

CLEVELAND METROPARKS Plant Community Assessment Program: Quality Control Form



Project Label: _____

PCAP

Plot No: 3365Date Sampled: 8-11-15Lead: Eyzenbach

Comment required if item answer is NO

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

GRTS point verification: Is plot sampleable?

<input checked="" 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. parking lot, road)
	<input type="checkbox"/> Unsafe to sample (i.e. steep slope)
	<input type="checkbox"/> Other

Additional Comments:

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11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

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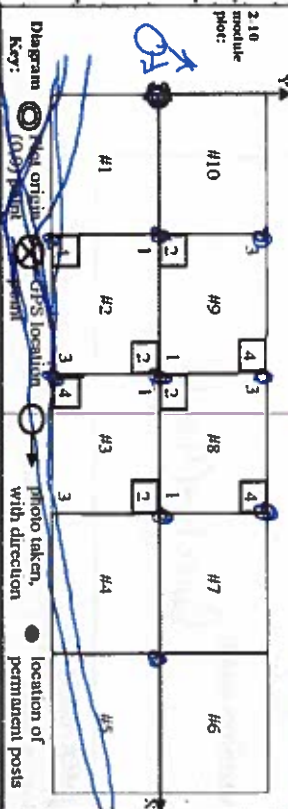


CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet

GENERAL INFORMATION	
Project Label:	PCAP
Project Name:	02MS2015
Pilot Name:	The proposal
Pilot No.:	3365
<input type="checkbox"/> Level 4 (no nested corners sampled) <input checked="" type="checkbox"/> Level 5 (nested corners sampled)	
Date (mm/dd/yyyy):	8/11/2015
End date (if > 1 day):	/ /
Party:	S. Eysenck T. Cochran D. Sweet E. Knauss
Role**	Pilot leader

LOCATION	
State:	OH
County:	Cuyahoga
Quadrangle:	Baker
Local Place Names:	Bike Trail
Landowner:	CM
Data Confidentiality:	<input checked="" type="checkbox"/> Public data <input type="checkbox"/> Private Data
Check one:	<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:	<input checked="" type="checkbox"/> Lat/Long <input type="checkbox"/> UTM <input type="checkbox"/> StatePlane <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:	41.30568
Longitude:	81.79678
Coord. Accuracy:	± m ± ft
GPS File Name:	3365A
Plot size for cover data:	0.1 (hectares)
X-axis Bearing of plot:	481°
Depth: (1-5):	4
Intensive modules:	2, 3, 8, 9 (DEPT IF MODIFIED)
Camera No.:	2
Photo No.:	C2-4596-47
Plot placement:	<input checked="" type="checkbox"/> ORTS <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. *Bike Trail*

Layout: 2x5 Pin at 50m not found due to LEGT Boas in tree No pin at 30m along old trail

Location: Park at the entrance of Royalview picnic area. Walk ~600m south to plot surrounded by bike trail

Rationale: ORTS pt

Veg Char:

Canopy: Beech, Red Oak, Sugar Maple, Hickory, Tilia, White Oak

Shrub: Sugar + Red Maple

Herb: Depauperate w/ Ash seedlings, ~~or~~ patchy

OVER

MODIFIED NATURAL RESERVE CLASS*		DISTURBANCES				
CODE (on separate form):	Fit= ___ Conf= ___	type*	severity**	yrs ago	% of plot	description
002		Human	M	25	5	Trail - old
		Natural				
		Fire				
		Cut				
		Animal	MH	0	100	Browse
		Other				

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

Current Land Use: park

Former Land Use:

HYDROLOGIC REGIME*	
<input checked="" type="checkbox"/> Upland (seldom flooded)	<input type="checkbox"/> Intermittently flooded
<input type="checkbox"/> Intermittently/seasonally saturated (seldom flooded)	<input type="checkbox"/> Semipermanently flooded
<input type="checkbox"/> Permanently/Semipermanent, saturated (dry <1/yr, seldom flooded)	<input type="checkbox"/> Permanently flooded
<input type="checkbox"/> Occasionally flooded (<1/yr)	<input type="checkbox"/> Tidal/Seiche flooded daily
<input type="checkbox"/> Temporarity flooded	<input type="checkbox"/> Tidal/Seiche flooded monthly
	<input type="checkbox"/> Tidal/Seiche flooded irregular (e.g. wind, storms)
	<input type="checkbox"/> Unknown

