

CLEVELAND METROPARKS Plant Community Assessment Program: Quality Control Form



Project Label:

PCAP

Plot No: 1328

Date Sampled: 7/10/13

Lead: SJL

Comment required if item answer is NO

Parking/Access outside of Park Boundaries:	<input checked="" type="radio"/> Y <input type="radio"/> N	If yes, write details in Comments section below
Field journals completed	<input checked="" type="radio"/> Y <input type="radio"/> N	
Site sketch made on 1:3000 map?	<input checked="" type="radio"/> Y <input type="radio"/> N	
Check cover page	X-axis Bearing of plot recorded	<input checked="" type="radio"/> Y <input type="radio"/> N
	GPS coords. Recorded	<input checked="" type="radio"/> Y <input type="radio"/> N
	North direction recorded	<input checked="" type="radio"/> Y <input type="radio"/> N
	Photographs taken?	<input checked="" type="radio"/> Y <input type="radio"/> N
Plot No., Date agreement on all pages?	<input checked="" type="radio"/> Y <input type="radio"/> N	
Header data completed all pages?	<input checked="" type="radio"/> Y <input type="radio"/> N	
Cover classes recorded in all Intensive modules	<input checked="" type="radio"/> Y <input type="radio"/> N	
Browse Level By Species	<input checked="" type="radio"/> Y <input type="radio"/> N	
Woody stem quality control check	<input checked="" type="radio"/> Y <input type="radio"/> N	
Invasive plant quality control check	<input checked="" type="radio"/> Y <input type="radio"/> N	
Ash trees mapped	<input checked="" type="radio"/> Y <input type="radio"/> N	N/A
Cover by Strata? (confirm cover type)	<input checked="" type="radio"/> Y <input type="radio"/> N	
Soil samples collected with matching plot #.	<input checked="" type="radio"/> Y <input type="radio"/> N	
Vouchers labeled on datasheet with initials and number	<input checked="" type="radio"/> Y <input type="radio"/> N	
Vouchers labeled on collection bag	<input checked="" type="radio"/> Y <input type="radio"/> N	
Pink flags removed	<input checked="" type="radio"/> Y <input type="radio"/> N	
Data sheet QA before leaving site?	<input checked="" type="radio"/> Y <input type="radio"/> N	
Common equipment returned to tub.	<input checked="" type="radio"/> Y <input type="radio"/> N	
Data sheets scanned?	07/12/13	Enter date to left AS
Final data sheets scanned?		Enter date to left
Buffer Widths measured?	<input checked="" type="radio"/> Y <input type="radio"/> N	AL 6-20-13
Web Soil Survey	<input checked="" type="radio"/> Y <input type="radio"/> N	BB 7-12-13
Voucher Location	Refrigerator	<input checked="" type="radio"/> Y <input type="radio"/> N
(# vouchers collected)	Press (#)	Enter number to left
SJL 063	Drier	<input checked="" type="radio"/> Y <input type="radio"/> N
	Identified	<input checked="" type="radio"/> Y <input type="radio"/> N
	Mounted	<input checked="" type="radio"/> Y <input type="radio"/> N
	Thrown away	<input checked="" type="radio"/> Y <input type="radio"/> 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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CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet

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Page 1 of 2

GENERAL INFORMATION		LOCATION
Project Label: PCAP		State: OH County: Cuyahoga
Project Name: OIBK 2013		Plot Name: Is that a camel?
Plot No.: 1328		<input type="checkbox"/> Level 4 (no nested corners sampled) <input checked="" type="checkbox"/> Level 5 (nested corners sampled)
Date (mm/dd/yyyy): 07/10/2013		End date (if > 1 day): / /
Party		Role**: <i>S-Catella</i> Plot leader, <i>S-Eysenbach</i> assist, <i>C.Devono</i> woody
		Reason: If data not public why?
		Source of coordinates <input type="checkbox"/> MAP <input checked="" type="checkbox"/> GPS
		Coordinate system: <input type="checkbox"/> La/Long <input type="checkbox"/> UTM <input type="checkbox"/> StatePlane <input checked="" type="checkbox"/> Coord. Units deg <input type="checkbox"/> deg min
		Other (specify) <input type="checkbox"/> m <input type="checkbox"/> ft <input type="checkbox"/>
		Datum: <input checked="" type="checkbox"/> NAD83/WGS84 <input type="checkbox"/> NAD27
		GPS location in plot x=0 to 5, y=-1,0,+1: x = 0 y = 1 (base of plot x=0, y=0)
		Latitude: 41.44419 Longitude: 081.71154
		Coordinate Accuracy: <input type="checkbox"/> m <input checked="" type="checkbox"/> ft 100' +/-
		GPS File Name: 1328A
		Plot size for cover date: 0.1 (hectares)
		X-axis Bearing of plot: [35] °
		Depth: (1-5): 4
		Intensive modules: 2, 3, 8, 9 (EDIT IF MODIFIED)
		Camera No.: C2
		Photo Nos.: 2656
		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
TAXONOMIC STANDARD		
Authority: G&C		Pub Date: 1998
Minimum required fields in Bold and Underlined		

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

OVER

Wildlife Way

Wetland

210 module plot:

Diagram Key:

- Plot origin (0,0) point
- GPS location point
- photo taken, with direction
- location of permanent posts

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

Rationale: GRTS

Location: Park at Zoo off of Wildlife Way. Closest lot is to the right of the main entrance. Walk southwest along Apt and enter woods after about 250 m. Stake is less than 10m into woods.

Veg. Char.: Canopy: dominated by Red Oaks and Beech. Some red, sugar, and ceme black maple. There are a few white oaks along roads 9-6, probably planted.

Shrub: dominated by Hamamelis and some Viburnum acerifolium. Black cherry was prevalent in the shrub layer as well. Had some sugar maples and osprey as.

Herb: Many patches of Viburnum acerifolium and Black Cherry. Solidago caesia throughout.

