

CLEVELAND METROPARKS Plant Community Assessment Program: Quality Control Form



Project Label:

PCAP

Plot No:

1005

Date Sampled:

86/17-18/15

Lead:

CKM

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	Y	N	
X-axis Bearing of plot recorded	Y	N	
GPS coords. Recorded	Y	N	
North direction recorded	Y	N	
Photographs taken?	Y	N	
Relocated Pins Mapped	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	Check every line and cross check with the Tree Cover Sheet
Invasive plant quality control check	Y	N	NA
Ash trees mapped	Y	N	
Completed Forest Pest/Pathogen Datasheet	Y	N	
Cover by Strata? (confirm cover type)	Y	N	
Soil samples collected with matching plot #.	Y	N	NA
Cross check 2010 information	Y	N	Highlight any changes from 2010 information
Vouchers labeled on datasheet with initials and number	Y	N	
Vouchers labeled on collection bag	Y	N	
Pink flags removed	Y	N	
Data sheet QA before leaving site?	Y	N	
Common equipment returned to tub.	Y	N	
Data sheets scanned?			Enter date to left
Final data sheets scanned?			Enter date to left
Buffer Widths measured?	Y	N	
Web Soil Survey	Y	N	
Voucher Location	Refrigerator	Y	N
(# vouchers collected)	Press (#)		Enter number to left
CKM 034-550	Drier	Y	N
	Identified	Y	N
	Mounted	Y	N
	Thrown away	Y	N

GRTS point verification: Is plot sampleable?

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

Additional Comments:

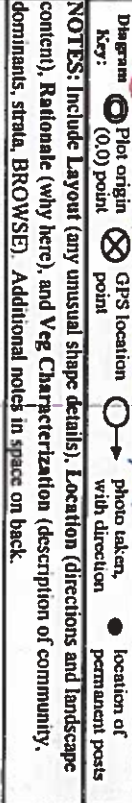
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Page 1 of 7

1aCM PCAP Background Data Sheet Page 1 ver 3.0.xls last revised 5/29/2012 cch

0.xls last revised 5/29/2012 ceh



1

are well represented.

OVER

CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet

Project Name: 02 HI-2015

Plot No.: 1005

Project Label: PCAP

Page 2 of 2

MODIFIED NATURE RESERVE CLASS*

CODE (on separate form):

D

Fit= Conf=

COMMUNITY NAME:

Mixed forest

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)

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

The Plot is placed at the base of a long gradual decline. Seasonal flooding is evident as large areas of the mofs have displaced bare soil. The water moved with some force because no vegetation (even seedlings) are present. To the west there is a skunk cabbage seep that turns into a swamp. There is a channel/creek along the western edge. Overall a nice plot with minimal non native presence and a good mix of natives

DISTURBANCES

type*	severity**	yrs ago	% of plot	description
Human				
Natural	H	0	25	Flooding from runoff
Fire				
Cut				
Animal	ML	0	100%	skt 7-15 Deer browse
Other				

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

Current Land Use: Park

Former Land Use:

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

Natural Resources Management FORM NR/2010-01b

Project 1 abel.

PCAP

Project name: 02HT2015

Plot no. 1005

Page 1 of 4

Total modules:

Intensive modules: 4

Plot configuration: 2×5

- Plot area (ha):



Cleveland Metroparks

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

Strata - Cov. entire plot

Cleveland Metroparks

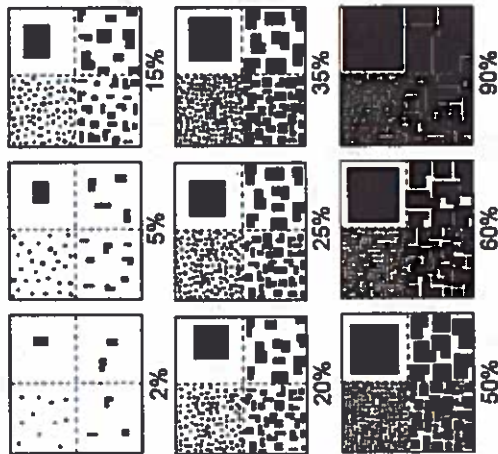
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Strata - Cov. entire plot

