

CLEVELAND METROPARKS Plant Community Assessment Program: Quality Control Form



Project Label:

PCAP

Plot No: 1011

Date Sampled: 06/23/15

Lead: LANCE

Comment required if item answer is NO

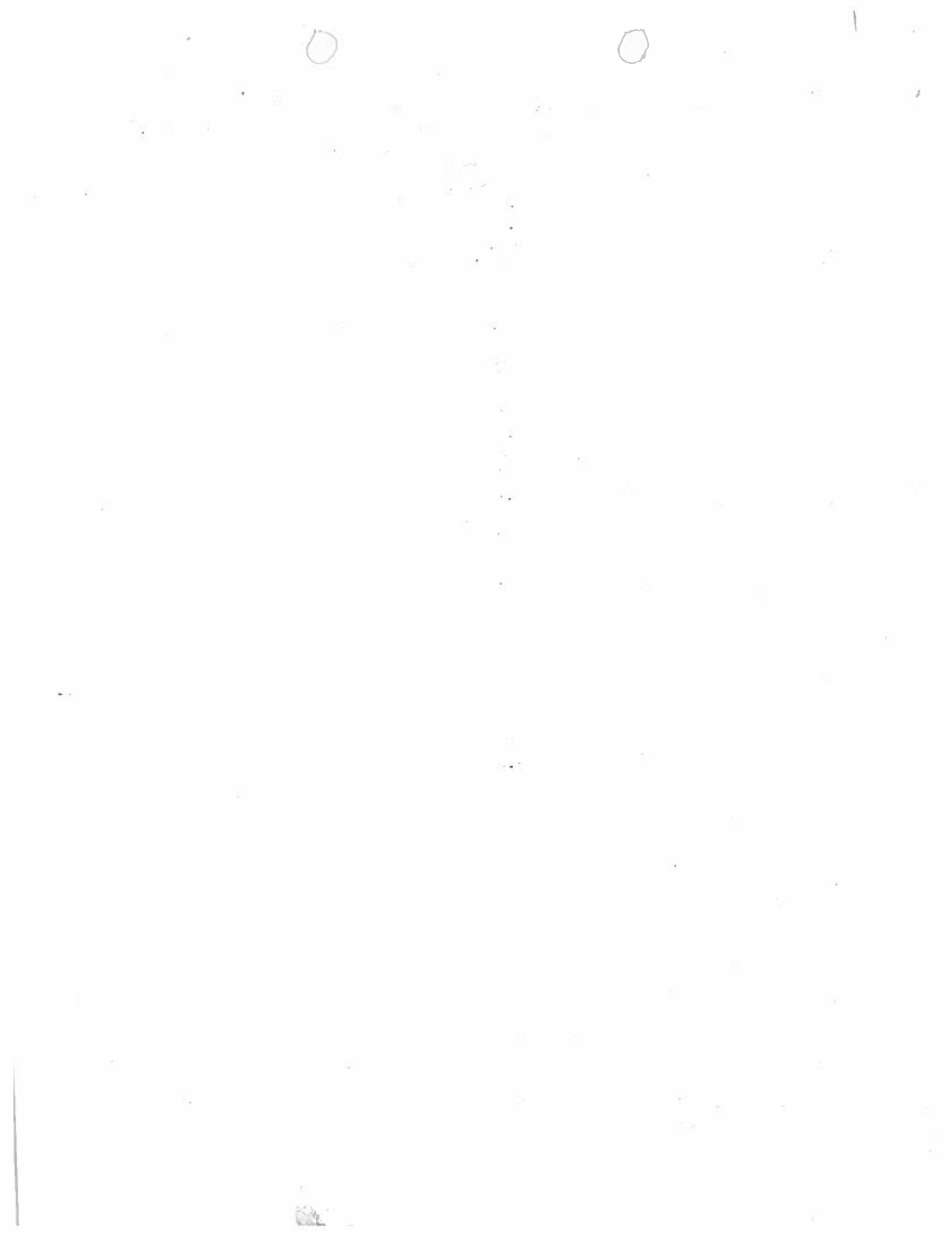
Parking/Access outside of Park Boundaries:	Y	N	If yes, write details in Comments section below
Field journals completed	Y	N	
Site sketch made on 1:3000 map?	Y	N	
Check cover page	Y	N	
X-axis Bearing of plot recorded	Y	N	
GPS coords. Recorded	Y	N	
North direction recorded	Y	N	
Photographs taken?	Y	N	
Relocated Pins Mapped	Y	N	
Plot No., Date agreement on all pages?	Y	N	
Header data completed all pages?	Y	N	
Cover classes recorded in all Intensive modules	Y	N	
Browse Level By Species	Y	N	
Woody stem quality control check	Y	N	Check every line and cross check with the Tree Cover Sheet
Invasive plant quality control check	Y	N	N/A
Ash trees mapped	Y	N	
Completed Forest Pest/Pathogen Datasheet	Y	N	
Cover by Strata? (confirm cover type)	Y	N	
Soil samples collected with matching plot #.	Y	N	N/A
Cross check 2010 information	Y	N	Highlight any changes from 2010 information
Vouchers labeled on datasheet with initials and number	Y	N	
Vouchers labeled on collection bag	Y	N	
Pink flags removed	Y	N	Left Green flags (not int'l)
Data sheet QA before leaving site?	Y	N	
Common equipment returned to tub.	Y	N	
Data sheets scanned?	Y	N	Enter date to left
Final data sheets scanned?	Y	N	Enter date to left
Buffer Widths measured?	Y	N	
Web Soil Survey	Y	N	
Voucher Location	Y	N	
(# vouchers collected)	Y	N	Enter number to left
Refrigerator	Y	N	
Press (#)	Y	N	
Drier	Y	N	
Identified	Y	N	
Mounted	Y	N	
Thrown away	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. parking lot, road)
	<input type="checkbox"/> Unsafe to sample (i.e. steep slope)
	<input type="checkbox"/> Other

