

CLEVELAND METROPARKS Plant Community Assessment Program: Quality Control Form



Project Label:

PCAP

Plot No:

1033

Date Sampled:

07/02/15

Lead:

CKM

Comment required if item answer is NO

Parking/Access outside of Park Boundaries:	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	If yes, write details in Comments section below
Field journals completed	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
Site sketch made on 1:3000 map?	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
Check cover page	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
X-axis Bearing of plot recorded	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
GPS coords. Recorded	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
North direction recorded	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
Photographs taken?	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
Relocated Pins Mapped	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
Plot No., Date agreement on all pages?	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
Header data completed all pages?	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
Cover classes recorded in all Intensive modules	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
Browse Level By Species	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
Woody stem quality control check	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	Check every line and cross check with the Tree Cover Sheet
Invasive plant quality control check	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	NA
Ash trees mapped	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
Completed Forest Pest/Pathogen Datasheet	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
Cover by Strata? (confirm cover type)	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
Soil samples collected with matching plot #.	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	\$
Cross check 2010 information	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	Highlight any changes from 2010 information
Vouchers labeled on datasheet with initials and number	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
Vouchers labeled on collection bag	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
Pink flags removed	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
Data sheet QA before leaving site?	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
Common equipment returned to tub.	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
Data sheets scanned?	yes MB	Enter date to left 7/6/15
Final data sheets scanned?		Enter date to left
Buffer Widths measured?	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
Web Soil Survey	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
Voucher Location	Refrigerator	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N
(# vouchers collected)	Press (#)	Enter number to left
CKM 135	Drier	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N
-140	Identified	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N
	Mounted	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N
	Thrown away	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N

GRTS point verification: Is plot sampleable?

<input type="checkbox"/> Yes	Original GRTS point is sampleable
<input type="checkbox"/> No	Original GRTS point lands in a non-sampleable area (fill in category below)
	<input type="checkbox"/> Point falls in a water (i.e. river, lake)
	<input type="checkbox"/> Managed mowed area (i.e. golf course, picnic area, right-of-way)
	<input type="checkbox"/> Paved area (i.e. parkinglot, road)
	<input type="checkbox"/> Unsafe to sample (i.e. steep slope)
	<input type="checkbox"/> Other

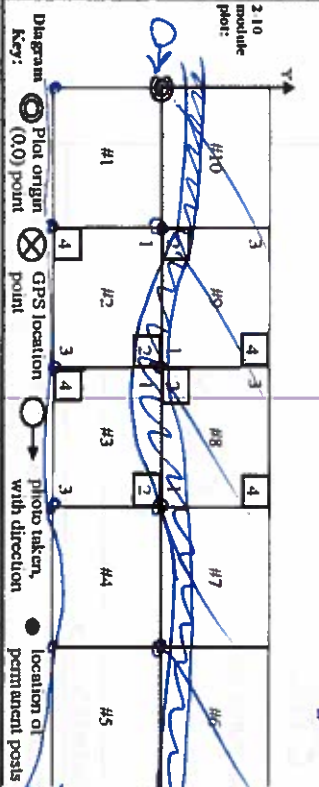
Additional Comments:





2015 Collect Soil

7/1/15 - CKM - Found all stake except 1
x-Axis off by ~90°

GENERAL INFORMATION		LOCATION	
Project Label: PCAP	State: OH County: Lake	Quadrangle: Mayfield Heights	
Project Name: OZNC2015	Local Place Names: Squire's Castle	Landowner: CLE MET	
Plot Name: Gate Keeper's Garden		Data Confidentiality:	
Plot No.: 1033		Check one: <input checked="" type="checkbox"/> Public data <input type="checkbox"/> Private Data	
<input type="checkbox"/> Level 4 (no nested corners sampled)		<input type="checkbox"/> Fuzz 100m <input type="checkbox"/> Fuzz 250m <input type="checkbox"/> Fuzz 500m	
<input checked="" type="checkbox"/> Level 5 (nested corners sampled)		Reason:	
Date (mm/dd/yyyy): 7/2/15		If data not public, why?	
End date (if > 1 day): 1/1		Source of coordinates: <input type="checkbox"/> MAP <input checked="" type="checkbox"/> GPS	
Party: C. Kinney	Role: Plot leader	Coordinate system:	
D. Sweet	Bot Asst.	<input checked="" type="checkbox"/> Lat/Long <input type="checkbox"/> UTM <input type="checkbox"/> StatePlane <input type="checkbox"/> deg <input type="checkbox"/> deg min	
R. Eagle-Malone	Woody Tech	<input type="checkbox"/> Other (specify):	
M. Busam	Woody Tech	Datum: <input checked="" type="checkbox"/> NAD83/WGS84 <input type="checkbox"/> NAD27	
PLOT NOT SAMPLED: <input type="checkbox"/> Other		GPS location in plot (x=0 to 5, y=1,0,+1):	
<input type="checkbox"/> Perm. water <input type="checkbox"/> Paved <input type="checkbox"/> Slope <input type="checkbox"/> Safety		x = 0 y = 0 (base of plot x=0, y=0)	
SAMPLING QUALITY*		Latitude: 41.58021	
Effort Level:	subjective evaluation of how much effort put into sampling. Hurried plots may still provide good data	Longitude: 81.41978	
<input checked="" type="checkbox"/> Very thorough		Coord. Accuracy: <input checked="" type="checkbox"/> m <input type="checkbox"/> ft + .4	
<input type="checkbox"/> Accurate		GPS File Name: 1033A	
<input type="checkbox"/> Hurried		Plot size for cover data: 0.05 (hectares)	
TAXONOMIC ACCURACY		X-axis Bearing of plot: 240	
	high <input type="checkbox"/> modera. <input type="checkbox"/> low <input type="checkbox"/> not simpl	Depth: (1-5): 4	
vascular <input checked="" type="checkbox"/>		Intensive modules: 2,3,8,9,12,3,4 (EDIT IF MODIFIED)	
bryo <input type="checkbox"/>		Camera No.: 4	
lichen <input type="checkbox"/>		Photo Nos.: 24463	
TAXONOMIC STANDARD		Plot placement: <input checked="" type="checkbox"/> GRTS <input type="checkbox"/> Representative	
Authority: G&C Pub Date: 1998		<input type="checkbox"/> Random <input type="checkbox"/> Stratified Random <input type="checkbox"/> Transect component	
		<input type="checkbox"/> Systematic (grid) <input type="checkbox"/> Capture specific feature <input type="checkbox"/> Other	

*Definitions and values in CM PCAP FORM v. 1.0 and CVS Field Guide

Diagram: 

Key:  Plot origin (0,0) point  GPS location point  plot taken with direction  location of permanent posts

NOTES: Include Layout (any unusual shape details), Location (directions and landscape content), Rationale (why here), and Veg Characterization (description of community, dominants, strata, BROWSE). Additional notes in space on back.