Dianthonia spicata along a little brook through the plot.

CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet

Project Label: PCAP

Project Name: IBk2013

Plot No.: 1328

Page 2 of 2

MODIFIED NATURERESERVE CLASS*

CODE (on separate form):
C04

COMMUNITY NAME:
Beech-Red Oak Forest

HOMOGENEITY

- Homogeneous
- Compositional trend across the plot
- Irregular/pattern mosaic
- Conspicuous inclusions

HYDROLOGIC REGIME*

Upland (seldom flooded)

Intermittently/seasonally saturated
(seldom flooded)

Permanently/Semipermanent saturated
(dry <1/yr, seldom flooded)

Occasionally flooded (<1/yr)

Temporarily flooded
(e.g. wind, storms)

(by default unless plot is a wetland)

HYDROLOGIC REGIME*

Upland (seldom flooded)

Intermittently flooded

Semipermanently flooded

Permanently flooded

Tidal/Seiche flooded daily

Tidal/Seiche flooded monthly

Tidal/Seiche flooded irregular
(e.g. wind, storms)

Unknown

Small bootleggs

trash throughout, some small bootleggs

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

Current Land Use: CNP

Former Land Use: UNK

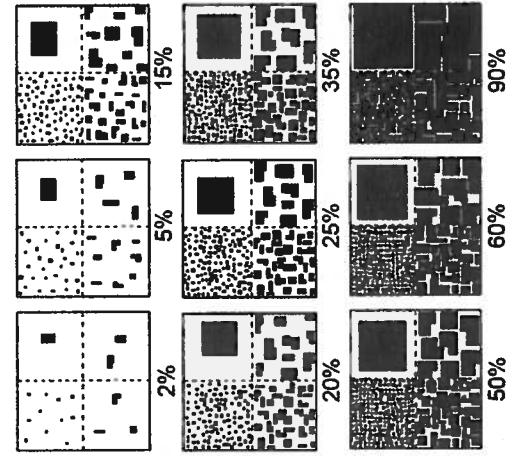
Additional notes & diagrams: (Representativeness of plot to the stand, successional status, maturity, etc.)

Plot ran along a slope, some mounds covered a little terrace. Suspect that distorted some mounds as the slope also curved.

Browse was present but not as bad as it could've been - many of the Viburnums were in the shrub layer and some actually had fruit!
Two bootleggs in plot, and there was trash scattered throughout found graffiti just outside of plot on the Southern ridge.
Moved stake closer to the road at coordinates Q1 to avoid large bootleg trail and human disturbance along ridge.

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.



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.

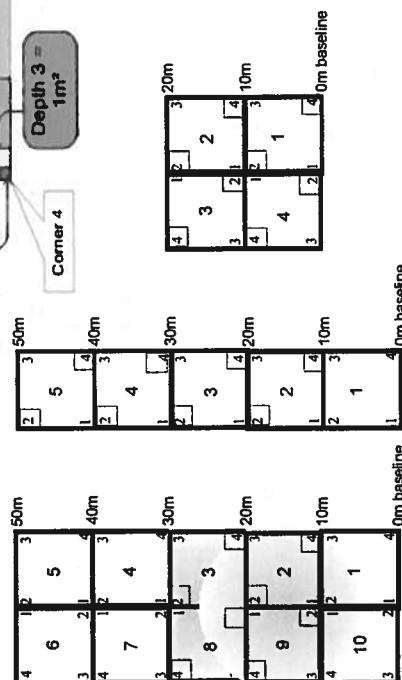
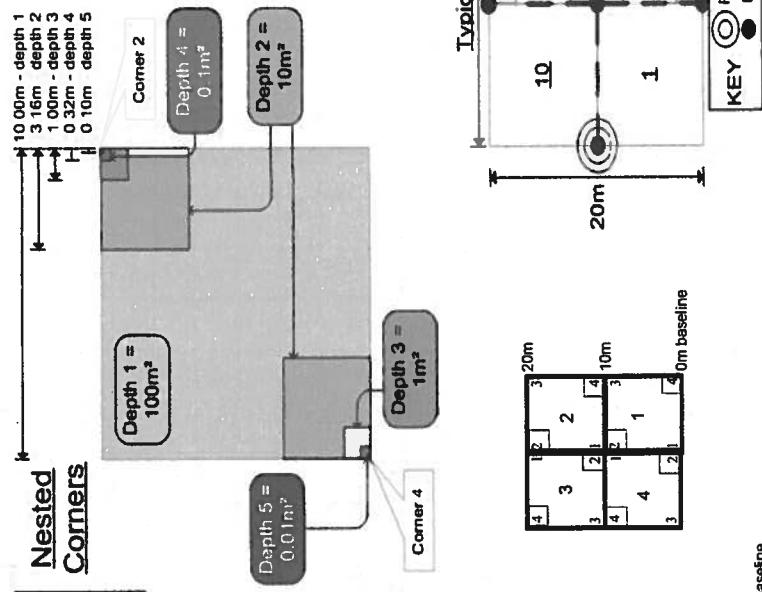
MEDIUM: browse affects greater than 10 percent and less than 25 percent of stems in the 1 m² nested quadrat and intensive module. A browse line is usually not evident or obvious for all classes and species of vegetation, but careful examination may show preferential browse and/or browse lines for some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

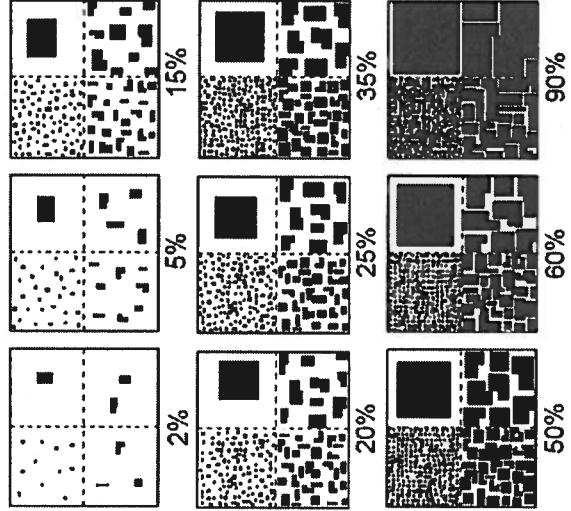
VERY HIGH values include extensive browse conditions, where the browse line is very evident **AND** almost all seedlings and herbs are severely browsed or missing. Browse line may be 5 to 6 feet in height with no or little green growth beneath.

