CLEVELAND METROPARKS Plant Community Assessment Program: Quality Control Form

Project Label: PCAP **Plot No:** 1237 **Date Sampled:** ~~6-9-2012~~ 7/9/2012 **Lead:** Eysenbach AJY 7/13/2012

Comment required if item answer is NO

Parking/Access outside of Park Boundaries:		Y (N)	If yes, write details in Comments section below
Field journals completed		(Y) N	
Site sketch made on 1:3000 map?		(Y) N	
Check cover page	X-axis Bearing of plot recorded	(Y) N	
	GPS coords. Recorded	(Y) N	
	North direction recorded	(Y) N	
	Photographs taken?	(Y) N	
Plot No., Date agreement on all pages?		(Y) N	
Header data completed all pages?		(Y) N	
Cover classes recorded in all Intensive modules		(Y) N	
Browse Level By Species		(Y) N	
Woody stem quality control check		(Y) N	
Invasive plant quality control check		(Y) N	
Ash trees mapped		Y N	N/A
Cover by Strata? (confirm cover type)		(Y) N	
Soil samples collected with matching plot #.		(Y) N	
Vouchers labeled on datasheet with initials and number		(Y) N	
Vouchers labeled on collection bag		(Y) N	
Pink flags removed		Y (N)	
Data sheet QA before leaving site?		(Y) N	
Common equipment returned to tub.		Y N	
Data sheets scanned?		7-13-12	Enter date to left AY
Final data sheets scanned?			Enter date to left
Buffer Widths measured?		(Y) N	KEL 6-29-12
Web Soil Survey		(Y) N	AJY 7-13-2012
Voucher Location	Refrigerator	Y N	
(# vouchers collected)	Press (#)		Enter number to left
SRE 535542	Drier	Y N	
	Identified	(Y) N	SRE 10-3-12
	Mounted	Y N	
	Thrown away	(Y) N	

GRTS point verification: Is plot sampleable?	
☑ Yes	Original GRTS point is sampleable
☐ No	Original GRTS point lands in a non-sampleable area (fill in category below)
	☐ Point falls in a water (i.e. river, lake)
	☐ Managed mowed area (i.e. golf course, picnic area, right-of-way)
	☐ Paved area (i.e. parkinglot, road)
	☐ Unsafe to sample (i.e. steep slope)
	☐ Other

Additional Comments:

CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet

Bottom of Ravine

GENERAL INFORMATION

Project Label: PCAP

Project Name: OIBI 2012

Plot Name: Fuzzy Bear Claw

Plot No.: 1237

- ☐ Level 4 (no nested corners sampled)
- ■ Level 5 (nested corners sampled)

Date (mm/dd/yyyy): 7/9/2012

End date (if > 1 day): / /

Party	Role**
S. Eysenbach	Plot leader
B. Rucker	Bot Asst
T. Kistler	Asst
A. Young	Asst
N. Zimmerman	Asst
L. Huffman	Asst

** Roles: Co-leader, Asst., Guide, Owner, Taxonomist, etc.

PLOT NOT SAMPLED: ☐ Other

☐ Perm. water ☐ Paved ☐ Slope ☐ Safety

SAMPLING QUALITY*

Effort Level:

- ✓ Very thorough
- ☐ Accurate
- ☐ Hurried

subjective evaluation of how much effort put into sampling. Hurried plots may still provide good data

TAXONOMIC ACCURACY

	high	modera.	low	not smpl
vascul.	✓			n/a
bryo			✓	
lichen				✓

TAXONOMIC STANDARD

Authority: G&C Pub Date: 1998

LOCATION

State: OH County: Cuy

Quadrangle: Northfield

Local Place Names: Oak grove Picnic Area

Landowner: CM

Data Confidentiality:

Check one: ✓ ■ Public data ☐ Private Data

☐ Fuzz 100m ☐ Fuzz 250m ☐ Fuzz 500m

Reason:

If data not public why?

Source of coordinates ☐ MAP ■ GPS

Coordinate system:	Coord. Units
■ Lat/Long ☐ UTM ☐ StatePlane	■ deg ☐ deg min
☐ Other (*specify*)	■ m ☐ ft ☐ ___

Datum: ■ NAD83/WGS84 ☐ NAD27

GPS location in plot x=0 to 5, y=-1,0,+1):

x = 0 y = 0 (base of plot x=0, y=0)

Latitude: 41.30669

Longitude: 81.59824

Coord. Accuracy: ✓ m ☐ ft +- 25

GPS File Name: 1237A

Plot size for cover data: 0.1 (hectares)

X-axis Bearing of plot: [201] °

Depth: (1-5): 4

Intensive modules: 2, 3, 8, 9 (EDIT IF MODIFIED)

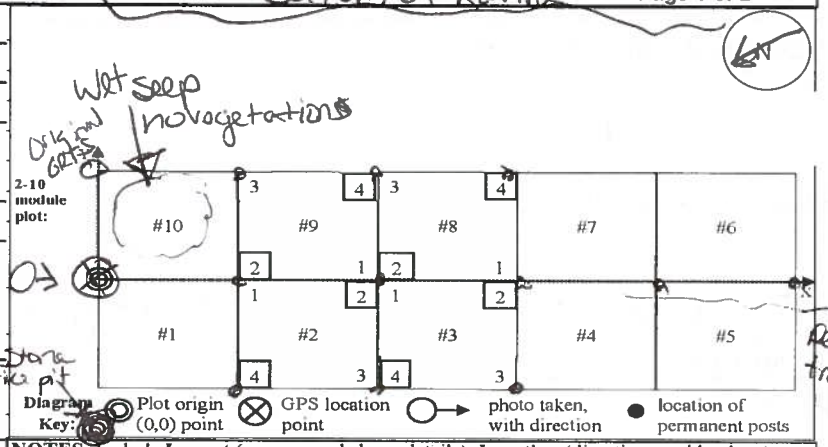
Camera No.: 3

Photo Nos.: C3-0931

Plot placement: ✓ GRTS ☐ Representative

☐ Random ☐ Stratified Random ☐ Transect component

☐ Systematic (grid) ☐ Capture specific feature ☐ Other



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.