Additional Comments:

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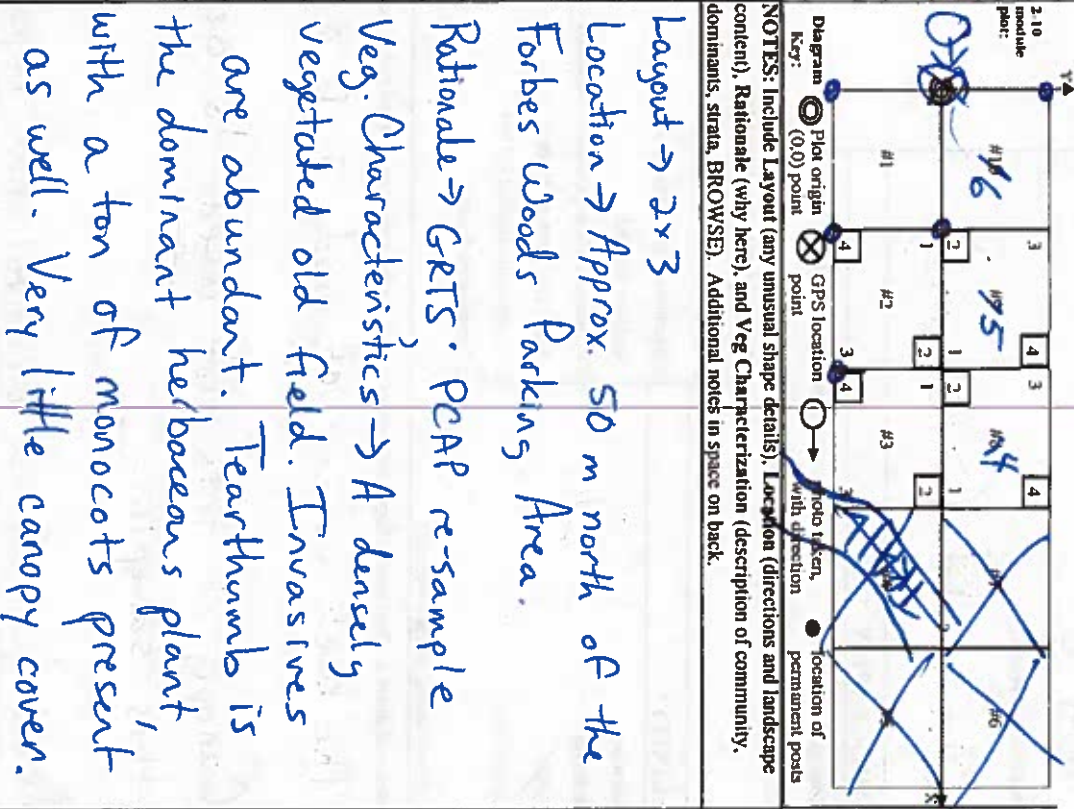
CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet

GENERAL INFORMATION	
Project Label:	PCAP
Project Name:	02B22015
Pilot Name:	Super Easy Fun
Pilot No.:	Time Plot
<input type="checkbox"/> Level 4 (no nested corners sampled) <input checked="" type="checkbox"/> Level 5 (nested corners sampled)	
Date (mm/dd/yyyy):	06/23/2015
End date (if > 1 day):	/ /
Party:	Role**
A. Lance	Pilot leader
S. Eisenbach	Bot. Asst.
M. Geitay	Bot. Asst.
T. Cochran	Crew
E. Knauss	Crew
** Roles: Co-leader, Asst. Guide, Observer, Taxonomic, 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. Hunted plots may still provide good data.
<input checked="" type="checkbox"/> Very thorough	
<input type="checkbox"/> Accurate	
<input type="checkbox"/> Hunted	
TAXONOMIC ACCURACY	
high <input checked="" type="checkbox"/>	moderate <input type="checkbox"/>
low <input type="checkbox"/>	not sampled <input type="checkbox"/>
vascular <input checked="" type="checkbox"/>	n/a <input type="checkbox"/>
herb <input type="checkbox"/>	<input checked="" type="checkbox"/>
lichen <input type="checkbox"/>	<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:	
Local Place Names:	Forbes Woods
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
Check one:	<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 <input type="checkbox"/> Coord. Units
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:	41.37318
Longitude:	81.50523
Coord. Accuracy:	<input checked="" type="checkbox"/> m <input type="checkbox"/> ft <input type="checkbox"/> +/-
GPS File Name:	1011A
Plot size for cover data:	0.06 (hectares)
X-axis Bearing of plot:	354°
Depth: (1-5)	4
Intensive modules:	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100
Camera No.:	3
Phone No.:	0089
Pilot 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

