Area</i></p> <p>Focus on lifesavers; prevent mature growth from producing seed. See Tree Encroachment section. Depending on experience, need approx. 2000 to 4000 person-hours to remove all visible vines in a 5 acre area. A 10 person crew working 5 hours days would need 40 to 80 days to complete preliminary clearing. Must then monitor in six months for regrowth and then every year for several years.</p> <p><i>Size:</i> No clear boundaries; beginning of an "ivy desert" with almost no other species present.</p>
	<p><i>Continuous Growth</i></p> <p>Ground removal is the last priority in these areas. Must first address seed production within site and in nearby areas. See Tree Encroachment section. Ground removal requirements similar to those of isolated infestations. Need systematic monitoring for re-sprouting in order to remove dense roots.</p>

Tree Growth Categories

Ivy Growth and Impacts

Restoration and Monitoring Requirements

<i>Initial Onset</i>	
Small vines less than 1/4" in diameter begin to climb tree trunk, tops of vines are less than 10 feet high of tree.	Easy to remove, but vines must be removed from ground as well. Make a full lifesaver by pulling ivy vines back at least 6 ft away from tree, as described in Groundcover Categories.
<i>Late Juvenile Growth</i>	
Vines of immature ivy not more than 1" cover tree trunk, tops of vines are no longer visible.	Easy to remove, but vines must be removed from ground as well. Make a full lifesaver by pulling ivy vines back at least 6 ft away from tree, as described in Groundcover Categories.
<i>Early Mature Growth</i>	
Much of the tree trunk is covered by vines up to 3" in diameter and woody in appearance with few leaves on the lower portion. Tops of vines reach far into the tree and cover the tree's lower branches.	Girdle the woody vines on the tree, and dig them out from the ground at the base of the tree. Make a full lifesaver by pulling ivy vines back at least 6 ft away from tree, as described in Groundcover Categories.
<i>Extreme Mature Growth</i>	
Woody vines on the trunk may exceed 6" in diameter. Vines cover many tree branches and curl out from trunk of tree in spiral or "helix" pattern. Leaves become rounded. Ivy is blooming or about to bloom.	Girdle the woody vines on the tree, and dig them out from the ground at the base of the tree. Make a full lifesaver by pulling ivy vines back at least 6 ft away from tree, as described in Groundcover Categories.

The level of groundcover associated with growth on trees can vary, depending on many factors. At one extreme, an original isolated patch may have spread very rapidly to trees, so there is little groundcover in the surrounding area; at the other extreme, trees covered with ivy may be the only other plants standing in a densely matted ivy desert.

Urban and Forest Edge Infestations

Ivy Growth and Impacts

Restoration and Monitoring requirements

<p>Mature groundcover</p> <p>Significant exposure to sunlight allows thick mats of ivy to bloom on ground. Short, spiral “helix” stalks rise above mat to bloom. Very few other species are present, but a few hearty natives, like sword fern, may survive in the thick mat. Common in urban environments.</p>	<p>Use logroll method of removal, stripping the mat from the ground. If ivy is in its fruiting stage, place berries in plastic bag to prevent the spread of seed. Typically requires active restoration with new planting, depending on nearby seed sources for both native and invasive plants.</p>
<p>Intermingled Edge</p> <p>Usually occurs in areas with more sun, e.g. urban development, roadways, firelanes, trails, clearings. Often involves multiple invasives.</p>	<p>Removal strategy?</p> <p>Typically requires active restoration with new planting, depending on nearby seed sources for both native and invasive plants.</p>
<p>Witches Brew</p> <p>Tangled mass of multiple invasives, e.g. Ivy, clematis, blackberry, morning glory etc.</p>	<p>Current removal strategy is containment through girdling Ivy and Clematis. Area will need major, incremental active restoration.</p>

