

CLEVELAND METROPARKS Plant Community Assessment Program: Quality Control Form



Project Label: _____

PCAP _____

Plot No: 1024Date Sampled: 06/28Lead: LANCE

Comment required if item answer is NO

Parking/Access outside of Park Boundaries:		<input checked="" type="radio"/> Y <input checked="" 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	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 checked="" type="radio"/> Y <input type="radio"/> N	N/A
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 checked="" type="radio"/> Y <input type="radio"/> N	N/A
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 checked="" type="radio"/> Y <input type="radio"/> N	
Data sheets scanned?		<input checked="" type="radio"/> Y <input type="radio"/> N	Enter date to left <u>7/6/15</u>
Final data sheets scanned?		<input checked="" type="radio"/> Y <input type="radio"/> N	Enter date to left
Buffer Widths measured?		<input checked="" type="radio"/> Y <input type="radio"/> N	
Web Soil Survey		<input checked="" type="radio"/> Y <input type="radio"/> N	
Voucher Location	Refrigerator	<input checked="" type="radio"/> Y <input type="radio"/> N	
(# vouchers collected)	Press (#)		Enter number to left
	Drier	<input checked="" type="radio"/> Y <input type="radio"/> N	
	Identified	<input checked="" type="radio"/> Y <input type="radio"/> N	
	Mounted	<input checked="" type="radio"/> Y <input type="radio"/> N	
	Thrown away	<input checked="" type="radio"/> Y <input type="radio"/> N	

GRTS point verification: Is plot sampleable?

<input type="radio"/> Yes	Original GRTS point is sampleable
<input type="radio"/> 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:

--

D

Q

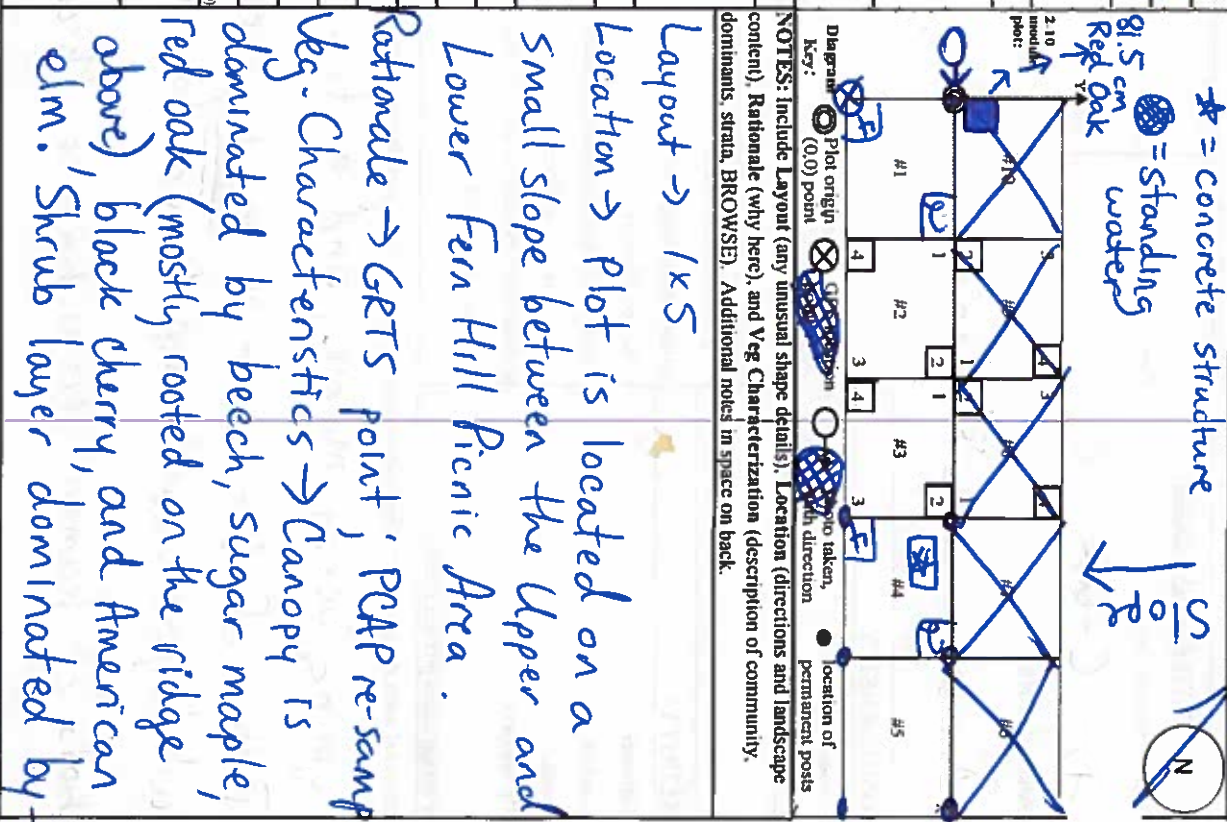
CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet

GENERAL INFORMATION			
Project Label:	PCAP		
Project Name:	02BC2015		
Plot Name:	Fernless Hill		
Plot No.:	1024		
<input type="checkbox"/> Level 4 (no nested corners sampled) <input checked="" type="checkbox"/> Level 5 (nested corners sampled)			
Date (mm/dd/yyyy):	06/29/2015		
End date (if > 1 day):	/ /		
Party:	A. Lance	Plot leader	
	D. Gettagy	Bot. Asst.	
	J. Cahran	Crew	
	E. Krauss	Crew	
** Baker, Corbinder, Asst. Guide, Owner, Taxonomist, etc.			
PLOT NOT SAMPLED: <input type="checkbox"/> Other			
<input type="checkbox"/> Perm. water <input type="checkbox"/> Paved <input type="checkbox"/> Slope <input type="checkbox"/> Safety			
SAMPLING QUALITY*			
Effort Level:	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	modera.	low
vascular:	<input checked="" type="checkbox"/>		n/a
bryo:			<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:	
Local Place Name:	Upper/Lower Fern Hill PA
Landowner:	CMP
Data Confidentiality:	
<input type="checkbox"/> Check one: <input 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)	
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 = -1 (base of plot x=0, y=0)	
Latitude: 41.41379	
Longitude: 81.75364	
Coord. Accuracy: <input checked="" type="checkbox"/> m <input type="checkbox"/> ft + - 3	
GPS File Name: 1024A	
Plot size for cover data: .05 (hectares)	
X-axis Bearing of plot: [305]°	
Depth: (1-5): 4	
Intensive modules: 2, 3, 4, 1, 3, 4 (EDIT IF MODIFIED)	
Camera No.: 3	
Photo Nos.: 0104 + 0103 MB 9, 28-35	
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 FORM v. 1.0 and CVS Field Guide



OVER

CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet

Project Label: _____ PCAP _____ Project Name: 028C2015 Plot No.: 1024 Page 2 of 2

MODIFIED NATURE RESERVE CLASS*

CODE (on separate form): D-C-02 Fit= _____ Conf= _____

COMMUNITY NAME: Mixed forest - BEECH-MAPLE FOREST

HOMOGENEITY

☐ Homogeneous ☐ Compositional trend across the plot

☒ Conspicuous inclusions ☐ Irregular/pattern mosaic

DISTURBANCES

type*	severity**	hrs ago	% of plot	description
Human	H	0	100%	trash, bootlegs, human waste
Natural	N	0	100%	EAB impact
Fire				
Cut				
Animal	AH	0	100%	browse
Other				

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

Current Land Use: PARK

Former Land Use: UNKNOWN

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

(by default unless plot is a wetland)

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

young beech, maple, and a few clumps of blackberry.
 Bottom of the slope is much wetter than the top. Poison ivy, whitegrass, and impatiens dominate this area.
 Lots of human disturbance throughout plot.

★ Beech-maple community is better represented by the area immediately south of the plot. Recent canopy disturbances in the plot have changed community composition.

