

CLEVELAND METROPARKS Plant Community Assessment Program: Quality Control Form



Project Label:

PCAP

Plot No:

1047

Date Sampled:

7/20/15

Lead: LKM

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	<input checked="" type="radio"/> N	
Site sketch made on 1:3000 map?	<input checked="" type="radio"/> Y	<input checked="" type="radio"/> N	
Check cover page	X-axis Bearing of plot recorded	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
	GPS coords. Recorded	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
	North direction recorded	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
	Photographs taken?	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
	Relocated Pins Mapped	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
Plot No., Date agreement on all pages?	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N		
Header data completed all pages?	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N		
Cover classes recorded in all Intensive modules	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N		
Browse Level By Species	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N		
Woody stem quality control check	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	Check every line and cross check with the Tree Cover Sheet	
Invasive plant quality control check	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	NA	
Ash trees mapped	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N		
Completed Forest Pest/Pathogen Datasheet	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N		
Cover by Strata? (confirm cover type)	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N		
Soil samples collected with matching plot #.	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	NA	
Cross check 2010 information	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	Highlight any changes from 2010 information	
Vouchers labeled on datasheet with initials and number	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N		
Vouchers labeled on collection bag	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N		
Pink flags removed	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N		
Data sheet QA before leaving site?	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N		
Common equipment returned to tub.	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N		
Data sheets scanned?		Enter date to left	
Final data sheets scanned?		Enter date to left	
Buffer Widths measured?	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N		
Web Soil Survey	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N		
Voucher Location	Refrigerator	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
(# vouchers collected)	Press (#)		Enter number to left
LKM200 - 209	Drier	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
	Identified	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
	Mounted	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
	Thrown away	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	

GRTS point verification: Is plot sampleable?

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

Additional Comments:

--

Sarah help
Set up!
No Tsuga



Handwritten text, possibly a signature or date, oriented vertically.

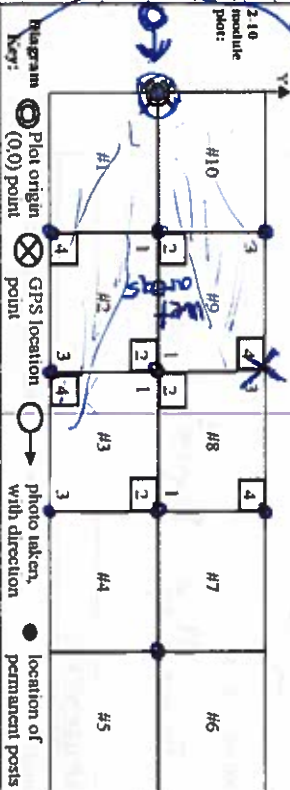
CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet

GENERAL INFORMATION			
Project Label:	PCAP		
Project Name:	02 BE 2015		
Plot Name:	Bridal Veil Slopes		
Plot No.:	1047		
<input type="checkbox"/> Level 4 (no nested corners sampled) <input checked="" type="checkbox"/> Level 5 (nested corners sampled)			
Date (mm/dd/yyyy):	07/20/2015		
End date (if > 1 day):	/ /		
Party:	C. Minney	Plot leader	
	M. Busan		
	R. Eagle-Malone	Woody Tech	
** Roles: Co-leader, Asst. 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	moderate	low
vascul.	<input checked="" type="checkbox"/>		n/a
lyco		<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:	Bridal Veil Falls
Landowner:	CMP
Data Confidentiality:	<input checked="" type="checkbox"/> Public data <input type="checkbox"/> Private Data
Check one:	<input checked="" type="checkbox"/> Fuzz 100m <input type="checkbox"/> Fuzz 250m <input type="checkbox"/> Fuzz 500m
Reason:	
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"/> deg <input type="checkbox"/> deg min <input type="checkbox"/> Other (specify)
Datum:	<input checked="" type="checkbox"/> NAD83/WGS84 <input type="checkbox"/> NAD27
GPS location in plot (x=0 to 5, y=-1, 0, +1):	SEF
x = 0 y = 0 (base of plot x=0, y=0)	11-24-15
Latitude:	41.37316 41.37294
Longitude:	81.55457 81.55127
Coord. Accuracy:	X m <input type="checkbox"/> ft
GPS File Name:	1047A
Plot size for cover data:	.1 (hectares)
X-axis Bearing of plot:	[91]°
Depth: (1-5):	4
Intensive modules:	2, 3, 8, 9 (EDIT IF MODIFIED)
Camera No.:	4
Photo Nos.:	4503
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: 2x5
 Location: Park at Bridal Veil Falls parking lot. Walk NW along George Pkwy for ~100m. Turn North onto Trail there and continue until it takes a sharp left. From there continue uphill to top of hill spine crossing two paths. After walking a short distance down North along hill spine, Rationale: GRTS go downhill to lowest trail. Plot is Veg characterization: The canopy is off the very busy at three distinct levels though no layer is uniform throughout. Tulip dominates the highest area, Red Maple the mid area and Sugar Maples and Beech in the low area. The shrub layer is dominated by sugar maple with some Beech. The herb layer is dominated by various graminoids and some Christmas Fern.

