

CLEVELAND METROPARKS Plant Community Assessment Program: Quality Control Form



Project Label:

PCAP

Plot No:

3362

Date Sampled:

9/2/15

Lead:

CKM

Comment required if item answer is NO

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

8/17/15

Found all pins except origin (which was out of the ground), 20m left side and 10m right side. Very large (non-bald face) hornets

nest

at Mod 2 in large, twin tulip

D

Q

CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet

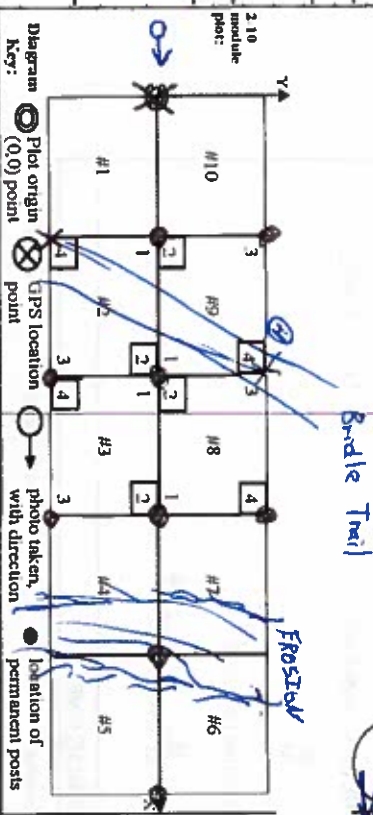
GENERAL INFORMATION			
Project Label:	PCAP		
Project Name:	02 BR 2015		
Plot Name:	The End		
Plot No.:	3362		
<input type="checkbox"/> Level 4 (no nested corners sampled) <input checked="" type="checkbox"/> Level 5 (nested corners sampled)			
Date (mm/dd/yyyy):	9/2/2015		
End date (if > 1 day):	/ /		
Party:	C. Minney		
	D. Sweet		
	M. Getgey		
	Woody Tech		
	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 <input type="checkbox"/> Accurate <input type="checkbox"/> Hurried subjective evaluation of how much effort put into sampling. Hurried plots may still provide good data			
TAXONOMIC ACCURACY			
	high	modera.	low
vascul.	<input checked="" type="checkbox"/>		n/a
brvo			<input checked="" type="checkbox"/>
lichen			<input checked="" type="checkbox"/>
TAXONOMIC STANDARD			
Authority:	G&C	Pub Date:	1998

Minimum required fields in Bold and Underlined

LOCATION	
State:	OH
County:	Cuyahoga
Quadrangle:	Northfield
Local Place Names:	Riverview Rd.
Landowner:	CMP
Data Confidentiality:	<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:	<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:	41.30534
Longitude:	81.59028
Coord. Accuracy:	8 m
GPS File Name:	3362 2015
Plot size for cover data:	0.1 (hectares)
X-axis Bearing of plot:	348°
Depth: (1-5):	4
Intensive modules: 2, 3, 8, 9	
Camera No.:	4
Photo Nos.:	4936
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

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: 2x5

Location: ~boom south of intersection of Chippewa Creek Dr and Riverview Rd. there is a gated road on the west side of Riverview Rd. Use park key and drive back to fenced in native plant nursery/exclosure. Plot is ~450m SE from here. A series of trails cross the area, a better map would be helpful. A bridle trail runs through plot.

Rationale: GRTS

Veg Characterization: The canopy is dominated by Acer negundo and A. saccharum with a mixture of others. The shrub layer is extremely sparse. The herb layer is dominated green Ash, white grass and Galium.

CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet

Plot No.: 3362

Project Name: 02 BR 2015

Project Label: PCAP

MODIFIED NATURESERVE CLASS* CODE (on separate form): <u>D</u> Fit= Conf=	
COMMUNITY NAME: <u>Mixed forest</u>	
HOMOGENEITY <input type="checkbox"/> Homogeneous <input type="checkbox"/> Compositional trend across the plot <input checked="" type="checkbox"/> Conspicuous inclusions <input type="checkbox"/> Irregular/patchy mosaic	

