

CLEVELAND METROPARKS Plant Community Assessment Program: Quality Control Form



Project Label:

PCAP

Plot No:

1070

Date Sampled:

8/5/15

Lead:

CKM

Comment required if item answer is NO

Parking/Access outside of Park Boundaries:	<input checked="" type="radio"/> Y <input type="radio"/> N	If yes, write details in Comments section below
Field journals completed	<input checked="" type="radio"/> Y <input type="radio"/> N	
Site sketch made on 1:3000 map?	<input checked="" type="radio"/> Y <input type="radio"/> N	
Check cover page	<input checked="" type="radio"/> Y <input type="radio"/> N	
X-axis Bearing of plot recorded	<input checked="" type="radio"/> Y <input type="radio"/> N	
GPS coords. Recorded	<input checked="" type="radio"/> Y <input type="radio"/> N	
North direction recorded	<input checked="" type="radio"/> Y <input type="radio"/> N	
Photographs taken?	<input checked="" type="radio"/> Y <input type="radio"/> N	
Relocated Pins Mapped	<input checked="" type="radio"/> Y <input type="radio"/> N	
Plot No., Date agreement on all pages?	<input checked="" type="radio"/> Y <input type="radio"/> N	
Header data completed all pages?	<input checked="" type="radio"/> Y <input type="radio"/> N	
Cover classes recorded in all intensive modules	<input checked="" type="radio"/> Y <input type="radio"/> N	
Browse Level By Species	<input checked="" type="radio"/> Y <input type="radio"/> N	
Woody stem quality control check	<input checked="" type="radio"/> Y <input type="radio"/> N	Check every line and cross check with the Tree Cover Sheet
Invasive plant quality control check	<input type="radio"/> Y <input type="radio"/> N	NA
Ash trees mapped	<input checked="" type="radio"/> Y <input type="radio"/> N	
Completed Forest Pest/Pathogen Datasheet	<input checked="" type="radio"/> Y <input type="radio"/> N	
Cover by Strata? (confirm cover type)	<input checked="" type="radio"/> Y <input type="radio"/> N	
Soil samples collected with matching plot #.	<input type="radio"/> Y <input type="radio"/> N	NA
Cross check 2010 information	<input checked="" type="radio"/> Y <input type="radio"/> N	Highlight any changes from 2010 information
Vouchers labeled on datasheet with initials and number	<input checked="" type="radio"/> Y <input type="radio"/> N	
Vouchers labeled on collection bag	<input checked="" type="radio"/> Y <input type="radio"/> N	
Pink flags removed	<input checked="" type="radio"/> Y <input type="radio"/> N	
Data sheet QA before leaving site?	<input checked="" type="radio"/> Y <input type="radio"/> N	
Common equipment returned to tub.	<input type="radio"/> Y <input type="radio"/> N	
Data sheets scanned?		Enter date to left
Final data sheets scanned?		Enter date to left
Buffer Widths measured?	<input type="radio"/> Y <input type="radio"/> N	
Web Soil Survey	<input type="radio"/> Y <input type="radio"/> N	
Voucher Location	Refrigerator	<input type="radio"/> Y <input type="radio"/> N
(# vouchers collected)	Press (#)	Enter number to left
CKM 334-	Drier	<input type="radio"/> Y <input type="radio"/> N
335	Identified	<input type="radio"/> Y <input type="radio"/> N
	Mounted	<input type="radio"/> Y <input type="radio"/> N
	Thrown away	<input type="radio"/> Y <input type="radio"/> N

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

Additional Comments:

All pins and stake found, parked on Oakwood Circle.

D

Q

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

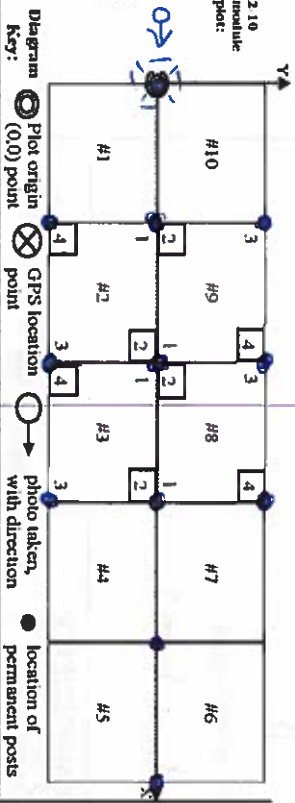
100

CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet

GENERAL INFORMATION	
Project Label:	PCAP
Project Name:	02BW2015
Plot Name:	Untitled
Plot No.:	1070
<input type="checkbox"/> Level 4 (no nested corners sampled) <input checked="" type="checkbox"/> Level 5 (nested corners sampled)	
Date (mm/dd/yyyy):	8/5/2015
End date (if > 1 day):	/ /
Party:	C. Minney D. Sweet E. Knauss R. Eagle-Malone Moody Tech
Role**	Plot leader Bot. Asst. Woody Tech Woody Tech
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	
vascular:	high <input checked="" type="checkbox"/> modera. <input type="checkbox"/> low <input type="checkbox"/> not simpl <input type="checkbox"/>
hryo	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> n/a <input type="checkbox"/>
lichen	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
TAXONOMIC STANDARD	
Authority:	G&C Pub Date: 1998