FOREST PARK

wildwood trail

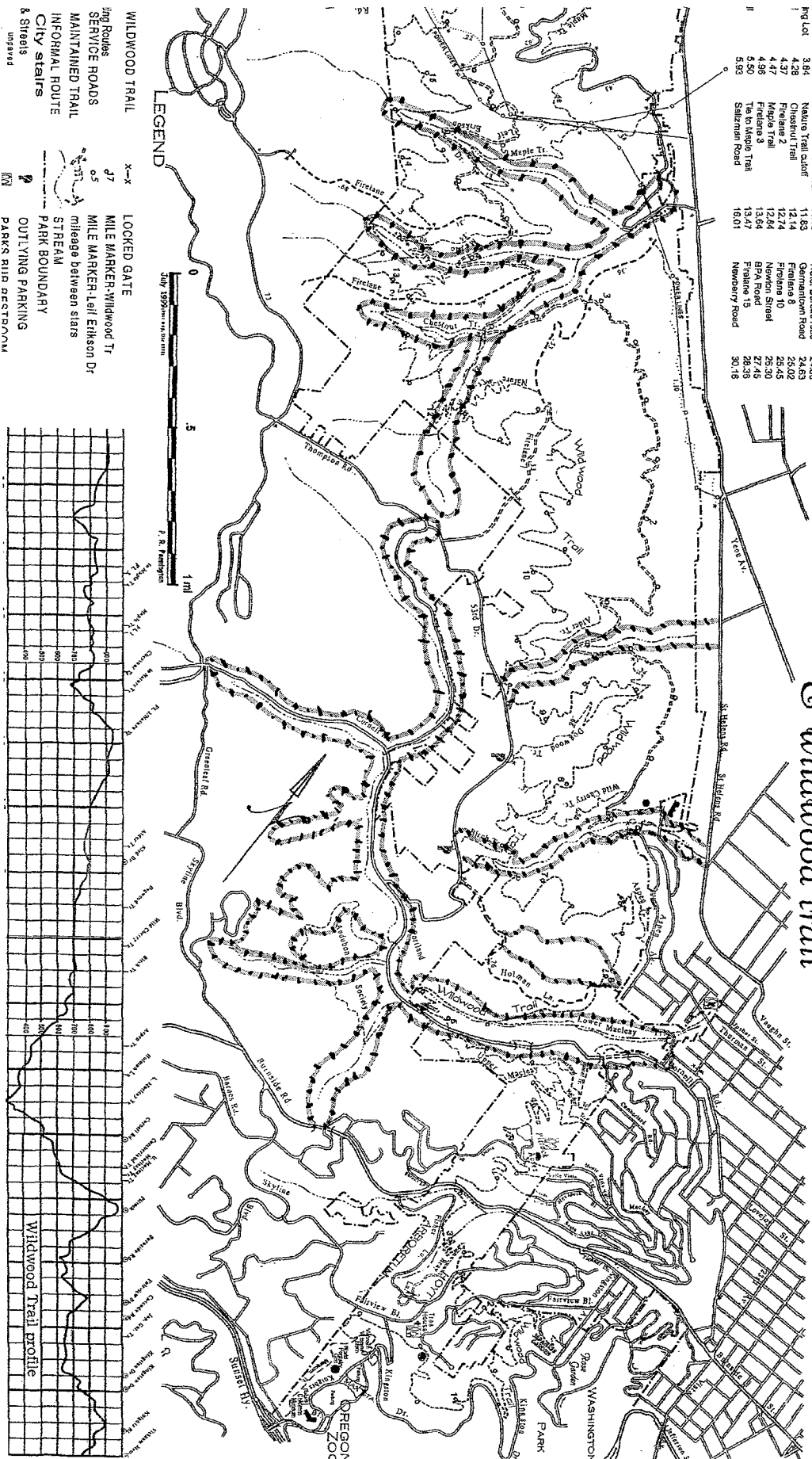
PORTLAND PARKS
& RECREATION

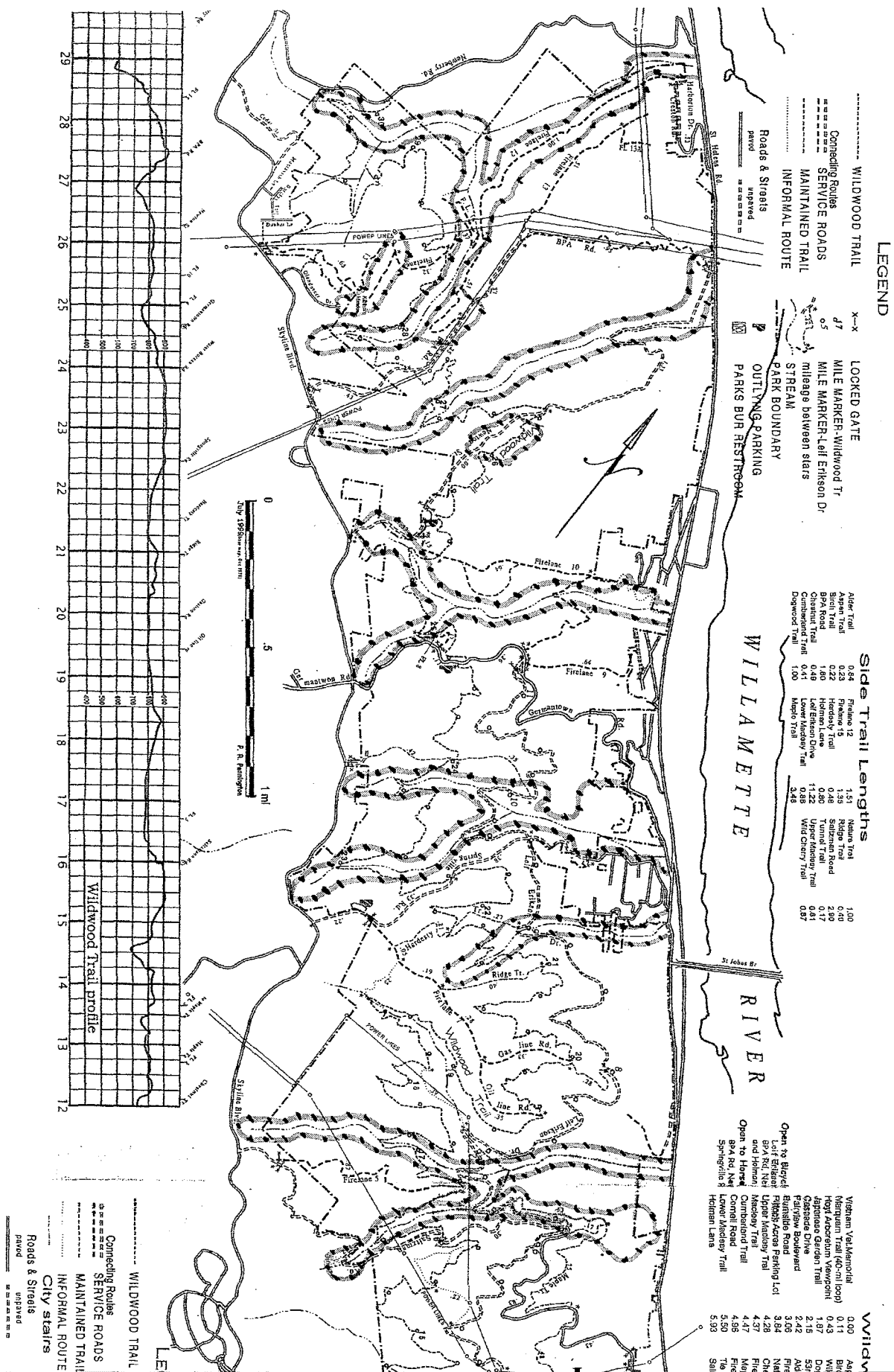
Wildwood Trail Log

Trail	0.00	Aspen Trail	6.36	Firelane 5	16.69
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Trail	3.84	Firelane 2	11.63	Germanium Road	24.63
Trail	4.28	Firelane 3	12.14	Firelane 8	25.02
Trail	4.47	Firelane 4	12.74	Firelane 10	25.45
Trail	4.56	Firelane 5	13.64	Newton Street	27.45
Trail	4.82	Firelane 6	13.87	BPA Road	28.35
Trail	5.82	Firelane 7	16.01	Firelane 15	30.18

Open to Bicycles:
Leaf Eriksen Rd., Saltzman Rd., Springville Rd.,
BPA Rd., Newton St., Firelane 1, 3, 10, 12, & 15,
and Holman Ln.
Open to Horses:
BPA Rd., Newton St., Leaf Eriksen Dr., Saltzman Rd.,
Springville Rd., and Firelane 1, 7, 10, 12, & 15

Map of Reach Locations





Map of Reach Locations

Reach Comparisons

Name	Holman Reach	Birch/Alexandria Reach	Collin's Sanctuary Reach	
Specific Location (trail or road, mile/ land markers, staging area, accessibility)	Holman / Wildwood intersection, towards Stenzel, big ravine on west side	from Birch trailhead down reach to Alexandria St.	from Skyline, by Dover St. development to Cornell, via Collin's Sanctuary	
Description (features, topography, distance, direction, difficulty, habitat type)	3/4 miles going west moderate terrain easy trek	moderate to steep slope primarily hardwood	moderate slopes, thick understory, signs of animals (transients?)	
Previous FPIRP Work	removal to the north, towards Wildwood	removal around Birch trail and Alexandria	some dead ivy found off of Collin's trail	
Recommend Future Work (urgency, type of workers)	Summer Crew recommended	Youth Crew for interior, volunteers for edges	work on mature ivy	
Vegetation (list major natives and invasives, and any unusual observations, also tree species, % canopy, shrubs, % cover, invasive infestation type)	evenly distributed ivy ground cover initial tree onset ivy seedlings large patches of clematis in middle of the reach	major infestations of ivy, clematis, blackberry near trails thick salmonberry in creekbed	mature and immature ivy patches at the top and midway down reach some Holly and blackberry infestations midway down reach variety of natives in uninfested areas	

Reach Comparisons

Name	Alder Creek	Saltzman Creek	Rocking Chair Reach section #1	Rocking Chair Reach section #2
Specific Location (trail or road, mile/ land markers, staging area, accessibility)	Wildwood mile 9 3/4 down ravine to St. Helens	Wildwood mile 14 1/2 crossing maple trail to Saltzman	mile 3 1/2 of Leif Erickson Drive down to Saltzman Road	Wildwood mile 13 1/2 to Leif Erickson Drive mile 4 to Saltzman through ravine
Description (features, topography, distance, direction, difficulty, habitat type)	going east varying terrain, steep to flat	going east on North Saltzman Creek Ravine steep to moderate slopes	requires hike rugged terrain rocky creek slopes unsuitable for walking on	very steep slopes at top from Leif to Saltzman moderate slopes going east
Previous FPIRP Work	none observed	none observed	previously girdled trees at base of ravine	none observed
Recommend Future Work (urgency, type of workers)	highly experienced workers required for top bottom requires blackberry and clematis removal	volunteer and crew removal at Saltzman	no further work recommended except at Saltzman Road	volunteer and crew removal at Saltzman
Vegetation (list major natives and invasives, and any unusual observations, also tree species, % canopy, shrubs, % cover, invasive infestation type)	invasives near Leif Erickson Drive and St. Helens mainly deciduous with some hemlock thick salmon berry in creek bed	thick understory with salmon berry invasives such as holly, clematis, and ivy at Leif and Saltzman, also on Maple Trail	evenly distributed ground cover of ivy 1/4 mile down ravine (south side) immature ivy mature ivy 100 yards up from Saltzman	invasives on sides of Lief and at the bottom at Saltzman extremely dense vegetation such as salmon berry in creek bed

Reach Comparisons

Name	Springville Reach	Firelane 10 Reach	Newton Reach	BPA Rd. Reach
Specific Location (trail or road, mile/ land markers, staging area, accessibility)	Wildwood mile 23.75 down to Germantown	Jct. of Germantown and Skyline down to St. Helens	Between Skyline and St. Helen's just NW of Newton Rd.	reach between Firelane 12 and Wildwood near BPA road
Description (features, topography, distance, direction, difficulty, habitat type)	steep slope easy to hike moderate terrain ranging from "direct access" to requires hike"	moderate to rugged terrain going east steep, rocky, unstable slopes	moderate to steep, unstable slope heading east	deep ravine with steep sides dense ground cover with muddy bottom
Previous FPIRP Work	past work apparent at bottom of reach	some tree work at bottom	none apparent	none apparent
Recommend Future Work (urgency, type of workers)	large volunteer groups, paid youth crew such as YEI	not a volunteer site be wary of park boundaries	see if ivy at top is on private land before removing blackberry removal	none
Vegetation (list major natives and invasives, and any unusual observations, also tree species, % canopy, shrubs, % cover, invasive infestation type)	pristine native population in stream beds lots of ivy at Springville blackberry at Leif Erickson Drive scattered isolated patches on north side of reach	extensive ivy growth at St. Helens dense ground cover which dissipates further from St. Helens	some old growth an isolated ivy midway down reach mature ivy on many trees at Skyline blackberry just above Wildwood one isolated holly removed	lots of sword fern, bracken fern, big leaf maple, vine maple no ivy, clematis, or blackberry one holly

Reach Comparisons

Name	Upper Miller Creek	Lower Miller Creek	Doane Creek	Cornell Reach
Specific Location (trail or road, mile/ land markers, staging area, accessibility)	reach off Wildwood mile 30 near Newberry east down reach until second creek from south	between St. Helens and power lines	middle fork between Leif Erikson and St. Helens	along Cornell between Skyline and 31st
Description (features, topography, distance, direction, difficulty, habitat type)	moderate to steep slopes year-round creek	steep slope year-round creek which flows into culvert	steep slopes, difficult near Leif Erikson opens up, easier near St. Helens	steep slopes mostly private property
Previous FPIRP Work	none observed	work on ground and trees observed	none observed	clematis/ivy removal around tunnels
Recommend Future Work (urgency, type of workers)	survey rest of reach down to power lines, be prepared for thick vegetation	youth crew should return to work on ivy desert near St. Helens	survey western portion of reach remove isolated patches	youth crew should remove patches of japanese knotweed, clematis, ivy
Vegetation (list major natives and invasives, and any unusual observations, also tree species, % canopy, shrubs, % cover, invasive infestation type)	one 75 by 30 foot section of blackberry thick salmonberry, swordfern geranium, native blackberry	ivy desert near St. Helens salmonberry, native blackberry, geranium rotten logs	lots of ferns, conifers, hardwoods vine maples, salmonberry narrow rocky canyon near bottom of reach	ivy, clematis, blackberry and japanese knotweed along road elderberry, indian plum, vine maple, salmonberry

Reach Comparisons

Name	Thompson Reach	Rosenlund Reach	Olson Reach	Balch Creek
Specific Location (trail or road, mile/ land markers, staging area, accessibility)	along Thompson between Cornell and 53rd	from Rosenlund property near Cornell and 53rd to Dover St. Skyline	next reach west of the Rosenlund reach, from the Olson property toward Greenleaf/Skyline	Lower MacLeay trailhead to Cornell/ Wildwood intersection
Description (features, topography, distance, direction, difficulty, habitat type)	moderate to steep slopes, wide ravine west of road is private property east of road is a mixture	moderate to steep slope occasional holes in canopy, old logging roads mixture of private/public land	moderate to steep slope thick undergrowth along creekbed private property, severely disturbed from landslide and development	relatively large canyon year-round creek relatively pristine, diverse riparian area
Previous FPIRP Work	none observed	on Rosenlund property	none observed	high concentration of removal near trailhead, along Lower Macleay
Recommend Future Work (urgency, type of workers)	remove patches of blackberry and other species on park property	intensive ivy removal from trees by volunteers/Youth Crew at ivy desert	collaborate with land owner extend survey	continue volunteer, youth crew work
Vegetation (list major natives and invasives, and any unusual observations, also tree species, % canopy, shrubs, % cover, invasive infestation type)	ivy, clematis, blackberry and japanese knotweed along road elderberry, indian plum, vine maple, salmonberry	severe ivy desert "the horror" near top of reach off of Dover St., large Clematis patches alder, maple, cedar, doug fir, indian plum, elderberry, salmonberry, swordferns	heavy clematis, ivy sprouts vine maple, alder, big leaf maple, salmonberry, nettle, swordferns, elderberry	Everything!!!

