

CLEVELAND METROPARKS Plant Community Assessment Program: Quality Control Form

Cleveland Metroparks

Project Label: PCAP

Plot No: 1099 Date Sampled: 8/6/15 Lead: CKM

Comment required if item answer is NO

Parking/Access outside of Park Boundaries:	<input checked="" type="radio"/> Y	<input type="radio"/> N	If yes, write details in Comments section below
Field journals completed	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Site sketch made on 1:3000 map?	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Check cover page	<input checked="" type="radio"/> Y	<input type="radio"/> N	
X-axis Bearing of plot recorded	<input checked="" type="radio"/> Y	<input type="radio"/> N	
GPS coords. Recorded	<input checked="" type="radio"/> Y	<input type="radio"/> N	
North direction recorded	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Photographs taken?	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Relocated Pins Mapped	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Plot No., Date agreement on all pages?	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Header data completed all pages?	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Cover classes recorded in all Intensive modules	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Browse Level By Species	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Woody stem quality control check	<input checked="" type="radio"/> Y	<input type="radio"/> N	Check every line and cross check with the Tree Cover Sheet
Invasive plant quality control check	<input type="radio"/> Y	<input type="radio"/> N	NA
Ash trees mapped	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Completed Forest Pest/Pathogen Datasheet	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Cover by Strata? (confirm cover type)	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Soil samples collected with matching plot #.	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Cross check 2010 information	<input checked="" type="radio"/> Y	<input type="radio"/> N	Highlight any changes from 2010 information
Vouchers labeled on datasheet with initials and number	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Vouchers labeled on collection bag	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Pink flags removed	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Data sheet QA before leaving site?	<input checked="" type="radio"/> Y	<input type="radio"/> N	
Common equipment returned to tub.	<input type="radio"/> Y	<input type="radio"/> N	
Data sheets scanned?			Enter date to left
Final data sheets scanned?			Enter date to left
Buffer Widths measured?	<input type="radio"/> Y	<input type="radio"/> N	
Web Soil Survey	<input type="radio"/> Y	<input type="radio"/> N	
Voucher Location	Refrigerator	<input type="radio"/> Y	<input type="radio"/> N
(# vouchers collected)	Press (#)		Enter number to left
CKM 336- 340	Drier	<input type="radio"/> Y	<input type="radio"/> N
	Identified	<input type="radio"/> Y	<input type="radio"/> N
	Mounted	<input type="radio"/> Y	<input type="radio"/> N
	Thrown away	<input type="radio"/> Y	<input type="radio"/> N

GRTS point verification: Is plot sampleable?

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

Additional Comments:

Found all pins. Costco parking lot  
Some flags could not be pulled from ground



# CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet

COSTCO  
Parking Lot

GENERAL INFORMATION	
Project Label:	PCAP
Project Name:	02MS2015
Plot Name:	Shopping Center Plot
Plot No.:	
<input type="checkbox"/> Level 4 (no nested corners sampled) <input checked="" type="checkbox"/> Level 5 (nested corners sampled)	
Date (mm/dd/yyyy):	8/6/2015
End date (if > 1 day):	/ /
Party:	C. Minney
Role**	Plot leader
	D. Sweet
	Woody Tech
	E. Kneiss
** Roles: Co-leader, Asst. Guide, Owner, Taxonomist, etc.	
PLOT NOT SAMPLED:	<input type="checkbox"/> Other
<input type="checkbox"/> Fern, 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	moderate
low	not simpl
vascular	X
bryo	X
lichen	X
TAXONOMIC STANDARD	
Authority:	G&C Pub Date: 1998

