

CLEVELAND METROPARKS Plant Community Assessment Program: Quality Control Form

Cleveland Metroparks

Project Label:

PCAP

Plot No:

1078

Date Sampled:

9/1/15

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 type="radio"/> Y	<input type="radio"/> N	
Site sketch made on 1:3000 map?	<input 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
CKM 451 -	Drier	<input type="radio"/> Y	<input type="radio"/> N
46	Identified	<input type="radio"/> Y	<input type="radio"/> N
4	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 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:

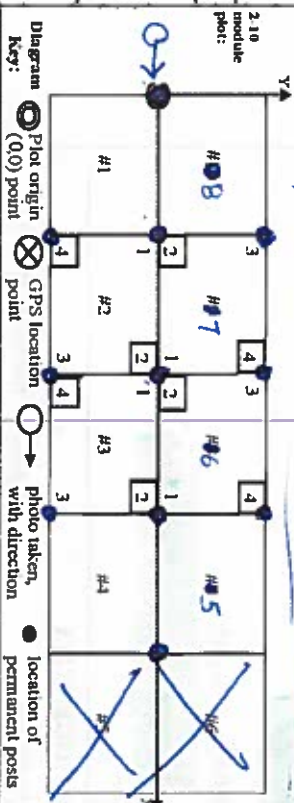
Found all pins, Park at Polaris Career Center

CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet

GENERAL INFORMATION			
Project Label: PCAP			
Project Name: 02 BC 2015			
Plot Name: Fowles North			
Plot No.: 1078			
<input type="checkbox"/> Level 4 (no nested corners sampled) <input checked="" type="checkbox"/> Level 5 (nested corners sampled)			
Date (mm/dd/yyyy): 9 / 1 / 2015			
End date (if > 1 day): / /			
Party		Role**	
C. Minney		Plot leader	
D. Sweet		Woody Tech	
M. Gaithey		Woody Tech	
** Roles: Co-leader, Ass., Guide, Observer, 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:		subjective evaluation of how much effort put into sampling. Hurried plots may still provide good data	
<input checked="" type="checkbox"/> Very thorough <input type="checkbox"/> Accurate <input type="checkbox"/> Hurried			
TAXONOMIC ACCURACY			
	high	modera.	low
vascular	X		not simpl
bryo		X	na
lichen			X
TAXONOMIC STANDARD			
Authority:	G&C	Pub Date:	1998
Minimum required fields in Bold and Underlined			

LOCATION	
State:	OH
County:	Cuyahoga
Quadrangle:	Berea
Local Place Names:	Fowles Marsh
Landowner:	CAMP
Data Confidentiality:	
Check one:	<input checked="" type="checkbox"/> Public data <input type="checkbox"/> Private Data <input type="checkbox"/> Fuzz 100m <input type="checkbox"/> Fuzz 250m <input type="checkbox"/> Fuzz 500m
Reason:	
If data not public why?	
Source of coordinates:	<input type="checkbox"/> MAP <input checked="" type="checkbox"/> GPS
Coordinate system:	Coord. Units
<input checked="" type="checkbox"/> Lat/Long <input type="checkbox"/> UTM <input type="checkbox"/> StatePlane	<input type="checkbox"/> deg <input type="checkbox"/> deg min <input type="checkbox"/> m <input type="checkbox"/> ft
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:	41.36795
Longitude:	81.82869
Coord. Accuracy:	<input type="checkbox"/> m <input checked="" type="checkbox"/> ft <input type="checkbox"/> ft
GPS File Name:	BC1078a
Plot size for cover data:	08 (hectares)
X-axis Bearing of plot:	[290]°
Depth (1-5):	4
Intensive modules:	2, 3, 8, 9, 2, 3, 5, 7 (EDIT IF MODIFIED)
Camera No.:	4
Photo Nos.:	CH930
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 CM PCAP FOM v. 1.0 and CVS Field Guide



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: 2x4

Location: Park at Polaris Career Center.

Walk NE along lake to Lake Trail for ~300m then turn east into forest. Plot is within

row of cattail swamp on opposite side of trench that you will most likely need waders to cross.

Rationale: GRTS

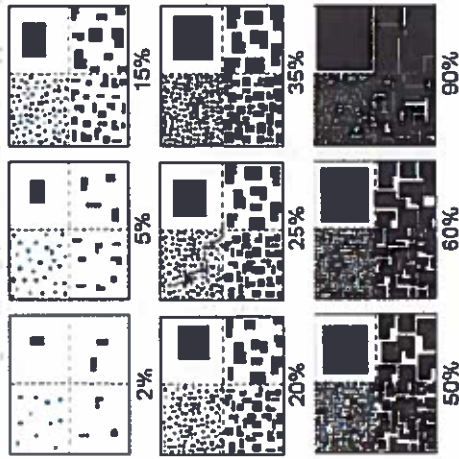
Veg Characterization: The canopy is dominated by a mix of species. The shrub layer is dominated by Canary Reed, Hawthorn and multiflora rose. The herb layer is dominated by graminoids and Monarda at foot level.