Project Label: PCAP

Project name: 008C2015

Plot no.: 1024

Total modules: 5

Intensive modules: 4 Plot configuration: 1x5

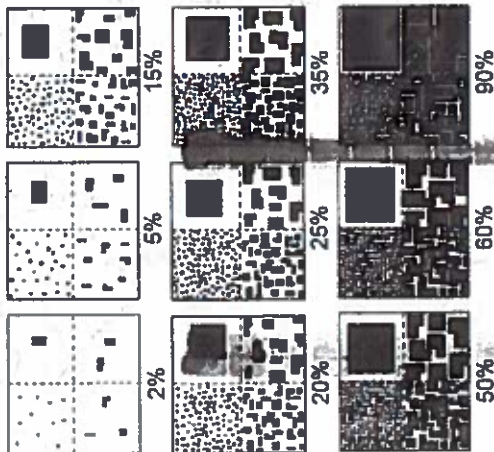
Plot area (ha): 0.05

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

Cleveland Metroparks		Br = Browse Level. Use cover classes to describe amount of browse per species over entire plot		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	
T	S	H	(F)(A)	Br	Species	C	Voucher #	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov
5					Toxicodendron radicans			1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4
5					Polygonum virginianum			1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4
5					Acer saccharum			1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4
5					Thuja occidentalis var. opulus			1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4
5					Allium canadense			1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4
5					Fraxinus sp.			1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4
5					Fagus grandifolia			1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4
5					Acer rubrum			1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4
5					Quercus sp.			1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4
5					Moss sp.			1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4
5					Leersia virginica			1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4
5					Quercus rubra			1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4
5					Arisaema triphyllum			1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4
5					Alliaria petiolata			1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4
5					Rubus sp. allegheniensis			1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4
5					Lonicera mackenzii			1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4
5					Lindera benzoin			1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4
5					Geum sp.			1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4
5					Rubus flagellaris			1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4
5					Prunus serotina			1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4
5					Fraxinus pennsylvanica			1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4
5					Ostrya virginiana			1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4
5					Solidago canadensis			1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4
5					Thalictrum sp. canadensis			1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4
5					Aster sp.			1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4	1	2	1	4

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 object.



cover class	% cover	midpoint
1	solitary or few	0.0001
2	0-1%	0.005
3	1-2%	0.015
4	2-5%	0.035
5	5-10%	0.075
6	10-25%	0.175
7	25-50%	0.375
8	50-75%	0.625
9	75-85%	0.850
10	95-100%	0.975

Nested Corners

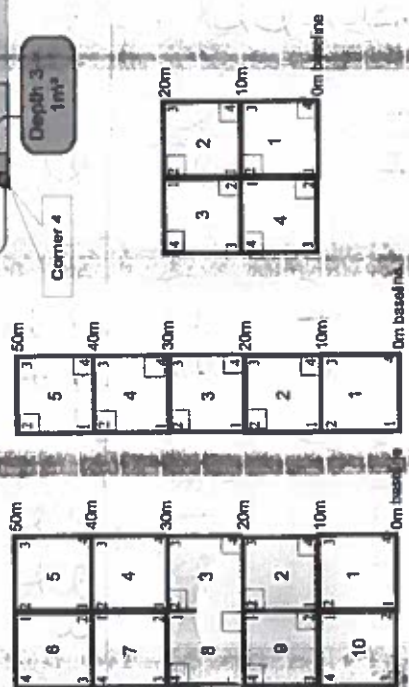
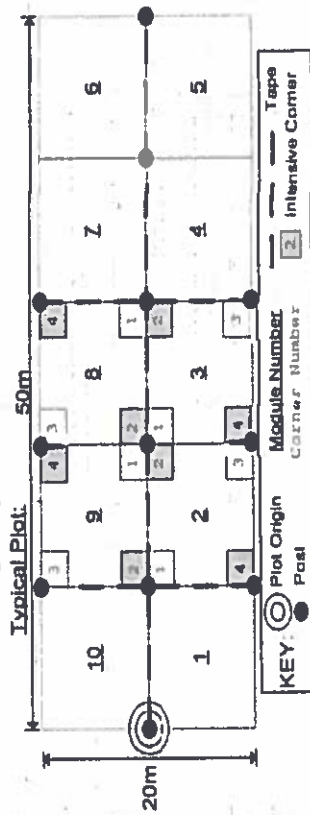
Depth 1 = 100m²
 Depth 2 = 10m²
 Depth 3 = 1m²
 Depth 4 = 0.1m²
 Depth 5 = 0.01m²

Corner 1
 Corner 2
 Corner 3
 Corner 4

10.00m - depth 1
 3.16m - depth 2
 1.00m - depth 3
 0.32m - depth 4
 0.10m - depth 5

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: 5

Project name: 02B02015
Intensive modules: 4 Plot configuration: 1x5

Plot no.: 1024
Plot area (ha): .05



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

Cleveland
Metroparks

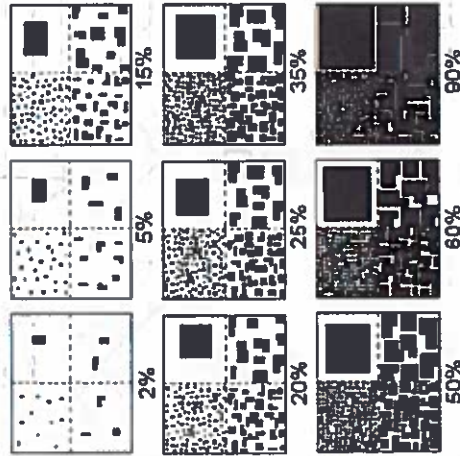
Br = Browse Level. Use cover classes to
describe amount of browse per species over
entire plot