LOCATION	
State:	OH
County:	Cuyahoga
Quadrangle:	Berea
Local Place Names:	Costco Parking Lot
Landowner:	CMP
Data Confidentiality:	
<input checked="" type="checkbox"/> Public data <input type="checkbox"/> Private Data	
<input type="checkbox"/> Fuzz 100m <input type="checkbox"/> Fuzz 250m <input type="checkbox"/> Fuzz 500m	
Reason:	
If data not public why?	
Source of coordinates:	<input type="checkbox"/> MAP <input checked="" type="checkbox"/> GPS
Coordinate system:	Coord. Units
<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:	NAD83/WGS84 <input type="checkbox"/> NAD27
GPS location in plot x=0 to 5, y=1.0+1):	
x = 0 y = 0 (base of plot x=0, y=0)	
Latitude:	41.31774
Longitude:	81.81747
Coord. Accuracy:	X m <input type="checkbox"/> ft
GPS File Name:	1099A
Plot size for cover data:	(hectares)
X-axis Bearing of plot:	[230]°
Depth: (1-5):	4
Intensive modules:	2, 3, 8, 9 (EXT if MODIFIED)
Camera No.:	4
Photo Nos.:	4790
Plot placement:	<input checked="" type="checkbox"/> GRTS <input type="checkbox"/> Representative
<input type="checkbox"/> Random <input type="checkbox"/> Stratified Random <input type="checkbox"/> Transect component <input type="checkbox"/> Systematic (grid) <input type="checkbox"/> Capture specific feature <input type="checkbox"/> Other	

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

<p>Diagram Key:</p> <ul style="list-style-type: none"> <li>Plot origin (0,0) point</li> <li>GPS location point</li> <li>photo taken, with direction</li> <li>location of permanent posts</li> </ul>	
<p>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.</p>	
<p>Layout: 2 x 5</p> <p>Location: Park at Costco near Royalton Rd, in northernmost portion. There is an opening in fence on the northern end. Walk SE along fence for ~80m. Plot is a few meters down from fence.</p> <p>Rationale: GRTS</p> <p>Veg Characterization: The canopy is dominated by Beech, Red Maple and Red and White Oak. Shrub layer is dominated by Beech with some Red and Sugar Maple. The herb layer is extremely sparse, dominated by tree seedlings and a few graminoids.</p>	

OVER

CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet

Project Name: 02 MS 2015

Plot No.: 1099

Project Label: PCAP

Fit=      Conf=

MODIFIED NATURE RESERVE CLASS\*

CODE (on separate form): COY

COMMUNITY NAME: Beech-Red Oak Forest

HOMOGENEITY

☒ Homogeneous
 ☐ Compositional trend across the plot

☐ Conspicuous inclusions
 ☐ Irregular/pattern mosaic

DISTURBANCES

type*	severity**	yrs ago	% of plot	description
Human	M	0	15	Trash blowing in from parking lot
Natural				
Fire				
Cut	L	25+	2	Too old cut stump
Animal	VH	0	100	Deer Browse
Other				

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

Current Land Use: CMP

Former Land Use:

HYDROLOGIC REGIME\*

☒ Upland (seldom flooded)
 ☐ Intermittently flooded

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

☐ Permanently flooded
 ☐ Tidal/Seiche flooded daily

☐ Permanently/Semipermanent. saturated (dry <1/yr, seldom flooded)
 ☐ Tidal/Seiche flooded monthly

☐ Occasionally flooded (<1/yr)
 ☐ Tidal/Seiche flooded irregularly (e.g. wind, storms)

☐ Temporarily flooded
 ☐ 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 stand is somewhat un-even-aged at least on the sloping portion. The upper slope is a little less un-even-aged. The Red Maples along the fence in the canopy is thinning. The Muds close to the fence have the most diversity. Here, there is some weedy invasion as well as increased graminoid cover because of the sunlight. The herb layer has been hit very hard by browse for a while. Leaf litter is deep especially down slope and no worms were found. If deer trails present they could probably not be seen because of litter depth.



## Page 1 of 4

Plot area (ha):



**Cleveland  
Metroparks**

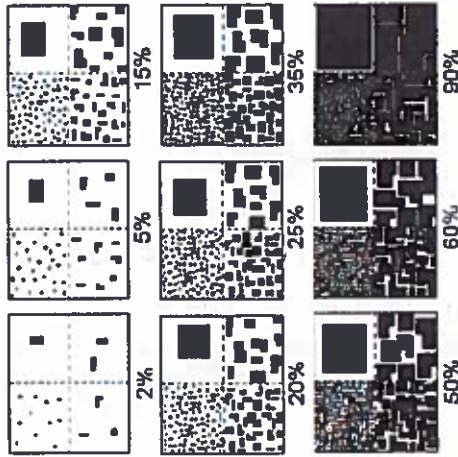
**Br = Browse Level. Use cover classes to describe amount of browse per species over entire plot**