OVER

CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet				Cleveland Metroparks Page 2 of 2																																			
Project Label: _____ PCAP _____		Project Name: <u>02BC2015</u> Plot No.: <u>1078</u>																																					
MODIFIED NATURESERVE CLASS* CODE (on separate form): <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-top: 10px;">M10</div> Fir= _____ Conf= _____		DISTURBANCES <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>type*</th> <th>severity**</th> <th>yrs ago</th> <th>% of plot</th> <th>description</th> </tr> </thead> <tbody> <tr> <td>Human</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Natural</td> <td>H</td> <td>0-5</td> <td>50</td> <td>EAB Ash Canopy kill</td> </tr> <tr> <td>Fire</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Cut</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Animal</td> <td>M</td> <td>0</td> <td>100</td> <td>Deer Browse</td> </tr> <tr> <td>Other</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			type*	severity**	yrs ago	% of plot	description	Human					Natural	H	0-5	50	EAB Ash Canopy kill	Fire					Cut					Animal	M	0	100	Deer Browse	Other				
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COMMUNITY NAME: <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-top: 10px;">Mixed Swamp Forest</div>		**L=low, ML=med low, M=med, MH=med high, H=high, VH=very high Current Land Use: <u>CMP</u> Former Land Use: _____																																					
HOMOGENEITY <input checked="" type="checkbox"/> Homogeneous <input type="checkbox"/> Compositional trend across the plot <input type="checkbox"/> Conspicuous inclusions <input type="checkbox"/> Irregular/pattern mosaic		HYDROLOGIC REGIME* <table border="1" style="width:100%; border-collapse: collapse;"> <tbody> <tr> <td style="width:50%; vertical-align: top;"> <input type="checkbox"/> Upland (seldom flooded) <input checked="" type="checkbox"/> Intermittently/seasonally saturated (seldom flooded) <input type="checkbox"/> Permanently/Semipermanent, saturated (dry <1/yr, seldom flooded) <input type="checkbox"/> Occasionally flooded (<1/yr) <input type="checkbox"/> Temporarity flooded </td> <td style="width:50%; vertical-align: top;"> <input type="checkbox"/> Intermittently flooded <input type="checkbox"/> Semipermanently flooded <input type="checkbox"/> Permanently flooded <input type="checkbox"/> Tidal/Seiche flooded daily <input type="checkbox"/> Tidal/Seiche flooded monthly <input type="checkbox"/> Tidal/Seiche flooded irregular (e.g. wind, storms) <input type="checkbox"/> Unknown </td> </tr> </tbody> </table>			<input type="checkbox"/> Upland (seldom flooded) <input checked="" type="checkbox"/> Intermittently/seasonally saturated (seldom flooded) <input type="checkbox"/> Permanently/Semipermanent, saturated (dry <1/yr, seldom flooded) <input type="checkbox"/> Occasionally flooded (<1/yr) <input type="checkbox"/> Temporarity flooded	<input type="checkbox"/> Intermittently flooded <input type="checkbox"/> Semipermanently flooded <input type="checkbox"/> Permanently flooded <input type="checkbox"/> Tidal/Seiche flooded daily <input type="checkbox"/> Tidal/Seiche flooded monthly <input type="checkbox"/> Tidal/Seiche flooded irregular (e.g. wind, storms) <input type="checkbox"/> Unknown																																	
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SALINITY* <input type="checkbox"/> Saltwater <input type="checkbox"/> Brackish <input checked="" type="checkbox"/> Fresh SOF 10-22-15 <input checked="" type="checkbox"/> Upland (n/a)		(by default unless plot is a wetland) Additional notes & diagrams: (Representativeness of plot to the stand, successional status, maturity, etc.) <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>The stand is un-evenaged. The plot is between a cat-tail swamp and a wooded slope. The plot takes on characteristics of a swamp forest. Extremely high graminoid cover and diversity. An interesting plot with some uncommonly seen species, above average quality but with invasives present. Lysimachia nummularia covers the foot level. A difficult plot botanically speaking with so many graminoids and a few Polygonums. The Asters near the 40m centerline were very common changed based mostly on samara length. They are deceptive and might warrant a closer look next time. → Δ to A. saccharinum saccharinum</p> </div>																																					