Strata - Cov. entire plot

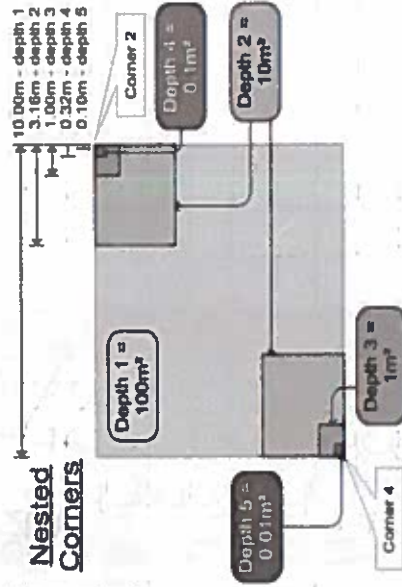
S M (F)(A) Br	Species	Estimate for each intensive module:	C	Voucher #	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover	mod	depth	cover
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EXAMPLES OF PERCENT OF AREA COVERED

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



Nested Corners



BROWSE RATING NARRATIVE DESCRIPTION

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

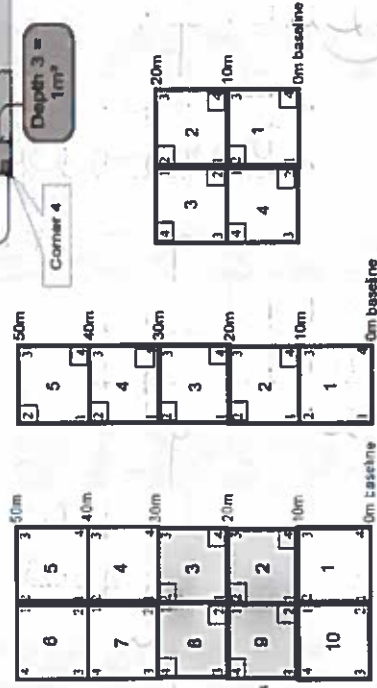
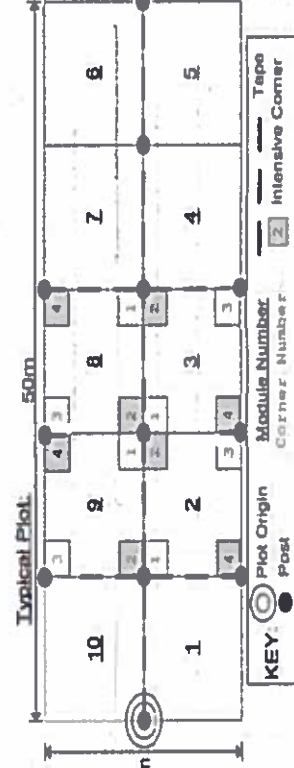
MEDIUM LOW values include evidence of browse at about 10 percent of the stems with no significant impact to plant reproduction evident. In this rating, plants are browsed but preferential species are observed to be reproducing in numbers that appear normal or near-normal in comparison to low browse areas.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

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Page 3 of 3

Plot no.: 1024

Plot area (ha): 0.05

**Cleveland
Metroparks**

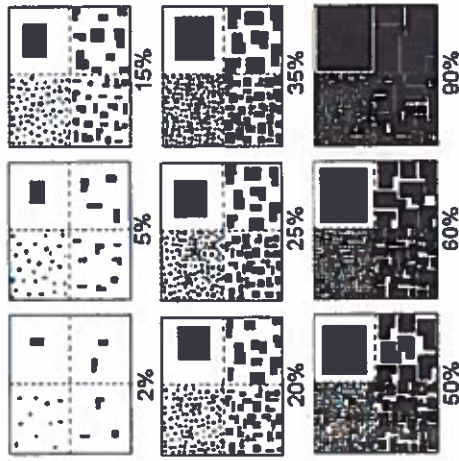
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Strata - Cov. entire plot

[illegible]

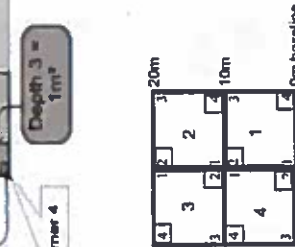
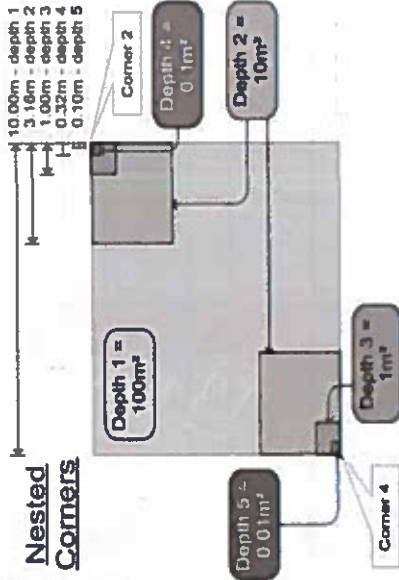
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Nested Corners