DISTURBANCES				
type*	severity**	yrs ago	% of plot	description
Human				
Natural	ML	0	8	Erosion of litter and soil
Fire				
Cut				
Animal	MH	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 *	
<input checked="" type="checkbox"/> Upland (seldom flooded)	<input type="checkbox"/> Intermittently flooded
<input type="checkbox"/> Intermittently/seasonally saturated	<input type="checkbox"/> Semipermanently flooded
(seldom flooded)	<input type="checkbox"/> Permanently flooded
<input type="checkbox"/> Permanently/Semipermanent, saturated	<input type="checkbox"/> Tidal/Seiche flooded daily
(dry <1/yr, seldom flooded)	<input type="checkbox"/> Tidal/Seiche flooded monthly
<input type="checkbox"/> Occasionally flooded (<1/yr)	<input type="checkbox"/> Tidal/Seiche flooded irregular
<input type="checkbox"/> Temporarily flooded	(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)	

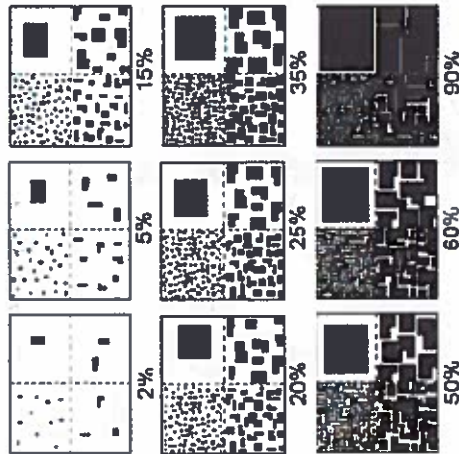
(by default unless plot is a wetland)

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

The stand is somewhat un-even-aged. The front mounds are receiving a lot of sunlight and are more diverse and thick than the backs mounds which are almost bare in places except for old Garlic Mustard stalks and *Allium triquetrum*. Stiltgrass is being introduced from south side creek area. There was a hornet's nest in Mound that prevented us from doing detailed sampling there. Plot not homogeneous and Garlic Mustard cover is under represented because most of it is dormant. There is a nice population of Chinkapin Oak near back of plot and one is fairly large.

EXAMPLES OF PERCENT OF AREA COVERED

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

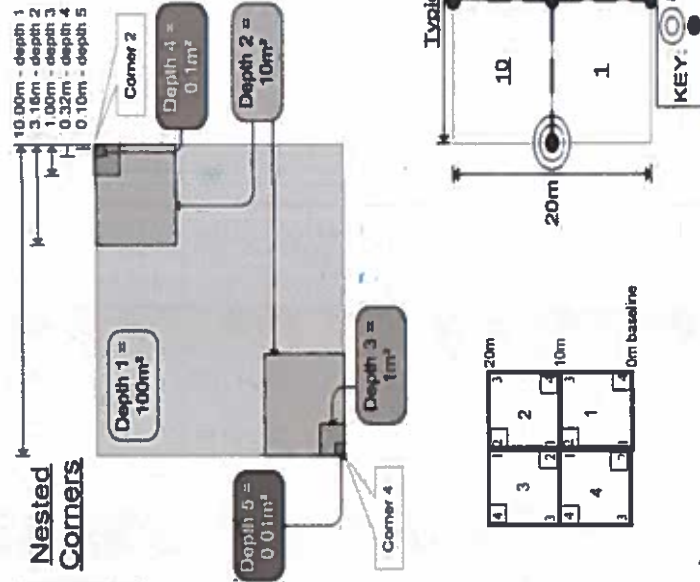
MEDIUM LOW values include evidence of browse at about 10 percent of the stems with no significant impact to plant reproduction evident. In this rating, plants are browsed but preferential species are observed to be reproducing in numbers that appear normal or near-normal in comparison to low browse areas. 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: 02BR2015
 Intensive modules: 4 Plot configuration: 2x5

Plot no.: 3362
 Plot area (ha): 0.1



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

Strata - Cov. entire plot

Cleveland
Metroparks

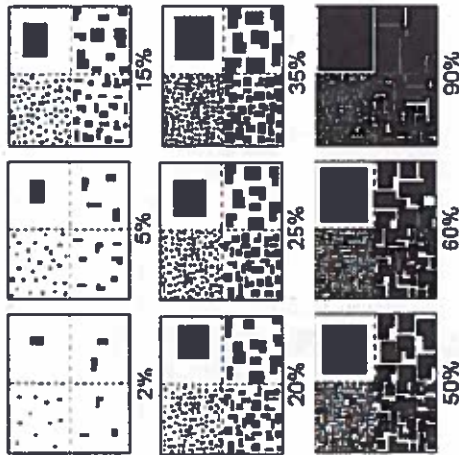
Br = Browse Level Use cover classes to
describe amount of browse per species over
entire plot