Layout: 1x5

Location: Plot is 80 meters southwest of Squire's Castle Parking lot. 20 meters off Apt. upslope.

Rationale: GRTS

Veg Characterization: The canopy is almost exclusively Sugar Maple, Tulip and Beech. Shrub layer is dominated by sugar maple with some lindera. The shrub layer is thick and diverse, dominated by Blue Cohosh, Ramps, Trillium and Ash/Maple seedlings.

Minimum required fields in Bold and Underlined

*Definitions and values in CM PCAP FORM v. 1.0 and CVS Field Guide

OVER

Project Label: _____ PCAP

Project Name: 02 NC2015Plot No.: 1033

Page 2 of 2

MODIFIED NATURESERVE CLASS*

CODE (on separate form):

Fit= _____ Conf= _____

C02

COMMUNITY NAME:

Beech-Maple ForestHOMOGENEITY☐ Homogeneous ☐ Compositional trend across the plot☒ Conspicuous inclusions ☐ Irregular/pattern mosaicDISTURBANCES

type*	severity**	yrs ago	% of plot	description
Human	<u>ML</u>	<u>0</u>	<u>3</u>	<u>Rootleg trail</u>
Natural				
Fire				
Cut				
Animal	<u>L</u>	<u>0</u>	<u>100</u>	<u>Deer Browse</u>
Other				

**L=low, ML=med low, M=med, MH=med high, H=high, VH=very high

Current Land Use: CMP

Former Land Use: _____

HYDROLOGIC REGIME*☒ Upland (seldom flooded)☐ Intermittently/seasonally saturated

(seldom flooded)

☐ Permanently/Semipermanent, saturated

(dry <1/yr, seldom flooded)

☐ Occasionally flooded (<1/yr)☐ Temporarily flooded☐ Intermittently flooded☐ Semipermanently flooded☐ Permanently flooded☐ Tidal/Seiche flooded daily☐ Tidal/Seiche flooded monthly☐ Tidal/Seiche flooded irregular

(e.g. wind, storms)

☐ UnknownSALINITY*☐ Saltwater☐ Brackish☐ Fresh☒ Upland (n/a)

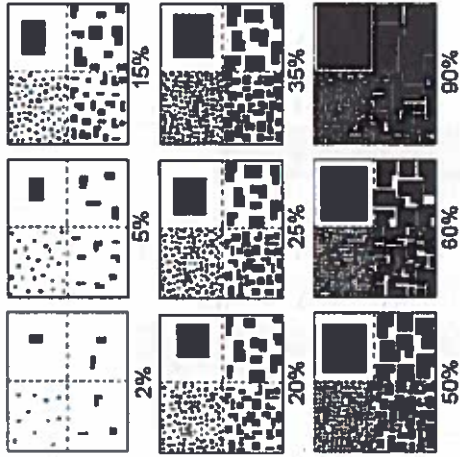
(by default unless plot is a wetland)

Additional notes & diagrams: (Representativeness of plot to the stand, successional status, maturity, etc.)

Plot is located on a slight incline bordered ^{edge} by narrow drainages on either side. The right of center line is bordered by a drainage/small creek. This side ~~of~~ extends into bottom of drainage. The left (center) line runs more along the crest of the small finger-like ridge. Plot is high quality, very rich woodland species, not a lot of graminoids but low browse. Even the Trilliums made it to seed. Low non-native presence.

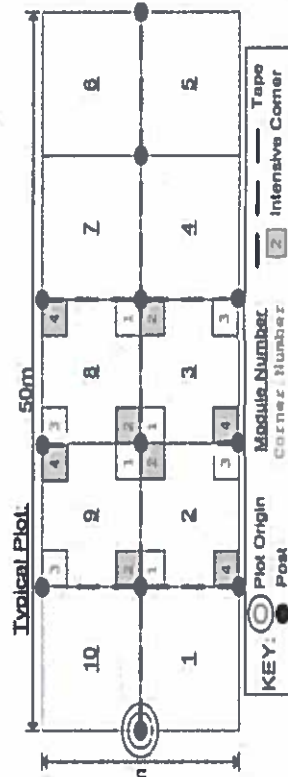
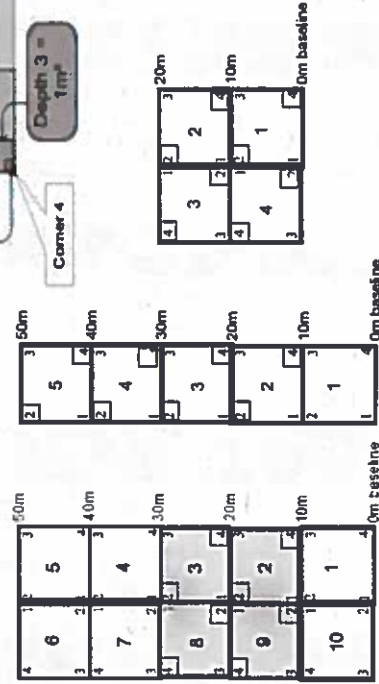
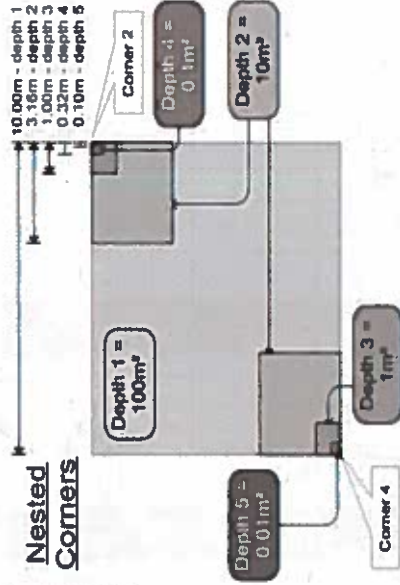
EXAMPLES OF PERCENT OF AREA COVERED

