

## CLEVELAND METROPARKS Plant Community Assessment Program: Quality Control Form



Project Label:

PCAP

Plot No:

1083

Date Sampled:

8-11-15

Lead:

Eysenbach

Comment required if item answer is NO

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

## GRTS point verification: Is plot sampleable?

<input checked="" 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:

--



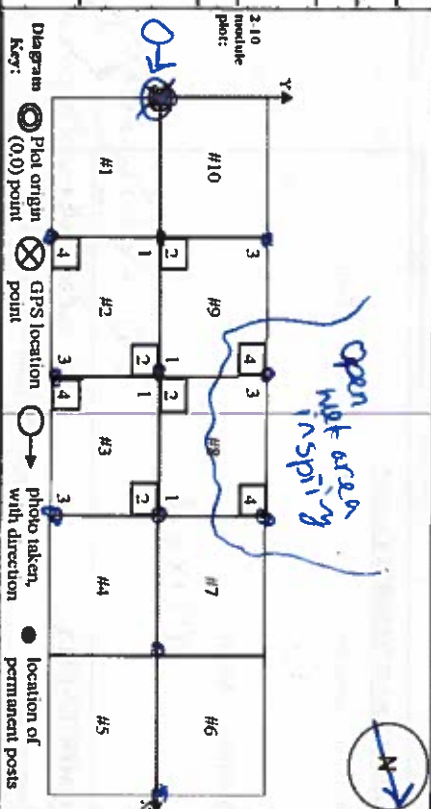
# CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet

GENERAL INFORMATION	
Project Label:	PCAP
Project Name:	02MS2015
Plot Name:	White tail Wasteland
Plot No.:	1083
<input type="checkbox"/> Level 4 (no nested corners sampled) <input checked="" type="checkbox"/> Level 5 (nested corners sampled)	
Date (mm/dd/yyyy):	8/11/2015
End date (if > 1 day):	1/1
Party:	Role**
S. Eysanbach	Plot leader
D. Sweet	Woody
T. Cochran	Bot Asst
E. Krauss	Woody
** Roles: Co-leader, Asst., Guide, Observer, Taxonomist, etc.	
PLOT NOT SAMPLED: <input type="checkbox"/> Other	
<input type="checkbox"/> Perm. water <input type="checkbox"/> Paved <input type="checkbox"/> Slope <input type="checkbox"/> Safety	
SAMPLING QUALITY*	
Effort Level:	subjective evaluation of how much effort put into sampling. Hurried plots may still provide good data
<input checked="" type="checkbox"/> Very thorough	
<input type="checkbox"/> Accurate	
<input type="checkbox"/> Hurried	
TAXONOMIC ACCURACY	
high	moderate
low	not simpl
vascul.	n/a
bryo	
lichen	
TAXONOMIC STANDARD	
Authority:	G&C Pub Date: 1998

Minimum required fields in Bold and Underlined

LOCATION	
State:	OH County: Cuyahoga
Quadrangle:	Peregrine
Local Place Names:	Royalview Picnic Area
Landowner:	CM
Data Confidentiality:	<input checked="" type="checkbox"/> Public data <input type="checkbox"/> Private Data
Check one:	<input type="checkbox"/> Fuzz 100m <input type="checkbox"/> Fuzz 250m <input type="checkbox"/> Fuzz 500m
Reason:	
If data not public why?	
Source of coordinates:	<input type="checkbox"/> MAP <input checked="" type="checkbox"/> GPS
Coordinate system:	<input checked="" type="checkbox"/> Lat/Long <input type="checkbox"/> UTM <input type="checkbox"/> StatePlane <input type="checkbox"/> deg <input type="checkbox"/> deg min <input type="checkbox"/> Other (specify)
Datum:	<input checked="" type="checkbox"/> NAD83/WGS84 <input type="checkbox"/> NAD27
GPS location in plot (x=0 to 5, y=-1.0 to 1.0):	
x = 0 y = 0 (base of plot x=0, y=0)	
Latitude:	41.29954
Longitude:	81.80569
Coord. Accuracy:	<input checked="" type="checkbox"/> m <input type="checkbox"/> ft + - 2
GPS File Name:	1083A
Plot size for cover data:	D.1 (hectares)
X-axis Bearing of plot:	[12]°
Depth: (1-5):	4
Intensive modules: 2, 3, 8, 9	(EDIT IF MODIFIED)
Camera No.:	02 C2-4595
Photo Nos.:	
Plot placement:	<input checked="" type="checkbox"/> RITS <input type="checkbox"/> Representative
<input type="checkbox"/> Random <input type="checkbox"/> Stratified Random <input type="checkbox"/> Transect component <input type="checkbox"/> Systematic (grid) <input type="checkbox"/> Capture specific feature <input type="checkbox"/> Other	