Strata - Cov. entire plot

[illegible]

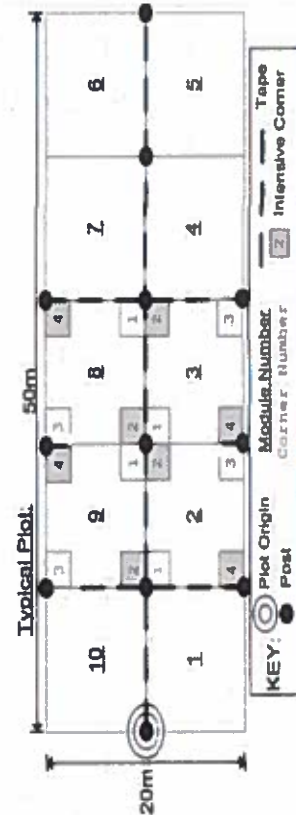
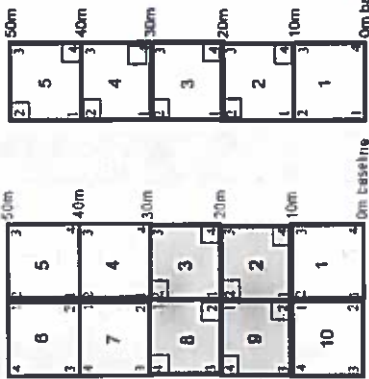
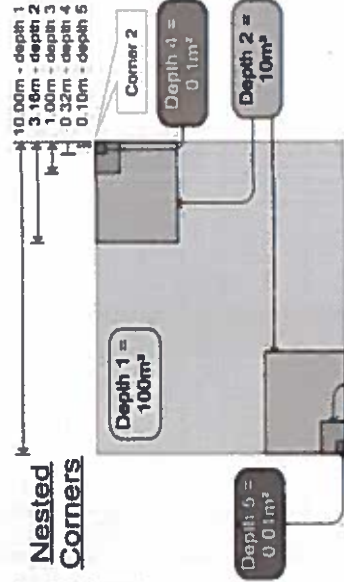
# EXAMPLES OF PERCENT OF AREA COVERED

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 but area covered, just different sized objects.



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

## Nested Corners



**BROWSE RATING NARRATIVE DESCRIPTION**

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

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

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

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

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

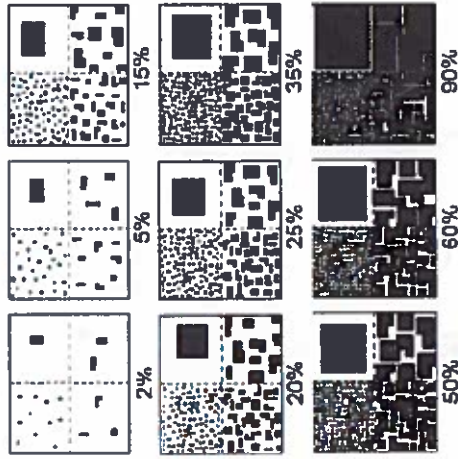
**VERY HIGH** values include extensive browse conditions, where the browse line is very evident AND almost all seedlings and herbs are severely browsed or missing. Browse line may be 5 to 6 feet in height with no or little green growth beneath.





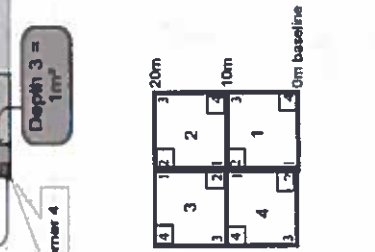
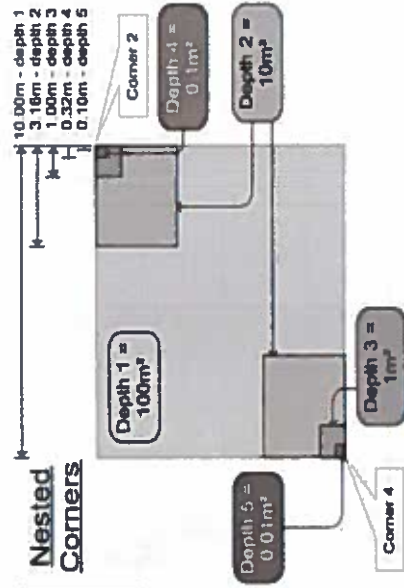
# EXAMPLES OF PERCENT OF AREA COVERED

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, but different sized objects.



