

CLEVELAND METROPARKS Plant Community Assessment Program: Quality Control Form



Cleveland Metroparks

Project Label:

PCAP

Plot No:

1057

Date Sampled:

07/10/15

Lead:

LANCE

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	<input checked="" type="radio"/> Y	N	
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	N/A
Ash trees mapped	<input checked="" type="radio"/> Y	N	N/A
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	N/A
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?			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
ACL	Drier	<input checked="" type="radio"/> Y	N
262-	Identified	<input checked="" type="radio"/> Y	N
263	Mounted	<input checked="" type="radio"/> Y	N
	Thrown away	<input checked="" type="radio"/> 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:

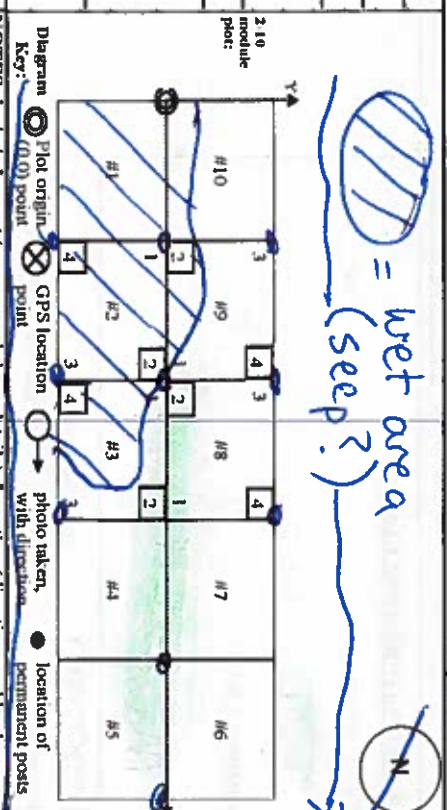
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GENERAL INFORMATION			
Project Label: PCAP			
Project Name: Q&R 2015			
Plot Name: Hot and Swampy			
Plot No.: 1057			
<input type="checkbox"/> Level 4 (no nested corners sampled) <input checked="" type="checkbox"/> Level 5 (nested corners sampled)			
Date (mm/dd/yyyy): 07/10/2015			
End date (if > 1 day): 1/1			
Party	Role**		
A. Lance	Plot leader		
D. Sweet	Bot. Asst.		
R. Eagle	Crew		
E. Knauers	Crew		
** 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	modera.	low
vascul.	<input checked="" type="checkbox"/>		n/a
bryo			<input checked="" type="checkbox"/>
lichen			<input checked="" type="checkbox"/>
TAXONOMIC STANDARD			
Authority:	G&C	Pub Date:	1998
Minimum required fields in Bold and Underlined			
LOCATION			
State:	OH	County:	Cuyahoga
Quadrangle:	Northfield		
Local Place Names:	Nature Center/Harriet Keeler		
Landowner:	CMR		
Data Confidentiality:	<input checked="" type="checkbox"/> Public data <input type="checkbox"/> Private Data		
Check one:	<input checked="" type="checkbox"/> Fuzz 100m <input type="checkbox"/> Fuzz 250m <input type="checkbox"/> Fuzz 500m		
Reasons:			
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"/> m <input type="checkbox"/> ft		
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 1.1:			
x = 0 y = 0 (base of plot x=0, y=0)			
Latitude:	41.31774		
Longitude:	81.607148		
Coord. Accuracy:	<input checked="" type="checkbox"/> m <input type="checkbox"/> ft 3 +-		
GPS File Name:	1057		
Plot size for cover data:	0.1 (hectares)		
X-axis Bearing of plot:	302.2964 °		
Depth: (1-5):	4		
Intensive modules:	2, 3, 8, 9 (EDIT IF MODIFIED)		
Camera No.:	3		
Photo Nos.:	132		
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			



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

Layout - 2x5

Location - Plot is sandwiched between two trails. Plot is on a slope; second growth dominates the plot; itself although many ^{large} trees are found just outside plot (includes a 121cm DBH beech and 116cm DBH cottonwood). Rationale - GRTS; PCAP re-sample Veg. Characteristics - Plot consists of a very wet depression through mods 1, 2, and 3 and a much drier →



