

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



Project Label:

PCAP

Plot No: 1212

Date Sampled: 06/21-04/cez Lead: M. Brett

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	WIA
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?	6/29/12	Enter date to left JP
Final data sheets scanned?		Enter date to left
Buffer Widths measured?	<input checked="" type="radio"/> Y <input type="radio"/> N	JP 6-22-12
Web Soil Survey	<input checked="" type="radio"/> Y <input type="radio"/> N	NZ 6/29/12
Voucher Location	Refrigerator	Y N
(# vouchers collected)	Press (#)	Enter number to left
MFB028 MFZG18	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:

Park near (pull up) exercise trail on gravel/dirt pull off bars



# CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet

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Page 1 of 2

GENERAL INFORMATION		LOCATION
<b>Project Label:</b>	PCAP	
<b>Project Name:</b>	<u>OLC 2012</u>	
<b>Plot Name:</b>	<u>Hickory Branch</u> <i>Not so Easy</i>	
<b>Plot No.:</b>	<u>1212</u>	
<input type="checkbox"/> Level 4 (no nested corners sampled) <input checked="" type="checkbox"/> Level 5 (nested corners sampled)		
<b>Date (mm/dd/yyyy):</b>	<u>06 / 21 / 2012</u>	
<b>End date (if &gt; 1 day):</b>	<u>06 / 22 / 2012</u>	
<b>Party</b>	<b>Role/**</b>	
<u>M. Becht</u>	<b>Plot leader</b>	
<u>B. Rucker</u>	<b>Assst.</b>	
<u>S. Catella</u>	<b>Field Tech</b>	
<u>T. Kugler</u>	<b>Field Tech</b>	
<u>S. Eversen</u>	<b>Plot Assst.</b>	
<small>(Roles: Leader, Assst., Guide, Owner, Plot Assst.)</small>		
<b>PLOT NOT SAMPLED:</b> <input type="checkbox"/> Other <input type="checkbox"/> Perm. water <input type="checkbox"/> Paved <input type="checkbox"/> Slope <input type="checkbox"/> Safety		
SAMPLING QUALITY*		
<b>Effort Level:</b> <input checked="" type="checkbox"/> Very thorough <input type="checkbox"/> Accurate <input type="checkbox"/> Hurried		
subjective evaluation of how much effort put into sampling. Hurried plots may still provide good data.		
TAXONOMIC ACCURACY		
high	modera.	low
vascul.	<u>✓</u>	n/a
bryo	<u>✓</u>	
lichen	<u>✓</u>	
TAXONOMIC STANDARD		
<b>Authority:</b>	G&C      Pub Date: 1998	
Minimum required fields in Bold and Underlined		

Diagram illustrating the plot layout. The plot is a rectangle divided into four quadrats (1, 2, 3, 4). A central point is labeled #1. A river is to the west. A north arrow is present.

Reason:  
If data not public why?

Source of coordinates:  MAP     GPS

Coordinate system:  NAD83/WGS84     NAD27  
 Lat/Long     UTM     StatePlane     deg     deg min  
 m     ft

Datum:  NAD83/WGS84     NAD27  
 Other (specify)

GPS location in plot x=0 to 5, y=-1,0,+1:  
 $x = \textcolor{red}{\bigcirc}$     $y = \textcolor{red}{\bigcirc}$  (base of plot x=0, y=0)

Latitude: 41.55991    Longitude: 081.53410

Location: Plot runs parallel to creek along Sand bar. APT to West ~ 15 m from GRTS  
 Rationale: GRTS Point

Layout: 1x4. Intensive 1,2,3,4

Veg Char: A little bit of Everything

Depth: (1-5): 4

Coord. Accuracy:  m     ft 1.2    +-

GPS File Name: 1212\_A

Plot size for cover data: 0.04 (hectares)

X-axis Bearing of plot: [204] °

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

**OVER**

**CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet**

Project Label: PCAP

Project Name: OIEC-2012

Plot No.: 1212

Page 2 of 2

**MODIFIED NATURERESERVE CLASS\***

CODE (on separate form):

Fit-L Conf-H

**T02**

COMMUNITY NAME:

*Streams & Rivers*

*Exposed sediment (Gravel Bar)*

**HOMOGENEITY**

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

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

Current Land Use: Park

Former Land Use: Unknown

**DISTURBANCES**

SLF 8-10-12

type*	severity**	yrs ago	% of plot	description
Human	M	VH	100%	Trash
Natural	H	VL	100%	Floating vegetation debris
Fire				
Cut				
Animal	H	SL	100%	Prec. Roar
Other				

**HYDROLOGIC REGIME\***

<input type="checkbox"/> Upland (seldom flooded)	<input checked="" type="checkbox"/> Intermittently flooded
<input type="checkbox"/> Intermittently/seasonally saturated (seldom flooded)	<input type="checkbox"/> Semipermanently flooded
<input type="checkbox"/> Saltwater	<input type="checkbox"/> Permanently flooded
<input type="checkbox"/> Brackish	<input type="checkbox"/> Tidal/Seiche flooded daily
<input type="checkbox"/> Fresh	<input type="checkbox"/> Tidal/Seiche flooded monthly
<input checked="" type="checkbox"/> Upland (n/a)	<input type="checkbox"/> Tidal/Seiche flooded irregular (e.g. wind, storms)
(by default unless plot is a wetland)	<input type="checkbox"/> Unknown

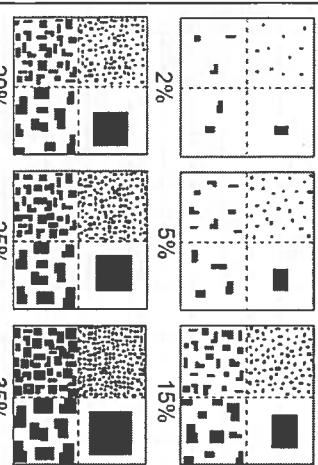
Additional notes & diagrams: (Representativeness of plot to the stand, successional status, maturity, etc.)

*Plot set up in a gravel bar. Lots of plant species as well as invasives*



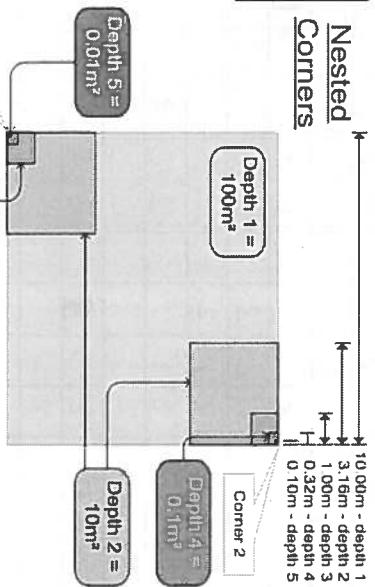
#### EXAMPLES OF PERCENT OF AREA COVERED

The following graphic can be used for various data elements to convey 'Amount of 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

#### 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.

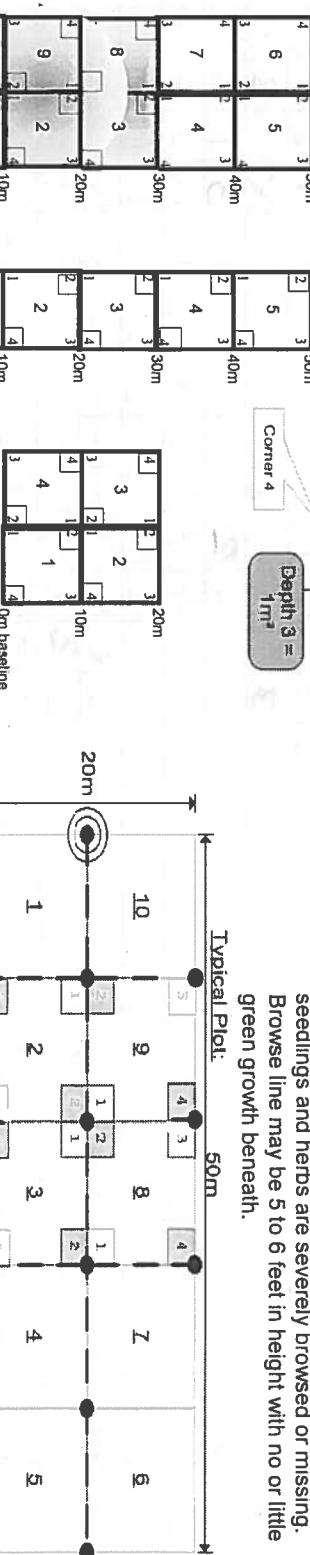
**MEDIUM:** browse affects greater than 10 percent and less than 25 percent of stems in the 1 m<sup>2</sup> nested quadrat and intensive module. A browse line is usually not evident or obvious for all classes and species of vegetation, but careful examination may show preferential browse and/or browse 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 m<sup>2</sup> 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.