Strata - Cov. entire plot

					Species	C	Voucher #	Estimate for each intensive module:																						
								%open water				%unvegetated open water				%unveg. ground (bare soil)				%unveg. litter (bare litter)										
								depth		cov		depth		cov		depth		cov		depth		cov		depth		cov				
S	H	(F)	(A)	Br				mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner			
2					<i>Scirpus atrovirens</i> CKM	X	CKM469	2	2																					
1				10	<i>Agrimonia</i> sp.			2	1																					
2					<i>Toxicodendron radicans</i>			2	2																					
2					<i>Galium triflorum</i> CKM	X	CKM467	2	2	2																				
3					<i>Allium tricoccum</i>			2	3	4						2	3	4												
2				7	<i>Lindera benzoin</i>			2	2							2	2													
2					<i>Fagus grandifolia</i>			2	2																					
2					<i>Vitis riparia</i>			2	2																					
2-3					<i>ALIKIA PETIOLATA</i>				2	3						2	3	4												
2					<i>Carya cordiformis</i>				1	2																				
2					<i>Elymus hystrix</i>				2	2						1	2													
3					<i>Carex albursina</i> CKM	X	CKM472					4	2																	
2					<i>Prunus serotina</i>				2	2																				
2					<i>Docteur 1 Agrostis perfoliata</i> CKM	X	CKM470	1	2																					
2					<i>Euonymus alatus</i>			1	1																					
2					<i>DIKESNIA INDIKA</i> CKM	X	CKM473					1	3																	
2					<i>Carex hirtifolia</i> CKM	X	CKM473	1	3							2	2													
2					<i>Polygonum sagittatum</i>			1	1																					
2					<i>Dryopteris carthusiana</i>			1	2							2	3													
2				7	<i>Taraxacum officinale</i>			1	2																					
2-2					<i>Carpinus caroliniana</i>			1	2																					
2					<i>Quercus</i> sp. (seedling)											2	2							1	1					
2					<i>Verbesina alternifolia</i>											2	2													
1					<i>Ranunculus hispidus</i>											2	1													
2-2					<i>BERBERIS THUNBERGII</i>											2	2													

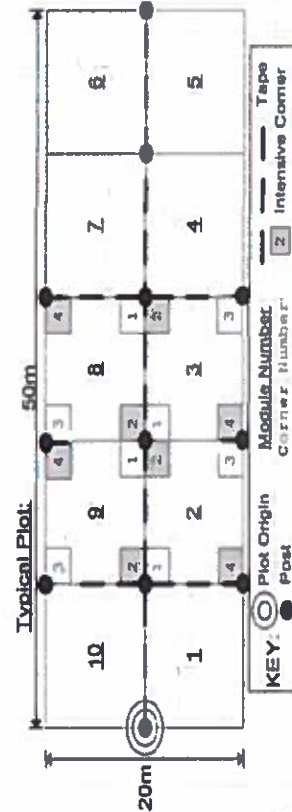
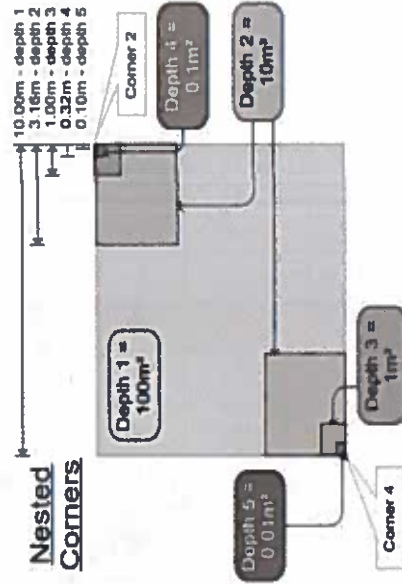
EXAMPLES OF PERCENT OF AREA COVERED

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



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.