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



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

Layout: 7x5 - All pins found

Location: Park at Royalview Picnic area  
Head ~ 25m SW on Booting trail down to creek. Plot is on plateau past bike trail.

Rationale: BRTS pt resample

Veg Char:

Canopy: White Oak, Red Maple, Sugar Maple, Sassafras

Shrub: Sugar & Red Maple, Crataegus

Herb: Many Fraxinus, limited herbs

layer except from open, wet inclusion

OVER





# CLEVELAND METROPARKS Plant Community Assessment Program Species Cover Data Sheet

Page 1 of 2

Project Label: PCAP  
Total modules: 10

Project name: 01MS2015  
Intensive modules: 4  
Plot configuration: 2x5

Plot no.: 1085  
Plot area (ha): 0.1



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

Strata - Cov. entire plot

Cleveland  
Metroparks

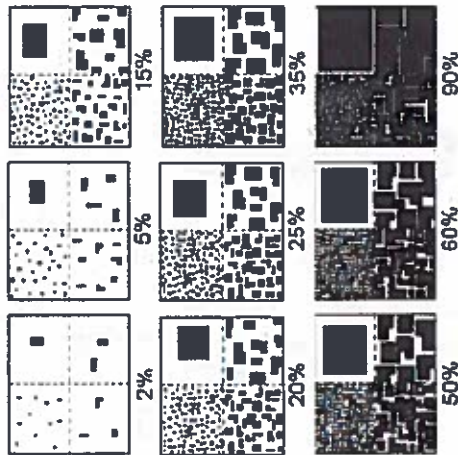
Br = Browse Level. Use cover classes to  
describe amount of browse per species over  
entire plot

Strata - Cov. entire plot

S H (F) (A) Br						Species		Estimate for each intensive module:		Voucher #		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod		corner		mod	
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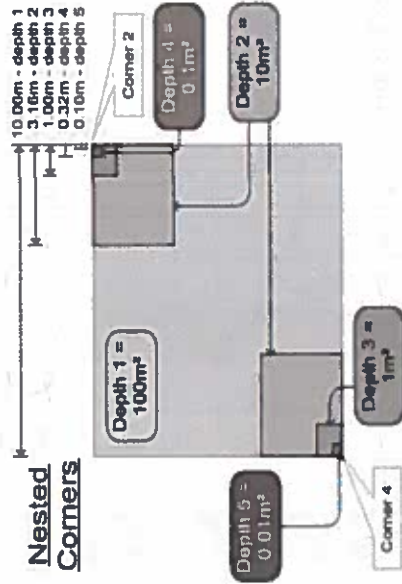
# EXAMPLES OF PERCENT OF AREA COVERED

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 solid area covered, just different sized objects.