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



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.

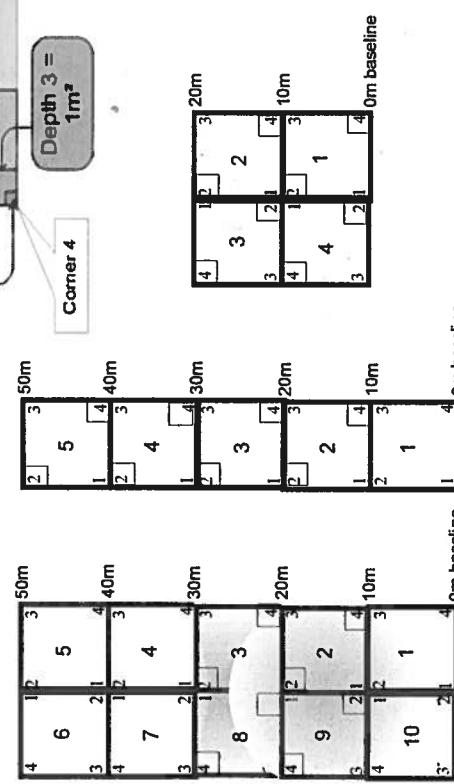
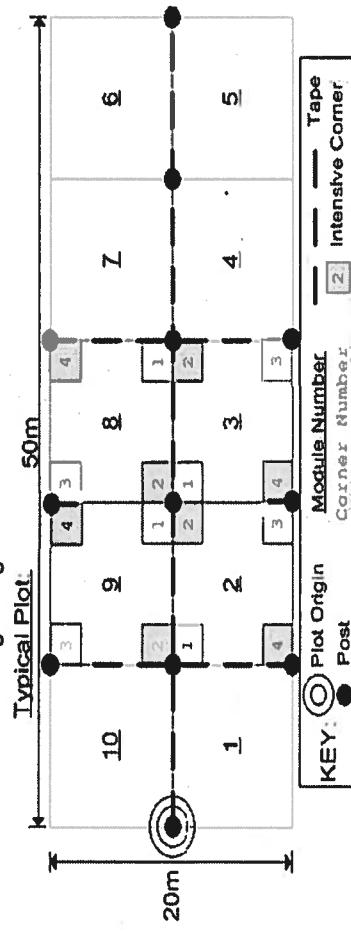
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MEDIUM HIGH values include evidence of a browse line and 25 percent of stems browsed with very little vegetation regeneration evident. In this rating, for some species of plants, reproduction does not appear to occur or it is very severely limited.

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 Plant Community Assessment Program Natural Woody Stem Data Sheet

Project Label: PCAP

Project Name: D18K2013

Plot No.: 1323

Page: 1 of 4

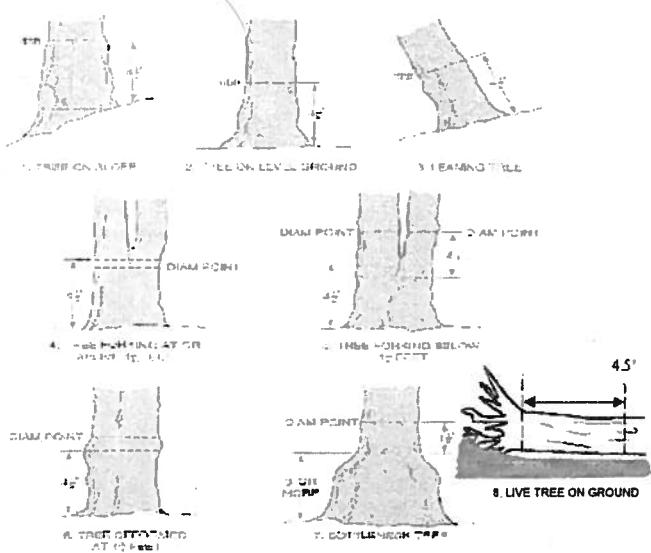
Explain subsample (additional room on back):

mod #	species	c	voucher#	# stems 0-4m browsed	% sub sample	# shrub clumps	size class (cm) woody stems >1.4m										>40 (record each tree)
							1	2	3	4	5	6	7	8	9	10	
1	<i>Viburnum acerifolium</i>		"														
1	<i>Hamamelis virginiana</i>																
1	Standing Dead																
1	<i>Acer saccharum</i>																
1	<i>Prunus serotina</i>																
1	<i>Fagus grandifolia</i>																
1	<i>Fraxinus pennsylvanica</i>		"														
2	<i>Acer nigrum</i>																
2	<i>Quercus rubra</i>		"														
2	<i>Hamamelis virginiana</i>		"														
2	<i>Acer saccharum</i>		"														
2	Standing Dead		"														
2	<i>Viburnum acerifolium</i>		"														
3	<i>Quercus rubra</i>																
3	<i>Hamamelis virginiana</i>																
3	<i>Acer saccharum</i>																
3	<i>Ostrya virginiana</i>																
3	Standing Dead																
3	<i>Fagus grandifolia</i>		"														
3	<i>Viburnum acerifolium</i>		"														
3	<i>Prunus serotina</i>		"														
4	<i>Fagus grandifolia</i>		"														
4	<i>Quercus rubra</i>																
4	<i>Fraxinus pennsylvanica</i>		"														

52.4, 65.0

63.0

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.

