CLEVELAND METROPARKS Plant Community Assessment Program: Quality Control Form

Cleveland Metroparks

Project Label: PCAP **Plot No:** 1385 **Date Sampled:** 9-4-2013 **Lead:** Eysenbach

			Comment required if item answer is NO
Parking/Access outside of Park Boundaries:		(Y) N	If yes, write details in Comments section below
Field journals completed		Y N	
Site sketch made on 1:3000 map?		(Y) N	
Check cover page	X-axis Bearing of plot recorded	(Y) N	
	GPS coords. Recorded	(Y) N	
	North direction recorded	(Y) N	
	Photographs taken?	(Y) N	
Plot No., Date agreement on all pages?		(Y) N	
Header data completed all pages?		(Y) N	
Cover classes recorded in all Intensive modules		(Y) N	
Browse Level By Species		(Y) N	
Woody stem quality control check		(Y) N	
Invasive plant quality control check		(Y) N	
Ash trees mapped		(Y) N	
Cover by Strata? (confirm cover type)		(Y) N	
Soil samples collected with matching plot #.		(Y) N	
Vouchers labeled on datasheet with initials and number		(Y) N	
Vouchers labeled on collection bag		(Y) N	
Pink flags removed		Y (N)	Left flags due to remote location
Data sheet QA before leaving site?		(Y) N	
Common equipment returned to tub.		Y N	
Data sheets scanned?		9/5	Enter date to left AB
Final data sheets scanned?			Enter date to left
Buffer Widths measured?		Y N	
Web Soil Survey		(Y) N	AB 9/5/13
Voucher Location	Refrigerator	Y N	
(# vouchers collected) SRS 627-630	Press (#)		Enter number to left
	Drier	Y N	
	Identified	Y N	
	Mounted	Y N	
	Thrown away	Y N	

GRTS point verification: Is plot sampleable?

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

Additional Comments:

Fork at end of Cul-de-sac of Eastwood Rd.

...essment Program - Background Data Sheet

Page 1 of 2

GENERAL INFORMATION

Project Label: PCAP

Project Name: OH 2013

Plot Name: Trippy Tussocks

Plot No.: 1385

- ☐ Level 4 (no nested corners sampled)
- ■ Level 5 (nested corners sampled)

Date (mm/dd/yyyy): 9/4/2013

End date (if > 1 day): / /

Party	Role**
S. Eysenbach	Plot leader
E. Lemmo	Soils/Woody
R Chesla	Soils/Woody

** Roles: Co-leader, Asst., Guide, Owner, Taxonomist, etc.

PLOT NOT SAMPLED: ☐ Perm. water ☐ Paved ☐ Slope ☐ Safety ☐ Other

SAMPLING QUALITY*

Effort Level:
- ☑ Very thorough
- ☐ Accurate
- ☐ Hurried

subjective evaluation of how much effort put into sampling. Hurried plots may still provide good data

TAXONOMIC ACCURACY

	high	modera.	low	not smpl
vascul.	✓			
bryo			✓	n/a
lichen				✓

TAXONOMIC STANDARD

Authority: G&C **Pub Date:** 1998

Minimum required fields in Bold and Underlined

LOCATION

State: OH **County:** Hinckley - Medina

Quadrangle:

Local Place Names: Wakefield Run

Landowner: Restricted

Data Confidentiality:

Check one: ☐ Public data ☐ Private Data

☐ Fuzz 100m ☐ Fuzz 250m ☐ Fuzz 500m

Reason:

If data not public why?

Source of coordinates ☐ MAP ■ GPS

Coordinate system: ■ Lat/Long ☐ UTM ☐ StatePlane ☐ Other (*specify*)

Coord. Units: ■ deg ☐ deg min ■ m ☐ ft ☐ ___

Datum: ■ NAD83/WGS84 ☐ 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: 41.26264

Longitude: -081.69359

Coord. Accuracy: ☑ m ☐ ft 10m +-

GPS File Name: 1385

Plot size for cover data: 0.04 (hectares)

X-axis Bearing of plot: [208] °

Depth: (1-5): 4

Intensive modules: ~~2, 3, 8, 9~~ 1, 2, 3, 4 (EDIT IF MODIFIED)

Camera No.: 2

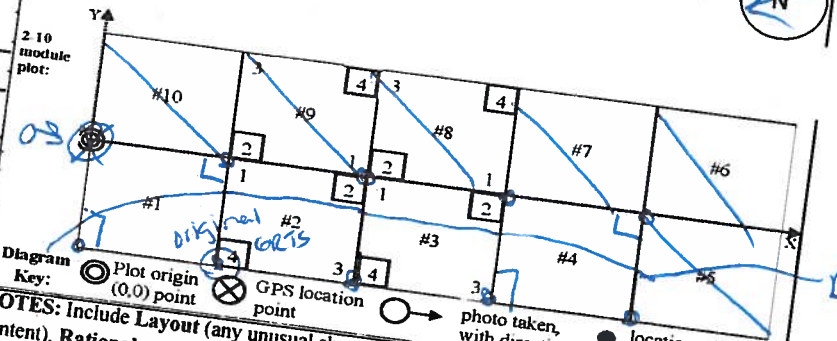
Photo Nos.: C2-3002

Plot placement: ☑ GRTS ☐ Representative

☐ Random ☐ Stratified Random ☐ Transect component

☐ Systematic (grid) ☐ Capture specific feature ☐ 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: 2 x 4 open area

Location: Park at the end of Eastwood Rd. Walk down along ravine until Wakefield Run easement stake then cut North. Plot is approximately 350m from Car. Remember to GPS the car!