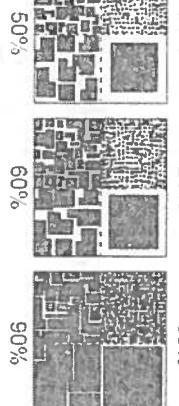
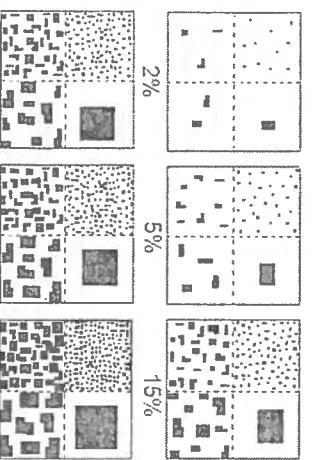
Typical Plot:



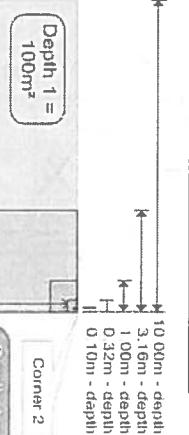


#### EXAMPLES OF PERCENT OF AREA COVERED

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



Nested  
Corners



cover class	% cover	midpoint
solitary or few	0.005	0.0001
1-2%	0.015	
2-5%	0.035	
5-10%	0.075	
10-25%	0.175	
25-50%	0.375	
50-75%	0.625	
75-95%	0.850	
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.

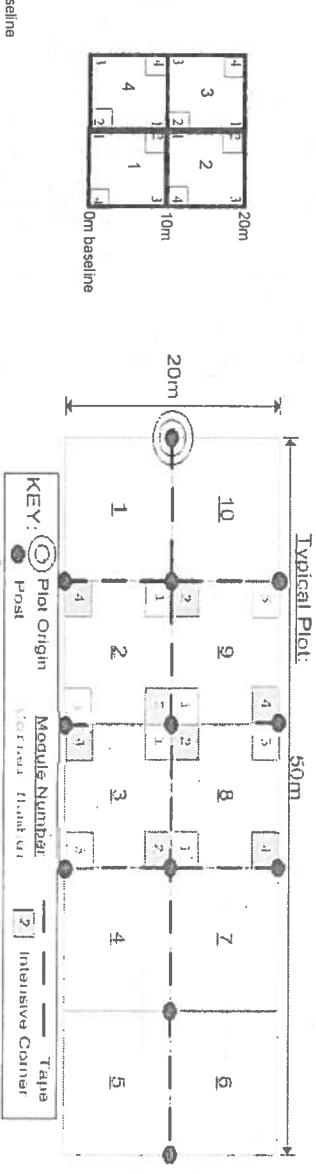
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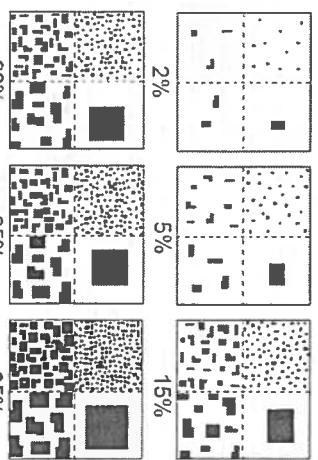
Typical Plot:





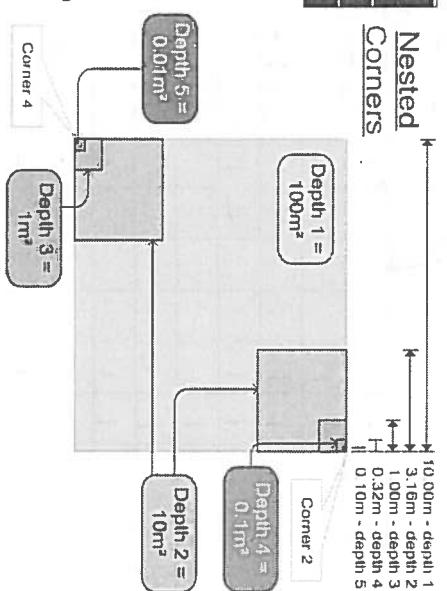
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2	0-1%	0.05
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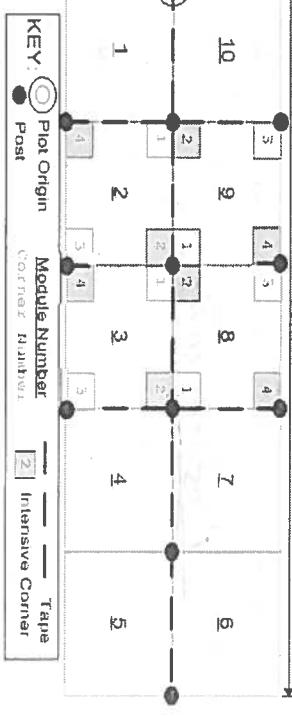
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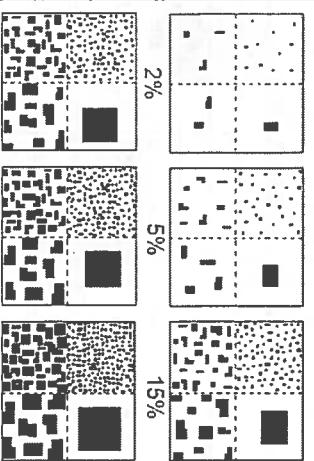
#### Typical Plot:





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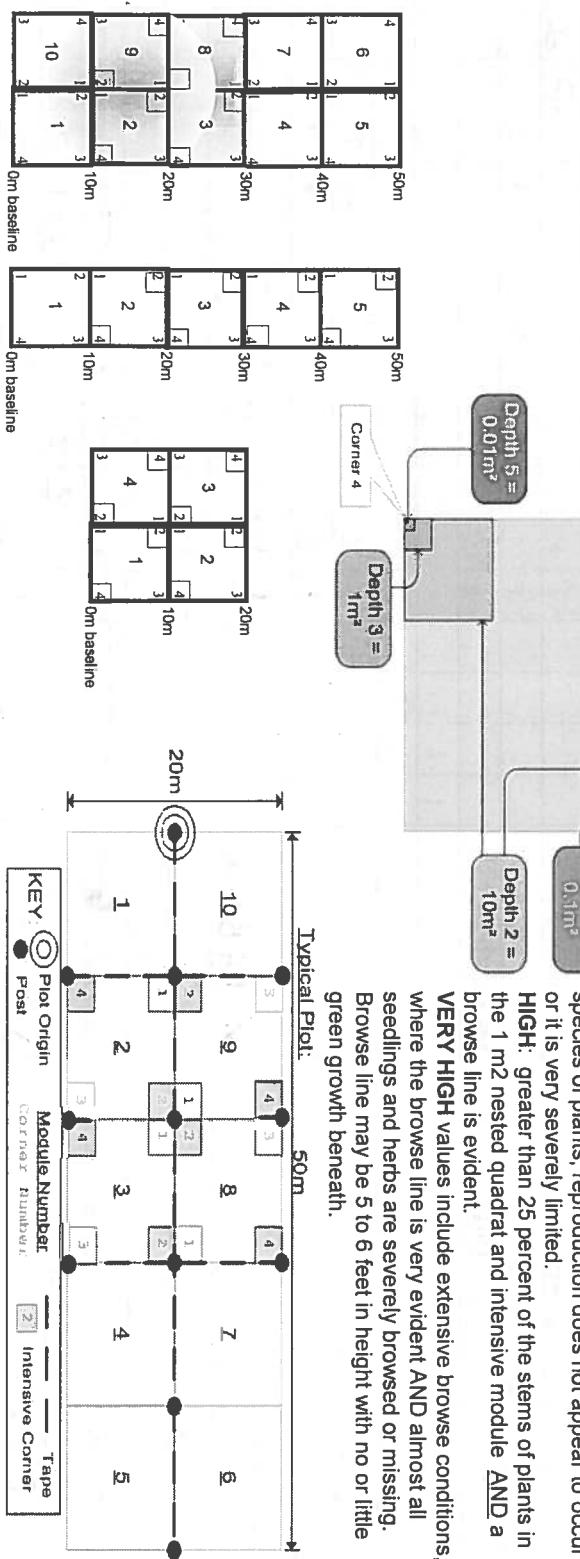
and arrowwood viburnum exhibit browse.