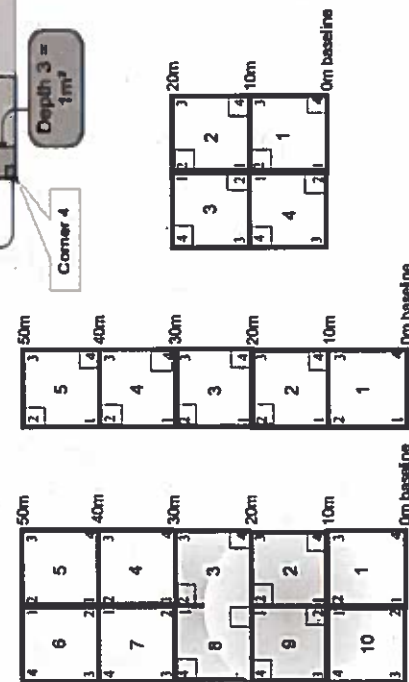
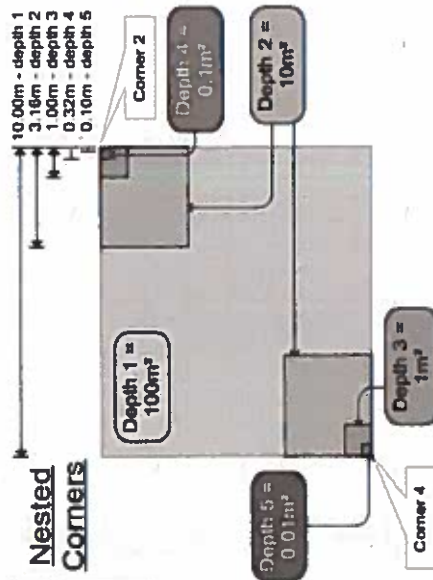
S H (F)(A) Br	Species	Estimate for each intensive module:												Cov. entire plot											
		%open water												%unvegetated open water											
		%unveg. ground (bare soil)												%unveg. litter (bare litter)											
Voucher #	depth	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod
2. Acer saccharum	4	6	3											6	4										
7. Impatiens sp.	4	2												2	6										
5. Fraxinus sp. (seedling)	4	2	3											4	2	3									
Arenanella thalictroides	3	2	2											3	2	2									
Potentilla sp.	2	2	2											1	2	4									
Sorarium maculatum	2	2	2											2	2	3									
Oxalis stricta	2	2	2											1	1										
Acer sp. (seedling)	2	2	2											3	2	2									
Carya sp. (seedling)	2	2	2																						
B. Vitis sp. (seedling)	2	2	2											2	3										
Circaea lutea	2	2	2											2	2	3									
Galium sp.	2	1												2	4										
Pedophyllum peltatum	2	1																							
Allium tricoccum	2	2																							
5. Geum sp.	2	2	4											2	2										
Lecysia virginica	2	2	4											1	1										
Moss sp.	2	2	3											2	2	2									
Cardamine sp.	1	1	3																						
Paean #1 - unknown	2	2	3											1	2										
Agrostis sp. Muhlenbergia frondosa	1	2	2																						
5. Carpinus caroliniana	5	2	2											2	2										
Ranunculus sp.	2	1	2																						
Astragalus sp. var. erect	2	2	2											2	2										
Torilis radicans	2	1	2											3	2										
Ranunculus hirsutus	2	2	2																						

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	75-85%	0.850
10	95-100%	0.975



BROWSE RATING NARRATIVE DESCRIPTION

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

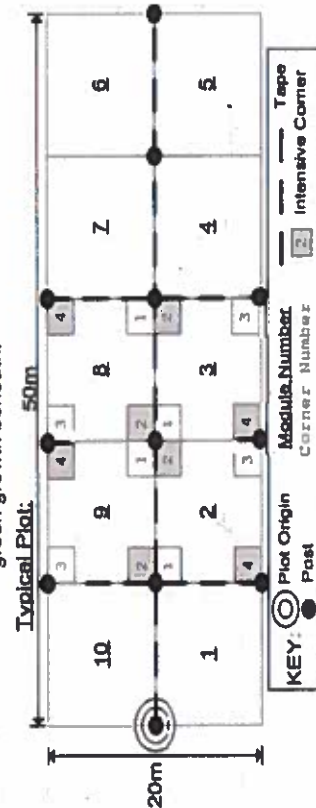
MEDIUM LOW values include evidence of browse at about 10 percent of the stems with no significant impact to plant reproduction evident. In this rating, plants are browsed but preferential species are observed to be reproducing in numbers that appear normal or near-normal in comparison to low browse areas.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

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

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

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

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



Project Label:

PCAP

Project name: 02HI 2015

Plot no.: 1005

Total modules:

Intensive modules:

Plot configuration: 2x5

Plot area (ha):



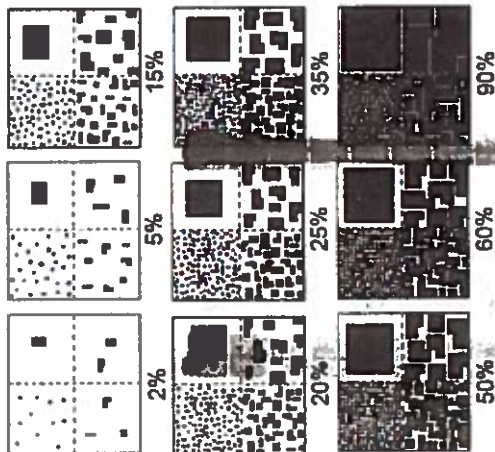
Br = Browse Level. Use cover classes to describe amount of browse per species over entire plot