SALINITY*	
<input type="checkbox"/> Saltwater	
<input type="checkbox"/> Brackish	
<input type="checkbox"/> Fresh	
<input checked="" type="checkbox"/> Upland (n/a)	

(by default unless plot is a wetland)

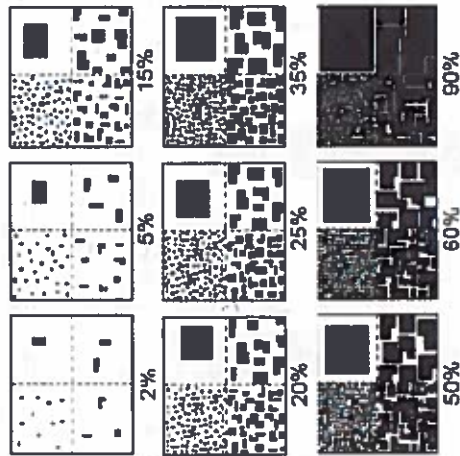
Additional notes & diagrams: (Representativeness of plot to the stand, successional status, maturity, etc.)

The community changes from Beech Maple (mods 1, 10, 2, 9) to a mixed community of Walnut, Basswood, White Oak, Hickories, Red Oak. An old trail runs along the eastern portion of the plot.

*Spice Bush all dead up top w/ regeneration
Beech look wrinkled and bad below

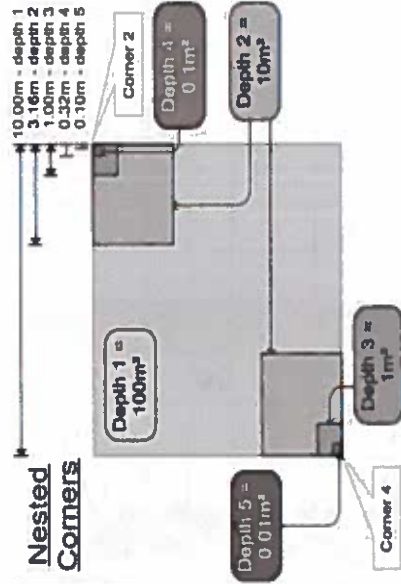
EXAMPLES OF PERCENT OF AREA COVERED

The following graphics can be used for various data elements to convey "Amount" or "Density". 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	75-85%	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.

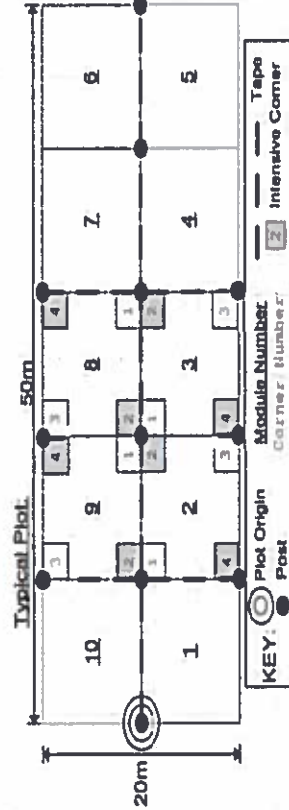
MEDIUM LOW values include evidence of browse at about 10 percent of the stems with no significant impact to plant reproduction evident. In this rating, plants are browsed but preferential species are observed to be reproducing in numbers that appear normal or near-normal in comparison to low browse areas.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



CLEVELAND METROPARKS Plant Community Assessment Program Species Cover Data Sheet

Project Label: PCAP
Total modules: 10

Project name: 02MS2015
Intensive modules: 4
Plot configuration: 1x5

Plot no.: 3365
Plot area (ha): 0.1

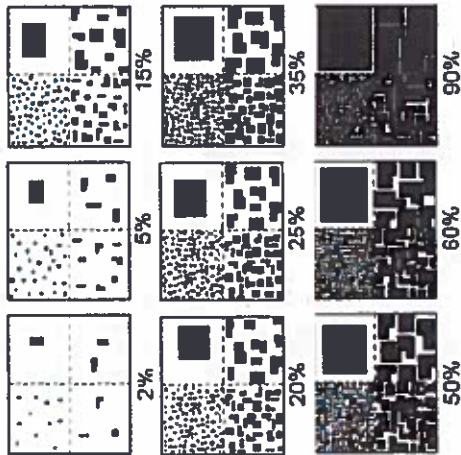


Br = Browse Level. Use cover classes to describe amount of browse per species over entire plot