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

## Nested Corners



# BROWSE RATING NARRATIVE DESCRIPTION

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

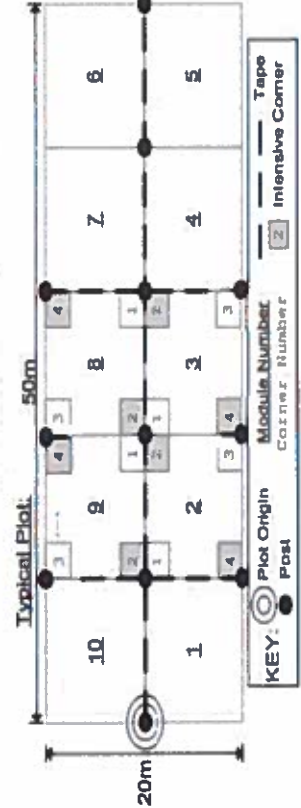
**MEDIUM LOW** values include evidence of browse at about 10 percent of the stems with no significant impact to plant reproduction evident. In this rating, plants are browsed but preferential species are observed to be reproducing in numbers that appear normal or near-normal in comparison to low browse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

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

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

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

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





## Page 1 of 1

Plot no.: 1099

[illegible]



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



Project Label: PCAP

Project Name: 02H52015

Plot No.: 1099

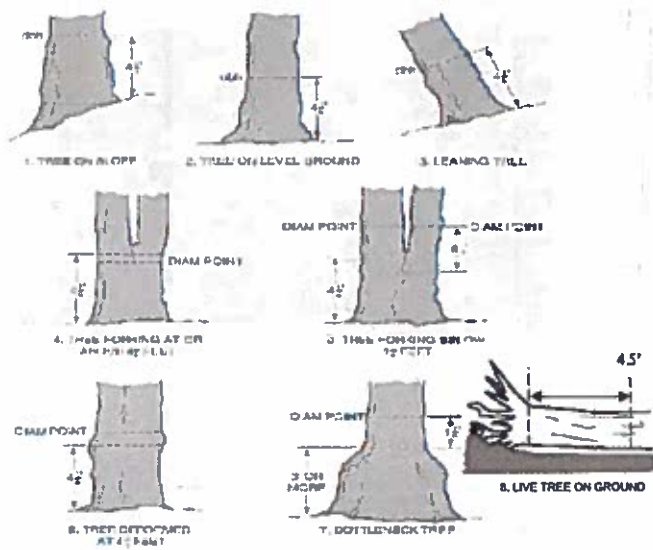
Page: 1 of 3

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 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	Fagus grandifolia			11															
1	Alex rubrum																		
1	Ostrya virginiana																		
1	Fraxinus sp. seedling																		
1	Vitis sp.																		
2	Quercus rubra																	55.0, 51.8	
2	Fagus grandifolia						11												
2	standing dead																	90.4	
2	Alex rubrum																		
2	<del>Fraxinus albidum</del>																		
2	Evus albaheutensis																		
3	standing dead																		
3	Sassafras albidum																		
3	Quercus alba																		
3	Fagus grandifolia																		
3	Larix laricina																		
3	Quercus rubra																		49.0
3	Pinus serotina																		
4	Quercus alba																		
4	Fagus grandifolia																		
4	Alex rubrum																		
4	No brook present																		
5	Fagus grandifolia																		
5	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.