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).

E

D

C

B

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.



ASH CANOPY CONDITION



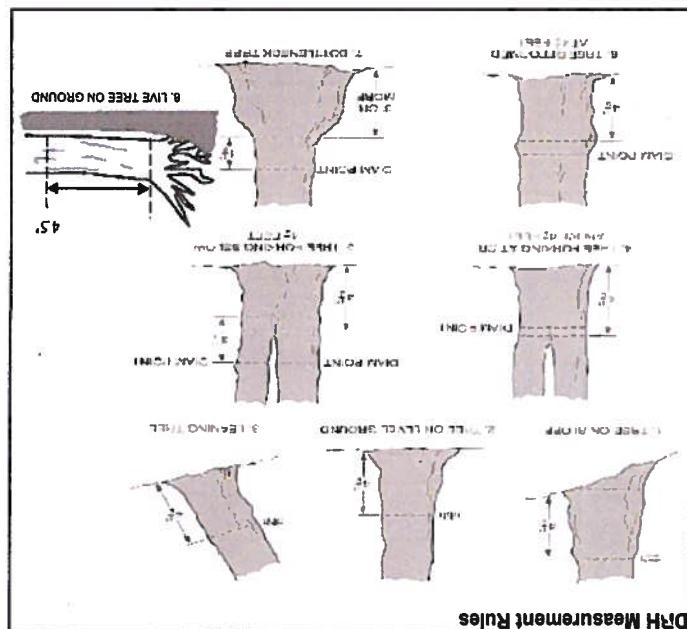
1. Healthy, full canopy: A healthy ash canopy is normally thinner than many other trees such as maple.
2. Thinning canopy: There aren't as many leaves as there ought to be, but all top branches exposed to sunlight have leaves.
3. Diback: Canopy is thinning and some top branches exposed to sunlight are dead (have no leaves). Lower branches, not exposed to sunlight, die naturally and some top branches exposed to sunlight are dead (have no leaves).
4. >50% Diback: 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.



Record using the tally system from 1 to 10

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

Woody Stem Deer Browse



CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet

Project Label: PCAP

Project Name: O B K 2013

Plot No.: 1328

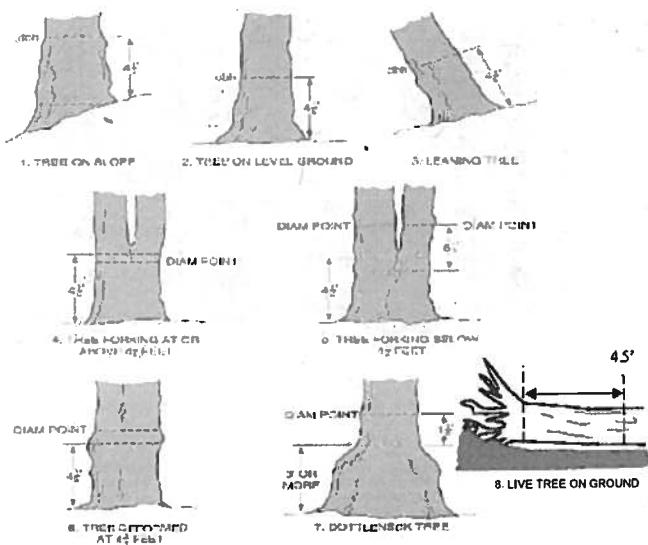
Page: 3 of 4

Cleveland Metroparks

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	2	3	4	5	6	7	8	9	10		
7	<i>Hamamelis virginiana</i>					• •	2	3	4	5	6	7	8	9	10			
7	<i>Acer saccharum</i>					• •	2	3	4	5	6	7	8	9	10			
7	<i>Quercus rubra</i>					•												
7	<i>Acer rubrum</i>																	
7	Standing Dead																	
7	<i>Fagus grandifolia</i>					• •												
7	<i>Fraxinus americana</i>					•												
8	<i>Fagus grandifolia</i>					• •												
8	<i>Viburnum acerifolium</i>					•												
8	<i>Quercus alba</i>					•												
8	<i>Pinnus strobus</i>					•												
8	<i>Acer saccharum</i>					•												
8	Standing Dead					•												
8	<i>Hamamelis virginiana</i>					•												
8	<i>Acer rubrum</i>					•												
8	<i>Catalpa sp.</i>					•												
9	<i>Quercus alba</i>					•												
9	<i>Hamamelis virginiana</i>			22		•												
9	<i>Viburnum acerifolium</i>					•												
9	Standing dead					•												
9	<i>Acer saccharum</i>					•												
9	<i>Acer rubrum</i>					•												
9	<i>Fraxinus pennsylvanica</i>					•												
9	<i>Pinus strobus</i>					•												

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.
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A

B

C

D

E

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CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet

Project Label: PCAP

Project Name: OLBK 2013

Plot No.: 1328

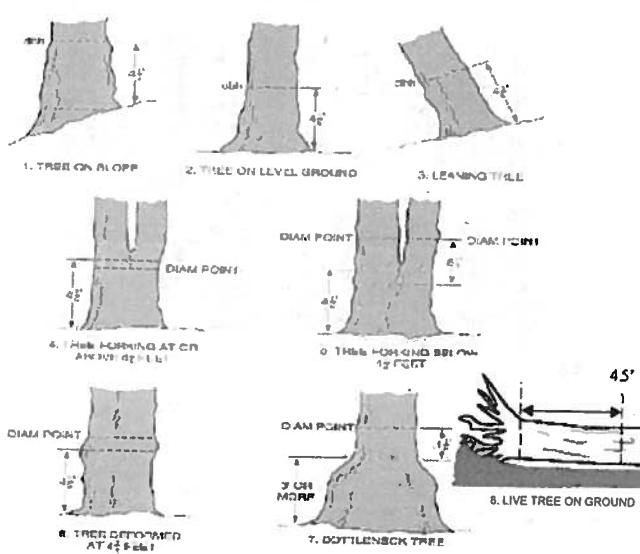
Page: 4 of 4



Explain subsample (additional room on back)

mod #	species	c	voucher#	# stems browsed	% sub sample	# shrub clumps	size class (cm) woody stems > 1.4m									
							1	2	3	4	5	6	7	8	9	10
9	<i>Spiraea corymbosa</i>			•												
10	<i>Rhamnus cathartica</i>			•												
10	Standing Dead						•									
10	<i>Acer negundo</i>			•												
10	<i>Fagus grandifolia</i>			•												
10	<i>Fraxinus pennsylvanica</i>			•												
10	<i>Quercus rubra</i>			•												
10	<i>Haworthia viscosa</i>			•												