Rational: GRTS pt

Veg Char:

Canopy: Red Maple, Ash, American Elm

Shrub: Buckthorn, Bush Honeysuckle

Herb: Sedge tussocks, Sensitive fern

OVER

Natural Resources M...

CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet

Project Label: PCAP Project Name: OHi2013 Plot No.: 1385

MODIFIED NATURESERVE CLASS*

CODE (on separate form): Fit=___ Conf=___

N03

COMMUNITY NAME:

Sedge Seep

DISTURBANCES

type*	severity**	yrs ago	% of plot	description
Human				
Natural				
Fire				
Cut				
Animal	H	0	100	Deer Browse
Other				

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

Current Land Use: Easement

Former Land Use: Unk

HOMOGENEITY

- ☑ Homogeneous
- ☐ Compositional trend across the plot
- ☐ Conspicuous inclusions
- ☐ Irregular/pattern mosaic

HYDROLOGIC REGIME*

- ☐ Upland (seldom flooded)
- ☐ Intermittently/seasonally saturated (seldom flooded)
- ☑ Permanently/Semipermanent. saturated (dry <1/yr, seldom flooded)
- ☐ Occasionally flooded (<1/yr)
- ☐ Temporarily flooded
- ☐ Intermittently flooded
- ☐ Semipermanently flooded
- ☐ Permanently flooded
- ☐ Tidal/Seiche flooded daily
- ☐ Tidal/Seiche flooded monthly
- ☐ Tidal/Seiche flooded irregular (e.g. wind, storms)
- ☐ Unknown

SALINITY*

- ☐ Saltwater
- ☐ Brackish
- ☑ Fresh
- ☑ Upland (n/a)

(by default unless plot is a wetland)

SPS 9/24/13

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

Plot was set up in a Forested Sedge Seep. East of the plot is a slightly upland Red Maple forest while West of the plot is an open swamp. Plot is dominated by Red Maples and American Elms. There are tons of tussocks as well as tons of Glossy Buckthorn. There is a deer trail that runs throughout the plot and browse is highly evident. Mosquito were out in force. Several of the larger elms are dead and many ash do not look healthy. Area is a seep since mud/wet earth still exist in late summer. Area holds water most likely in the spring

CLEVELAND METROPARKS Plant Community Assessment Program Species Cover Data Sheet 2a

Project Label: PCAP Project name: OH2013 Plot no.: 1385

Total modules: 4 Intensive modules: 4 Plot configuration: 1x4 Plot area (ha): 0.04

Cleveland Metroparks

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

Estimate for each intensive module:

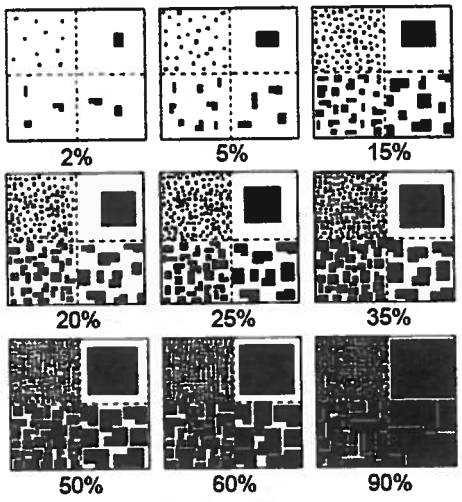
	mod 1 corner 4 depth	mod 1 corner 4 cov	mod 1 corner 2 depth	mod 1 corner 2 cov	mod 2 corner 4 depth	mod 2 corner 4 cov	mod 2 corner 2 depth	mod 2 corner 2 cov	mod 3 corner 4 depth	mod 3 corner 4 cov	mod 3 corner 2 depth	mod 3 corner 2 cov	mod 4 corner 4 depth	mod 4 corner 4 cov	mod 4 corner 2 depth	mod 4 corner 2 cov	mod R corner R depth	mod R corner R cov
%open water	1	0			1	0			1	0			1	0				
%unvegetated open water	1	0			1	0			1	0			1	0				
%unveg. ground (bare soil)	1	5			1	6			1	7			1	5				
%unveg. litter (bare litter)	1	2			1	1			1	1			1	1				

