

CLEVELAND METROPARKS Plant Community Assessment Program: Quality Control Form



Project Label:

PCAP

Plot No:

3377

Date Sampled:

8/27/15

Lead:

CKM

Comment required if item answer is NO

Parking/Access outside of Park Boundaries:	<input checked="" type="radio"/> Y	<input type="radio"/> N	If yes, write details in Comments section below
Field journals completed	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Site sketch made on 1:3000 map?	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Check cover page	<input checked="" type="radio"/> Y	<input type="radio"/> N	
X-axis Bearing of plot recorded	<input checked="" type="radio"/> Y	<input type="radio"/> N	
GPS coords. Recorded	<input checked="" type="radio"/> Y	<input type="radio"/> N	
North direction recorded	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Photographs taken?	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Relocated Pins Mapped	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Plot No., Date agreement on all pages?	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Header data completed all pages?	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Cover classes recorded in all Intensive modules	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Browse Level By Species	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Woody stem quality control check	<input checked="" type="radio"/> Y	<input type="radio"/> N	Check every line and cross check with the Tree Cover Sheet
Invasive plant quality control check	<input type="radio"/> Y	<input type="radio"/> N	NA
Ash trees mapped	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Completed Forest Pest/Pathogen Datasheet	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Cover by Strata? (confirm cover type)	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Soil samples collected with matching plot #.	<input type="radio"/> Y	<input type="radio"/> N	NA
Cross check 2010 information	<input checked="" type="radio"/> Y	<input type="radio"/> N	Highlight any changes from 2010 information
Vouchers labeled on datasheet with initials and number	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Vouchers labeled on collection bag	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Pink flags removed	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Data sheet QA before leaving site?	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Common equipment returned to tub.	<input type="radio"/> Y	<input type="radio"/> N	
Data sheets scanned?			Enter date to left
Final data sheets scanned?			Enter date to left
Buffer Widths measured?	<input type="radio"/> Y	<input type="radio"/> N	
Web Soil Survey	<input type="radio"/> Y	<input type="radio"/> N	
Voucher Location	Refrigerator	<input type="radio"/> Y	<input type="radio"/> N
(# vouchers collected)	Press (#)		Enter number to left
VOUCHERS CKM 436- 439	Drier	<input type="radio"/> Y	<input type="radio"/> N
	Identified	<input type="radio"/> Y	<input type="radio"/> N
	Mounted	<input type="radio"/> Y	<input type="radio"/> N
	Thrown away	<input type="radio"/> Y	<input type="radio"/> N

GRTS point verification: Is plot sampleable?	
<input type="checkbox"/> Yes	Original GRIS point is sampleable
<input type="checkbox"/> No	Original GRIS 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:

Pins found - 0m Left, 10m middle, 0m + 10m right

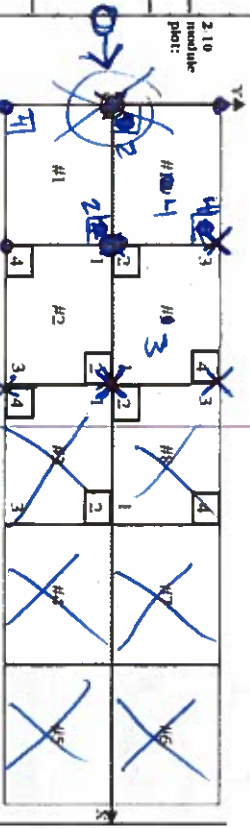
CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet

GENERAL INFORMATION			
Project Label: PCAP			
Project Name: 02562015			
Plot Name: <u>Lost in the Wingstem</u>			
Plot No.: 3377			
<input type="checkbox"/> Level 4 (no nested corners sampled)			
<input checked="" type="checkbox"/> Level 5 (nested corners sampled)			
Date (mm/dd/yyyy): 8/27/2015			
End date (if > 1 day): / /			
Party: C. Minney	Plot leader		
D. Sweet	Bot. Asst.		
M. Getagay	Woody Tech		
T. Cochran	Woody Tech		
* Roles: Co-leader, Asst. Guide, Owner, Taxonomist, etc.			
PLOT NOT SAMPLED: <input type="checkbox"/> Other			
<input type="checkbox"/> Perm. water <input type="checkbox"/> Paved <input type="checkbox"/> Slope <input type="checkbox"/> Safety			
SAMPLING QUALITY*			
Effort Level: <input checked="" type="checkbox"/> Very thorough	subjective evaluation of how much effort put into sampling. Hurried plots may still provide good data		
<input type="checkbox"/> Accurate			
<input type="checkbox"/> Hurried			
TAXONOMIC ACCURACY			
<input type="checkbox"/> high	<input type="checkbox"/> modera.	<input type="checkbox"/> low	<input type="checkbox"/> not smpl
<input checked="" type="checkbox"/> vascul.			n/a
<input type="checkbox"/> bryo			
<input type="checkbox"/> lichen			
TAXONOMIC STANDARD			
Authority: G&C	Pub Date: 1998		
Minimum required fields in Bold and Underlined			

LOCATION	
State: OH	County: Cuyahoga
Quadrangle: Chagrin Falls	
Local Place Names: <u>Winding River Trail cul-de-sac</u>	
Landowner: CMP	
Data Confidentiality: <input checked="" type="checkbox"/> Public data <input type="checkbox"/> Private Data	
Check one: <input checked="" type="checkbox"/> Fuzz 100m <input type="checkbox"/> Fuzz 250m <input type="checkbox"/> Fuzz 500m	
Reason: <input type="checkbox"/> If data not public why?	
Source of coordinates: <input type="checkbox"/> MAP <input checked="" type="checkbox"/> GPS	
Coordinate system: <input type="checkbox"/> UTM <input type="checkbox"/> StaticPlane <input type="checkbox"/> deg <input type="checkbox"/> deg min	
<input type="checkbox"/> Other (specify):	
Datum: <input checked="" type="checkbox"/> NAD83/WGS84 <input type="checkbox"/> NAD27	
GPS location in plot x=0 to 5, y=-1.0, +1):	
x = 0 y = 0 (base of plot x=0, y=0)	
Latitude: 41.41826	
Longitude: 81.40450	
Coord. Accuracy: <input checked="" type="checkbox"/> m <input type="checkbox"/> ft	
GPS File Name: 3377A	
Plot size for cover data: .04 (hectares)	
X-axis Bearing of plot: 204°	
Depth: (1-5): 4	
Intensive modules: 2, 3, 8, 9, 1, 2, 3, 4	
Camera No.: 4	
Photo Nos.: C4B96	
Plot placement: <input checked="" type="checkbox"/> GRTS <input type="checkbox"/> Representative	
<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 CMI PCAP FOM v. 1.0 and CVS Field Guide

OVER



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: 2X2

Location: Park at the cul-de-sac on Winding River Trail (a road not a trail). Walk between houses to reach river. Plot is ~200m south and slightly east of cul-de-sac.

Rationale: GRTS

Veg Characterization: Canopy is dominated by Sycamore, Walnut, and Black Locust. The herb layer is dominated by Vitis, Multiflora rose and hickory. The herb layer is dominated by Wingstem, Ostrich Fern and Anagadidum.

CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet

Project Label: _____

PCAP _____

Project Name: 025C2015

Plot No.: 3377

Cleveland Metropolitan

Page 2 of 2

MODIFIED NATURESERVE CLASS*

CODE (on separate form):

L01

Fit= _____ Conf= _____

COMMUNITY NAME:

Mesic Floodplain Forest

HOMOGENEITY

☒ Homogeneous
☐ Compositional trend across the plot

☐ Conspicuous inclusions
☐ Irregular/pattern mosaic

DISTURBANCES

type*	severity**	yrs ago	% of plot	description
Human	L	1+	4	Small amount of trash
Natural				
Fire				
Cut				
Animal	ML	0	100	Deer Browse
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 flooded

☐ Intermittently/seasonally saturated (seldom flooded)
☐ Semipermanently flooded

☐ Permanently/Semipermanent. saturated (dry <1/yr. seldom flooded)
☐ Permanently flooded

☐ Occasionally flooded (<1/yr)
☐ Tidal/Seiche flooded daily

☒ Temporarily flooded
☐ Tidal/Seiche flooded monthly

☐ Unknown
☐ Tidal/Seiche flooded irregular (e.g. wind, storms)

SALINITY*

☐ 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.)

The stand is sparse and un-even aged. Plot was full of wingstem that grew overhead. Aegopodium dominated the foot level. One large Black Walnut fell in the plot on top of a pin. A really uninteresting plot. Some pins found some buried deep with a fair amount of confusing metal detecting activity.

1bCM PCAP Background Data Sheet Page 2_ver 2.xls last revised 5/29/2012 ceh

Natural Resources Management FORM NR/2010-01b

PCAP

Plot no: 3377

5

Intensive modules: 4 Plot configuration: 2x2

Plot area (ha): .04



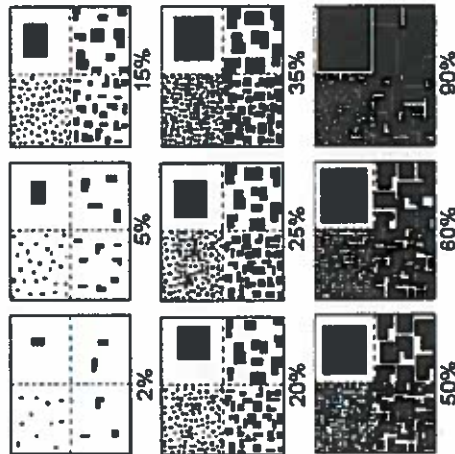
Br = Browse Level. Use cover classes to describe amount of browse per species over entire plot

Strata - Cov. entire plot

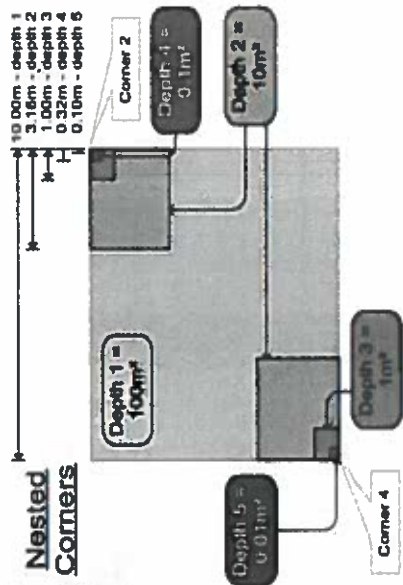
SRE_CM PCAP Species Cover Data.xls last revised 6/10/2015 jim

EXAMPLES OF PERCENT OF AREA COVERED

The following graphic can be used for various data elements in canopy "Percent" or "Density". 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



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.

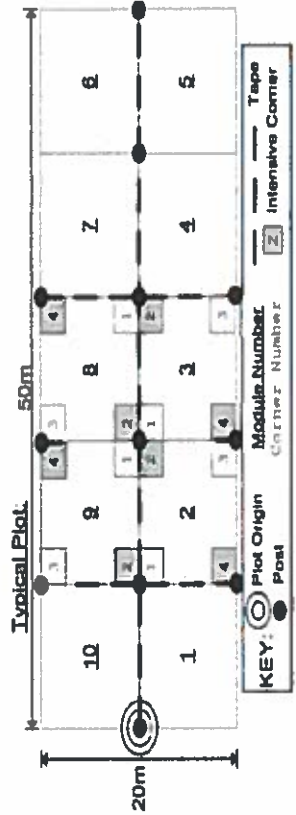
MEDIUM LOW values include evidence of browse at about 10 percent of the stems with no significant impact to plant reproduction evident. In this rating, plants are browsed but preferential species are observed to be reproducing in numbers that appear normal or near-normal in comparison to low browse areas.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