OVER

MODIFIED NATURESERVE CLASS*		Fit= ___ Conf= ___	
CODE (on separate form):			
 D	C03	Sugar maple	
COMMUNITY NAME:		SRE 4-30-15	
 Mixed Forest			
HOMOGENEITY			
<input type="checkbox"/> Homogeneous	<input type="checkbox"/> Compositional trend across the plot		
<input checked="" type="checkbox"/> Conspicuous inclusions	<input type="checkbox"/> Irregular/pattern mosaic		

DISTURBANCES				
type*	severity**	yrs ago	% of plot	description
Human	L	0	100%	trash, trail impact
Natural				
Fire				
Cut				
Animal	MH	0	100%	browse
Other				

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

Current Land Use:	PARK - CONSERVATION
Former Land Use:	INDIAN OILIN

HYDROLOGIC REGIME*	
SALINITY*	<input checked="" type="checkbox"/> Upland (seldom flooded) <input type="checkbox"/> Intermittently/seasonally saturated (seldom flooded) <input checked="" type="checkbox"/> Permanently/Semipermanent. saturated (dry <1/yr, seldom flooded) <i>MODS 12.3</i> <input type="checkbox"/> Occasionally flooded (<1/yr) <input type="checkbox"/> Temporarily flooded <input type="checkbox"/> Intermittently flooded <input type="checkbox"/> Semipermanently flooded <input type="checkbox"/> Permanently flooded <input type="checkbox"/> Tidal/Seiche flooded daily <input type="checkbox"/> Tidal/Seiche flooded monthly <input type="checkbox"/> Tidal/Seiche flooded irregular (e.g. wind, storms) <input type="checkbox"/> Unknown
	<input type="checkbox"/> Saltwater <input type="checkbox"/> Brackish <input type="checkbox"/> Fresh <input checked="" type="checkbox"/> Upland (n/a)
	(by default unless plot is a wetland)

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

hydrologic regime elsewhere, Canopy trees are absent from the wet area itself (although nearby trees provide nearly 100% canopy cover). Sugar maple dominates the canopy, with black cherry and a few elms also present.

Jewelweed dominates the depressed areas; Dryopteris sp. are also abundant. Entire area has a large population of ramps (flowering during sample)

Project Label: PCAP

Project name: OAB205

Plot no.: 1057

Plot area (ha): .1

Total modules: 10

Intensive modules: 4 Plot configuration: 2x5



Cleveland Metroparks

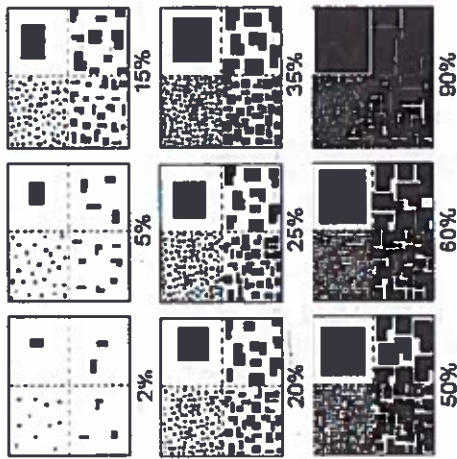
Br = Browse Level. Use cover classes to describe amount of browse per species over entire plot

Strata - cov, entire plot

S	H(E)(A)Br	Species	C	Voucher #	Estimate for each intensive module:				Estimate for each intensive module:				Estimate for each intensive module:				Estimate for each intensive module:				R
					%open water	%unvegetated open water	%unveg. ground (bare soil)	%unveg. filter (bare filter)	%open water	%unvegetated open water	%unveg. ground (bare soil)	%unveg. filter (bare filter)	%open water	%unvegetated open water	%unveg. ground (bare soil)	%unveg. filter (bare filter)	%open water	%unvegetated open water	%unveg. ground (bare soil)	%unveg. filter (bare filter)	
3	H	Dryopteris intermedia			2	4	2	2	2	3	4	3	2	8	4	8	2	9	4	9	2
3	H	Dryopteris carthusiana			3	2	2	2	2	2	2	2	2	3	2	2	2	3	2	2	2
3	H	Atropa petiolata			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
5	H	Allium tricoccum			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
4	H	Arisaema triphyllum			3	2	2	2	2	3	2	2	2	4	5	3	2	4	5	2	2
4	H	Moss sp.			2	4	2	2	2	2	2	2	2	3	2	2	2	3	2	3	2
1	H	Carya sp.			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
2	H	Fagus grandifolia			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
4	H	Impatiens capensis			2	4	2	2	2	4	5	3	2	2	2	2	2	4	2	4	2
1	H	Vitis sp.			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
2	H	Berberis thunbergii			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
2	H	Parthenocissus quinquefolia			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
2	H	Acer sp. seedling			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
2	H	Lonicera mackallii			1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
2	H	Ranunculus recurvatus			1	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2
2	H	Circaea lutetiana			1	2	2	2	2	4	2	2	2	2	2	2	2	2	2	2	2
1	H	Carya cordiformis			1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1	H	Polygonum virginianum			1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1	H	Aster sp.			1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1	H	Pilea pumila			1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1	H	Fraxinus sp.			1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1	H	Galium triflorum			1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1	H	Cuscuta prostrata			1	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2
1	H	Rubus sp.			1	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2
1	H	Erigeron alatus			1	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2

