

CLEVELAND METROPARKS Plant Community Assessment Program: Quality Control Form 03/15/15 Cleveland Metroparks

Project Label: PCAP Plot No: 1026 Date Sampled: 06/16/15 Lend: CKM

Comment required if item answer is NO

Parking/Access outside of Park Boundaries:	Y	<input checked="" type="radio"/> N	If yes, write details in Comments section below
Field journals completed	<input checked="" type="radio"/> Y	N	
Site sketch made on 1:3000 map?	<input checked="" type="radio"/> Y	N	
Check cover page	X-axis Bearing of plot recorded	<input checked="" type="radio"/> Y N	
	GPS coords. Recorded	<input checked="" type="radio"/> Y N	
	North direction recorded	<input checked="" type="radio"/> Y N	
	Photographs taken?	<input checked="" type="radio"/> Y N	
	Relocated Pins Mapped	<input checked="" type="radio"/> Y N	
Plot No., Date agreement on all pages?	<input checked="" type="radio"/> Y	N	
Header data completed all pages?	<input checked="" type="radio"/> Y	N	
Cover classes recorded in all Intensive modules	<input checked="" type="radio"/> Y	N	
Browse Level By Species	<input checked="" type="radio"/> Y	N	
Woody stem quality control check	<input checked="" type="radio"/> Y	N	Check every line and cross check with the Tree Cover Sheet
Invasive plant quality control check	<input checked="" type="radio"/> Y	N	NA
Ash trees mapped	<input checked="" type="radio"/> Y	N	
Completed Forest Pest/Pathogen Datasheet	<input checked="" type="radio"/> Y	N	
Cover by Strata? (confirm cover type)	<input checked="" type="radio"/> Y	N	
Soil samples collected with matching plot #.	<input checked="" type="radio"/> Y	N	NA
Cross check 2010 information	<input checked="" type="radio"/> Y	N	Highlight any changes from 2010 information
Vouchers labeled on datasheet with initials and number	<input checked="" type="radio"/> Y	N	
Vouchers labeled on collection bag	<input checked="" type="radio"/> Y	N	
Pink flags removed	<input checked="" type="radio"/> Y	N	
Data sheet QA before leaving site?	<input checked="" type="radio"/> Y	N	
Common equipment returned to tub.	<input checked="" type="radio"/> Y	N	
Data sheets scanned?	<u>6/19/15</u>		Enter date to left
Final data sheets scanned?			Enter date to left
Buffer Widths measured?	<input checked="" type="radio"/> Y	N	
Web Soil Survey	<input checked="" type="radio"/> Y	N	
Voucher Location	Refrigerator	<input checked="" type="radio"/> Y N	
(# vouchers collected)	Press (#)		Enter number to left
<u>CKM 013</u>	Drier	<input checked="" type="radio"/> Y N	
	Identified	<input checked="" type="radio"/> Y N	
	Mounted	<input checked="" type="radio"/> Y N	
	Thrown away	<input checked="" type="radio"/> 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. parkinglot, road)
	<input type="checkbox"/> Unsafe to sample (i.e. steep slope)
	<input type="checkbox"/> Other

Additional Comments:



# CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet

missing piece

## GENERAL INFORMATION

Project Label: PCAP

Project Name: DZRR 2015

Pilot Name: The Pines

Pilot No: 1026

☐ Level 4 (no nested corners sampled)

☒ Level 5 (nested corners sampled)

Date (mm/dd/yyyy): 06/15/15

End date (if > 1 day): 06/16/15

Party: C. Minney

Role: Plot leader

R. Eagle-Malone

E. Krauss

M. Getagay

Woody

Plot NOT SAMPLED: ☐ Other

Perm. water ☐ Paved ☐ Slope ☐ Safety

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

Effort Level: ☒ Very thorough ☐ Accurate ☐ Hurried

TAXONOMIC ACCURACY

high ☒ moderate ☐ low ☐ not smpl ☐

vascular ☒ bryo ☒ lichen ☒

TAXONOMIC STANDARD

Authority: G&C Pub Date: 1998

## LOCATION

State: OH County: Cuyahoga

Quadrangle: North Olmstead

Local Place Names:

Lewis Rd. Riding Ring

Landowner: CMP

Data Confidentiality:

Check one: ☒ Public data ☐ Private Data

☐ Fuzz 100m ☐ Fuzz 250m ☐ Fuzz 500m

Reason:

If data not public why?