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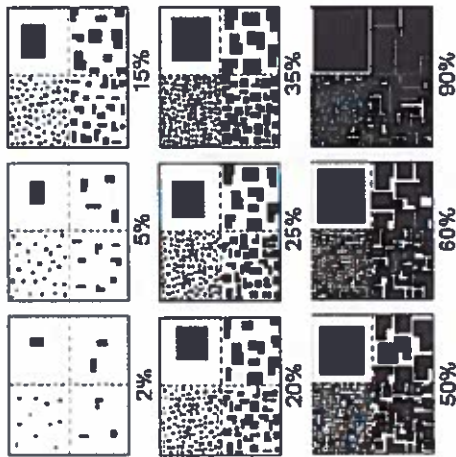
MEDIUM HIGH values include evidence of a browse line and 25 percent of stems browsed with very little vegetation regeneration evident. In this rating, for some species of plants, reproduction does not appear to occur or it is very severely limited.

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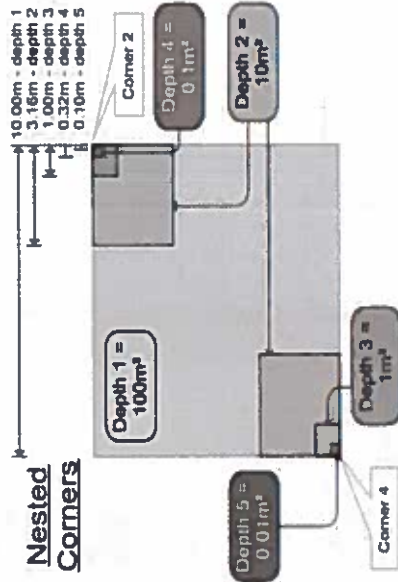
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1	solitary or few	0.0001
2	0-1%	0.005
3	1-2%	0.015
4	2-5%	0.035
5	5-10%	0.075
6	10-25%	0.175
7	25-50%	0.375
8	50-75%	0.625
9	75-85%	0.850
10	85-100%	0.975

Nested Corners



BROWSE RATING NARRATIVE DESCRIPTION

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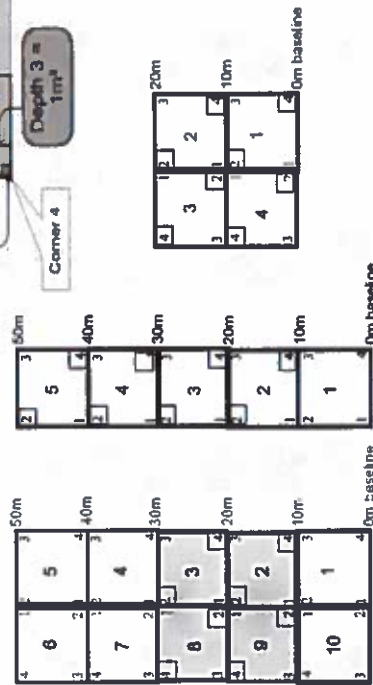
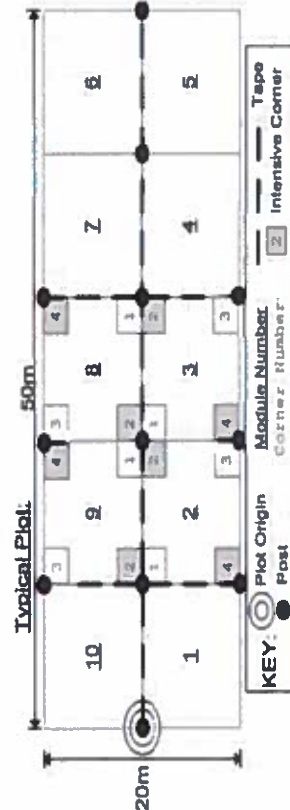
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[illegible]

Page of

PCAP

Project name:

Plot no.:

Page of [illegible]

CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet

Project Label: PCAP

Project Name: 02BR2015

Plot No.: 3362

Page: 1 of 3



Explain subsample (additional room on back):