Strata - Cov. entire plot

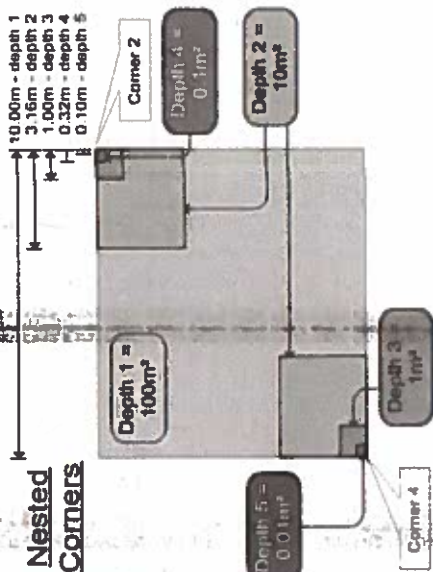
[illegible]

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7	25-50%	0.375
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9	75-85%	0.850
10	85-100%	0.975



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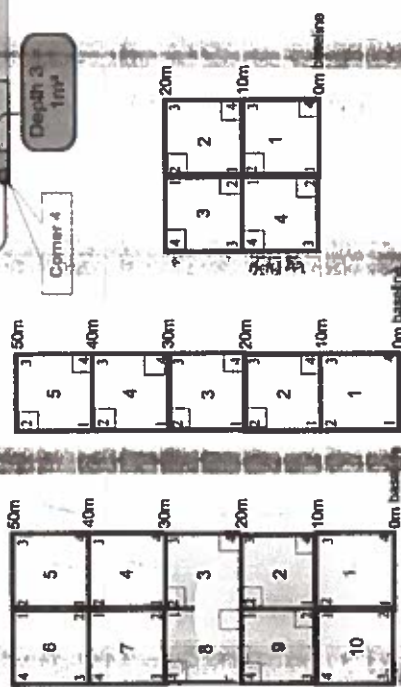
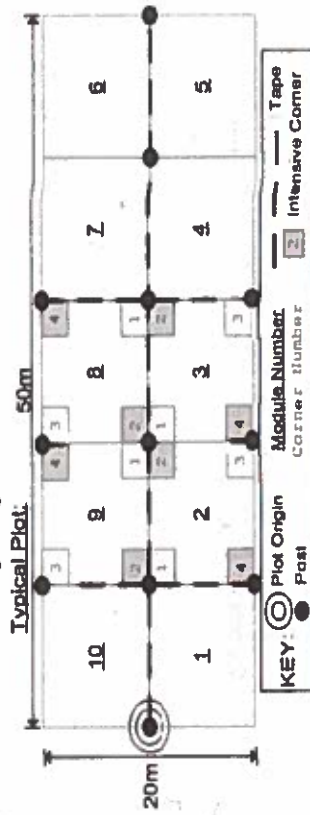
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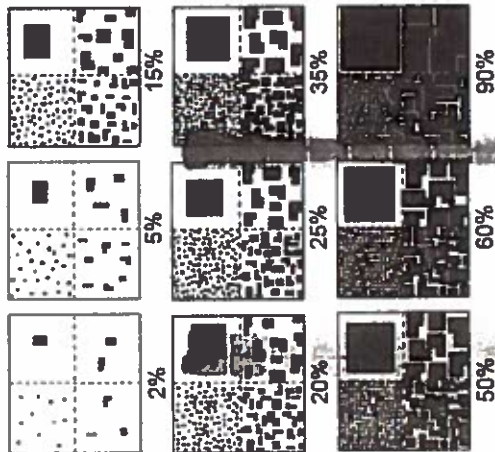
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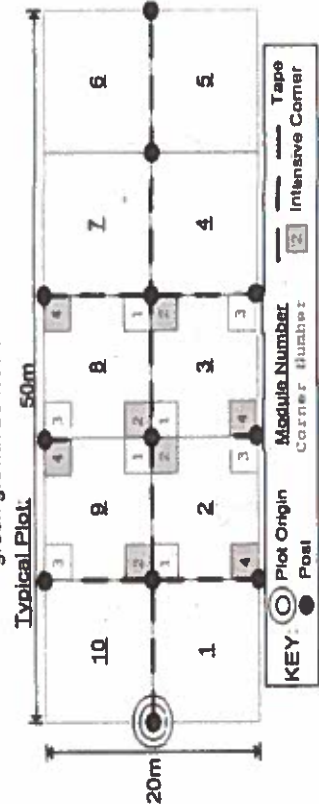
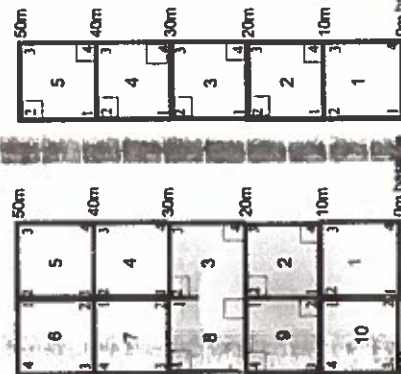
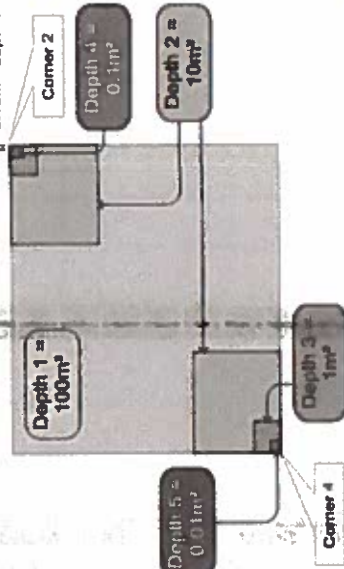
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Nested Corners