The following graphic can be used for various data elements to convey "Amount" or "Quality". NOTE: Within any given box, each quadrant contains the same total area covered, just different sized objects.



cover class	% cover	midpoint
1	solitary or few	0.0001
2	0-1%	0.005
3	1-2%	0.015
4	2-5%	0.035
5	5-10%	0.075
6	10-25%	0.175
7	25-50%	0.375
8	50-75%	0.625
9	75-95%	0.850
10	95-100%	0.975

Nested Corners



BROWSE RATING NARRATIVE DESCRIPTION

LOW OR NONE: there is no measurable browse line AND there are very few or no plants 1-m nested quadrat and intensive module. In general, low values relate to less than 10 percent, by numbers of stems browsed.

MEDIUM LOW values include evidence of browse at about 10 percent of the stems with no significant impact to plant reproduction evident. In this rating, plants are browsed but preferential species are observed to be reproducing in numbers that appear normal or near-normal in comparison to low browse areas. For example, trilliums may flower and fruit, but jewelweed and arrowwood viburnum exhibit browse.

MEDIUM: browse affects greater than 10 percent and less than 25 percent of stems in the 1 m2 nested quadrat and intensive module. A browse line is usually not evident or obvious for all classes and species of vegetation, but careful examination may show preferential browse and/or browse lines for some species of plants.

MEDIUM HIGH values include evidence of a browse line and 25 percent of stems browsed with very little vegetation regeneration evident. In this rating, for some species of plants, reproduction does not appear to occur or it is very severely limited.

HIGH: greater than 25 percent of the stems of plants in the 1 m2 nested quadrat and intensive module AND a browse line is evident.

VERY HIGH values include extensive browse conditions, where the browse line is very evident AND almost all seedlings and herbs are severely browsed or missing. Browse line may be 5 to 6 feet in height with no or little green growth beneath.

Page 4 of 7

PCAP

Plot no.: 1033

5

Plot configuration: 1 x 5

Plot area (ha): 0.05



Br = Browse Level. Use cover classes to describe amount of browse per species over entire plot

Estimate for each intensive module:

depth	cov	depth
-------	-----	-------

cov	depth	cov
-----	-------	-----

depth	2
cov	2
depth	2

th	col	depth	cc
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9
10	10	10	10
11	11	11	11
12	12	12	12
13	13	13	13
14	14	14	14
15	15	15	15
16	16	16	16
17	17	17	17
18	18	18	18
19	19	19	19
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21	21	21	21
22	22	22	22
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25	25	25	25
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32	32	32	32
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34	34	34	34
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38	38	38	38
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40	40	40	40
41	41	41	41
42	42	42	42
43	43	43	43
44	44	44	44
45	45	45	45
46	46	46	46
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90	90	90	90
91	91	91	91
92	92	92	92
93	93	93	93
94	94	94	94
95	95	95	95
96	96	96	96
97	97	97	97
98	98	98	98
99	99	99	99
100	100	100	100

depth

depth	conv	ph
-------	------	----

1998

Strata - Cov. entire plot

[illegible][illegible]

COLLECTOR

Anterior, smooth
lanceolate, midrib
Jan 11/2011
MC

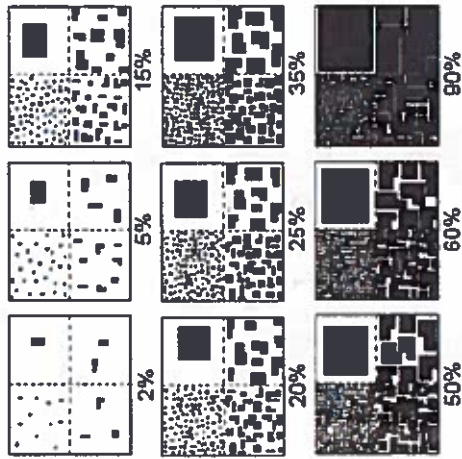
Prep Planting

-Tapers

CHECK NAME _____

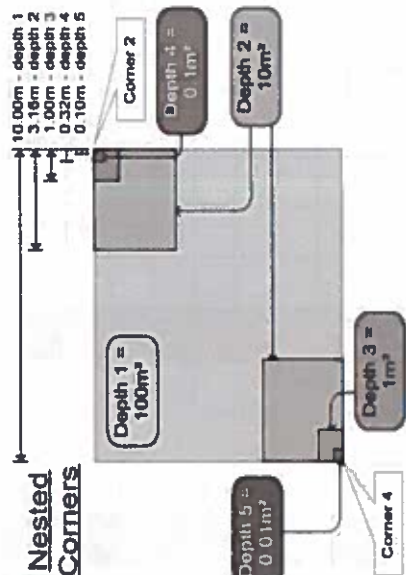
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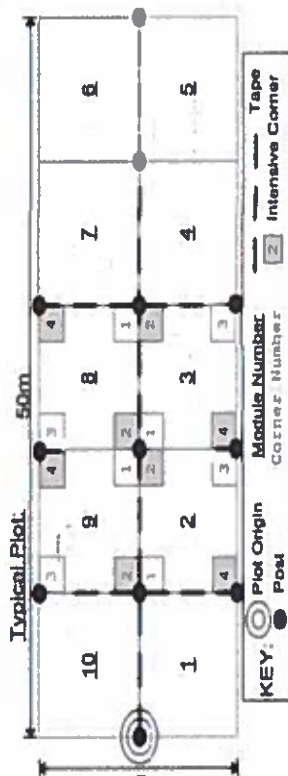
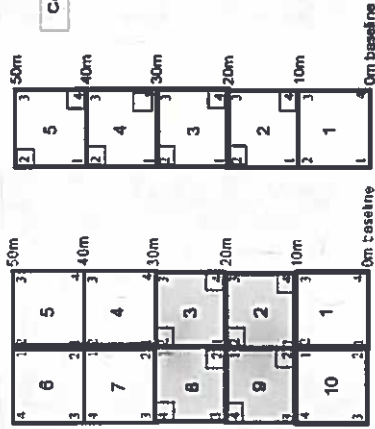
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Project Label: PCAP