Reach Comparisons

Name	Risky Reach	South Fork of Springville Reach	North Fork of Firelane 10 Reach	Founder's Reach
Specific Location (trail or road, mile/ land markers, staging area, accessibility)	Between Firelane 7 and St. Helen's Rd. crossing Leif Erikson Dr. at mile 9 bottom is Risky Ravine	Skyline to Leif Erikson Dr., crossing Wildwood mile 23	From Skyline/Newton Jct. crossing Wildwood mile 25.25	Burnside to Cornell, through Audbon Sanctuary
Description (features, topography, distance, direction, difficulty, habitat type)	Below Leif Erikson Dr. the water way was rocky with moderate slopes with a cliff near the bottom Above Leif Erikson steep slopes	moderate slopes hardwood forest, riparian with some old trees	moderate slopes near Skyline, steeper slopes near jct. with Firelane 10 Reach rocky stream bed towards the bottom of reach	very steep slopes
Previous FPIRP Work	none observed	none observed	none observed	none observed
Recommend Future Work (urgency, type of workers)	check for private property remove large isolated patch	remove single isolated patch	check for private property before removing infestation near begining of reach	check for private property work on mature ivy near top of reach
Vegetation (list major natives and invasives, and any unusual observations, also tree species, % canopy, shrubs, % cover, invasive infestation type)	below Leif, lots of thimble berry and vine maple several isolated patches of ivy, clematis, and blackberry no invasives found above Leif Erikson variety of natives	variety of natives one isolated patch of ivy 300 ft above Leif Erikson Dr.	large infestation of ivy at top near Newton Rd., mostly immature few small holly bushes midway between Skyline and Wildwood high variety of natives	mature ivy infestation at top of reach, near Burnside few isolated Holly bushes lots of Salmonberry at base of reach

Reach Comparisons

Name	Middle Fork of Doane Creek	South Fork of Doane Creek		
Specific Location (trail or road, mile/ land markers, staging area, accessibility)	Just north of Firelane 5 crossing Wildwood mile 17 and Leif Erikson Dr. mile 6.75	Just north of Saltzman Rd. crossing Wildwood mile 16.25 and Leif Erikson Dr. mile 6.5		
Description (features, topography, distance, direction, difficulty, habitat type)	above Wildwood: open, deciduous forest with steep slopes below Wildwood: dense underbrush and moderate to steep slopes; more conifers	dense brush, deciduous, steep slopes, many fallen logs in stream bed		
Previous FPIRP Work	none observed	none observed		
Recommend Future Work (urgency, type of workers)	remove isolated ivy with Youth Crew	remove blackberry, morning glory with Youth Crew		
Vegetation (list major natives and invasives, and any unusual observations, also tree species, % canopy, shrubs, % cover, invasive infestation type)	mostly deciduous trees, namely big leaf maple a lot of native blackberry, huckleberry immature/mature ivy on a few trees near top of reach blackberry just inside park near Firelane 5	mostly deciduous trees, namely big leaf maple a lot of native blackberry, huckleberry blackberry, morning glory infestation between Saltzman Rd. and Wildwood		

Appendix E.

Knowing the Enemy; A Botanical and Ecological Profile of *Hedera helix* (English ivy)

by Eric Nadal with Sandra Diedrich
Ivy Removal Project
Portland, Oregon
September 5, 2003

Introduction

Critical to our removal and containment strategies is a thorough knowledge of Ivy as a plant: not just its morphology and identifying features but also how it grows, how it behaves in the ecosystem, how it spreads and why it is has been such a successful invader. Without such knowledge, we cannot hope to know how best to confront this invasion.

The principal form of Ivy we find in Forest Park and the entire Pacific Northwest is *Hedera helix* L., also known as English Ivy. This is a tertiary relic that, despite its common name, evolved in the Caucasus mountain region of central Eurasia, an area which has produced more than one Northwest invader (*Clematis vitalba* and English Holly being at least two others). It was in the last several thousand years that Ivy spread throughout Europe and the Mediterranean, and only in the last couple centuries that it was introduced by Europeans to the North American landscape.

English Ivy is a perennial, evergreen vine of the family Araliaceae that grows along the ground and up vertical structures. Its waxy, green leaves grow from alternating sides of the stem, which starts out thin and purple-green but becomes woody and can grow to a foot in diameter. English Ivy is a dimorphic species, having two very different kinds of growth that differ greatly in appearance and serve very different functions.

Juvenile Growth

This is the highly shade tolerant form of English Ivy, responsible for the creeping and tree-climbing behavior of the species. It can grow in only 1% of full sunlight while flourishing in 3%. Juvenile leaves resemble those of genotypically shade-adapted species and have the following easily recognizable characteristics:

- a glossy, dark-green complexion with whitish veins
- a size of 1.5" to 2.33" by 2.33" to 3"
- three to five wedge-shaped lobes with shallow sinuses between them
- a heart-shaped base

The stem and the 'petiole' - the segment connecting it to the leaf - have a purple-green complexion. These regular points along the stem, or 'nodes', are separated from each other by 1.5" to 2.33". On the ground the juvenile vine develops soft white 'rootlets' at the nodes that can develop into true roots. It has been found that shoots on the ground preferentially partition new dry matter in order to increase shoot length. This is thought to increase Ivy's ability to find vertical structures to climb.

When a juvenile vine comes into contact with a vertical surface and begins ascending it, rootlets will emerge more frequently along the stem, not just at successive nodes. Instead of becoming a true root, the tip of the rootlet thickens and secretes a glue-like substance, attaching the vine to the vertical surface. It is this juvenile process of creeping and developing frequent adhesive rootlets that gives Ivy its climbing ability and makes established ivy difficult to remove from surfaces, such as a tree trunk. Once it is climbing on a tree, the shoots grow so as to increase the lamina area of leaves, a behavior that allows Ivy to more fully benefit from the additional sunlight.

Mature Growth

This is the sun-tolerant phase of Ivy responsible for the production of the plant's flowers and berries. Its leaves more closely resemble those of sun-tolerant species, having the readily observable attributes:

- an absence of lobes
- an elliptical shape, which narrows in increased sunlight
- a lighter green complexion
- greater thickness
- less visible veins

With the onset of maturity, Ivy growth stops producing rootlets, halting its creeping and climbing behavior. Instead of growing as a vine, it develops a bushy, spiral leaf arrangement that maximizes exposure to sunlight.

On trees mature Ivy accomplishes this by extending laterally from the trunk of the tree on the order of few feet. Typically the transition from juvenile to mature growth on trees begins higher up and works its way down the trunk.

On the ground mature Ivy will grow vertically in order to acquire additional sunlight. Often you will find it growing in small, intermittent patches that project above a mat of largely juvenile growth.

It is unknown what exactly triggers the transition in ivy from juvenile to mature growth, but this transition begins at some point when a juvenile plant (1) has stored enough sugars in its root mass, (2) has developed enough foliage for an adequate level of photosynthesis, and (3) is receiving sufficient light, moisture, and nutrients. It has been shown that the hormone GA3 is responsible for the features of the juvenile phase and that increasing levels of GA3 sequentially results in a mature ivy plant losing its flowers, developing rootlets, and acquiring a lobed leaf shape.

In the wild, Ivy requires at least ten years to go from germinated seed to the flowering of leaves on mature branches. However, it has the ability to persist in the juvenile phase indefinitely, or for as long as it needs to acquire the conditions for maturation. In addition, in the wild mature Ivy may also revert to the juvenile phase if it loses exposure to sunlight.

The small and inconspicuous greenish-white flowers are bisexual and emerge in Autumn. They grow in a terminal pinnacle of globose umbels, each of which holds ten to fifteen flowers. Inside each bud is a sweet, sticky, disk-shaped surface that can attract the fertilizing action of insects: certainly yellow-jackets and flies and possibly others. A 4-7 mm wide berry, initially green and later purple-black, emerges between mid-Autumn and mid-Winter and contains 3 to 5 stony seeds. The berries ripen as early as February and as late as April and are one of the only berries available during this time of the year.

Ivy's Competitive Advantages

English Ivy has an impressive set of characteristics that help give it an edge over other plant species.

(1) Juvenile Ivy is highly shade tolerant. This means that Ivy is not restricted to forest edges or holes in the canopy as are invasives like clematis and morning glory. Indeed, even the most remote depths of a well-shaded forest can be invaded and transformed into an ivy desert.

(2) Unlike other shade tolerant plants, juvenile Ivy can fully recuperate from damage due to excessive light.

(3) Ivy spreads year-round, even though its growth rate varies seasonally. During the Winter, when most of the native understory plants are completely inactive, Ivy is able to keep growing, if more slowly, and its progress during this time in monopolizing space and resources makes it that much more difficult for the other plants to get going again in the Spring and Summer. Ivy is also one of the only plants to produce its

seeds during the Winter.
Page 4

(4) Ivy is resistant to environmental stresses. A long juvenile phase means that an Ivy plant can seek out better environmental conditions and has already reached a large, robust size even before it has matured. The species' two phases allows it to take advantage of both shade and sunlight, and its ability to go back and forth between the two enables it to respond to changing light conditions.