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

## Nested Corners



# BROWSE RATING NARRATIVE DESCRIPTION

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

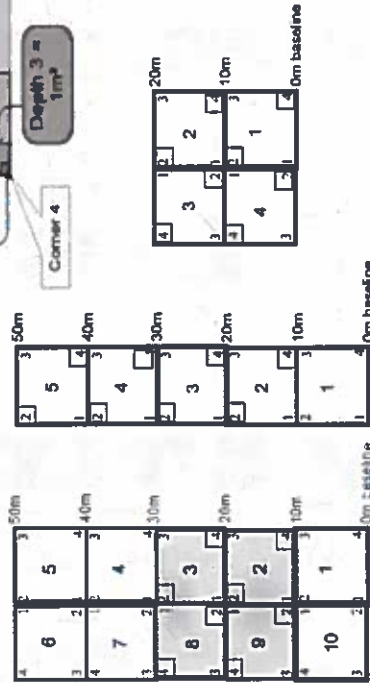
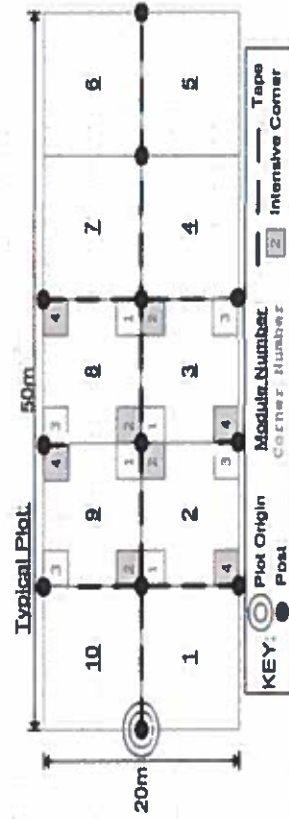
**MEDIUM LOW** values include evidence of browse at about 10 percent of the stems with no significant impact to plant reproduction evident. In this rating, plants are browsed but preferential species are observed to be reproducing in numbers that appear normal or near-normal in comparison to low browse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

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

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

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

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





Page 2 of 2

Plot no.: 1083

Plot area (ha): 0.1



## Cleveland Metroparks

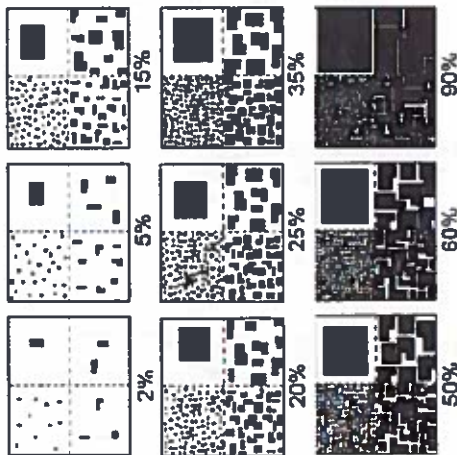
**Br = Browse level. Use cover classes to describe amount of browse per species over entire plot**

Strata - Cov. entire plot

[illegible]

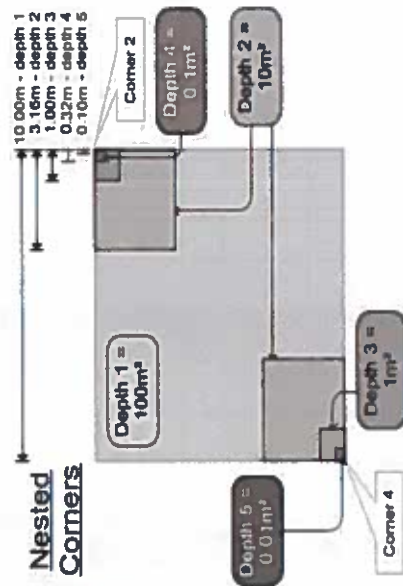
# EXAMPLES OF PERCENT OF AREA COVERED

The following graphic can be used to visually assess elements to canopy "amount" or "density". NOTE: Within any given box, each quadrant contains the same total area covered, just different sized objects.



cover class	% cover	midpoint
1	scattered 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.

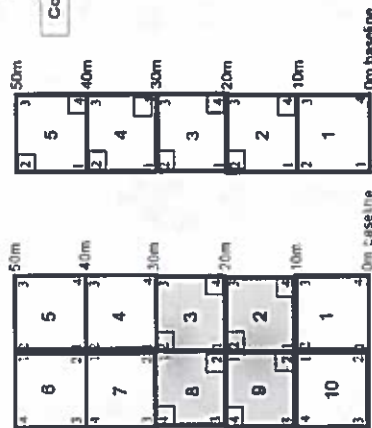
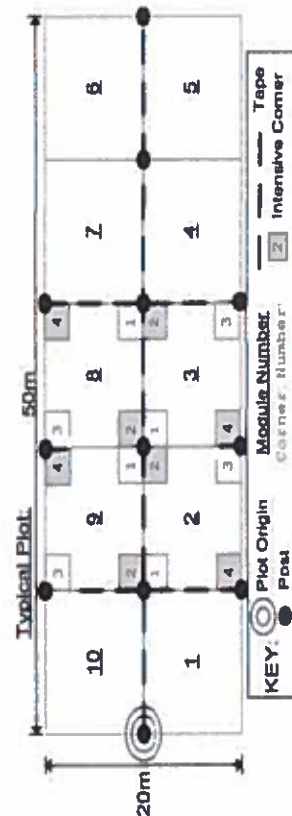
**MEDIUM LOW** values include evidence of browse at about 10 percent of the stems with no significant impact to plant reproduction evident. In this rating, plants are browsed but preferential species are observed to be reproducing in numbers that appear normal or near-normal in comparison to low browse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