Layout: 2x5

Location: Park at Oak Grove Picnic Area and walk approx 350m to the southeast (through one large steep ravine to the other side) Plot is along the slope and bench of the slope

Rationale: GRTS pt

Original GRTS pt was at (0,1)

Veg Char: Canopy: Tulip popular, Beech, Red Oak

Shrub: Beech, Sugar Maple

Herb: Diverse understory Seedlges, Frax seedlings, Running Strawberry Geranium

OVER

Minimum required fields in Bold and Underlined

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

CLEVELAND METROPARKS Plant Community Assessment Program Species Cover Data Sheet 2a Page 1 of 4

Project Label: PCAP Project name: DLS 2012 Plot no.: 1237

Total modules: 10 Intensive modules: 4 Plot configuration: 2X5 Plot area (ha): 0.1

Cleveland Metroparks

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

Strata - Cov. entire plot

Estimate for each intensive module:

	mod 2	corner 4	mod 2	corner 2	mod 3	corner 4	mod 3	corner 2	mod 8	corner 4	mod 8	corner 2	mod 9	corner 4	mod 9	corner 2	mod R	corner R
	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov
%open water	1	0			1	0			1	0			1	0				
%unvegetated open water	1	0			1	0			1	0			1	0				
%unveg. ground (bare soil)	1	2			1	5			1	4			1	3				
%unveg. litter (bare litter)	1	8			1	5			1	8			1	9				

T	S	H	(F)	(A)	Br	Species	c	Voucher #	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov
7	6	2			3	Fagus grandifolia			4	8	4		3	8	2		4	9	4		4	9	4					
7		2			9	Liriodendron tulipifera			4	7	4		2	7	4		3	8	4		4	8	4					
6	5					Acer saccharum					2	6	4	4	4		1	4		-			4	5				
		5			2	Fraxinus sp (seedlings)			4	4	3		3	3	4		4	3	4		4	4	4					
		4				Polystichum acrostichoides					2	3	-		2	4	2	3	2	-			2	2				
		3				Brachyelytrum erectum	X	SRE 537	3		3	2	-		2	2	-		3	2	-1	2						
		2				Parthenocissus quinquefolia			3	2			2	2	2		2	2			2	2						
		1				Ulmus sp (seedlings)			3	2	3		2	2	2		3	2	2				2	1				
		2				Acer sp (seedlings)			2	2	3		3	2	3		2	2	2	-			2	1				
		1			8	Toxicodendron radicans			2	1			2	1			-1	1		-1	1							
		2				Arisaema triphyllum ssp. triphyllum			2	2			3	2	4	-			2	2	2	2	2					
		2				Allium tricoccum			2	2	3		2	2	8	-			3	2	1	1						
		2			9	Euonymus obovatus			2	3			4	2					2	1	1	2						
3		2				Carya cordiformis			2	5			-		4	1	-1	1										
		1				Fagus grandifolia			1	1							-1	1										
		2				Moss sp.					2	2			2	2	1	1			3	2						
						~~Ribes sp~~																						
		2				Prenanthes sp					3	2	2	2	3	2	2	2	3	-	1	2						
		2				Carex sp.			1	1					3	2	1	2										
		2				Geranium maculatum					4	2	2	2	3		4	2	2		2	2						
		2				Hackelia virginiana			1	2			2	2			-1	1										
		2				Actea alba		C2-1781			2	2	3	2	3	-			2	2								
		3				fern Osmunda claytoniana	X	SRE 535	1	3			+1	2						-	1	3						
		1				Circaea lutetiana			1	1			+1	2									2	1				
		1				Geum canadense			1	1			1	1							3	1						

ide lvs

fern

SRE 10-3-12 updated species

CLEVELAND METROPARKS Plant Community Assessment Program Species Cover Data Sheet 2a

Project Label: PCAP   Project name: 01Br2a2   Plot no.: 1237

Total modules: 10   Intensive modules: 4   Plot configuration: 2x5   Plot area (ha): 0.1

Cleveland Metroparks

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

Strata - Cov. entire plot

Estimate for each intensive module:	mod 2 depth	corner 4 cov	mod 2 depth	corner 2 cov	mod 3 depth	corner 4 cov	mod 3 depth	corner 2 cov	mod 8 depth	corner 4 cov	mod 8 depth	corner 2 cov	mod 9 depth	corner 4 cov	mod 9 depth	corner 2 cov	mod R depth	corner R cov
%open water	1				1				1				1					
%unvegetated open water	1				1				1				1					
%unveg. ground (bare soil)	1				1				1				1					
%unveg. litter (bare litter)	1				1				1				1					

T	S	H	(F)	(A)	Br	Species	c	Voucher #	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov
		2			9	Solidago flexicaulis					3	2			2	2	2	2	2							
		2			10	~~Aster (lateriflorus)~~ ? Unknown Dicot		C2-1782			2	2	2	2	3		2	2								
		1				Carya sp. (seedling)			1	1																
		2				Poa sp.		C3-932			2	2	2	2			3	2								
		2			9	Lindera benzoin			1	1							3	1								
						~~Unk Poaceae sp.~~																				
		1				Ranunculus abortivus					3	1			2	1										
		2				Podophyllum peltatum					3	1							2	1						
		1				Vitis sp (seedling)			1	1			2	1			1	1			1	1				
		1			10	Smilax rotundifolia			1	1																
		1				Prunus serotina							~~4~~	1												
3		1				Ostrya virginiana							2	3	4											
3						Fraxinus sp.							4	4												
		2				Anemonella thalictroides							2	3	3		1	1								
		2				Alliaria ~~petiolata~~ peltata							2	2												
		2			6	Galium triflorum	X	SRE 536					2	2	2		1	1								
		2				Carex sp. (albursina)		C3-938					1	2			2	1								
		2			8	Solidago caesia									3	2	2	1								
		1				Leersia virginica									2	1	2	1			1	1				
		1				Verbesina alternifolia							1	1												
		2				~~Poaceae~~ Festuca subverticillata C3-934-935	X	SRE 538							~~2~~ 2	2										
		3				Carex sp. (pennsylvanica)		C2-1783					1	3												
		1				Lonicera morrowii							1	1												
		2				Carex sp		C2-1784					1	1					2	1						
		2				Viola sp.									2	2	1	2								