DBH Measurement Rules



Woody Stem Deer Browse

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- E: Central stem still standing.

CLEVELAND METROPARKS Emerald Ash Borer - *Fraxinus* Sheet

Project Label: PCAP Project Name: OIBK2013

INTENSIVE MODULES ONLY TREES $\geq 10\text{cm}$ ONLY
Plot No.: 1328 Date: 7-10-13

Page: 1 of 2
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Module	Tree ID	Species	Dead c.	Voucher #	DBH (cm)	Ht @ DBH	Ash condition	Dead condition	# Exit holes	ASH Only	
										Epicormic present	Woodpecker holes
1	NON										
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											

Baseline

*** Change intensive module numbers when necessary



9	8
2	3

Map all ash trees $\geq 10\text{cm}$ in each module using Tree ID number

- * If Ash Condition scores 5 (dead) provide breakup score (A-E)
- Count EAB exit holes $1.25\text{m}^2 \times 21.5\text{m}$
- Woodpecker and epicormic marked present (1) or absent (0)

CLEVELAND METROPARKS Plant Community Assessment Program: Invasive Species Survey



Tier 1: Early detection/ Rapid response		Presence				GPS
		NE	SE	SW	NW	
<i>Microstegium vimineum</i>	Japanese stiltgrass					
<i>Ranunculus ficaria</i>	Lesser Celandine					
<i>Cynanchum louiseae</i> (vine)	Black Swallow-wort					
<i>Butomus umbellatus</i> (wetland)	Flowering Rush					
<i>Heracleum mantegazzianum</i>	Giant Hogweed					
Tier 2: Assess as Needed		# of Plants			comments	
		NE	SE	SW	NW	
<i>Acer platanoides</i>	Norway Maple					
<i>Ailanthus altissima</i>	Tree of Heaven					
<i>Lonicera japonica</i> (vine)	Japanese Honeysuckle					
<i>Lythrum salicaria</i> (wetland)	Purple Loosestrife					
<i>Aegopodium podagraria</i> (G-cover)	Bishop's Goutweed					
<i>Celastrus orbiculatus</i> (vine)	Asian Bittersweet					
Torilis sp.	Hedgeparsley					
<i>Conium maculatum</i>	Poison Hemlock					
<i>Rhamnus cathartica</i>	Common Buckthorn (shrub)					
<i>Berberis thunbergii</i>	Japanese Barberry (shrub)					
<i>Alnus glutinosa</i>	European Alder					
<i>Dipsacus laciniatus</i>	Cut-leaf Teasel					
<i>Elaeagnus umbellata</i>	Autumn Olive (shrub)					
<i>Lonicera maackii</i>	Amur Honeysuckle (shrub)					
<i>Euonymus fortunei</i>	Wintercreeper					
Tier 3: Presence is of Interest		# of Plants			comments	
		NE	SE	SW	NW	
<i>Convallaria majalis</i> (G-cover)	Lily of the Valley	2				
<i>Coronilla varia</i> (G-cover)	Crown Vetch	2	2		2	
<i>Eleutherococcus pentaphyllus</i>	Five-leaf Aralia (shrub)					
<i>Pachysandra terminalis</i> (G-cover)	Japanese Pachysandra					
<i>Philadelphus coronarius</i>	Mock Orange (shrub)					
<i>Pulmonaria officinalis</i> (G-cover)	Lungwort					
<i>Rubus phoenicolasius</i>	Wineberry					
<i>Iris pseudacorus</i> (wetland)	Yellow Flag Iris					
<i>Ornithogalum umbellatum</i>	Star of Bethlehem					
<i>Viburnum opulus</i> var. <i>opulus</i>	European Cranberry (shrub)					
<i>Viburnum plicatum</i>	Doublefile Viburnum (shrub)					
Tier 4: Widespread and abundant		Presence				comments
		NE	SE	SW	NW	
<i>Alliaria petiolata</i>	Garlic Mustard					
<i>Ligustrum vulgare</i>	Common Privet (shrub)					
<i>L. morrowii</i> , <i>L. tatarica</i>	Bush Honeysuckles (shrub)	1				
<i>Phalaris arundinacea</i>	Reed Canarygrass			2		
<i>Phragmites australis</i> (wetland)	Phragmites					
<i>Polygonum cuspidatum</i>	Japanese Knotweed					
<i>Frangula alnus</i>	Glossy Buckthorn (shrub)	2				
<i>Rosa multiflora</i>	Multiflora Rose (shrub)			2		
<i>Typha angustifolia</i> , <i>T. x glauca</i>	Cattails (wetland)					
<i>Cirsium arvense</i>	Canada thistle	1		2		
<i>Dipsacus fullonum</i>	Common Teasel					
<i>Hesperis matronalis</i>	Dame's Rocket					
<i>Vinca minor</i> (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 - Soils, Crown Cover, Standing Biomass Data Sheet 6a