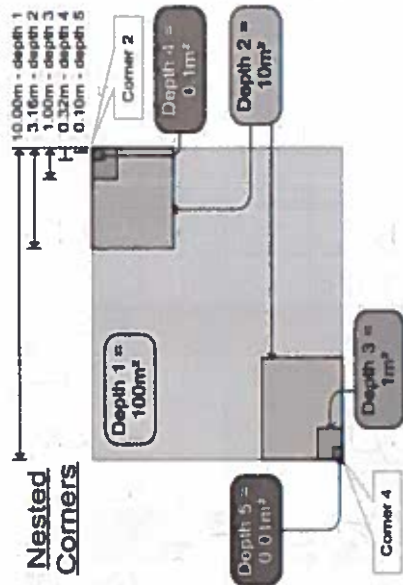
EXAMPLES OF PERCENT OF AREA COVERED

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

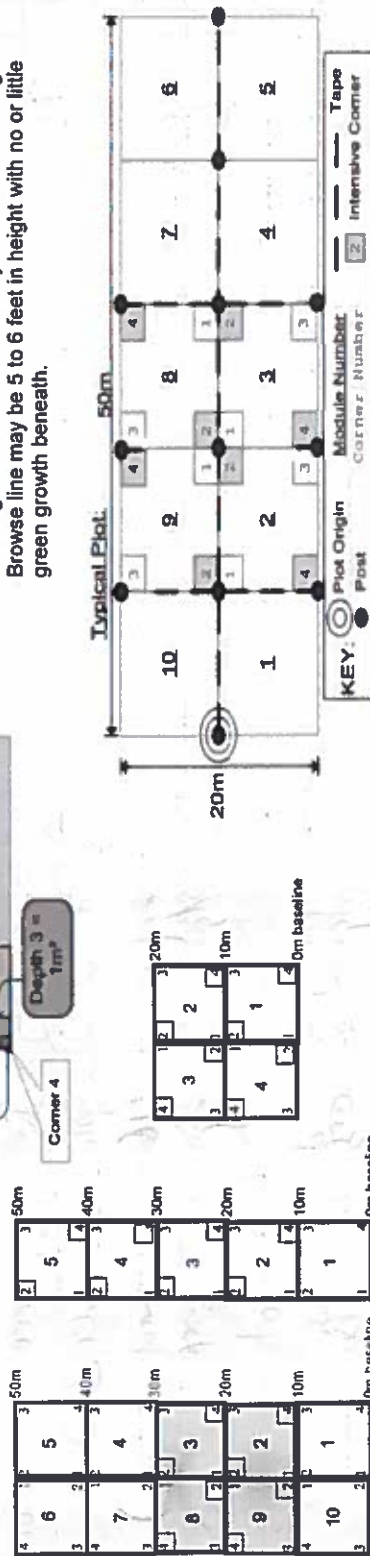
MEDIUM LOW values include evidence of browse at about 10 percent of the stems with no significant impact to plant reproduction evident. In this rating, plants are browsed but preferential species are observed to be reproducing in numbers that appear normal or near-normal in comparison to low browse areas.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





Cleveland Metroparks

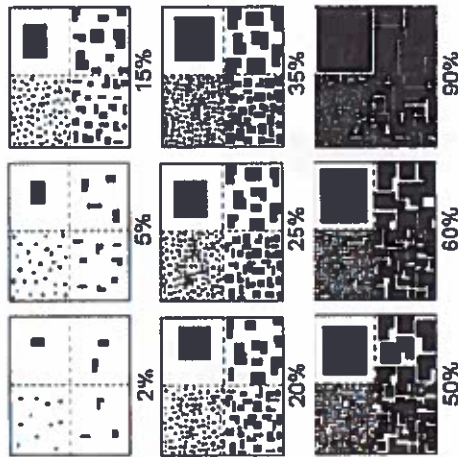
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Strata - Cov entire plot