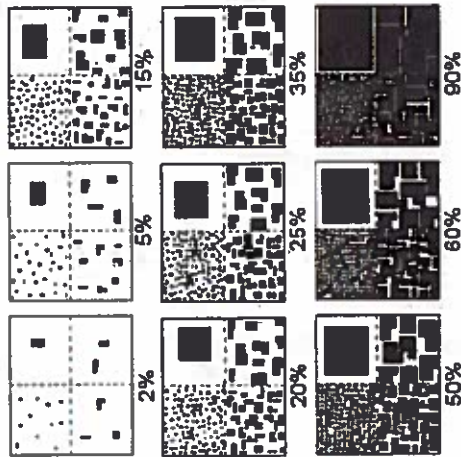


OVER

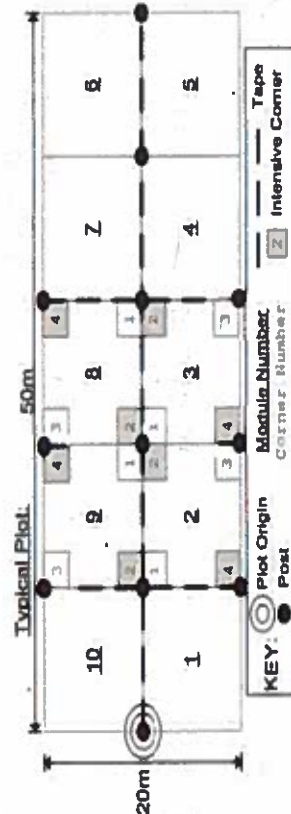
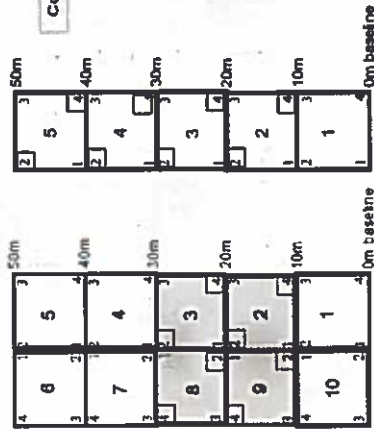
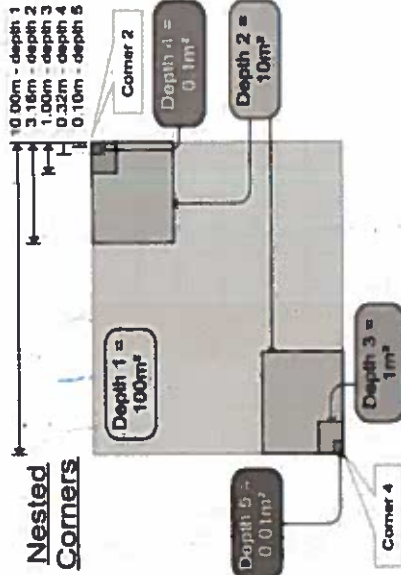
CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet				Cleveland Metroparks	Page 2 of 2																																			
Project Label: _____		Project Name: <u>02Be2015</u>		Plot No.: <u>101</u>																																				
MODIFIED NATURE RESERVE CLASS* CODE (on separate form): <u>V04-c</u> Fit= _____ Conf= _____		DISTURBANCES <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">type*</th> <th style="width:15%;">severity**</th> <th style="width:15%;">yrs ago</th> <th style="width:15%;">% of plot</th> <th style="width:40%;">description</th> </tr> </thead> <tbody> <tr> <td>Human</td> <td><u>M</u></td> <td><u>0</u></td> <td><u>100%</u></td> <td><u>MOWING</u></td> </tr> <tr> <td>Natural</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Fire</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Cut</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Animal</td> <td><u>H</u></td> <td><u>0</u></td> <td><u>100%</u></td> <td><u>BROWSE</u></td> </tr> <tr> <td>Other</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				type*	severity**	yrs ago	% of plot	description	Human	<u>M</u>	<u>0</u>	<u>100%</u>	<u>MOWING</u>	Natural					Fire					Cut					Animal	<u>H</u>	<u>0</u>	<u>100%</u>	<u>BROWSE</u>	Other				
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COMMUNITY NAME: <u>Old field (>10 yrs.)</u>		**L=low, ML=med low, M=med, MH=med high, H=high, VH=very high																																						
HOMOGENEITY <input type="checkbox"/> Homogeneous <input checked="" type="checkbox"/> Conspicuous inclusions		Current Land Use: <u>PARK</u> Former Land Use: <u>AGRICULTURE</u>																																						
SALINITY* <input type="checkbox"/> Saltwater <input type="checkbox"/> Brackish <input type="checkbox"/> Fresh <input checked="" type="checkbox"/> Upland (n/a)		HYDROLOGIC REGIME* <input checked="" type="checkbox"/> Upland (seldom flooded) <input type="checkbox"/> Intermittently/seasonally saturated (seldom flooded) <input type="checkbox"/> Permanently/Semipermanent, saturated (dry <1/yr, seldom flooded) <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																																						
Additional notes & diagrams: (Representativeness of plot to the stand, successional status, maturity, etc.) <div style="border: 1px solid black; padding: 10px; min-height: 200px;"> <p>The back corner of mod 3 is a mowed area.</p> <p>Canopy of this plot <u>used</u> to be green ash; all have died by this sampling.</p> <p>Recent herbicide use on privet has impacted several species throughout the plot.</p> </div>																																								

EXAMPLES OF PERCENT OF AREA COVERED

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



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



BROWSE RATING NARRATIVE DESCRIPTION

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

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

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

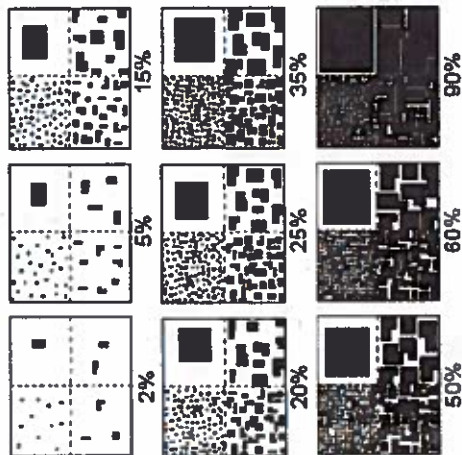
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HIGH: greater than 25 percent of the stems of plants in the 1 m2 nested quadrat and intensive module AND a browse line is evident.

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.