CLEVELAND METROPARKS Plant Community Assessment Program Species Cover Data Sheet

Project Label: PCAP Project name: 0852015 Plot no.: 3374
 Total modules: 4 Intensive modules: 4 Plot configuration: 2x2 Plot area (ha): .04



Cleveland Metroparks

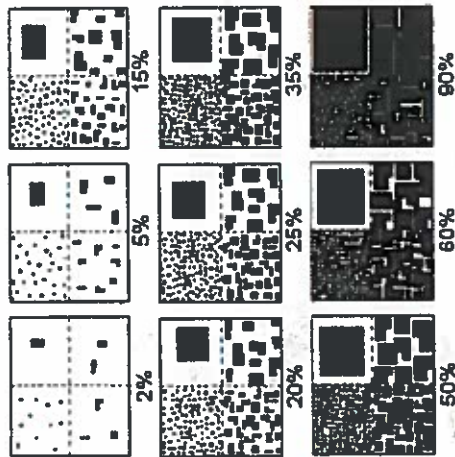
Br = Browse Level. Use cover classes to describe amount of browse per species over entire plot

Strata - Cov. entire plot

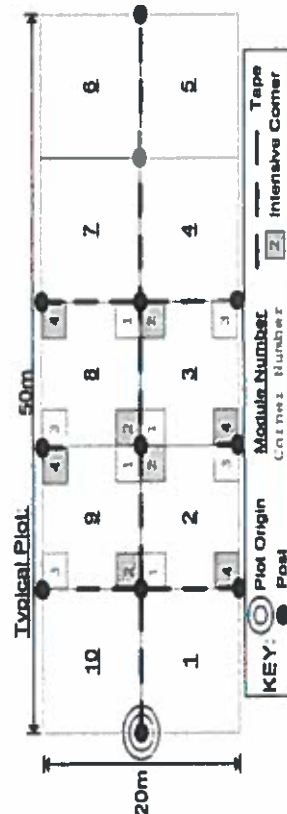
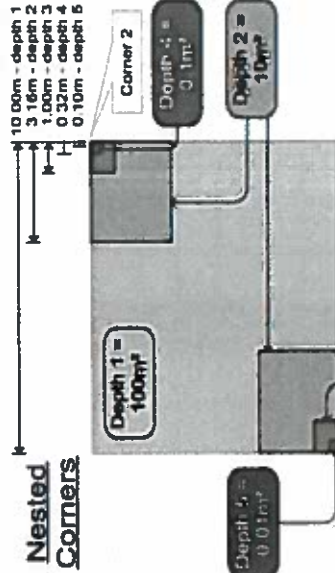
S	H	(F)	(A)	Br	Species	C	Voucher #	Estimate for each intensive module:																							
								mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner								
								depth		cov		depth		cov		depth		cov		depth		cov		depth		cov		depth		cov	
3					<i>Galium asprillum</i>		CRM438	1	4	1	2	2	4	2	2	3	4	3	2	4	4	4	2								
2					<i>Horaeleum lanatum</i>		CRM439	1				1			1	1															
					<i>Rumex</i>		CRM439	1				1			1	1															

EXAMPLES OF PERCENT OF AREA COVERED

This diagram can be used to estimate the percent of area covered by various sized objects. 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	75-85%	0.850
10	85-100%	0.975



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.