S	H (F)(A) Br	Species	c	Voucher #	Estimate for each Intensive module:				Estimate for each Intensive module:				Estimate for each Intensive module:				Estimate for each Intensive module:				R
					%open water	%unvegetated open water	%unveg. ground (bare soil)	%unveg. litter (bare litter)	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	
2	1	Ulmus sp.							1		1		1		1		1		1		
2	2	Hackelia virginiana							1		1		1		1		1		1		
2	2	Toxicodendron radicans							1		1		1		1		1		1		
1	2	Pinus serotina							1		1		1		1		1		1		
1	2	Polystichum acrostichoides							1		1		1		1		1		1		
5	1	Acer saccharum			50% 12-15-15				1		1		1		1		1		1		
1	1	Poa sp. alpicola	X	ACL362					1		1		1		1		1		1		
2	2	Podophyllum peltatum							1		1		1		1		1		1		
2	2	Maackianum racemosum							1		1		1		1		1		1		
2	2	Carlophyllum thalictroides							1		1		1		1		1		1		
2	2	Epipactis helleborine							1		1		1		1		1		1		
2	2	Andromeda benaria							1		1		1		1		1		1		
2	2	Sanguinaria canadensis							1		1		1		1		1		1		
1	1	Geopeltis caroliniana							1		1		1		1		1		1		
1	1	Amelanchier sp.							1		1		1		1		1		1		
1	1	Quercus sp.							1		1		1		1		1		1		
2	2	Carex diutalis	X	ACL363					1		1		1		1		1		1		
2	2	Mitchella repens							1		1		1		1		1		1		
2	2	Smilax hispida							1		1		1		1		1		1		
2	2	Rosa multiflora							1		1		1		1		1		1		
2	2	Ligustrum vulgare							1		1		1		1		1		1		

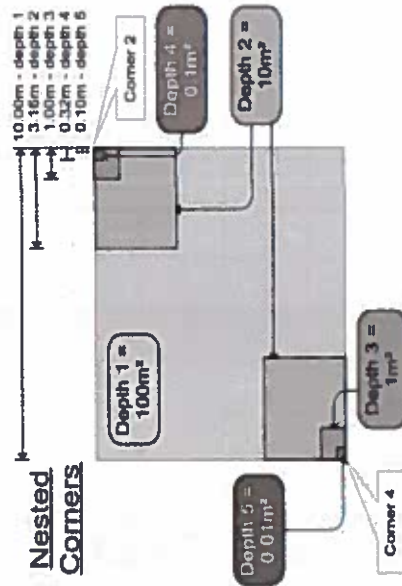
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Nested Corners



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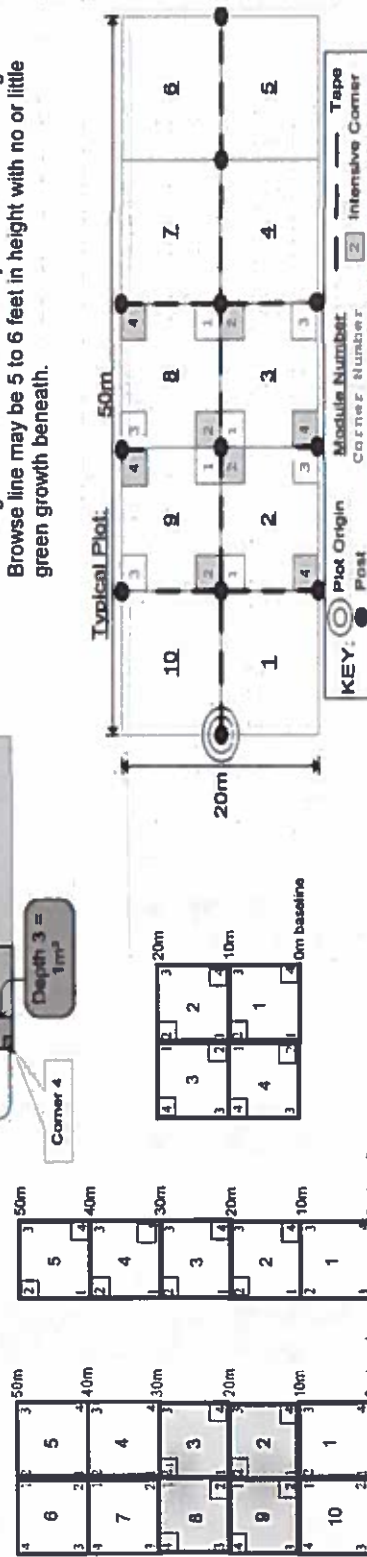
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Page 1 of 1