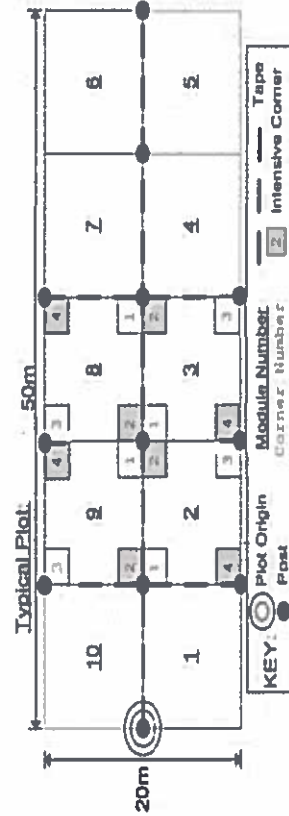
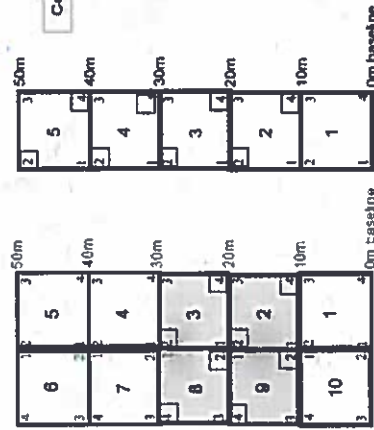
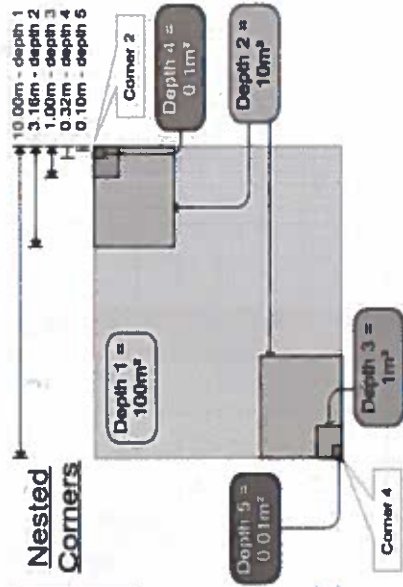
EXAMPLES OF PERCENT OF AREA COVERED

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

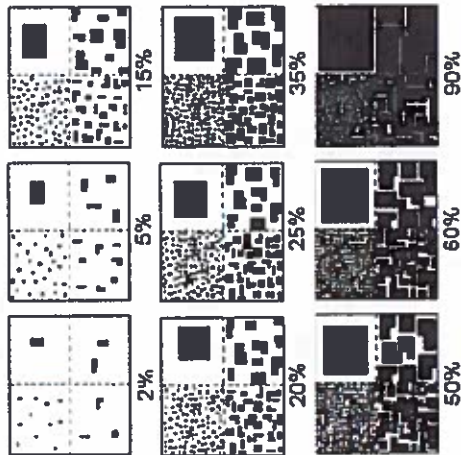
MEDIUM HIGH values include evidence of a browse line and 25 percent of stems browsed with very little vegetation regeneration evident. In this rating, for some species of plants, reproduction does not appear to occur or it is very severely limited.

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.

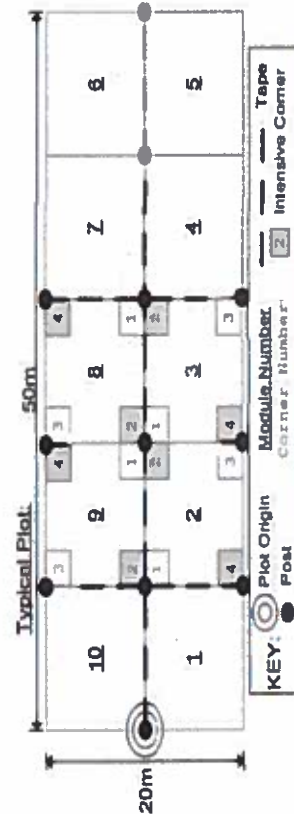
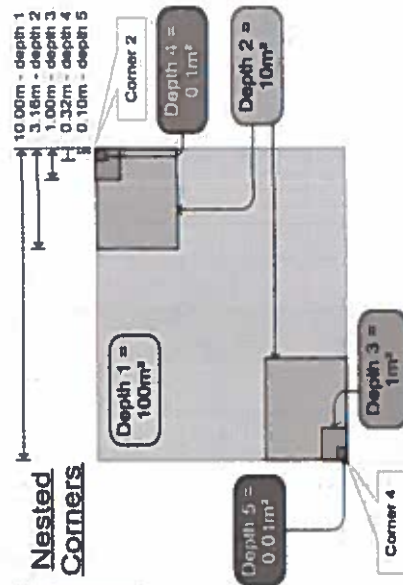
EXAMPLES OF PERCENT OF AREA COVERED

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



cover class	% cover	mid point
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.