LOCATION	
State:	OH County: Cuyahoga
Quadrangle:	North Olmsted
Local Place Names:	Oakwood Cr.
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
Check one:	<input checked="" type="checkbox"/> Public data <input type="checkbox"/> Private Data <input type="checkbox"/> Fuzz 100m <input type="checkbox"/> Fuzz 250m <input type="checkbox"/> Fuzz 500m
Reason:	
If data not public why?	
Source of coordinates:	<input type="checkbox"/> MAP <input checked="" type="checkbox"/> GPS
Coordinate system:	<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) <input type="checkbox"/> m <input type="checkbox"/> ft <input type="checkbox"/>
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:	41.41043
Longitude:	81.96832
Coord. Accuracy:	X m <input type="checkbox"/> ft +- 4
GPS File Name:	1070A
Plot size for cover data:	.1 (hectares)
X-axis Bearing of plot:	[37]°
Depth: (1-5):	4
Intensive modules:	2, 3, 8, 9 (EDIT IF MODIFIED)
Camera No.:	4
Photo Nos.:	C4772
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 along Oakwood Circle. Walk ~400m NW through forest, plots deep within interior. USE GPS.

Rationale: GRTS
 Veg Characterization: The plot is dominated by Maples and Oaks. The shrub layer is dominated by Spicebush. The herb layer is sparse dominated by ferns and various others sparsely.

OVER

CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet

Project Label:

PCAP

Project Name:

OZBNZ015

Plot No.:

1070

Cleveland Metroparks

Page 2 of 2

MODIFIED NATURESERVE CLASS*

CODE (on separate form):

D

Fit=

Conf=

COMMUNITY NAME:

Mixed Forest

HOMOGENEITY

☒ Homogeneous
☐ Compositional trend across the plot

☒ Conspicuous inclusions
☐ Irregular/pattern mosaic

DISTURBANCES

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

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

Current Land Use:

CWP

Former Land Use:

HYDROLOGIC REGIME*

☐ Upland (seldom flooded)
☐ Intermittently flooded

☐ Intermittently/seasonally saturated (seldom flooded)
☐ Semipermanently flooded

☐ Permanently/Semipermanent saturated (dry <1/yr, seldom flooded)
☐ Permanently flooded

☐ Occasionally flooded (<1/yr)
☐ Tidal/Seiche flooded daily

☒ Temporarily flooded
☐ 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)

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

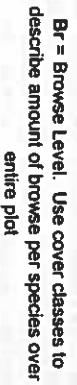
The plot is mostly even-aged with some maturity showing. The plot has numerous depression and probably seasonally wet. Only 2 graminoids and low diversity overall. Not a single non-native found in plot. Browse impact is high and appears sustained over many years. Brush up on your Oak and Maple tree ID before coming to this plot.

1bCM PCAP Background Data Sheet Page 2_ver 2.xls last revised 5/29/2012 csh

Natural Resources Management FORM NR/2010-01b

Page 1 of 2

Plot area (ha): 1.1



Estimate for each
intensive module:

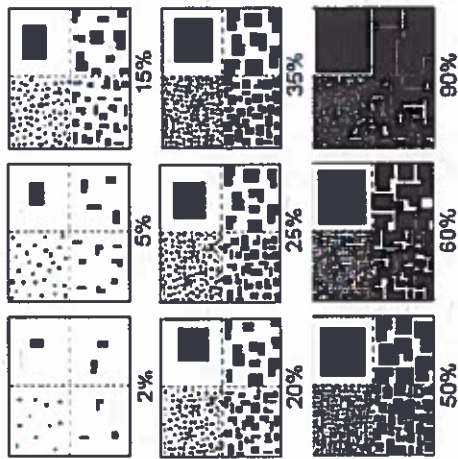
- %open water
- %unvegetated open water
- %unveg. ground (bare silt)
- %unveg. litter (bare litter)

[illegible]