(5) Ivy is fairly drought tolerant. It flourishes in temperate environments like Forest Park but will survive in arid environments as well. Ivy has a high water content and its leaves develop a thick, leathery skin that allows it to retain water fairly well. Possibly for these reasons, Ivy has also been reported as highly fire resistant.

(6) Ivy's thick, leathery leaves also enable it to cope with frost and keep photosynthesis going during the Winter months.

(7) Ivy has no known biological controls. Ivy's leaves contain toxic glycosides that serve as a chemical defense against would-be predators (invertebrates and vertebrates alike). It is thought to be allelopathic in other ways as well: by using a kind of chemical repellent and by altering the soil chemistry to the detriment of other organisms.

(8) It is adapted to a wide range of soil conditions, preferring slightly basic soil (a pH slightly greater than 7.0) but making do with more acidic and basic soils as well (no lower than 5.2 and no higher than 7.8). It also grows in soil fine, medium and coarse in texture.

The dire result of all these characteristics is that (1) Ivy can grow anywhere in the Northwest up to a certain elevation (at least 3000 feet), and that (2) wherever it grows, it has competitive advantages over almost every other plant. Either (1) or (2) by itself would be significant; for both to hold at the same time makes Ivy a deeply troubling invader.

Ivy and the Ecosystem

Under the canopy in a forest ecosystem like Forest Park there are no native plant species that can compete with ivy. When Ivy enters a new area, it rapidly monopolizes the light, nutrients, space and water and ultimately replaces all the native ground cover with a uniform, matted ground cover of its own, establishing what we call an Ivy monoculture or "Ivy desert." Some plants, like sword ferns, may resist longer than others, but even the sturdiest of shrubs eventually go.

As an Ivy desert is established on the ground, a number of environmental transformations take place:

(1) The layering of Ivy on the ground grows thick enough to prevent a significant amount of sunlight from reaching the forest floor.

(2) The loss of seasonal, herbaceous shrubs constitutes a decline in the food available for microbes and other subsurface organisms. This interrupts the cycle of decay and renourishment in the soil.

(3) a layer of dead Ivy builds up on the forest floor.

Together these factors prevent the native plant community from regenerating on its own and perpetuate the monocultured environment.

Ivy affects the canopy as much as it does the forest understory. In climbing trees and maturing it unleashes a whole package of wide-ranging, deadly effects:

(1) The Ivy draws on the same soil resources as the tree and, as the ivy grows and matures, it essentially uses more and more of the tree's water and nutrients.

(2) When Ivy grows beyond the trunk of the tree, engulfing the branches, it can prevent the leaves of the tree from receiving adequate sunlight. Since the branches depend on the energy they receive from their leaves, this can contribute to limb failure.

(3) Ivy adds substantial weight to the limbs and trunk of a tree. Its vines are heavy and only become heavier as they extend and thicken. Its foliage collects ice, snow and water. All of this additional weight puts stress on the tree's internal support system, forcing the tree to grow in odd positions and contributing to limb failure.

(4) Because mature growth on trees is so bushy, it provides added surface area for catching wind. This additional stress puts the tree at risk of complete collapse.

(5) There is evidence that Ivy acts as a reservoir for the plant pathogen bacterial leaf scorch (*Xylella fastidiosa*) and possibly other pathogens as well. Bacterial leaf scorch attacks the tree without harming the Ivy, reducing the leaf foliage and giving the Ivy additional access to sunlight.

(6) Ivy also can induce hormonal distress in a tree when it covers the light-seeking apical stem.

Due to one or more of these factors a tree will have a noticeable decline in health within only a few years of being infested and eventually will die, either completely collapsing or remaining as a snag. While Ivy prefers climbing certain tree species over others (e.g. it will avoid climbing Western Red Cedar if there are plenty of other trees around), it is capable of climbing virtually every kind of tree in the Pacific Northwest. As a result, any infested forest therein is faced with wholesale collapse of the canopy. Indeed, both on the ground and in the air, once a forest has been infested, all that stands in the way of its long-term destruction is time and human - "De Vine" - intervention.

As Ivy takes over, it eliminates the food sources of animals and insects while itself providing little in the way of a replacement food source. No animals or insects are known to preferentially eat the leaves or the stem, due to their toxicity. In addition, the mildly toxic berries are eaten only by a small number of introduced and, in some cases, invasive birds such as the Cedar Waxwing, European Starling, English House Sparrow, Stellar Jay, and Robin. While this may provide berries for these birds at a time of year with low berry production, it also provides a mechanism for the dispersal of Ivy's seeds. In this case, Ivy being used as a "food source" does not make the invader any less invasive; it only enables Ivy to spread further and destroy even more of the ecosystem.

With an Ivy desert comes the establishment of a uniformly shallow root system in the forest floor, increasing the chance of slope failure and damage to any riparian areas along those slopes.

Ivy's destructive effects are not limited to animals and plants. The loss of herbaceous plants makes less food available to populations of microbes and other subsurface organisms.

If an Ivy desert can be said to provide any "habitat" at all, it is of the kind suitable only for mosquitoes, rats and other vermin.

The Spread of Ivy

The previous section emphasized what happens once Ivy has infested an area. As important as this, however, is how Ivy arrives in new areas and the reproductive methods that fuel the development of an Ivy desert. We know that Ivy spreads (1) vegetatively, that is, by the creeping of existing juvenile vines into an adjacent area, (2) by the dispersal of seeds issued by mature growth, and (3) by human planting of its seeds and vines (along roadsides and in yards adjacent to forests, for example).

Another vegetative "colonizing" habit of Ivy has been discovered while performing field investigations and managing test plots. When the ground cover mat has become exceedingly deep and dense and when the root system supporting the mat has become similarly dense, a "probe" root structure vertically extends

below the the root mass then sends horizontal "probes" beyond the dense infestation. Apparently, some form of biological signal is sent that a particular area has reached its carrying capacity for ground cover growth and new growing area is being sought. This same "probe" root development has been verified at locations outside of Forest Park.

The critical point of interest becomes how these forces combine and what the ongoing contributions of each is to the colonization of new areas and the internal development of existing infestations.

An abundance of highly isolated patches of Ivy within Forest Park clearly shows us that seed dispersal and seedling development is a huge part of what allows Ivy to reach new areas. These patches were not planted by humans and are sometimes miles from any other infestations.

As for the internal development of Ivy infestations, recent research has looked at their genetic diversity and clone size (clone size being the combined size of one individual plant and its cloned extensions). The high genetic diversity and small clone size found suggest that seed dispersal and seedling development play a major role in this development as well.

Birds are the main agents of seed dispersal, that is, those birds willing and able to eat Ivy's berries. By passing through the bird's digestive track the seed is scarified and then deposited with the bird's droppings, most likely in areas where the bird rests or feeds. The scarification of the seed is not a necessary nor a sufficient condition for the germination of the seed but it increases the likelihood that the seed will germinate once it comes into contact with moist soil.

This is where the toxicity of the berry comes into play in a surprising way. Rather than discouraging seed dispersal, the toxicity is an evolutionary adaptation that actually promotes it. Because of the toxicity, even a willing and able bird will only eat a small number of berries. This incrases the number of individual birds carrying seeds and, since birds tend to drop all the seeds at one time or in one area, increases the number of places to which the seeds are carried. The toxicity also reduces the amount of time the seeds spend in the bird's stomach, which increases thier viability once they reach the forest floor.

Horticulturalists have identified ideal conditions for the germination of a seed in a controlled environment. Taking a seed from a ripe berry, they will clear it of all pulp and sow it in on the surface of damp sand or compost. At 40 to 50 degrees

Fahrenheit, the seed will germinate in four to six weeks. In the wild, however, it is unknown how long germination takes on average, nor is it known what percentage of seeds are viable.

If seeds tend to be dropped where the birds rest and feed, we would expect to see a higher concentration of sprouts at the base of trees and under tree branches. This is just what our own observations have shown. Ivy seedlings have been found concentrated around the base of trees and under their branches.

In addition, isolated infestations of Ivy are frequently found growing up only one tree with little to no growth on the surrounding ground, which suggests that the infestation started very close to the base of the tree. Note how well this positions the Ivy to quickly climb, mature and continue the process of colonization.

We ought not downplay the vegetative spread of English Ivy. Its year-round growth, long juvenile phase and other competitive advantages allow it to spread extensively and rapidly in this manner. At one site a growth rate of more than a meter per year has been reported. The most active growth occurs in the Spring and Summer. In places like New England this is from May to September, but in the Willamette Valley it extends from March to October. Ivy climbs deciduous trees more rapidly during the Winter as well, due to the additional sunlight afforded to it by the loss of tree foliage.

Also of concern is that, when Ivy is not completely removed from an area - when it is given the slightest opportunity to grow back - it usually will. Roots that remain in the ground after a work party has left, for example, can and often do "resprout." Our own experiments and observations have revealed that the

majority of regrowth at removal sites takes place in this manner, from the resprouting of remant roots.

Cuttings and pulled vines can also reroot at the nodes extremely easily. This rerooting is so effective, in fact, that horticulturalists and commercial growers of Ivy would much rather plant from cuttings than from seeds. When trying to establish a large quantity of ivy quickly, they will plant a "nodal cutting" - a section of stem with a node at the bottom and one or two leaves beyond the next node (only 5 inches in total length) - in a sand/peat compost. The best planting seasons are the Spring and Autumn, the very best period being the "cold frame," from mid to late Autumn.