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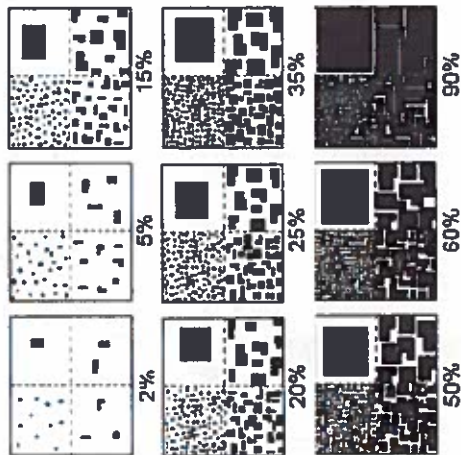
MEDIUM HIGH values include evidence of a browse line and 25 percent of stems browsed with very little vegetation regeneration evident. In this rating, for some species of plants, reproduction does not appear to occur or it is very severely limited.

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.

EXAMPLES OF PERCENT OF AREA COVERED

The following graphic can be used in various data elements to convey "Amount" or "Quantity". NOTE: Within any given bar, each quadrant contains the same value and is corrected for different sized objects.



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.

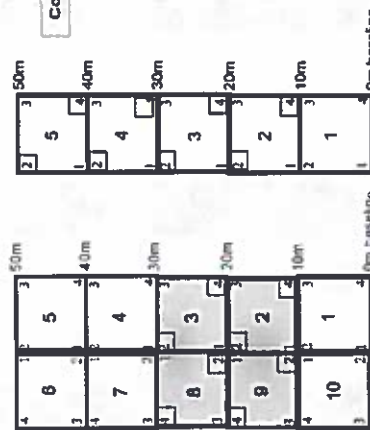
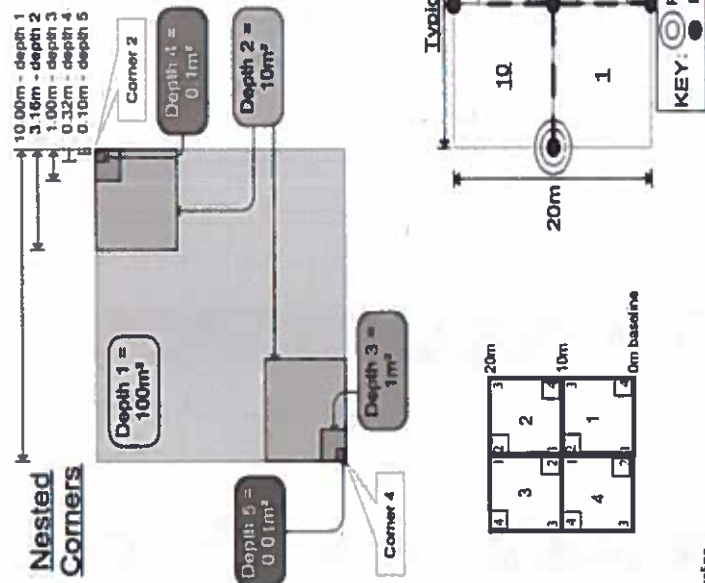
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100

Natural Resource Management FORM NR/2010-02a

*All fixings are now dead all 2010

CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet

Project Label: PCAP Project Name: CAC 2015 Plot No.: 1078 Page: 1 of 2

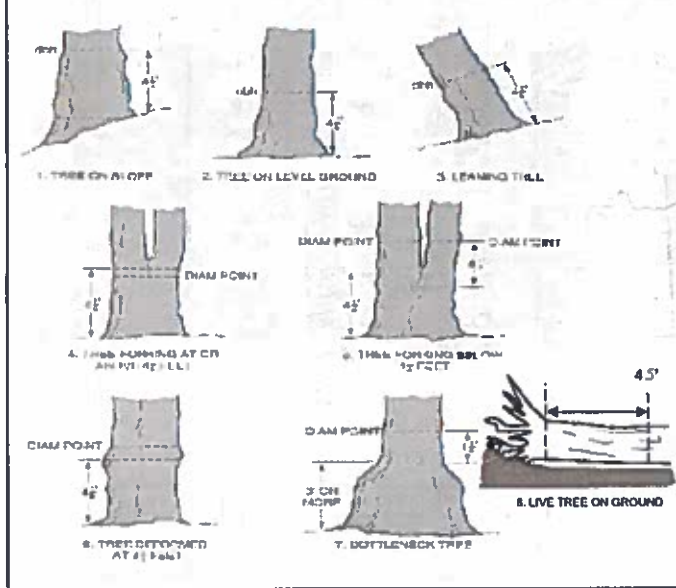


Explain subsample (additional room on back):