S	H (F)	(A) Br	Species	c	Voucher #	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov
6	3	9	Lindera benzoin			4	4	2		2	5	4		2	6		2	6	2
2		5	Quercus sp. (seedling)			3	2	2		3	2			2	2		2	4	2
2	3		Moss sp.			3	3	2		2	3	3		3	5		3	2	
3			Osmunda cinnamomea			3	3			2	2			1	2			1	2
2			Fraxinus sp. (seedling)			3	2	2		2	2			3	2			2	2
2			Acer sp. (seedling)			2	2							2	2			2	2
2		7	Viburnum dentatum			2	2	2		3	2			2	2			2	2
2			Dryopteris intermedia			2	2	2			2	2			2			1	2
2			Dryopteris carthusiana			2	2				2	2			2			2	2
2		6	Prunus serotina			2	1	2							1	3		1	2
3	2	7	Nyssa sylvatica			2	3			2	1	2		4	4			2	3
1			Maianthemum canadensis			2	1												
2		7	Rubus allegheniensis			2	1	2		1	2			2	3			1	1
2			Arisaema triphyllum var. triphyllum			1	2			3	2			2	2				
2		5	Rubus hispida			1	2			2	4			2	2				
1			Ulmus sp. (seedling)			1	1												
2	2	9	Smilax rotundifolia			1	1			1	2			3	2			2	2
4	2		Fagus grandifolia			1	4							1	4			1	6
1			Carya sp. (seedling)							1	2								2
1			Onoclea sensibilis							1								1	2
1	2	7	Carpinus catoliniana							1	4			1	2			3	5
4	2		Acer rubrum							1	4			1	5				
2		5	Unknown #1			2	75-775			1	1			2	2			1	2
2			Mitchella repens											2	2				
2			Sassafras albidum											1	2				

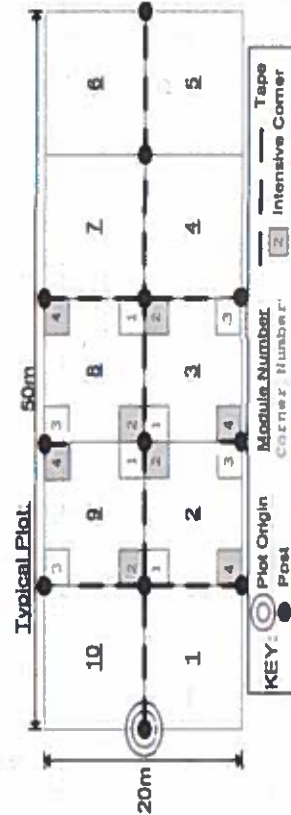
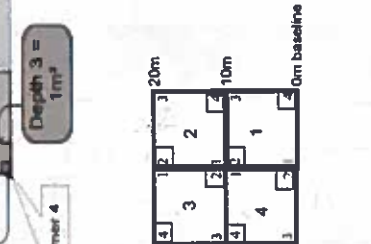
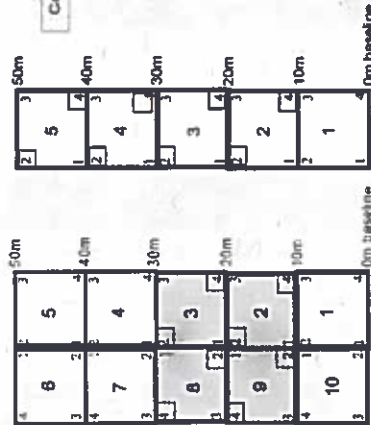
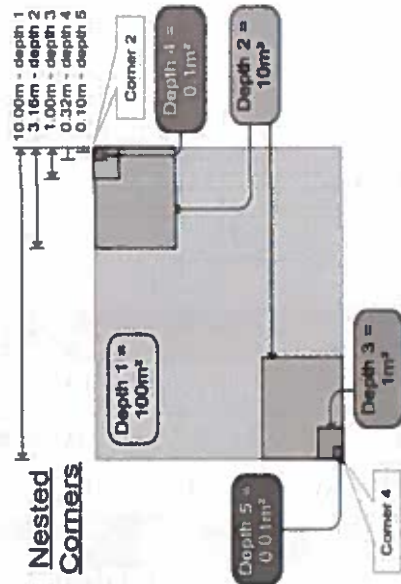
EXAMPLES OF PERCENT OF AREA COVERED

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



cover class	% cover solitary or few	midpoint
1	0-1%	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

Project Label: PCAP
Total modules: 10

Project name: 02BW2015
Intensive modules: 4
Plot configuration: 2X5

Plot no.: 1070
Plot area (ha): .1



Cleveland Metroparks

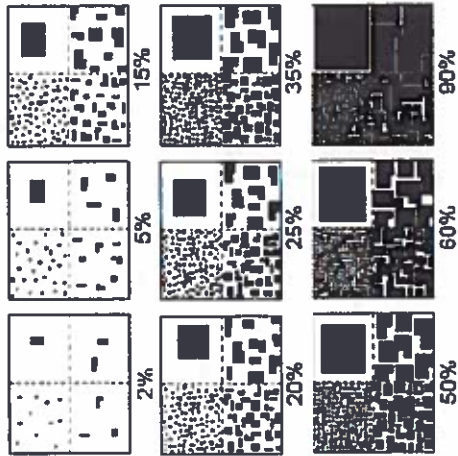
Br = Browse Level. Use cover classes to describe amount of browse per species over entire plot