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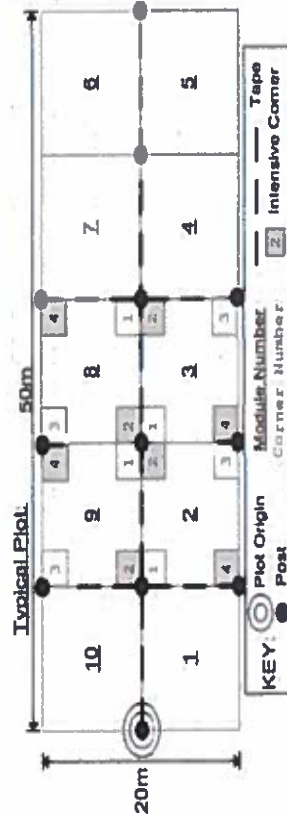
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MEDIUM: browse affects greater than 10 percent and less than 25 percent of stems in the 1 m2 nested quadrat and intensive module. A browse line is usually not evident or obvious for all classes and species of vegetation, but careful examination may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

% COVER		Species	c	Presence of tree mod					R
T	Br			species (X)	Voucher #	1	2	3		4
7		<i>Fagus grandifolia</i>			X			X	X
4		<i>Vitis americana</i>			X				
6		<i>Ulmus americana</i>			X	X			X
7		<i>Acer rubrum</i>			X				
5		<i>Quercus rubra</i>			X				
5		<i>Pinus serotina</i>			X			X	X
3		<i>Ostrya virginiana</i>			X				
7		<i>Toxodendron radicans</i>			X				
1		<i>Acer saccharum</i>			X	X	X	X	

Page of

Project name:

PCAP

Plot no.: _____

Page of [illegible]

CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet

Project Label: PCAP

Project Name: DEBCOIS

Plot No.: 1024

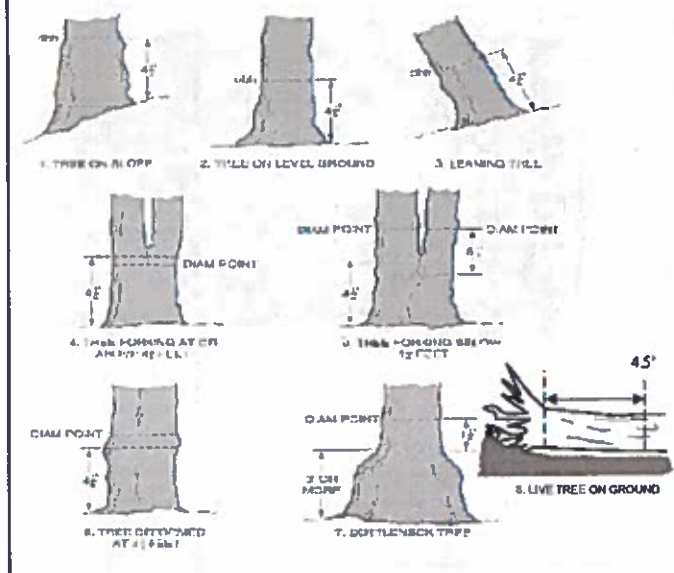
Page: 1 of 3



Explain subsample (additional room on back)

mod #	species	c	voucher#	# stems 0-1.4m browed	% sub or super sample	# shrub clumps	size class (cm) woody stems >1.4m	1	2	3	4	5	6	7	8	9	10	11
1	Fagus grandifolia			5			0-1											47.8
1	Acer saccharum																	
1	Tilia americana																	
1	Acer rubra																	
1	Acer rubrum																	
1	Styrax americanus																	
1	Ulmus americana																	
1	Rhus glabra																	
1	Fraxinus pennsylvanica																	
1	Astrya virginiana																	
1	Fraxinus setacea																	
1	Toxicodendron radicans			10														
1	Fraxinus sp. seedling			7														
1	Rhus glabra			4														
1	Lindera benzoin			1														
1	Styrax americanus																	
1	Ostrya virginiana																	
1	Fagus grandifolia																	
1	Acer saccharum																	58.0
1	Acer rubra																	
1	Acer rubrum																	58.0
1	Fraxinus pennsylvanica																	
1	Ulmus americana																	
1	Lonicera mackii			4														

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.