At first glance Ivy's predisposition for rerooting may cause concern about leaving Ivy vines at removal sites. However, we do not see this kind of rerooting when appropriate measures are taken. Direct contact between the node and moist soil is what allows the rerooting to take place. At a removal site, pulled vines are scattered on the ground and the odds that a node would fall into direct contact with moist soil is very low. Therefore, while we ought to be cognizant of the potential for pulled vines to reroot, especially during wet portions of the year, it does not prevent us from leaving pulled vines on site to decay and enrich the soil.

Clearly our containment strategies should reflect upon the ways in which Ivy spreads. The observations and research to date point to seed dispersal as the greatest ongoing contributor to the spread of Ivy. We would therefore be well-advised to focus as a project and as a community on reducing seed production.

This involves making the removal of mature or maturing Ivy a top priority. In forested or other well-shaded areas this means continuing to focus on the removal of Ivy from trees, since in those circumstances Ivy on trees is in a better position to mature than is Ivy on the ground.

In light of the importance of seed production to the spread and establishment of Ivy, the removal of flowers and/or berries from a mature plant also emerges as a reasonable alternative to the removal of the entire plant. Our own research has shown that if between the beginning of October and the beginning of February Ivy's flowers and/or berries are cut from the plant, new flowers and/or berries will not grow and replace them that same flowering season. If the clipping is done within this timeframe each year, the plant will be perpetually unable to produce seeds. We have also observed a reduction in the number of flowers that grow back a year after the clipping takes place, which makes the job of clipping flowers easier year after year.

In some cases clipping flowers or berries may be less or no more practical than killing the whole plant. For example, if there are flowers high up on the trunk of a tree, it would be more practical to girdle the ivy around the base of the tree than to climb up the tree and remove individual flowers. However, for those property owners who would find the removal of flowers and/or berries to be a more practical or desirable alternative, it would be an equally effective contribution to the community's efforts to stop the spread of Ivy.

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References from the No Ivy League Wisdom Database, Field Investigation reports, and Test Plot data. For inquiries, contact Sandra Diedrich at the Forest Park Ivy Removal Project.

Appendix I: Research Project Ideas for *Hedera helix*

- survey and map Stellar Jay nesting sites; correlate to identified isolated spots and patches of English Ivy
- determine the water weight of *Hedera Helix*: both woody vines and leaf mass
- determine what fraction of *Hedera Helix* seeds are viable and how long a seed remains viable in the ground
- determine toxic characteristics of all parts of the *Hedera Helix* plant
- determine Ivy's rate of vegetative growth on the ground, up different species of trees, under different conditions, and during different seasons
- determine the extent to which Ivy is changing the chemistry and biology of the soil both on and below the surface of the ground; investigate the severity of these changes under different levels of infestation
- identify Ivy's preferences in terms of climbing certain species of trees and avoiding certain others and investigate what determines these preferences; for example, what about Western Red Cedar makes Ivy tend to avoid climbing it? Is the bark allelopathic with respect to Ivy?
- determine if and how Ivy affects the pH of soil and how the pH affects the growing patterns of Ivy
- determine if the seasonal timing of ground removal affects regrowth patterns and densities; if so, is there an optimal time of year to remove Ivy that would minimize regrowth?
- develop 3-5 year test plots to monitor relative effectiveness of different removal protocol where manual, flaming, and herbicides are included in the range of alternative protocols
- determine the extent to which cutting the flower stalk on mature Ivy effects the growth patterns (initial field investigations completed, follow-up needed)
- continue to identify and document what fauna is vectoring *Hedera Helix* seed
- study how *Hedera Helix* is being pollinated
- study growing edges of Ivy to determine if elevation or drainage effect the plant's growth patterns and if so, how?
- investigate how the rate of vegetative growth changes as Ivy transitions from growing along the ground to climbing up a vertical structure, and how it changes as Ivy's vines continue growing up the vertical structure; does regrowth subsequent to a lifesaver simply take longer than regrowth subsequent to a girdle, or does it also take place at a different rate since it must first reach the tree by growing along the ground?
- document loss of wildlife abundance and diversity in Ivy infested environments, as well as changes in the overall community structure; investigate the correlation of Ivy infestation density and extent with

populations densities of mosquitoes and other vermin

- estimate the percentage of Forest Park infested with Ivy (1) just before the Ivy Removal Project began, (2) today as if no removal of Ivy had ever taken place, and (3) as it actually exists today, with all of the efforts of the Ivy Removal Project and volunteers determine and compare the effectiveness of native plant restoration plantings in areas with differing levels of prior infestation, including areas where there was no infestation whatsoever but which was cleared manually of native plants
- monitor a variety of infestations over many years to determine if infestations develop differently in different situations: infestations adjacent to urban development versus infestations isolated inside a forest, infestations in reaches versus infestations on ridges, etc.
- determine the relative contributions of seed vectors and plantings to the development of infestations adjacent to urban development
- investigate if Ivy (especially mature Ivy) has any preference for a certain directional exposure, such as a southern exposure
- explore Ivy's capacity to hybridize with other plants
- survey the 'ecology' of home gardens dominated by Hedera Helix
- determine/document the limitations of using Ivy as a means for erosion control
- develop bibliography of literature accumulated by the Ivy Removal Project

Appendix II: Internet and Academic Literature Searches Needing to be Performed

- Information about any regulatory, legislative, or local ordinance controls that are currently in place for Hedera Helix or similar invasives which spread by roots, vines, and seed; which requires/does not require passage through the digestive system of a warm blooded animal in order to germinate.
- Hedera Helix typically is an invasive species in moderate climates which have mild winters, fairly mild summers, moderate to heavy annual rainfall. Other countries which have problems with it include New Zealand, Argentina, Brazil, Australia, Canada, England, Ireland, parts of Germany. To what extent is the problem recognized and what is doing done to address the problem?
- We are not certain about France because we have been unable to locate information in English or interview a knowledgeable person from France. We suspect it may be a problem in disturbed earth areas with moderate climate and forestation. We are interested in additional information from these countries about how English Ivy is viewed horticulturally and/or as a nuisance plant or invasive species.
- To what extent are horticultural, gardening, and landscaping sources, both in print and on the web beginning to offer cautionary advise about ivy and other invasive species.
- We are also interested in any academic research on Hedera Helix. We have acquired a large number of papers and abstracts, but there is more out there. See the Research Project Ideas list for a number of important topics that may have already been addressed somewhere in academia.
- There is more information out there in journals, periodicals, and newspapers as well as academic research papers than we have yet located. We'd rather find good information ten times than to miss it once. Curious pieces of information can be very useful in piecing the puzzle together, or in finding the meaning of a clue, or locating a productive contact. For example, we located a research abstract from Greece which wasn't about Ivy per se but about population characteristics of five species of snails. Ivy was one type of plant involved in the study. But the work was extremely useful because it illuminated and supported our anecdotal data.

- We are interested in stories, articles, anecdotes about Ivy problems and efforts to control it.
- We are especially interested in research or other material circa 1997 to 2002. There is often a lag between when a study or research project is done and when it is finally posted to a Web site. Researching universities which have strong ecology programs or horticultural programs could be quite productive. We are also particularly interested in studies and research projects performed in Europe, Asia, Australia, New Zealand, and Canada. Europe is a high priority because I have talked to European travelers visiting here who have told me that Ivy is a problem in parts of France and Germany where the climate is moderate.
- We have not sufficiently tapped into journals and periodicals related to ecological restoration, invasive plant species, horticulture, and botany in languages other than English or in more general interest periodicals. One of the most illuminating and inspiring article we have found was "Planet of Weeds, Tallying the Losses of Earth's Animals and Plants" by David Quammen, October, 1998, Harper's Magazine. We have also not been able to search sufficiently in newspapers of general circulation in areas where English Ivy is a problem like the mid-Atlantic seaboard.
- We are also interested in the history behind other invasive plants in Forest Park, such as Garlic Mustard, Poison Hemlock, Japanese Knotweed, Clematis, Himalayan Blackberry.
- And of course, we also know that you may have an idea or angle that we have never even thought of, so let us know!

FPIRP Work Site Monitoring Database (Initiated Fall 2003)

Date of Monitoring: _____ Site Name: **Birch Trail and Birch Swale area** Site #: **7**

Special Notes: ☒ Priority Site ☒ Needs follow up visit ☐ Data taken from archives and Inst. Mem. ☐ Candidate for '5 Year Monitoring'

Habitat Characteristics:

Habitat Type:

☐ Upland Forest ☐ Urban Edge ☒ Coniferous
☐ Riparian ☐ Meadow ☒ Hardwood

Habitat Degradation:

MEDIUM to **HIGH**

Categories of Infestation:

Ground cover varies from sparse to evenly distributed ground and extensive; could become desert.

Other Invasives of Present Concern:

1. Holly _____ 3. Poison Hemlock _____ 5. Garlic Mustard _____
2. _____ 4. _____ 6. _____

Site Accessibility & Difficulty:

Accessibility: **EASY**

Vehicle Needed? **Yes**

Access Points plus Comments:

Easy to find location, but poor drainage and trail slumping make access difficult. Access from 53rd or from back of Stenzel Property, or from WW ml. 7.25

Difficulty: **LOW** to **HIGH**

Notes on Difficulty:

Site can be steep and dangerous in some parts from bad drainage and trail slumping.

Suitability for Volunteers:

HIGH - but need more mature and physically able; group needs vehicle to access the general area.

Information Entered on 12/17/2003 by Bruno P.
Modified on 9/8/2005 by Samantha S.

Work Site History & Future Needs:

Date of Most Recent Work Party: _____

Total Visits by Youth Crews and Volunteers:

5. Youth Crew Visits + 27. Volunteer Visits = 32. Total Visits

Type of Work Performed:

Area of immediate trail maintained but major infestations moving in from along both sides of trail.