OVER

MODIFIED NATURE RESERVE CLASS* CODE (on separate form): <u>C02</u> COMMUNITY NAME: <u>Beech Made Forest</u>		Fit= _____ Conf= _____		
HOMOGENEITY <input type="checkbox"/> Homogeneous <input checked="" type="checkbox"/> Compositional trend across the plot <input type="checkbox"/> Conspicuous inclusions <input type="checkbox"/> Irregular/pattern mosaic				
DISTURBANCES				
type*	severity**	yrs ago	% of plot	description
Human	M	0	10	Trash and cut logs rolled
Natural	ML	0	20	Water runoff erosion of /
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: <u>CNP</u>				
Former Land Use:				

HYDROLOGIC REGIME*	
SALINITY*	<input checked="" type="checkbox"/> Upland (seldom flooded) <input 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"/> Temporarily 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
	<input type="checkbox"/> Saltwater <input type="checkbox"/> Brackish <input type="checkbox"/> Fresh
	<input checked="" type="checkbox"/> Upland (n/a)

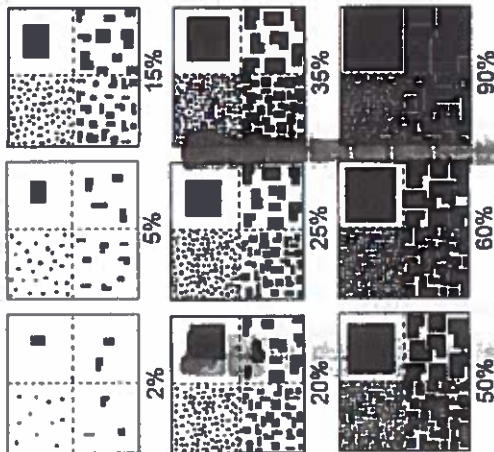
Additional notes & diagrams: (Representativeness of plot to the stand, successional status, maturity, etc.) ✓ had sentence

The plot is ~~slightly~~ ^{well} ~~represented~~ though not very overrepresented. The Tulips are the tallest trees for the most part but have weevils and look ragged. The plot is mostly rich woods with some wet areas and their associated plant species. Fairly high graminoid diversity.

A large ~~tree~~ Red Oak has died ~~in~~ in Mod 1 possibly introducing more sunlight in the recent past. The water runoff and subsequent leaf litter erosion is alarming to me but it is hard to gauge what is "normal" since this year has seen a lot of heavy rain and this is my first ~~season~~ season here.

EXAMPLES OF PERCENT OF AREA COVERED

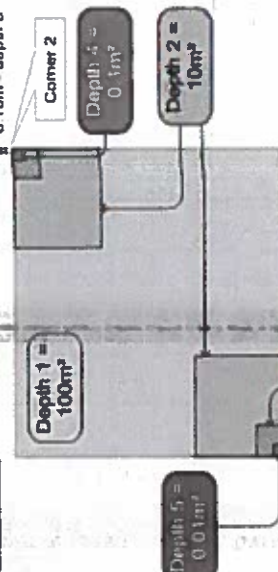
The following graphic can be used for various data elements to convey "Amount" or "Quantity". NOTE: Within any given box, each quadrant contains the same total area covered, just different sized objects.



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

Nested Corners

Depth 1 = 100m²
 Depth 2 = 10m²
 Depth 3 = 1m²
 Depth 4 = 0.1m²
 Depth 5 = 0.01m²



BROWSE RATING NARRATIVE DESCRIPTION

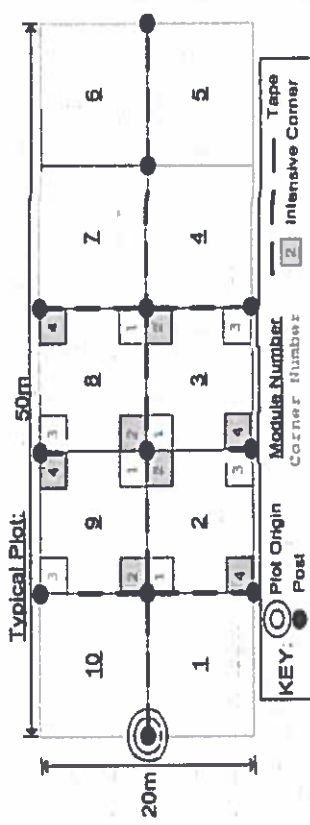
LOW OR NONE: there is no measurable browse line AND there are very few or no plants 1-m nested quadrat and intensive module. In general, low values relate to less than 10 percent, by numbers of stems browsed. **MEDIUM LOW** values include evidence of browse at about 10 percent of the stems with no significant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



Project Label: PCAP Project name: 02-BE2015 Plot no.: 1047 Page 2 of 4
Total modules: 10 Intensive modules: 4 Plot configuration: 2x5 Plot area (ha): .1