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



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Page 1 of 4

1

Plot area (ha):



Cleveland Metroparks

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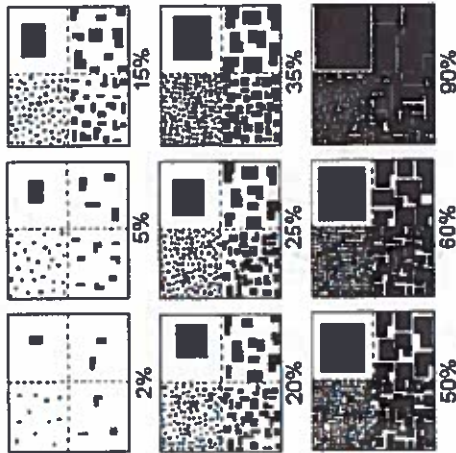
Estimate for each intensive module:

Strata - Cov. entire plot

[illegible]

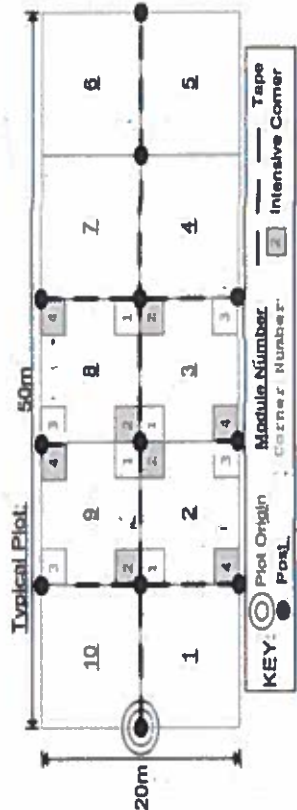
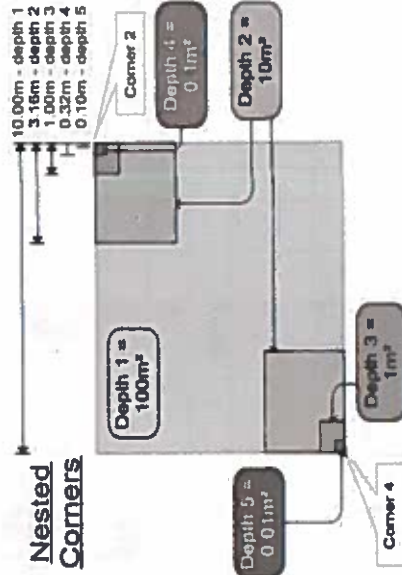
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CLEVELAND METROPARKS Plant Community Assessment Program Tree Cover Data Sheet

Page 1 of 1

Project Label: PCAP

Project name: 02-HI-2015 Plot no.: 1005

% COVER		Strata - Cov. entire plot	Species	c	Presence of tree species (X)		mod	mod	mod	mod	R
T	Br				Voucher #	mod	mod	mod	mod		
5	7	X	Carpinus caroliniana			X				X	
6			Fagus grandifolia			X	X			X	
8			Acer saccharum			X	X	X		X	
6			Tilia americana			X	X	X		X	
5			Carya ovata			X	X	X		X	
65	9		Ulmus americana			X	X	X		X	
6			Ostrya virginiana			X	X			X	
5			Fragaria sp.			X	X			X	
5			Parthenocissus quinquefolia					X		X	
4	9		Acer rubrum							X	
5			Carya cordiformis							X	
4			Ulmus rubra					X		X	
3	8		Urtica riparia							X	
2	2		Moss sp.							X	

1
14
47
4
147
147

Page of

Plot no.:

SRE_CM PCAP TREE Species Cover Data sheet.xls last revised 6/10/2015 jjm

CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet

Project Label: PCAP

Project Name: 024/2015

Plot No.: 1005

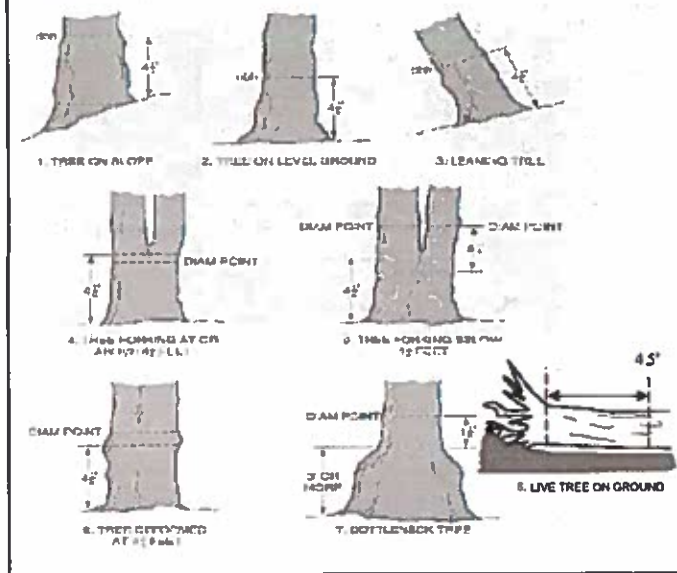
Page: 1 of 4



Explain subsample (additional room on back):