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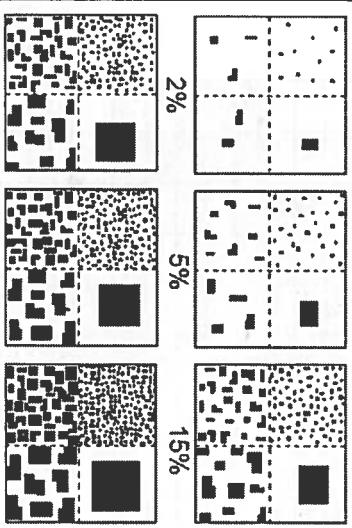
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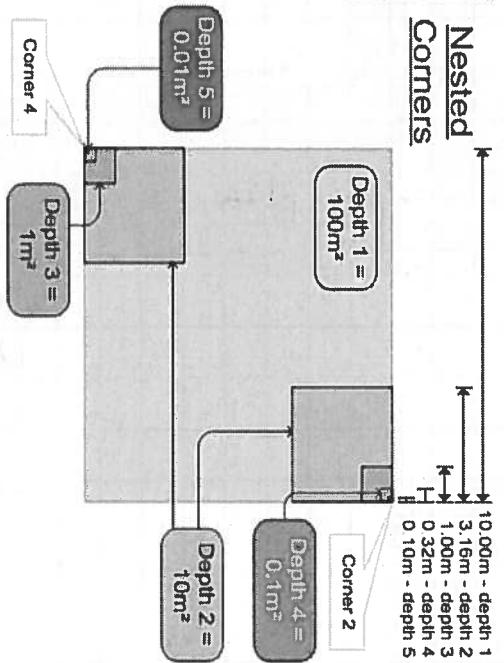
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### Nested Corners



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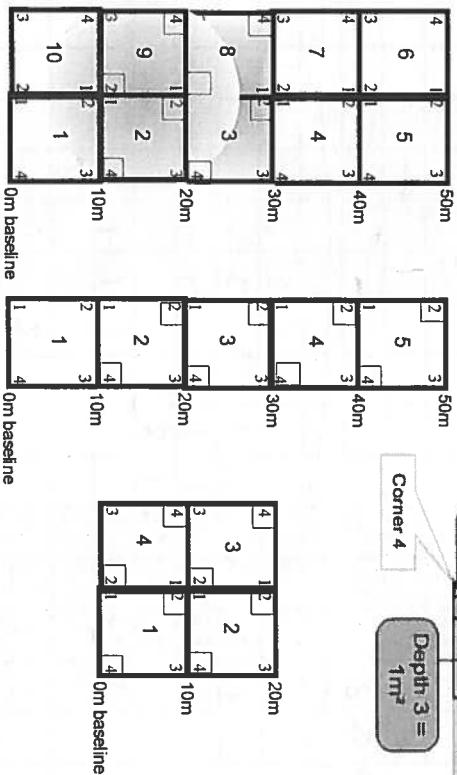
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**Typical Plot:** 50m

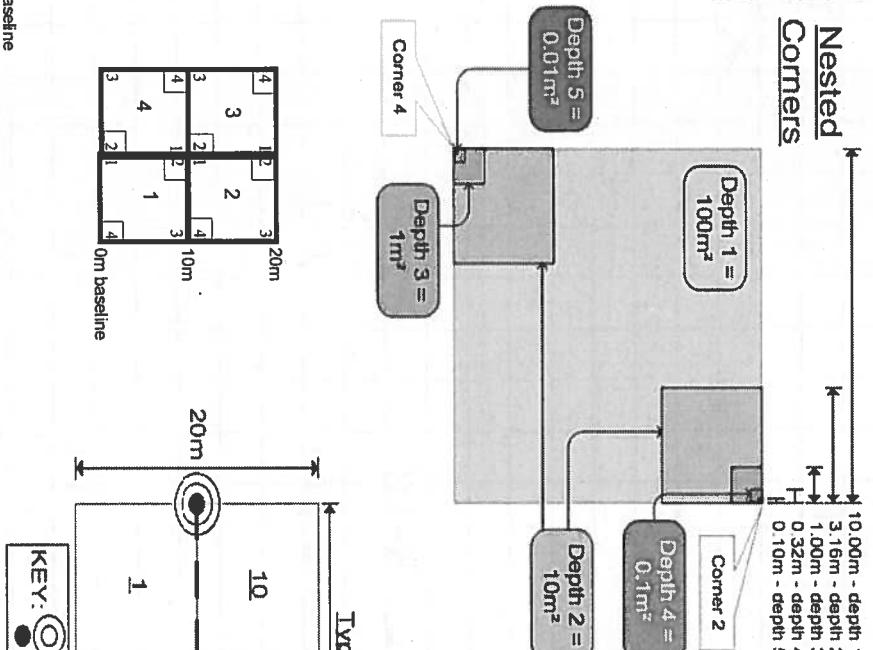
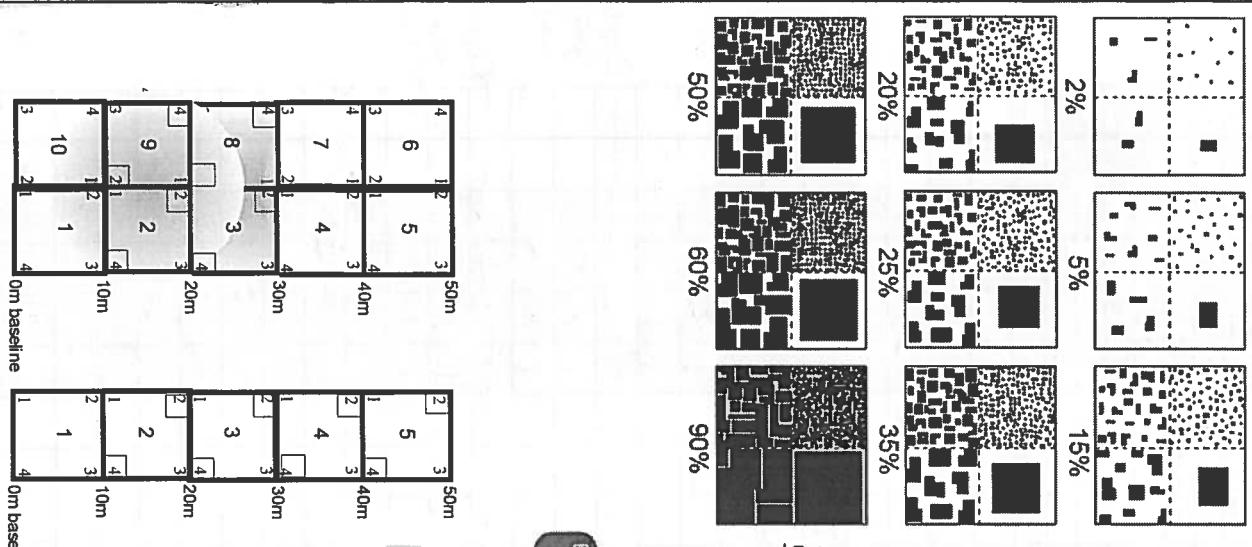