Strata - Cov. entire plot

T	S	H	(F)	(A)	Br	Species	c	Voucher #	1-4 depth	1-4 cov	1-2 depth	1-2 cov	2-4 depth	2-4 cov	2-2 depth	2-2 cov	3-4 depth	3-4 cov	3-2 depth	3-2 cov	4-4 depth	4-4 cov	4-2 depth	4-2 cov	R depth	R cov
	8	5			8	Rhamnus FRANGULA			4	9	4		4	8	4		4	8			4	8				
8	3					Acer rubrum			4	7	4		4	7	4				4	8			2	8		
5		2				Prunus serotina			4	3	4				4	3	3	4					3	4		
	4	2			10	Cornus sp. racemosa (pith tan)			3	2			2	2					2	2			2	5		
		9				Carex (bromoides? or penn) (not blooming)		C2-3003-05	2	8			2	7	4				4	6	4	8	4	~~8~~		
		4			9	Aster (lateriflourus)			2	2	2				2	2			3	2			2	2		
		5				Toxicodendron radicans			2	4	2		3	2	2		2	2	2		3	3	3			
		4				Geum sp.			2	3	2		2	3	3		3	3	2		3	3	2			
		5				Onoclea sensibilis			2	5	2		2	4			3	3			3	3				
		4				Solidago ~~rugosa?~~	X	SRE 627	2	3	2		1	2	~~2~~	~~2~~	~~4~~ 1	2			1	3				
7.~~8~~						Fraxinus sp (Star? Rema?)			2	6			4	4			4	6			4	6				
		2				Carex radiata	X	SRE 628	2	2							2	2								
~~7~~		2			8	Fraxinus sp. (seedling)			2	2	2		3	2			2	2			2	2				
		2			10	Viburnum opulus var opulus			2	2																
		5				Moss sp.					2	3	4	3	2		4	3	2		4	3	2			
	5				8	Pyrus sp	X	SRE 631			4	3	1	3			2	4								
		4				~~Mitella~~ Mitchella repens					2	3	1	2												
		4			8	Viburnum dentatum					2	2	3	2					2	2	3	2				
	5					Crataegus sp					2	3	2	3			3	4			1	3				
7	6				7	Ulmus americana (side lvs)					2	6			2	7			3	7	~~2~~	~~7~~	2	7		
		4				Carex sp. (norepro)			1	2			2	2			2	3	2		1	2				
		3				Circaea lutetiana			1	2			2	2												
	4	2				Fraxinus americana			1	4					2	3					1	4				
	6				6	Lonicera morrowii			1	3			1	2			2	4			2	3				
		1				Epilobium coloratum							1	1												

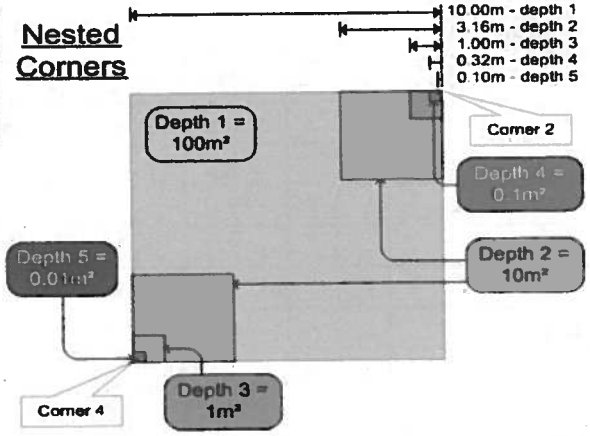
EXAMPLES OF PERCENT OF AREA COVERED

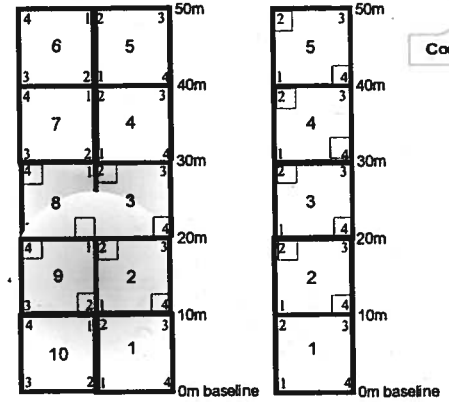
The following graphic can be used for various data elements to convey "Amount" or "Quantity". *NOTE*: Within any given box, each quadrant contains the same total area covered, just different sized objects.

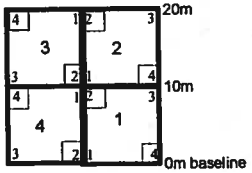


cover class	% cover	midpoint
1	solitary or few	0.0001
2	0-1%	0.005
3	1-2%	0.015
4	2-5%	0.035
5	5-10%	0.075
6	10-25%	0.175
7	25-50%	0.375
8	50-75%	0.625
9	75-95%	0.850
10	95-100%	0.975

Nested Corners







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.