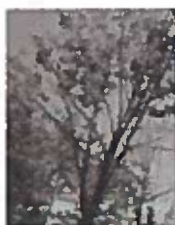
Record using the tally system from 1 to 10



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: 02862015

Plot No.: 1024

Page: 2

of

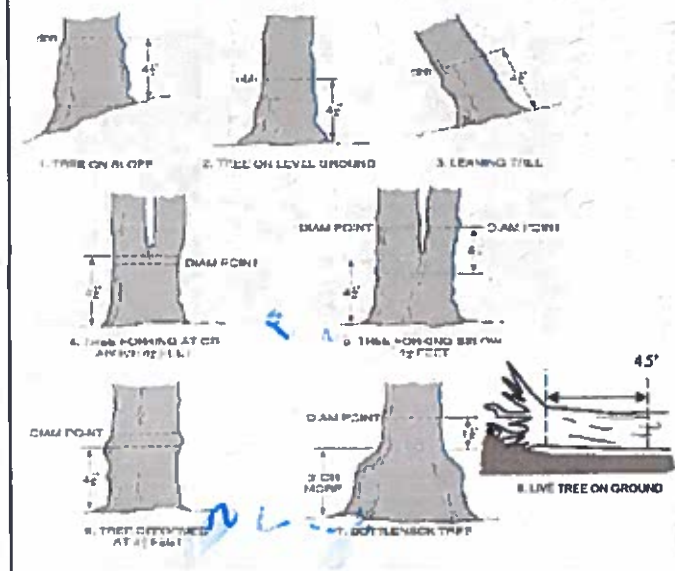


Explain subsample (additional room on back):

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)
✓ 2	Rosa multiflora			5														
✓ 1	Fraxinus sp. seedling			7														
✓ 2	Frax carya cordiformis			1														
✓ 2	Rhus pennsylvanica			3														
✓ 2	Prunus serotina			2														
✓ 2	Lindera benzoin			1														
✓ 3	Vitis aestivalis			3														
✓ 3	Cataegus sp.																	
✓ 3	Ulmus americana																	
✓ 3	Liriodendron tulipifera			2														
✓ 3	Staphylea trifolia																	
✓ 3	Fraxinus pennsylvanica																	
✓ 3	Prunus serotina																	
✓ 3	Liriodendron tulipifera																	
✓ 3	Fraxus grandifolia																	
✓ 3	Staphylea trifolia																	
✓ 3	Picea canadensis																	
✓ 3	Rubus pennsylvanicus			9														
✓ 3	Fraxinus sp. seedling			5														
✓ 4	Fagus grandifolia			2														
✓ 4	Fraxinus sp. seedling			1														
✓ 4	Staphylea trifolia																	
✓ 4	Ulmus americana																	
✓ 4	Ulmus serotinus																	

Combining
10-5-15

DBH Measurement Rules



Woody Stem Deer Browse

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

Record using the tally system from 1 to 10



1



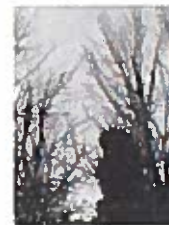
2



3



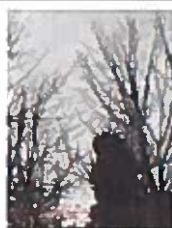
4



5

ASH CANOPY CONDITION

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



A

B

C

D

E

ASH CANOPY BREAKUP CONDITION (for dead trees):

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

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

CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet



Project Label: PCAP

Project Name: 02B C1015

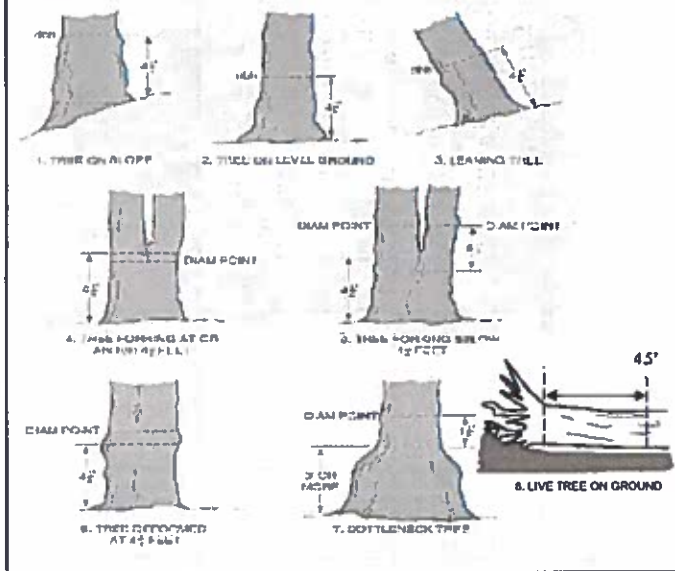
Plot No.: 1024

Page: 3 of 3

Explain subsample (additional room on back):

mod #	species	c	voucher#	# stems 0-1.4m or super sample	% sub 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)
5	<i>Prunus serotina</i>			1														40.3
5	<i>Ostrya virginiana</i>																	
5	<i>Fagus grandifolia</i>			1														43.9, 53.4
5	<i>Quercus saccharum</i>																	
5	<i>Tilia americana</i>																	
5	<i>Quercus rubrum</i>																	
5	<i>Quercus nigra</i>																	
5	<i>Acer saccharum</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