**KEY:** ● Plot Origin      Module Number      — Tape  
● Post      Corner Number      □ Intensive Corner



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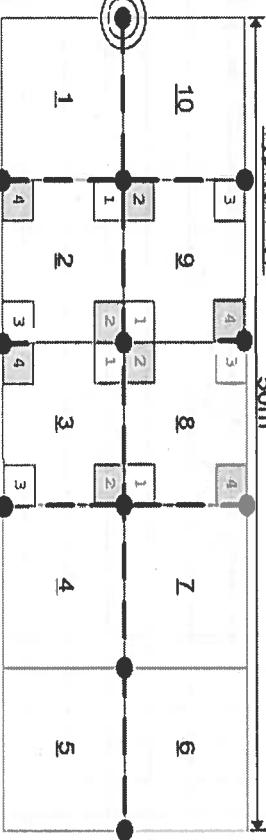
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Typical Plot:



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

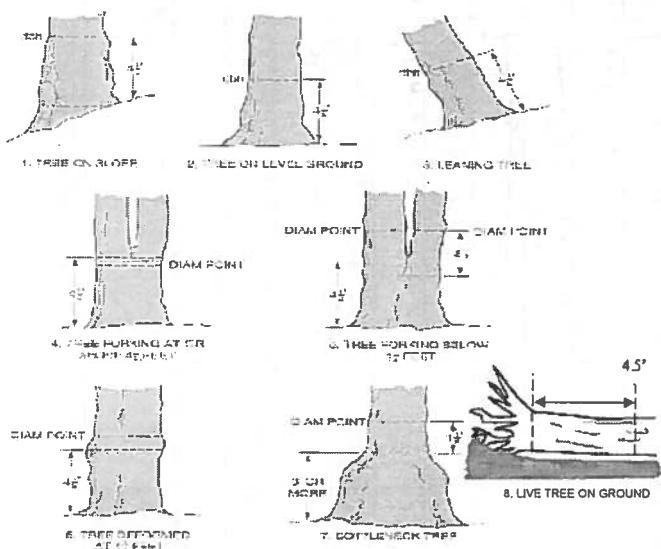
Project Label: PCAPProject Name: DIEC 2012Plot No.: 1212Page: 1 of 1

Cleveland Metroparks

Explain subsample (additional room on back):

mod #	species	c	voucher#	# stems 0-1.4m or super sample	% sub clumps	# shrub	size class (cm) woody stems >1.4m											11 >40 (record each tree)
							1 0-<1	2 1-<2.5	3 2.5-<5	4 5-<10	5 10 - <15	6 15 - <20	7 20 - <25	8 25 - <30	9 30 - <35	10 35 - <40		
1	<i>Acer rubrum</i>	c					*	*	*	*	*	*	*	*	*	*		
1	<i>Prunus pensylvanica</i>																	
1	<i>Standing dead</i>																	
1	<i>Acer saccharum</i>						*	*	*	*	*	*	*	*	*	*		
1	<i>Ailanthus altissima</i>																	
1	<i>Vitis sp.</i>																	
1	<i>Petitia virginiana</i>						*	*	*	*	*	*	*	*	*	*		
2	<i>Prunus pensylvanica</i>																	
2	<i>Vitis sp.</i>																	
2	<i>Prunus pensylvanica</i>																	
2	<i>Acer rubrum</i>																	
2	<i>Acer saccharum</i>																	
2	<i>Fraxinus sp.<sup>size 12-18</sup></i>																	
2	<i>Standing dead</i>																	
2	<i>Tilia americana</i>																	
2	<i>Fragaria sp.</i>																	
3	<i>Fraxinus pennsylvanica</i>	X																
3	<i>Standing dead</i>																	
3	<i>Acer rubrum</i>																	
3	<i>Sassafras albidum</i>																	
<i>Optional Notes</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.
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 Emerald Ash Borer - Fraxinus Sheet

Project Label: PCAP

Project Name: D1EC 2012

INTENSIVE MODULES ONLY TREES  $\geq 10\text{CM ONLY}$ 

Plot No.: 1212 Date: 6/21/2012

Page: 1 of 2



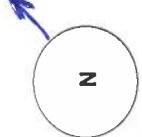
Tree Module ID	Species	Dead c	Voucher #	DBH (cm)	Ht @ DBH	Ash condition	*Dead condition	ASH Only		
								# Exit holes	Epicormic present	Woodpecker holes
1	ND ASH									
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
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  $1.25\text{m}^2 \times \geq 1.5\text{m}$

Woodpecker and epicormic marked present (1) or absent (0)

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

Baseline	9	8
	2	3



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

## 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	# of Plants
<i>Acer platanoides</i>	Norway Maple	1				1: 1-10
<i>Ailanthus altissima</i>	Tree of Heaven	1				2: 11-50
<i>Lonicera japonica</i> (vine)	Japanese Honeysuckle					3: 51-100
<i>Lythrum salicaria</i> (wetland)	Purple Loosestrife	1				4: 101-1,000
<i>Aegopodium podagraria</i> (G-cover)	Bishop's Goutweed					5: >1,000
<i>Celastrus orbiculatus</i> (vine)	Asian Bittersweet					
<i>Torilis sp.</i>	Hedgeparsley					
<i>Conium maculatum</i>	Poison Hemlock	2	2	1	1	
<i>Rhamnus cathartica</i>	Common Buckthorn (shrub)					
<i>Berberis thunbergii</i>	Japanese Barberry (shrub)	1				
<i>Alnus glutinosa</i>	European Alder					
<i>Dipsacus laciniatus</i>	Cut-leaf Teasel	X	X	1		
<i>Elaeagnus umbellata</i>	Autumn Olive (shrub)					
<i>Lonicera maackii</i>	Amur Honeysuckle (shrub)	2		1		
<i>Euonymus fortunei</i>	Wintercreeper					
Tier 3: Presence is of Interest		# of Plants			comments	
		NE	SE	SW	NW	# of Plants
<i>Convallaria majalis</i> (G-cover)	Lily of the Valley	X				1: 1-10
<i>Coronilla varia</i> (G-cover)	Crown Vetch	1				2: 11-50
<i>Eleutherococcus pentaphyllus</i>	Five-leaf Aralia (shrub)					3: 51-100
<i>Pachysandra terminalis</i> (G-cover)	Japanese Pachysandra					4: 101-1,000
<i>Philadelphus coronarius</i>	Mock Orange (shrub)					5: >1,000
<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	Presence
<i>Alliaria petiolata</i>	Garlic Mustard	1	2	1	2	X: yes
<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	2			
<i>Phragmites australis</i> (wetland)	Phragmites					
<i>Polygonum cuspidatum</i>	Japanese Knotweed	3	2		3	
<i>Frangula alnus</i>	Glossy Buckthorn (shrub)			1		
<i>Rosa multiflora</i>	Multiflora Rose (shrub)					
<i>Typha angustifolia</i> , <i>T. x glauca</i>	Cattails (wetland)					
<i>Cirsium arvense</i>	Canada thistle	3	1	3		
<i>Dipsacus fullonum</i>	Common Teasel	1	1	1		
<i>Hesperis matronalis</i>	Dame's Rocket					
<i>Vinca minor</i> (G-cover)	Periwinkle			-	4 Med Patch	

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 - Plant Cover and Earth Surface