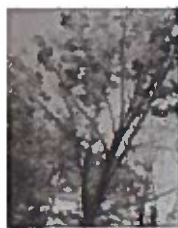
Record using the tally system from 1 to 10



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: 02M52015

Plot No.: 1099

Page: 2 of 3

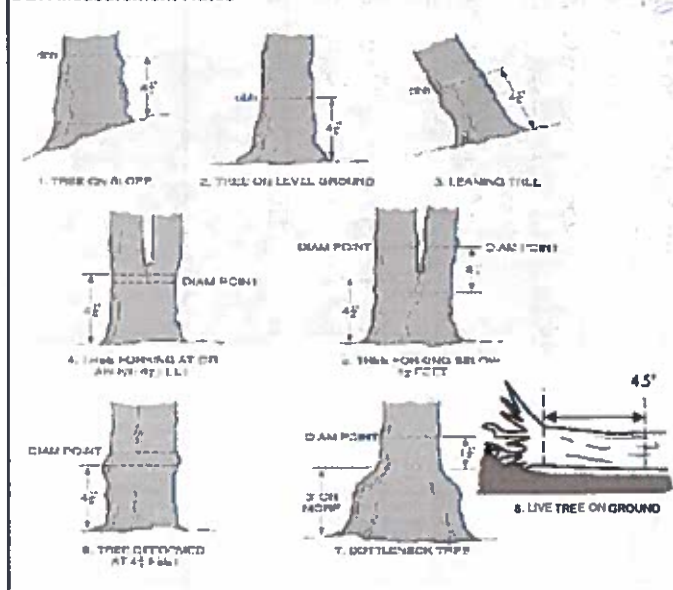
Explain subsample (additional room on back):

mod #	species	c	voucher#	# stems 0-1.4m browed	% sub or super sample	# shrub clumps	size class (cm) woody stems > 1.4m												
							1 0-1	2 1-2.5	3 2.5-4.5	4 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	Acer saccharum																		
5	Acer rubrum																		
6	Fagus grandifolia																		
6	Acer saccharum																		
6	Acer rubrum																		
6	Pinus strobus																		49.2
6	Quercus alba																		
6	Styrax																		
6	Ostrya virginiana																		
6	Rubus alleghaniensis																		
6	Bellevue's thornapple																		
7	Fagus grandifolia																		
7	Quercus alba																		
7	Acer rubrum																		
7	Acer saccharum																		
7	Pinus strobus																		
7	Styrax																		
7	Rubus alleghaniensis																		
7	Pinus strobus																		
8	Quercus alba																		71.8, 43.4
8	Acer rubrum																		
8	Fagus grandifolia																		
8	Styrax																		
8	Rubus alleghaniensis																		

CKM  
9/15

X 3 rows 100%

### 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: 04MS2015

Plot No.: 1099

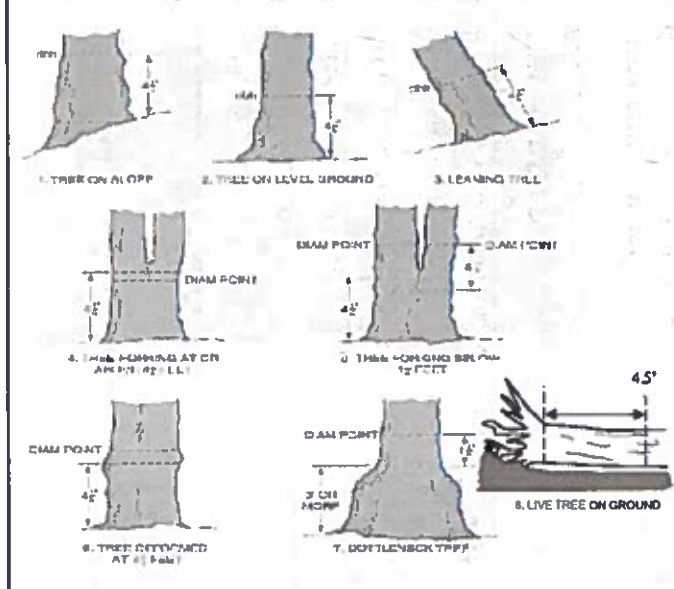
Page: 3 of 3

Explain subsample (additional room on back):

mod #	species	c	voucher#	# stems 0-1.4m or super sample	% sub	# shrub clumps	size class (cm) woody stems >1.4m												
							1	2	3	4	5	6	7	8	9	10	11		
							0-1	1-2.5	2.5-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	>40 (record each tree)		
9	<i>Fagus grandifolia</i>																		
9	<i>Staphylea trifolia</i>																		
9	<i>Quercus alba</i>																		
9	<i>Acer rubrum</i>																		
9	<i>Acer saccharum</i>																		
9	<i>Rubus allegheniensis</i>																		
10	<i>Acer rubrum</i>																		
10	<i>Ostrya virginiana</i>																		
10	<i>Hamamelis virginica</i>																		
10	<i>Rubus allegheniensis</i>																		
10	<i>Quercus sp. seedling</i>																		
2	<i>Rubus pennsylvanicus</i>																		
9	<i>Rubus pennsylvanicus</i>																		