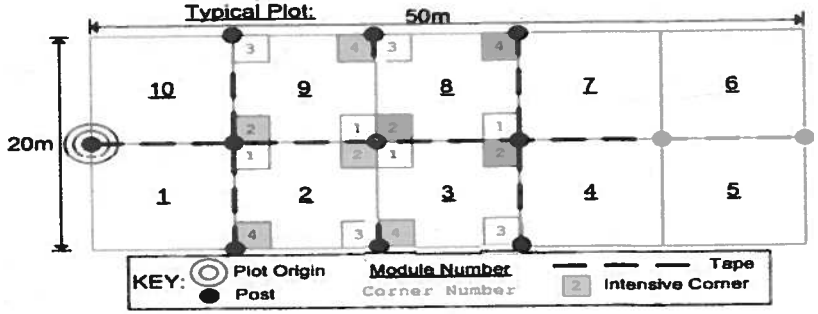
MEDIUM LOW values include evidence of browse at about 10 percent of the stems with no significant impact to plant reproduction evident. In this rating, plants are browsed but preferential species are observed to be reproducing in numbers that appear normal or near-normal in comparison to low browse areas.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

Project Label: PCAP Project name: 01Hi2013 Plot no.: 1385 Page 2 of 2

Total modules: 4 Intensive modules: 4 Plot configuration: 1x4 Plot area (ha): 0.04

Cleveland Metroparks

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

Strata - Cov. entire plot

Estimate for each intensive module:
%open water
%unvegetated open water
%unveg. ground (bare soil)
%unveg. litter (bare litter)

T	S	H	(F)	(A)	Br	Species	c	Voucher #	mod 1 corner 4	mod 1 corner 2	mod 2 corner 4	mod 2 corner 2	mod 3 corner 4	mod 3 corner 2	mod 4 corner 4	mod 4 corner 4	mod corner 2	mod R corner R
									depth cov depth cov	depth cov depth cov	depth cov depth cov	depth cov depth cov	depth cov depth cov	depth cov depth cov	depth cov depth cov	depth cov depth cov	depth cov depth cov	depth cov depth cov
						%open water			1		1		1		1			
						%unvegetated open water			1		1		1		1			
						%unveg. ground (bare soil)			1		1		1		1			
						%unveg. litter (bare litter)			1		1		1		1			
		2				Lysimachia ciliata					1 2							
x	5	1				Quercus bicolor					1 5		2 2					
	5					Viburnum lentago					2 3							
		2			6	Impatiens capensis					1 1				1 4			
		5				Glyceria striata					1 2		2 3 2		2 2 2			
		2				Poaceae sp.					1 2					2 4		
		2				Symplocarpus foetidus					1 2							
	5					Vitis riparia					1 4		4 3					
		2				Agrimonia parviflora					1 1		2 2		1 2			
		2				Quercus sp. (seedling)							2 1					
		4				Myosotis sp.							2 3					
		2				Solidago caesia	X	SRE 629				2 1	4 2 2			2 2		
		1				Carya sp. (seedling)							2 1					
		3				Dryopteris cristata								2 2	2 2 3			
		2				Lindera benzoin								2 2				
		5				~~Dichanthelium~~ Rubus hispidus							1 4		3 3			
2						Acer saccharum									1	4 2		
		1				Ulmus sp. (seedling)										2 1		
		1				Polygonum virginianum										2 1		
maybe SRE 627		1				Unk dicot (Asteraceae - basal lvs)			1 1		2 1		1 1		1 1			
		2				Carex sp. lupulina	X	SRE 630							1 2			
		2				Scutellaria lateriflora									1 2			
	4				10	Euonymus atropurpureus							1 3		1 3			

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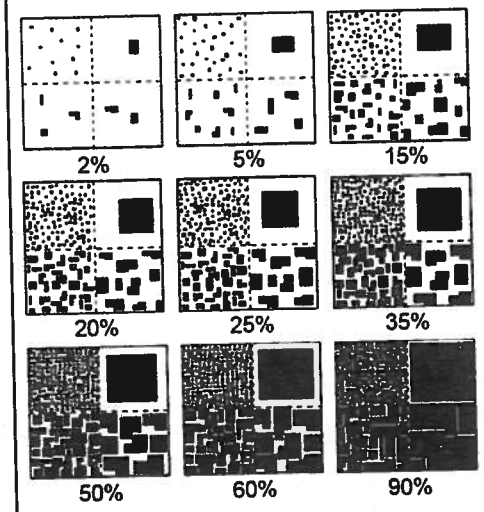