Project name: 62NC2c15

Plot no.: 1033

Total modules: 5

Intensive modules: 4 Plot configuration: 1 x 5

Plot area (ha): .05

Cleveland
MetroparksBr = Browse Level. Use cover classes to
describe amount of browse per species over
entire plot

Strata - Cov. entire plot

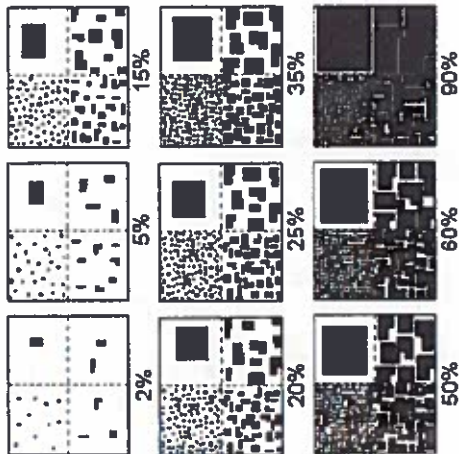
S	H	(F)(A)Br	Species	C	Voucher #	Estimate for each intensive module:				Estimate for each intensive module:				Estimate for each intensive module:				Estimate for each intensive module:			
						%open water	%unvegetated open water	%unveg. ground (bare soil)	%unveg. litter (bare litter)	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner
2			<i>Tiarella cordifolia</i>							1	4	1	2	2	4	2	2	3	4	3	2
2			<i>Hydrophyllum virginianum</i>		526 12-1-15 644 428-429					1				1				1			
2			<i>Quercus sp. (seedling)</i>							1				1				1			
2			<i>Asclepias tuberosa</i>							1				1				1			
2			<i>Circaea lythang</i>																		
1			<i>Liriodendron tulipifera</i>																		
1			<i>Maianthemum racemosum</i>																		
2			<i>Impatiens pallida</i>																		
2			<i>Cornus alternifolia</i>																		
2			<i>Ranunculus hispidus</i>																		
1			<i>Bidens sp.</i>		644 490-493																
1			<i>Fern Dryopteris intermedia</i>																		
2			<i>Vicia hirsuta</i>																		
1			<i>Ulmus rubra</i>																		
1			<i>Juglans nigra</i>																		
1			<i>Castanus carolinianum</i>																		
2			<i>Acer rubrum</i>																		

not as frequent

prob
virginian

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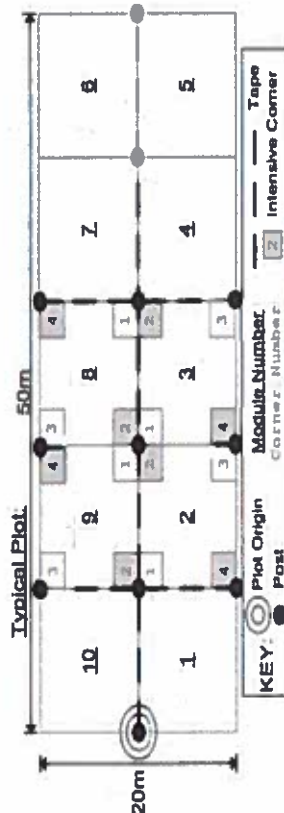
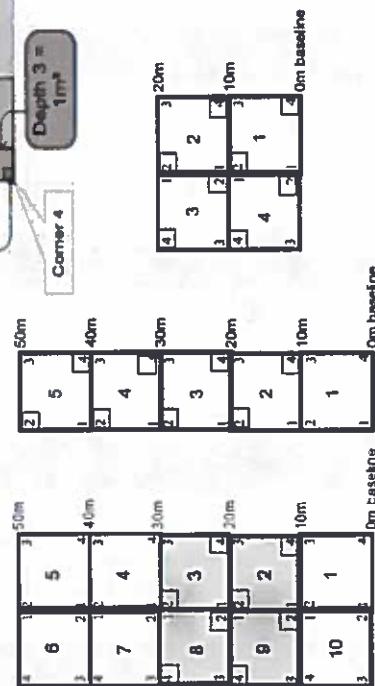
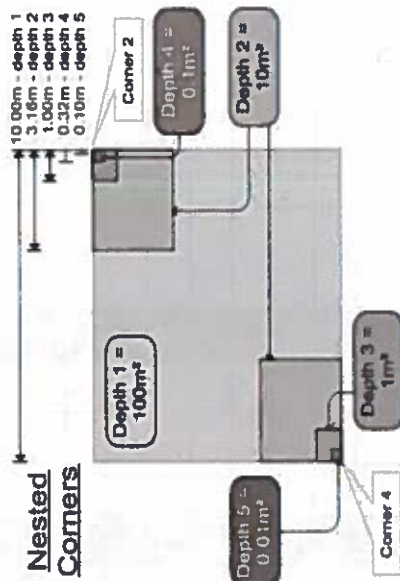
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Page 1 of 1

Project name: 02 NC 2015 Plot no.: 1033

[illegible]

[illegible]

CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet

Project Label: PCAP

Project Name: 02N205

Plot No.: 1033

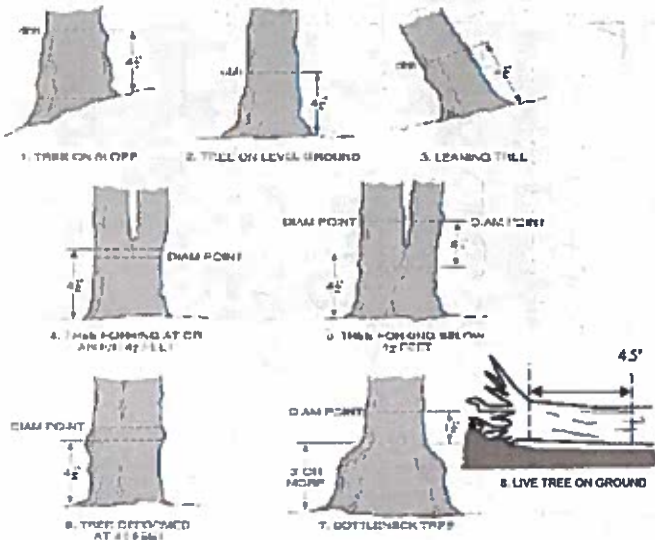
Page: 1 of 2



Explain subsample (additional room on back):