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

Strata - Cov. entire plot

Cleveland
Metroparks

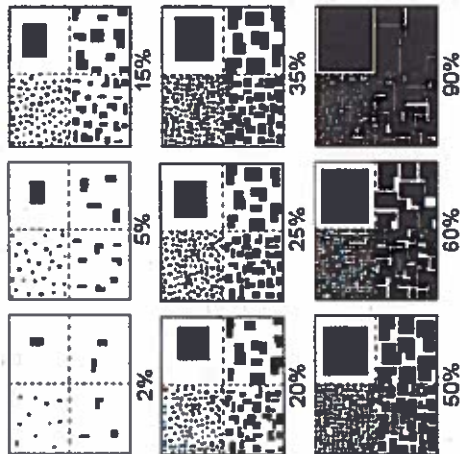
Br = Browse Level. Use cover classes to
describe amount of browse per species over
entire plot

Strata - Cov. entire plot

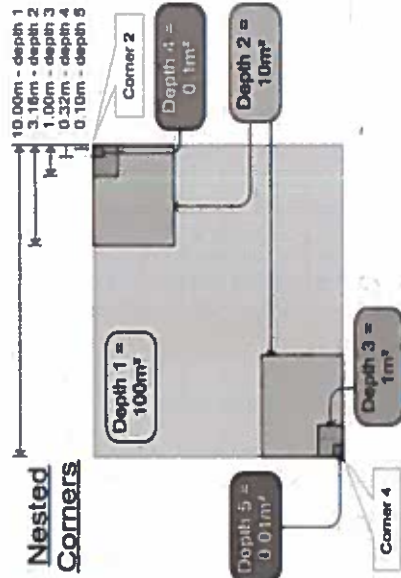
S	H	(F)	(A)	Br	Species	C	Voucher #	Estimate for each intensive module:															
								%open water				%unvegetated open water				%unveg. ground (bare soil)				%unveg. litter (bare litter)			
								mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner
								depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov
2					<i>Geranium maculatum</i>				2	4	2	2	2	2	2	2	2	2	2	2	2	2	2
2					<i>Ranunculus sp.</i>																		
2					<i>Quercus sp. (seedling)</i>																		
2					<i>Erechtites hieracifolia</i>																		
2					<i>Fraxinus sp. (seedling)</i>																		
6					<i>Acer saccharum</i>																		
1					<i>Acer sp. (seedling)</i>																		
2					<i>Thelypteris noveboracensis</i>																		
2					<i>Toxicodendron radicans</i>																		
2					<i>Hackelia virginiana</i>																		
4					<i>Tilia americana</i>																		
2					<i>Cornus sp. lanceolata dioica</i>																		
2					<i>BERBERIS THUNBERGII</i>																		
2					<i>Amphicarpella bracteata</i>																		
1					<i>LONGICERA MORROWII</i>																		
2					<i>VERONICA OFFICINALIS</i>																		
2					<i>Carex sp. laxa</i>																		
2					<i>Carex sp. digitata</i>																		
2					<i>Solidago caesia</i>																		
1					<i>Aster laevis</i>																		
1					<i>Verbena urticifolia</i>																		
1					<i>Urtica sp.</i>																		
2					<i>Carex sp. laxa</i>																		
2					<i>Carex sp. laxa</i>																		
5					<i>Carex sp. laxa</i>																		

EXAMPLES OF PERCENT OF AREA COVERED

The following graphic can be used to estimate the percent of area covered by various objects. NOTE: Within any given box, each quadrant contains the same total area covered, just different sized objects.



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



Nested Corners

BROWSE RATING NARRATIVE DESCRIPTION

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

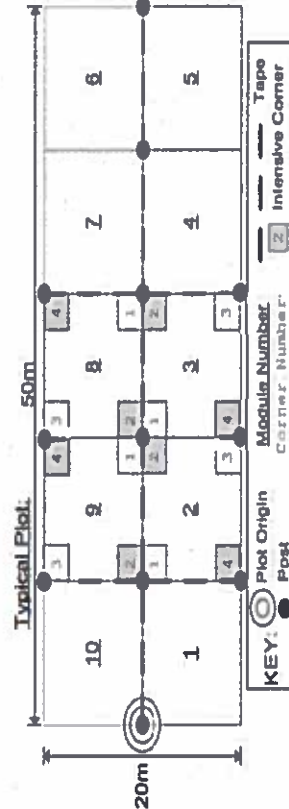
MEDIUM LOW: values include evidence of browse at about 10 percent of the stems with no significant impact to plant reproduction evident. In this rating, plants are browsed but preferential species are observed to be reproducing in numbers that appear normal or near-normal in comparison to low browse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

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

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

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

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



Page 3 of 4

Plot area (ha): 0.1



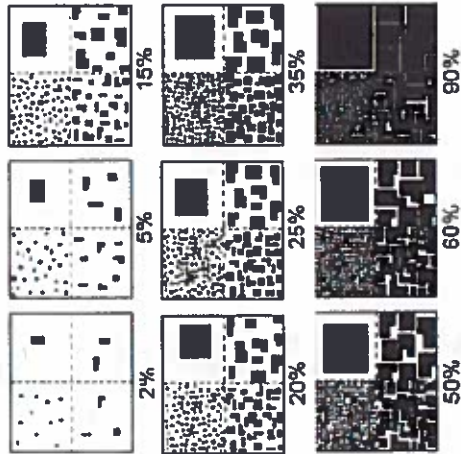
Species

Estimate for each intensive module:	%open wet	%unvegetated open wet	%unveg. ground (bare s	%unveg. filter (bare fi	Voucher #