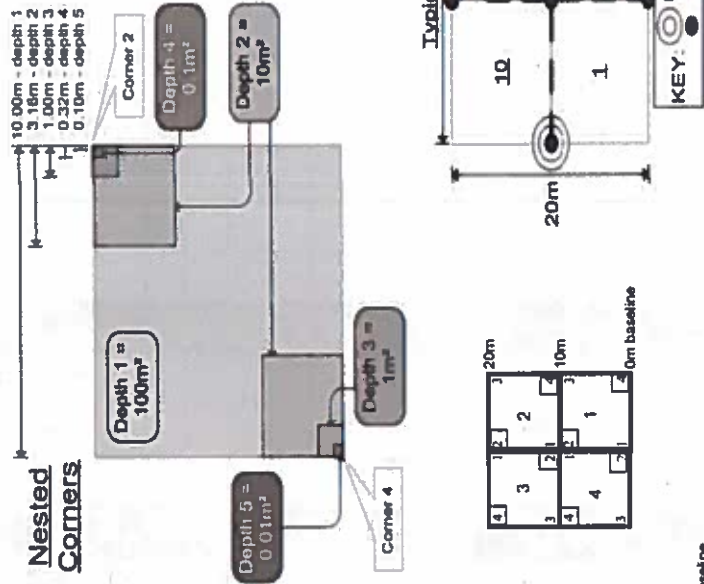
S	H	(F)	(A)	Br	Species	C	Voucher #	Estimate for each intensive module:				Estimate for each intensive module:				Estimate for each intensive module:				mod	R
								%open water	%unvegetated open water	%unveg. ground (bare soil)	%unveg. litter (bare litter)	%open water	%unvegetated open water	%unveg. ground (bare soil)	%unveg. litter (bare litter)	%open water	%unvegetated open water	%unveg. ground (bare soil)	%unveg. litter (bare litter)		
2					Moss sp																
1					Aster macrophyllus																
4					Conopholis americana																
2					Arisaema triphyllum ssp triphyllum																
2					Fraxinus pennsylvanica																
2					Carya cordiformis																
2					Allium tricoccum																
1					Crotaleps sp																
1					Viola hastata																
1					Pinus strobus																
2					Polystichum acrostichoides																
2					Thelypteris noveboracensis																
2					Rubus pennsylvanicus																
1					Trilium americanum																
1					TriFolium virginicum																
1					Onoclea sensibilis																
1					Ribes cynosbati																
4					Thamnomis virginiana																
1					Corynephorus maculatum																
2					Anemone sp																
1					Rubus alleghaniensis																

EXAMPLES OF PERCENT OF AREA COVERED

The following graphics 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, just different visual objects.



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.

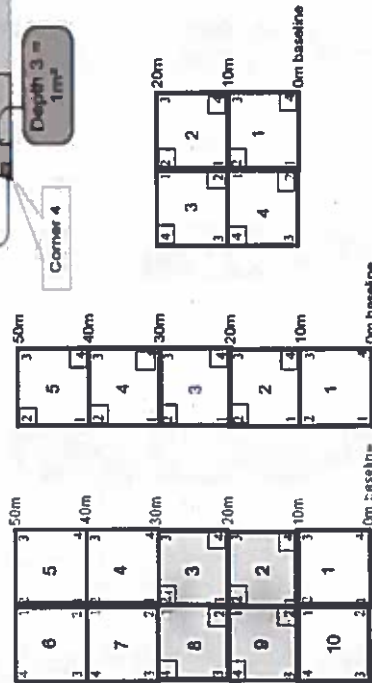
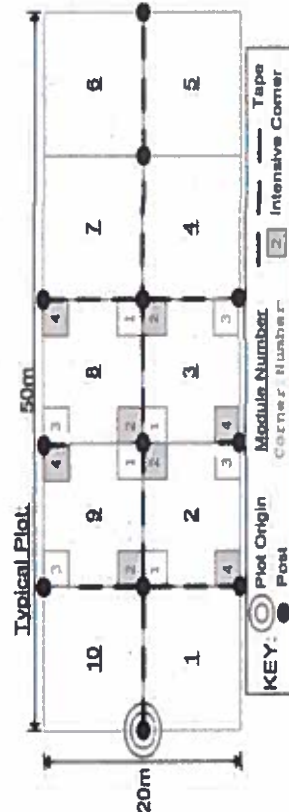
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3365