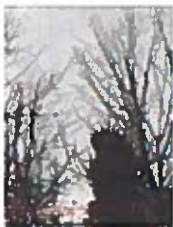
4



5

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.
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A

B

C

D

E

ASH CANOPY BREAKUP CONDITION (for dead trees):

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

Tree ID	Species	Dead	c	Voucher #	DBH (cm)	HT @ DBH	Ash condition	*Dead condition	# Exit holes	Epicormic present	Woodpecker holes
2	Fraxinus sp.				31.2		5	6	0	0	1
2	Fraxinus sp.				23.4		5	6	0	0	0
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

Baseline	
8	8
2	3

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

Baseline			
0	2	3	4
1	2		

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: 02BC2015

Plot No.: 1024

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	<i>Fagus grandifolia</i>				..	..	..							47.8
2	<i>Fagus grandifolia</i>		1		..	..	..				
3	<i>Fagus grandifolia</i>				..	..	..				
4	<i>Fagus grandifolia</i>				..	..	..							46.8
5	<i>Fagus grandifolia</i>			XX	..	..	..							43.9, 53.4
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)	..	L

* Write None Present if no evidence:

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

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



Project Label: _____

PCAP _____

Project Name: Q2BC2015

Plot No.: 1694

Page: _____

of _____

Explain subsample (additional room on back):

mod #	species	voucher#	% sub or super sample	# 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															
2	<i>Fagus grandifolia</i>			1											
3															
4															
5															
6															
7															
8															
9															
10															

Old Datasheet

Strata	Total % Cover
Tree	
Shrub	
Herbaceous	2%

* Write None Present if no evidence:	
-Beech (Fungus)	-Asian Longhorned Beetle
-Hemlock (HWA)	-Other Forest Pest or Pathogen
-Walnut (Thousand Canker)	

* Beech disease noted on one epicormic beech sprout.
Only one sprout with a few infected leaves.

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.

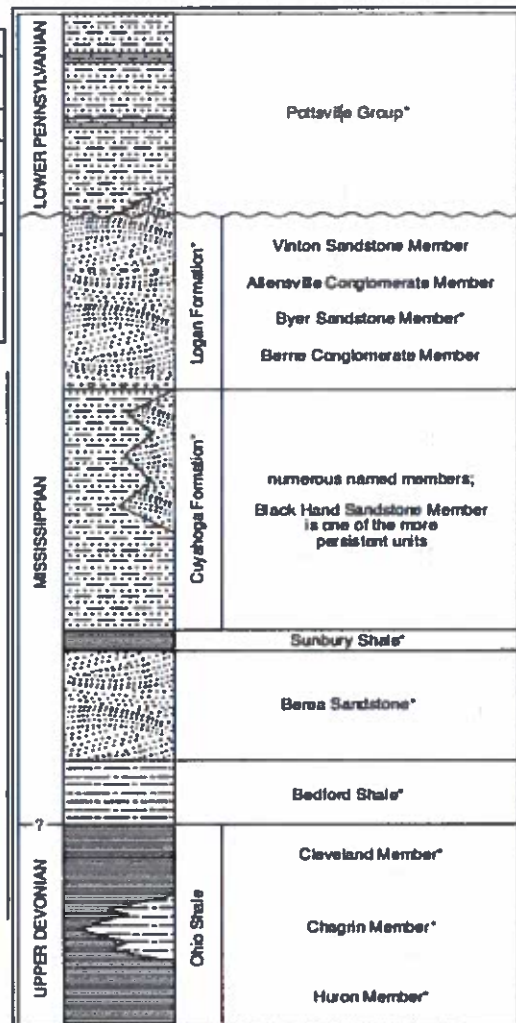
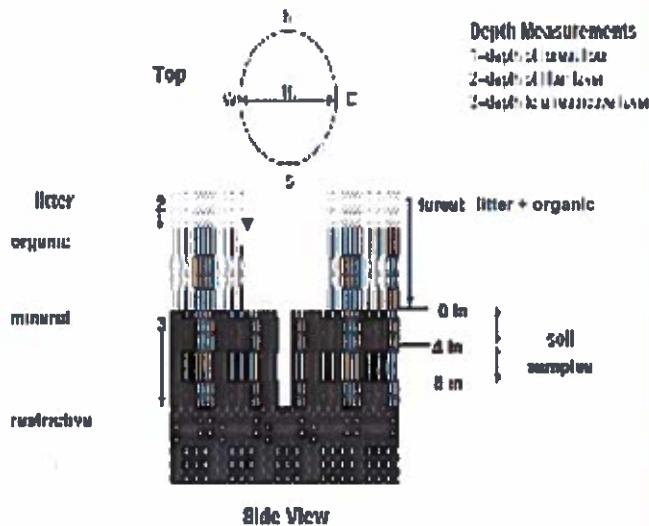