Dark green orange

Really wide ... bract

-all

Real ... thin

Updated Vouchers 10-3-12 SRE

CLEVELAND METROPARKS Plant Community Assessment Program Species Cover Data Sheet 2a Page 3 of 4

Project Label: PCAP Project name: OIBr2012 Plot no.: 1237

Total modules: 10 Intensive modules: 4 Plot configuration: 2x5 Plot area (ha): 0.1

Cleveland Metroparks

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

Strata - Cov. entire plot

Estimate for each intensive module:

	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner
	2	4	2	2	3	4	3	2	8	4	8	2	9	4	9	2	R	R
	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov
%open water	1				1				1				1					
%unvegetated open water	1				1				1				1					
%unveg. ground (bare soil)	1				1				1				1					
%unveg. litter (bare litter)	1				1				1				1					

T	S	H	(F)	(A)	Br	Species	c	Voucher #	mod depth	mod cov	corner depth	corner cov	mod depth	mod cov	corner depth	corner cov	mod depth	mod cov	corner depth	corner cov	mod depth	mod cov	corner depth	corner cov	mod depth	mod cov	corner depth	corner cov	mod depth	mod cov	corner depth	corner cov	mod depth	mod cov	corner depth	corner cov
		2				Carex sp. laxiflora	X	SRE 540					1	2																						
		2				Carex rosea	X	SRE 539					1	2			+1	1																		
		1				Rubus allegheniensis							1	2																						
		1				Sanguinaria canadensis							1	1																						
						Poaceae		CS-934-935							2																						
		2				Senecio obovatus							1	2																						
		1				Polygonum virginium									2	1	+1	2			-1	2														
		1			8	Smilax hispida							1	1																						
		1				Erigeron philadelphicus							1	1																						
		1				~~Heuch~~ Mitella diphylla																	1	2												
		1				Taraxacum officinale																	1	1												
		1				Equisetum hyemale																	1	1												
		1				Polygonatum pubescens																	1	1												
		1				Poly. Ranunculus recurvatus																	1	1												
		2				Carex sphirtifolia	X	SRE 541															1	4												
		1				Cornus sp.																	1	1												
		2				Adiantum pedatum																			2	1										
		1				~~Dactyl~~ Unk monocot (tussocks) C936																	1	2												
		2				Poaceae sp.	X	SRE 542															1	2												
		1				Lonicera maackii																														
4	+1				+0	Ilex americana																														
		1				Poaceae (purple base)			1	1																										
	2					Carpinus caroliana																													R	2
		1				Crataegus sp.																													R	1
		1				Pilea pumila																													R	1

2aCM PCAP Species Cover Data sheet Page 1 of x_ver 3.xls last revised 5/29/2012 ceh

Natural Resource Management FORM NR/2010-02a

updated vouchers SRE 10-3-12

CLEVELAND METROPARKS Plant Community Assessment Program Species Cover Data Sheet 2a Page 4 of 4

Project Label: PCAP Project name: OIBr 2012 Plot no.: 1237

Total modules: 10 Intensive modules: 4 Plot configuration: 2x5 Plot area (ha): 0.1

Cleveland Metroparks

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

Strata - Cov. entire plot

T	S	H	(F)	(A)	Br	Species	c	Voucher #	Estimate for each intensive module:	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner
										2	4	2	2	3	4	3	2	8	4	8	2	9	4	9	2	R	R
										depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov
									%open water	1				1				1				1					
									%unvegetated open water	1				1				1				1					
									%unveg. ground (bare soil)	1				1				1				1					
									%unveg. litter (bare litter)	1				1				1				1					
4	2					Quercus rubra																						R	6
		1				Panicum sp.																						R	1
		1				Quercus sp (seedling)																						R	1
		3				Elymus hystrix																						R	5
		2				Carex plantaginea																						R	3
		1				Galium circaezans		C2 1785																				R	1
		1				Sassafrass albidum																						R	2
		1				Ranunculus sp		C3 931																				R	1
		1				Equisetum arvense																						R	2
		1				Veronica serphyllia																						R	2
3						Quercus alba																						R	5
		1				Mitchella repens																						R	1
		1			9	Rosa multiflora																						R	1
		1				Amphicarpa bracteata																						R	1
		1				Veronica officinale																						R	2
		1				Hydrophyllum virginiana																						R	1

CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet

Project Label: PCAP Project Name: 01 Br 2012 Plot No.: 1237 Page: 1 of 2

Explain subsample (additional room on back):

mod #	species	c	voucher#	# stems 0-1.4m browsed	% sub or super sample	# shrub clumps	size class (cm) woody stems >1.4m 1 0-<1	2 1-<2.5	3 2.5-<5	4 5-<10	5 10 - <15	6 15 - <20	7 20 - <25	8 25 - <30	9 30 - <35	10 35 - <40	11 >40 (record each tree)
1	Liriodendron tulipifera			2												1	67.4, 40.9, 61.0
1	Fagus grandifolia												1				
1	Standing dead							1									
1	Acer saccharum							2	1			1					
2	Fagus grandifolia			1				2			1		1	1			
2	Liriodendron tulipifera			1													45.4, 59.9, 45.9, 44.8
2	Carya cordiformis														1		
2	Acer saccharum							1			1						
2	Standing dead								1								
3	Fagus grandifolia			1					2			1	1				
3	Acer saccharum						1	1	1								
3	Liriodendron tulipifera																54.9, 61.6
3	Smilax hispida			1													
4	Rosa multiflora ✓			1													
4	Ostrya virginiana						1	1	1								
4	Acer saccharum						1				1						
4	Liriodendron tulipifera			1													57.0
4	Fagus grandifolia			1				1	2	1		1					
4	Carpinus caroliniana							1									
5	Acer saccharum			1					1	1					1		
5	Fagus grandifolia			1			1	1	2		1		1				
5	Quercus rubra																43.5, 40.4
5	Standing dead									1							
5	Lindera benzoin			1		1											

CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet

Cleveland Metroparks

Project Label: PCAP Project Name: 01 Br 2012 Plot No.: 1237 Page: 2 of 2

Explain subsample (additional room on back):

mod #	species	c	voucher#	# stems 0-1.4m browsed	% sub or super sample	# shrub clumps	size class (cm) woody stems >1.4m 1 0-<1	2 1-<2.5	3 2.5-<5	4 5-<10	5 10 - <15	6 15 - <20	7 20 - <25	8 25 - <30	9 30 - <35	10 35 - <40	11 >40 (record each tree)
6	Fagus grandifolia						2	1				1	1				
6	Tilia americana															1	
6	Liriodendron tulipifera			1													69.4
7	Quercus alba																52.0
7	Fagus grandifolia			2					2		1					2	
7	Standing dead										1					1	~~Fagus grandifolia 75cm~~ *measured at 75cm
8	Acer saccharum							2									
8	Fagus grandifolia			1			1	2			1	1					
8	Ostrya virginiana							1									
8	Liriodendron tulipifera			1												1	41.6, 53.1, 53.8
8	Fraxinus sp.			1													
9	Fagus grandifolia									1	2						
9	Liriodendron tulipifera													1			
9	Standing dead							1						1			
9	Tilia americana														1		
~~10~~ 9	Liriodendron tulipifera																53.2, 45.7, 66.7
10	Quercus rubra								1								
10	Acer saccharum						1	2	1	1							
10	Fagus grandifolia									1	1						
10	Standing dead							1	1								
10	Ostrya virginiana									1							
10	Carpinus caroliniana								1								
10	Carya cordiformis								1								

9 Fagus Lonicera

10. Rhamnus ... crataegus

CLEVELAND METROPARKS Plant Community Assessment Program: Invasive Species Survey

Cleveland Metroparks

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

Presence
X: yes

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

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

Presence
X: yes

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: OIBC 2012 Plot No.: 1237

Cleveland Metroparks

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, g Fit and Confidence

Hydrogeomorphic class (WETLANDS ONLY):

- ☐ DEPRESSION Fit=___ Conf=___
- ☐ IMPOUNDMENT ☐ Beaver ☐ Human Fit=___ Conf=___
- ☐ RIVERINE ☐ Headwater ☐ Mainstem ☐ Channel Fit=___ Conf=___
- ☐ SLOPE (ground water hydrology or on a physical slope) Fit=___ Conf=___
- ☐ FRINGING ☐ Reservoir ☐ Natural Lake Fit=___ Conf=___
- ☐ COASTAL (specify subclass) Fit=___ Conf=___
- ☐ BOG (strongly, moderately, weekly ombrotrophic) Fit=___ Conf=___

Ohio EPA VIBI Plant Community Class (WETLANDS ONLY):

- ☐ FOREST ☐ swamp forest ☐ bog forest ☐ forest seep Fit=___ Conf=___
- ☐ EMERGENT ☐ marsh ☐ wet meadow ☐ open bog Fit=___ Conf=___
- ☐ SHRUB ☐ shrub swamp ☐ tall sh. bog ☐ tall sh. fen Fit=___ Conf=___

McNAB INDICES (degrees) + for up - for down

[FILLED OUT USING GIS PROGRAM - DO NOT FILL OUT IN FIELD]

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

LFI is angle of plot to the horizon. TSI is angles formed by local slopes. For TSI measure angle from recorders eye to eye of person standing ~10 m away.

* Landform Index (position within landscape)

** Terrain Shape Index (site microtopographic shape)

MICROTOPOGRAPHIC FEATURE COUNTS - Intensive modules only

Ranks for microhabitat features. Select one or select two and average the score. NOTE: If mod falls on a slope automatically gets ranked based on steepness (1-3) to begin + any features present

Slope 1 = slight elevational grade across module (hill) Slope 2 = falls on slope ~20° Slope 3 = maximum steepness that can be safely sampled ~45°

0 feature is absent or functionally absent from the wetland

3 feature is present in the wetland in very small amounts or if more common, of low quality

7 feature is present in moderate amounts, but not of highest quality, or in small amounts of highest quality

10 feature is present in moderate or greater amounts and of highest quality

c.w.d. - count for pieces with minimum 1m length

mod#	corner	no. of tussocks depth 3 1x1m (count)	no. of hummocks uplands (Tip-Ups) depth 2 3.16x3.16m (count)	no. macro. depressions depth 1 10x10m (count)	c.w.d (2-12 cm) depth 1 10x10m (count)	c.w.d (12-40cm) depth 1 10x10m (count)	c.w.d >40 cm depth 1 10x10m (count)	microhab. interspers. depth 1 10x10m (rank)	microhab. SLOPE 10x10m (rank)
2	–	Ø	Ø	1	15	5	0	3	2
3	–	Ø	Ø	1	11	1	0	3	2
8	–	~~Ø~~ 2	Ø	1	12	Ø	Ø	~~3~~ 2	2
9	–	0	0	1	14	0	1	3	2

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

CROWN COVER (DENSIOMETER) Make 4 readings per module facing N, S, E, W. Place dot count in corresonding space. (4 dots per grid square)

Module	N	S	E	W
2	6	1	5	1
3	4	2	1	3
8	1	4	3	1
9	1	4	2	1

2 6 1 5 1
2 5 1 5 1

3 4 2 1 3
3 2 1 3

5 1 4 2 1
1 3 3 1

9 1 3 2 1
1 5 2 2

CLEVELAND METROPARKS Plant Community Assessment Program - Soils, Crown Cover, Standing Biomass Data Sheet 6a

Project label: PCAP Project Name: 01BC2012 Plot No.: 1237

Cleveland Metroparks

SOIL PIT DESCRIPTION: Excavate 20 cm plug wih shovel. Describe using Munsell chart, visual exam, texture, and odor.