mod #	species	c	voucher#	# stems 0-1.4m browsed	% sub or super sample	# shrub clumps	size class (cm) woody stems > 1.4m												11
							1	2	3	4	5	6	7	8	9	10			
							0-1	1-2.5	2.5-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40			>40 (record each tree)
1	Lindera benzoin			2		2		2	2										
1	Acer saccharum																		
1	STANDING DEAD																		
1	Quercus coccinea																		40.4
2	Acer rubrum																		
2	Acer saccharum																		
2	STANDING DEAD																		
2	Fraxinus americana			1															
2	Fraxinus americana			4															85.5, 42.1
2	Fraxinus americana			1															
2	Lindera benzoin			1															82.5, 86.5
3	Liriodendron tulipifera																		
3	Fraxinus americana																		
3	Acer rubrum																		
3	STANDING DEAD																		
3	Fraxinus americana			1															
3	Acer saccharum			1															
3	Lindera benzoin			1															
4	Acer saccharum																		
4	Fraxinus americana																		43.2, 57.7
4	Lindera benzoin			3															
4	STANDING DEAD																		
5	STANDING DEAD																		
5	Acer saccharum																		

DBH Measurement Rules



Woody Stem Deer Browse

Record the number of stems/plants between 0.5-1.0 meters tall that exhibit evidence of this years deer browse.

Record using the tally system from 1 to 10



1



2



3



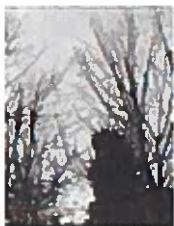
4



5

ASH CANOPY CONDITION

- 1. Healthy, full canopy:** A healthy ash canopy is normally thinner than many other trees such as maple.
- 2. Thinning canopy:** There aren't as many leaves as there ought to be, but all top branches exposed to sunlight have leaves.
- 3. Dieback:** Canopy is thinning and some top branches exposed to sunlight are dead (have no leaves). Lower branches, not exposed to sunlight, die naturally and are not considered.
- 4. >50% Dieback:** The canopy has less than half of the leaves that should be there and/or half of the top branches are dead.
- 5. Dead canopy:** No leaves remain in the canopy portion of the tree. It still counts as a 5 even if there are epicormic sprouts below the canopy (lowest branch) on the trunk.



A

B

C

D

E

ASH CANOPY BREAKUP CONDITION (for dead trees):

(If an ash receives a score of 5 (dead) under canopy condition it must also receive a breakup condition rank as described below)

- A:** All main branches contain fine twigs (newly dead).
- B:** Over 50% of main branches have fine twigs.
- C:** Less than 50% of main branches have fine twigs.
- D:** Stem still standing and tertiary main branches present.
- E:** Central stem still standing.

Cleveland Metropolitan

Plot No.: 1033

of



1

[illegible]

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DBH Measurement Rules

1. TREE ON A SLOPE
2. TREE ON LEVEL GROUND
3. LEAVING HILL
4. TREE REMOVED AT CM
5. TREE REMOVED AT 45°
6. LIVE TREE ON GROUND
7. BOTTOM BRANCH TRAP
8. LIVE TREE ON GROUND
9. LIVE TREE ON GROUND
10. LIVE TREE ON GROUND

Woody Stem Deer Browse

Record the number of stems/plants between 0.5-1.0 meters tall that exhibit evidence of this year's deer browse.

Record using the tally system from 1 to 10

Tree ID.	Species	Dead	Voucher #	DBH (cm)	Hi @ DBH	Ash condition	Dead condition	# Ext holes	Epicormic present	Woodpecker holes
1	NO FRAXINUS / ASH									
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										

ASH ONLY



*** Change intensive module numbers when necessary

Baseline	
9	8
2	3

Map all ash trees ≥ 10cm in each module using Tree ID number

* If Ash Condition scores 5 (dead) provide breakup score (A-E)
 Count EAB exit holes 1.25m x 21.5m
 Woodpecker and epicormic marked present (1) or absent (0)

CLEVELAND METROPARKS Plant Community Assessment Program: Invasive Species Survey



Tier 1: Early detection/ Rapid response		Presence				GPS
		NE	SE	SW	NW	
Microstegium vimineum	Japanese stiltgrass					
Ranunculus ficaria	Lesser Celandine					
Cynanchum louiseae (vine)	Black Swallow-wort					
Butomus umbellatus (wetland)	Flowering Rush					
Heracleum mantegazzianum	Giant Hogweed					
Tier 2: Assess as Needed		# of Plants				comments
		NE	SE	SW	NW	
Acer platanoides	Norway Maple					
Ailanthus altissima	Tree of Heaven					
Lonicera japonica (vine)	Japanese Honeysuckle					
Lythrum salicaria (wetland)	Purple Loosestrife					
Aegopodium podagraria (G-cover)	Bishop's Goutweed					
Celastrus orbiculatus (vine)	Asian Bittersweet					
Torilis sp.	Hedgeparsley					
Conium maculatum	Poison Hemlock					
Rhamnus cathartica	Common Buckthorn (shrub)					
Berberis thunbergii	Japanese Barberry (shrub)					
Alnus glutinosa	European Alder					
Dipsacus laciniatus	Cut-leaf Teasel					
Elaeagnus umbellata	Autumn Olive (shrub)					
Lonicera maackii	Amur Honeysuckle (shrub)					
Euonymus fortunei	Wintercreeper					
Tier 3: Presence is of Interest		# of Plants				comments
		NE	SE	SW	NW	
Convallaria majalis (G-cover)	Lily of the Valley					
Coronilla varia (G-cover)	Crown Vetch					
Eleutherococcus pentaphyllus	Five-leaf Aralia (shrub)					
Pachysandra terminalis (G-cover)	Japanese Pachysandra					
Philadelphus coronarius	Mock Orange (shrub)					
Pulmonaria officinalis (G-cover)	Lungwort					
Rubus phoenicolasius	Wineberry					
Iris pseudacorus (wetland)	Yellow Flag Iris					
Ornithogalum umbellatum	Star of Bethlehem					
Viburnum opulus var. opulus	European Cranberry (shrub)					
Viburnum plicatum	Doublefile Viburnum (shrub)					
Tier 4: Widespread and abundant		Presence				comments
		NE	SE	SW	NW	
Alliaria petiolata	Garlic Mustard					
Ligustrum vulgare	Common Privet (shrub)					
L. morrowii, L. tatarica	Bush Honeysuckles (shrub)					
Phalaris arundinacea	Reed Canarygrass					
Phragmites australis (wetland)	Phragmites					
Polygonum cuspidatum	Japanese Knotweed					
Frangula alnus	Glossy Buckthorn (shrub)					
Rosa multiflora	Multiflora Rose (shrub)					
Typha angustifolia, T. x. glauca	Cattails (wetland)					
Cirsium arvense	Canada thistle					
Dipsacus fullonum	Common Teasel					
Hesperis matronalis	Dame's Rocket					
Vinca minor (G-cover)	Periwinkle					