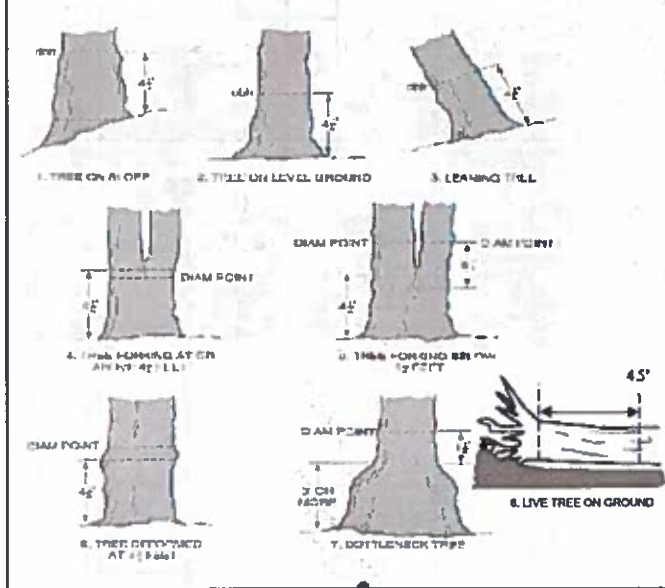
mod #	species	c	voucher#	# stems 0-1.4m browed	% sub or super sample	# shrub clumps	size class (cm) woody stems >1.4m												
							1	2	3	4	5	6	7	8	9	10	11		
							0-1	1-2.5	2.5-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	>40 (record each tree)		
1	Acer Nigrum																		
1	Acer Saccharum																		
1	Fraxinus pensylvanica			14															
1	Rosa multiflora			6															
1	Parthenocissus quinquefolia			2															
1	Rubus pensylvanica			1															
2	Toxicodendron radicans																		
2	Acer Saccharum																		
2	Parthenocissus quinquefolia			1															
2	Fraxinus pensylvanica			4															
3	Acer nigrum																		
3	Acer Saccharum																		
3	Vitis rotundifolia																		
3	Shady dead																		
3	Fraxinus pensylvanica			4															
4	Acer nigrum																		
4	Aesculus glabra																		
4	Shady dead																		
4	Acer Saccharum																		
4	Fraxinus pensylvanica			3															
4	Rosa multiflora			2															
4	BEBBERIS THUNBERGII																		
4	Acer sp. (seedling)			2															
5	Acer Saccharum																		

15-20 A. sac. #
from 2nd brock
in half

48.7

40.1

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.

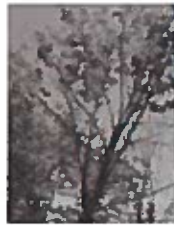
Record using the tally system from 1 to 10



1



2



3



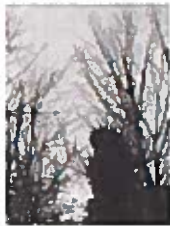
4



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

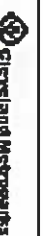
E

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)

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

CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet



Project Label: PCAP

Project Name: 02B22015

Plot No.: 3362

Page: 2 of 3

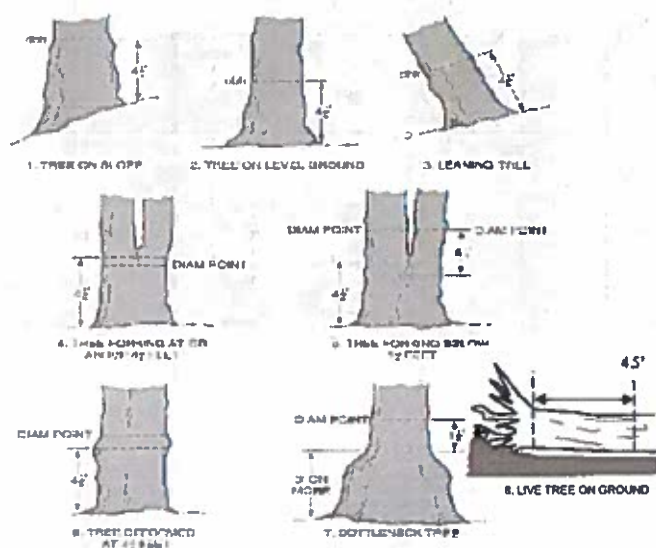
Explain subsample (additional room on back):