Soil pit module # ____ (one per entire plot)

5 cm	matrix color	10YR 3/2
	mottle color	NA
	%mottle	NA
	oxid roots	Y (N)
	texture*	2
	redox features**	Y (N)
	hydr. cond.***	I S M (D)
20 cm	matrix color	10YR 5/3
	mottle color	NA
	%mottle	NA
	oxid roots	Y (N)
	texture*	2
	redox features**	Y (N)
	hydro. cond.***	I S M (D)

* refer to texture classes on reverse side

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

*** Circle one: I=indundated S=saturated M=moist D=dry

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

Worms in soil pit

castings

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 Collection Module	Horizon (A, B, C)
2,3,8,9 composited	A

Soil Series/Type: Geeburg - Mentor silt loam

Soil Series Source: Ohio Soil Survey

Landform type: Terraces

Depth to rest. Layer: >80 inches

Parent Material: Lacustrine deposits

- ☐ Excessively dr
- ☐ Somewhat excessively
- ☐ Well drained
- ☒ Moderately well dr
- ☐ Somewhat poorly dr.
- ☐ Very poorly dr.
- ☐ Impermeable surface

AJY 7-13-2012

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)
2	2.0	2.0	0	>30
3	2.3	2.3	0	>30
F	1.6	1.6	0	>30
9	1.7	1.7	0	>30

EARTH SURFACE & GROUND COVER

Underlying Earth Surface* (Sum = 100%)	percent	Ground Cover (Each ≤ 100%)	percent
Histosol	0	Coarse Woody Debris***	7
Mineral Soil	~~100~~ 99	Fine Woody Debris****	2
Gravel-Cobble*	1	Litter	82
Boulder**	0	Duff (Ferm.+ Humus)	0
Bedrock	0	Bryophyte- Lichen	1
* Gravel-Cobble = 1/16-10"		Water	0
**Boulder = > 10 in		Bare Soil	8
*** >5 cm in diameter		Road/Trail	2
**** <5 cm in diameter		Other	0

TRAIL INFORMATION:

record type and cover for each

Type	%Cover
☐ All Purpose	
☐ Bridle	
☐ Hiking sanctioned	
☐ Bootleg unsanctioned	
☐ Gravel	
☑ Deer	2

COVER BY STRATA %

estimate using midpoints of 5,ex:3, 8, 13

Strata	Height Range (m)	Total Cover (%)
Tree	>5	88
Shrub	.5 - 5	33
Herb	0 - .5	43
(Floating)*	-	
(Aquatic)*	-	

* 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.

STAND SIZE

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

FORM B-1: BUFFER SAMPLE PLOTS (Front)

Reviewed by (initial): _____

Site ID: PCAPBR1237 DATE: 07/09/2012

Location: ● AA Center ○ N ○ S ○ E ○ W

Fill in bubble(s) if plot(s) could not be sampled and flag → ○ 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: ● E	Absent: ○	Flag
	Leaf Type: ● N		

	0	1	2	3	4
Big Trees (>0.3m DBH)	○	○	○	○	●
Small Trees (<0.3m DBH)	○	○	●	○	○
Woody Shrubs, Saplings (0.5m-5m HIGH)	○	○	●	○	○
Woody Shrubs, Saplings (<0.5m HIGH)	○	●	○	○	○
Herbs, Forbs and Grasses	○	○	●	○	○
Bare ground	○	●	○	○	○
Litter, duff	○	○	○	○	●
Rock	●	○	○	○	○
Water	●	○	○	○	○
Submerged Vegetation	●	○	○	○	○

Buffer Plot 2	Canopy Type: ○ D ○ E	Absent: ○	Flag
	Leaf Type: ○ B ○ N		

	0	1	2	3	4
Big Trees (>0.3m DBH)	○	○	○	○	○
Small Trees (<0.3m DBH)	○	○	○	○	○
Woody Shrubs, Saplings (0.5m-5m HIGH)	○	○	○	○	○
Woody Shrubs, Saplings (<0.5m HIGH)	○	○	○	○	○
Herbs, Forbs and Grasses	○	○	○	○	○
Bare ground	○	○	○	○	○
Litter, duff	○	○	○	○	○
Rock	○	○	○	○	○
Water	○	○	○	○	○
Submerged Vegetation	○	○	○	○	○

Buffer Plot 3	Canopy Type: ○ D ○ E	Absent: ○	Flag
	Leaf Type: ○ B ○ N		

	0	1	2	3	4
Big Trees (>0.3m DBH)	○	○	○	○	○
Small Trees (<0.3m DBH)	○	○	○	○	○
Woody Shrubs, Saplings (0.5m-5m HIGH)	○	○	○	○	○
Woody Shrubs, Saplings (<0.5m HIGH)	○	○	○	○	○
Herbs, Forbs and Grasses	○	○	○	○	○
Bare ground	○	○	○	○	○
Litter, duff	○	○	○	○	○
Rock	○	○	○	○	○
Water	○	○	○	○	○
Submerged Vegetation	○	○	○	○	○

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				
Fill bubble if present - Plot	1	2	3	Flag
Road - gravel	○	○	○	
Road - two lane	○	○	○	
Road - four lane	○	○	○	
Parking Lot/Pavement	○	○	○	
Golf Course	○	○	○	
Lawn/Park	○	○	○	
Suburban Residential	○	○	○	
Urban/Multifamily	○	○	○	
Landfill	○	○	○	
Dumping	○	○	○	
Trash	○	○	○	
Other: _____	○	○	○	
Other: _____	○	○	○	

Hydrology Stressors				
Fill bubble if present - Plot	1	2	3	Flag
Ditches, Channelization	○	○	○	
Dike/Dam/Road/RR Bed (IMPEDE FLOW)	○	○	○	
Water Level Control Structure	○	○	○	
Excavation, Dredging	○	○	○	
Fill/Spoil Banks	○	○	○	
Freshly Deposited Sediment (UNVEGETATED)	○	○	○	
Soil Loss/Root Exposure	●	○	○	/
Wall/Riprap	○	○	○	
Inlets, Outlets	○	○	○	
Point Source/Pipe (EFFLUENT OR STORMWATER)	○	○	○	
Impervious surface input (SHEETFLOW)	○	○	○	
Other: _____	○	○	○	
Other: _____	○	○	○	