Project Label: PCAP

Project Name: CLEC 2012

Plot No.: 1212

Discarded Materials  
Page: 1 of 1

**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. C=check when collected.

Module #	C?	Corner	Corner

CLASSIFICATION			
(Fit = excellent & Fit and Confidence)			
<b>Hydrogeomorphic class (WETLANDS ONLY)</b>	Fit=_____	Conf=_____	LFI*
<input type="checkbox"/> DEPRESSION			At aspect _____
<input type="checkbox"/> IMPOUNDMENT			+45 degrees
<input type="checkbox"/> RIVERINE			E
<input type="checkbox"/> Headwater			+90 degrees
<input type="checkbox"/> Maunder			SE
<input type="checkbox"/> Channel	Fit=_____	Conf=_____	+135 degrees
<input type="checkbox"/> SLOPE (ground water hydrology or on a physical slope)			S
<input type="checkbox"/> FRINGING			+180 degrees
<input type="checkbox"/> Reservoir			+225 degrees
<input type="checkbox"/> Natural Lake	Fit=_____	Conf=_____	SW
<input type="checkbox"/> COASTAL (specify subspecies)			+270 degrees
<input type="checkbox"/> BOG (strongly, moderately, weakly ombrotrophic)	Fit=_____	Conf=_____	W
<input type="checkbox"/> FOREST			+315 degrees
<input type="checkbox"/> swamp forest			NW
<input type="checkbox"/> wet meadow			
<input type="checkbox"/> forest steep			
<input type="checkbox"/> emergent			
<input type="checkbox"/> marsh			
<input type="checkbox"/> shrub swamp			
<input type="checkbox"/> tall sh. bog			
<input type="checkbox"/> tall sh. fen			

Module	N	S	E	W	TSI**	
					LFI is angle of plot to the horizon. TSI is angles formed by local slopes. For TSI measure angle from recorder's eye to eye of person standing ~10 m away.	
1	21	9	31	6		
2	3	7	39	2		
3	1	5	4	4		
4	12	61	67	18		

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

Module	N	S	E	W
1	4	0	1	2
2	3	0	1	2
3	1	0	2	1
4	3	1	0	2
	43	4	4	6

NOTE: tufts and hummocks are counted in BOTH nested quadrate corners but counts are aggregated.

**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.

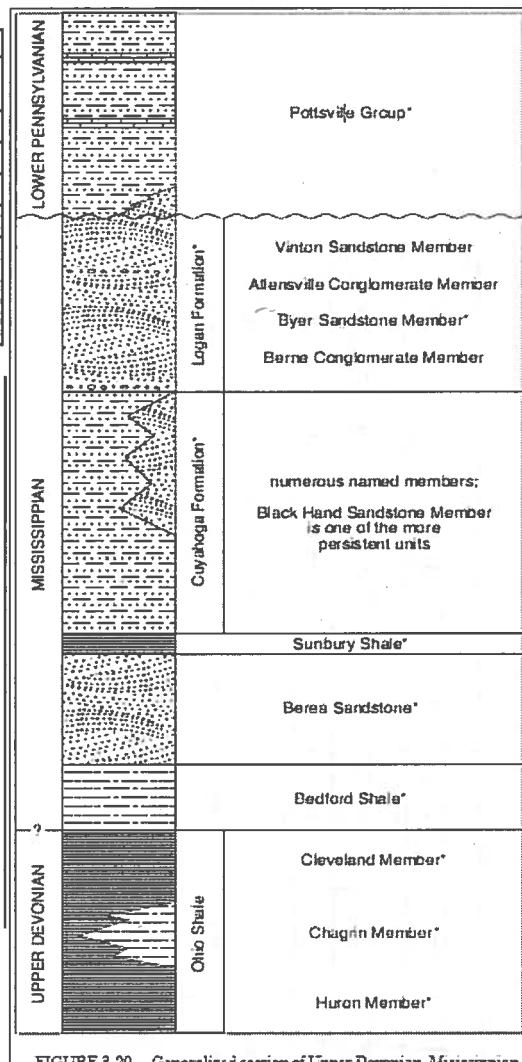
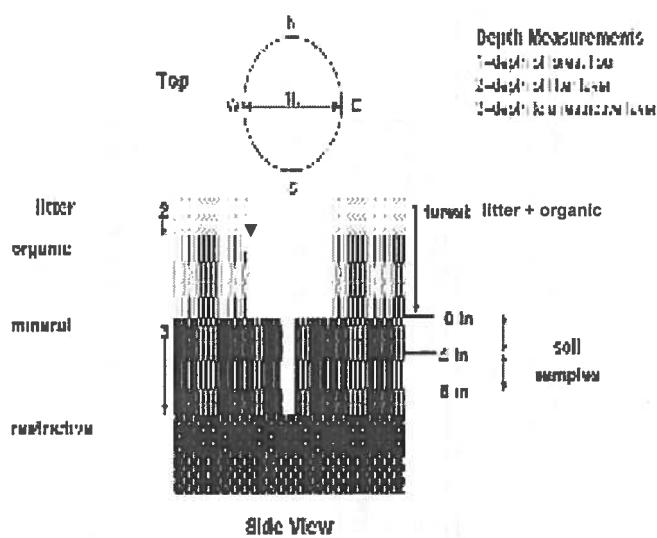


FIGURE 3-20.—Generalized section of Upper Devonian, Mississippian, and Lower Pennsylvanian formations in northeastern Ohio. Asterisks indicate units that are fossiliferous. This composite section represents about 400 meters of rock exposed across the area. The section is not to scale, but the thicknesses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

CLEVELAND METROPARKS Plant Community Assessment Program - Soils, Crown Cover, Standing Biomass Data Sheet 6a  
 Project label: PCAP Project Name: OLIEC 2012

Plot No.: 1212

Page: 1 of 1



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

<b>Soil pit module #</b> <u>5</u> (one per entire plot)	
matrix color <u>2.5Y 3/3</u>	
moisture color <u>N/A</u>	
%smectite <u>0</u> N	
oxid roots <u>0</u> N	
texture* <u>3</u>	
redox features** <u>Y</u> N	
hydr. cond.*** <u>1</u> S ( <u>M</u> ) D	
20 cm matrix color <u>2.5Y 4/2</u>	
moisture color <u>N/A</u>	
%smectite <u>0</u> N	
oxid roots <u>Y</u> N	
texture* <u>3</u>	
redox features** <u>Y</u> N	
hydr. cond.*** <u>1</u> S ( <u>M</u> ) D	
<b>SOIL SAMPLES</b> Standard procedure: collect a soil sample of the top 10 cm of soil from center of each intensive module and composite the sample	

**EARTH SURFACE & GROUND COVER**

Underlying Earth Surface*	Ground Cover
Soil Series/Type <u>T3 - Tillage loam</u>	
Soil Series Source: Ohio Soil Survey	
Landform type: <u>Flood plains</u>	
Depth to rest. Layer: <u>&gt;80'</u>	
Parent Material: <u>Alluvium</u>	
Drainage: Well drained	<input checked="" type="checkbox"/>
Somewhat poorly dr.	<input type="checkbox"/>
Impenetrable surface	<input type="checkbox"/>

**EARTH SURFACE & GROUND COVER**

Strata	Height Range (m)	Total Cover (%)	Record type and cover for each
Tree	<u>S - T</u>	<u>25/28</u>	<input type="checkbox"/> >600 x plot size
Shrub	<u>S - S</u>	<u>20/18</u>	<input checked="" type="checkbox"/> 100 x plot size
Herb	-	<u>88</u>	<input type="checkbox"/> 10-100 x plot size
(Floating)* (Aquatic)*	-	<u>0</u>	<input type="checkbox"/> 3-10 x plot size
			<input checked="" type="checkbox"/> 1-3 x plot size
			<input type="checkbox"/> < plot size

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

SOIL DEPTH MEASUREMENT: Measure to the nearest 0.1 cm in center of intensive modules. If >30.5 cm, record as >30				
mod#	1 litter+ organic depth (cm)	2 litter depth (cm)	water depth (cm)	depth sat. soil (cm)
1	<u>3.5</u>	<u>3.5</u>	<u>0</u>	<u>&gt;30</u>
2	<u>4.0</u>	<u>4.0</u>	<u>0</u>	<u>&gt;30</u>