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Page of

PCAP

Project name: _____

Plot no.: _____

[illegible]

CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet

Project Label: PCAP

Project Name: 02M32015

Plot No.: 3365

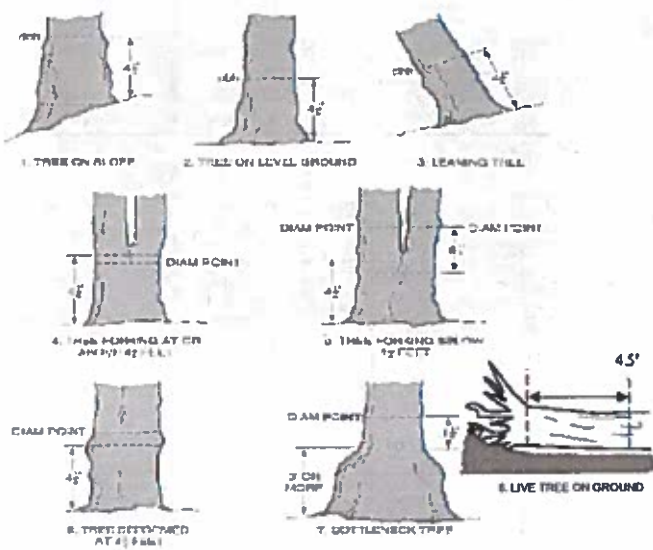
Page: 1 of 4



Explain subsample (additional room on back):

mod #	species	c	voucher#	# stems 0-1.4m browed	% sub or super sample	# shrub clumps	size class (cm)	woody stems > 1.4m	1	2	3	4	5	6	7	8	9	10	11
1	Fagus grandifolia						1	2	3	4	5	6	7	8	9	10	11		
1	Acer saccharum																		
1	Ostrya virginiana																		
1	Eurogymus albertus																		
1	Rubus allegheniensis																		
1	Viburnum acerifolium																		
1	Smilax latifolia																		
2	Fagus grandifolia																		
2	Ostrya virginiana																		
2	Strawberry																		
2	Acer spicatum																		
2	Acer spicatum																		
2	Viburnum acerifolium																		
3	Acer spicatum																		
3	Quercus rubra																		
3	Juniperus nigra																		
3	Prunus serotina																		
3	Strawberry																		
3	Lindera benzoin																		
4	Carya ovata																		
4	Acer saccharum																		
4	Ostrya virginiana																		
4	Strawberry																		
4	Tilia cordata																		

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.

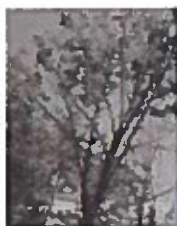
Record using the tally system from 1 to 10



1



2



3



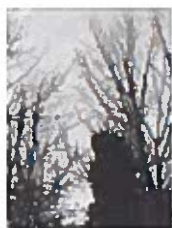
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ASH CANOPY CONDITION