Source of coordinates: ☐ MAP ☒ GPS

Coordinate system: ☐ Lat/Long ☐ UTM ☐ StatePlane ☒ Coord. Units

☐ Other (specify): ☐ deg ☐ deg min ☐ m ☐ ft ☐

Datum: ☒ NAD83/WGS84 ☐ NAD27

GPS location in plot (x=0 to 5, y=1,0,+1):

x = 0 y = 0 (base of plot x=0, y=0)

Latitude: N041.40311

Longitude: W081.88935

Coord. Accuracy: ☒ m ☐ ft ☐ +/- 3

GPS File Name: 1026A

Plot size for cover data: .1 (hectares)

X-axis Bearing of plot: [50]°

Depth: (1-5): 4

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

Camera No.: 4 CKM C4-1-22

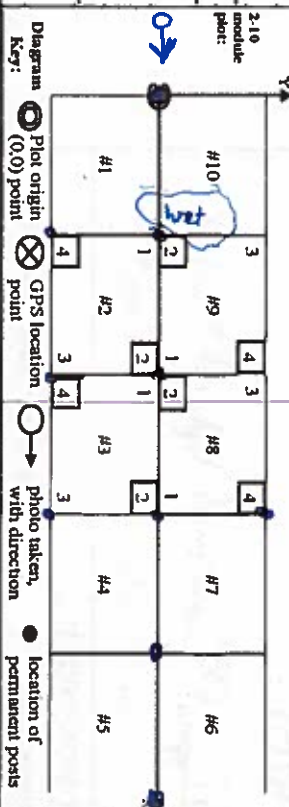
Photo Nos.: 168 C4-168-98

Plot placement: ☒ GRTS ☐ Representative

☐ Random ☐ Stratified Random ☐ Transect component

☐ Systematic (grid) ☐ Capture specific feature ☐ Other

\*Definitions and values in CM PCAP FORM v. 1.0 and CVS Field Guide



NOTES: Include Layout (any unusual shape details), Location (directions and landscape content), Rationale (why here), and Veg Characterization (description of community, dominants, strata, BROWSE). Additional notes in space on back.

Layout: 2 x 5

Location: Near Lewis Rd. Riding Ring close to

Ruby River off Lewis Rd which is off Valley Parkway

Rationale: GRTS

Neg Characterization: The canopy is dominated

by Pinus nigra which is planted and thinned

hard woods. Sugar is abundant and will most

likely replace P. nigra in the future. Red Oaks,

cherries, Ostrya and Fagus also present.

The shrub layer is homogenous with sparse

saplings of maple, cherry and the odd Carya

cordiformis.

The herb layer is sparse with Anisacoma,

Dryopteris carthusiana but few other natives

are of consequence. Several nonnatives establishing

most notably Rhamnus frangula which is numerous but

decidedly restricted to the herb layer with

excursions

OVER





# CLEVELAND METROPARKS Plant Community Assessment Program Species Cover Data Sheet

Page 1 of 2

Project Label: PCAP

Project name: OZRR2015

Plot no.: 1026

Plot area (ha): .1

Total modules: 10

Intensive modules: 4 Plot configuration: 2x5



Cleveland Metroparks

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

Strata - Cov. entire plot

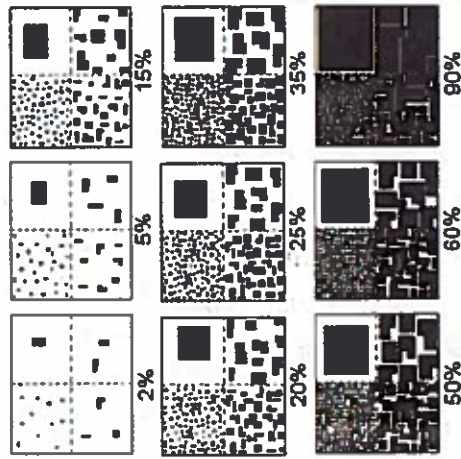
S	H	(F)	(A)	Br	Species	Estimate for each intensive module:			C	Voucher #	mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod	R
						%unvegetated open water	%unveg. ground (bare soil)	%unveg. litter (bare litter)			depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov		
2					Fraxinus sp. (seedling)						3	2	3																							
6					Acer saccharum						2	3																								
3					Arisaema triphyllum var. triphyllum						2	2	2																							
2					Acer sp. (seedling)						2	2	2																							
2					Toxicodendron radicans						2	2	2																							
1					Unknown Dicot #1 - R. 2008						2	1																								
13					RHAMNUS FRANGULA						2	2	4																							
22					Prunus serotina						2	3																								
2					Circaea lutea						1	3																								
2					Parthenocissus quinquefolia						2	2																								
22					Prunus cerasus						1	2																								
32					Vitis sp. (seedling) aesculapifolia						1	1																								
22					Larix cordiformis						1	2																								
1					Oxalis stricta						1	1																								
2					Moss sp.						1	1																								
2-1					Fagus grandifolia																															
22					Ostrya virginiana						2	1																								
2					Quercus sp. (seedling)						2	1																								
4					Dryopteris carthusioides						2	2																								
1					LONITCERA NORRISII						1	1																								
1					Unknown Dicot #2 - cordata						1	1																								
4-1					Acer rubrum																															
2					Fraxinus pensylvanica																															
1					Unknown Dicot #3 - seedling																															
2					Polygonatum pubescens																															

A. moss stricta

SRE 9-14-16

# EXAMPLES OF PERCENT OF AREA COVERED

The following graphic can be used for various data elements to convey "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