Presence
X: yes

of Plants
1: 1-10
2: 11-50.
3: 51-100
4: 101-1,000
5: >1,000

of Plants
1: 1-10
2: 11-50.
3: 51-100
4: 101-1,000
5: >1,000

of Plants
1: 1-10
2: 11-50.
3: 51-100
4: 101-1,000
5: >1,000

Note: For Ground-cover plants record "stem #" but in comment field describe # of colonies and patch size (S,M, L)

CLEVELAND METROPARKS Plant Community Assessment Program Forest Pest and Pathogens Data Sheet

Project Label: PCAP

Project Name: DMK2015

Plot No.: 1033

Page: 1 of 1



mod #	species	voucher#	# shrub clumps	size class (cm) woody stems > 1m										
				1 0-<1	2 1-<2.5	3 2.5-<5	4 5-<10	5 10 - <15	6 15 - <20	7 20 - <25	8 25 - <30	9 30 - <35	10 35 - <40	11 >40 (record each tree)
1														
2	<i>Fagus grandifolia</i>			•	•			•						
3	<i>Fagus grandifolia</i>													
4	<i>Fagus grandifolia</i>													432.5 ft.
5														
6														
7														
8														
9														
10														

* IF EVIDENCE OF PEST OR PATHOGEN RECORD TOTAL SPECIES POPULATION IN THE PLOT EVEN THE NOT INFECTED

Strata	# of stem infected	Severity (H, M, or L)
Tree (size class 3 or above)	1	L
Shrub (size class 2 or below including shrub clumps)	1	M

* Write None Present if no evidence:

Beech (Fungus)	Asian Longhorned Beetle
Hemlock (HWA)	Other Pest or Pathogen
Walnut (Thousand Canker)	

Severity

High = more than 50% of leaf/needle cover exhibiting symptoms

Medium = Less than 50% of leaf/needle cover exhibiting symptoms

Low = Only a few leaves or branches are exhibiting symptoms

CLEVELAND METROPARKS Plant Community Assessment Program Forest Pest and Pathogens Data Sheet

1/21/2015

Project Label: PCAP Project Name: 02N12015 Plot No: 1033 Page: 1 of 1

Explain subsample (additional room on back):

mod #	species	voucher#	% sub or super sample	# shrub clumps	size class (cm) woody stems >1m										
					1 0-1	2 1-2.5	3 2.5-4.5	4 4.5-10	5 10-15	6 15-20	7 20-25	8 25-30	9 30-35	10 35-40	11 >40 (record each tree)
1	None														
2	Fraxinus grandifolia														
3	Fraxinus grandifolia														
4	Fraxinus grandifolia														
5	None														
6															
7															
8															
9															
10															

Beech disease seems to start on lower branches

mod herb-L shrub-L

Strata	Total % Cover
Tree	100
Shrub	100
Herbaceous	90

* Write None Present if no evidence:			
-Beech (Fungus)	-Asian Longhorned Beetle		
-Hemlock (HWA)	-Other Forest Pest or Pathogen		
-Walnut (Thousand Canker)			

Low
medium
medium

4-T-M,L

3-T-L, S-M,H H-M

2-T-L,M,L,L S-M,M,H,L H-M

5-T 3-M 1-N 4-L

STANDING BIOMASS (required for emergent wetland) collected in 0.1m clip plots (32x32 cm) from corners 1 and 3 in each intensive module. Required for VIBI-E score calculation. C7=check when collected

Module #	C7	Corner	Corner

CLASSIFICATION

DTT = dominant, F = Foliage and Confidence

Hydrogeomorphic class (WETLANDS ONLY):

<input type="checkbox"/> DEPRESSION	Fit=	Conf=
<input type="checkbox"/> IMPOUNDMENT	Fit=	Conf=
<input type="checkbox"/> RIVERINE	Fit=	Conf=
<input type="checkbox"/> SLOPE (ground water hydrology or on a physical slope)	Fit=	Conf=
<input type="checkbox"/> FRINGING	Fit=	Conf=
<input type="checkbox"/> COASTAL (specify subclass)	Fit=	Conf=
<input type="checkbox"/> BOG (terrestrial, moderately, wetland, ombrotrophic)	Fit=	Conf=

Other EPA VIBI Plant Community Class (WETLANDS ONLY):

<input type="checkbox"/> FOREST	Fit=	Conf=
<input type="checkbox"/> SWAMP	Fit=	Conf=
<input type="checkbox"/> EMERGENT	Fit=	Conf=
<input type="checkbox"/> SHRUB	Fit=	Conf=

MICROTOPOGRAPHIC FEATURE COUNTS - Intensive modules only

Rules for microhabitat features. Select one or select two and average the score. (NOTE: If mod falls on a slope automatically gets ranked based on steepness (1-3) to begin - any features present slope 1 = slight elevational grade across module (m) Slope 2 = falls on slope -20° Slope 3 = maximum steepness that can be safely sampled -45°