[illegible]

% COVER			Species	c	Presence of tree species (X)		mod	mod	mod	mod	R
T	Br	Voucher #									
											R
						</					

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

Project Label: PCAP

Project Name: 02MS2015

Plot No.: 1083

Page: 1 of 3



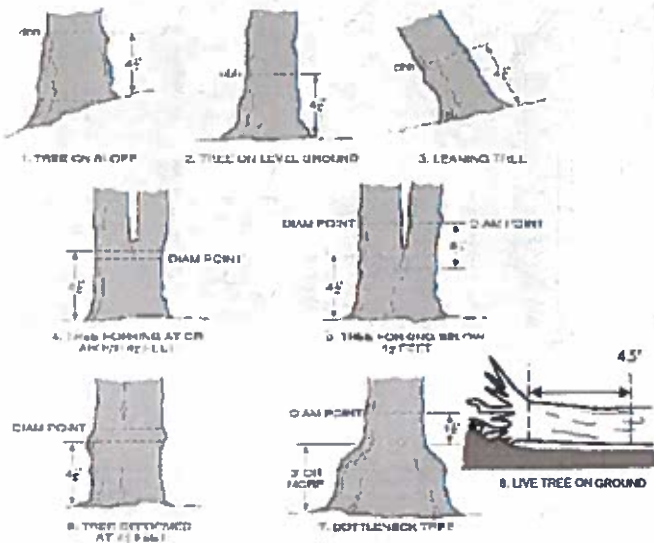
Explain subsample (additional room on back):

mod #	species	c	voucher#	# stems 0-1.4m browsed	% sub or super sample	# shrub clumps	size class (cm) woody stems >1.4m											11 >40 (record each tree)	
							1 0-1	2 1-2.5	3 2.5-5	4 5-10	5 10-15	6 15-20	7 20-25	8 25-30	9 30-35	10 35-40			
4	Crataegus sp.																		
1	Vitis aestivalis																		
1	Toxicodendron radicans																		
1	Quercus alba																		
1	Acer Saccharum																		
1	Standing dead																		
1	Acer rubrum																		
1	Fraxinus <del>sp. (dead)</del> <i>penicillata</i>			5															
2	Acer Saccharum																		
2	<del>Acer</del> Quercus rubra																		
1	Acer rubrum																		
2	Standing dead																		
2	Quercus alba																		
2	Vitis aestivalis																		
2	Quercus Serotina																		
2	Cornus florida			1															
2	Fraxinus <del>sp. (dead)</del> <i>penicillata</i>			2															
3	Acer Saccharum																		
3	Vitis aestivalis																		
3	Quercus alba																		
3	Standing dead																		
3	Acer rubrum																		
3	Viburnum dentatum			1															
3	Rosa multiflora			1															

54.3



### 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: 02MS1015

Plot No.: 1013

Page: 2 of 3

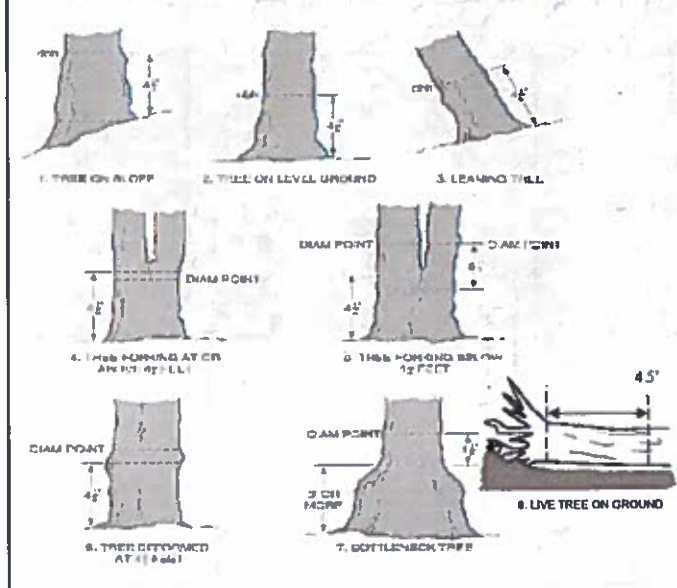


Explain subsample (additional room on back):