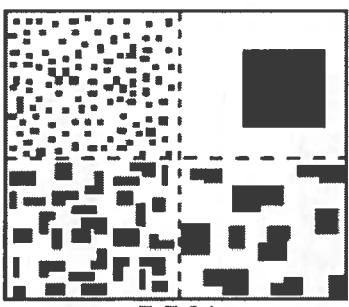
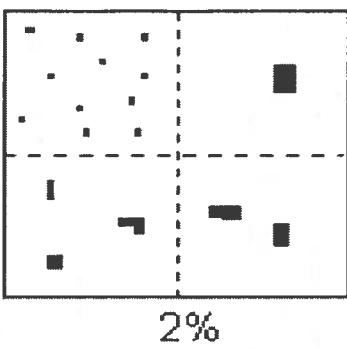
COVER BY STRATA				
estimate using midpoints of 5, ex: 3, 8, 13 %				
Strata	Height Range (m)	Total Cover (%)	STAND SIZE	
Tree	<u>S - T</u>	<u>25/28</u>	<input type="checkbox"/> >600 x plot size	
Shrub	<u>S - S</u>	<u>20/18</u>	<input checked="" type="checkbox"/> 100 x plot size	
Herb	-	<u>88</u>	<input type="checkbox"/> 10-100 x plot size	
(Floating)* (Aquatic)*	-	<u>0</u>	<input type="checkbox"/> 3-10 x plot size	
			<input checked="" type="checkbox"/> 1-3 x plot size	
			<input type="checkbox"/> < plot size	

Castings	<u>1</u>	<u>3.5</u>	<u>0</u>	<u>&gt;30</u>
	<u>2</u>	<u>4.0</u>	<u>0</u>	<u>&gt;30</u>
	<u>3</u>	<u>3.4</u>	<u>0</u>	<u>&gt;30</u>
	<u>4</u>	<u>2.1</u>	<u>0</u>	<u>&gt;30</u>

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

## PERCENT MOTTLES (USE CLASS CODES):

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



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

0= Organic

1= Loamy

2= Clayey

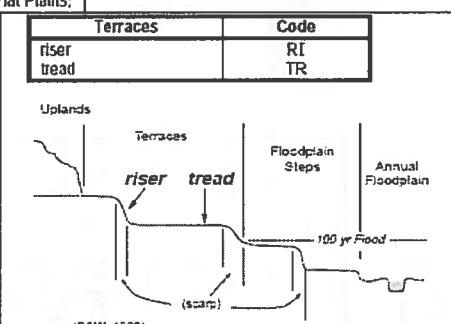
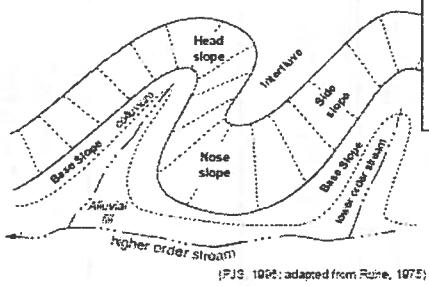
3= Sandy

4= Coarse Sand

9= Not measured - make plot note

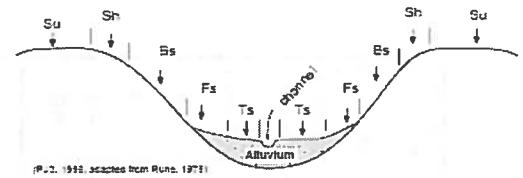
**Geomorphic Component - Three-dimensional descriptors of parts of landforms or microfeatures that are best applied to areas. Unique descriptors are available for Hills, Terraces, Mountains, and Flat Plains; e.g., (for Hills) nose slope or NS.**

Hills	Code PDP	Code NASIS
Interfluve	IF	IF
head slope	HS	HS
nose slope	NS	NS
side slope	SS	SS
base slope	--	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/SEMIPERMANENTLY SATURATED:** Dry less than once per year. Surface water is seldom present, but substrate is saturated to surface for extended periods during the growing season . Equivalent to Cowardin's Saturated modifier.

**OCCASIONALLY FLOODED:** Surface water can be present for brief periods during growing season , but not in most years. Often characterizes flood-plain upper terraces.

**TEMPORARILY FLOODED:** Surface water present for brief periods during growing season , but water table usually lies well below soil surface. Often characterizes flood-plain levees and lower terraces. Equivalent to Cowardin's Temporary modifier.

**INTERMITTENTLY FLOODED :** Substrate is usually exposed, but surface water can be present for variable periods without detectable seasonal periodicity. Inundation is not predictable to a given season and is dependent upon highly localized rain storms . This modifier was developed for use in the arid West for water regimes of Playa lakes , intermittent streams, and dry washes but can be used in other parts of the U.S. where appropriate. This modifier can be applied to both wetland and non-wetland situations. Equivalent to Cowardin's Intermittently Flooded modifier.

**SEMIPERMANENTLY FLOODED (exposed <1/year):** Surface water persists throughout the growing season in most years . Land surface is normally saturated when water level drops below soil surface . Includes Cowardin's Intermittently Exposed and Semipermanently Flooded modifiers.

**PERMANENTLY FLOODED:** Water covers the land surface at all times of the year in all years . Equivalent to Cowardin's "permanently flooded".

**UNKNOWN:** The hydrologic regime cannot be determined from the available information.



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

Reviewed by (Initial): \_\_\_\_\_

Site ID: PCAPEC1212DATE: 06 / 21 / 2012

④ 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 checked="" 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 checked="" 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 checked="" 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 41.55902      Longitude West 081.63430

Use Decimal Degrees; NAD83

Flag	Comments
1	Road NW of plot and there are some washes leading down to creek
2	APT runs parallel to plot and road to the NW

## FORM B-1: BUFFER SAMPLE PLOTS (Front)

Reviewed by (initial): \_\_\_\_\_

Site ID: PLAP FL 1212

DATE: 06/21/2012

Location:

O AA Center O N O S O E O W

Fill in bubble(s) if plot(s) could not be sampled and flag →

O Plot 1 O Plot 2 O Plot 3

3

## Buffer Natural Cover Strata

Fill in bubbles for all that apply. Canopy Type: D = Deciduous; E = Evergreen. Leaf Type: B = Broadleaf; N = Needle Leaf. Absent: No tree canopy.

Strata Section: Fill in appropriate cover class bubble for each strata type for each plot. 0 = Absent; 1 = Sparse (&lt;10%); 2 = Moderate (10-40%); 3 = Heavy (40-75%); 4 = Very Heavy (&gt;75%)

Buffer Plot 1	Canopy Type: D E		Absent: 0	Buffer Plot 2	Canopy Type: D E		Absent: 0	Buffer Plot 3	Canopy Type: D E		Absent: 0
	Leaf Type: B N	Flag	Leaf Type: B N		Leaf Type: B N	Flag	Leaf Type: B N		Leaf Type: B N	Flag	
Big Trees (>0.3m DBH)	0 1 2 3 4			Big Trees (>0.3m DBH)	0 1 2 3 4			Big Trees (>0.3m DBH)	0 1 2 3 4		
Small Trees (<0.3m DBH)	0 1 2 3 4			Small Trees (<0.3m DBH)	0 1 2 3 4			Small Trees (<0.3m DBH)	0 1 2 3 4		
Woody Shrubs, Saplings (0.5m-5m HIGH)	0 1 2 3 4			Woody Shrubs, Saplings (0.5m-5m HIGH)	0 1 2 3 4			Woody Shrubs, Saplings (0.5m-5m HIGH)	0 1 2 3 4		
Woody Shrubs, Saplings (<0.5m HIGH)	0 1 2 3 4			Woody Shrubs, Saplings (<0.5m HIGH)	0 1 2 3 4			Woody Shrubs, Saplings (<0.5m HIGH)	0 1 2 3 4		
Herbs, Forbs and Grasses	0 1 2 3 4			Herbs, Forbs and Grasses	0 1 2 3 4			Herbs, Forbs and Grasses	0 1 2 3 4		
Bare ground	0 1 2 3 4			Bare ground	0 1 2 3 4			Bare ground	0 1 2 3 4		
Litter, duff	0 1 2 3 4			Litter, duff	0 1 2 3 4			Litter, duff	0 1 2 3 4		
Rock	0 1 2 3 4			Rock	0 1 2 3 4			Rock	0 1 2 3 4		
Water	0 1 2 3 4			Water	0 1 2 3 4			Water	0 1 2 3 4		
Submerged Vegetation	0 1 2 3 4			Submerged Vegetation	0 1 2 3 4			Submerged Vegetation	0 1 2 3 4		

Stressor Presence/Absence - Confirm that a filled data bubble indicates presence and an unfilled bubble indicates absence by filling this bubble. 