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)		
5	Acer nigra																		
5	Standing dead																		
5	Quercus macrocarpa																		
5	Rosa multiflora																		
5	Fraxinus pennsylvanica																		
5	Carya cordiformis																		
5	Vitis riparia																		
6	Acer nigra																		
6	Standing dead																		
6	Carya cordiformis																		
6	BEBBERS THUNDERBOLT																		
6	Fraxinus pennsylvanica																		
7	Acer saccharum																		
7	Ostrya virginiana																		
7	Standing dead																		
7	Padanissis juniper spha																		
7	Fraxinus pennsylvanica																		
7	Susler p. atrophy. h. sp. d.																		
8	Acer saccharum																		
8	Vitis SP (Seedling)																		
9	Acer argum																		
9	Vitis americana																		
9	Liriodendron tulipifera																		
9	Fraxinus pennsylvanica																		

Used 2016
PCAP Natural Woody Stem Data Sheet ver 2.0.xls last revised 5/29/2012 jlm

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.

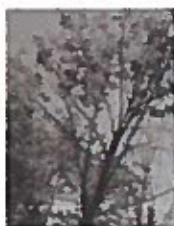
Record using the tally system from 1 to 10



1



2



3



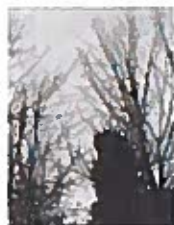
4



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)

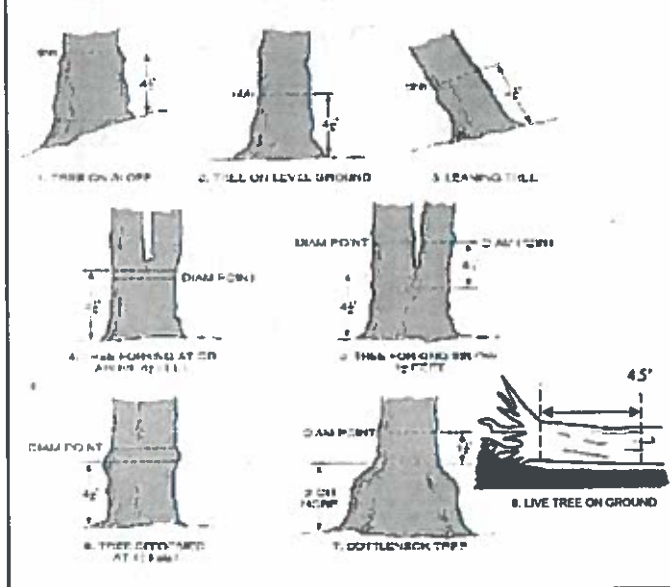
- A:** All main branches contain fine twigs (newly dead).
- B:** Over 50% of main branches have fine twigs.
- C:** Less than 50% of main branches have fine twigs.
- D:** Stem still standing and tertiary main branches present.
- E:** Central stem still standing.

Cleveland Metropolitan

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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)

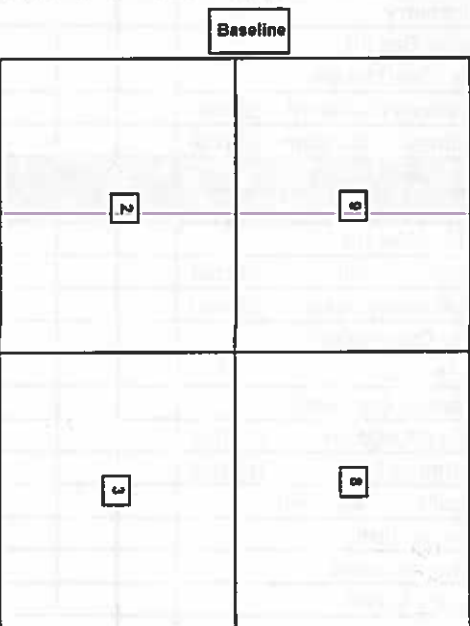
- A:** All main branches contain fine twigs (newly dead).
- B:** Over 50% of main branches have fine twigs.
- C:** Less than 50% of main branches have fine twigs.
- D:** Stem still standing and tertiary main branches present.
- E:** Central stem still standing.