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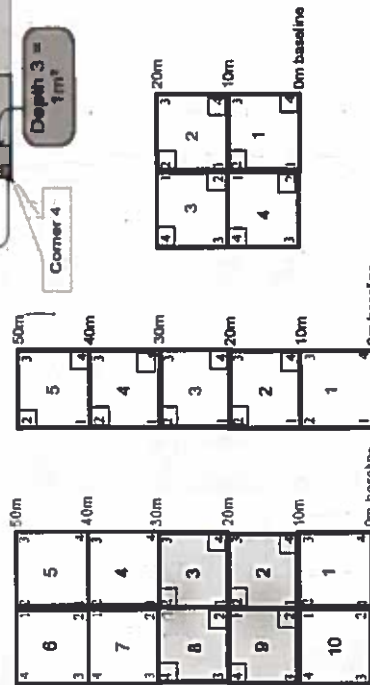
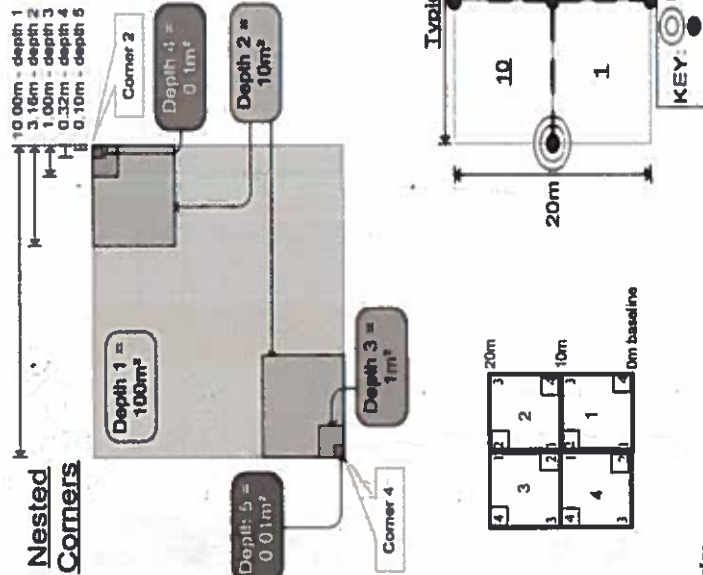
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4

Plant area (ha): 0.66



Cleveland Metroparks

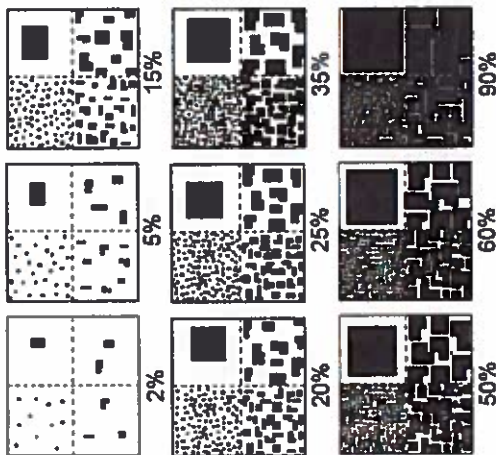
Br = Browse Level. Use cover classes to describe amount of browse per species over entire plot