Residential and Urban Stressors				Hydrology Stressors				Agricultural & Rural Stressors						
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
Road - gravel	O O O				Ditches, Channelization	O O O				Pasture/Hay	O O O			
Road - two lane	O O O				Dike/Dam/Road/RR Bed (IMPEDE FLOW)	O O O				Range	O O O			
Road - four lane	O O O				Water Level Control Structure	O O O				Row Crops	O O O			
Parking Lot/Pavement	O O O				Excavation, Dredging	O O O				Fallow Field (RECENT-RESTING ROW CROP FIELD)	O O O			
Golf Course	O O O				Fill/Spoil Banks	O O O				Fallow Field (OLD - GRASS, SHRUBS, TREES)	O O O			
Lawn/Park	O O O				Freshly Deposited Sediment (UNVEGETATED)	O O O				Nursery	O O O			
Suburban Residential	O O O				Soil Loss/Root Exposure	O O O				Dairy	O O O			
Urban/Multifamily	O O O				Wall/Riprap	O O O				Orchard	O O O			
Landfill	O O O				Inlets, Outlets	O O O	2			Confined Animal Feeding	O O O			
Dumping	O O O				Point Source/Pipe (EFFLUENT OR STORMWATER)	O O O				Rural Residential	O O O			
Trash	O O O				Impervious surface input (SHEETFLOW)	O O O				Gravel Pit	O O O			
Other: _____	O O O				Other: _____	O O O				Irrigation	O O O			
Other: _____	O O O				Other: _____	O O O				Other: _____	O O O			

Industrial Development Stressors				Habitat/Vegetation Stressors										
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
Oil Drilling	O O O				Forest Clear Cut	O O O				Herbicide Use	O O O			
Gas Wells	O O O				Forest Selective Cut	O O O				Mowing/Shrub Cutting	O O O			
Mine (surface)	O O O				Tree Plantation	O O O				Trails	O O O	1		
Mine (underground)	O O O				Tree Canopy Herbivory (INSECT)	O O O				Soil Compaction (ANIMAL OR HUMAN)	O O O			
Military	O O O				Shrub Layer browsed (WILD OR DOMESTIC)	O O O				Offroad vehicle damage	O O O			
Other: _____	O O O				Highly Grazed Grasses (OVERALL <3" HIGH)	O O O				Soil erosion (FROM WIND, WATER, OR OVERUSE)	O O O			
Other: _____	O O O				Recently Burned Forest Canopy	O O O				Other: _____	O O O			
Other: _____	O O O				Recently Burned Grassland (BLACKENED)	O O O				Other: _____	O O O			

Flag codes: K = No measurement made, U = Suspect measurement., F1,F2, etc. = misc. flags assigned by each field crew.  
Explain all flags in comment section on the back of this form

2428168304

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

Reviewed by (Initial): \_\_\_\_\_

Site ID: PLAP EC 1212

DATE: 06/21/2012

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 checked="" 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

3

Latitude North 41° 55' 9.02"   Longitude West 081° 53' 34.4"

Use Decimal Degrees; NAD83

Flag	Comments
1	Deer trail
2	Water discharge channel, possibly stormwater.
3	Could not cross drainage channel. Visually sampled plot 2.



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

Reviewed by (Initial): \_\_\_\_\_

Site ID: PCAP EC 1212

DATE: 06/21/2012

- 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 checked="" type="radio"/>	<input type="radio"/>		Kudzu	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
Yellow Floating Heart	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>		Japanese Knotweed	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>		Multiflora Rose	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
Giant Salvinia	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>		Perennial Pepperweed	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>		Common Buckthorn	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
Garlic Mustard	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>		Giant Reed	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>		Himalayan Blackberry	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
Poison Hemlock	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>		Cheatgrass	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>		Tamarisk	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
Mile-A-Minute Weed	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>		Reed Canary Grass	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>		Other:	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
Birdsfoot Trefoil	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>		Common Reed	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>		Other:	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
Canada Thistle	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>		Leafy Spurge	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>		Other:	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
										Other:	<input type="radio"/>	<input checked="" 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 41.55787   Longitude West 081.53402

Use Decimal Degrees; NAD83

Flag	Comments
<input checked="" type="radio"/>	Encountered deer trail while walking the line to two

## FORM B-1: BUFFER SAMPLE PLOTS (Front)

Reviewed by (Initial): \_\_\_\_\_

Site ID: PLAP EL 1D

DATE: 06/21/2012

Location:					Fill in bubble(s) if plot(s) could not be sampled and flag →						
○ A	AA	C	Center	○ N	○ O	○ S	○ E	○ W	○ Plot 1	○ Plot 2	○ Plot 3

### Buffer Natural Cover Strata

Fill in bubbles for all that apply. Canopy Type: D = Deciduous; E = Evergreen. Leaf Type: B = Broadleaf; N = Needle Leaf. Absent: No tree canopy. Strata Section: Fill in appropriate cover class bubble for each strata type for each plot. 0 = Absent; 1 = Sparse(<10%); 2=Moderate(10-40%); 3 = Heavy (40-75%); 4 = Very Heavy (>75%)

Buffer Plot 1	Canopy Type: D		E	Absent: ○	Buffer Plot 2	Canopy Type: D		E	Absent: ○	Buffer Plot 3	Canopy Type: D		E	Absent: ○
	Leaf Type: B	N	Flag	Leaf Type: B	N	Flag	Leaf Type: B	N	Flag		Leaf Type: B	N	Flag	
Big Trees (>0.3m DBH)	○	○	1	2	3	4	○	○	1	2	3	4	○	○
Small Trees (<0.3m DBH)	○	○	1	2	3	4	○	○	1	2	3	4	○	○
Woody Shrubs, Saplings (0.5m-5m HIGH)	○	○	1	2	3	4	○	○	1	2	3	4	○	○
Woody Shrubs, Saplings (<0.5m HIGH)	○	○	1	2	3	4	○	○	1	2	3	4	○	○
Herbs, Forbs and Grasses	○	○	1	2	3	4	○	○	1	2	3	4	○	○
Bare ground	○	○	1	2	3	4	○	○	1	2	3	4	○	○
Litter, duff	○	○	1	2	3	4	○	○	1	2	3	4	○	○
Rock	○	○	1	2	3	4	○	○	1	2	3	4	○	○
Water	○	○	1	2	3	4	○	○	1	2	3	4	○	○
Submerged Vegetation	○	○	1	2	3	4	○	○	1	2	3	4	○	○

Stressor Presence/Absence - Confirm that a filled data bubble indicates presence and an unfilled bubble indicates absence by filling this bubble. ●

Residential and Urban Stressors				Hydrology Stressors					Agricultural & Rural Stressors					
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
Road - gravel	○	○	○		Ditches, Channelization	○	○	○		Pasture/Hay	○	○	○	
Road - two lane	○	○	○		Dike/Dam/Road/RR Bed (IMPEDE FLOW)	○	○	○		Range	○	○	○	
Road - four lane	○	○	○		Water Level Control Structure	○	○	○		Row Crops	○	○	○	
Parking Lot/Pavement	○	○	○		Excavation, Dredging	○	○	○		Fallow Field (RECENT-RESTING ROW CROP FIELD)	○	○	○	
Golf Course	○	○	○		Fill/Spoil Banks	○	○	○		Fallow Field (OLD - GRASS, SHRUBS, TREES)	○	○	○	
Lawn/Park	○	○	○		Freshly Deposited Sediment (UNVEGETATED)	○	○	○		Nursery	○	○	○	
Suburban Residential	○	○	○		Soil Loss/Root Exposure	○	○	○		Dairy	○	○	○	
Urban/Multifamily	○	○	○		Wall/Riprap	○	○	○		Orchard	○	○	○	
Landfill	○	○	○		Inlets, Outlets	○	○	○		Confined Animal Feeding	○	○	○	
Dumping	○	○	○		Point Source/Pipe (EFFLUENT OR STORMWATER)	○	○	○		Rural Residential	○	○	○	
Trash	○	○	○		Impervious surface input (SHEETFLOW)	○	○	○		Gravel Pit	○	○	○	
Other: _____	○	○	○		Other: _____	○	○	○		Irrigation	○	○	○	
Other: _____	○	○	○		Other: _____	○	○	○		Other: _____	○	○	○	