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Natural Resource Management FORM NR/2010-02a

Page of

Project name:

Plot no.: _____

Page of [illegible]

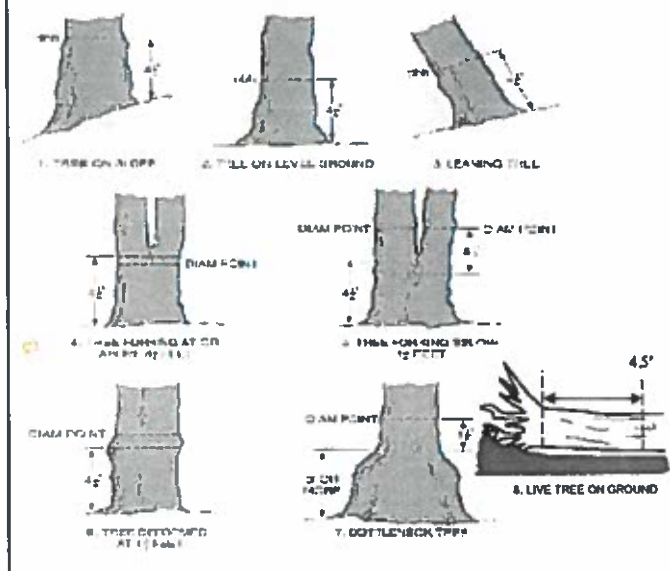
FOR MORE INFORMATION

Page: 1 of 1

Page: 1 of 1

Natural Resources Management FORM NR/2010-03a

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)

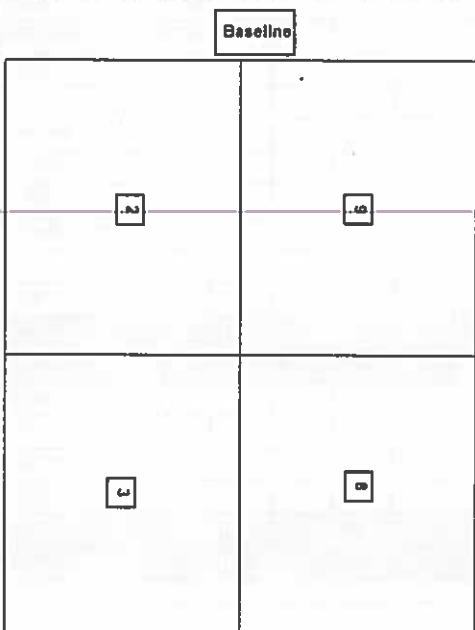
- A: All main branches contain fine twigs (newly dead).
- B: Over 50% of main branches have fine twigs.
- C: Less than 50% of main branches have fine twigs.
- D: Stem still standing and tertiary main branches present.
- E: Central stem still standing.

Tree ID	Species	Dead	c	Voucher #	DBH (cm)	HI	Ash condition	Dead condition	# Exit holes	Epicormic present	Woodpecker holes
1	<i>None Present</i>										
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											

* 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)



*** Change intensive module numbers when necessary



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



Tier 1: Early detection/rapid response		Presence				GPS	
		NE	SE	SW	NW		
Microstegium vimineum	Japanese stillgrass						
Ranunculus ficaria	Lesser Celandine						
Cynanchum lousiseae	(vine) Black Swallow-wort						
Butomus umbellatus	(wetland) Flowering Rush						
Tier 2: Assess as Needed		# of Plants				comments	
		NE	SE	SW	NW		
Acer platanoides	Norway Maple						
Alnus glutinosa	European Alder						
Berberis thunbergii	Japanese Barberry (shrub)						
Rhamnus cathartica	Common Buckthorn (shrub)						
Conium maculatum	Poison Hemlock						
Torilis sp.	Hedgeparsley						
Celastrus orbiculatus	Asian Bittersweet						
Aegopodium podagraria	(G-cover) Bishop's Goutweed						
Lythrum salicaria	(wetland) Purple Loosestrife						
Loniceria japonica	(vine) Japanese Honeysuckle						
Alnus altissima	Tree of Heaven						
Loniceria maackii	(vine) Japanese Honeysuckle						
Elaeagnus umbellata	Autumn Olive (shrub)						
Loniceria maackii	Amur Honeysuckle (shrub)						
Euonymus fortunei	Wintercreeper						
Tier 3: Presence is of interest		# of Plants				comments	
		NE	SE	SW	NW		
Coronilla varia	(G-cover) Crown Vetch						
Eleutherococcus pentaphyllus	Five-leaf Aalia (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						