**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.

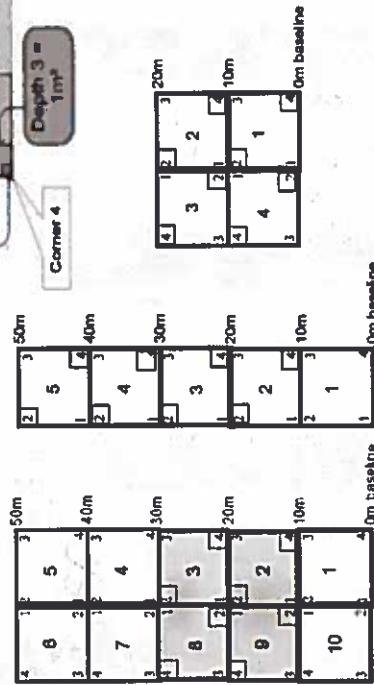
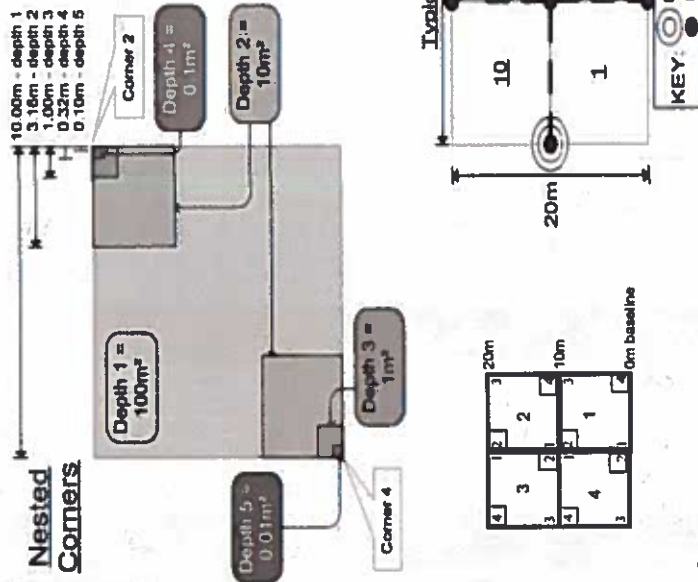
**MEDIUM LOW** values include evidence of browse at about 10 percent of the stems with no significant impact to plant reproduction evident. In this rating, plants are browsed but preferential species are observed to be reproducing in numbers that appear normal or near-normal in comparison to low browse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

Page 7 of 7

Plot area (ha):



## Cleveland Metroparks

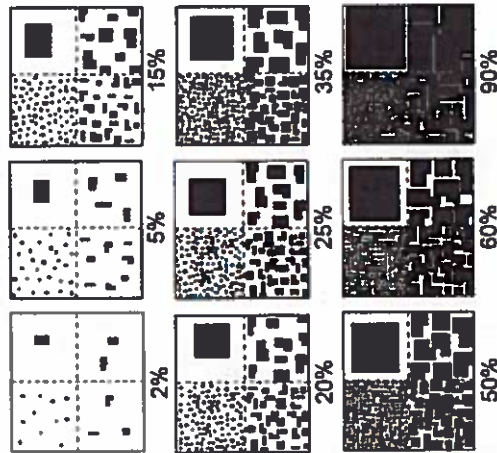
**Br = Browse Level. Use cover classes to describe amount of browse per species over entire plot**

Strata - Cov. entire plot

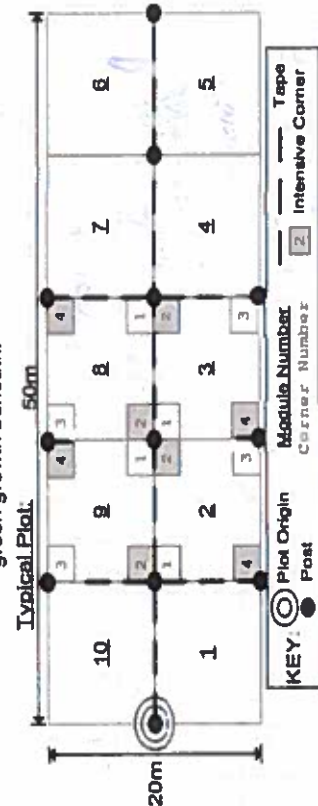
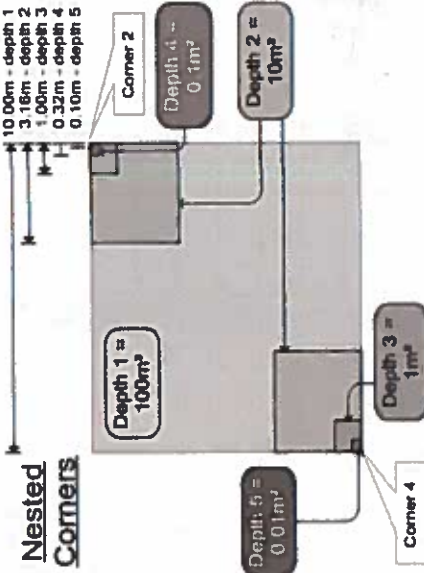
[illegible]