Effectiveness:

Ineffective - due to lack of consistent and focused work. Tree removal somewhat effective but at risk of regrowth.

Needs for the Future:

Ground removal, small groups due to access problems. Need to control Poison Hemlock in order to work safely.

NEED TO KILL MATURE IVY ON TREES!!

Additional Comments:

Major infestations from Stenzel area, Thompson Road Saed Factory, and Dogwood side increased in density from sparse to evenly distributed and extensive. Poison Hemlock quickly moving into area. Area is becoming ivy desert.

Follow-up Visit:

Follow Visit Conducted? ☒ Yes ☐ No Date Conducted: 3/11/2004

Observations:

53rd -> Midwood Tr. Large swale area with evenly distributed ground cover. Initial onset to substantial growth on most trees. Mature growth on some trees, especially from Birch Trail.
POISON HEMLOCK at trailhead is getting out of control.
?Clematis on left side of trail, approx. 100ft down Birch.

Web Tech Zone
FP*029
FP*008
FP*000

Characteristics of Specific Decennial Monitoring Sites

Site Name	Priority Site	5-Year Monitoring	Riparian	Forest Edge	Meadow	Coniferous	Hardwood	Categories of Infestation	Other Invasives of Concern	Difficulty	Difficulty Notes	Accessibility	Vehicle Needed?	Accessibility Notes	Suitability for Volunteers	Additional Comments
Aspen Trail (Heart of Darkness)	X		X	X		X	X	Ivy on interior and edge; Clematis & HB on edges; Ground: evenly distributed, extensive in parts. Trees: some mature growth & regrowth	Holly Chestnut, Holly	MEDIUM	Beware of some moderate to steep slopes			Reasonable hike from field house. Multiple access points along Wildwood and Aspen trails, as well as from Aspen St.	HIGH - Depending on physical ability. Younger kids should avoid swale areas.	The previous work saved the canopy and reduced biomass. Former Ivy Desert with canopy close to collapse in places. Very large area: approx. 50 acres. Significant return of native species due reduction of invasive species reduction.
Birch Trail and Birch Swale area	X		X			X	X	Ground cover varies from sparse to evenly distributed ground and extensive: could become desert.	Holly, Poison Hemlock, Garlic Mustard	LOW-HIGH	Site can be steep and dangerous in some parts from bad drainage and trail slumping.	EASY	Yes	Easy to find location, but poor drainage and trail slumping make access difficult. Access from 53rd or from back of Stenzel Property; or from WW ml. 7.25	MEDIUM - but need more mature and physically able; group needs vehicle to access the general area.	Major infestations from Stenzel area, Thompson Road Seed Factory, and Dogwood side increased in density from sparse to evenly distributed and extensive. Poison Hemlock quickly moving into area. Area is becoming ivy desert.
Camp Tolinda								Off access road ranges from sparse to extensive; initial onset to mature on trees. Meadow: sparse to evenly distributed; could become witches brew. To south is Springville nightmare. Westside is sparse	Roberts Geranium, Thistle, Himalayan Blackberry	MEDIUM	Eastern slopes off access road are somewhat steep; access road is gated and not open to vehicles, so must hike.	EASY	Yes	Good staging area at pull off - must hike 1/4 mile up access road to meadow area. Access from St. Helen's Rd. the first pull-off on left hand side of Germantown Rd.	MEDIUM: Inexperienced volunteers should avoid working off of access road. Vehicle needed.	Formerly developed camp program site; annexed to Park in late 1990's; structures and trash removed - work has been swiss cheese rather than concentrated leading to difficulty in assessing impact and effectiveness; needs specific focus for future work.
Cornell Rd. at 30th off of Quimby	X		X	X		X	X	Ivy and Clematis: both unworked trees and regrowth on trees. Witches brew on edge.	Clematis, Holly, Himalayan Blackberry	EXTREME	Work site lies on very steep and slippery slopes with unpredictable terrain.	MEDIUM	No	Site is on side of road so there is no safe staging area. Access by city streets from HQ. Steep slopes leading up to site. Follow 29th up to Quimby, Quimby to 30th, and then 30th up to Cornell.	LOW: Only for the most capable, adult, and well trained volunteers. Best access by foot.	Site is within a corridor of mature ivy and clematis. Tree removal only for foreseeable future. Take care to complete life savers due to light conditions on edge and density of ground infestation. Seeds from this area are being vectored into high quality habitat like Balch Cr. Canyon
Cumberland Trail								Varies from sparse nearest trailhead to patches of evenly distributed with substantial growth on trees. Ivy 15%	Norway Maple, Holly	MEDIUM	Moderate to steep slopes. Most work sites are directly off trail.	MEDIUM	Depends	Longer, more strenuous hike from HQ, or vehicle through neighborhoods. Access either off New Tunnel Trail on foot or Cumberland Trailhead by vehicle.	HIGH - if by vehicle, harder if on foot. Recommend working near trailhead.	High rate of infestation from seedlings due to extensive mature ground cover in nearby private prop. Needs direct attn. and concerted efforts with nearby neighbors to control their mature ivy seed production. Be careful to complete life savers on trees.
Dogwood & Leif Erikson Intersection	X		X	X		X	X	Severe Clematis growth. Ivy is sparse with initial tree growth in most cases, but an isolated patch on edge has led to extreme mature growth on one tree.	Roberts Geranium, Himalayan Blackberry	LOW	None	POOR	Depends	Poor due to either a long hike or need for vehicle to access from Leif or 53rd.	HIGH - but need to allow for extended hiking time or availability of vehicle. H.S. or adult	Previous isolated patch removal has been effective but additional infestation due to nearby seed sources. Good opportunity for preventing serious ivy infestation. Clematis seed production needs attention. This site should be worked for multiple invasive removal
Firelane #9	X		X	X		X	X	Low to extensive and severe tree growth depending on where on Firelane 9; low on upper part, extensive on lower part.	Himalayan Blackberry	LOW-MEDIUM	None.	MEDIUM	Yes	Good staging at Germantown.	LOW	Infestation increasing at a rate higher than removal activity has had impact. Not a frequently worked site for several years.

Characteristics of Specific Decennial Monitoring Sites

Site Name	Priority Site	5-Year Monitoring	Riparian	Forest Edge	Meadow	Coniferous	Hardwood	Categories of Infestation	Other Invasives of Concern	Difficulty	Difficulty Notes	Accessibility	Vehicle Needed?	Accessibility Notes	Suitability for Volunteers	Additional Comments
FL #10: 1/4 mi from Germantown off gravel road		X	X					Isolated Patch, HB 5%; Other 3%	Garlic Mustard, Himalayan Blackberry	MEDIUM	None	MEDIUM	Yes	Access from Leif Erikson trailhead which is a good staging area.	MEDIUM - vehicle needed.	Plan work party for Spring when Garlic Mustard is in bloom to remove isolated patches of Ivy, HB, and Garlic M. Need to look for likely seed source - possibly coming from Linton or lower Germantown. Should check for isolated patches until said sources are controlled.
Germantown at Skyline	X			X		X	X	Isolated patch and substantial tree growth.	Needs to be checked	MEDIUM	Due to staging.	MEDIUM	Yes	Access from nearly vacant then hike.	MEDIUM - need vehicle.	One volunteer work party was not very effective - isolated infestation should not be allowed to expand.
Germantown Rd: btwn Leif Erikson and Skyline	X					X	X	Isolated Patch	Himalayan Blackberry	MEDIUM-HIGH	Steep slopes and poor staging.	MEDIUM	Yes	Accessible only in relationship to parking pull offs. Also access from Wildwood or Leif Erikson parking areas, then hiking.	MEDIUM - mature volunteers only.	None.
Holman Meadow & Holman Lane at or near meadow		X		X	X	X	X	Some parts are becoming witches brew; Ivy; sparse to evenly distributed; substantial tree growth with regrowth on others. Clematis Meadow edges were HB horror.	English Hawthorne, Himalayan Blackberry, Clematis, Holly	LOW-MEDIUM	Steep areas off trail when going up Holman Lane. Perimeter of meadow is mostly flat	EASY	No	Best to hike to site by city streets or Wildwood via L. Macleay.	HIGH depends on specific area. Some areas have very muddy patches. Good as a hikeable site.	Freq. used as training site or removal site of short duration and place where impact of inexperienced volunteers could be kept to minimum; meadow area formerly Ivy desert; has been a major demonstration/edu/assessment site. planting needed due to severe infestation and disturbances.
Leif Erikson: miles 1 to 3	X					X	X	Heavy HB all along trail edge in clusters. Ivy is initial onset on trees; ground sparse to evenly distributed	Thistle, Clematis	MEDIUM-HIGH	Steep slopes downhill and rock face with poison oak can make work treacherous.	EASY	Depends	Easy access, but substantial hike or need vehicle.	MEDIUM - need vehicle or willingness to hike fairly long distance, must be physically capable and mature.	Quite a bit of Ivy and Clematis removal from trees but regrowth needs more carefully assessed.
Leif Erikson: miles 3 to 7	X					X	X	Witches brew at Saltzman but former removal Ivy concentrated along Saltzman with isolated spots all along.	Scotch Broom, Lemon Balm, Roberts Geranium	MEDIUM-HIGH	Moderate to difficult steepness.	EASY	Yes	Access from FL #3, #1, and Saltzman as staging areas.	HIGH - but vehicle needed must stage carefully and use vans or carpools.	High regrowth risk - tend to have successive isolated patches and spots in this area, need to identify seed source; on follow up visit be VERY precise on location; use landmarks and measure wheel
Leif Erikson: mps 10 to Germantown	X					X	X	Initial tree onset from sparse to isolated patch and spot infestations of mostly Ivy.	Garlic Mustard	MEDIUM	Moderate terrain - becomes more moderate near Germantown.	EASY	Yes	Good staging at Germantown, then can hike to work site.	MEDIUM - Volunteers must be mature due to "search and destroy" nature of important treatment that's needed.	Follow visit conducted 12/19/03 by Sandy D, David M, and Bruno P. If no work had been done earlier on isolated infestation, the extent of infestation would be significant at this point. Work was done to remove isolated infestations in summers of 1994 and 1996.
Miller Creek	X	X	X	X	X	X	X	Ivy, Other: Evenly distributed ground cover; initial to severe tree growth.	Roberts Geranium	LOW-MEDIUM	Moderate to easy terrain but issues in navigatin around creek and salmonberry thickets.	POOR	Yes	Staging very difficult since site is directly off of Highway 30. Park at intersection of Newberry and St. Helen's.	LOW - vehicle needed and multiple impediments or hazards.	Steep slopes to access site. Tons of broken glass. Loose rocks on slope significant hazard. Salmonberry makes removal difficult. Site has public and private ownership somewhat indistinct from each other.