Strata - Cov. entire plot

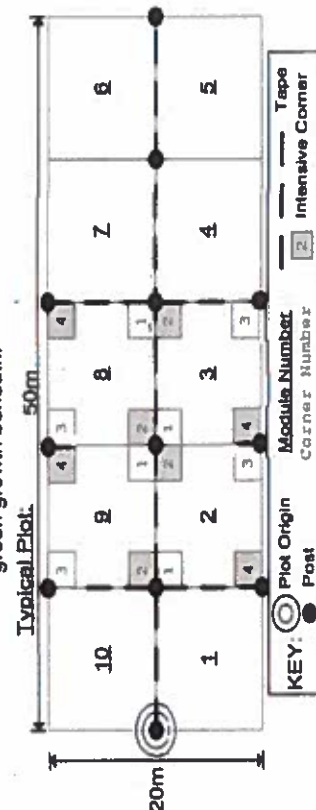
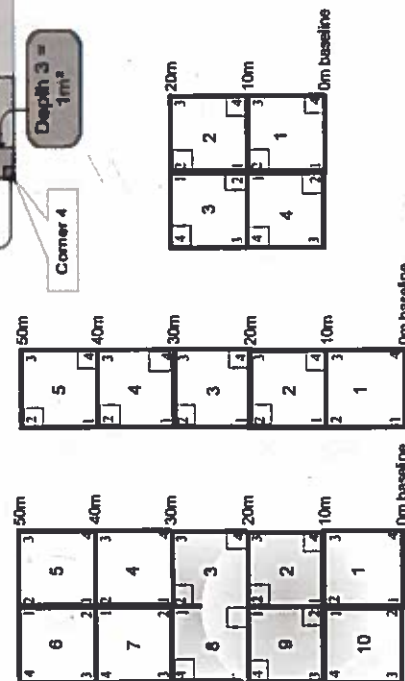
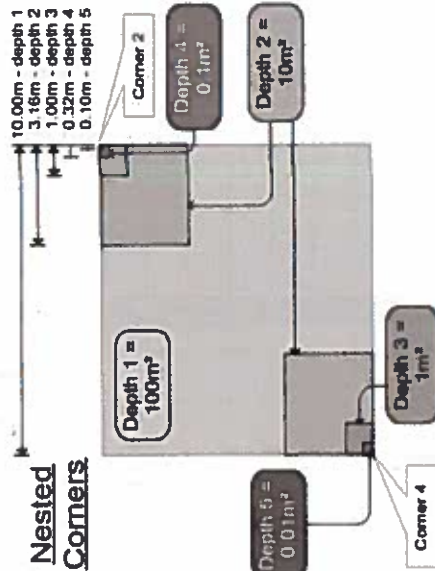
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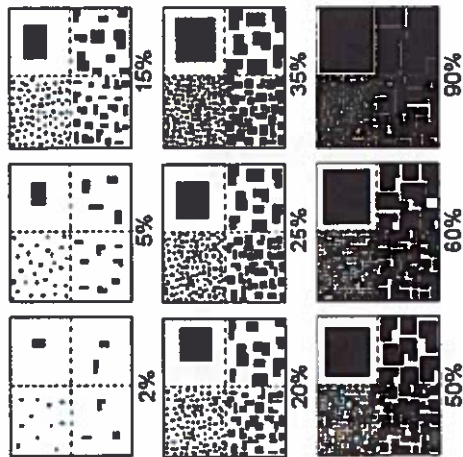
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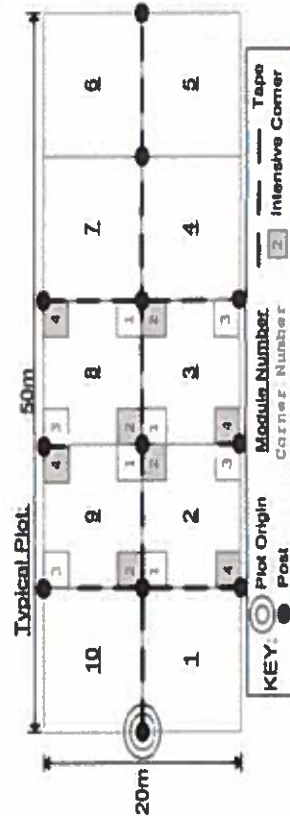
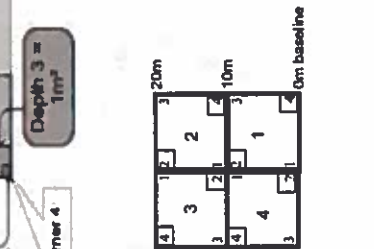
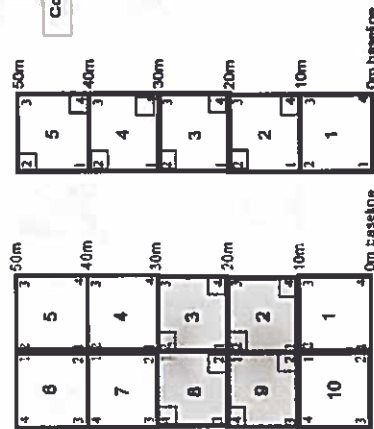
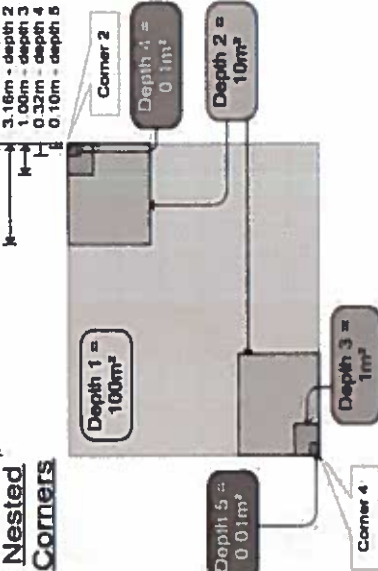
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Nested Corners



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Page 1 of 1

Plot no.: 1011

[illegible]

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Plot no.: _____

[illegible]

CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet

Project Label: PCAP

Project Name: 02PFA015

Plot No.: 1011

Page: 1

of



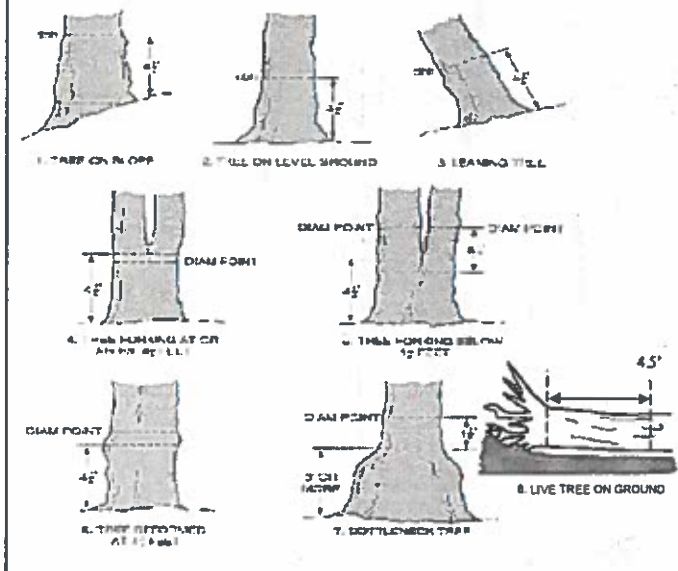
06/23/2015

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	1	2	3	4	5	6	7	8	9	10	11
1	Ulmus americana																	
1	Lonicera																	
1	Ligustrum vulgare			2	X	.												
1	Crataegus sp.																	
1	STANDING DEAD																	
1	Rubus allegheniensis																	
1	Rubus pennsylvanicus			1		.												
1	Fraxinus sp.																	
1	Rosa multiflora			4														
1	Vitis sp.																	
1	Lonicera mackii			1		.												
2	Rubus pennsylvanicus			3		.												
2	Rubus allegheniensis			1		.												
2	STANDING DEAD																	
2	Ligustrum vulgare			3		.												
2	Crataegus sp.			1		.												
2	Crataegus sp.																	
2	Parthenocissus quinquefolia			1		.												
2	Rosa multiflora			3														
2	Fraxinus sp.			1														
2	Lonicera mackii			1														
2	Toxicodendron radicans			1														
2	Crataegus sp.			2														
2	standing dead																	
2	Rosa multiflora			11		1												