- 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: 02M51015

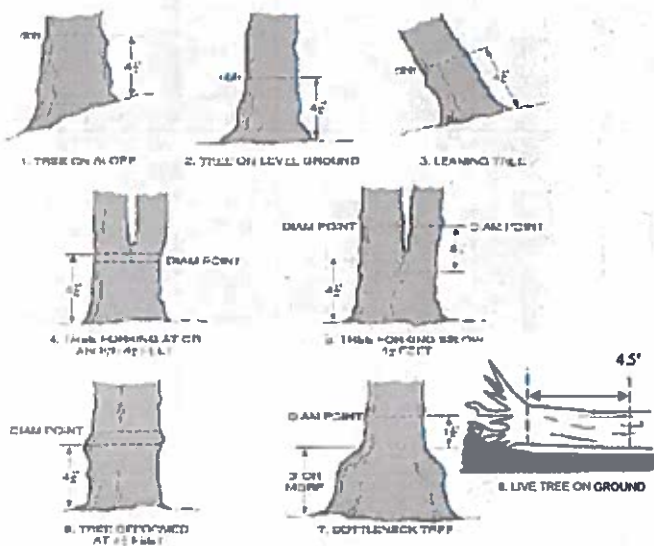
Plot No: 3365

Page: 2 of 4

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												
							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)		
4	Fraxinus americana																		
4	Acer rubrum																		
4	Hemamelis virginiana																		
4	Liriodendron virginicum																		
4	Liriodendron virginicum																		
5	Acer rubrum																		
5	Fraxinus americana																		
5	Strawberry tree																		
5	Acer saccharum																		
5	Larrea divaricata																		
5	Fraxinus americana Hemamelis virginiana																		
5	Smilax latifolia																		
5	Prunus serotina																		
5	Ostrya virginiana																		
5	Liriodendron virginicum																		
5	Fraxinus sp. seedling																		
6	Acer rubrum																		
6	Strawberry tree																		
6	Fraxinus americana																		
6	Prunus serotina																		
6	Larrea divaricata																		
6	Acer saccharum																		
6	Amelanchier sp.																		
6	Baccharis alba																		07.6

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



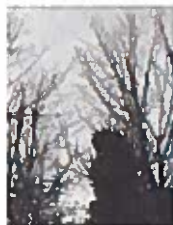
4



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

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CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet

Project Label: PCAP

Project Name: 02MS 2015

Plot No.: 3365

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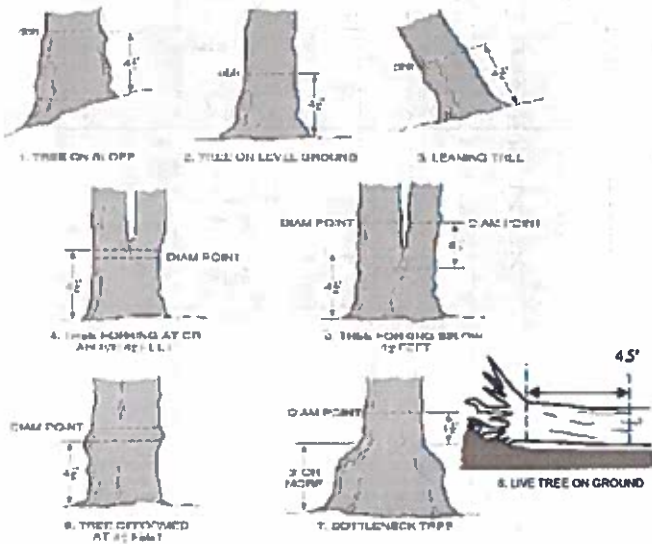


Explain subsample (additional room on back)

mod #	species	c	voucher#	# stems 0-1.4m browed	% sub or super sample	# shrub clumps	size class (cm) woody stems >1.4m	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)
6	<i>Ostrya virginiana</i>																	
6	<i>Eucymnus obtusatus</i>																	
6	<i>Fraxinus pennsylvanica</i>																	
7	<i>Hamamelis virginiana</i>																	
7	<i>Acer saccharum</i>																	
7	<i>Acer rubrum</i>																	
7	STANDING DEAD																	
7	<i>Carya cordiformis</i>																	
7	<i>Prunus serotina</i>																	
7	<i>Ostrya virginiana</i>																	
7	<i>Parthenocissus quinquefolia</i>																	
7	<i>Fraxinus pennsylvanica</i>																	
8	<i>Ostrya virginiana</i>																	
8	<i>Acer saccharum</i>																	
8	STANDING DEAD																	
8	<i>Quercus rubra</i>																	
8	<i>Acer rubrum</i>																	
8	<i>Carya ovata</i>																	
8	<i>Fagus grandifolia</i>																	
8	<i>Quercus sp.</i>																	
9	<i>Quercus rubra</i>																	
9	<i>Acer saccharum</i>																	
9	<i>Vitis aestivalis</i>																	
9	<i>Acer rubrum</i>																	

* mps id'd as *Carya glabra* 2010

DBH Measurement Rules



Woody Stem Deer Browse

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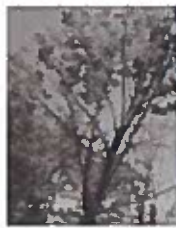
Record using the tally system from 1 to 10



1



2



3



4



5

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- E:** Central stem still standing.

CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet



Project Label: PCAP

Project Name: 12MS2015

Plot No.: 3365

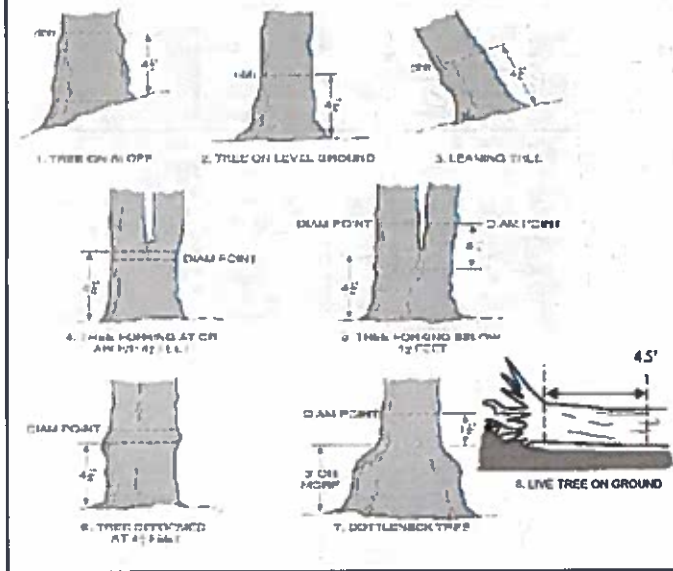
Page: 4 of 9

Explain subsample (additional room on back):

mod #	species	c	voucher#	# stems 0-1.4m browed	% sub or super sample	# shrub clumps	size class (cm) woody stems > 1.4m										
							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)
9	Fagus acandithia			1				..									
9	STANDING DEAD							..									
9	Fraxinus																
9	Lindera benzoin			1													
9	Fraxinus pennsylvanica			2													
9	Fagus grandifolia			1													
10	Fagus grandifolia			2			.	..	E	II							
10	STANDING DEAD							.									
10	Vitis aestivalis							.									
10	Tilia americana			1													
10	Smilax rotundifolia			1													
10	Rubus pennsylvanicus			2													
10	Rhamnus frangula			1													
5	Quercus alba									.							

SRE
8/31/15

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



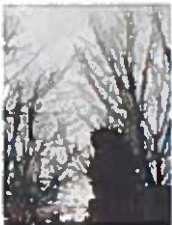
4



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)	Ht @ DBH	Ash condition	Dead condition	# Exit holes	Epicormic present	Woodpecker holes
1	Fraxinus sp.				10.7		34 X		0	0	0
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

* 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

Baseline	
9	8
2	3

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

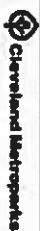
CLEVELAND METROPARKS Plant Community Assessment Program: Invasive Species Survey



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

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



Project Label: PCAP

Project Name: 02MS6015

Plot No.: 3305

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	<i>Fagus grandifolia</i>		..	..	..	..	..	..
2	<i>Fagus grandifolia</i>		..	..	..	..	..	..
3														
4	<i>Fagus grandifolia</i>													
5	<i>Fagus grandifolia</i>													
6	<i>Fagus grandifolia</i>													
7	<i>Fagus grandifolia</i>													
8	<i>Fagus grandifolia</i>													
9	<i>Fagus grandifolia</i>													
10	<i>Fagus grandifolia</i>			..	..	..	..	..	

* 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 Present
See Note

None Present 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

Beech did not exhibit any dark shading but ~~most~~ all were wrinkly/dried out. They did not look good at all!
Spice Bush dir back as well.

STANDING BIOMASS (required for emergent wetlands) collected in 1 m clip plots (13x13 cm) from corners 1 and 3 in each intensive module. Required for VIB/E score calculation. C7=check when collected

Module #	C7	Corner	Corner

CLASSIFICATION

(FT = excellent, F = Fair and Confidence)

Hydrogeomorphic class (WETLANDS ONLY)

<input type="checkbox"/> DEPRESSION	Fit=	Conf=
<input type="checkbox"/> INPOUNDMENT <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 type="checkbox"/> SLOPE (ground wet by hydrology or on a physical slope)	Fit=	Conf=
<input type="checkbox"/> FLOODING <input type="checkbox"/> Reservoir <input type="checkbox"/> Natural Lake	Fit=	Conf=
<input type="checkbox"/> COASTAL (specify subclass)	Fit=	Conf=
<input type="checkbox"/> BOD (strongly, moderately, weakly ombrotrophic)	Fit=	Conf=
Other EPA VIBI Plant Community Class (WETLANDS 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"/> 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