Characteristics of Specific Decennial Monitoring Sites

Site Name	Priority Site	5-Year Monitoring	Riparian	Forest Edge	Meadow	Coniferous	Hardwood	Categories of Infestation	Other Invasives of Concern	Difficulty	Difficulty Notes	Accessibility	Vehicle Needed?	Accessibility Notes	Suitability for Volunteers	Additional Comments
Pittcock Mansion	X	X				X		Ivy Desert	Holly, Morning Glory, Clematis, Himalayan Blackberry	MEDIUM-HIGH	Fairly steep slopes in some areas, especially north of parking lot.	EASY	Yes	Vehicle required or very long hike from tri-met stop. Can stage from pull-offs and parking lot. Access points: off Burnside and residential streets at pull-offs or from parking lot.	MEDIUM: Depending on work group, training, and supervision. Need to be aware of standing snags & vermin. - With supervision can stage large work group at this site.	SW side of building. Large log rolls just N. of parking lot. Need to coordinate with Pittcock staff when planning to stage from parking lot.
Quimby Street: btwn 32nd & 33rd (a.k.a St. Mary's test plot)								HB, Other, Arum italicum, Ivy evenly distributed to extensive - many trees girdled but still a few with substantial to mature growth.	Holly, Arum italicum, Morning Glory, Clematis, Holly	EXTREME	Extreme site and unstable due to steep slopes, dumped yard debris, road cuts, and slide area.	EASY	No	Easy to get to by city streets but a treacherous site for work groups accessing site itself. Access point: Quimby st. between 32nd and 33rd.	LOW - able for walking. must have physical capacity and maturity due to site characteristics.	Wrong site monitored by crew - they assessed and area nearby with nearly a 45 deg slope. Area adj. to road planted with natives especially Alder for HB control. Subseq. extensive neighbor involvement in removal and relandscaping of ubiquitous character considering relationship to natural area, but work was well intended and many difficult invasives such as Holly were removed.
Risky Ravine (reach just north of new Ridge Trail)	X							Ivy, Clematis, & HB on edges. Extensive ground cover near road then becomes evenly distributed as ascend reach. Trees have substantial to some mature growth.	Clematis, Himalayan Blackberry, Check for others	MEDIUM-HIGH	Moderate to steep slopes. Poison Oak hazard.	MEDIUM	Yes	No safe staging area. Access from St. John's on-ramp.	LOW: Difficult to find. Poor vehicle access. Must have physical capacity and maturity. Staging & poison oak hazard.	Work performed since 1999, poison oak hazard above access trail. Ivy on trees, possibly some mature. Private property behind site.
Saltzman Creek								Ivy is sparse to evenly distributed but trees have substantial to mature growth. Scattered Clematis. Other 25%	Holly, Clematis, Morning Glory	MEDIUM-HIGH	Beware of standing snags and creek crossing.	MEDIUM	Yes	Reasonable staging area. Somewhat tricky creek crossing to get to work site.	MEDIUM: Eagle Scout or motivated group like Catlin Gable.	Area on ridge is above is adjacent to FL #1 where Ivy is still sparse. Important riparian area that needs systematic approach. Priority given due to creek and accessibility of reaches wherever there is major tree infestation.
Saltzman from St. Helen's to Leif Enkson.	X							Heavy mixed infestation of ivy, Clematis, HB. Close to ivy desert in spots and close to witch's brew in others. Extensive ground typically with substantial to severe growth on trees.	Himalayan Blackberry, Clematis, Japanese Knotweed	MEDIUM-HIGH	Moderate to very steep slopes, watch for poison oak on south faces.	MEDIUM	Yes	Vehicle required, road access. Some pull offs but significant auto traffic. Access from St. Helen's to Saltzman then may need to hike from suitable staging area to work site.	MEDIUM if mature and physically able. Good Eagle Scout site but watch for traffic. Tends to have more yellow jacket nests.	Significant urban edge with many residences in patchwork of park and private. High user impact from bikes, many rogue trails. Neighbors tend to complain about work groups if large number of youth and/or readable of color.
Stenzel Property	X	X						Former climax ivy desert. Current ranges from sparse to evenly distributed. Some outer areas of extensive growth. Trees have some regrowth or substantial growth.	Himalayan Blackberry, Holly, Clematis, Poison Hemlock, English Hawthorne, Garlic Mustard	LOW-MEDIUM	Beware of standing snags, sink holes, and Poison Hemlock.	MEDIUM	Depends	Vehicle required with short hike, or very long hike up Holman Lane. Access point: from Holman Lane but stage only with vehicles from parking pull-offs on 53rd.	HIGH - vehicle needed, can work well for large groups. Poison Oak is impeding access to work areas.	Once partially developed for subdivision so many natural contours were removed. Has woodland/wetland chars. Much of site has aging hardwoods with no conifer recruitment. This has been a major test plot site with many field investigations and specific, consistent monitoring. Much learned from working on this site. Extensive HB infestations in area near Holman being controlled but more work on HB in back of site needs attention.

Characteristics of Specific Decennial Monitoring Sites

Site Name	Priority Site	5-Year Monitoring	Riparian	Forest Edge	Meadow	Coniferous	Hardwood	Categories of Infestation	Other Invasives of Concern	Difficulty	Difficulty Notes	Accessibility	Vehicle Needed?	Accessibility Notes	Suitability for Volunteers	Additional Comments
Slope off of NW 31st	X	X		X				Ivy 25%, Clematis 15%, Blackberry 20%, Other 35%	Horse Chestnut, Holly, Morning Glory, Clematis, English Laurel	MEDIUM-HIGH	Steep slope - fault area - landslides	EASY	No	Access from end of 31st off of NW Thurman.	MEDIUM: depending on specific area and mud - good as a hikeable site, but site contains very steep slope.	Good neighbor involvement.
Springville parking area	X			X			X	Himalayan Blackberry in open areas.	Roberts Geranium	MEDIUM	No comments.	MEDIUM	Yes	Moderate entry slopes but work area is flat.	MEDIUM - Good Eagle Scout potential with HB removal followed by Alder etc.	This is a do-able site.
Upper Macleay Trail						X		Very bad ivy in places, but not continuous. Worst at intersection with Wildwood. Ivy & Clematis: extensive ground in places and substantial tree growth in places, but other areas are sparse or initial	Clematis	MEDIUM	Slopes moderate to steep.	MEDIUM	Depends	Long hike from any direction. Access points: from neighborhood trailheads at Cumberland, Macleay, or from Cornell at tunnel or Wildwood.	MEDIUM: depends on steepness of slopes. Hikeable from field house.	this is an area where a major impact can be made before infestation is out of control. Needs consistent focus combined with major neighborhood outreach and partnership.
Vaughn Street Stairs		X	X					Clematis regrowth above stairs. HB regrowth. Substantial Morning Glory. Patches of Ivy from neighbor who is now systematically controlling on own property.	Clematis, English Hawthorne, Himalayan Blackberry, Scotch Broom, Morning Glory, Coltsfoot	LOW	Some moderate slopes that can be treacherous in winter.	EASY	No	Easy except for one area near stairs with slope. Short walk from field house to Vaughn St. stairs.	HIGH - able for walking.	HB mountain harbored transient tunnel and camp. Reclaiming area has created good neighbor relations and relieved much of the attractive nuisance problems. Was so overgrown with invasives that was attractive nuisance and became litter and garbage dump.
Voss Property		X					X	Ivy: evenly distributed, regrowth on trees. HB: on all edges especially the 53rd edge.	Vinca, Poison Hemlock, Himalayan Blackberry, Garlic Mustard, English Hawthorne	LOW	Except for uncooperative neighbor.	EASY	Yes	Access Point: Intersection of 53rd and Holman Ln, must stage from Birch trailhead pull-off. Cannot park on Holman Lane!	HIGH but vehicle needed	Property became part of park in late 1990's. Several large group work parties, service learning and monitoring site for Open Meadow CRUE and site of several plantings with FoT including a bad planting with ramblunous volunteers that resulted in very poor survival rate. As a major transit point, this area needs attention.
Wild Cherry: above Leif Erikson	X					X	X	Infestation is heaviest closest to Leif. Much less towards 53rd. Substantial tree growth. Clematis rapidly infested intersection with Leif	Himalayan Blackberry, Clematis, Holly, Garlic Mustard	MEDIUM-HIGH	Ranges from flat to very steep.	MEDIUM	No	Good hike from field house but doable. Access from Leif Erikson via Thurman or via Lower Wild Cherry/Alexandria or from 53rd but vehicle needed. If from 53rd, vehicle needed. If from 53rd, Easy if vehicle available. May need to hike down trail. Often has abrupt drop offs and steep slopes. Good staging and access from Upper Macleay parking lot	MEDIUM: fairly long hike. Vehicle needed for access off of 53rd. Good Winter crew Saturday work site.	Work performed approx. 200 yds from Leif Erikson. Ivy on trees and mature. Good winter crew Saturday work site.
Wildwood Tr. below Cornell to Balch Creek.	X	X	X			X		Ivy around parking lot. Infestations located off trail mostly near top. Ranges from evenly distributed to isolated patch to seedling. Some initial onset.	Clematis, Holly	MEDIUM-HIGH	Some very steep areas. Flat by meadow next to parking area, but abrupt drop-off.	EASY	Depends	Easy if vehicle available. May need to hike down trail. Often has abrupt drop offs and steep slopes. Good staging and access from Upper Macleay parking lot	LOW: Better around parking area but low on trail due to very steep terrain. Isolated spots or patches require skill and experience.	Due to nearby mature Ivy infestation, on Audubon and the Horro, and due to the high quality of the habitat and sensitivity of the riparian area. This area needs to be checked systematically for regrowth and new growth.
Wildwood: miles 7.25 to 7.75	X	X				X	X	Ivy, holly, clematis at both ends of the site. Ivy is mature ivy on trees and evenly distributed ivy on ground - some extensive areas	Holly	LOW-MEDIUM	No comments.	MEDIUM	Depends	Vehicle or long hike. Access from Birch Tr. down to Wildwood or from Aspen or intersection.	HIGH - suitable for hiking.	Upland forest with degraded habitat characteristics. This should be a priority area for volunteers.