Strata - Cov. entire plot

S	H (F)(A) Br	Species	C	Voucher #	Estimate for each intensive module:				Estimate for each intensive module:				Estimate for each intensive module:				Estimate for each intensive module:				mod	R
					%open water	%unvegetated open water	%unveg. ground (bare soil)	%unveg. litter (bare litter)	%open water	%unvegetated open water	%unveg. ground (bare soil)	%unveg. litter (bare litter)	%open water	%unvegetated open water	%unveg. ground (bare soil)	%unveg. litter (bare litter)	%open water	%unvegetated open water	%unveg. ground (bare soil)	%unveg. litter (bare litter)		
2		Fraxinus pennsylvanica																				
1		Glyceria striata																				
1		Rubus sp. (seedling)		CKM																		
2		Carex debilis var. rad.		CKM334																		
1		Toxicodendron radicans																				
1		Rubus pennsylvanicus																				
2		Hamamelis virginiana																				
4		Liriodendron tulipifera																				
1		Thelypteris noveboracensis																				
2		Carya cordiformis																				
2		Carex sp. intumescens		CKM335																		
2		Podophyllum peltatum		17-7-15																		
2		Dioscorea sp. villosa		CKM336																		
2		Urtica dioica sp. 1 ILX		CKM337																		
1		Solidago rugosa		CKM338																		
1		Parthenocissus quinquefolia																				
1		Pyrus sp.																				

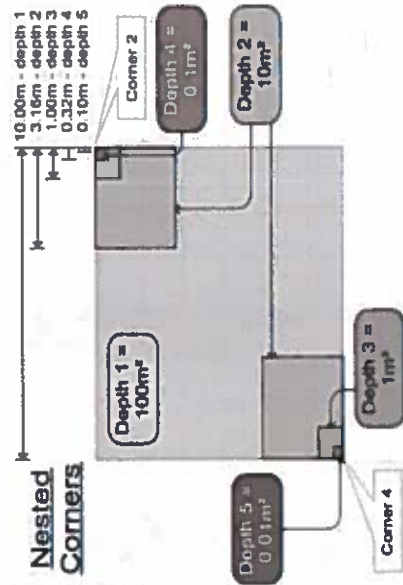
EXAMPLES OF PERCENT OF AREA COVERED

The following graphic can be used to record data elements in canopy "Amount" or "Quality". 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.

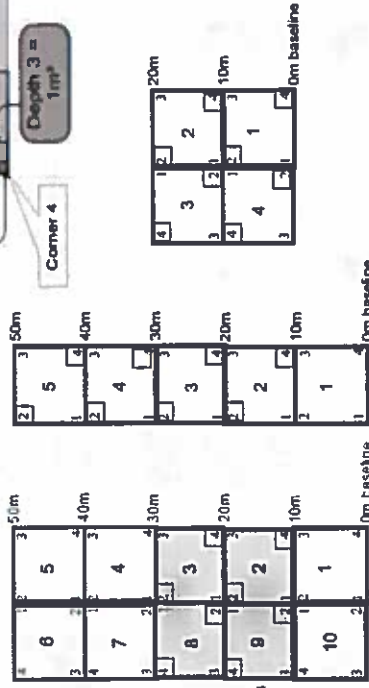
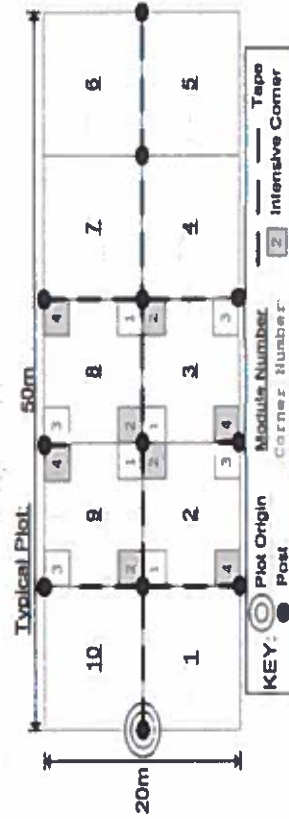
MEDIUM LOW values include evidence of browse at about 10 percent of the stems with no significant impact to plant reproduction evident. In this rating, plants are browsed but preferential species are observed to be reproducing in numbers that appear normal or near-normal in comparison to low browse areas. 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 1 of 1

~~XL~~
2015

Page of

Plot no.:

SRE_CM PCAP TREE Species Cover Data sheet.xls last revised 8/10/2015 jjm

CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet

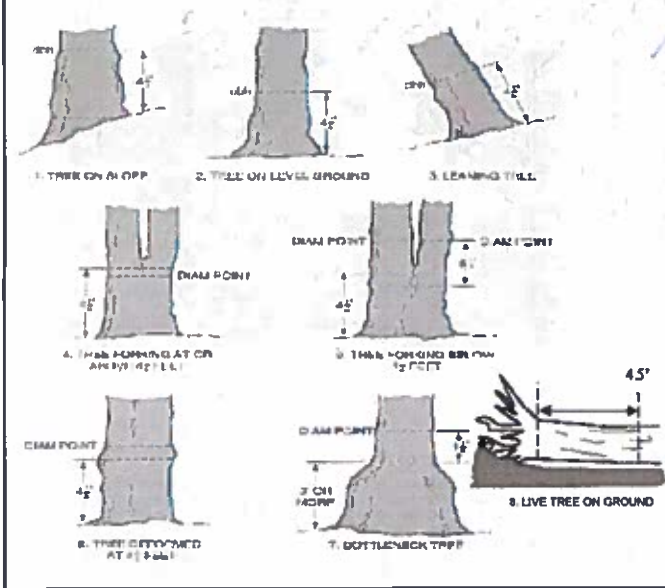


Project Label: PCAP Project Name: 02BWL045 Plot No.: 1070 Page: 1 of 1

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	Quercus torreyana <u>palustris</u>			1														
1	Lindera benzoin																	
1	Nyssa sylvatica																	
1	<u>Acer rubrum</u>																	40.1, 41.5
1	Smilax rotundifolia																	
1	Acer saccharinum																	69.3
1	straining leaf																	
1	Lindera benzoin																	
1	Acer rubrum																	61.0
1	Viburnum dentatum																	
1	Nyssa sylvatica																	
1	Smilax rotundifolia																	
1	Rubus allegheniensis																	
1	Quercus torreyana <u>palustris</u>																	47.9
1	Fagus grandifolia																	
1	Acer saccharinum																	48.3
1	Lindera benzoin																	
1	Quercus palustris																	42.2, 46.6
1	Viburnum dentatum																	
1	Quercus sp. <u>seedling</u>																	
1	Acer rubrum																	
1	straining leaf																	
1	Smilax rotundifolia																	

DBH Measurement Rules



Woody Stem Deer Browse

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

Record using the tally system from 1 to 10



1



2



3



4



5

ASH CANOPY CONDITION

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



A

B

C

D

E

ASH CANOPY BREAKUP CONDITION (for dead trees):

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

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

CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet

Project Label: PCAP

Project Name: 028N0015

Plot No.: 1070

Page: 2 of 9

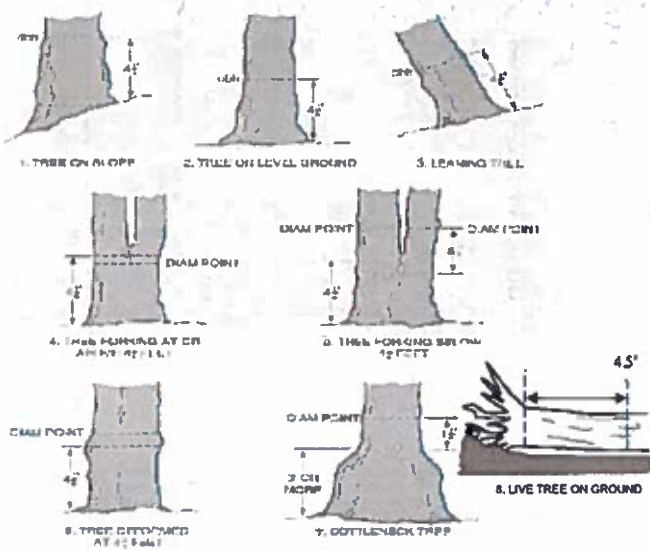


Explain subsample (additional room on back):

mod#	species	c	voucher#	# stems 0-1.4m browsed	% sub or super sample	# shrub clumps	size class (cm) woody stems > 1.4m											11 >40 (record each tree)	
							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			
3	Fraxinus caroliniana			.					.										
4	Quercus rubra																		
4	Acer rubrum																		40.1
4	Lindera benzoin															
4	Sparganium angustifolium			..															
4	Magnolia acuminata			.					.										
4	Salpinx caroliniana			.					.										
5	Acer rubrum											48.3
5	Quercus palustris																		
5	Smilax rotundifolia			.															
5	Lindera benzoin					□			.										
5	Salpinx caroliniana								.										
5	Sparganium angustifolium								.										41.7
5	Quercus rubra																		
6	Sparganium angustifolium					..													
6	Acer rubrum									..	.	X.							
6	Lindera benzoin			..		□													41.2
6	Quercus palustris																		
6	Smilax rotundifolia			..															
7	Lindera benzoin															
7	Salpinx caroliniana			.					.										
7	Sparganium angustifolium					.			.			.							
7	Smilax rotundifolia			..					.										