Large rubus  
prevailing as  
nervous as  
7/11

### 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.

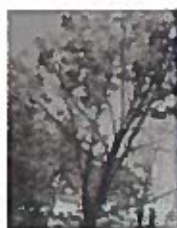
Record using the tally system from 1 to 10



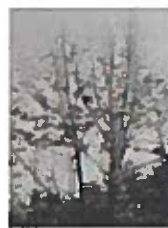
1



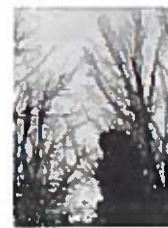
2



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)

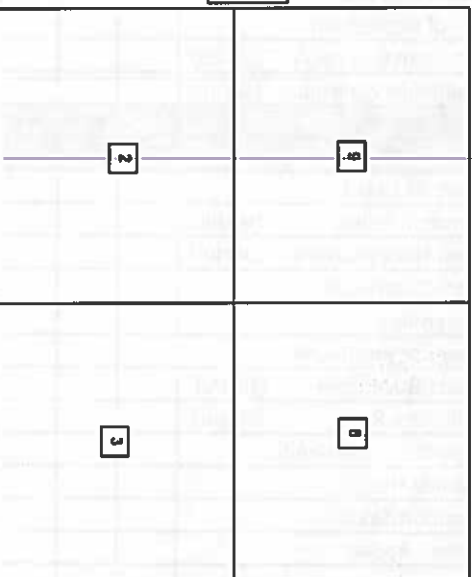
- A:** All main branches contain fine twigs (newly dead).
- B:** Over 50% of main branches have fine twigs.
- C:** Less than 50% of main branches have fine twigs.
- D:** Stem still standing and tertiary main branches present.
- E:** Central stem still standing.

Tree ID	Species	Dead	c	Voucher #	DBH (cm)	HT @ DBH	Ash condition	'Dead condition	# Exit holes	Epicormic present	Woodpecker holes
1	<u>None present</u>										
2											
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	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:

07M52015

Plot No.:

1099

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-<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 present													
2														
3														
4														
5														
6														
7														
8														
9														
10														

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

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

\* Write None Present if no evidence:

None	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





STANDING BIOMASS (required for emergent wetland) collected in 0.1m clip plots (32x32 cm) from corners 1 and 3 in each intensive module. Required for VIB-E score calculation. C7-check when collected

Module #	C7	Corner	Corner

### CLASSIFICATION

FTT - actual, FTT and Confidence

Hydrogeomorphic class (WETLANDS ONLY)

☐ DEPRESSION  
☐ IMPONDMENT ☐ Beaver ☐ Human  
☐ RIVERINE ☐ Headwater ☐ Mainstem ☐ Channel  
☐ SLOPE (ground water hydrology or on a physical slope)  
☐ FRINGING ☐ Reservoir ☐ Natural Lake  
☐ COASTAL (specify subclases)  
☐ BOC (strongly, moderately, weakly ombrotrophic)

Ohio EPA VIBI Plant Community Class (WETLANDS ONLY)

☐ FOREST ☐ swamp forest ☐ bog forest ☐ forest seep  
☐ EMERGENT ☐ marsh ☐ wet meadow ☐ open bog  
☐ SHRUB ☐ shrub swamp ☐ tall sh. bog ☐ tall sh. fen

### MICROTOPOGRAPHIC FEATURE COUNTS - Intensive modules only

Rank 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°

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

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

	no. of tussocks	no. of hummocks uplands (Tip-Ups)	no. macro depressions	C.W.D. (2-12 cm)	C.W.D. (12-10cm)	C.W.D. >40 cm	microhab. interspers.	microhab. SLURP
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)	(rank)	(rank)
2	0	0	0	20	2	0	1	1
3	0	0	0	12	4	0	2	1
8	0	0	0	10	2	0	1	1
9	0	0	0	12	1	0	1	1