# EXAMPLES OF PERCENT OF AREA COVERED

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cover class	% cover	midpoint
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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



**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 of 1

Natural Resource Management FORM NR/2010-02a

[illegible]

# CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet

Project Label: PCAP

Project Name: 02R2015

Plot No: 1020

Page: 1 of 4

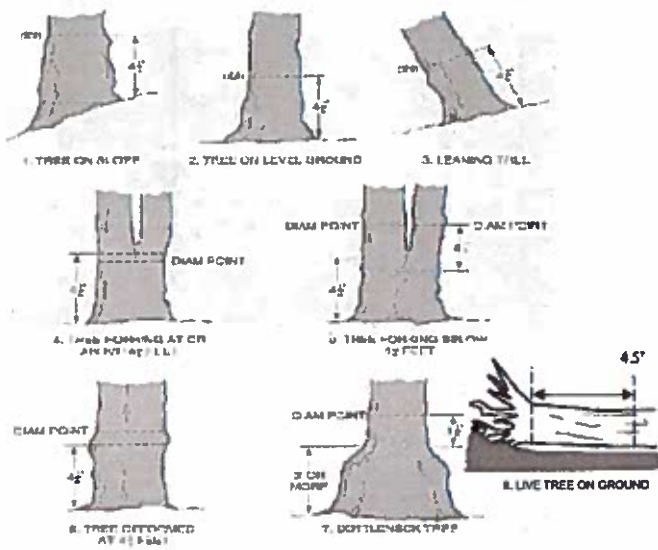


Explain subsample (additional room on back):

mod #	species	c	voucher#	# stems 0-1.4m browed	% sub or super sample	# shrub clumps	size class (cm) woody stems >1.4m										11
							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	>40 (record each tree)
1	standing dead																
1	Crataegus sp.			1													
1	Acer saccharum																
1	Pinus nigra																
1	Pinus strobus																
1	Fagus grandifolia																
1	Corylus californica																
2	Acer saccharum			1													
2	Pinus nigra																
2	Tilia americana																
2	Acer rubrum																
2	standing dead																
2	Pinus strobus																
2	Corylus californica			1													
3	Acer saccharum																
3	Fagus grandifolia			2													
3	Quercus rubra																
3	Pinus nigra																
3	Parthenocissus quinquefolia			1													
3	Acer saccharum																
3	Vitis aestivalis																
3	standing dead																
3	Acer rubrum																
3	Acer sp. seedling			1													



### DBH Measurement Rules



### Woody Stem Deer Browse

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

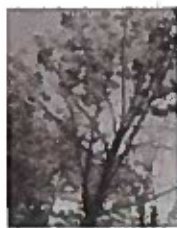
Record using the tally system from 1 to 10



1



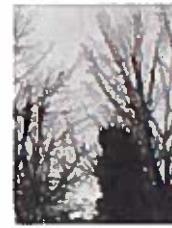
2



3



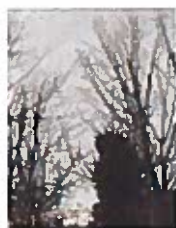
4



5

### ASH CANOPY CONDITION

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



A

B

C

D

E

### ASH CANOPY BREAKUP CONDITION (for dead trees):

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

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

# CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet

Project Label: PCAP

Project Name: 22R2015

Plot No.: 1026

Page: 2

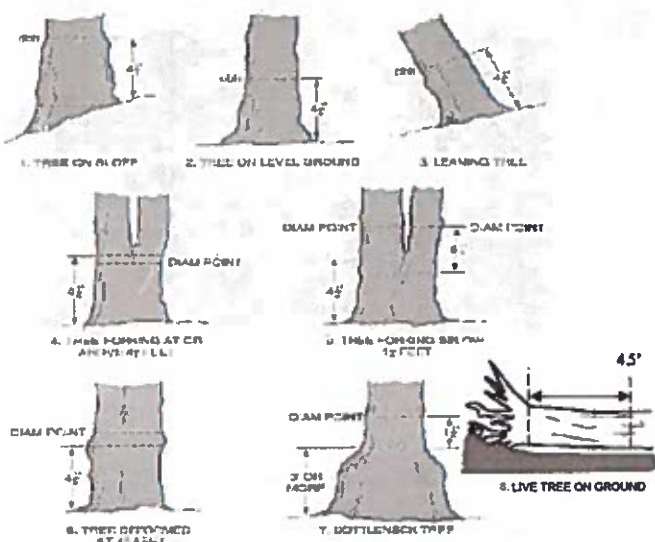
of



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)
4	Acer rubrum			1														
4	Pinus nigra																	42.2
4	Parthenocissus quinquefolia																	
4	Quercus rubra			1														
4	Vitis acerifolia																	
4	Fagus grandifolia			1														
4	Rhus copallina																	
4	Corylus americana																	
4	Acer platanoides																	
5	Pinus nigra																	45.6
5	Vitis acerifolia																	
5	Acer saccharum																	
5	Acer rubrum																	
5	Parthenocissus quinquefolia																	
5	Strawberry tree																	
5	Quercus rubra																	
5	Rhus copallina			1														
5	Toxicodendron radicans																	
5	Rhus copallina																	
6	Pinus nigra																	
6	Fagus grandifolia																	
6	Acer rubrum																	
6	Acer rubrum																	
6	Strawberry tree																	