mod #	species	c	voucher#	# stems 0-1.4m	% sub or super sample	# shrub clumps	size class (cm) woody stems >1.4m												
							1	2	3	4	5	6	7	8	9	10	11		
							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			☐				••	••									430	
1	Lupinus naga																		
1	LOUISIA MORROWII																		
1	Standing Dead							X											
1	ROSA MULTIFLORA																		
1	1165TRUM VILGABIS																		
1	Rubus occidentalis																		
1	ROSA MULTIFLORA																		
2	Standing Dead																		
2	LOUISIA MORROWII																		
2	Ceanothus sp.																		
2	Lindera benzoin																		
3	Lindera benzoin																		
3	Ceanothus sp.																		
3	Standing Dead																		
3	QAR saccharum																		
3	ROSA MULTIFLORA																		
3	Rubus occidentalis																		
4	Carya cordiformis																		
4	Standing Dead																		
4	Quercus rubra																		
5	QAR saccharum																		
5	QAR saccharum																		
5	Toxicodendron radicans																		

0
were called
rubrum in
2010

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



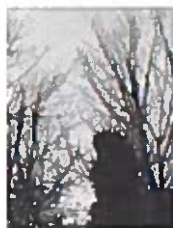
4



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 METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet



Project Label: PCAP

Project Name: CPA 2015

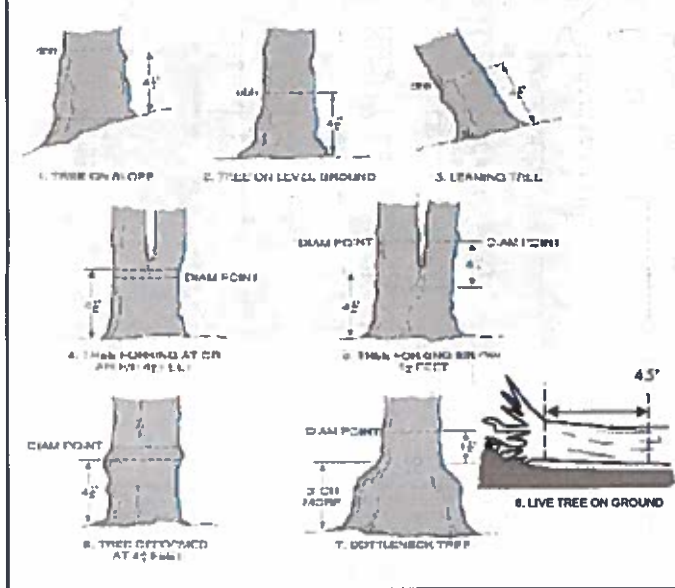
Plot No.: 1098

Page: 2 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)	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)
5	Standing Dead																	
5	Tilia americana																	
5	Cistaceae sp.																	
5	ROSA MULTIFLORA																	
6	Toxicodendron radicans																	
6	Ulmus americana rubra																	18.6
6	Acer saccharum																	
6	Standing Dead																	
6	Cistaceae sp.																	
6	ROSA MULTIFLORA																	
7	Toxicodendron radicans																	
7	Standing Dead																	
7	Xibocarpus pumilum																	
7	ROSA MULTIFLORA																	
7	Rhus sp.																	
7	Quercus (seedling)																	
8	Standing Dead																	43.9
8	Toxicodendron radicans																	
8	ROSA MULTIFLORA																	
8	Cistaceae sp.																	
8	Rathnoscissus quinquefolia																	
7	LONICERA MORROWII																	
7	Rathnoscissus quinquefolia																	

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

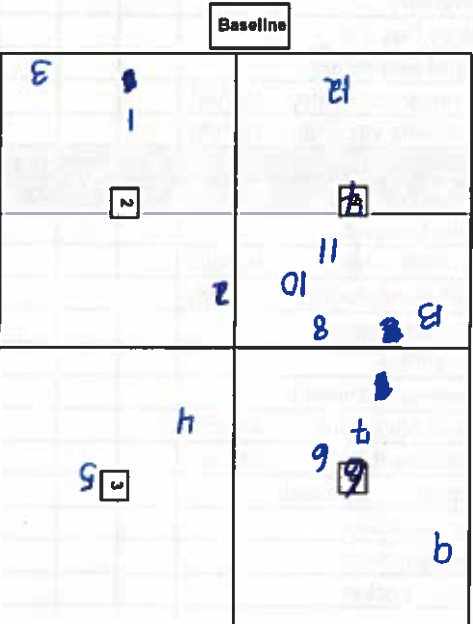
ASH CANOPY BREAKUP CONDITION (for dead trees):