Features for microtopographic 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 (sh)
 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

mod#	corner	tussocks		hummocks		depressions		(2-12 cm)		(12-10cm)		>10 cm		microhab.		microhab.	
		depth 3 1x1m	(count)	depth 2 3.16x3.16m	(count)	depth 1 10x10m	(count)	depth 1 10x10m	(count)	depth 1 10x10m	(count)	depth 1 10x10m	(count)	depth 1 10x10m	(count)	depth 1 10x10m	(count)
2		6	0	0	0	0	0	10	3	3	0	0	2	2	1	1	1
3		0	0	0	0	1	1	14	3	3	0	0	2	2	1	1	1
8		0	0	0	0	1	1	23	0	0	0	0	2	2	1	1	1
4		0	0	0	0	0	0	6	4	4	0	0	1	1	1	1	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

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

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

CARDINAL COVER (DIRECTIONALITY) SCALE
 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	0	1	1
3	0	0	0	1
8	0	1	0	0
4	1	0	1	0

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.

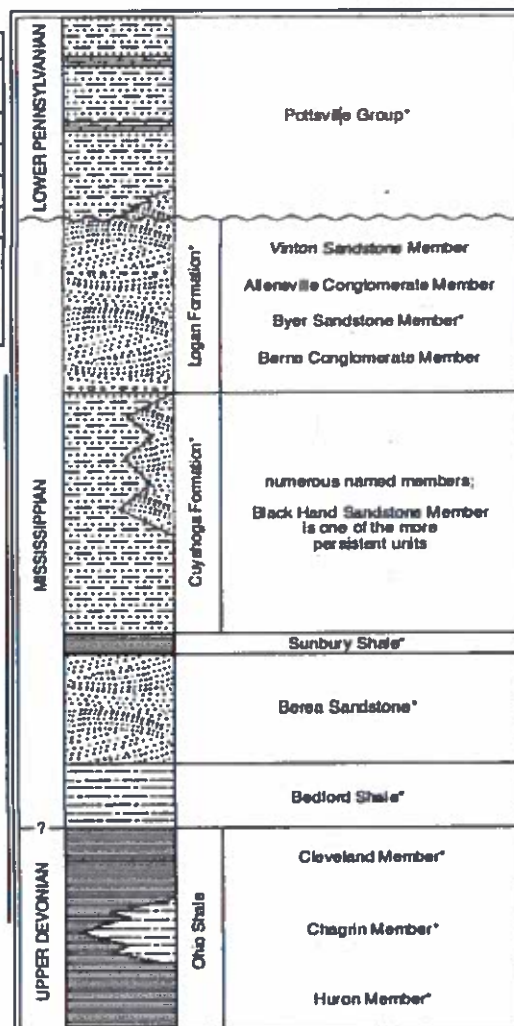
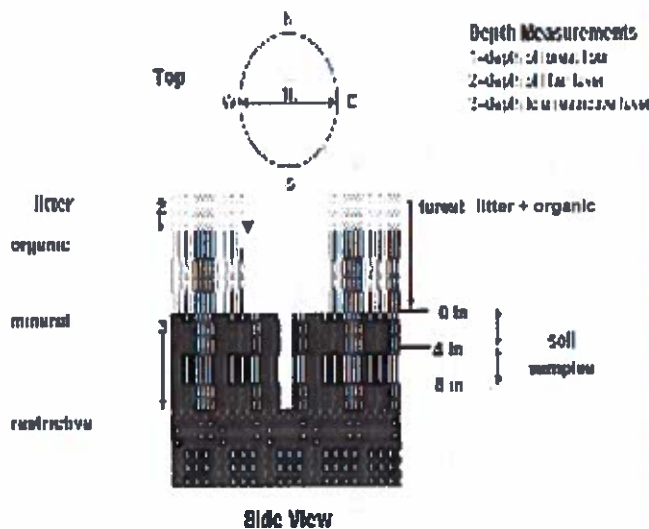