[illegible][illegible]

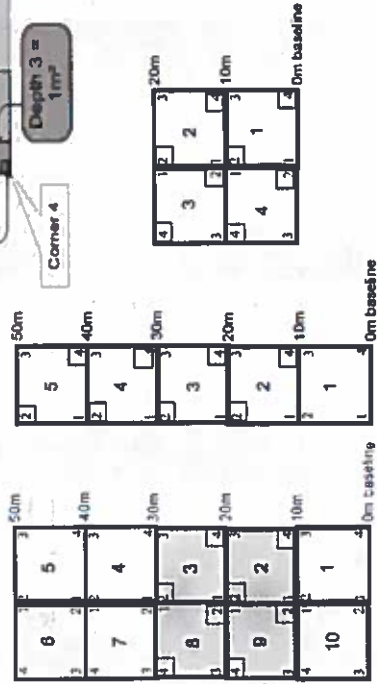
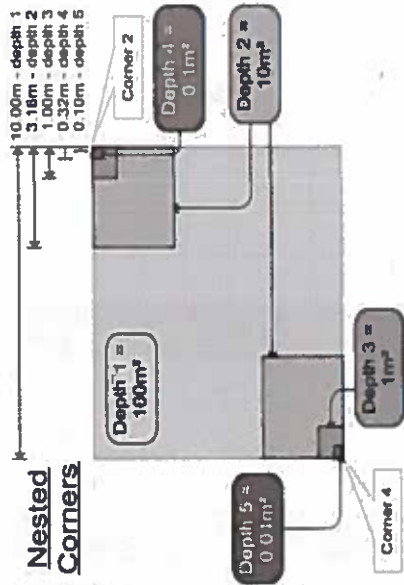
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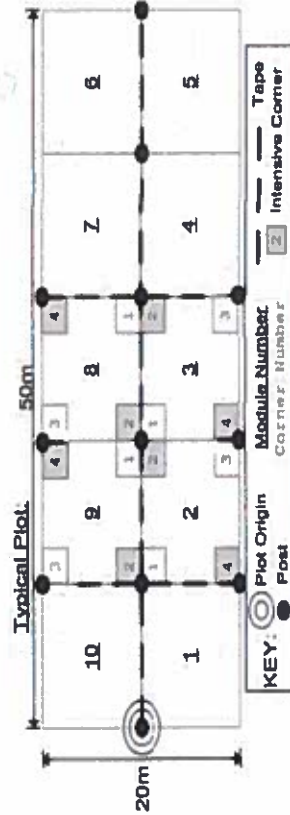
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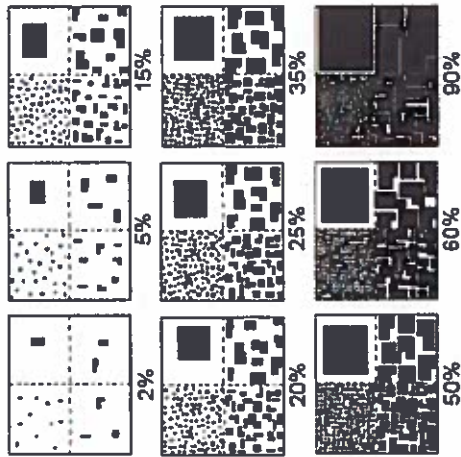
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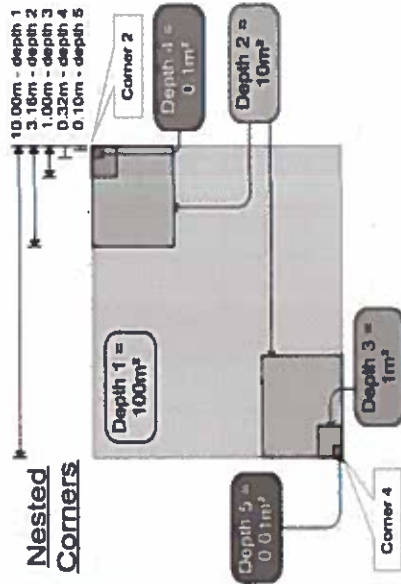
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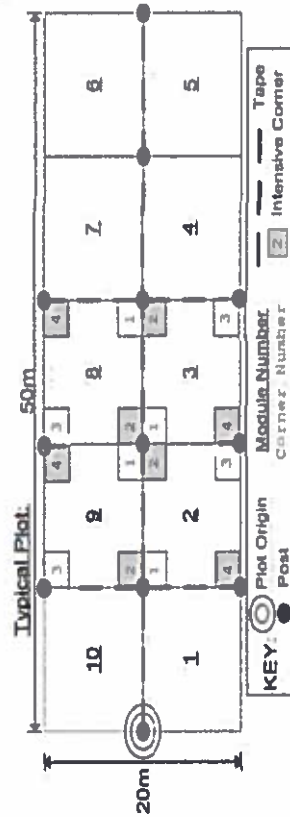
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KEY: Plot Origin, Corner Number, Intensive Corner, Tape