Tree ID	Species	Dead	Voucher #	DBH (cm)	Hit @ DBH	Ash condition	*Dead condition	# Ext holes	Episodic present	Woodpecker holes
1	None present									
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 1.25m² x 21.5m
 Woodpecker and epicornic marked present (1) or absent (0)



*** Change intensive module numbers when necessary



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: 02822015

Plot No.: 3362

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>None present</i>													
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 stom 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)	<i>None</i>	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

STANDING BIOMASS (required for emergent wetland) collected in 0.1m dip plot (32x32 cm) from corners 1 and 3 in each intensive module. Required for VIBI-E score calculation. Check when collected

Module #	C7	Corner	Corner

CLASSIFICATION

HT = excellent, F = Fair and Confidence

Hydrogeomorphic class (WETLANDS ONLY)

<input type="checkbox"/> DEPRESSION	Fit =	Conf =
<input type="checkbox"/> IMPONDMENT <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 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 subdelta)	Fit =	Conf =
<input type="checkbox"/> BOD (strongly, moderately, weakly ombrotrophic)	Fit =	Conf =

Ohio 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

Rank 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 (H)

Slope 2 = 10% 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

	no. of tussocks	no. of hummocks (Tip-Lip)	no. macro depressions	C.W.D. (2-12 cm)	C.W.D. (12-10cm)	C.W.D. >40 cm	microhab. interspers.	microhab. SLURP
depth 3	depth 2	depth 1	depth 1	depth 1	depth 1	depth 1	depth 1	depth 1
1x1m	3.1x3.1cm	10x10m	10x10m	10x10m	10x10m	10x10m	10x10m	10x10m
(count)	(count)	(count)	(count)	(count)	(count)	(count)	(rank)	(rank)
2	0	0	0	3	0	0	2	1
3	0	0	0	8	1	1	3	1
8	0	0	0	9	0	0	2	1
9	0	0	0		0	0	2	0

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

MCNAB INDICES (downstream) + for up - for down

FILED 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 (question within landscape)

Terrain Slope Index (take microtopographic shape)

CHOWN COVER (DECAHOMETER) M4 e 4
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	2	3	4	0
3	9	3	15	4
8	1	2	2	1
9	2	2	5	2

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.

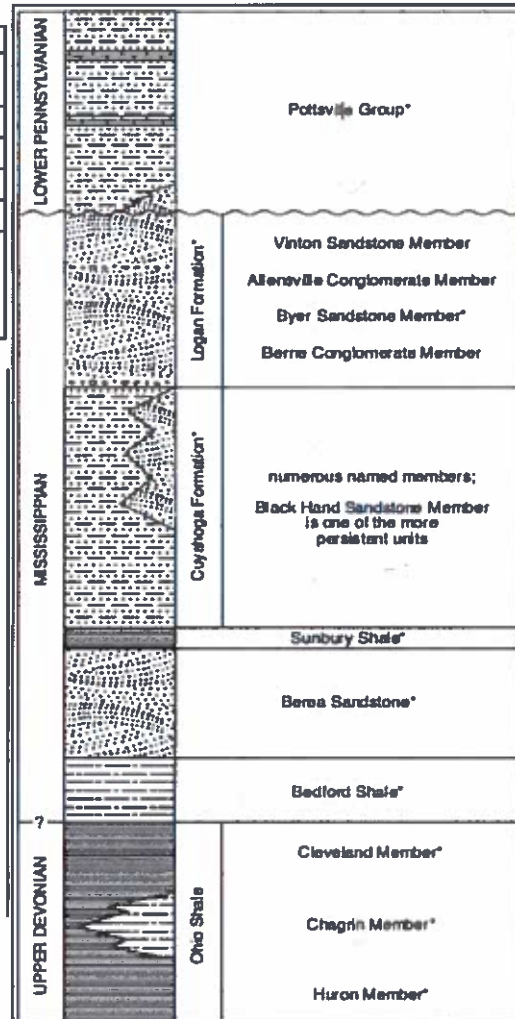
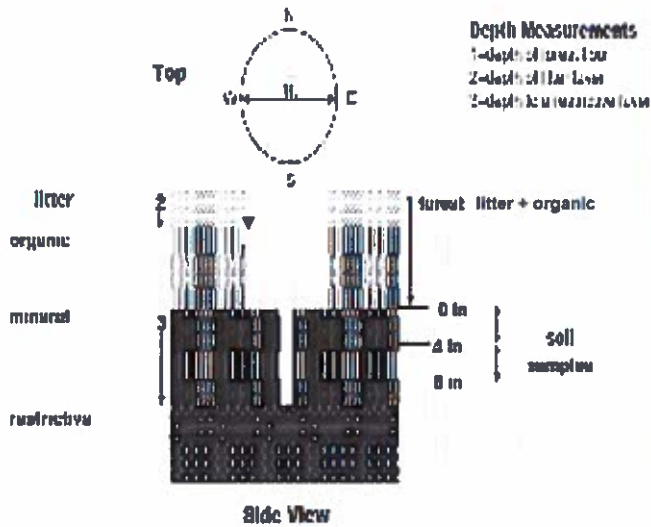