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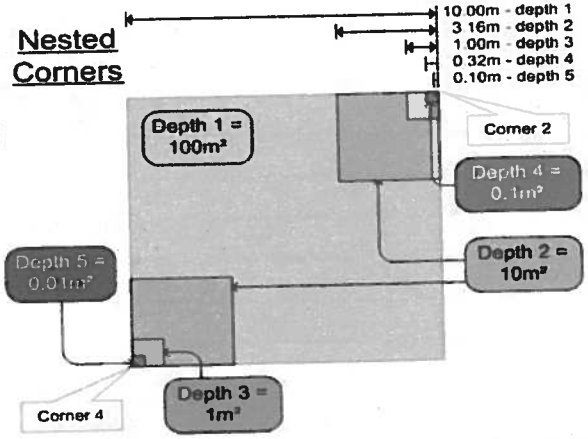
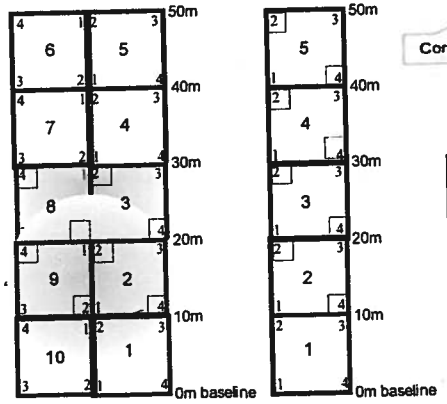
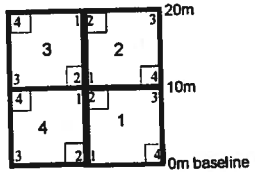
7	25-50%	0.375
8	50-75%	0.625
9	75-95%	0.850
10	95-100%	0.975







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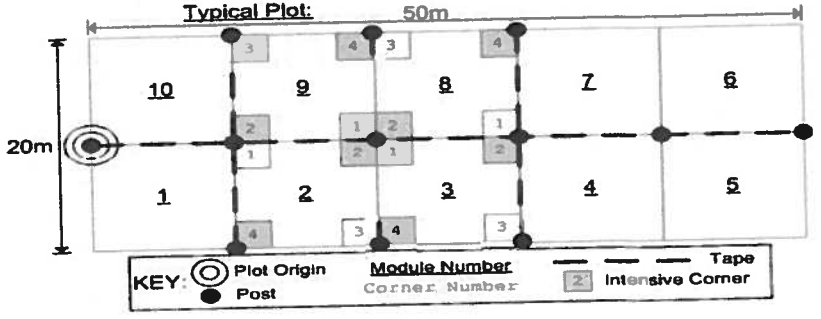


Project Label: PCAP

Project Name: OHi2013

Plot No.: 1385

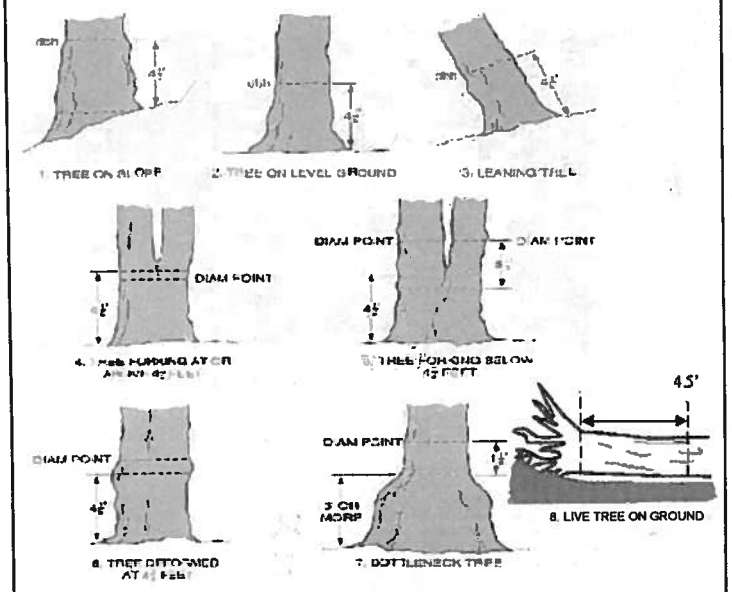
Page: 1 of 2

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)
1	Fraxinus americana																
1	Frangula alnus																
1	Standing dead																
1	Acer rubrum																
1	Toxicodendron radicans																
1	Crataegus sp.																
1	Ulmus americana																
1	Fraxinus sp.																
1	Cornus racemosa																
1	LONICERA MORROWII																
1	Viburnum dentatum																
2	Cornus racemosa																
2	FRANGULA ALNUS																
2	Acer rubrum																
2	Standing dead																
2	Viburnum lentago																
2	Ulmus americana																
2	Fraxinus americana																
2	Quercus bicolor																
2	Toxicodendron radicans																
2	Vitis riparia																
3	Fraxinus sp.																
3	FRANGULA ALNUS																
3	STANDING DEAD																

DBH Measurement Rules



Woody Stem Deer Browse

Record the number of stems/plants between 0.5-1.0 meters tall that exhibit evidence of this years deer browse.

Record using the tally system from 1 to 10

1

2

3

4

5

ASH CANOPY CONDITION

1. **Healthy, full canopy:** A healthy ash canopy is normally thinner than many other trees such as maple.
2. **Thinning canopy:** There aren't as many leaves as there ought to be, but all top branches exposed to sunlight have leaves.
3. **Dieback:** Canopy is thinning and some top branches exposed to sunlight are dead (have no leaves). Lower branches, not exposed to sunlight, die naturally and are not considered.
4. **>50% Dieback:** The canopy has less than half of the leaves that should be there and/or half of the top branches are dead.
5. **Dead canopy:** No leaves remain in the canopy portion of the tree. It still counts as a 5 even if there are epicormic sprouts below the canopy (lowest branch) on the trunk.