Project label: PCAP

Project Name: D/BK203

Plot No.: 1329

Page: 1 of 1



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 # <u>8</u> (one per entire plot)	
5 cm	
matrix color	<u>3.5Y3/1</u>
moisture color	<u>—</u>
%mud	<u>0</u>
oxid roots	<u>Y</u> <u>N</u>
texture*	<u>2</u>
redox features**	<u>Y</u> <u>N</u>
hydr. cond.***	<u>I</u> <u>S</u> <u>M</u> <u>D</u>
20 cm	
matrix color	<u>3.5Y3/2</u>
moisture color	<u>—</u>
%mud	<u>0</u>
oxid roots	<u>Y</u> <u>N</u>
texture*	<u>2</u>
redox features**	<u>Y</u> <u>N</u>
hydr. cond. ***	<u>I</u> <u>S</u> <u>M</u> <u>D</u>

Soil Collection Module (A, B, C)	
Underlying Earth Surface*	Ground Cover
(Sum = 100%)	percent (inch ≤ 100%)
Histosol	<u>0</u> Coarse Woody Debris***
Mineral Soil	<u>80</u> Fine Woody Debris****
Gravel-Cobble*	<u>10</u> Litter
Boulder**	<u>10</u> Duff (Fern + Humus)
Bedrock	<u>0</u> Bryophyte-Lichen
* Gravel-Cobble = 1/16-10"	Water
** Boulder => 10 in	Bare Soil
*** > 5 cm in diameter	Road/Traffic
**** > 5 cm in diameter	Other

WEBSOIL SURVEY INFORMATION:

Soil Series/Type: Bif - Brooksville 100% loam
SEE 8-26-13 76.15km
Soil Series/Source: Ohio Soil Survey

Landform type: Drainage ways bedrock
Depth to rest Layer: 20-40 in bedrock

Parent Material: Residuum weathered from shale

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

Strata	Height Range (in.)	Total Cover (%)
Tre	<u>5</u> - <u>93</u>	
Shrub	<u>5</u> - <u>5</u> <u>68</u>	
Herb	<u>-</u> <u>5</u> <u>38</u>	
(Floating)*	<u>-</u> <u>0</u>	

SEE 8-27-13

STAND SIZE	
<input type="checkbox"/>	>600 x plot size
<input type="checkbox"/>	> 100 x plot size
<input type="checkbox"/>	10-100 x plot size
<input type="checkbox"/>	1-10 x plot size
<input type="checkbox"/>	1-3 x plot size
<input type="checkbox"/>	< plot size

* refer to texture classes on reverse side

** e.g. hydrogen sulfide odor, gleying, etc.

*** Circle one:

1=Indurated S=saturated M=moist D=dry

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

Fund 3 earthworms and castings

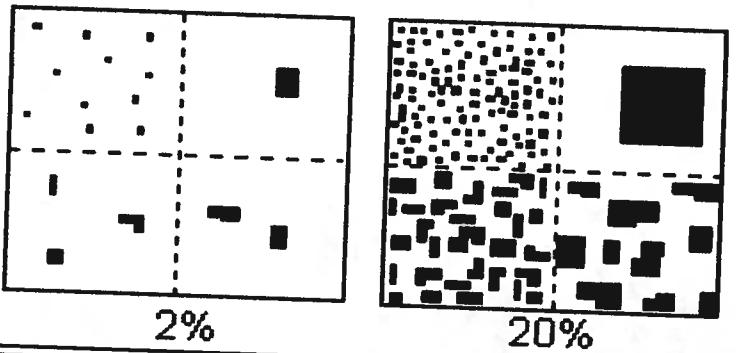
.rooted and floating or slightly emersed

** submersed, most plant mass below surface

* see back of page for "typical" strata descriptions. Strata can vary by cover type.

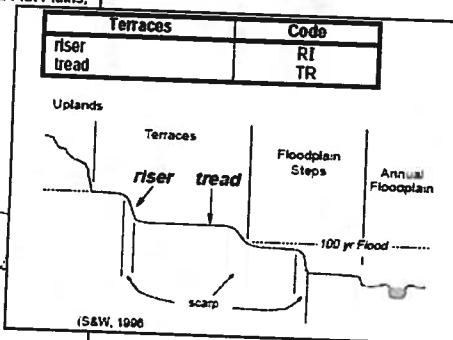
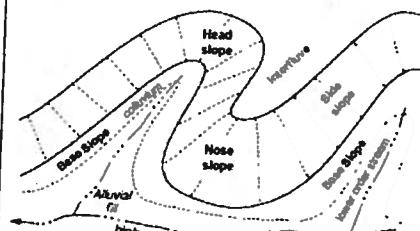
PERCENT MOTTLES (USE CLASS CODES):

Class	Code	NASIS	Criteria: % of Surface Area Covered
Few	f	#	< 2
Common	c	#	2 to < 20
Many	m	#	≥ 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
PDP		
Interfluve	IF	IF
head slope	HS	HS
nose slope	NS	NS
side slope	SS	SS
base slope	--	BS



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

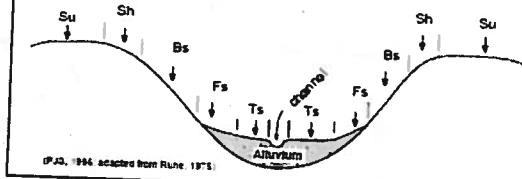
3= Sandy

4= Coarse Sand

9= Not measured - make plot note

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/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.

SEMPERMANENTLY FLOODED (exposed <1/year): Surface water persists throughout the growing season in most years. Land surface 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.

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.