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

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

FILED OUT USING GIS PROGRAM - DO NOT FILL OUT IN FIELD

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

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

Landform Index (question within landscape)  
Terrain Shape Index (slope microtopographic shape)

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

Module	N	S	E	W
2	0	1	0	4
3	1	1	1	0
8	2	23	4	2
9	0	6	2	9

# COVER BY STRATA

STRATUM	GENERAL FORM
Tree (generally >5 m)	Tree (overstory), very tall shrubs*, liana, epiphyte)
Shrub (generally 0.5 to 5 m)	Tree (sapling), shrub, liana, epiphyte)
Herb (Field)	Herb, dwarf-shrub**, tree (seedling***)
Floating	Floating
Aquatic (submerged)	Submerged

\*Very tall shrubs are sometimes included in the tree stratum  
 \*\*Can also include seedlings of shrubs, i.e. all shrubs <0.5m  
 \*\*\*Tree seedlings are often defined as up to 1.4 m height or as <2.5 cm DBH in which case they would span the herb and shrub layers.

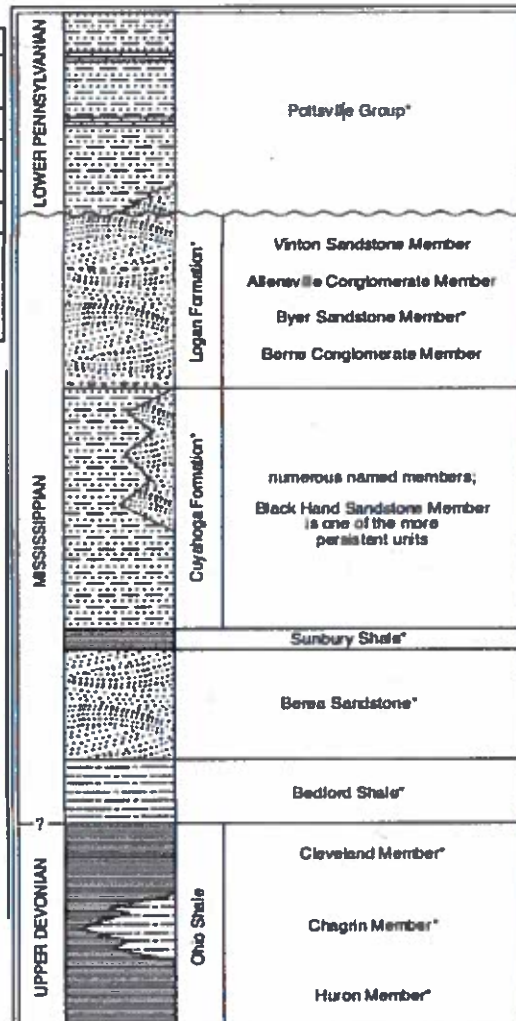
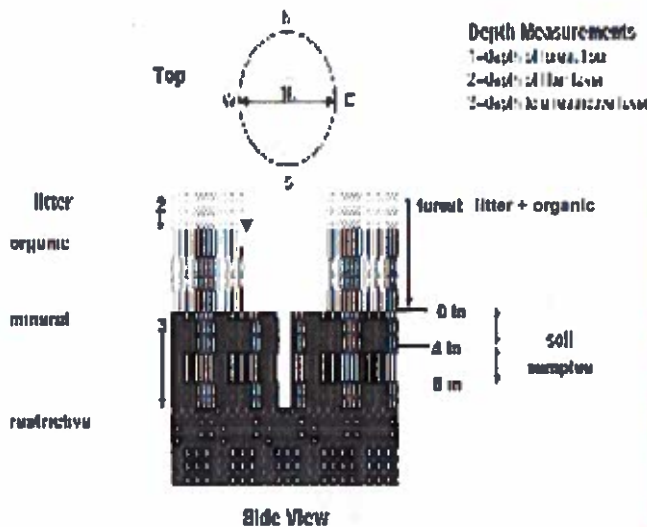