Agricultural & Rural Stressors				
Fill bubble if present - Plot	1	2	3	Flag
Pasture/Hay	○	○	○	
Range	○	○	○	
Row Crops	○	○	○	
Fallow Field (RECENT-RESTING ROW CROP FIELD)	○	○	○	
Fallow Field (OLD - GRASS, SHRUBS, TREES)	○	○	○	
Nursery	○	○	○	
Dairy	○	○	○	
Orchard	○	○	○	
Confined Animal Feeding	○	○	○	
Rural Residential	○	○	○	
Gravel Pit	○	○	○	
Irrigation	○	○	○	
Other: _____	○	○	○	

Industrial Development Stressors				
Fill bubble if present - Plot	1	2	3	Flag
Oil Drilling	○	○	○	
Gas Wells	○	○	○	
Mine (surface)	○	○	○	
Mine (underground)	○	○	○	
Military	○	○	○	
Other: _____	○	○	○	
Other: _____	○	○	○	
Other: _____	○	○	○	

Habitat/Vegetation Stressors				
Fill bubble if present - Plot	1	2	3	Flag
Forest Clear Cut	○	○	○	
Forest Selective Cut	○	○	○	
Tree Plantation	○	○	○	
Tree Canopy Herbivory (INSECT)	○	○	○	
Shrub Layer Browsed (WILD OR DOMESTIC)	●	○	○	
Highly Grazed Grasses (OVERALL <3" HIGH)	○	○	○	
Recently Burned Forest Canopy	○	○	○	
Recently Burned Grassland (BLACKENED)	○	○	○	

Habitat/Vegetation Stressors				
Fill bubble if present - Plot	1	2	3	Flag
Herbicide Use	○	○	○	
Mowing/Shrub Cutting	○	○	○	
Trails	○	○	○	
Soil Compaction (ANIMAL OR HUMAN)	○	○	○	
Offroad vehicle damage	○	○	○	
Soil erosion (FROM WIND, WATER, OR OVERUSE)	○	○	○	
Other: _____	○	○	○	
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 (Front)

Reviewed by (initial): _____

Site ID: PCAP BR 2012 1237 DATE: 07/09/2012

Location: ○ AA Center ● N ○ S ○ E ○ W

Fill in bubble(s) if plot(s) could not be sampled and flag → ○ 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: ○ Leaf Type: B ○ N ○)	0	1	2	3	4	Flag
Big Trees (>0.3m DBH)	○	○	○	●	○	
Small Trees (<0.3m DBH)	○	○	●	○	○	
Woody Shrubs, Saplings (0.5m-5m HIGH)	○	●	○	○	○	
Woody Shrubs, Saplings (<0.5m HIGH)	○	●	○	○	○	
Herbs, Forbs and Grasses	○	●	○	○	○	
Bare ground	○	●	○	○	○	
Litter, duff	○	○	○	○	●	
Rock	○	●	○	○	○	
Water	●	○	○	○	○	
Submerged Vegetation	●	○	○	○	○	

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

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

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

Fill bubble if present - Plot	1	2	3	Flag
Road - gravel	○	○	○	
Road - two lane	○	○	○	
Road - four lane	○	○	○	
Parking Lot/Pavement	○	○	○	
Golf Course	○	○	○	
Lawn/Park	○	○	○	
Suburban Residential	○	○	○	
Urban/Multifamily	○	○	○	
Landfill	○	○	○	
Dumping	○	○	○	
Trash	○	○	○	
Other: _____	○	○	○	
Other: _____	○	○	○	

Hydrology Stressors

Fill bubble if present - Plot	1	2	3	Flag
Ditches, Channelization	○	○	○	
Dike/Dam/Road/RR Bed (IMPEDE FLOW)	○	○	○	
Water Level Control Structure	○	○	○	
Excavation, Dredging	○	○	○	
Fill/Spoil Banks	○	○	○	
Freshly Deposited Sediment (UNVEGETATED)	○	○	○	
Soil Loss/Root Exposure	○	○	○	
Wall/Riprap	○	○	○	
Inlets, Outlets	○	○	○	
Point Source/Pipe (EFFLUENT OR STORMWATER)	○	○	○	
Impervious surface input (SHEETFLOW)	○	○	○	
Other: _____	○	○	○	
Other: _____	○	○	○	

Agricultural & Rural Stressors

Fill bubble if present - Plot	1	2	3	Flag
Pasture/Hay	○	○	○	
Range	○	○	○	
Row Crops	○	○	○	
Fallow Field (RECENT-RESTING ROW CROP FIELD)	○	○	○	
Fallow Field (OLD - GRASS, SHRUBS, TREES)	○	○	○	
Nursery	○	○	○	
Dairy	○	○	○	
Orchard	○	○	○	
Confined Animal Feeding	○	○	○	
Rural Residential	○	○	○	
Gravel Pit	○	○	○	
Irrigation	○	○	○	
Other: _____	○	○	○	

Industrial Development Stressors

Fill bubble if present - Plot	1	2	3	Flag
Oil Drilling	○	○	○	
Gas Wells	○	○	○	
Mine (surface)	○	○	○	
Mine (underground)	○	○	○	
Military	○	○	○	
Other: _____	○	○	○	
Other: _____	○	○	○	
Other: _____	○	○	○	

Habitat/Vegetation Stressors

Fill bubble if present - Plot	1	2	3	Flag
Forest Clear Cut	○	○	○	
Forest Selective Cut	○	○	○	
Tree Plantation	○	○	○	
Tree Canopy Herbivory (INSECT)	○	○	○	
Shrub Layer Browsed (WILD OR DOMESTIC)	●	●	●	
Highly Grazed Grasses (OVERALL <3" HIGH)	○	○	○	
Recently Burned Forest Canopy	○	○	○	
Recently Burned Grassland (BLACKENED)	○	○	○	