mod #	species	c	voucher#	# stems 0-1.4m or super sample	% sub sample	# shrub clumps	size class (cm) woody stems > 1.4m	1 0-1	2 1-2.5	3 2.5-4.5	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)
3	Fraxinus sp. (seedling)			24														
4	Acer saccharum																	
4	Quercus alba																	
4	Acer rubrum																	
4	Standing dead																	
4	Vitis oestivalis																	
4	Fraxinus sp. (seedling)			1														
4	Vitis sp.			1														
5	Sassafras albidum																	
5	Acer saccharum																	
5	Acer rubrum																	42.6
5	Standing dead																	
5	Vitis oestivalis			2														
6	Vitis oestivalis																	
6	Acer rubrum																	56.9
6	Fagus grandifolia																	
6	Acer saccharum																	
6	Standing dead																	
6	Quercus alba																	
7	Standing dead																	
7	Crataegus sp.																	
7	Acer rubrum																	
7	Vitis oestivalis			2														
7	Acer saccharum																	

56.9 primary  
split, now  
side

### 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.

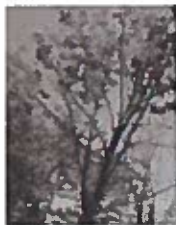
Record using the tally system from 1 to 10



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: OTHS 2015

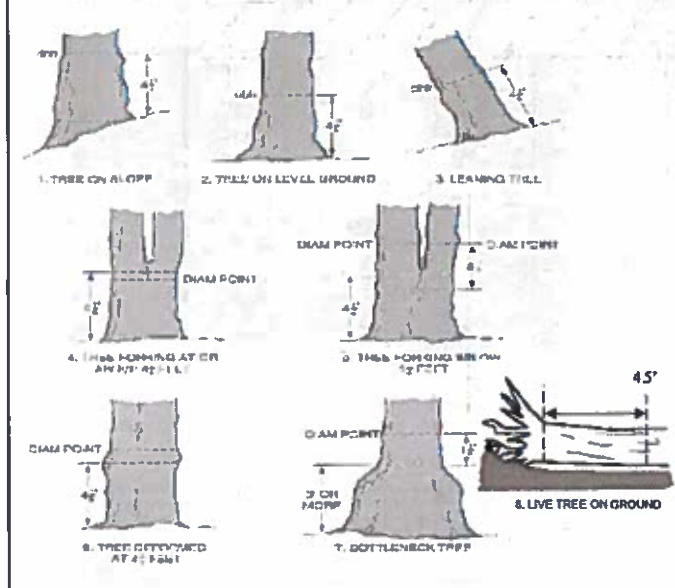
Plot No.: 1083

Page: 3 of 3

Explain subsample (additional room on back):

mod #	species	c	voucher#	# stems 0-1.4m or super sample	# shrub clumps	size class (cm) woody stems > 1.4m										
						1	2	3	4	5	6	7	8	9	10	11
8	Quercus alba															
8	Acer saccharum															
8	Vitis aestivalis			2												
8	Standing dead															
8	Acer rubrum															
8	Fraxinus pennsylvanica			5												
8	Rosa multiflora			1												
9	Quercus alba															
9	Acer rubrum															
9	Standing dead															
9	Vitis aestivalis			1												
9	Acer saccharum															
9	Cornus sp.			1												
9	Viburnum acerifolium															
9	Fraxinus pennsylvanica			3												
10	Acer saccharum															
10	Acer rubrum															
10	Standing dead															
10	Vitis aestivalis			2												
10	Quercus alba															
10	Fraxinus pennsylvanica			3												
10	Viburnum dentatum			2												

### 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.

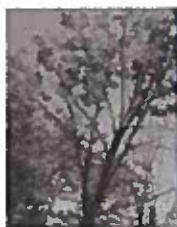
Record using the tally system from 1 to 10



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)