Page 1 of 1

% COVER		Species	c	Presence of tree species (X)	mod	mod	mod	mod	R
T	Br								
8		<i>Liriodendron tulipifera</i>			X	X	X	X	X
7		<i>Quercus rubra</i>				X	X		X
5	10	<i>Tilia americana</i>			X	X	X	X	
4	9	<i>Vitis aestivalis</i>			X	X	X		
7	10	<i>Acer rubrum</i>			X			X	X
6	10	<i>Acer saccharum</i>			X	X	X	X	X
6	5	<i>Fagus grandifolia</i>			X	X	X		X
4		<i>Quercus alba</i>							X
4		<i>Tsuga canadensis</i>							X
5		<i>Carya cordiformis glabra</i>							X

Page of

Plot no.:

[illegible]

CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet

Project Label: PCAP

Project Name: 52BE20A5

Plot No.: 1047

Page: 1 of 14

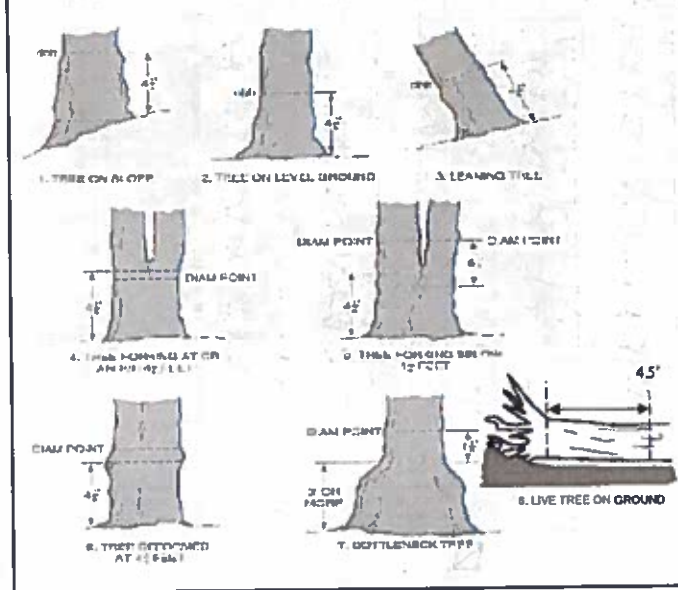
Explain subsample (additional room on back):

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
1	Acer rubrum																	
1	Acer saccharum																	
1	STANDING DEAD																	
1	Ergas grandifolia																	
1	Ergas grandifolia																	
1	Fraxinus pennsylvanica																	
1	Croton sp.																	
2	Acer rubrum																	
2	Ergas grandifolia																	
2	Acer saccharum																	
2	Carpinus caroliniana																	
2	Liriodendron tulipifera																	
2	Lilium americanum																	
2	Vitis rotundifolia																	
2	Fraxinus pennsylvanica																	
3	Acer saccharum																	
3	Ergas grandifolia																	
3	STANDING DEAD																	
3	Liriodendron tulipifera																	
3	Carpinus caroliniana																	
3	Carya sp. ovata																	
3	Vitis rotundifolia																	
3	Quercus rubra																	
4	Ergas grandifolia																	

43.61
←
browsed
counted
in 2010

48.9, 47.9,

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.

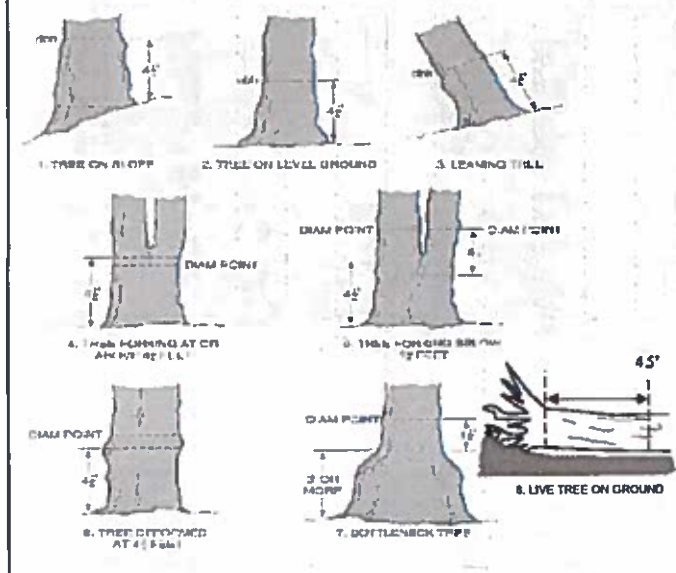
Eye and Metropia

Page: 4 of 4

Cleveland Metropolitan
4

DPK1
 Pilot
 SEE
 11-24

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



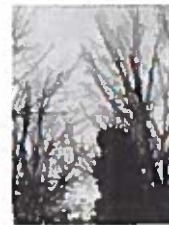
2



3



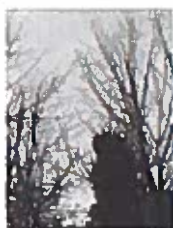
4



5

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C

D

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CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet

Project Label: PCAP

Project Name: 02BFEZ05

Plot No.: 1047

Page: 3

of

4 Cleveland Metroparks

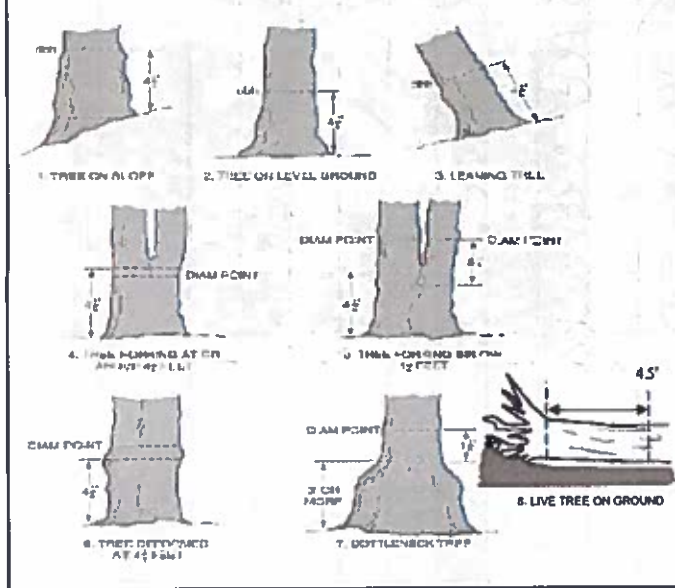
Explain subsample (additional room on back):

mod #	species	c	voucher#	# stems 0-1.4m browsed	% sub or super sample	# shrub clumps	size class (cm) woody stems > 1.4m												
							1 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)		
6	Acer saccharum			..			..	..	..				
6	Hamamelis virginiana																		
7	Acer saccharum						..	..	..	..					
7	Fraxinus sp.																		
7	Acer rubrum																		
7	NHIS testicularis			..															
7	Fraxus grandifolia			..															
8	Acer saccharum						..	..	..	..					
8	Carpinus caroliniana						..	..	..	..					
8	STANDING DEAD																		
8	Acer rubrum			..															
8	Fraxus grandifolia			..															
8	Liriodendron tulipifera			..															
8	NHIS testicularis			..															
9	Acer saccharum						..	..	..	..					
9	Fraxus grandifolia																		
9	Liriodendron tulipifera																		
9	Carpinus caroliniana			..			..	..	..				
9	STANDING DEAD																		
9	Acer rubrum			..															
9	Fraxus grandifolia			..															
9	NHIS testicularis			..															
10	Liriodendron tulipifera																		
10	Acer saccharum																		

48.0, 42.3, 53.1

51.1

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.

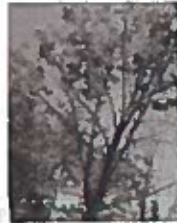
Record using the tally system from 1 to 10



1



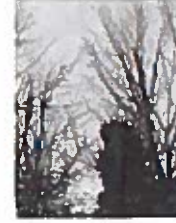
2



3



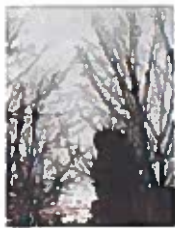
4



5

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C

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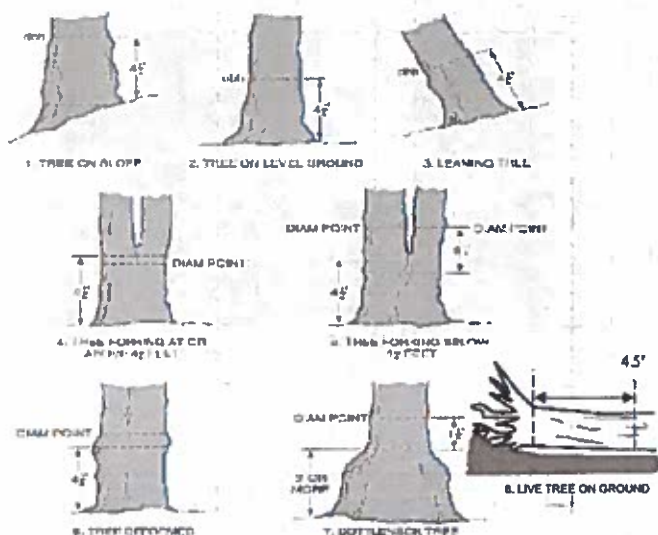
Cleveland Metropolitan

Page: 4 of

Cleveland Metropolitan

[illegible]

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



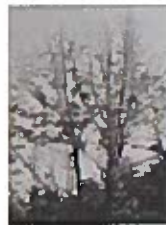
1



2



3



4



5

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A

B

C

D

E

ASH CANOPY BREAKUP CONDITION (for dead trees):

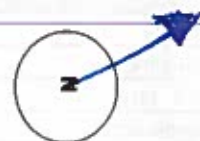
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- Less than 50% of main branches have fine twigs.
- Stem still standing and tertiary main branches present.
- Central stem still standing.