Fill bubble if present - Plot	1	2	3	Flag
Herbicide Use	○	○	○	
Mowing/Shrub Cutting	○	○	○	
Trails	○	○	○	
Soil Compaction (ANIMAL OR HUMAN)	○	○	○	
Offroad vehicle damage	○	○	○	
Soil erosion (FROM WIND, WATER, OR OVERUSE)	○	○	○	
Other: _____	○	○	○	
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 (Front)

Reviewed by (initial): _____

Site ID: PCAPBR1237 DATE: 07/09/2012

Location: ○ AA Center ○ N ● S ○ E ○ W

Fill in bubble(s) if plot(s) could not be sampled and flag → ○ 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: ○ Leaf Type: B ● N					Flag
Big Trees (>0.3m DBH)	0	1	●	3	4	
Small Trees (<0.3m DBH)	0	1	●	3	4	
Woody Shrubs, Saplings (0.5m-5m HIGH)	0	●	2	3	4	
Woody Shrubs, Saplings (<0.5m HIGH)	0	●	2	3	4	
Herbs, Forbs and Grasses	0	1	●	3	4	
Bare ground	0	●	2	3	4	
Litter, duff	0	1	2	●	4	
Rock	0	●	2	3	4	
Water	●	1	2	3	4	
Submerged Vegetation	●	1	2	3	4	

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

Buffer Plot 3	Canopy Type: D ○ E ○ Absent: ○ Leaf Type: B ● N					Flag
Big Trees (>0.3m DBH)	0	1	2	●	4	
Small Trees (<0.3m DBH)	0	1	2	●	4	
Woody Shrubs, Saplings (0.5m-5m HIGH)	0	1	●	3	4	
Woody Shrubs, Saplings (<0.5m HIGH)	0	●	2	3	4	
Herbs, Forbs and Grasses	0	1	●	3	4	
Bare ground	0	●	2	3	4	
Litter, duff	0	1	●	3	4	
Rock	0	●	2	3	4	
Water	0	●	2	3	4	
Submerged Vegetation	●	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				
Fill bubble if present - Plot	1	2	3	Flag
Road - gravel	○	○	○	
Road - two lane	○	○	○	
Road - four lane	○	○	○	
Parking Lot/Pavement	○	○	○	
Golf Course	○	○	○	
Lawn/Park	○	○	○	
Suburban Residential	○	○	○	
Urban/Multifamily	○	○	○	
Landfill	○	○	○	
Dumping	○	○	○	
Trash	○	○	○	
Other: _____	○	○	○	
Other: _____	○	○	○	

Hydrology Stressors				
Fill bubble if present - Plot	1	2	3	Flag
Ditches, Channelization	○	○	○	
Dike/Dam/Road/RR Bed (IMPEDE FLOW)	○	○	○	
Water Level Control Structure	○	○	○	
Excavation, Dredging	○	○	○	
Fill/Spoil Banks	○	○	○	
Freshly Deposited Sediment (UNVEGETATED)	○	○	○	
Soil Loss/Root Exposure	●	○	●	1
Wall/Riprap	○	○	○	
Inlets, Outlets	○	○	○	
Point Source/Pipe (EFFLUENT OR STORMWATER)	○	○	○	
Impervious surface input (SHEETFLOW)	○	○	○	
Other: _____	○	○	○	
Other: _____	○	○	○	

Agricultural & Rural Stressors				
Fill bubble if present - Plot	1	2	3	Flag
Pasture/Hay	○	○	○	
Range	○	○	○	
Row Crops	○	○	○	
Fallow Field (RECENT-RESTING ROW CROP FIELD)	○	○	○	
Fallow Field (OLD - GRASS, SHRUBS, TREES)	○	○	○	
Nursery	○	○	○	
Dairy	○	○	○	
Orchard	○	○	○	
Confined Animal Feeding	○	○	○	
Rural Residential	○	○	○	
Gravel Pit	○	○	○	
Irrigation	○	○	○	
Other: _____	○	○	○	

Industrial Development Stressors				
Fill bubble if present - Plot	1	2	3	Flag
Oil Drilling	○	○	○	
Gas Wells	○	○	○	
Mine (surface)	○	○	○	
Mine (underground)	○	○	○	
Military	○	○	○	
Other: _____	○	○	○	
Other: _____	○	○	○	
Other: _____	○	○	○	

Habitat/Vegetation Stressors				
Fill bubble if present - Plot	1	2	3	Flag
Forest Clear Cut	○	○	○	
Forest Selective Cut	○	○	○	
Tree Plantation	○	○	○	
Tree Canopy Herbivory (INSECT)	○	○	○	
Shrub Layer Browsed (WILD OR DOMESTIC)	●	●	●	
Highly Grazed Grasses (OVERALL <3" HIGH)	○	○	○	
Recently Burned Forest Canopy	○	○	○	
Recently Burned Grassland (BLACKENED)	○	○	○	

Habitat/Vegetation Stressors				
Fill bubble if present - Plot	1	2	3	Flag
Herbicide Use	○	○	○	
Mowing/Shrub Cutting	○	○	○	
Trails	○	○	○	
Soil Compaction (ANIMAL OR HUMAN)	○	○	○	
Offroad vehicle damage	○	○	○	
Soil erosion (FROM WIND, WATER, OR OVERUSE)	○	○	○	
Other: _____	○	○	○	
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 (Front)

Reviewed by (initial): _____

Site ID: PCAP612237 DATE: 07 / 09 / 2012

Location: ○ AA Center ○ N ○ S ● E ○ W

Fill in bubble(s) if plot(s) could not be sampled and flag → ○ 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	Buffer Plot 2	Buffer Plot 3
	Canopy Type: ● E Absent: ○ Leaf Type: ● N Flag	Canopy Type: ● E Absent: ○ Leaf Type: ● N Flag	Canopy Type: ● E Absent: ○ Leaf Type: ● N Flag
Big Trees (>0.3m DBH)	4	4	4
Small Trees (<0.3m DBH)	4	3	4
Woody Shrubs, Saplings (0.5m-5m HIGH)	2	2	3
Woody Shrubs, Saplings (<0.5m HIGH)	1	1	2
Herbs, Forbs and Grasses	2	3	3
Bare ground	1	0	0
Litter, duff	3	3	4
Rock	0	0	0
Water	0	0	0
Submerged Vegetation	0	0	0