Natural Resource Management FORM NR/2010-02a

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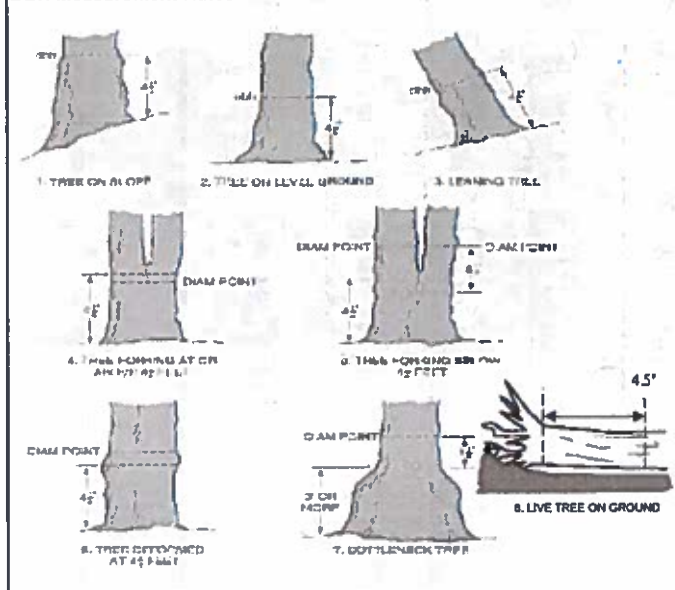
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Cleveland Metropolitan

Panel: 1 of

2010 id'd
as an
americana,
but Lead
confirmed
rubra

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.

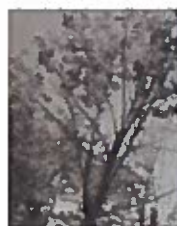
Record using the tally system from 1 to 10



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)

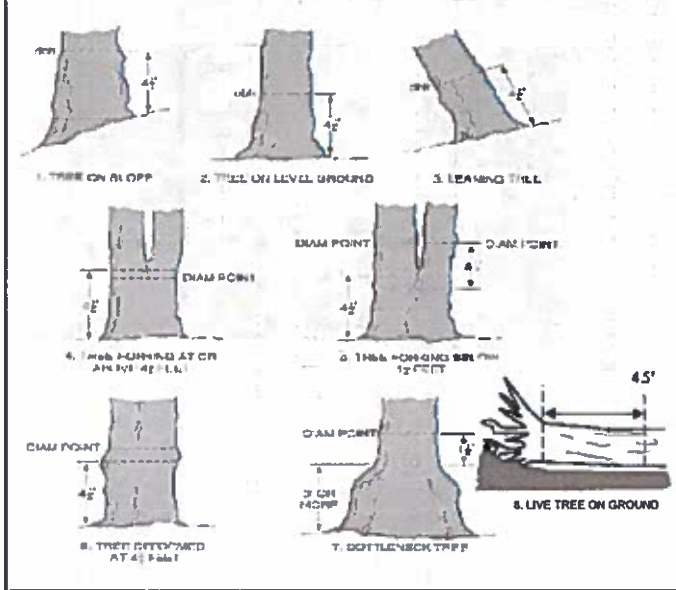
- A:** All main branches contain fine twigs (newly dead).
- B:** Over 50% of main branches have fine twigs.
- C:** Less than 50% of main branches have fine twigs.
- D:** Stem still standing and tertiary main branches present.
- E:** Central stem still standing.