### 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.

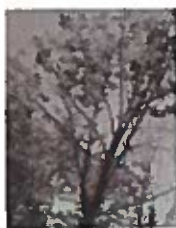
Record using the tally system from 1 to 10



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

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- A:** All main branches contain fine twigs (newly dead).
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- 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: ORR 2015

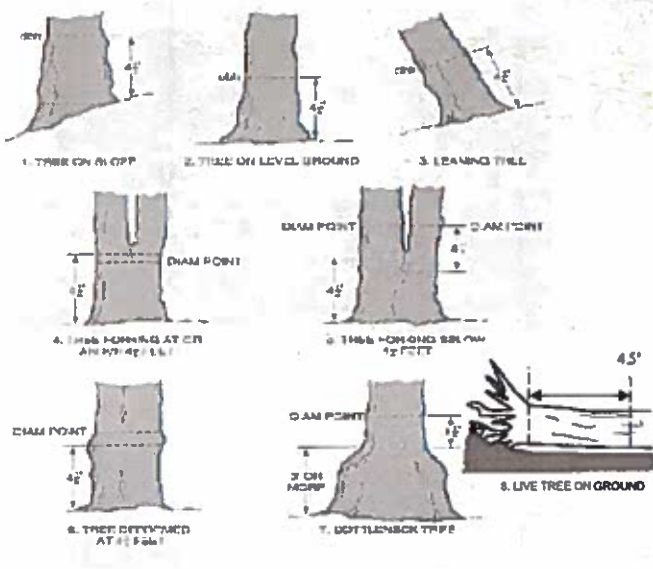
Plot No.: 1026

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)
6	Quercus rubra																	
6	Vitis aestivalis																	
6	Pinus strobus																	
6	Pinus strobus																	
6	Carya cordiformis																	
6	No browse present																	
7	Pinus nigra																	42.7, 52.2
7	Acer saccharum			1														
7	standing dead																	
6	Fraxinus sp.																	43.6
7	pathocissusquinquefolia																	
7	Acer rubrum																	
7	Pinus latifolia																	
7	Toxocodendron radicans																	
8	Pinus strobus			1														
8	Pinus nigra																	41.5, 47.4
8	Acer saccharum																	
8	standing dead																	
8	Quercus rubra																	
8	Fagus grandifolia																	
8	Ostrya virginiana																	
8	Vitis aestivalis																	
8	Pinus nigra																	44.4
9	Acer saccharum																	

### 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.

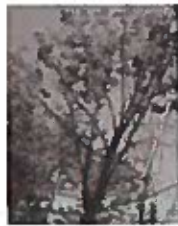
Record using the tally system from 1 to 10



1



2



3



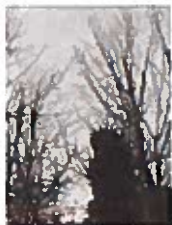
4



5

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- E:** Central stem still standing.

**Chandrabab Naidu**

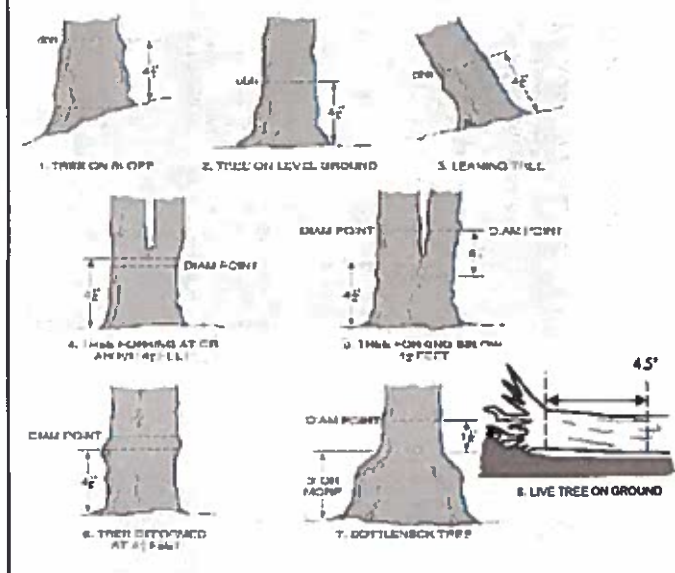
Page: 4 of

**Cleveland Metropolitan**

[illegible]



### DBH Measurement Rules



### Woody Stem Deer Browse

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

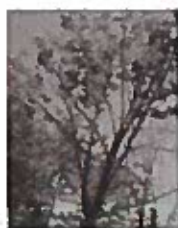
Record using the tally system from 1 to 10