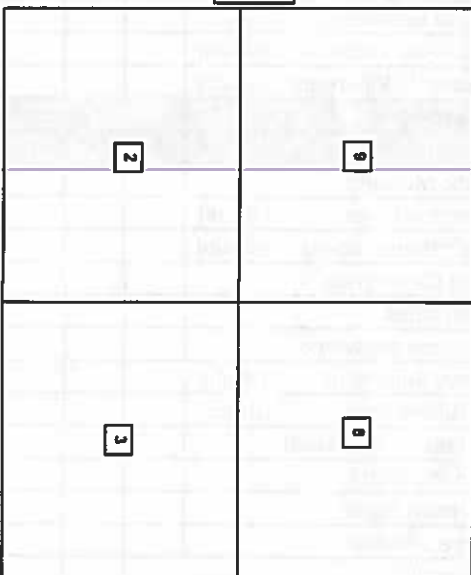
- All main branches contain fine twigs (newly dead).
- Over 50% of main branches have fine twigs.
- Less than 50% of main branches have fine twigs.
- Stem still standing and tertiary main branches present.
- Central stem still standing.

Tree ID	Species	DBH (cm)	HT (m)	Ash condition	Dead condition	# EAB holes	Episodic present	Woodpecker holes
1	Note present							
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

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



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



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



CLEVELAND METROPARKS Plant Community Assessment Program: Invasive Species Survey



Tier 1: Early detection/ Rapid response		Presence				GPS	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
Allanthus 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: 0213 2015

Plot No.: 1083

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

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

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

\* Write None Present if no evidence:

*None present* Beech (Fungus)

*None present* 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 wetlands) collected in 8.1m clip plot (3x3.3 cm) from corner 1 and 3 in each intensive module. Required for VIBI-E score calculation. C7=check when collected

Module #	C7	Corner	Corner

### CLASSIFICATION

(ITT = excellent, F=Fair and Confidence)

#### Hydrogeomorphic class (WETLANDS ONLY)

<input type="checkbox"/> DEPRESSION	Fit=	Conf=
<input type="checkbox"/> IMPOUNDMENT <input type="checkbox"/> Beaver <input type="checkbox"/> Human	Fit=	Conf=
<input type="checkbox"/> RIVERINE <input type="checkbox"/> Headwater <input type="checkbox"/> Mainstem <input type="checkbox"/> Channel	Fit=	Conf=
<input type="checkbox"/> SLOPE (ground water hydrology or on a physical slope)	Fit=	Conf=
<input type="checkbox"/> FRINGING <input type="checkbox"/> Reservoir <input type="checkbox"/> Natural Lake	Fit=	Conf=
<input type="checkbox"/> COASTAL (specify subclass)	Fit=	Conf=
<input type="checkbox"/> BOD (generally, moderately, wetland, ombrotrophic)	Fit=	Conf=

#### Ohio EPA VIBI Plant Community Class (WETLANDS ONLY)

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

### MICROTOPOGRAPHIC FEATURE COUNTS - Intensive modules only

Make 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 (N/S)

Slope 2 = falls on slope ~20°

Slope 3 = maximum steepness that can be safely sampled ~45°

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

sample	corner	tussocks		hummocks (Tip-d/ps)		no. macro. depressions		c.w.d (2-12 cm)		c.w.d (12-40cm)		c.w.d >40 cm		microhab. interspers.		microhab.	
		depth 3 1x1m (count)	depth 2 3.16x3.16m (count)	depth 1 10x10m (count)	depth 1 10x10m (count)	depth 1 10x10m (count)	depth 1 10x10m (count)	depth 1 10x10m (count)	depth 1 10x10m (count)	depth 1 10x10m (count)	depth 1 10x10m (count)	depth 1 10x10m (count)	depth 1 10x10m (count)	depth 1 10x10m (count)	depth 1 10x10m (count)	depth 1 10x10m (count)	depth 1 10x10m (count)
2		0	0	0	20	0	0	0	1	0	1	1					1
3		0	0	1	13	2	0	0	2	0	2	1					1
4		0	0	1	11	0	0	0	0	0	2	1					1
4		0	0	1	13	0	0	0	0	0	1	1					1

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

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

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

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

\* Lanthorn Index (position within landscape)

\*\* Terrain Shape Index (slope microtopographic shape)