Cleveland Metroparks

Cleveland Metroparks

Natural Resources Management FORM NR/2010-03a

DBH Measurement Rules



Woody Stem Deer Browse

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

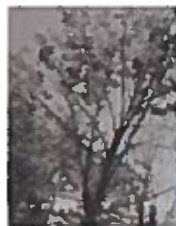
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1



2



3



4



5

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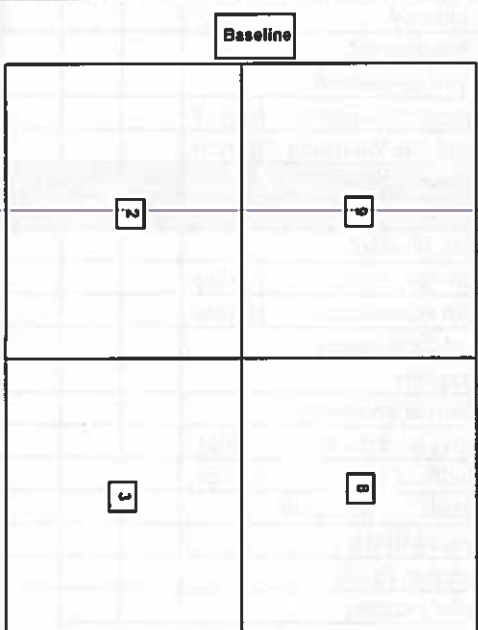
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Tree ID	Species	g	c	Voucher #	DBH (cm)	Ht @ DBH	Ash condition	Dead condition	# Exit holes	Epilimnic present	Woodpecker holes
1	No Fraxinus present										
2											
3											
4											
5											
6											
7											
8											
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 1.25m² x 21.5m
 Woodpecker and epicornic 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
		NE	SE	SW	NW	
Microstegium vimineum	Japanese stiltgrass					
Ranunculus ficaria	Lesser Celandine					
Cynanchum louiseae (vine)	Black Swallow-wort					
Butomus umbellatus (wetland)	Flowering Rush					
Heracleum mantegazzianum	Giant Hogweed					
Tier 2: Assess as Needed		# of Plants				comments
		NE	SE	SW	NW	
Acer platanoides	Norway Maple					
Allanthus altissima	Tree of Heaven					
Lonicera japonica (vine)	Japanese Honeysuckle					
Lythrum salicaria (wetland)	Purple Loosestrife					
Aegopodium podagraria (G-cover)	Bishop's Goutweed					
Celastrus orbiculatus (vine)	Asian Bittersweet					
Torilis sp.	Hedgeparsley					
Conium maculatum	Poison Hemlock					
Rhamnus cathartica	Common Buckthorn (shrub)					
Berberis thunbergii	Japanese Barberry (shrub)					
Alnus glutinosa	European Alder					
Dipsacus laciniatus	Cut-leaf Teasel					
Elaeagnus umbellata	Autumn Olive (shrub)					
Lonicera maackii	Amur Honeysuckle (shrub)					
Euonymus fortunei	Wintercreeper					
Tier 3: Presence is of Interest		# of Plants				comments
		NE	SE	SW	NW	
Convallaria majalis (G-cover)	Lily of the Valley					
Coronilla varia (G-cover)	Crown Vetch					
Eleutherococcus pentaphyllus	Five-leaf Aralia (shrub)					
Pachysandra terminalis (G-cover)	Japanese Pachysandra					
Philadelphus coronarius	Mock Orange (shrub)					
Pulmonaria officinalis (G-cover)	Lungwort					
Rubus phoenicolasius	Wineberry					
Iris pseudacorus (wetland)	Yellow Flag Iris					
Ornithogalum umbellatum	Star of Bethlehem					
Viburnum opulus var. opulus	European Cranberry (shrub)					
Viburnum plicatum	Doublefile Viburnum (shrub)					
Tier 4: Widespread and abundant		Presence				comments
		NE	SE	SW	NW	
Alliaria petiolata	Garlic Mustard					
Ligustrum vulgare	Common Privet (shrub)					
L. morrowii, L. tatarica	Bush Honeysuckles (shrub)					
Phalaris arundinacea	Reed Canarygrass					
Phragmites australis (wetland)	Phragmites					
Polygonum cuspidatum	Japanese Knotweed					
Frangula alnus	Glossy Buckthorn (shrub)					
Rosa multiflora	Multiflora Rose (shrub)					
Typha angustifolia, T. x.glauca	Cattails (wetland)					
Cirsium arvense	Canada thistle					
Dipsacus fullonum	Common Teasel					
Hesperis matronalis	Dame's Rocket					
Vinca minor (G-cover)	Periwinkle					

Presence
X: yes

of Plants
1: 1-10
2: 11-50.
3: 51-100
4: 101-1,000
5: >1,000

of Plants
1: 1-10
2: 11-50.
3: 51-100
4: 101-1,000
5: >1,000

of Plants
1: 1-10
2: 11-50.
3: 51-100
4: 101-1,000
5: >1,000

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

Project Label: PCAP

Project Name: 02Br 2015

Plot No.: 1057

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

Strain	# 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 Beech (Fungus)