mod #	species	C	voucher#	# stems 0-1.4m or super sample	% sub sample	# shrub clumps	size class (cm)	1	2	3	4	5	6	7	8	9	10	11
1	Acer saccharum						□	□	□	□								59.0
1	standing dead						□	□	□	□								
1	Ulmus americana						□	□	□	□								
1	Fragus grandifolia			4			□	□	□	□								
1	Carya ovata						□	□	□	□								
1	Lindera benzoin						□	□	□	□								
1	Fernox sp.	X					□	□	□	□								
1	Fragaria sp. seedling			1			□	□	□	□								
2	Fragus grandifolia			3			□	□	□	□								
2	standing dead						□	□	□	□								
2	Acer saccharum						□	□	□	□								47.8
2	Carya ovata						□	□	□	□								
2	Ulmus americana			2			□	□	□	□								
2	Carpinus caroliniana						□	□	□	□								
2	Tilia americana						□	□	□	□								
2	Quercus rubra			1			□	□	□	□								
2	Rosa multiflora			1			□	□	□	□								
3	Tilia americana						□	□	□	□								
3	Ulmus americana			1			□	□	□	□								
3	standing dead						□	□	□	□								
3	Acer saccharum						□	□	□	□								
3	Fernox sp.						□	□	□	□								
3	Rhus virginiana			1			□	□	□	□								
3	Ostrya virginiana						□	□	□	□								

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



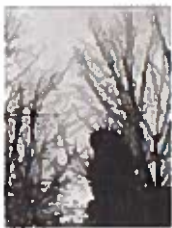
4



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: 6241615

Plot No.: 1005

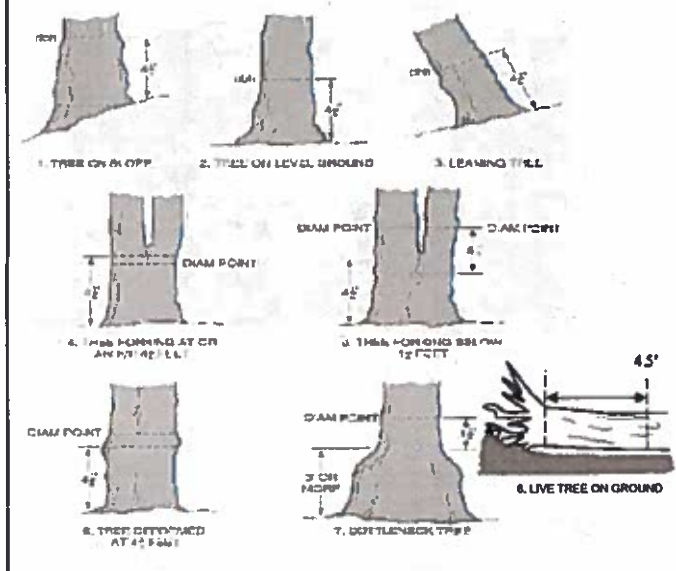
Page: 2 of 4



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 2.5-5	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	Rosa multiflora			1													
4	Acer saccharum																
4	Larix laricina																
4	Strawberry tree																
4	Filix americana																
4	Rudbeckia hirta			1													
4	Aspen virginiana																
4	Rosa multiflora			2													
5	Acer saccharum																
5	Strawberry tree																
5	Crataegus sp.																
5	Vitis riparia			1													
5	Fraxinus sp. seedling			8													
5	Aspen virginiana			1													
6	Acer saccharum																
6	Rudbeckia hirta																
6	Strawberry tree																
6	Fraxinus pennsylvanica																
6	Rosa multiflora			2													
6	Fraxinus sp. seedling			3													
7	Acer saccharum																
7	Filix americana																

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



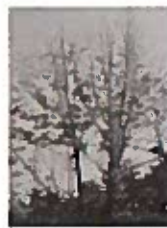
1



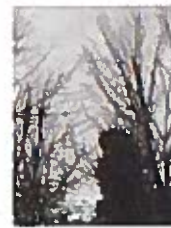
2



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: 024-2015

Plot No.: 1005

Page: 3 of 4



Explain subsample (additional room on back):