(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	Voucher #	DBH (cm)	HT (m)	Ash condition	*Dead condition	# Exit holes	Epicoemic present	Woodpecker holes
1	Fraxinus sp.			27.5	-	5	C	9	0	0
2	Fraxinus sp.			27.5	-	5	B	4	0	1
3	Fraxinus sp.			23.8	-	5	C	8	0	1
4	Fraxinus sp.			22.3	-	5	D	20	0	1
5	Fraxinus sp.			28.6	-	5	C	12	0	0
6	Fraxinus sp.			26.0	-	5	D	10	0	0
7	Fraxinus sp.			21.7	-	5	C	12	0	1
8	Fraxinus sp.			20.2	-	5	C	8	0	1
9	Fraxinus sp.			19.5	-	5	C	12	0	0
10	Fraxinus sp.			35.1	-	5	C	7	0	0
11	Fraxinus sp.			17.0	-	5	C	7	0	0
12	Fraxinus sp.			36.5	-	5	C	16	0	0
13	Fraxinus sp.			11.5	-	5	C	11	0	0
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 (*) or absent (0)



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

CLEVELAND METROPARKS Plant Community Assessment Program: Invasive Species Survey



Tier 1: Early detection/ Rapid response		Presence				GPS	Presence X: yes
		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	# of Plants
		NE	SE	SW	NW		
Acer platanoides	Norway Maple						1: 1-10
Ailanthus altissima	Tree of Heaven						2: 11-50.
Lonicera japonica (vine)	Japanese Honeysuckle						3: 51-100
Lythrum salicaria (wetland)	Purple Loosestrife						4: 101-1,000
Aegopodium podagraria (G-cover)	Bishop's Goutweed						5: >1,000
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	# of Plants
		NE	SE	SW	NW		
Convallaria majalis (G-cover)	Lily of the Valley						1: 1-10
Coronilla varia (G-cover)	Crown Vetch						2: 11-50.
Eleutherococcus pentaphyllus	Five-leaf Aralia (shrub)						3: 51-100
Pachysandra terminalis (G-cover)	Japanese Pachysandra						4: 101-1,000
Philadelphus coronarius	Mock Orange (shrub)						5: >1,000
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	# of Plants
		NE	SE	SW	NW		
Alliaria petiolata	Garlic Mustard						1: 1-10
Ligustrum vulgare	Common Privet (shrub)						2: 11-50.
L. morrowii, L. tatarica	Bush Honeysuckles (shrub)						3: 51-100
Phalaris arundinacea	Reed Canarygrass						4: 101-1,000
Phragmites australis (wetland)	Phragmites						5: >1,000
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)

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



Project Label: PCAP

Project Name: QBR 2015

Plot No.: 1078

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	<u>None Present</u>													
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:

Beech (Fungus)	<u>NONE</u>	Asian Longhorned Beetle
Hemlock (HWA)		Other Pest or Pathogen
<u>None</u> 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



100

100

100

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

Module #	C1	Center	Center

CLASSIFICATION

FTI - excellent, FFI and Confidence

Hydrogeomorphic class (WETLANDS ONLY)

<input type="checkbox"/> DEPRESSION	Fit=	Conf=
<input type="checkbox"/> IMPOUNDMENT <input type="checkbox"/> Beaver <input type="checkbox"/> Human	Fit=	Conf=
<input type="checkbox"/> RIVERINE <input type="checkbox"/> Headwater <input type="checkbox"/> Mainstem <input type="checkbox"/> Channel	Fit=	Conf=
<input checked="" type="checkbox"/> POPE (ground water hydrology or on a physical slope)	Fit=	Conf=
<input type="checkbox"/> FRINGING <input type="checkbox"/> Reservoir <input type="checkbox"/> Natural Lake	Fit=	Conf=
<input type="checkbox"/> COASTAL (specify subclass)	Fit=	Conf=
<input type="checkbox"/> BOG (terrestrial, moderately wet, ombrotrophic)	Fit=	Conf=

Other EPA VIBI Plant Community Class (WETLANDS ONLY)

<input checked="" 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"/> SHRUB <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

Points for microhabitat features. Select one or select two and average the score. NOTE: If road falls on a slope automatically gets ranked based on steepness (1-3) to begin + any features present
Slope 1 = slight elevational grade across module (ft/s)
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
- 1 feature is present in the wetland in very small amounts or if more common, of low quality
- 2 feature is present in moderate amounts, but not of highest quality, or in small amounts of highest quality
- 3 feature is present in moderate or greater amounts and of highest quality