None 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 0.1m clip plots (32x32 cm) from corners 1 and 3 in each intensive module. Required for VIBI-E score calculation. C7=check when collected

Module #	C7	Corner	Corner

CLASSIFICATION

HTT = excellent, g Fit and Confidence

Hydroscorable 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"/> BOG (strongly, moderately, weakly anthropogenic)	Fit	Conf

Other 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

Rules for microhabitat features. Select one or select two and average the score. NOTE: If mod falls on a slope automatically gets marked based on steepness (1-3) to begin - any features present slope 1 = slight elevational grade across module (ft) 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									
mod#	corner	tussocks		hammocks (TTP-Lys)		depressions		c.w.d (2-12 cm)	
		depth 3 1x1m (count)	depth 2 3, 1x3, 1.6m (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	2	0	0	0	4	2
3	—	0	1	2	2	0	0	5	2
3	—	0	0	3	0	0	0	4	2
4	—	0	0	1	0	0	0	3	2

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

MCMB INDICES (degrees) + for up - for down

FILLED OUT USING GIS PHOTOGRAPH - DO NOT FILL OUT IN FIELD

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

Landform Index (position within landscape)
 Terrain Slope Index (also microtopographic shape)

CROWN COVER (DECAIMETER), MILE 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	7	2	1	2
3	1	3	4	1
8	1	2	3	1
9	1	1	1	1

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.

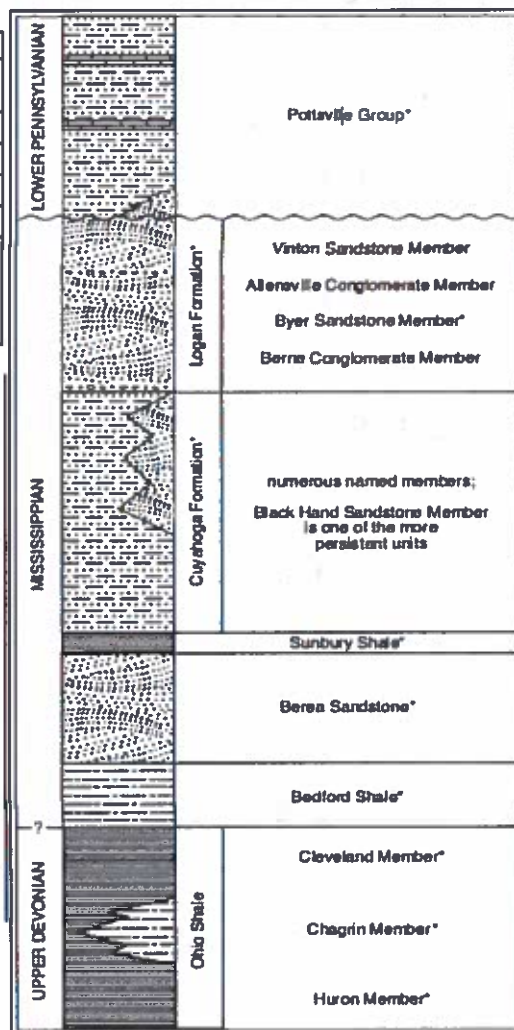
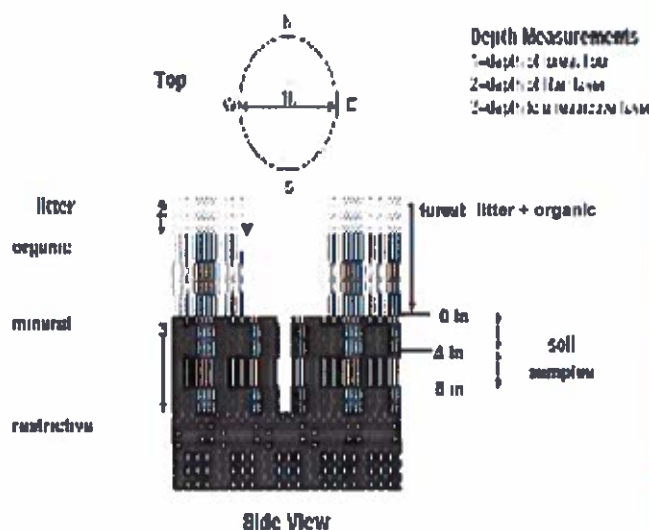