5-10 measure
above DBH

DBH Measurement Rules



Woody Stem Deer Browse

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

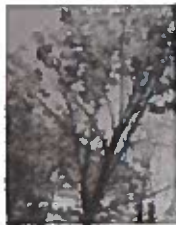
Record using the tally system from 1 to 10



1



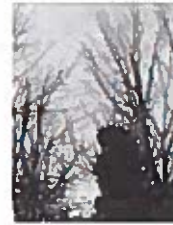
2



3



4



5

ASH CANOPY CONDITION

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



A

B

C

D

E

ASH CANOPY BREAKUP CONDITION (for dead trees):

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

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

CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet



Project Label: PCAP

Project Name: 02BWT015

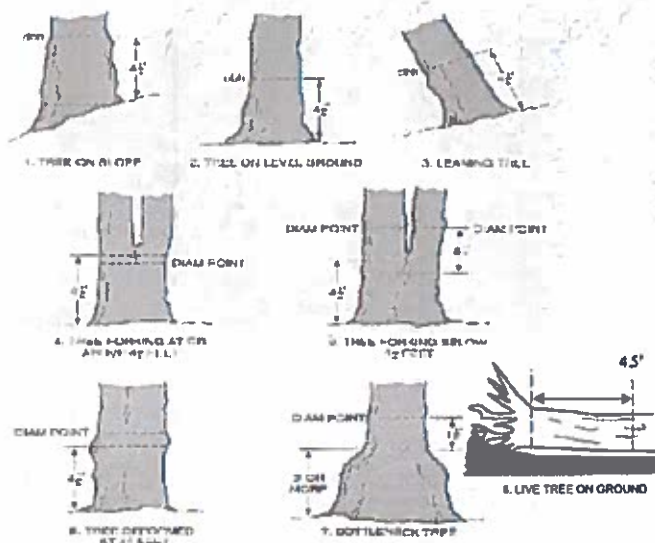
Plot No.: 1070

Page: 3 of 4

Explain subsample (additional room on back):

mod #	species	c	voucher#	# stems 0-1.4m browed	% sub or super sample	# shrub clumps	size class (cm) woody stems > 1.4m										
							1 0-1	2 1-2.5	3 2.5-4.5	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>Rhus serotina</i>			•													
✓ 2	<i>Rhus typhina</i>																
✓ 3	<i>Rhus alleganiensis</i>			•													
✓ 4	<i>Rhus typhina</i>			TT													
✓ 5	<i>Rhus saccharinum</i>																151.0
✓ 6	<i>Rhus sp.</i>			•													
✓ 7	<i>Quercus pubescens</i>																40.2, 51.5
✓ 8	<i>Lindera benzoin</i>			TT													
✓ 9	<i>Rhus typhina</i>																
✓ 10	<i>Smilax rotundifolia</i>			TT													
✓ 11	<i>Larix laricina</i>			•													
✓ 12	<i>Smilax rotundifolia</i>			TT													
✓ 13	<i>Rhus ally hirsuta</i>			•													
✓ 14	<i>Lindera benzoin</i>			TT													
✓ 15	<i>Smilax rotundifolia</i>			•													
✓ 16	<i>Smilax rotundifolia</i>			•													
✓ 17	<i>Smilax rotundifolia</i>			•													
✓ 18	<i>Smilax rotundifolia</i>			•													
✓ 19	<i>Smilax rotundifolia</i>			•													
✓ 20	<i>Smilax rotundifolia</i>			•													
✓ 21	<i>Smilax rotundifolia</i>			•													
✓ 22	<i>Smilax rotundifolia</i>			•													
✓ 23	<i>Smilax rotundifolia</i>			•													
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✓ 26	<i>Smilax rotundifolia</i>			•													
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✓ 28	<i>Smilax rotundifolia</i>			•													
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✓ 68	<i>Smilax rotundifolia</i>			•													
✓ 69	<i>Smilax rotundifolia</i>			•													
✓ 70	<i>Smilax rotundifolia</i>			•													
✓ 71	<i>Smilax rotundifolia</i>			•													
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✓ 73	<i>Smilax rotundifolia</i>			•													
✓ 74	<i>Smilax rotundifolia</i>			•													
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✓ 79	<i>Smilax rotundifolia</i>			•													
✓ 80	<i>Smilax rotundifolia</i>			•													
✓ 81	<i>Smilax rotundifolia</i>			•													
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✓ 100	<i>Smilax rotundifolia</i>			•													

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



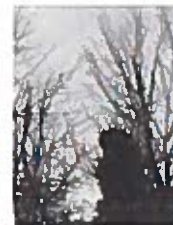
2



3



4



5

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A

B

C

D

E

ASH CANOPY BREAKUP CONDITION (for dead trees):

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

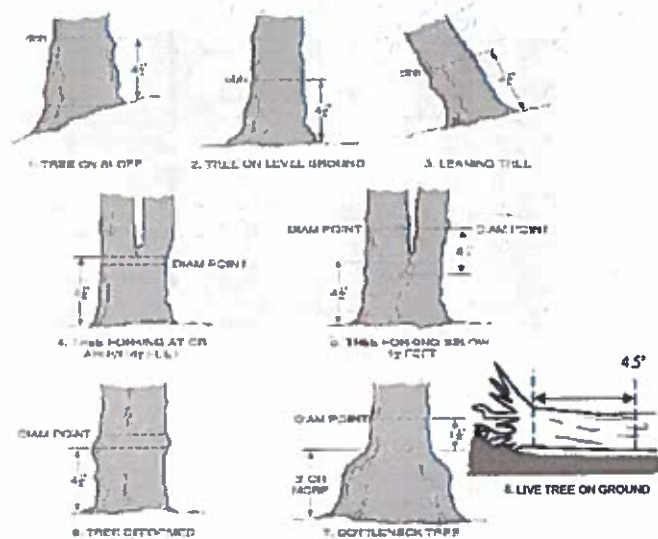
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Cleveland Metropolitan

Page: 5 of 5

[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.