1



2



3



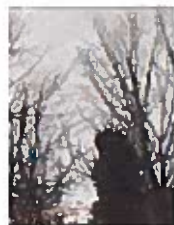
4



5

### 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

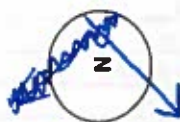
### ASH CANOPY BREAKUP CONDITION (for dead trees):

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

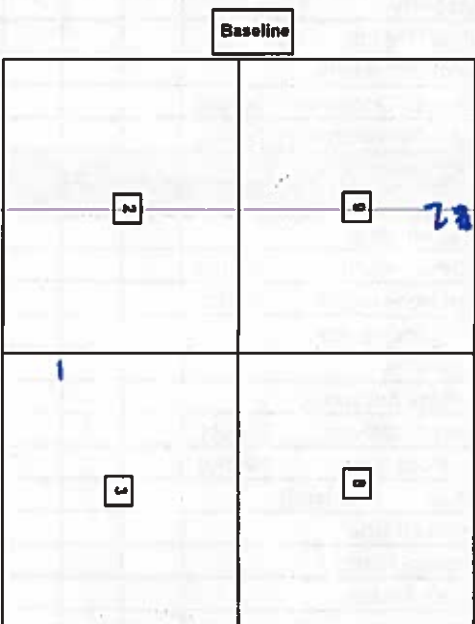
- A: All main branches contain fine twigs (newly dead).
- B: Over 50% of main branches have fine twigs.
- C: Less than 50% of main branches have fine twigs.
- D: Stem still standing and tertiary main branches present.
- E: Central stem still standing.

Tree ID	Species	DBH (cm)	HT (m)	Ash condition	Dead condition	# Exit holes	Epicormic present	Woodpecker holes
1	Fraxinus sp.	35.1	4			2	1	1
2	Fraxinus sp.	54.2	5	B		7	0	1
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

ASH ONLY



\*\*\* Change intensive module numbers when necessary



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

• If Ash Condition scores 5 (dead) provide breakup score (A-E)  
Count EAB exit holes 1.25m<sup>2</sup> x 21.5m  
Woodpecker and epicormic marked present (1) or absent (0)

**CLEVELAND METROPARKS Plant Community Assessment Program: Invasive Species Survey**


Tier 1: Early detection/ Rapid response		Presence				GPS	
		NE	SE	SW	NW		Presence
Microstegium vimineum	Japanese stiltgrass						X: yes
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		# of Plants
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	
		NE	SE	SW	NW		# of Plants
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	
		NE	SE	SW	NW		# of Plants
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: 02R82015

Plot No.: 1026

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	NONE														
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)	



STANDING BIOMASS (required for emergent wetlands) collected in 10 cm clip plots (32x32 cm) from corners 1 and 3 in each intensive module. Required for VIBR-E score calculation. C7-check when collected

Module #	C7	Corner	Corner

### CLASSIFICATION

FTI = correct, Fti and Confidence

#### Hydrogeomorphic Class (WETLANDS ONLY)

<input type="checkbox"/> DEPRESSION	Fti=	Conf=
<input type="checkbox"/> IMPOUNDMENT <input type="checkbox"/> Beaver <input type="checkbox"/> Human	Fti=	Conf=
<input type="checkbox"/> RIVERINE <input type="checkbox"/> Headwater <input type="checkbox"/> Meandering <input type="checkbox"/> Channel	Fti=	Conf=
<input type="checkbox"/> SLOPE (ground water hydrology or on a physical slope)	Fti=	Conf=
<input type="checkbox"/> FRINGING <input type="checkbox"/> Reservoir <input type="checkbox"/> Natural Lake	Fti=	Conf=
<input type="checkbox"/> COASTAL (specify subclases)	Fti=	Conf=
<input type="checkbox"/> BOG (strongly, moderately, weakly ombrotrophic)	Fti=	Conf=

#### Other EPA VIBR Plant Community Class (WETLANDS ONLY)

<input type="checkbox"/> FOREST <input type="checkbox"/> Swamp forest <input type="checkbox"/> bog forest <input type="checkbox"/> forest seep	Fti=	Conf=
<input type="checkbox"/> EMERGENT <input type="checkbox"/> marsh <input type="checkbox"/> wet meadow <input type="checkbox"/> open bog	Fti=	Conf=
<input type="checkbox"/> SHRUB <input type="checkbox"/> shrub swamp <input type="checkbox"/> tall sh. bog <input type="checkbox"/> tall sh. fen	Fti=	Conf=

### MICROTOPOGRAPHIC FEATURE COUNTS - Intensive modules only

Rules for microhabitat features. Select one or select two and average the score. NOTE: If mod falls on a slope automatically gets ranked based on steepness (1-3) to begin + any features present  
 Slope 1 = slight elevational grade across module (1%) Slope 2 = falls on slope ~20° Slope 3 = maximum steepness that can be safely sampled ~45°