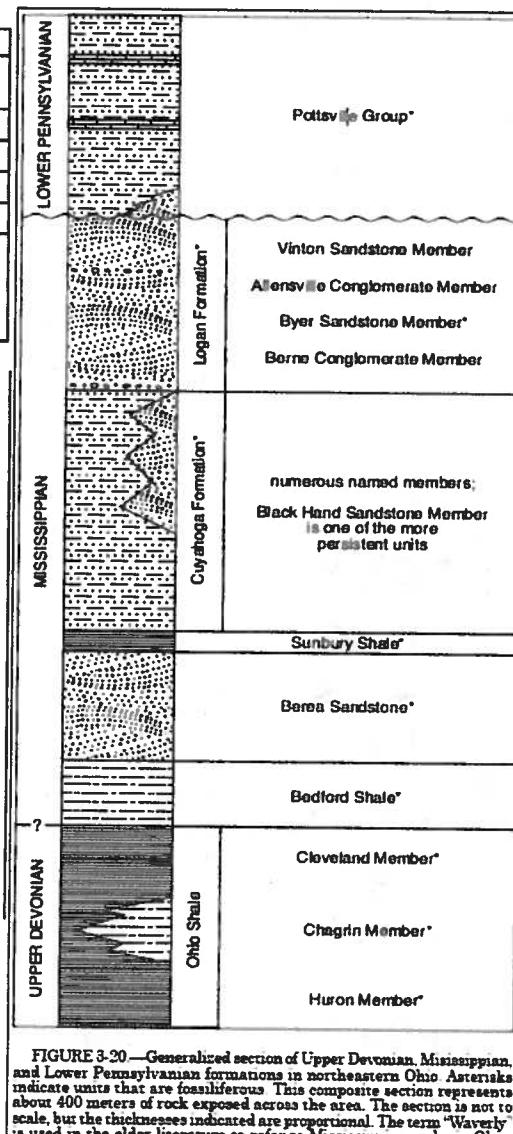
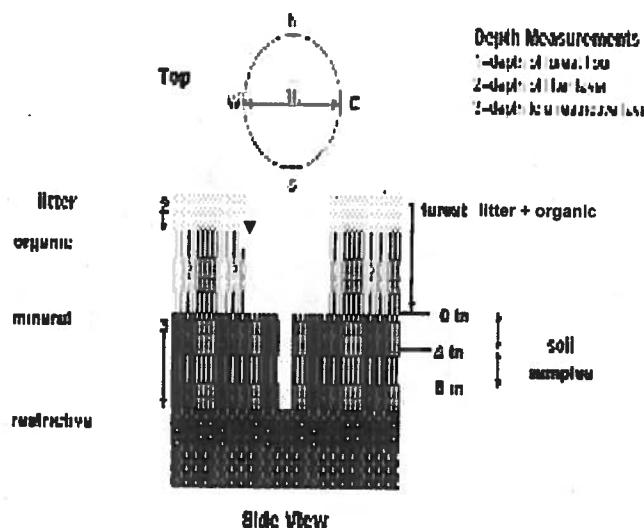


FIGURE 3-20—Generalized section of Upper Devonian, Mississippian, and Lower Pennsylvanian formations in northeastern Ohio. Asterisks indicate units that are fossiliferous. This composite section represents about 400 meters of rock exposed across the area. The section is not to scale, but the thicknesses 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.

FORM B-1: BUFFER SAMPLE PLOTS - TARGETED ALIEN SPECIES (Back)

Reviewed by (Initial): _____

Site ID: PCAP BK 2013DATE: 07/10/2013

Confirm a filled data bubble indicates presence and an unfilled bubble indicates absence by filling in this bubble

Fill bubble if present - Plot	1	2	3	Flag	Fill bubble if present - Plot	1	2	3	Flag	Fill bubble if present - Plot	1	2	3	Flag
Eurasian Watermilfoil	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Purple Loosestrife	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Johnson Grass	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Water hyacinth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Knotweed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Kudzu	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Yellow Floating Heart	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Japanese Knotweed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Multiflora Rose	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Giant Salvinia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Perennial Pepperweed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Common Buckthorn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Garlic Mustard	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Giant Reed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Himalayan Blackberry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Poison Hemlock	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Cheatgrass	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Tamarisk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Mile-A-Minute Weed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Reed Canary Grass	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Other: _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Birdsfoot Trefoil	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Common Reed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Other: _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Canada Thistle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Leafy Spurge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Other: _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
										Other: _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

PLOT COORDINATES

Provide GPS coordinates at the center of the Buffer Plot (#3) at the far end of each Buffer Transect and for the Buffer Plot at the AA CENTER. Indicate the location of the plot coordinates by filling in the appropriate bubble.

If Buffer Plot 3 can not be accessed, take the coordinates at the nearest practicable location ALONG THE TRANSECT. This is important because all Buffer Plots are centered on the Buffer Transects and the coordinates will indicate the location of the transect. Fill in the "nearest practicable location" bubble, fill in the flag box, and describe where the coordinates were taken and why in the comment section below. The coordinates of the nearest practicable location can be either placed as close to the center of Plot 3 as possible or at the center of the last accessible Buffer Plot.

Location of coordinates (choose one):

 AA CENTER N3 S3 E3 W3 Nearest practicable location (flag and comment below)

Flag

2

Latitude North 41.44436 Longitude West 0.8171150
Use Decimal Degrees; NAD83

Flag	Comments
1	Wildlife Way
2	Took GPS point at fence along zoo.

FORM B-1: BUFFER SAMPLE PLOTS - TARGETED ALIEN SPECIES (Back)

Reviewed by (Initial): _____

Site ID: PCAPBLK1328

DATE: 07/10/2013

● Confirm a filled data bubble indicates presence and an unfilled bubble indicates absence by filling in this bubble

Fill bubble if present - Plot	1	2	3	Flag	Fill bubble if present - Plot	1	2	3	Flag	Fill bubble if present - Plot	1	2	3	Flag
Eurasian Watermilfoil	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>		Purple Loosestrife	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>		Johnson Grass	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
Water hyacinth	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>		Knotweed	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>		Kudzu	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
Yellow Floating Heart	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>		Japanese Knotweed	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>		Multiflora Rose	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
Giant Salvinia	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>		Perennial Pepperweed	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>		Common Buckthorn	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
Garlic Mustard	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>		Giant Reed	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>		Himalayan Blackberry	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
Poison Hemlock	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>		Cheatgrass	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>		Tamarisk	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
Mile-A-Minute Weed	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>		Reed Canary Grass	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>		Other:	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
Birdsfoot Trefoil	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>		Common Reed	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>		Other:	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
Canada Thistle	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>		Leafy Spurge	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>		Other:	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
										Other:	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	

PLOT COORDINATES

Provide GPS coordinates at the center of the Buffer Plot (#3) at the far end of each Buffer Transect and for the Buffer Plot at the AA CENTER. Indicate the location of the plot coordinates by filling in the appropriate bubble.