FIGURE 3-20.—Generalized section of Upper Devonian, Mississippian, and Lower Pennsylvanian formations in northeastern Ohio. Asterisks indicate units that are fossiliferous. This composite section represents about 400 meters of rock exposed across the area. The section is not to scale, but the thicknesses 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 3-16 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	
	%moist	
	oxid roots	Y N
	texture*	
	redox features**	Y N
	hydr. cond.***	I S M D
20 cm	matrix color	
	moisture	
	%moist	
	oxid roots	Y N
	texture*	
	redox features**	Y N
	hydr. cond.***	I S M D

Soil Collection Method	Horizon (A, B, C)
2.3.8.9 completed	A
W. Soil Survey Information	
Soil Series/Type:	
Soil Series Source:	Ohio Soil Survey
Landform type:	
Depth to rest. layer:	
Parent Material	
Diagnosis*	
<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"/> Impervious surface	

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

module	1 liter+ organic depth (cm)	2 liter depth (cm)	water depth (cm)	depth soil (cm)
2	0.3	0.3		
3	0.3	0.3		
8	1.2	1.2		
9	0.8	0.8		

EARTH SURFACE & GROUND COVER

Underlying Earth Surface*	Ground Cover	percent
Grass - 100%	percent (Each ≤ 100%)	
Hieracium	Coarse Woody Debris***	4%
Mineral Soil	Fine Woody Debris****	4%
Gravel-Cobble*	Litter	60%
Boulder**	Duff (Ferm. + Humus)	—
Bedrock	Bryophyte-Lichen	4%
* Gravel-Cobble = 1/16-10"	Water	20%
** Boulder = > 10 in	Bare Soil	10%
*** > 5 cm in diameter	Rock/Trail	0%
**** < 5 cm in diameter	Other	—

COVER BY STRATA

Strata	Height Range (m)	Total Cover (%)
Tree	5 -	93%
Shrub	0.5 - 5	8%
Herb	0 - 0.5	48%
(Floating)*		
(Aquatic)*		

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

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

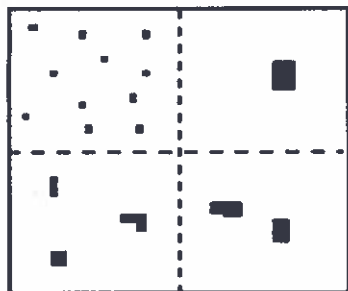
NOVE	
TRAIL INFORMATION:	
record type and cover for each	
Type	%Cover
All Purpose	
Bridle	
Hiking sanctioned	
Broodleg unsanctioned	
Gravel	
Dirt	

STAND SIZE:

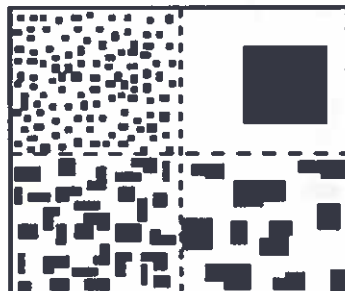
- ☐ >600 x plot size
- ☐ > 100 x plot size
- ☒ 10-100 x plot size
- ☐ 3-10 x plot size
- ☐ 1-3 x plot size
- ☒ < plot size

PERCENT MOTTLES (USE CLASS CODES):

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



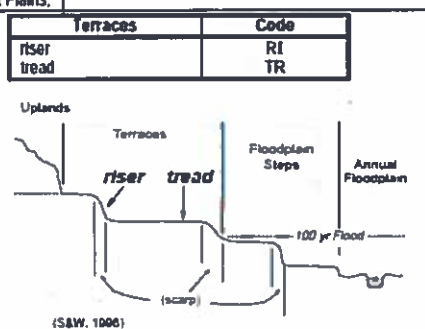
2%



20%

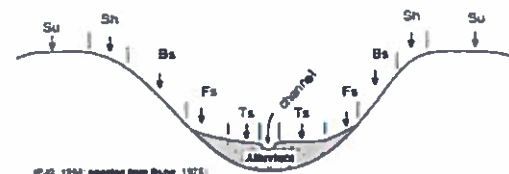
Geomorphic Component - Three-dimensional descriptors of parts of landforms or microfeatures that are best applied to areas. Unique descriptors are available for Hills, Terraces, Mountains, and Flat Plains: e.g., (for Hills) nose slope or NS.

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