A

B

C

D

E

ASH CANOPY BREAKUP CONDITION (for dead trees):

(If an ash receives a score of 5 (dead) under canopy condition it must also receive a breakup condition rank as described below)

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

CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet

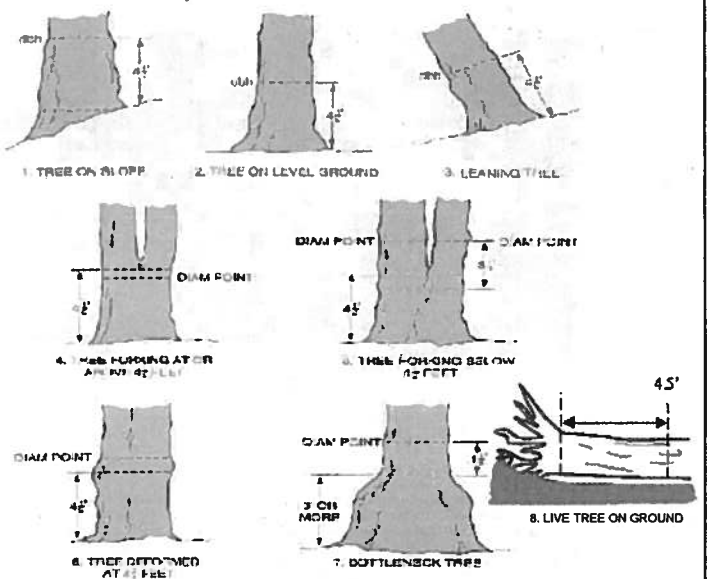
Cleveland Metroparks

Project Label: PCAP Project Name: 014 Plot No.: 1385 Page: 2 of 2

Explain subsample (additional room on back):

mod #	species	c	voucher#	# stems 0-1.4m browsed	% sub or super sample	# shrub clumps	size class (cm) 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)
3	Crataegus sp.							1	2								
3	Pyrus sp.		SRT631	1						1	1						
3	Ulmus americana							2	2	2							
3	Acer rubrum								1					1			
3	Cornus racemosa			2			2										
3	Euonymus atroporpureus			1		1											
4	Ulmus americana			2			1	1	2	2	2	2					
4	Standing dead					2	2	1	2	2		1	1				
4	Acer rubrum										1		1				
4	Toxicodendron radicans			1			1										
4	FRANGULA ALNUS			2		3	3	2	1	1							
4	LONICERA MORROWII			1		1											
4	Fraxinus americana							1									
4	Fraxinus sp.								1			1					
4	Cornus racemosa			1				1									
4	Crataegus sp.								1								

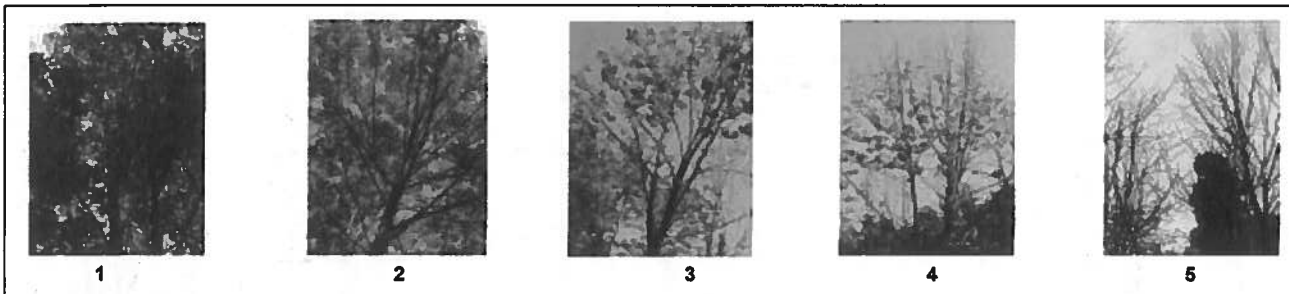
DBH Measurement Rules



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)

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 Emerald Ash Borer - Fraxinus Sheet

Project Label: PCAP Project Name: 01 Hi 2013 *INTENSIVE MODULES ONLY* *TREES ≥ 10CM ONLY*