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

4bCM PCAP Invasive species datasheet.xls last revised 6/10/2011 ceh

Natural Resources

Presence
X: Yes

of Plants
1: 1-10
2: 11-50
3: >50

of Plants
4: 50-100
5: 100-1,000
6: >1,000

Presence
X: Yes

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



Project Label: PCAP

Project Name: 05/2015

Plot No.: 3377

Page: 1 of 1

mod #	Species	voucher#	# shrub clumps	size class (cm) woody stems > 1m										
				1 0-1	2 1-2.5	3 2.5-4.5	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	None Present													
2														
3														
4														
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)		
Shrub (size class 2 or below including shrub clumps)		

* Write None Present if no evidence:

None Beech (Fungus)	None Asian Longhorned Beetle
None 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



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

[illegible]

CLASSIFICATION

(FTT = excellent & fit and Confidence

HYDROCARBON-RESISTANT WETLANDS ONLY

- | | | | |
|--|--|--|--|
| <ul style="list-style-type: none"> o DEPRESSION o IMPOL/NDMENT o RIVERINE o SLOPE o FLOODING o COASTAL | <ul style="list-style-type: none"> o Flood water o ground water o Reservoir o (specify subbasin) | <ul style="list-style-type: none"> o Beaver o Human o Mainstem o on a physical slope o Natural Lake | <ul style="list-style-type: none"> o Cont' o Cont' o Cont' o Cont' o Cont' o Cont' |
|--|--|--|--|

Only EPA VIB Plant Community Class (VET) ANDS ONLY:

- | | | | | | |
|-----------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|-----------|------------|
| <input type="checkbox"/> FOREST | <input type="checkbox"/> swamp forest | <input type="checkbox"/> bog forest | <input type="checkbox"/> forest seep | Fit=_____ | Conf=_____ |
| <input type="checkbox"/> EMERGENT | <input type="checkbox"/> marsh | <input type="checkbox"/> wet meadow | <input type="checkbox"/> open bog | Fit=_____ | Conf=_____ |
| <input type="checkbox"/> SIKRUB | <input type="checkbox"/> shrub swamp | <input type="checkbox"/> tall sh. bog | <input type="checkbox"/> tall sh. fen | Fit=_____ | Conf=_____ |

MICROTOPOGRAPHIC FEATURE COUNTS • Intensive modules only

Results 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 (10°)

Slope 2 = falls on slope -20°

Slope 3 = maximum steepness that can be safely sampled -45°

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

C.W.D. - count for pieces with minimum 1m length

model	carnivore	no. of insects	no. of hummocks	no. macro. depressions	c.w.d (2-12 cm)	c.w.d (12-40cm)	c.w.d >40 cm	microhab. interspers.	microhab.
		depth 3 1x1m (count)	depth 2 3 1x3 1.6m (count)	depth 1 10x11m (count)	depth 1 10x10m (count)	depth 1 11x10m (count)	depth 1 10x10m (count)	depth 1 10x10m (rank)	SL OPT 10x10m (rank)
1		0	0	0	5	0	1	2	1
2		0	0	1	2	1	0	2	1
3		0	0	0	3	1	0	2	1
4		0	0	0	3	0	0	2	1

NOTE: basoch and hummocks are counted in BOTH nested quadrat corners but counts are segregated.

McNAB INDICES (degrees) + for up - for down

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

	LF1°	TS1°
AI aspect	N	
+45 degrees	NE	
+90 degrees	E	
+135 degrees	SE	
+180 degrees	S	
+225 degrees	SW	
+270 degrees	W	
+315 degrees	NW	

LF1 is angle of path to the horizon. TS1 is angle formed by local slopes. For TS1 measure angle from recorder eye to top of person standing - 10 m away.