FIGURE 3-20.—Generalized section of Upper Devonian, Mississippian, and Lower Pennsylvanian formations in northeastern Ohio. Asterisks indicate units that are fossiliferous. This composite section represents about 400 meters of rock exposed across the area. The section is not to scale, but the thicknesses 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 3-15 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	
	mottle color	
	%mottle	
	oxid roots	Y N
	texture*	
	redox features**	Y N
	hydr. cond.***	1 S M D
20 cm	matrix color	
	mottle color	
	%mottle	
	oxid roots	Y N
	texture*	
	redox features**	Y N
	hydr. cond.***	1 S M D

* refer to texture classes on reverse side
 ** e.g. hydrogen sulfide odor, gleying, etc.
 *** Circle one:
 1-indurated S-saturated M-moist D-dry
 Notes: include evidence of earthworms (worms, castings, middens)

Soil Collection Method	Horizon (A, B, C)
22.4 g composite	A
Wash Soil Sieving Information	
Soil Series Type:	
Soil Series Source	Ohio Soil Survey
Landform type:	
Depth to real 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

	1 liter+ organic depth (cm)	2 liter depth (cm)	water depth (cm)	depth sat soil (cm)
1	3.0	3.0	0	0
2	1.5	1.5	0	0
3	2.0	2.0	0	0
4	3.5	3.5	0	0

EARTH SURFACE & GROUND COVER			
Underlying Earth Surface*	Ground Cover		
Gravel = 100%	percent	Gravel < 100%	percent
Humusol	—	Coarse Woody Debris***	15% 100%
Mineral Soil	96%	Fine Woody Debris****	10%
Gravel-Cobble*	—	Litter	70% 100%
Boulder**	4%	Duff (Ferm + Humus)	—
Bedrock	—	Bryophyte-Lichen	1%
* Gravel-Cobble = 1/16-10"		Water	5%
** Boulder = > 10 in		Bare Soil	5%
*** > 5 cm in diameter		Dead Trail	5%
**** < 5 cm in diameter		Other	—

TRAIL INFORMATION:	
microcl type and cover for each	
Type	%Cover
<input type="checkbox"/> All Purpose	
<input type="checkbox"/> Bridle	
<input type="checkbox"/> Hiking sanctioned	
<input type="checkbox"/> Hiking unsanctioned	5%
<input type="checkbox"/> Gravel	
<input type="checkbox"/> Deer	

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

Strata	Height Range (cm)	Total Cover (%)
Tree	5	73%
Shrub	5	73%
Herb	0.5	43%
(Floating)*		
(Aquatic)*		

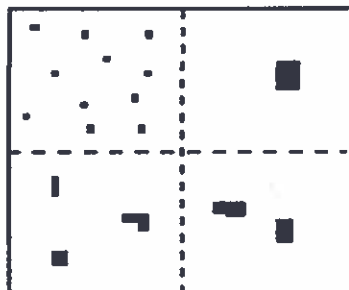
* rooted and floating or slightly emerged
 ** submerged, most plant mass below surface

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

STAND SIZE	
<input type="checkbox"/> > 600 x plot size	
<input type="checkbox"/> > 100 x plot size	
<input type="checkbox"/> 10-100 x plot size	
<input checked="" type="checkbox"/> 1-10 x plot size	
<input type="checkbox"/> 1-3 x plot size	
<input type="checkbox"/> < plot size	

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.

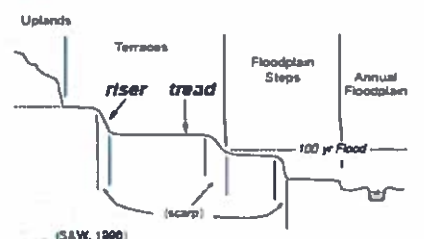
- 0= Organic
- 1= Loamy
- 2= Clayey
- 3= Sandy
- 4= Coarse Sand
- 9= Not measured - make plot note

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

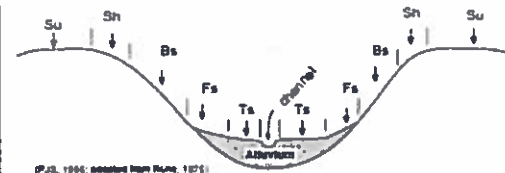


Terraces	Code
riser	RI
tread	TR



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

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



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

UPLAND: Not a wetland. Very rarely flooded.

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

PERMANENTLY/SEMI-PERMANENTLY 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.

SEMI-PERMANENTLY 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.