Plot No.: 1385 Date: 9-4

Module	Tree ID.	Species	Dead	c	Voucher #	DBH (cm)	Ht @ DBH	ASH Only: Ash condition	*Dead condition	# Exit holes	Epicormic present	Woodpecker holes
3	1	Fraxinus sp.				13.3		1		0	0	0
3	2	Fraxinus sp.				15.2		1		0	0	0
3	3	Fraxinus sp.				20.3		2		0	0	0
4	4	Fraxinus sp.				17.4		3		0	0	0
	5											
	6											
	7											
	8											
	9											
	10											
	11											
	12											
	13											
	14											
	15											
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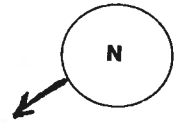
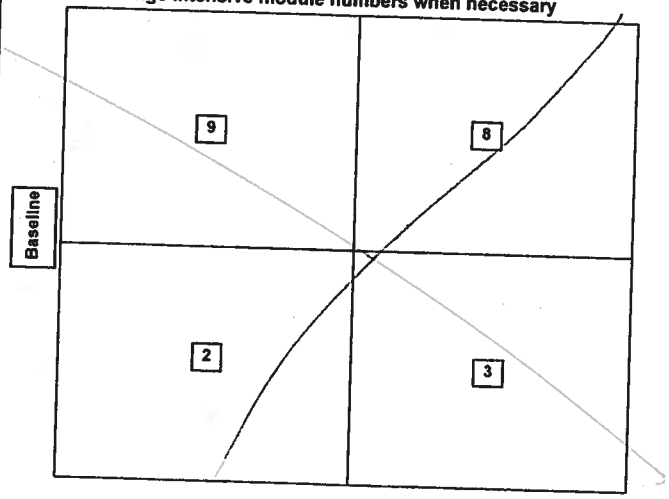
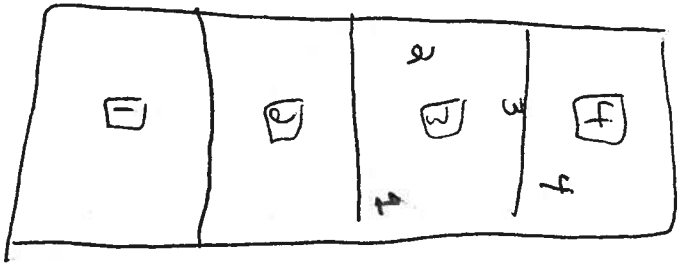
	20											
	21											
	22											
	23											
	24											
	25											



*** Change intensive module numbers when necessary



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



*** If Ash Condition scores 5 (dead) provide breakup score (A-E)**
Count EAB exit holes 1.25m≥ x ≥1.5m
Woodpecker and epicormic marked present (1) or absent (0)

CLEVELAND METROPARKS Plant Community Assessment Program: Invasive Species Survey

Cleveland Metroparks

Tier 1: Early detection/ Rapid response		Presence NE	SE	SW	NW	GPS
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 NE	SE	SW	NW	comments
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 NE	SE	SW	NW	comments
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)				1	
Viburnum plicatum	Doublefile Viburnum (shrub)					

Tier 4: Widespread and abundant		Presence NE	SE	SW	NW	comments
Alliaria petiolata	Garlic Mustard					
Ligustrum vulgare	Common Privet (shrub)		1	2	1	
L. morrowii, L. tatarica	Bush Honeysuckles (shrub)	X		1	1	
Phalaris arundinacea	Reed Canarygrass					
Phragmites australis (wetland)	Phragmites					
Polygonum cuspidatum	Japanese Knotweed					
Frangula alnus	Glossy Buckthorn (shrub)	5	5	5	5	
Rosa multiflora	Multiflora Rose (shrub)	1		1	1	
Typha angustifolia, T. x.glauca	Cattails (wetland)				1	
Cirsium arvense	Canada thistle				1	
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 - Plant Cover and Earth Surface

Project Label: PCAP Project Name: olHi2013 Plot No.: 1385

Cleveland Metroparks

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

Module #	C?	Corner	Corner

CLASSIFICATION

(FIT = excellent, g Fit and Confidence

Hydrogeomorphic class (WETLANDS ONLY):

- ☑ DEPRESSION — Fit=___ Conf=___
- ☐ IMPOUNDMENT ☐ Beaver ☐ Human — Fit=___ Conf=___
- ☑ RIVERINE ☐ Headwater ☐ Mainstem ☐ Channel — Fit=___ Conf=___
- ☐ SLOPE (ground water hydrology or on a physical slope) — Fit=___ Conf=___
- ☐ FRINGING ☐ Reservoir ☐ Natural Lake — Fit=___ Conf=___
- ☐ COASTAL (specify subclass) — Fit=___ Conf=___
- ☐ BOG (strongly, moderately, weekly ombrotrophic) — Fit=___ Conf=___

Ohio EPA VIBI Plant Community Class (WETLANDS ONLY):

- ☑ FORESt ☐ swamp forest ☐ bog forest ☑ forest seep — Fit=___ Conf=___
- ☐ EMERGENT ☐ marsh ☐ wet meadow ☐ open bog — Fit=___ Conf=___
- ☐ SHRUB ☐ shrub swamp ☐ tall sh. bog ☐ tall sh. fen — Fit=___ Conf=___

McNAB INDICES (degrees) + for up - for down

[FILLED OUT USING GIS PROGRAM - DO NOT FILL OUT IN FIELD]

		LFI*	TSI**
At aspect	N		
+45 degrees	NE		
+90 degrees	E		
+135 degrees	SE		
+180 degrees	S		
+225 degrees	SW		
+270 degrees	W		
+315 degrees	NW		

LFI is angle of plot to the horizon. TSI is angles formed by local slopes For TSI measure angle from recorders eye to eye of person standing ~10 m away.