FIGURE 3-20.—Generalized section of Upper Devonian, Mississippian, and Lower Pennsylvanian formations in northeastern Ohio. Asterisks indicate units that are fossiliferous. This composite section represents about 400 meters of rock exposed across the area. The section is not to scale, but the thicknesses indicated are proportional. The term "Waverly" is used in the older literature to refer to Mississippian rocks in Ohio. Some geologists use the European term "Carboniferous," which encompasses the Mississippian and Pennsylvanian Periods of the U.S. Many units have been named within the Cuyahoga Formation, but most units are local and cannot be traced over great distances. The Black Hand Member is a spectacular massive sandstone that is fairly widespread but discontinuous. See Hyde (1953), Hoover (1960), and Collins (1979) for more information on Mississippian rocks in Ohio. See figure 3-18 for explanation of rock types.

**SOIL PIT DESCRIPTION:** Excavate 20 cm plug with shovel. Describe using Munsell chart, visual exam, texture, and odor.

**SOIL SAMPLES** Standard procedure: collect a soil sample of the top 10 cm of soil from center of each intensive module and composite the sample

Soil pit module # \_\_\_\_\_ (one per entire plot)

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

Soil Collection Module	Station (A, B, C)
2.3.6.9 cast pit/ditch	A
Web Soil Survey	Field module
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 soil (cm)
2 1.4	1.4	0	0
3 3.5	3.5	0	0
8 2.1	2.1	0	0
4 1.4	1.4	0	0

**EARTH SURFACE & GROUND COVER**

Underlying Earth Surface*	Ground Cover	percent
Open = 100%	Each ≤ 100%	
Herbaceous	Coarse Woody Debris***	13
Mineral Soil	Fine Woody Debris****	5
Gravel-Cobble*	Litter	71
Boulder**	Drift (Frem + Humus)	0
Bedrock	Bryophyte-Lichen	1
Gravel-Cobble = 1/16-10"	Water	0
Boulder = > 10 in	Bare Soil	2
*** > 5 cm in diameter	Read/Trail	0
**** < 5 cm in diameter	Other	1

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

Strata	Height Range (m)	Total Cover (%)
Tree	5.0 - 9	88
Shrub	0.5 - 5.0	58
Herb	0 - 0.5	23
(Floating)*	-	-
(Aquatic)*	-	-

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

**TRAIL INFORMATION:**

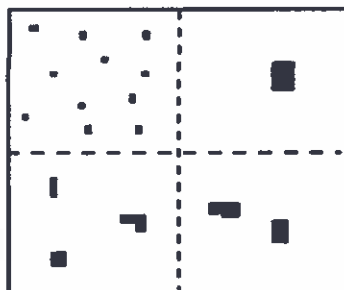
Type	% Cover
All Purpose	
Bridle	
Hiking sanctioned	
Brookings unsanctioned	
Gravel	
Deer	

**STAND SIZE**

<input type="checkbox"/> > 600 x plot size
<input type="checkbox"/> > 100 x plot size
<input checked="" 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

# PERCENT MOTTLES (USE CLASS CODES):

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



2%



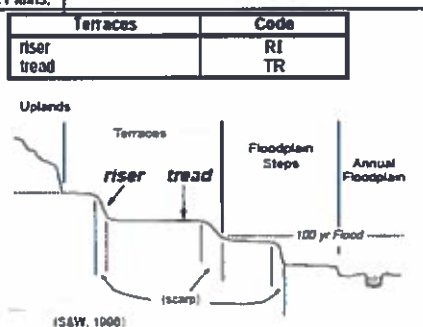
20%

**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

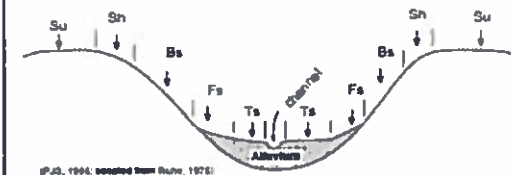
**Geomorphic Component -** Three-dimensional descriptors of parts of landforms or microfeatures that are best applied to areas. Unique descriptors are available for Hills, Terraces, Mountains, and Flat Plains; e.g., (for Hills) nose slope or NS.

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



**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.