growing on crataegus

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: 02 BE 2015

Plot No.: 1011

Page: 2 of 3

Cleveland Metroparks

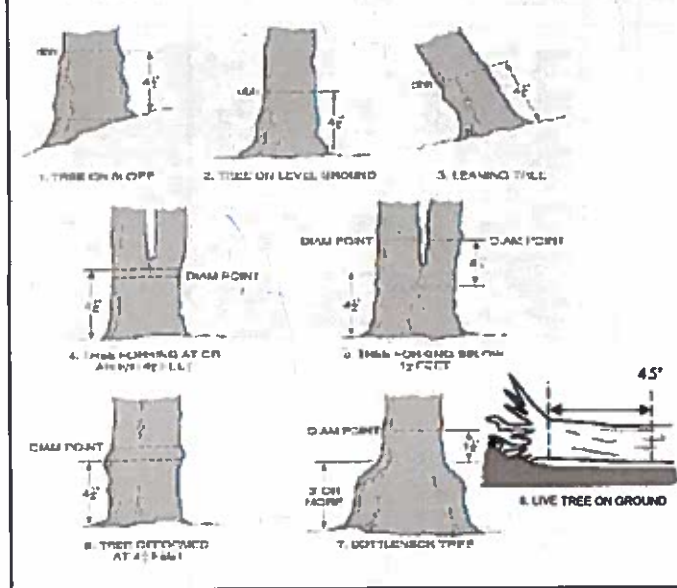
Explain subsample (additional room on back)

mod #	species	c	voucher#	# stems 0-1.4m broward	% sub or super sample	# 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)		
3	Ligustrum vulgare			1	•														
3	Rubus pensilvanicus			1	•														
3	Parthenocissus quinquefolia			1															
3	Lonicera japonica			1															
3	Cornus sp.			2															
3	Rubus fruticosus			1															
4	STANDING DEAD																		
4	Ligustrum vulgare																		
4	Quercus macrocarpa																		
4	Crotaegus sp.																		
4	Ulmus americana			1															
4	Rubus prostratus			2															
4	Parthenocissus quinquefolia			1															
4	Fraxinus sp.			2															
5	STANDING DEAD																		
5	Ligustrum vulgare			1															
5	Ulmus americana																		
5	Rosa multiflora			7															
5	Rubus pensilvanicus			2															
5	Parthenocissus quinquefolia			1															
5	Rubus fruticosus			1															
5	Fraxinus sp.			2															
5	Toxicodendron radicans			1															

measured above
DBH

06/23/2015

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.

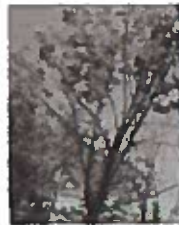
Record using the tally system from 1 to 10



1



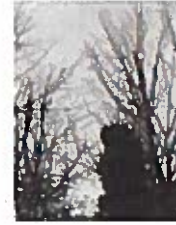
2



3



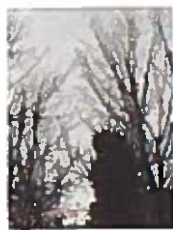
4



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

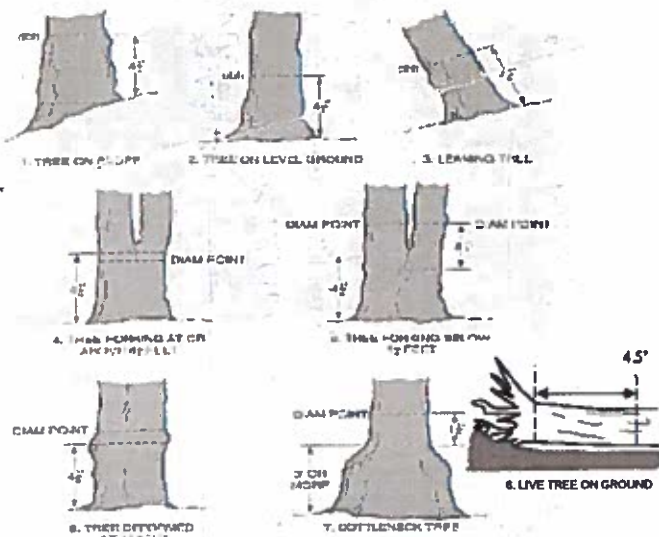
E

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.

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.

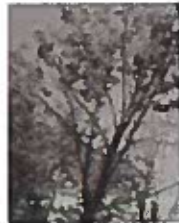
Record using the tally system from 1 to 10



1



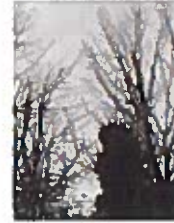
2



3



4



5

ASH CANOPY CONDITION

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- 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.
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A