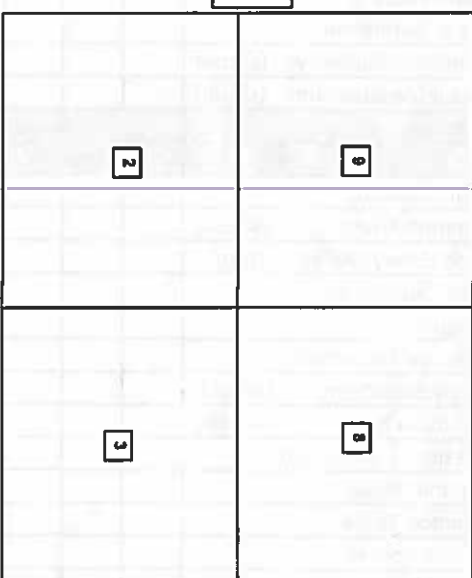
ASH ONLY

Tree Module ID	Species	Tree c	Voucher #	DBH (cm)	HT @ DBH	Ash condition	*Dead condition	# Exit holes	Epibiotic present	Woodpecker holes
1	None									
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 epicormic marked present (1) or absent (0)



*** Change intensive module numbers when necessary



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

CLEVELAND METROPARKS Plant Community Assessment Program: Invasive Species Survey


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

Presence
X: yes

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

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

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

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

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



Project Label: PCAP

Project Name: 02B5205

Plot No.: 1047

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	None present - may have weevil													
2														
3														
4														
5														
6														
7														
8														
9														
10														

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

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

* Write None Present if no evidence:

none found

Beech (Fungus)

Asian Longhorned Beetle

Hemlock (HWA)

weevil?

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

* May be Tui piper weevil more. Redden noticed it on several

STANDING BIOMASS (required for emergent wetlands) collected in 0.1m clip plots (33x32 cm) from corners 1 and 3 in each intensive module. Required for VIBI-E score calculation. C7-checked when collected

Module #	C7	Corner	Corner

CLASSIFICATION

HTI = estimate of Fit and Confidence

Hydroscapable 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 subclass)	Fit =	Conf =
<input type="checkbox"/> BOG (generally, moderately, wetly, 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

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 (+/-) to begin + any features present

Slope 1 = slight elevational grade across module (flat)

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

mod#	corner	tussocks		bushmats		depressions		C.W.D.		C.W.D.		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)
2		000		000		000		000		000		000		000	

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

McNAB INDICES (degrees) + for up - for down

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

Alt aspect	N	TSI**
+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 Shape Index (slope microtopographic shape)

CROWN COVER (DENSITOMETER): Make 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
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
7	0	0	0	0
8	0	0	0	0
9	0	0	0	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.

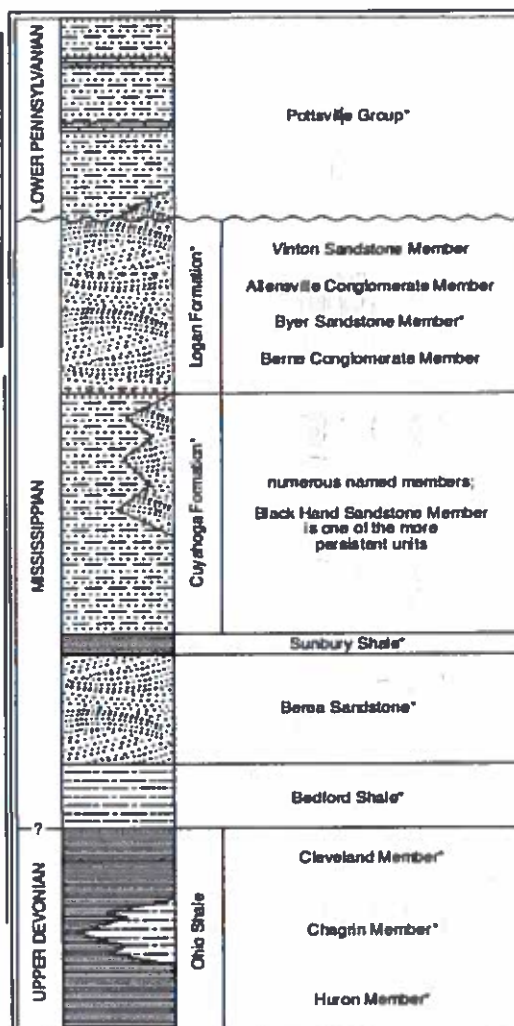
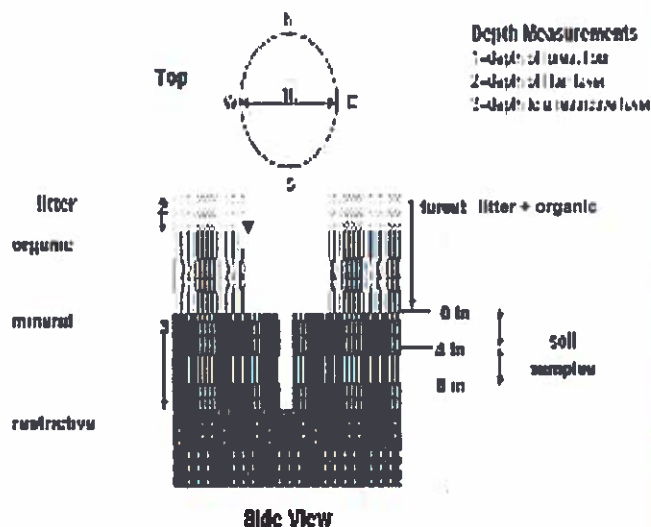