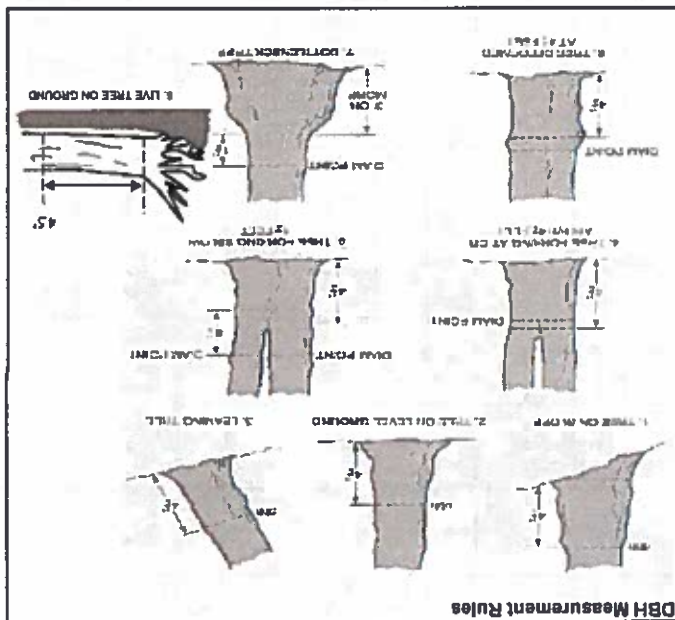
mod #	species	c	voucher#	# stems 0-1.4m browed	% sub or super sample	# shrub clumps	size class (cm)	1 0-1	2 1-2.5	3 2.5-5	4 5-10	5 10-15	6 15-20	7 20-25	8 25-30	9 30-35	10 35-40	11 >40 (record each tree)
7	<i>Prunella virginiana</i>			X 1			17											
7	standing dead																	
7	<i>Ulmus americana</i>																	
7	<i>Fraxinus pennsylvanica</i>			1														
7	<i>Fraxinus</i> sp. seedling			2														
8	<i>Rhus glabra</i>			1														
8	<i>Acer saccharum</i>			1														
8	standing dead																	
8	<i>Carpinus caroliniana</i>																	
8	<i>Lindera benzoin</i>																	
8	<i>Ulmus americana</i>																	
8	large shrub																	
8	<i>Ulmus rubra</i>																	
8	<i>Corylus cordifolia</i>																	
8	<i>Tilia americana</i>																	
8	<i>Fraxinus s. seedling</i>			3														
8	<i>Acer multiflorum</i>			3														
9	<i>Tilia americana</i>																	
9	<i>Acer saccharum</i>																	
9	<i>Corylus cordifolia</i>																	
9	standing dead				X													
9	<i>Fraxinus</i> sp.																	
9	<i>Acer virginicum</i>																	
9	<i>Carpinus caroliniana</i>			1														

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.

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. >60% 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.



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

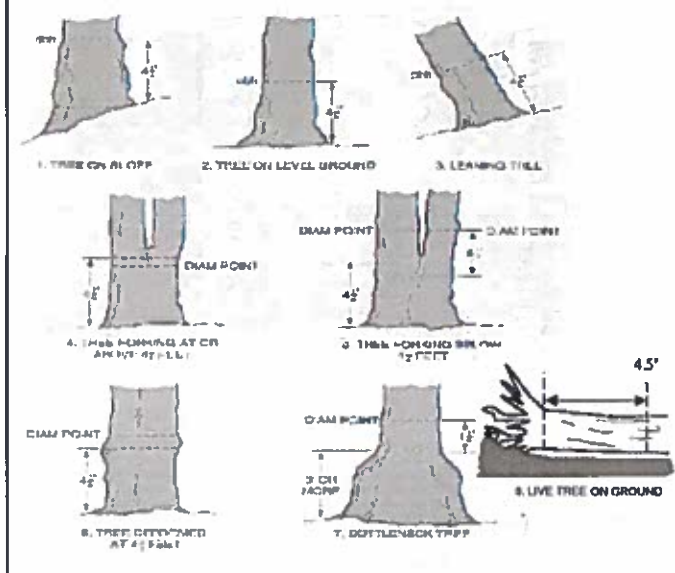
1

Page: 5 of 5

11

Natural Resources Management FORM NR/2010-03a

DBH Measurement Rules



Woody Stem Deer Browse

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

Record using the tally system from 1 to 10



1



2



3



4



5

ASH CANOPY CONDITION

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



A

B

C

D

E

ASH CANOPY BREAKUP CONDITION (for dead trees):

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

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

Project Label: PCAP

Project Name: 02M1015

Plot No.: 1005

Date: 6/17/15

Tree ID	Species	Dead	c	Voucher #	DBH (cm)	Ht @ DBH	Ash condition	Dead condition	# Exit holes	Epicormic present	Woodpecker holes
3	Fraxinus sp.				10.3		2		0	0	0
1	Fraxinus sp.				11.1		2		0	0	0
2	Fraxinus sp.										
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)