B

C

D

E

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

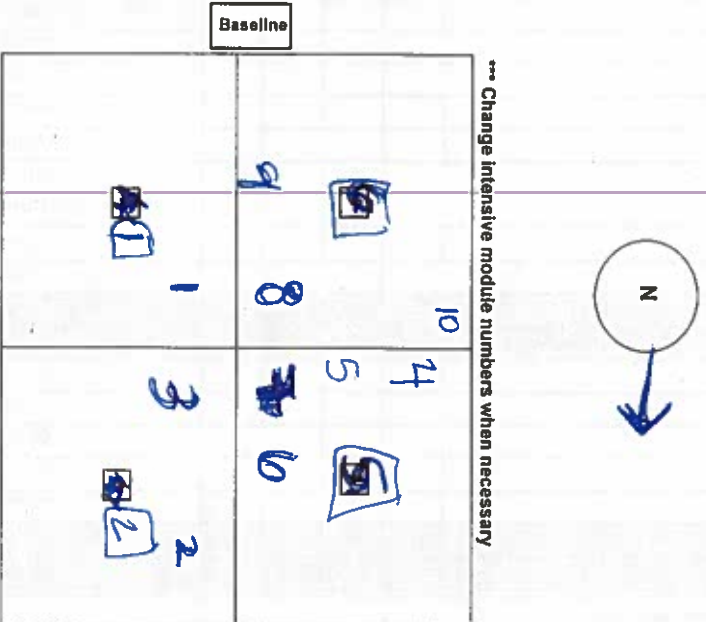
02B2015

INTENSIVE MODULES ONLY

Date: 06/23/2015

Tree ID	Species	DBH (cm)	HT (m)	Ash condition	Dead condition	# Ext holes	Epicormic present	Woodpecker holes
1	Fraxinus sp.	24.4	18.2	5	C	3	0	0
2	Fraxinus sp.	18.2	18.2	5	D	3	0	0
3	Fraxinus sp.	18.6	18.6	5	D	2	0	0
4	Fraxinus sp.	13.4	13.4	5	D	2	0	0
5	Fraxinus sp.	20.5	20.5	5	D	5	0	0
6	Fraxinus sp.	21.3	21.3	5	C	5	0	0
7	Fraxinus sp.	22.4	22.4	5	C	3	0	0
8	Fraxinus sp.	22.3	22.3	5	C	3	0	0
9	Fraxinus sp.	18.7	18.7	5	D	2	0	0
10	Fraxinus sp.	18.9	18.9	5	C	3	0	0
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 x 21.5m
Woodpecker and epicormic marked present (*) or absent (0)



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

Tier 1: Early detection/rapid response		Presence				GPS
		NE	SE	SW	NW	
Microstegium vimineum	Japanese stillgrass					
Ranunculus ficaria	Lesser Celandine					
Cynanchum louseae	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					

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

4bCM PCAP Invasive species datasheet.xls last revised 6/23/2011 ceh

Natural Resources

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

Presence
X: yes

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



Explain subsample (additional room on back):

Project Label: PCAP

Project Name: 02 Bee2015

Plot No.: 1011

Page: 1 of 1

mod #	species	voucher#	% sub or super sample	# shrub clumps	size class (cm) woody stems > 1m										
					1 0-<1	2 1-<2.5	3 2.5-<5	4 5-<10	5 10-<15	6 15-<20	7 20-<25	8 25-<30	9 30-<35	10 35-<40	11 >40 (record each tree)
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															

NONE PRESENT

Strata	Total % Cover
Tree	
Shrub	
Herbaceous	

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

STANDING BIOMASS (required for emergent wetlands) collected in 0.1m clip plots (23x32 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

(HT = excellent, F = Fair and Confidence)

Hydrogeomorphic class (WETLANDS ONLY)

<input type="checkbox"/> DEPRESSION	Fit	Conf
<input type="checkbox"/> IMPONDMENT <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"/> FLOODING <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, ombrotrophic)	Fit	Conf

Other EPA VIB-E 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

Features for microhabitat features. Select one or select two and average the score. NOTE: If most falls on a slope automatically gets ranked based on steepness (1-3) to begin + any features present
 Slope 1 = slight elevational grade across module (m)
 Slope 2 = falls on slope -20°
 Slope 3 = medium 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									
module	corner	no. of tussocks	no. of hummocks (Tip-Lips)	no macro. depressions	C.W.D (2-12 cm)	C.W.D (12-10cm)	C.W.D >40 cm	microhab. interspers.	microhab. SLOPE
		depth 3 1x1m	depth 2 3,16x3,16m	depth 1 10x110m	depth 1 10x10m	depth 1 10x10m	depth 1 10x10m	depth 1 10x10m	depth 1 10x10m
1		0	0	1	22	14	0	3	1
2		0	0	1	49	13	0	2	1
3		0	0	1	16	12	0	2	1
4		0	0	1	30	15	0	2	1

NOTE: tussock and hummock counts in BOG (check quality) counts are not included.

1	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0

MEAN INDICES (degrees) + for up - for down

(FILLED 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 angle formed by local slopes. For TSI measure angle from recorder eye to 9° of person standing -10 m away

Landform Index (location within landscape)
 - Terrain Slope Index (take microtopographic shape)

CROWN COVER (DIMENSIONLESS) Male + 4
 readings per module (being N, S, E, W - Place dot count in corresponding space. (4 dots per grid square)

Module	N	S	E	W
1	57	27	9	43
2	94	72	48	34
3	40	32	32	33
4	55	45	40	43
5	57	47	47	47
6	54	40	45	40
7	51	45	45	45
8	51	45	45	45
9	51	45	45	45

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.

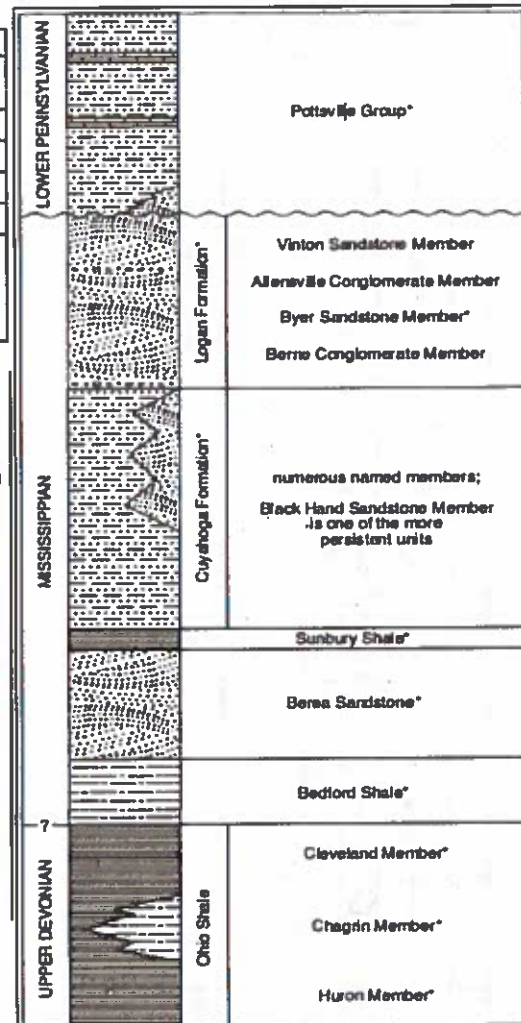
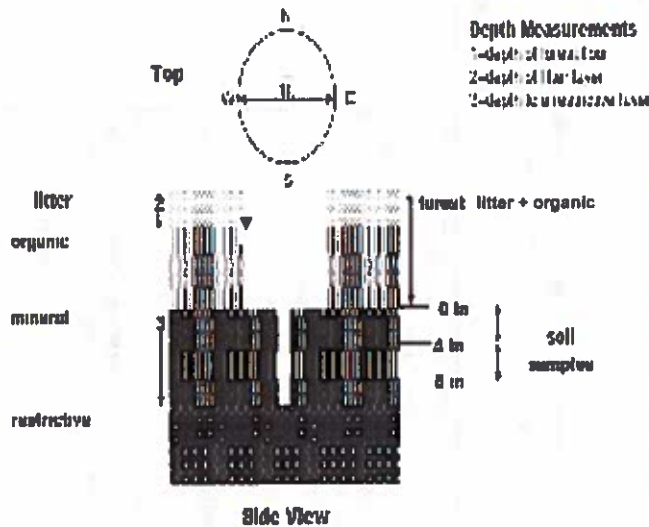