* Landform Index (position within landscape)

** Terrain Shape Index (site microtopographic shape)

MICROTOPOGRAPHIC FEATURE COUNTS - Intensive modules only

Ranks 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 (hill) Slope 2 = falls on slope ~20° Slope 3 = maximum steepness that can be safely sampled ~45°

0 feature is absent or functionally absent from the wetland

3 feature is present in the wetland in very small amounts or if more common, of low quality

7 feature is present in moderate amounts, but not of highest quality, or in small amounts of highest quality

10 feature is present in moderate or greater amounts and of highest quality

c.w.d. - count for pieces with minimum 1m length

mod#	corner	no of tussocks depth 3 1x1m (count)	no. of hummocks uplands (Tip-Ups) depth 2 3.16x3.16m (count)	no. macro. depressions depth 1 10x10m (count)	c.w.d (2-12 cm) depth 1 10x10m (count)	c.w.d (12-40cm) depth 1 10x10m (count)	c.w.d >40 cm depth 1 10x10m (count)	microhab. interspers. depth 1 10x10m (rank)	microhab. SLOPE 10x10m (rank)
1		222	4	1	43	2	0	6	0
2		151	2	3	33	2	0	5	0
3		70	1	3	35	3	0	5	0
4		115	0	1	27	3	0	5	0

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

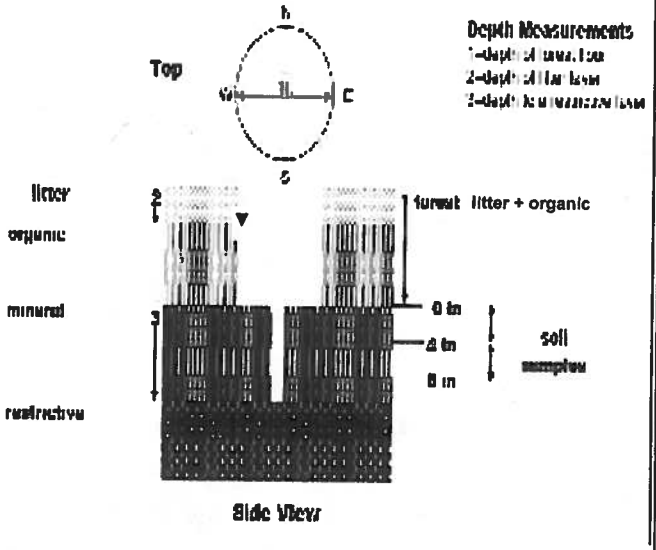
CROWN COVER (DENSIOMETER): Make 4 readings per module facing N, S, E, W. Place dot count in corresponding space. (4 dots per grid square)

Module	N	S	E	W
1	13	30	19	25
2	5	13	18	22
3	10	4	11	13
4	25	16	13	8

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.



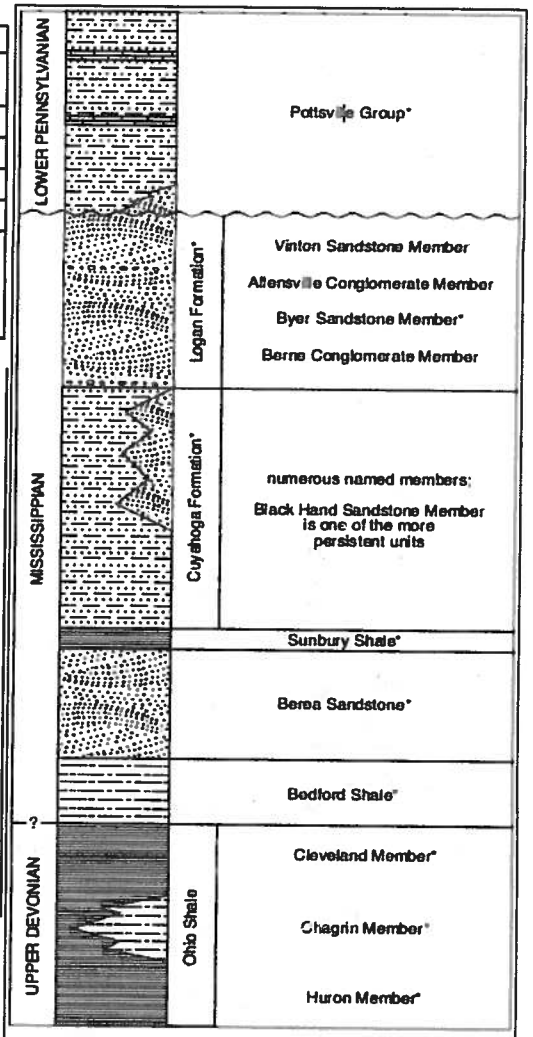


FIGURE 3-20.—Generalized section of Upper Devonian, Mississippian, and Lower Pennsylvanian formations in northeastern Ohio. Asterisks indicate units that are fossiliferous. This composite section represents about 400 meters of rock exposed across the area. The section is not to scale, but the thicknesses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