Baseline

9	8
2	3

*** Change intensive module numbers when necessary

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



8/6
 7-1-15

CLEVELAND METROPARKS Plant Community Assessment Program: Invasive Species Survey


Tier 1: Early detection/ Rapid response		Presence				GPS	Presence X: yes
		NE	SE	SW	NW		
Microstegium vimineum	Japanese stiltgrass						
Ranunculus ficaria	Lesser Celandine						
Cynanchum louiseae (vine)	Black Swallow-wort						
Butomus umbellatus (wetland)	Flowering Rush						
Heracleum mantegazzianum	Giant Hogweed						
Tier 2: Assess as Needed		# of Plants				comments	# of Plants
		NE	SE	SW	NW		
Acer platanoides	Norway Maple						1: 1-10
Ailanthus altissima	Tree of Heaven						2: 11-50.
Lonicera japonica (vine)	Japanese Honeysuckle						3: 51-100
Lythrum salicaria (wetland)	Purple Loosestrife						4: 101-1,000
Aegopodium podagraria (G-cover)	Bishop's Goutweed						5: >1,000
Celastrus orbiculatus (vine)	Asian Bittersweet						
Torilis sp.	Hedgeparsley						
Conium maculatum	Poison Hemlock						
Rhamnus cathartica	Common Buckthorn (shrub)						
Berberis thunbergii	Japanese Barberry (shrub)						
Alnus glutinosa	European Alder						
Dipsacus laciniatus	Cut-leaf Teasel						
Elaeagnus umbellata	Autumn Olive (shrub)						
Lonicera maackii	Amur Honeysuckle (shrub)						
Euonymus fortunei	Wintercreeper						
Tier 3: Presence is of Interest		# of Plants				comments	# of Plants
		NE	SE	SW	NW		
Convallaria majalis (G-cover)	Lily of the Valley						1: 1-10
Coronilla varia (G-cover)	Crown Vetch						2: 11-50.
Eleutherococcus pentaphyllus	Five-leaf Aralia (shrub)						3: 51-100
Pachysandra terminalis (G-cover)	Japanese Pachysandra						4: 101-1,000
Philadelphus coronarius	Mock Orange (shrub)						5: >1,000
Pulmonaria officinalis (G-cover)	Lungwort						
Rubus phoenicolasius	Wineberry						
Iris pseudacorus (wetland)	Yellow Flag Iris						
Ornithogalum umbellatum	Star of Bethlehem						
Viburnum opulus var. opulus	European Cranberry (shrub)						
Viburnum plicatum	Doublefile Viburnum (shrub)						
Tier 4: Widespread and abundant		Presence				comments	# of Plants
		NE	SE	SW	NW		
Alliaria petiolata	Garlic Mustard						1: 1-10
Ligustrum vulgare	Common Privet (shrub)						2: 11-50.
L. morrowii, L. tatarica	Bush Honeysuckles (shrub)						3: 51-100
Phalaris arundinacea	Reed Canarygrass						4: 101-1,000
Phragmites australis (wetland)	Phragmites						5: >1,000
Polygonum cuspidatum	Japanese Knotweed						
Frangula alnus	Glossy Buckthorn (shrub)						
Rosa multiflora	Multiflora Rose (shrub)						
Typha angustifolia, T. x. glauca	Cattails (wetland)						
Cirsium arvense	Canada thistle						
Dipsacus fullonum	Common Teasel						
Hesperis matronalis	Dame's Rocket						
Vinca minor (G-cover)	Periwinkle						

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

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



Project Label: PCAP

Project Name: 0241:2015

Plot No.: 1005

Page: 1 of 1

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	<i>None present</i>														
2															
3															
4															
5															
6															
7															
8															
9															
10															

Strata	Total % Cover
Tree	
Shrub	
Herbaceous	

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

[illegible]

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.

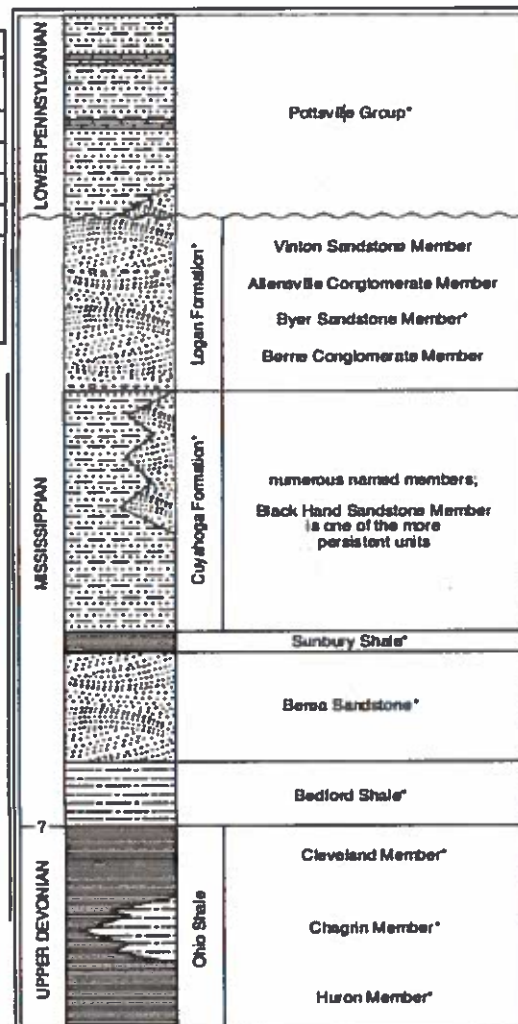
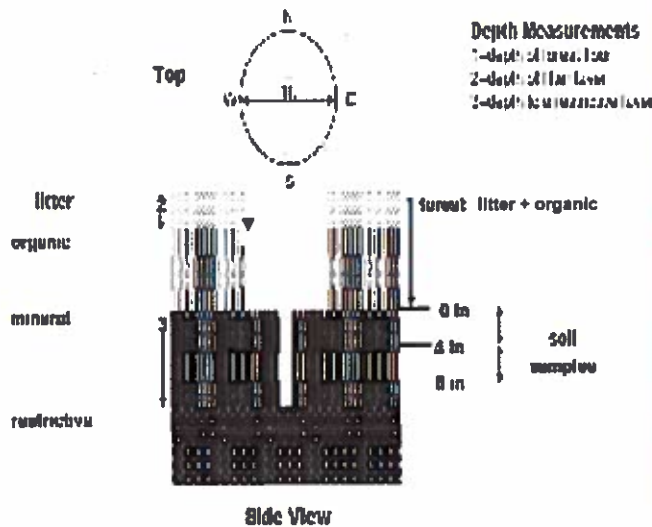