Original Site Document

FOREST PARK IVY REMOVAL PROJECT

SITE DOCUMENTATION.

DATE: _____

OBSERVERS: _____

LOCATION:

8

SITE DESCRIPTION:

(Include indication of previous ivy removal, estimated size of patch, density of patch, and extent of tree climbing)

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ACTION TAKEN:

DATE: _____

[The page contains faint horizontal scan artifacts.]

Current Site Document (Long Form)

Forest Park Ivy Removal Project

Sponsored by
FRIENDS OF FOREST PARK FRIENDLY HOUSE PORTLAND PARKS AND RECREATION

Work Site Documentation

Please print very clearly, thank you. And! Be Specific!!

Date _____ Group _____

Recorder / Observer(s): _____

If you do not want to do site documentation, give this to someone else who will!!

Where: LOCATION in Forest Park

(Trail Name, Fire lane #, Road...reference points such as 1/4 mile markers, junctions, 200 feet from...
landscape features such as stream, topographic information, remarkable tree...
human alterations such as culvert, power line, cribbing, bench...access points
THINK ABOUT WHAT YOU NEED TO SAY TO FIND IT AGAIN!

WHERE: SITE DESCRIPTION

(Extent of Ivy - [scattered growth, extensive ground cover, Ivy desert, some growth on trees, heavy tree infestation,
mature ivy on trees ready to bloom] - and Other Non-natives - [what species and extent],
native vegetation characteristics, evidence of previous removal, special landscape such as dense understory,
topographic such as steep slopes, or other physical/environmental/ownership features)

WHAT: ACTIONS TAKEN

(How many trees; how many with full lifesavers or partial lifesavers; how much ground pull, for example,
10 feet x 15 feet thick vine ground cover or 10 feet x 20 feet of full vine and root removal or
30 feet x 50 feet of sprouting regrowth; description and quantity of other non-natives removed by species

MONITORING NEEDS AND RECOMMENDATIONS

(For example, return in six months to check regrowth; Ivy growing edge needs monitoring; active restoration
needs such as plant trees for developing shade; need more focus on this heavy infestation because...)

Current Site Document (Short Form)

Site Document

Forest Park Ivy Removal Project

___ Logged
 ___ Databased
 ___ Mapped

Work Done (check box)

☐ Ivy Removal ☐ Trail Repair ☐ Cleanup ☐ Planting ☐ Other (specify) _____

Group Name _____ Date _____

Recorder _____ Starting Time _____ Ending Time _____

Location in Park (trail name, mile markers, landmarks, side of trail landscape features, man made alterations, direction)

Site Description (abundance and diversity of native plants, extent of non-natives, depth of ivy mat) _____

Extent of Ivy* (strike out)

- | | |
|----------------------------------|-----------------------------|
| •Isolated spot | •Initial tree onset |
| •Isolated patch | •Substantial tree growth |
| •Sparse growth | •Severe tree growth |
| •Evenly distributed ground cover | •Extreme mature tree growth |
| •Extensive ground cover | •Layered ground mat |
| •Ivy desert | •Ground mat |
| •Witch's brew | |
| •Intermingled edge | |

Education (interpretive, field studies, service-learning, surveying)

Monitoring Needs and Recommendations (what should we do in the future)

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Plants Planted _____
 Different Species _____
 Number by Species _____

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Full Lifesavers _____
 Lifesaver Completions _____
 Partial Lifesavers _____
 Girdles _____
 (sq.ft) Ground Pull _____

Actions Taken _____

___ Bags of Trash _____
 Actions Taken _____

Specify _____
 Actions Taken _____

* Look in "Categories of Ivy Infestation" packet for definitions

Work Site Inventory Form

Date: _____ Recorded by: _____

Forest Park Ivy Removal Project Work Site Inventory

Specific Location: (trail, firelane, road; marker, landmark, distance from trail, etc.; other distinguishing features or characteristics) _____

Directions:(how to get there from Field Headquarters) _____

Type of Removal Site:

Level 1: direct access, staging area from vehicles, easy terrain

Level 2: nearby access, nearby staging area, moderate terrain

Level 3: requires hike, moderate terrain

Level 4: requires hike, rugged terrain

Extent and Type of Ivy and other Non-Native Plant Invasion:

Potential Hazards:(harmful plants, terrain, needles, traffic if near roadway, park users if bike path, etc.) _____

Points of Interest or Information of Interest:(history, features, resource value, etc.) _____

Removal History:

Special Considerations:

Work Site Monitoring Form

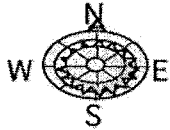
Forest Park Ivy Removal Project

p. 1/2

Monitoring / Evaluation Document

Recorder/Observer(s) _____ Date _____

Group Name _____ General (macro)Area _____



Specific Location

(trail or road name, mile markers, landmarks, accessibility, transportation needs)



Site Description

(natural and man-made features, topography, compass aspect)



Previous FPIRP

Work (observations, records, type of work, and approx. dates)



Recommendations for Further Work

(type of work, urgency, type of work party, further monitoring needs)



Vegetation

(list major natives and invasives, and any unusual observations)

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Distance to nearest parking or Staging Area _____

Difficulty _____

GPS/GIS reading (if known) _____

Habitat Type (check all that apply):

☐ Riparian (streamside)

☐ Deciduous (hardwood) Forest

☐ Conifer (evergreen) Forest

☐ Urban/Forest Edge

☐ Other: _____

*Habit: G = ground

C = climbin

F = fruiting

Test Plots: 11.7 ft. Radius

PLOT #	Native Plants				Invasives (include Ivy!)		Ivy	
	Trees Species	% canopy	Shrubs/Herbs	% cover	Species	% cover	Infestation Type	Habit*
1								
2								
3								
4								
5								

Remarks:

Photo:

Important: Please attach a map of the site!

Among the Project's results are:

- Freed more than 30,000 trees in Forest Park
- Removed ivy from 200+ park acres of groundcover and isolated ivy infestations.
- Developed an apprenticeship-based youth program that has not only empowered high school youth to act as stewards for the environment in their communities, but also allowed them to play a vital role in each stage of the project's development. The 22 summer and winter youth crews have contributed significantly to most, if not all, of the accomplishments listed.
- Developed removal methods and protocol that can be used in Forest Park and applied to other locations as well.
- Coordinated and led 30,000 volunteers for a total of 120,000 hours of volunteer service, and 850 groups for more than 800 group days and in an effort to educate the public about the evils of invasive plants, and to establish a sense of ownership for Forest Park in the community.
- After years of experience with volunteers, we developed a way to match volunteers with appropriate work sites. Variables include: site characteristics (ie. geography), the type of work that needed to be performed at the site as well as group size, age/ maturity, level of experience.
- Developed a system of categories to describe the extent and degree of ivy infestations. This involved the creation of a common language to describe ivy's threat that has been adopted by many organizations.
- Designed a unique system of documentation to record and track both ivy's presence in Forest Park and the progress of our control efforts. The system is complete in that it includes inventory, planning and monitoring elements that help assess work accomplished and recommend future actions.
- Ivy Removal Project was the primary force in the successful movement to list *Hedera helix* L. as a noxious weed in Oregon in 1999. In the following year, further steps were made to quarantine ivy, making it illegal to import, export, wholesale or retail English ivy in Oregon.
- Acted as a model and inspiration to 150+ No Ivy League "Chapters" formed worldwide groups who are combating invasive species within their communities.
- Mobilized thousands of volunteers around the Portland Metro area through the organization and promotion of 2 successful "No Ivy Days".
- Identified seed vectoring as a huge contributor in ivy's spread and set up test plots to document ivy seed germination along urban edges near mature, fruiting ivy.
- In the fall of 2004 started the "Cut your bloomin' ivy" campaign to raise awareness about the threat of ivy seed vectoring from local neighborhoods to natural areas.
- Have partnered with and provided resources for researchers who are seeking to better understand the many aspects of invasive species, especially *Hedera helix*. These researchers have included university academics to high school students to interested community members.
- A total of 2000 worksite records were completed to represent work performed, and to document the extent and nature of ivy's threat within Forest Park. 1,451 site documentations, plus estimation of monitoring/ site inventory docs.
- Over 750,000 people contacted about the problem with ivy through direct outreach and media publicity.