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1



2



3



4



5

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B

C

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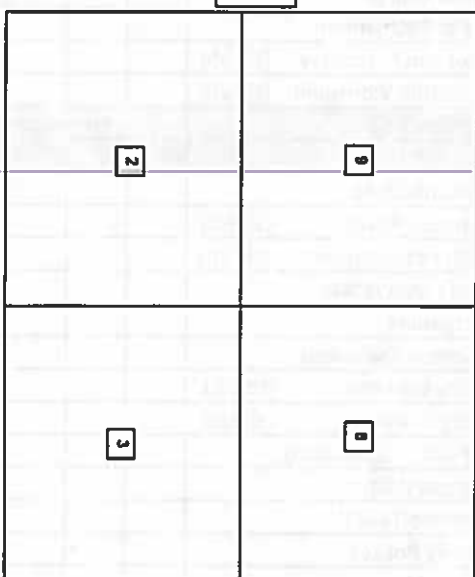
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ASH ONLY

Module ID	Species	Dead	Voucher #	DBH (cm)	Pl. @ DBH	Ash condition	*Dead condition	# Ext. holes	Epiconomic present	Woodpecker index
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 epiconomic marked present (1) or absent (0)

Baseline



*** 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: 07BW2015

Plot No.: 1070

Page: 1 of 1

mod #	species	voucher#	# shrub clumps	size class (cm) woody stems > 1m										
				1 0-1	2 1-2.5	3 2.5-4.5	4 5-10	5 10-15	6 15-20	7 20-25	8 25-30	9 30-35	10 35-40	11 >40 (record each tree)
1	<u>We present</u>													
2														
3														
4														
5														
6														
7														
8														
9														
10														

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

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

* Write None Present if no evidence:

<u>None</u> Beech (Fungus)	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

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.

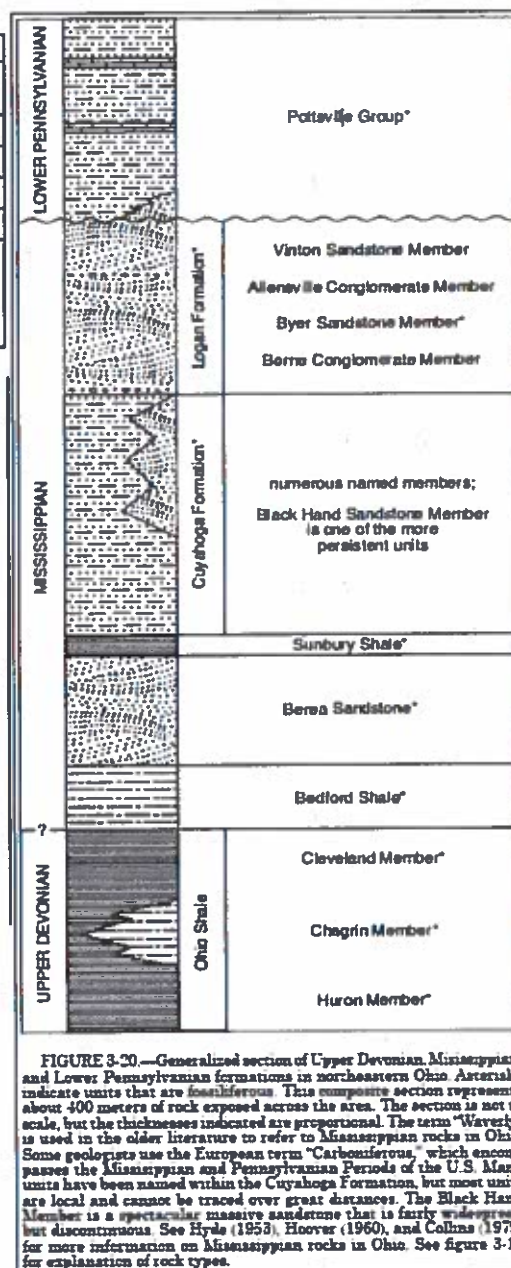
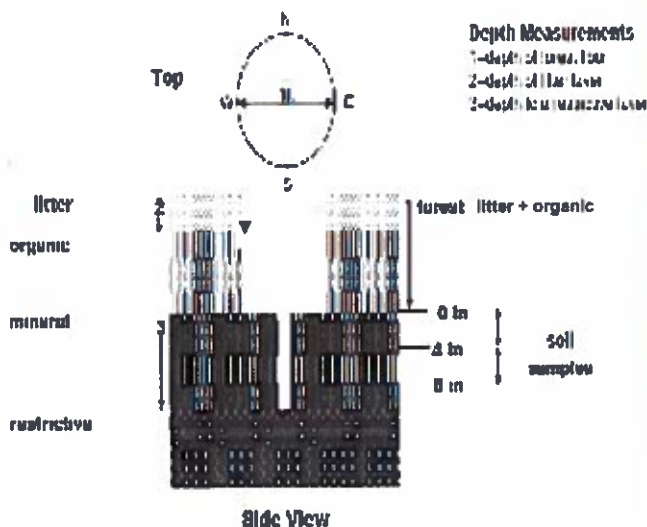