Industrial Development Stressors				Habitat/Vegetation Stressors										
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
Oil Drilling	○	○	○		Forest Clear Cut	○	○	○		Herbicide Use	○	○	○	
Gas Wells	○	○	○		Forest Selective Cut	○	○	○		Mowing/Shrub Cutting	○	○	○	
Mine (surface)	○	○	○		Tree Plantation	○	○	○		Trails	○	○	○	12
Mine (underground)	○	○	○		Tree Canopy Herbivory (INSECT)	○	○	○		Soil Compaction (ANIMAL OR HUMAN)	○	○	○	
Military	○	○	○		Shrub Layer browsed (WILD OR DOMESTIC)	○	○	○		Offroad vehicle damage	○	○	○	
Other: _____	○	○	○		Highly Grazed Grasses (OVERALL <3 HIGH)	○	○	○		Soil erosion (FROM WIND, WATER, OR OVERUSE)	○	○	○	
Other: _____	○	○	○		Recently Burned Forest Canopy	○	○	○		Other: _____	○	○	○	
Other: _____	○	○	○		Recently Burned Grassland (BLACKENED)	○	○	○		Other: _____	○	○	○	

Flag codes: K = No measurement made, U = Suspect measurement., F1,F2, etc. = misc. flags assigned by each field crew.  
Explain all flags in comment section on the back of this form

2428168304

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

Reviewed by (initial): \_\_\_\_\_

Site ID: PLAP EL 1212

DATE: 06/21/2012

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 checked="" 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

41.55888

Longitude West

081.53563

Use Decimal Degrees; NAD83

Flag	Comments
1	Crossed park trail just before plot #2.
2	Deer tran

## FORM B-1: BUFFER SAMPLE PLOTS (Front)

Reviewed by (Initial): \_\_\_\_\_

Site ID: PCAPEC1212

DATE: 06/21/2012

Location:					Fill in bubble(s) if plot(s) could not be sampled and flag →			
O AA Center	N	OS	OE	OW	O Plot 1	O Plot 2	O Plot 3	4

## Buffer Natural Cover Strata

Fill in bubbles for all that apply. Canopy Type: D = Deciduous; E = Evergreen. Leaf Type: B = Broadleaf; N = Needle Leaf. Absent: No tree canopy.  
 Strata Section: Fill in appropriate cover class bubble for each strata type for each plot. 0 = Absent; 1 = Sparse(<10%); 2=Moderate(10-40%); 3 = Heavy (40-75%); 4 = Very Heavy (>75%)

Buffer Plot 1	Canopy Type: D E		Absent: 0	Buffer Plot 2	Canopy Type: D E		Absent: 0	Buffer Plot 3	Canopy Type: D E		Absent: 0	
	Leaf Type: B	N	Flag		Leaf Type: B	N	Flag		Leaf Type: B	N	Flag	
Big Trees (>0.3m DBH)	0	1	2	3	0	1	2	3	0	1	2	3
Small Trees (<0.3m DBH)	0	1	2	3	0	1	2	3	0	1	2	3
Woody Shrubs, Saplings (0.5m-5m HIGH)	0	1	2	3	0	1	2	3	0	1	2	3
Woody Shrubs, Saplings (<0.5m HIGH)	0	1	2	3	0	1	2	3	0	1	2	3
Herbs, Forbs and Grasses	0	1	2	3	0	1	2	3	0	1	2	3
Bare ground	0	1	2	3	0	1	2	3	0	1	2	3
Litter, duff	0	1	2	3	0	1	2	3	0	1	2	3
Rock	0	1	2	3	0	1	2	3	0	1	2	3
Water	0	1	2	3	0	1	2	3	0	1	2	3
Submerged Vegetation	0	1	2	3	0	1	2	3	0	1	2	3
Submerged Vegetation	0	1	2	3	0	1	2	3	0	1	2	3

Stressor Presence/Absence - Confirm that a filled data bubble indicates presence and an unfilled bubble indicates absence by filling this bubble. 

Residential and Urban Stressors				Hydrology Stressors				Agricultural & Rural Stressors						
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
Road - gravel	0	0	0		Ditches, Channelization	0	0	0		Pasture/Hay	0	0	0	
Road - two lane	0	1	0	23	Dike/Dam/Road/RR Bed (IMPEDE FLOW)	0	0	0		Range	0	0	0	
Road - four lane	0	0	0		Water Level Control Structure	0	0	0		Row Crops	0	0	0	
Parking Lot/Pavement	0	0	0		Excavation, Dredging	0	0	0		Fallow Field (RECENT-RESTING ROW CROP FIELD)	0	0	0	
Golf Course	0	0	0		Fill/Spoil Banks	0	0	0		Fallow Field (OLD - GRASS, SHRUBS, TREES)	0	0	0	
Lawn/Park	0	0	0		Freshly Deposited Sediment (UNVEGETATED)	0	0	0		Nursery	0	0	0	
Suburban Residential	0	0	0		Soil Loss/Root Exposure	0	0	0		Dairy	0	0	0	
Urban/Multifamily	0	0	0		Wall/Riprap	0	0	0		Orchard	0	0	0	
Landfill	0	0	0		Inlets, Outlets	0	0	0		Confined Animal Feeding	0	0	0	
Dumping	0	0	0		Point Source/Pipe (EFFLUENT OR STORMWATER)	0	0	0		Rural Residential	0	0	0	
Trash	0	1	0		Impervious surface input (SHEETFLOW)	0	0	0		Gravel Pit	0	0	0	
Other: _____	0	0	0		Other: _____	0	0	0		Irrigation	0	0	0	
Other: _____	0	0	0		Other: _____	0	0	0		Other: _____	0	0	0	

Industrial Development Stressors				Habitat/Vegetation Stressors											
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	
Oil Drilling	0	0	0		Forest Clear Cut	0	0	0		Herbicide Use	0	0	0		
Gas Wells	0	0	0		Forest Selective Cut	0	0	0		Mowing/Shrub Cutting	0	0	0		
Mine (surface)	0	0	0		Tree Plantation	0	0	0		Trails	0	1	0	1,3	
Mine (underground)	0	0	0		Tree Canopy Herbivory (INSECT)	0	0	0		Soil Compaction (ANIMAL OR HUMAN)	0	0	0		
Military	0	0	0		Shrub Layer browsed (WILD OR DOMESTIC)	0	1	0		Offroad vehicle damage	0	0	0		
Other: _____	0	0	0		Highly Grazed Grasses (OVERALL <3 HIGH)	0	0	0		Soil erosion (FROM WIND, WATER, OR OVERUSE)	0	0	0		
Other: _____	0	0	0		Recently Burned Forest Canopy	0	0	0		Other: _____	0	0	0		
Other: _____	0	0	0		Recently Burned Grassland (BLACKENED)	0	0	0		Other: _____	0	0	0		

Flag codes: K = No measurement made, U = Suspect measurement., F1,F2, etc. = misc. flags assigned by each field crew.

Explain all flags in comment section on the back of this form

2428168304

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

Reviewed by (Initial): \_\_\_\_\_

Site ID: PCAPEC1212

DATE: 06/21/2012

● 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

Latitude North 41° 56.014'      Longitude West 081° 53.444'

Use Decimal Degrees; NAD83

Flag	Comments
1	APT cuts through center of plot
2	Road runs N about 5 m away from plot
3	Plot is between road and gravel bridge trail
4	Plot three is a short way up a bridge steep incline so we visually sampled.