FIGURE 3-20 —Generalized section of Upper Devonian, Mississippian, and Lower Pennsylvanian formations in northeastern Ohio. Asterisks indicate units that are fossiliferous. This composite section represents about 400 meters of rock exposed across the area. The section is not to scale, but the thicknesses 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 3-18 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)

5 cm	matrix color
	moist color
	%mottled
	oxid roots
	texture*
	redox features**
	hydr. cond.***
20 cm	matrix color
	moist color
	%mottled
	oxid roots
	texture*
	redox features**
	hydr. cond.***

Soil Collection Module	Horizon (A, B, C)
2.3.4.9 composite	A
Soil Survey Information	
Soil Series/Type	
Soil Series Source	Ohio Soil Survey
Landform type	
Depth to rest. 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 depth (cm)	water depth (cm)	depth sat soil (cm)
Mod 2: Worms/Casting/mud	1.0	1.0	0	0
Mod 3: Worms/Casting/mud	2.6	2.6	0	0
Mod 8: Worms/Casting/mud	1.4	1.4	0	0
Mod 9: Worms/Casting/mud	0.8	6.8	0	0

EARTH SURFACE & GROUND COVER

Underlying Earth Surface*	Ground Cover	percent
Gravel = 100%	percent	
Gravel = 100%	percent	
Gravel-Cobble*	Coarse Woody Debris***	8
Gravel-Cobble*	Fine Woody Debris****	4
Gravel-Cobble*	Litter	74
Boulder**	Duff (Ferm + Humus)	0
Boulder**	Bryophyte-Lichen	2
Boulder**	Water	0
Boulder**	Bare Soil	11
Boulder**	Read Trail	8
Boulder**	Other	

COVER BY STRATA
 estimate using midpoints of 5, 9, 3, 8, 13 %

Strata	Height Range (m)	Total Cover (%)
Tree	5 - 1	78
Shrub	0.5 - 5	8
Herb	0 - 0.5	53
(Floating)*	-	-
(Aquatic)*	-	-

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

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

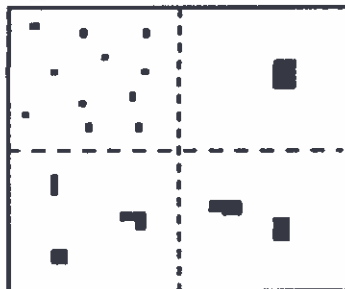
STAND SIZE

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

TRAIL INFORMATION:	
record type and cover for each	
Type	%Cover
All Purpose	
Bridle	8
Hiking sanctioned	
Boatleg unsanctioned	
Gravel	
Deer	

PERCENT MOTTLES (USE CLASS CODES):

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



2%



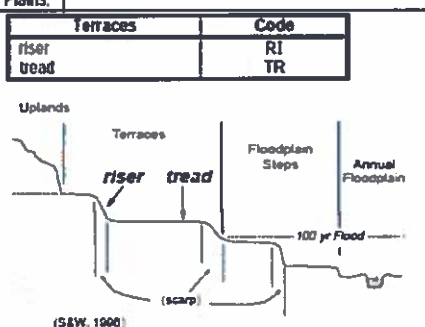
20%

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

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

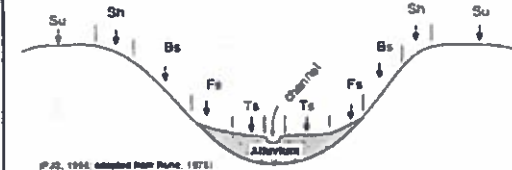
Geomorphic Component - Three-dimensional descriptors of parts of landforms or microfeatures that are best applied to areas. Unique descriptors are available for Hills, Terraces, Mountains, and Flat Plains; e.g., (for Hills) nose slope or NS.

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



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

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



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

UPLAND: Not a wetland. Very rarely flooded.

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

PERMANENTLY/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 levels 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.