- 0 feature is absent or functionally absent from the wetland
- 3 feature is present in the wetland in very small amounts or if more common, of low quality
- 7 feature is present in moderate amounts, but not of highest quality, or in small amounts of highest quality
- 10 feature is present in moderate or greater amounts and of highest quality

mod#	corner	C.W.D. - count for pieces with minimum 1m length					
		no. of tussocks	no. of hummocks (Tip-Up)	no. micro. depressions	C.W.D. (2-12 cm)	C.W.D. (12-40 cm)	C.W.D. >40 cm
		depth 3 1x1m	depth 2 3.16x3.16m	depth 1 10x10m	depth 1 10x10m	depth 1 10x10m	depth 1 10x10m
1		0	0	0	0	0	0
2		0	0	0	0	0	0
3		0	0	0	0	0	0
4		0	0	0	0	0	0
5		0	0	0	0	0	0
6		0	0	0	0	0	0
7		0	0	0	0	0	0
8		0	0	0	0	0	0
9		0	0	0	0	0	0
10		0	0	0	0	0	0

NOTE: tussock and hummocks are counted in BOTH nested quadrat corners but counts are aggregated.

MENAB INDICES (degrees) + for up - for down

FILLED OUT USING GIS PROGRAM - DO NOT FILL OUT IN FIELD

Aspect	N	NE	E	SE	S	SW	W	NW
45 degrees								
90 degrees								
135 degrees								
180 degrees								
225 degrees								
270 degrees								
315 degrees								

Landform Index (position within landscape)
Terrain Shape Index (see microtopographic shape)

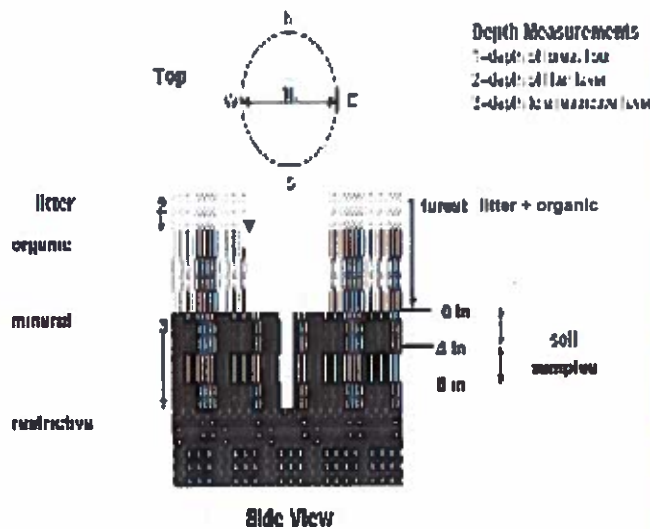
CROWN COVER (DENSIMETER): Module 1 readings per module facing N, S, E, W. Place dot count in corresponding space. (4 dots per grid square)

Module	N	S	E	W
1	1	1	1	1
2	1	1	1	1
3	1	1	1	1
4	1	1	1	1
5	1	1	1	1
6	1	1	1	1
7	1	1	1	1
8	1	1	1	1
9	1	1	1	1
10	1	1	1	1

COVER BY STRATA

STRATUM	GENERAL FORM
Tree (generally >5 m)	Tree (overstory), very tall shrubs*, liana, epiphyte)
Shrub (generally 0.5 to 5 m)	Tree (sapling), shrub, liana, epiphyte)
Herb (Field)	Herb, dwarf-shrub**, tree (seedling***)
Floating	Floating
Aquatic (submerged)	Submerged

*Very tall shrubs are sometimes included in the tree stratum
 **Can also include seedlings of shrubs, i.e. all shrubs <0.5m
 ***Tree seedlings are often defined as up to 1.4 m height or as <2.5 cm DBH in which case they would span the herb and shrub layers.



SOIL PIT DESCRIPTION: Excavate 20 cm plug with shovel. Describe using Munsell chart, visual exam, texture, and odor

SOIL SAMPLES Standard procedure: collect a soil sample of the top 10 cm of soil from center of each intensive module and composite the sample

Soil pit module # _____ (one per entire plot)

5 cm	matrix color	
	moist color	
	%mottle	
	oxid roots	Y N
	texture*	
	redox features**	Y N
	hydr. cond.***	I S M D
20 cm	matrix color	
	moist color	
	%mottle	
	oxid roots	Y N
	texture*	
	redox features**	Y N
	hydr. cond.***	I S M D

Soil Collection Module/Horizon (A, B, C)	A
2.3.8.9 compoiled	
What Soil Survey Information:	
Soil Series Type:	
Soil Series Source: Ohio Soil Survey	
Landform type:	
Depth to root layer:	
Parent Material:	
DRAINAGE*	
<input type="checkbox"/> Excessively dr. <input type="checkbox"/> Somewhat excessively <input type="checkbox"/> Well drained <input type="checkbox"/> Moderately well dr. <input type="checkbox"/> Somewhat poorly dr. <input type="checkbox"/> Very poorly dr. <input type="checkbox"/> Impermeable surface	

SOIL DEPTH MEASUREMENT: Measure to the nearest 0.1 cm in center of intensive modules. If >30.5 cm, record as >30

mod#	1 litter+ organic depth (cm)	2 litter depth (cm)	water depth (cm)	depth sat soil (cm)
1	2.0	0.7	-	-
2	8.1	0.4	-	-
3	1.4	0.5	-	-
4	2.1	0.7	-	-

EARTH SURFACE & GROUND COVER			
Underlying Earth Surface*	Ground Cover		
(Sum = 100%)	percent	(least ≤ 100%)	percent
Histocel	0	Coarse Woody Debris***	5
Mineral Soil	100	Fine Woody Debris****	3
Gravel-Cobble*	0	Litter	46
Boulder**	0	Duff (Ferm. + Humus)	22
Bedrock	0	Bryophyte Lichen	20
* Gravel-Cobble = 1/16-10"		Water	
** Boulder = > 10 in		Bare Soil	1
*** > 5 cm in diameter		Road/Trail	3
**** < 5 cm in diameter		Other	0

TRAIL INFORMATION:	
record type and cover for each	
Type	%Cover
<input type="checkbox"/> All Purpose	
<input type="checkbox"/> Bridle	
<input type="checkbox"/> Hiking sanctioned	
<input checked="" type="checkbox"/> Boodleg unsanctioned	3
<input type="checkbox"/> Gravel	
<input type="checkbox"/> Dirt	

COVER BY STRATA
 estimate using midpoints of 5, ex:3, 8, 13

Strata	Height Range (m)	Total Cover (%)
Tree	5-9	93
Shrub	0.5-5	43
Herb	0-0.5	58
(Floating)*		
(Aquatic)*		

* rooted and floating or slightly emerged
 ** submerged, most plant mass below surface

SEE BACK OF PAGE FOR TYPICAL STRATA DESCRIPTIONS. STRATA CAN VARY BY COVER TYPE.