CARDINAL COVER (DIMENSIONLESS) MAX=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
1	5	3	0	4
3	4	0	1	4
3	2	0	0	3
4	4	2	1	5

# 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.

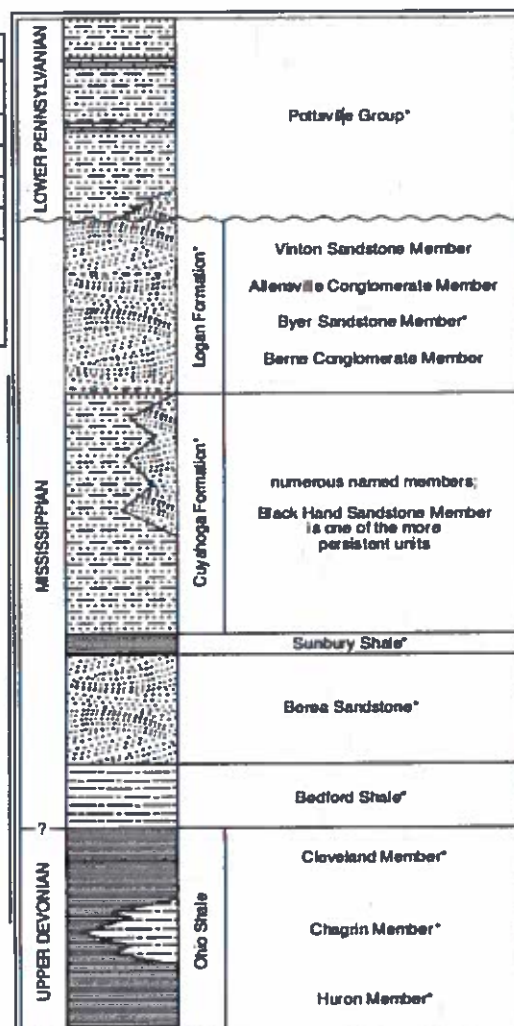
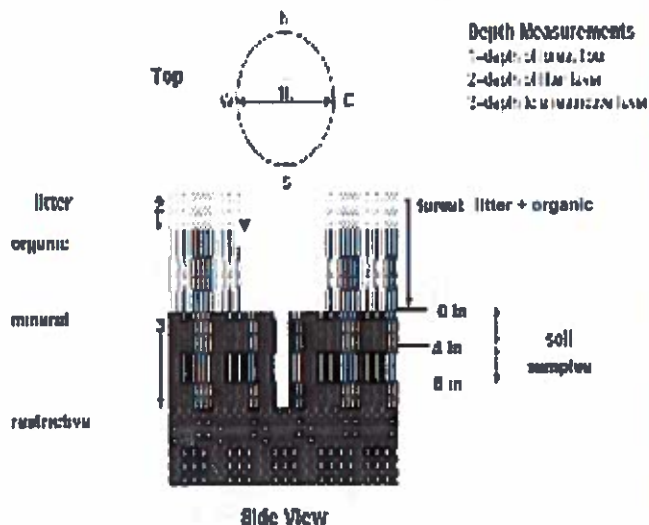


FIGURE 3-20.—Generalized section of Upper Devonian, Mississippian, and Lower Pennsylvanian formations in northeastern Ohio. Asterisks indicate units that are fossiliferous. This composite section represents about 400 meters of rock exposed across the area. The section is not to scale, but the thicknesses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

Soil Collection Method/ Horizon (A, B, C)	A
2,3,8,9 composted	
Soil Series Type	
Soil Series Source: Ohio Soil Survey	
Landform type	
Depth to root layer	
Parent Material	
<b>DRAINAGE*</b>	
<input type="checkbox"/> Excessively dr	<input type="checkbox"/> Somewhat excessively
<input type="checkbox"/> Well drained	<input type="checkbox"/> Moderately well dr
<input type="checkbox"/> Somewhat poorly dr	<input type="checkbox"/> Very poorly dr
<input type="checkbox"/> Impermeable surface	

**SOIL DEPTH MEASUREMENT:** Measure to the nearest 0.1 cm in center of intensive modules. If >30.5 cm, record as >30

	1 liter+ organic depth (cm)	2 liter depth (cm)	water depth (cm)	depth sat soil (cm)
mod 1	1.2	1.2	0	0
mod 2	1.9	1.9	0	0
mod 3	0.3	0.3	0	0
mod 4	0.2	0.2		