C.W.D. - count for pieces with minimum 1m length									
module	corner	no. of tussocks	no. of hummocks (TTP-1/pt)	no. macro. depressions	c.w.d (2-12 cm)	c.w.d (13-40 cm)	c.w.d >40 cm	microhab. interspers.	microhab. SLOPE
		depth 3 1x1m	depth 2 3.6x3.6cm	depth 1 10x10m	depth 1 10x10m	depth 1 10x10m	depth 1 10x10m	depth 1 10x10m	depth 1 10x10m
2		0	0	0	10	0	0	2	2
3		0	0	0	5	3	0	2	1
6		0	0	0	5	1	0	2	1
4		0	0	0	9	0	0	2	1

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

MCNAB INDICES (degrees) + (for up - (for down)

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

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

LF1 is angle of plot to the horizon. TSI is angles formed by local slopes. For TSI measure angle from recorder's eye to eye of person standing - (10 m away)

* Landform Index (position within landscape)
* Terrain Slope Index (slope microtopographic shape)

CROWN COVER (DESMONETER) Make a readings per module facing N, S, E, W Place dot count in corresponding space. (4 dots per grid square)

Module	N	S	E	W
2	1	38	9	6
3	10	16	14	12
6	0	2	1	5
4	7	21	27	4

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.

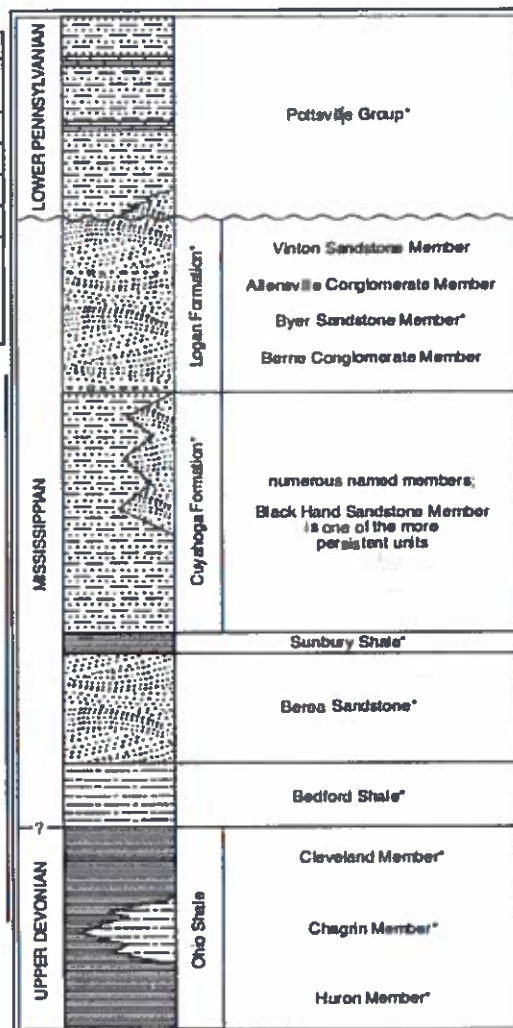
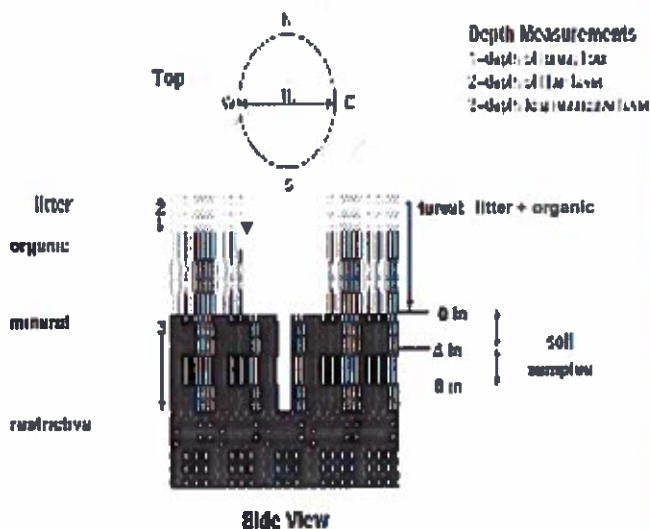


FIGURE 3-30.—Generalized section of Upper Devonian, Mississippian, and Lower Pennsylvanian formations in northeastern Ohio. Asterisks indicate units that are fossiliferous. This composite section represents about 400 meters of rock exposed across the area. The section is not to scale, but the thicknesses indicated are proportional. The term "Waverly" is used in the older literature to refer to Mississippian rocks in Ohio. Some geologists use the European term "Carboniferous," which encompasses the Mississippian and Pennsylvanian Periods of the U.S. Many units have been named within the Cuyahoga Formation, but most units are local and cannot be traced over great distances. The Black Hand Member is a spectacular massive sandstone that is fairly widespread but discontinuous. See Hyde (1953), Hoover (1960), and Collins (1979) for more information on Mississippian rocks in Ohio. See figure 3-16 for explanation of rock types.