FIGURE 3-20.—Generalized section of Upper Devonian, Mississippian, and Lower Pennsylvanian formations in northeastern Ohio. Asterisks indicate units that are fossiliferous. This composite section represents about 400 meters of rock exposed across the area. The section is not to scale, but the thicknesses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

Soil Collection Module#	Horizon (A, B, C)
2.3.3.2 can posted	A
Web Soil Survey for metadata	
Soil Series/Type:	
Soil Series Source:	Ohio Soil Survey
Landform type:	
Depth to root layer:	
Parent Material:	
DETAILED*	
<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 >20.5 cm, record as >20

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

EARTH SURFACE & GROUND COVER

Underlying Earth Surface*	Ground Cover	percent
Open = 100%	percent	(each ≤ 100%)
Historic	Coarse Woody Debris**	75%
Mineral Soil	Fine Woody Debris***	5%
Gravel-Cobble*	Litter	10%
Boulder**	Drift (Fern + Humus)	1%
Bedrock	Bryophyte-Lichen	
* Gravel-Cobble = 1/16-10"	Water	
** Boulder = > 10 in	Bare Soil	
*** < 5 cm in diameter	Root/Twig	
**** < 5 cm in diameter	Other	

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

Strata	Height Range (m)	Total Cover (%)
Tree	5 -	13%
Shrub	0.5 -	28%
Herb	0 - .5	98%
(Floating)*	-	
(Aquatic)*	-	

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

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

STAND SIZE

- ☐ >60 x plot size
☐ > 100 x plot size
☐ 10-100 x plot size
☐ 3-10 x plot size
☒ 1-3 x plot size
☐ < plot size

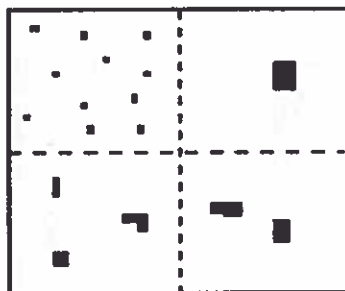
ADDITIONAL INFORMATION:

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

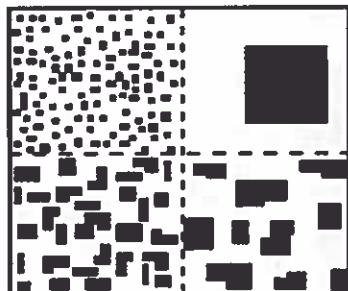
04/05/2015

PERCENT MOTTLES (USE CLASS CODES):

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



2%



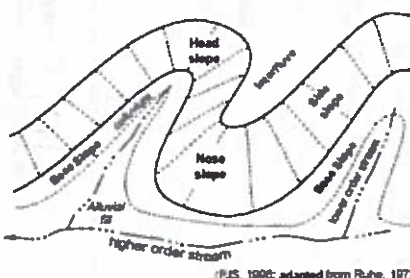
20%

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.

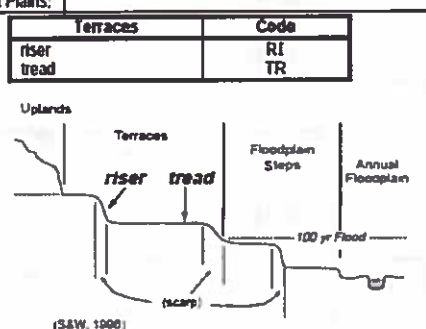
- 0= Organic
- 1= Loamy
- 2= Clayey
- 3= Sandy
- 4= Coarse Sand
- 9= Not measured - make plot note

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



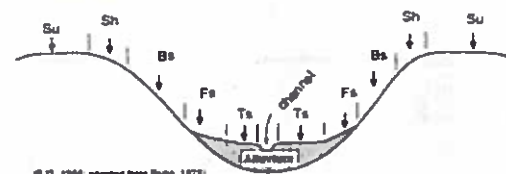
(PJS, 1990; adapted from Ruess, 1975)



(S&W, 1990)

Hillslope - Profile Position (Hillslope Position in PDP) - Two-dimensional descriptors of parts of line segments (i.e., slope position) along a transect that runs up and down the slope; e.g., backslope or BS. This is best applied to transects or points, not areas.

Position	Code
summit	SU
shoulder	SH
backslope	BS
footslope	FS
toeslope	TS



(PJS, 1990; adapted from Ruess, 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/SEMPERMANENTLY 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.

SEMPERMANENTLY 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.