**EARTH SURFACE & GROUND COVER**

Underlying Earth Surface*	Ground Cover	percent
Grass - 100%	percent (each ≤ 100%)	
Histocool	Coarse Woody Debris***	9
Mineral Soil	Fine Woody Debris****	12
Gravel-Cobble*	Litter	85
Boulder**	Duff (Ferm. + Humus)	0
Bedrock	Bryophyte- Lichen	2
* Gravel-Cobble = 1/16-10"	Water	0
** Boulder = > 10 in	Bare Soil	16
*** > 5 cm in diameter	Dead/Trill	0
**** < 5 cm in diameter	Other	

**TRAIL INFORMATION:**

record type and cover for each	% Cover
Type	
<input type="checkbox"/> All Purpose	
<input type="checkbox"/> Bridle	
<input type="checkbox"/> Hiking sanctioned	
<input type="checkbox"/> Boulding unsanctioned	
<input type="checkbox"/> Gravel	
<input type="checkbox"/> Dirt	

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

Strata	Height Range (m)	Total Cover (%)
Trees	7.5	93
Shrub	5.5	73
Herb	< 5	13
(Floating)*		
(Aquatic)*		

**STAND SIZE**

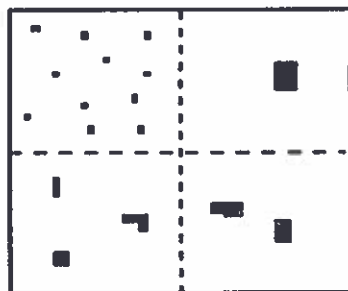
- ☐ > 600 x plot size  
☐ > 100 x plot size  
☐ 10-100 x plot size  
☒ 3-10 x plot size  
☐ 1-3 x plot size  
☐ < plot size

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

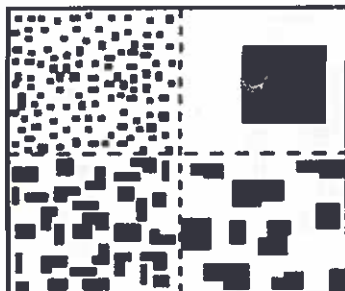
\* rooted and floating or slightly emerged  
 \*\* submerged, most plant mass below surface

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

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



2%



20%

**SOIL TEXTURE:** Record the code for the soil texture of the 5 cm and 20 cm layers. To estimate texture, collect a soil sample from the appropriate layer and moisten it with water to the consistency of modeling clay/wet newspaper; the sample should be wet enough that all of the particles are saturated but excess water does not freely flow from the sample when squeezed. Attempt to roll the sample into a ball. If the soil will not stay in a ball and has a grainy texture, the texture is either sandy or coarse sandy. If the soil does form a ball, squeeze the sample between your fingers and attempt to form a self-supporting ribbon. Samples which form both a ball and a ribbon should be coded as clayey; samples which form a ball but not a ribbon should be coded as loamy.

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

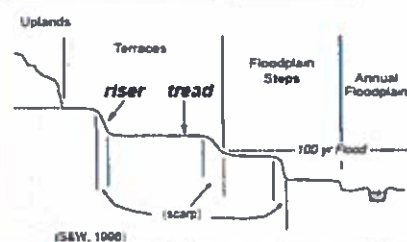
**Geomorphic Component - Three-dimensional descriptors of parts of landforms or microfeatures that are best applied to areas. Unique descriptors are available for Hills, Terraces, Mountains, and Flat Plains; e.g., (for Hills) nose slope or NS.**

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



(P.J.S. 1000; adapted from Ruhe, 1975)

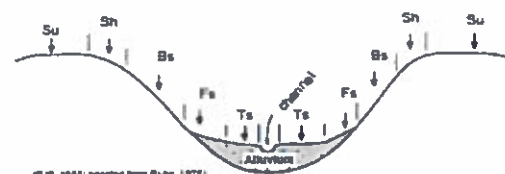
Terraces	Code
riser	RI
tread	TR



(S&W, 1000)

**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. 1000; adapted from Ruhe, 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/SEMIPERMANENTLY 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.

**SEMIPERMANENTLY 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.