FIGURE 3-20.—Generalized section of Upper Devonian, Mississippian, and Lower Pennsylvanian formations in northeastern Ohio. Asterisks indicate units that are fossiliferous. This composite section represents about 400 meters of rock exposed across the area. The section is not to scale, but the thicknesses 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 pH module 6 ____ (one per entire plot)

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

Soil Collection Method	Hertzen (A, B, C)
2.3.8.9 composite	A
Web Soil Survey Information	
Soil Series/Type	
Soil Series Source	Ohio Soil Survey
Landform type	
Depth to root layer	
Parent Material	
Drainage*	

- ☐ Excessively dr. ☐ Somewhat excessively
☐ Well drained ☐ Moderately well dr.
☐ Somewhat poorly dr. ☐ Very poorly dr.
☐ 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)
2	14.0	14.0	0	0
3	1.4	1.4	0	0
8	3.0	3.0	0	0
9	1.5	1.5	0	0

Soil worm in all of residuals

EARTH SURFACE & GROUND COVER

Underlying Earth Surface*	Ground Cover	percent
Grass - 100%	percent (Each ≤ 100%)	percent
Histacal	Coarse Woody Debris***	8
Mineral Soil	Fine Woody Debris***	5
Gravel-Cobble*	Litter	60
Boulder**	Drift (Ferm. + Humus)	0
Bedrock	Bryophyte Lichen	3
Gravel-Cobble = 1/16-10"	Water	0
** Boulder = > 10 m	Bare Soil	20
*** > 5 cm in diameter	Dead/Tail	0
**** < 5 cm in diameter	Other	0

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

COVER BY STRATA

estimate using midpoints of 6, ex: 3, 8, 13

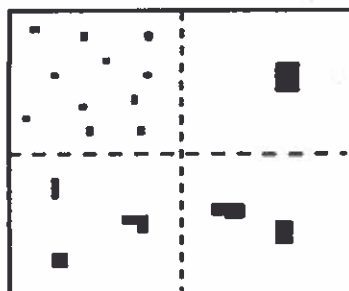
Strata	Height Range (m)	Total Cover (%)
Tree	5.0 - 1	43
Shrub	0.5 - 5.0	53
Herb	0 - 0.5	73
(Floating)*		0
(Aquatic)*		0

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

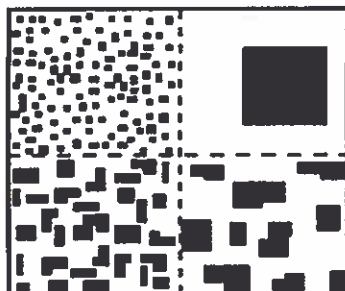
SEE BACK OF PAGE FOR TYPICAL STRATA DESCRIPTIONS. STRATA CAN VARY BY COVER TYPE.

PERCENT MOTTLES (USE CLASS CODES):

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



2%



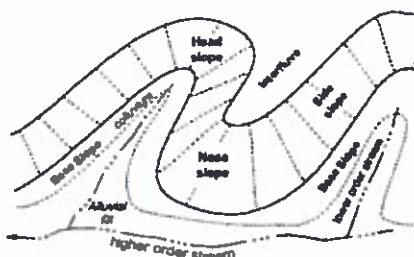
20%

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

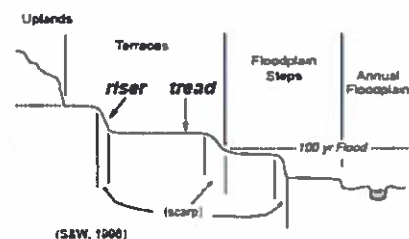
Geomorphic Component - Three-dimensional descriptors of parts of landforms or microfeatures that are best applied to areas. Unique descriptors are available for Hills, Terraces, Mountains, and Flat Plains; e.g., (for Hills) nose slope or NS.

Hills	Code	NASIS
POP		
interfluvial	IF	IF
head slope	HS	HS
nose slope	NS	NS
side slope	SS	SS
base slope	—	BS



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

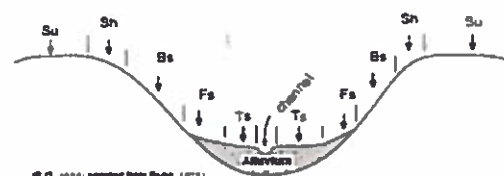
Terraces	Code
riser	R
tread	TR



(S&W, 1990)

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 Ruhn, 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/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.