FIGURE 3-20.—Generalized section of Upper Devonian, Mississippian, and Lower Pennsylvanian formations in northeastern Ohio. Asterisks indicate units that are fossiliferous. This composite section represents about 400 meters of rock exposed across the area. The section is not to scale, but the thicknesses 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	Horton (A, B, C)
2,3,4,9	compacted
10-15	Soil Survey Laboratory
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

module	1 liter+ organic depth (cm)	2 liter depth (cm)	water depth (cm)	depth sat soil (cm)
2	0.3	0.3	0	0
3	0.7	0.7	0	0
8	0.4	0.4	0	0
4	2.1	2.1	0	0

EARTH SURFACE & GROUND COVER

Underlying Earth Surface*	Ground Cover	percent
Gravel - 100%	percent	
Gravel - 100%	Coarse Woody Debris***	10
Mineral Soil	Fine Woody Debris****	6
Gravel-Cobble*	Litter	69
Boulder**	Duff (Fern, Humus)	0
Bedrock	Bryophyte-Lichen	1
Gravel-Cobble - 1/16-10"	Water	0
Boulder = > 10 in	Bare Soil	1
> 5 cm in diameter	Road/Trail	0
< 5 cm in diameter	Other	1

COVER BY STRATA

estimate using midpoints of 5, 6, 7, 8, 13

Strata	Height Range (m)	Total Cover (%)
Tree	5 - 7	88
Shrub	0.5 - 5	58
Herb	0 - 0.5	38
(Floating)*	-	-
(Aquatic)*	-	-

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

TRAIL INFORMATION:

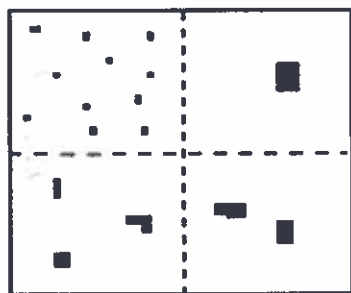
record type and cover for each	%Cover
Type	
All Purpose	
Bridle	
Hiking sanctioned	
Bouldering unsanctioned	
Gravel	
Dirt	

STAND SIZE

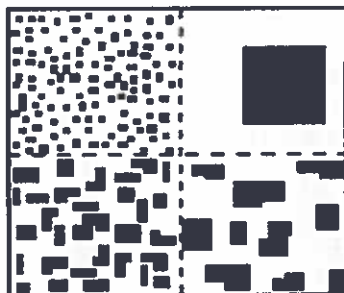
- ☒ > 600 x plot size
- ☒ > 100 x plot size
- ☐ 10-100 x plot size
- ☐ 3-10 x plot size
- ☐ 1-3 x plot size
- ☐ < plot size

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%



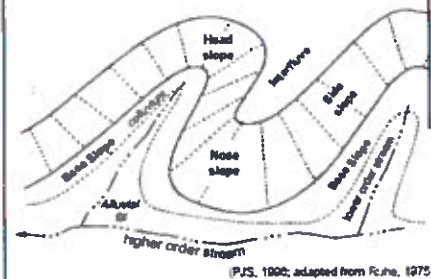
20%

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.

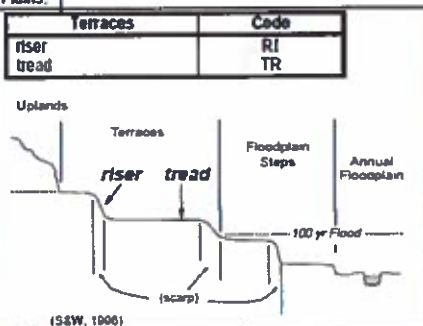
- 0= Organic
- 1= Loamy
- 2= Clayey
- 3= Sandy
- 4= Coarse Sand
- 9= Not measured - make plot note

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	BS



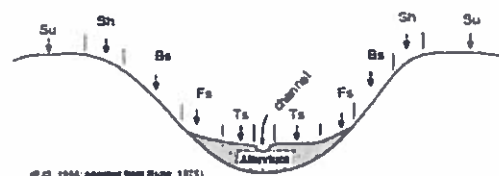
(P.J.S. 1990; adapted from Raine, 1975)



(S&W, 1996)

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. 1990; adapted from Raine, 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.