FIGURE 3-30.—Generalized section of Upper Devonian, Mississippian, and Lower Pennsylvanian formations in northeastern Ohio. Asterisks indicate units that are fossiliferous. This composite section represents about 400 meters of rock exposed across the area. The section is not to scale, but the thicknesses 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 (1978) for more information on Mississippian rocks in Ohio. See figure 3-18 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)

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

Soil Collection Module	Percent (A, B, C)
2,3,4,9 composite	A

Wild Soil Survey Information

Soil Series/Type:

Soil Series Source: Ohio Soil Survey

Landform type:

Depth to root layer:

Parent Material:

Soil Balance*

- ☐ Excessively dr. ☐ Somewhat excessively dr.
- ☐ 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

mod	1 liter+ organic depth (cm)	2 liter depth (cm)	water depth (cm)	depth at soil (cm)
2	3.4	3.4	0	0
3	2.5	2.5	0	0
8	2.6	2.6	0	0
9	1.9	1.9	0	0

EARTH SURFACE & GROUND COVER

Underlying Earth Surface*	Ground Cover	percent
Grass = 100%	percent (each < 100%)	
Histosol	Coarse Woody Debris***	8
Mineral Soil	Fine Woody Debris****	5
Gravel-Cobble*	Litter	95
Boulder**	Duff (Ferm + Humus)	0
Bedrock	Bryophyte-Lichen	2
	Water	0
* Gravel-Cobble = 1/16-10"	Bare Soil	2
** Boulder = > 10 in	Rock/Tree	5
*** > 5 cm in diameter	Other	
**** < 5 cm in diameter		

TRAIL INFORMATION:

trail type and cover for each	%Cover
Type	
All Purpose	
Bridle	
Hiking sanctioned	
Hiking unsanctioned	5
Gravel	
Deer	

old trail

COVER BY STRATA

estimate using midpoints of 5, ex: 3, 8, 13

Strata	Height Range (m)	Total Cover (%)
Tree	7.5	83
Shrub	0.5-5	8
Herb	< 0.5	
(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.

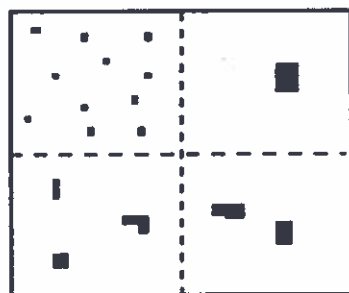
STAND SIZE

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

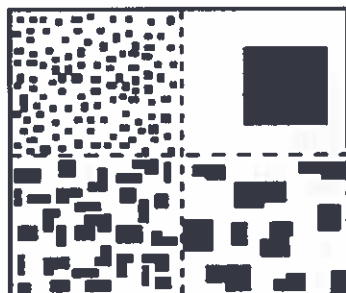
2-castings present
 3-castings present
 8-worms & castings present
 9-castings present

PERCENT MOTTLES (USE CLASS CODES):

Class	Code	Criteria: % of Surface Area Covered
Conv.	NASIS	
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.

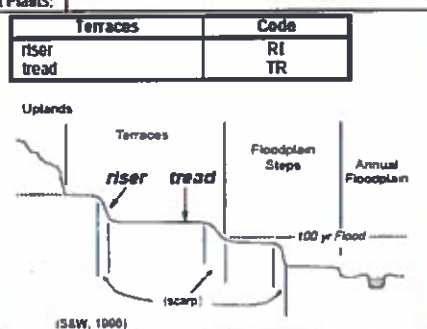
- 0= Organic
- 1= Loamy
- 2= Clayey
- 3= Sandy
- 4= Coarse Sand
- 9= Not measured - make plot note

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	NASIS
POP		
interfluvial	IF	IF
head slope	HS	HS
nose slope	NS	NS
side slope	SS	SS
base slope	BS	BS



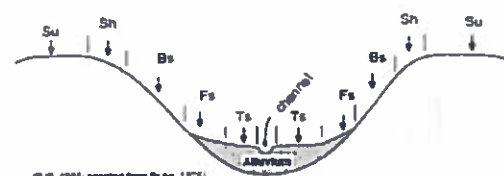
(P.J.S. 1990; adapted from Rube, 1975)



(S&W, 1990)

Hillslope - Profile Position (Hillslope Position in POP) - 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.J.S. 1990; adapted from Rube, 1975)

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/SEMIPERMANENTLY 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.

SEMIPERMANENTLY 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.