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	
	mineral color	
	%mineral	
	oxid roots	Y N
	texture*	
	redox features**	Y N
	hydr. cond.***	1 S M D
20 cm	matrix color	
	mineral color	
	%mineral	
	oxid roots	Y N
	texture*	
	redox features**	Y N
	hydr. cond.***	1 S M D

Soil Collection Module	Horizon (A, B, C)
2.2, 2.9 composited	A
Top Soil Survey Information	
Soil Series/Type:	
Soil Series Source:	Ohio Soil Survey
Landform type:	
Depth to root layer:	
Parent Material:	
DETAILED*	

☐ Excessively dr. ☐ Somewhat excessively
☐ Well drained ☐ Moderately well dr.
☐ Somewhat poorly dr. ☐ Very poorly dr.
☐ Impermeable surface

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

	1 litter+ organic depth (cm)	2 litter depth (cm)	water depth (cm)	depth sat soil (cm)
mod				
MOD 2: None present	0.2	0.2	—	—
MOD 3: None present	0.2	0.2	—	—
MOD 6: None present	0.2	0.2	—	—
MOD 7: None present	0.4	0.4	—	—

EARTH SURFACE & GROUND COVER

Underlying Earth Surface*	Ground Cover	percent
Sum = 100%	percent (Each ≤ 100%)	
litteal	Coarse Woody Debris**	8
Mineral Soil	Fine Woody Debris***	4
Gravel-Cobble*	Litter	3
Boulder**	Duff (Ferm + Humus)	0
Bedrock	Bryophyte-Lichen	1
Gravel-Cobble = 1/16-10"	Water	0
**Boulder = > 10 in	Bare Soil	1
*** > 5 cm in diameter	Dead Trail	4
**** < 5 cm in diameter	Other	

TRAIL INFORMATION	
Recent type and cover for each	
Type	%Cover
All Purpose	
Bridle	
Hiking sanctioned	
Boatleg unsanctioned	
Gravel	
Deer	4

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

Strata	Height Range (m)	Total Cover (%)
Tree	5.0-7	72
Shrub	1.0-5.0	42
Herb	0-1.0	98
(Floating)*	—	—
(Aquatic)*	—	—

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

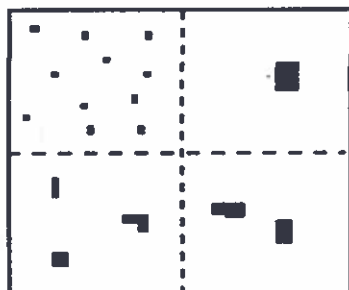
STAND SIZE

☐ >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

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

PERCENT MOTTLES (USE CLASS CODES):

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



2%



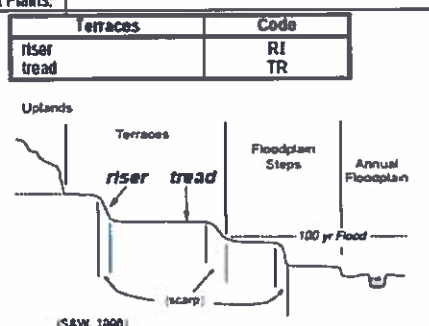
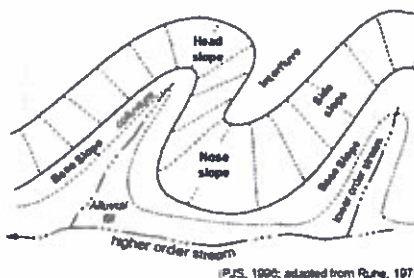
20%

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

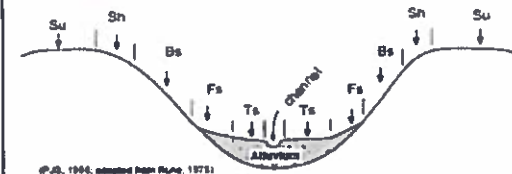
Geomorphic Component - Three-dimensional descriptors of parts of landforms or microfeatures that are best applied to areas. Unique descriptors are available for Hills, Terraces, Mountains, and Flat Plains; e.g., (for Hills) nose slope or NS.

Hills	PDP	Code	NASIS
interfluvial	IF	IF	IF
head slope	HS	HS	HS
nose slope	NS	NS	NS
side slope	SS	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/SEMPERMANENTLY 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.

SEMPERMANENTLY 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.