If Buffer Plot 3 can not be accessed, take the coordinates at the nearest practicable location ALONG THE TRANSECT. This is important because all Buffer Plots are centered on the Buffer Transects and the coordinates will indicate the location of the transect. Fill in the "nearest practicable location" bubble, fill in the flag box, and describe where the coordinates were taken and why in the comment section below. The coordinates of the nearest practicable location can be either placed as close to the center of Plot 3 as possible or at the center of the last accessible Buffer Plot.

Location of coordinates (choose one):

AA CENTER N3 S3 E3 W3 Nearest practicable location (flag and comment below)

Flag

Latitude North 41.44446 Longitude West 081.71023

Use Decimal Degrees; NAD83

Flag	Comments
1	2 Bootlegs run along ridge.

7966623548

FORM B-1: BUFFER SAMPLE PLOTS - TARGETED ALIEN SPECIES (Back)

Reviewed by (initial): _____

Site ID: PCAP Blk 1328

DATE: 07/10/2017

 Confirm a filled data bubble indicates presence and an unfilled bubble indicates absence by filling in this bubble

FIII bubble if present - Plot	1	2	3	Flag	FIII bubble if present - Plot	1	2	3	Flag	FIII bubble if present - Plot	1	2	3	Flag
Eurasian Watermilfoil	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Purple Loosestrife	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Johnson Grass	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Water hyacinth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Knotweed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Kudzu	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Yellow Floating Heart	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Japanese Knotweed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Multiflora Rose	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Giant Salvinia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Perennial Pepperweed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Common Buckthorn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Garlic Mustard	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Giant Reed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Himalayan Blackberry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Poison Hemlock	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Cheatgrass	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Tamarisk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Mile-A-Minute Weed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Reed Canary Grass	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Other:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Birdsfoot Trefoil	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Common Reed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Other:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Canada Thistle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Leafy Spurge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Other:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
										Other:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

PLOT COORDINATES

Provide GPS coordinates at the center of the Buffer Plot (#3) at the far end of each Buffer Transect and for the Buffer Plot at the AA CENTER. Indicate the location of the plot coordinates by filling in the appropriate bubble.

If Buffer Plot 3 can not be accessed, take the coordinates at the nearest practicable location ALONG THE TRANSECT. This is important because all Buffer Plots are centered on the Buffer Transects and the coordinates will indicate the location of the transect. Fill in the "nearest practicable location" bubble, fill in the flag box, and describe where the coordinates were taken and why in the comment section below. The coordinates of the nearest practicable location can be either placed as close to the center of Plot 3 as possible or at the center of the last accessible Buffer Plot.

Location of coordinates (choose one):

AA CENTER N3 S3 E3 W3 Nearest practicable location (flag and comment below)

Flag

Latitude North 41.44411 Longitude West 081.71152

Use Decimal Degrees; NAD83

Flag	Comments
1	Large pallets of concrete blocks and wood w/bolts

FORM B-1: BUFFER SAMPLE PLOTS - TARGETED ALIEN SPECIES (Back)

Reviewed by (Initial): _____

Site ID: PCAP Bk 1328

DATE: 07 / 10 / 2013

(*) Confirm a filled data bubble indicates presence and an unfilled bubble indicates absence by filling in this bubble

Fill bubble if present - Plot	1	2	3	Flag	Fill bubble if present - Plot	1	2	3	Flag	Fill bubble if present - Plot	1	2	3	Flag
Eurasian Watermilfoil	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Purple Loosestrife	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Johnson Grass	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Water hyacinth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Knotweed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Kudzu	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Yellow Floating Heart	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Japanese Knotweed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Multiflora Rose	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Giant Salvinia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Perennial Pepperweed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Common Buckthorn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Garlic Mustard	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Giant Reed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Himalayan Blackberry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Poison Hemlock	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Cheatgrass	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Tamarisk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Mile-A-Minute Weed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Reed Canary Grass	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Other:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Birdsfoot Trefoil	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Common Reed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Other:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Canada Thistle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Leafy Spurge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Other:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
										Other:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

PLOT COORDINATES

Provide GPS coordinates at the center of the Buffer Plot (#3) at the far end of each Buffer Transect and for the Buffer Plot at the AA CENTER. Indicate the location of the plot coordinates by filling in the appropriate bubble.

If Buffer Plot 3 can not be accessed, take the coordinates at the nearest practicable location ALONG THE TRANSECT. This is important because all Buffer Plots are centered on the Buffer Transects and the coordinates will indicate the location of the transect. Fill in the "nearest practicable location" bubble, fill in the flag box, and describe where the coordinates were taken and why in the comment section below. The coordinates of the nearest practicable location can be either placed as close to the center of Plot 3 as possible or at the center of the last accessible Buffer Plot.

Location of coordinates (choose one):

 AA CENTER N3 S3 E3 W3 Nearest practicable location (flag and comment below)

Flag

5

Latitude North 41.44417 Longitude West 081.71233

Use Decimal Degrees; NAD83

Flag	Comments
1	Boatleg & APT
2	Compaction from boatlegs
3	Mowed lawn along zoo boundary
4	Wildlife Way
5	Walked to fence along zoo property and took GPS there

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