- * Landform Index (position within landscape)
- ** Terrain Shape Index (site microtopographic shape)

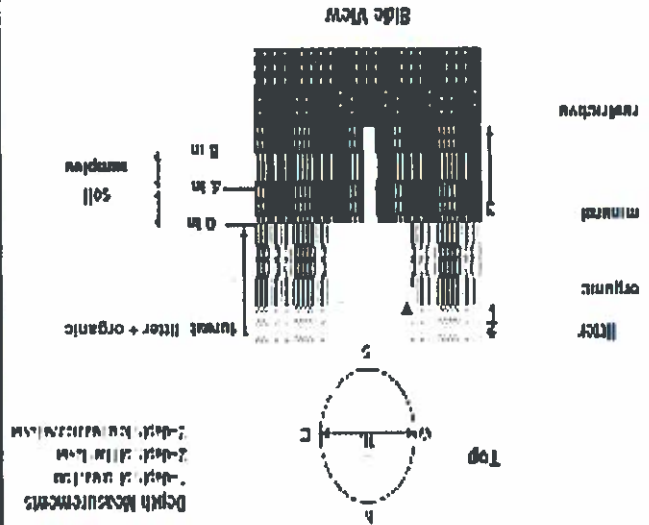
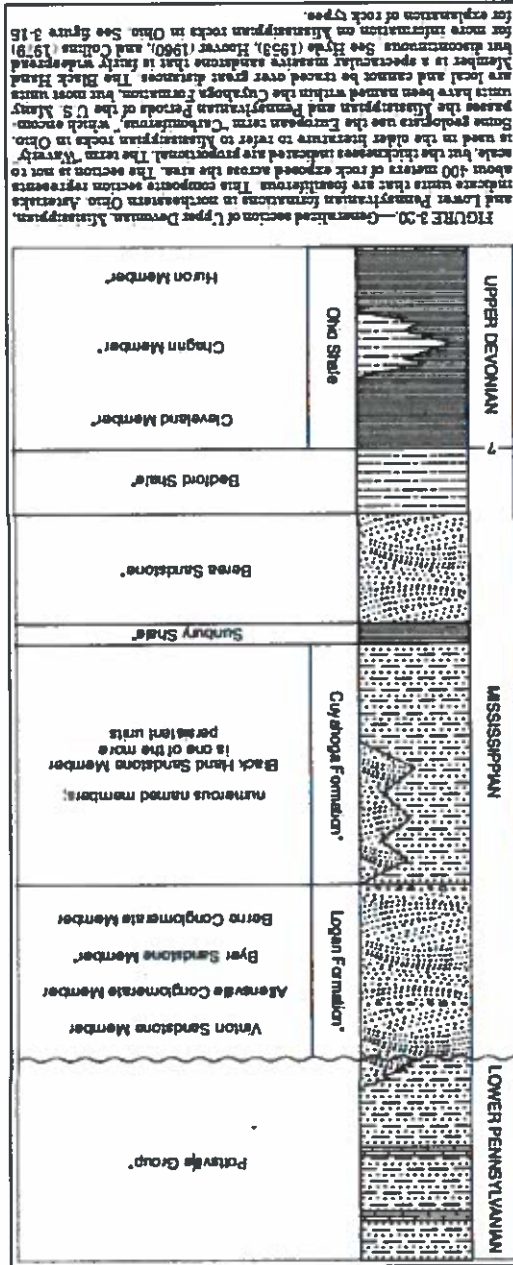
3

CROWN COVER (DENSITOMETER): M4-4

readings per module focusing N, S, E, W. Place dot count in corresponding space. (4 dot per grid square)

Metabolic	N	S	E	W
1	80	32	19	30
2	42	5	1	30
3	13	3	8	16
4	40	2	9	10

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COVER BY STRATA	
GENERAL FORM	
Tree (overstory), very tall shrubs, liana, epiphyte)	Tree (generally >5 m)
Tree (sapling), shrub, liana, epiphyte)	Shrub (generally 0.5 to 5 m)
Herb, dwarf-shrub, tree (seedling)	Herb (field)
Floating	Floating
Submerged	Aquatic (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.	