FIGURE 3-20.—Generalized section of Upper Devonian, Mississippian, and Lower Pennsylvanian formations in northeastern Ohio. Asterisks indicate units that are fossiliferous. This composite section represents about 400 meters of rock exposed across the area. The section is not to scale, but the thicknesses 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	
%moist	
oxid roots	Y N
texture*	
redox features**	Y N
hydr. cond.***	I S M D
20 cm	matrix color
moist color	
%moist	
oxid roots	Y N
texture*	
redox features**	Y N
hydr. cond.***	I S M D

Soil Collection Module/Station (A, B, C)	A
2.2 g. compressed	
Wet Soil Survey Information:	
Soil Series/Type:	
Soil Series Source: Ohio Soil Survey	
Landform type:	
Depth to root. Layer:	
Parent Material:	
Drainage*	
<input type="checkbox"/> Excessively dr. <input type="checkbox"/> Somewhat excessively <input type="checkbox"/> Well drained <input type="checkbox"/> Moderately well dr. <input type="checkbox"/> Somewhat poorly dr. <input type="checkbox"/> Very poorly dr. <input type="checkbox"/> Impermeable surface	

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

mode	1 liter+ organic depth (cm)	2 liter depth (cm)	water depth (cm)	depth sat soil (cm)
2-Castings present	1.0	1.0	-	-
3- no worms?	7.3	7.3	-	-
4- worms?	3.2	3.2	-	-

EARTH SURFACE & GROUND COVER

Underlying Earth Surface*	Ground Cover	percent
Gravel = 100%	percent (each < 100%)	
Histosol	Coarse Woody Debris***	97%
Mineral Soil	Fine Woody Debris****	57%
Gravel-Cobble*	Litter	97%
Boulder**	Duff (Ferm. + Humus)	97%
Bedrock	Bryophyte Lichen	29%
* Gravel-Cobble = 1/16-10"	Water	0%
** Boulder = > 10 in	Bare Soil	0%
*** > 5 cm in diameter	Dead/Trail	-
**** < 5 cm in diameter	Other	-

NOVE

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

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

Strata	Height Range (m)	Total Cover (%)
Tree	5.0-10.0	73
Shrub	0.5-5.0	38
Herb	0-0.5	38
(Floating)*	-	-
(Aquatic)*	-	-

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

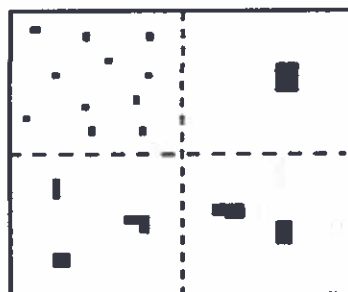
STAND SIZE

- ☐ >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

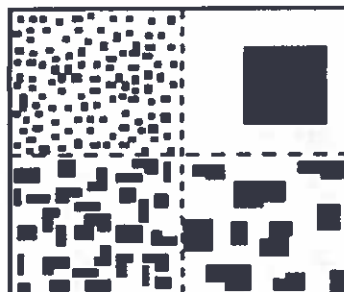
* refer to texture classes on reverse side
 ** e.g. hydrogen sulfide odor, gleying, etc.
 *** Circle one:
 I=undrained S=saturated M=moist D=dry
 Notes: include evidence of earthworms (worms, castings, midcasts)
 2-Castings present
 3- no worms?
 4- worms?
 castings present

PERCENT MOTTLES (USE CLASS CODES):

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



2%



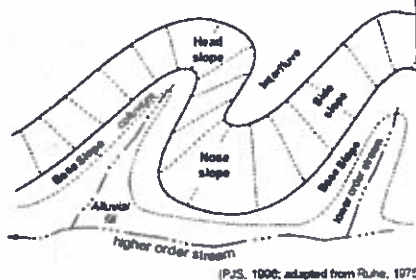
20%

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.

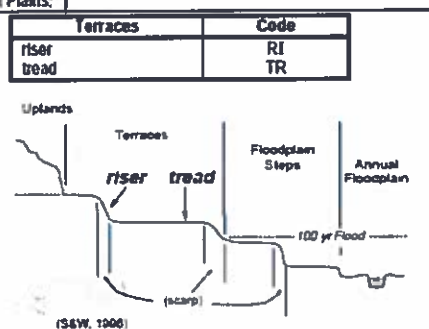
- 0= Organic
- 1= Loamy
- 2= Clayey
- 3= Sandy
- 4= Coarse Sand
- 9= Not measured - make plot note

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	Code	NASIS
interfluve	IF	IF
head slope	HS	HS
nose slope	NS	NS
side slope	SS	SS
base slope	BS	BS



(P.J.S. 1906; adapted from Ruhe, 1975)



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

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



(P.J.S. 1904; adopted from Ruhe, 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/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.