- feature is absent or functionally absent from the wetland
- feature is present in the wetland in very small amounts or if more common, of low quality
- feature is present in moderate amounts, but not of highest quality, or in small amounts of highest quality
- feature is present in moderate or greater amounts and of highest quality

C.W.D. - COUNT for pieces with minimum 1m length

	no. of tussocks	no. of hummocks (Tip-Ups)	no. macro. depressions	c.w.d (2-12 cm)	c.w.d (12-40cm)	c.w.d >40 cm	microhab. interspers.	microhab. SLOPE
depth 3	depth 2	depth 1	depth 1	depth 1	depth 1	depth 1	depth 1	depth 1
1x1m	3 1x3 1cm	10x10m	10x10m	10x10m	10x10m	10x10m	10x10m	10x10m
(count)	(count)	(count)	(count)	(count)	(count)	(count)	(count)	(count)
2	0	1	9	3	0	2	1	
3	0	0	12	3	0	2	1	
4	0	0	2	33	4	0	3	
5	0	0	0	14	9	0	2	
6	0	0	0		0		1	

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

### McNAB INDICES (degrees) + for up - for down

(FILL OUT USING GIS PROGRAM - DO NOT FILL OUT IN FIELD)

Alt aspect	N	NE	E	SE	S	SW	W	NW
+45 degrees								
+90 degrees								
+135 degrees								
+180 degrees								
+225 degrees								
+270 degrees								
+315 degrees								

Left is angle of plot to the horizon. TSI is angles formed by local slopes. For TSI measure angle from recorder C's to 9/10 of person standing ~10 m away.

Landform Index (position within landscape)  
 -- Terrain Slopes Index (also microtopographic shape)

CROWN COVER (DENSITOMETER) Module 4  
 Readings per module facing N, S, E, W. Place dot count in corresponding space. (4 dots per grid square)

Module	N	S	E	W
2	14	2	3	10
3	1	0	1	0
4	1	11	2	5
5	2	1	1	6



# 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.

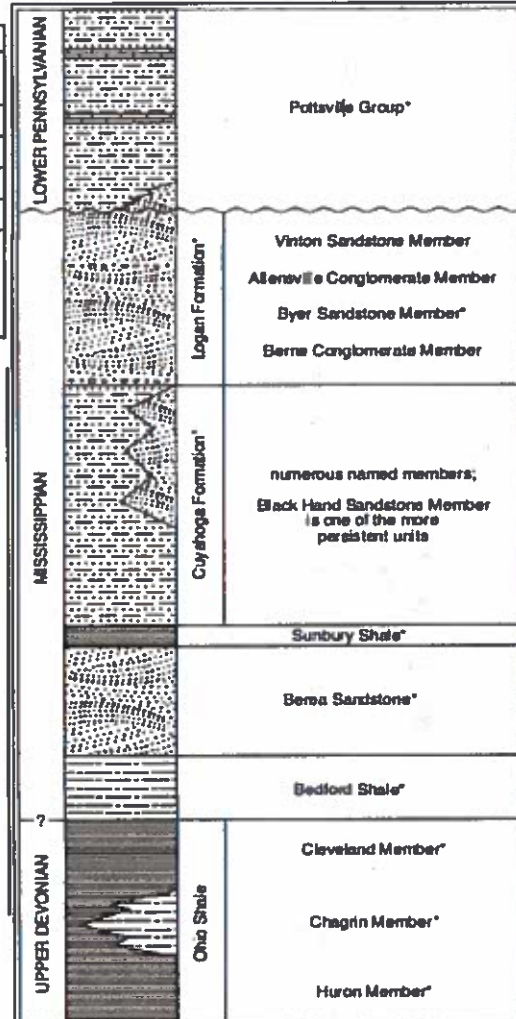
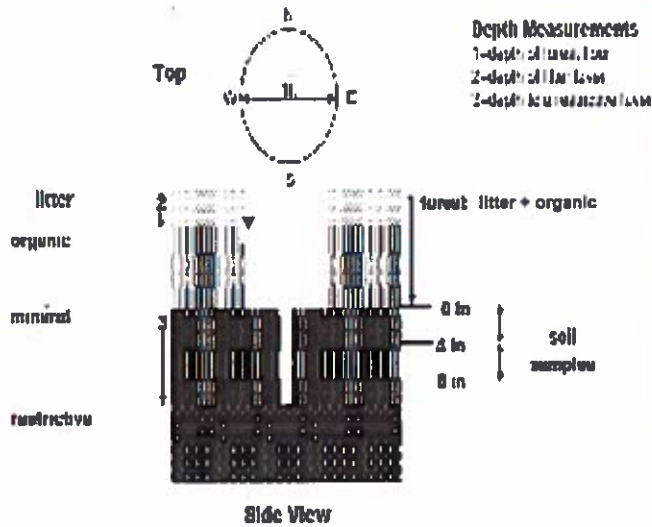


FIGURE 3-20.—Generalized section of Upper Devonian, Mississippian, and Lower Pennsylvanian formations in northeastern Ohio. Asterisks indicate units that are fossiliferous. This composite section represents about 400 meters of rock exposed across the area. The section is not to scale, but the thicknesses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

\* refer to lecture slides on texture side

\*\* e.g. hydrogen sulfide odor, plying, etc.