Project label: PCAP

Project Name: 035C2015

Plot No.: 3377

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

Soil pit module # (one per entire plot)

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

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 Collection Module (Modules A, B, C)	
2.3.3.9 composted	A
Web 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

module	1 liter+ organic depth (cm)	2 liter water depth (cm)	depth sat soil (cm)
1	08	08	—
2	04	04	—
3	03	03	—
4	03	03	—

EARTH SURFACE & GROUND COVER

Underlying Earth Surface*	Ground Cover	percent
Open - 100%	(Each ≤ 100%)	
Historic	Coarse Woody Debris***	8%
Mineral Soil	Fine Woody Debris****	3%
Gravel/Cobble*	Litter	1%
Boulder**	Duff (Ferm. + Humus)	—
Bedrock	Bryophyte/Lichen	1%
* Gravel/Cobble = 1/16-10"	Water	0
** Boulder = > 10 in	Bare Soil	0
*** > 5 cm in diameter	Road/Trail	0
**** < 5 cm in diameter	Other	0

COVER BY STRATA

Strata	Height Range (in)	Total Cover (%)
Tree	5 - 7	78%
Shrub	3 - 5	8%
Herb	0 - 3	98%
(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.

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 type="checkbox"/> Boodleg unsanctioned	
<input type="checkbox"/> Gravel	
<input type="checkbox"/> Dirt	

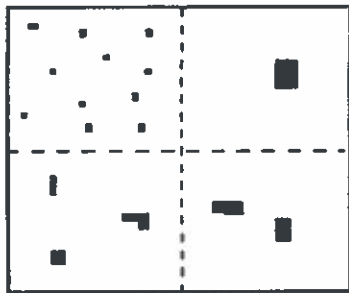
STAND SIZE

- ☐ >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

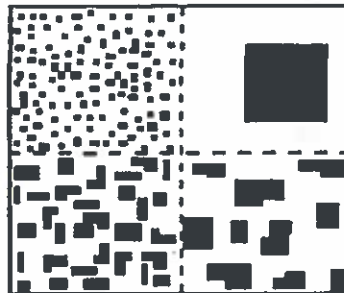
MOD 1: Worms, castings and middens present.
MOD 2: Worms, castings and middens present
MOD 3: Worms, castings and middens present
MOD 4: Worms, castings and middens present

PERCENT MOTTLES (USE CLASS CODES):

Class	Conv.	Code NASIS	Criteria: % of Surface Area Covered
Few	f	1/4	< 2
Common	c	1/2	2 to < 20
Many	m	3/4	≥ 20



2%



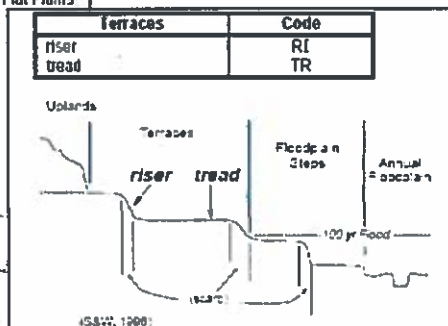
20%

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	PDP	Code NASIS
Interfluvial	IF	IF
head slope	HS	HS
nose slope	NS	NS
side slope	SS	SS
base slope	—	BS



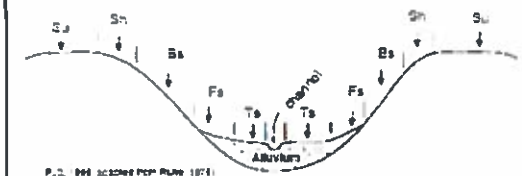
(P.2, 1992, adapted from R. L. 1972)



(S&W, 1998)

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



P.2, 1992, adapted from R. L. 1972

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.