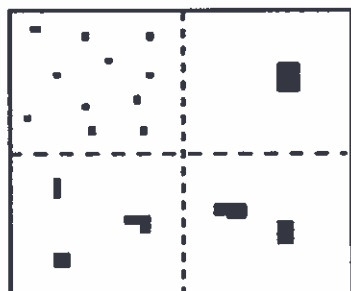
STAND SIZE

- ☐ >600 x plot size
- ☐ > 100 x plot size
- ☒ 10-100 x plot size
- ☐ 3-10 x plot size
- ☐ 1-3 x plot size
- ☐ < plot size

1 - NO worms/ castings
 2 - NO castings/ worms
 3 - NO worms/ castings
 4 - NO worms/ castings

PERCENT MOTTLES (USE CLASS CODES):

Class	Conv.	Code NASIS	Criteria: % of Surface Area Covered
Few	f	#	< 2
Common	c	#	2 to < 20
Many	m	#	≥ 20



2%



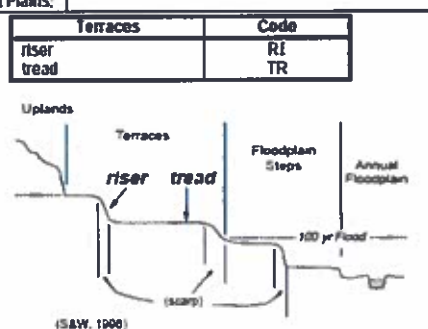
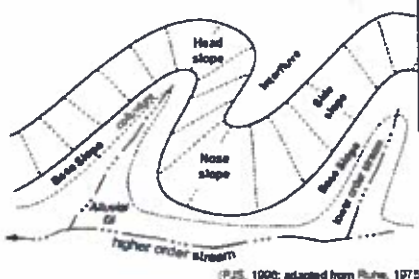
20%

SOIL TEXTURE: Record the code for the soil texture of the 5 cm and 20 cm layers. To estimate texture, collect a soil sample from the appropriate layer and moisten it with water to the consistency of modeling clay/wet newspaper; the sample should be wet enough that all of the particles are saturated but excess water does not freely flow from the sample when squeezed. Attempt to roll the sample into a ball. If the soil will not stay in a ball and has a grainy texture, the texture is either sandy or coarse sandy. If the soil does form a ball, squeeze the sample between your fingers and attempt to form a self-supporting ribbon. Samples which form both a ball and a ribbon should be coded as clayey; samples which form a ball but not a ribbon should be coded as loamy.

- 0= Organic
- 1= Loamy
- 2= Clayey
- 3= Sandy
- 4= Coarse Sand
- 9= Not measured - make plot note

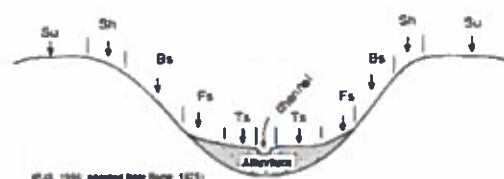
Geomorphic Component - Three-dimensional descriptors of parts of landforms or microfeatures that are best applied to areas. Unique descriptors are available for Hills, Terraces, Mountains, and Flat Plains; e.g., (for Hills) *nose slope* or *NS*.

Hills	Code PDP	NASIS
interfluvial	IF	IF
head slope	HS	HS
nose slope	NS	NS
side slope	SS	SS
base slope	---	BS



Hillslope - Profile Position (Hillslope Position in PDP) - Two-dimensional descriptors of parts of line segments (i.e., slope position) along a transect that runs up and down the slope; e.g., *backslope* or *BS*. This is best applied to transects or points, not areas.

Position	Code
summit	SU
shoulder	SH
backslope	BS
footslope	FS
toeslope	TS



HYDROLOGIC REGIME Modified from Grossman et al 1998. (Frequency and duration of flooding.)

UPLAND: Not a wetland. Very rarely flooded.

INTERMITTENTLY/SEASONALLY SATURATED: Dry at least once per year. Surface water is seldom present, but substrate is saturated to surface for extended periods during the growing season.

PERMANENTLY/SEMI-PERMANENTLY SATURATED: Dry less than once per year. Surface water is seldom present, but substrate is saturated to surface for extended periods during the growing season. Equivalent to Cowardin's Saturated modifier.

OCCASIONALLY FLOODED: Surface water can be present for brief periods during growing season, but not in most years. Often characterizes flood-plain upper terraces.

TEMPORARILY FLOODED: Surface water present for brief periods during growing season, but water table usually lies well below soil surface. Often characterizes flood-plain levees and lower terraces. Equivalent to Cowardin's Temporary modifier.

INTERMITTENTLY FLOODED: Substrate is usually exposed, but surface water can be present for variable periods without detectable seasonal periodicity. Inundation is not predictable to a given season and is dependent upon highly localized rain storms. This modifier was developed for use in the arid West for water regimes of Playa lakes, intermittent streams, and dry washes but can be used in other parts of the U.S. where appropriate. This modifier can be applied to both wetland and non-wetland situations. Equivalent to Cowardin's Intermittently Flooded modifier.

SEMI-PERMANENTLY FLOODED (exposed <1/year): Surface water persists throughout the growing season in most years. Land surface is normally saturated when water level drops below soil surface. Includes Cowardin's Intermittently Exposed and Semipermanently Flooded modifiers.

PERMANENTLY FLOODED: Water covers the land surface at all times of the year in all years. Equivalent to Cowardin's "permanently flooded".

UNKNOWN: The hydrologic regime cannot be determined from the available information.