\*\*\* Circle one.

I=indurated S=saturated M=moist D=dry

(Notes: include evidence of earthworms (worms, castings, middens)

2-worms + castings present  
 3-castings present  
 4-castings present  
 8-castings present

Soil Collection Module	Horizon (A, B, C)
2.3.A.2 completed	A
Use Soil Survey Information	
Soil Series/Type	
Soil Series Source	Ohio Soil Survey
Landform type	
Depth to root layer	
Parent Material	
Drainage*	
<input type="checkbox"/> Excessively dr. <input type="checkbox"/> Well drained <input type="checkbox"/> Somewhat poorly dr. <input type="checkbox"/> Impermeable surface	<input type="checkbox"/> Somewhat excessively <input type="checkbox"/> Moderately well dr. <input type="checkbox"/> Very poorly dr.

**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 set soil (cm)
mod	2.0	2.0	0.0	0.0
2	1.5	1.5	0.0	0.0
3	0.5	0.5	0.0	0.0
4	0.5	0.5	0.0	0.0
8	2.5	2.5	0.0	0.0

EARTH SURFACE & GROUND COVER			
Underlying Earth Surface*	Ground Cover		
Open = 100%	percent	Each < 100%	percent
Histosol	0	Coarse Woody Debris***	19
Mineral Soil	100	Fine Woody Debris****	5
Gravel-Cobble*	0	Litter	65
Boulder**	0	Duff (Ferm. + Humus)	0
Bedrock	0	Bryophyte-Lichen	1
* Gravel-Cobble = 1/16-10"	Water		3
** Boulder = > 10 in	Bare Soil		1
*** > 5 cm in diameter	Root/Twig		0
**** < 5 cm in diameter	Other		0

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

Strata	Height Range (m)	Total Cover (%)
Trees	5.0 - 10.0	88
Shrub	0.5 - 5.0	18
Herb	0 - 0.5	13
(Floating)*	-	0
(Aquatic)*	-	0

\* rooted and floating or slightly emergent

\*\* submerged, most plant mass below surface

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

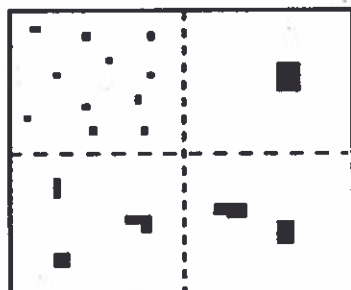
TRAIL INFORMATION	
record type and cover for each	
Type	% Cover
<input type="checkbox"/> All Purpose	
<input type="checkbox"/> Bridge	
<input type="checkbox"/> Hiking sectioned	
<input type="checkbox"/> Bootleg unsectioned	
<input type="checkbox"/> Gravel	
<input type="checkbox"/> Dirt	

**STAND SIZE**

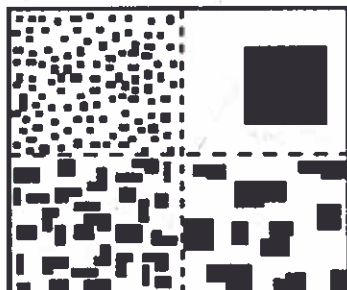
- ☐ > 500 x plot size
- ☐ > 100 x plot size
- ☒ 10-100 x plot size
- ☐ 3-10 x plot size
- ☐ 1-3 x plot size
- ☐ < plot size

**PERCENT MOTTLES (USE CLASS CODES):**

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



2%



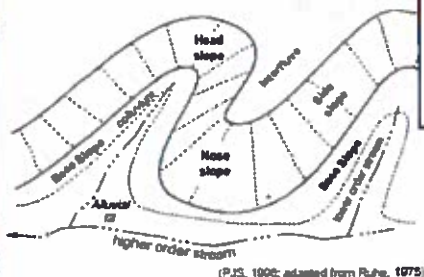
20%

**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.

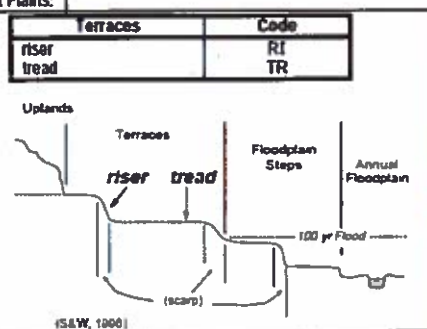
- 0= Organic
- 1= Loamy
- 2= Clayey
- 3= Sandy
- 4= Coarse Sand
- 9= Not measured - make plot note

**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
interfluvial	IF	IF
head slope	HS	HS
nose slope	NS	NS
side slope	SS	SS
base slope	—	BS



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



(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 Rube, 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.