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

Fill bubble if present - Plot	1	2	3	Flag
Road - gravel	○	○	○	
Road - two lane	○	○	○	
Road - four lane	○	○	○	
Parking Lot/Pavement	○	○	○	
Golf Course	○	○	○	
Lawn/Park	○	○	○	
Suburban Residential	○	○	○	
Urban/Multifamily	○	○	○	
Landfill	○	○	○	
Dumping	○	○	○	
Trash	○	○	○	
Other:	○	○	○	
Other:	○	○	○	

Hydrology Stressors

Fill bubble if present - Plot	1	2	3	Flag
Ditches, Channelization	○	○	○	
Dike/Dam/Road/RR Bed (IMPEDE FLOW)	○	○	○	
Water Level Control Structure	○	○	○	
Excavation, Dredging	○	○	○	
Fill/Spoil Banks	○	○	○	
Freshly Deposited Sediment (UNVEGETATED)	○	○	○	
Soil Loss/Root Exposure	●	●	●	1
Wall/Riprap	○	○	○	
Inlets, Outlets	○	○	○	
Point Source/Pipe (EFFLUENT OR STORMWATER)	○	○	○	
Impervious surface input (SHEETFLOW)	○	○	○	
Other:	○	○	○	
Other:	○	○	○	

Agricultural & Rural Stressors

Fill bubble if present - Plot	1	2	3	Flag
Pasture/Hay	○	○	○	
Range	○	○	○	
Row Crops	○	○	○	
Fallow Field (RECENT-RESTING ROW CROP FIELD)	○	○	○	
Fallow Field (OLD - GRASS, SHRUBS, TREES)	○	○	○	
Nursery	○	○	○	
Dairy	○	○	○	
Orchard	○	○	○	
Confined Animal Feeding	○	○	○	
Rural Residential	○	○	○	
Gravel Pit	○	○	○	
Irrigation	○	○	○	
Other:	○	○	○	

Industrial Development Stressors

Fill bubble if present - Plot	1	2	3	Flag
Oil Drilling	○	○	○	
Gas Wells	○	○	○	
Mine (surface)	○	○	○	
Mine (underground)	○	○	○	
Military	○	○	○	
Other:	○	○	○	
Other:	○	○	○	
Other:	○	○	○	

Habitat/Vegetation Stressors

Fill bubble if present - Plot	1	2	3	Flag
Forest Clear Cut	○	○	○	
Forest Selective Cut	○	○	○	
Tree Plantation	○	○	○	
Tree Canopy Herbivory (INSECT)	○	○	○	
Shrub Layer Browsed (WILD OR DOMESTIC)	●	●	●	
Highly Grazed Grasses (OVERALL <3" HIGH)	○	○	○	
Recently Burned Forest Canopy	○	○	○	
Recently Burned Grassland (BLACKENED)	○	○	○	

Fill bubble if present - Plot	1	2	3	Flag
Herbicide Use	○	○	○	
Mowing/Shrub Cutting	○	○	○	
Trails	○	○	●	
Soil Compaction (ANIMAL OR HUMAN)	○	○	○	
Offroad vehicle damage	○	○	○	
Soil erosion (FROM WIND, WATER, OR OVERUSE)	○	○	●	
Other:	○	○	○	
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 (Front)

Reviewed by (initial): _____

Site ID: PCAPBR1237 DATE: 07 / 09 / 2012

Location: ○ AA Center ○ N ○ S ○ E ● W

Fill in bubble(s) if plot(s) could not be sampled and flag → ○ 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; Leaf Type: B ● N; Absent: ○; Flag)	Buffer Plot 2 (Canopy Type: D ● E; Leaf Type: B ● N; Absent: ○; Flag)	Buffer Plot 3 (Canopy Type: D ● E; Leaf Type: B ● N; Absent: ○; Flag)
Big Trees (>0.3m DBH)	3	3	2
Small Trees (<0.3m DBH)	4	3	3
Woody Shrubs, Saplings (0.5m-5m HIGH)	3	3	1
Woody Shrubs, Saplings (<0.5m HIGH)	1	1	2
Herbs, Forbs and Grasses	1	1	3
Bare ground	1	2	0
Litter, duff	4	3	3
Rock	0	0	0
Water	0	0	0
Submerged Vegetation	0	0	0

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	1	2	3	Flag
Road - gravel	○	○	○	
Road - two lane	○	○	○	
Road - four lane	○	○	○	
Parking Lot/Pavement	○	○	○	
Golf Course	○	○	○	
Lawn/Park	○	○	○	
Suburban Residential	○	○	○	
Urban/Multifamily	○	○	○	
Landfill	○	○	○	
Dumping	○	○	○	
Trash	○	○	○	
Other: _____	○	○	○	
Other: _____	○	○	○	

Hydrology Stressors	1	2	3	Flag
Ditches, Channelization	○	○	○	
Dike/Dam/Road/RR Bed (IMPEDE FLOW)	○	○	○	
Water Level Control Structure	○	○	○	
Excavation, Dredging	○	○	○	
Fill/Spoil Banks	○	○	○	
Freshly Deposited Sediment (UNVEGETATED)	○	○	○	
Soil Loss/Root Exposure	○	●	○	
Wall/Riprap	○	○	○	
Inlets, Outlets	○	○	○	
Point Source/Pipe (EFFLUENT OR STORMWATER)	○	○	○	
Impervious surface input (SHEETFLOW)	○	○	○	
Other: _____	○	○	○	
Other: _____	○	○	○	

Agricultural & Rural Stressors	1	2	3	Flag
Pasture/Hay	○	○	○	
Range	○	○	○	
Row Crops	○	○	○	
Fallow Field (RECENT-RESTING ROW CROP FIELD)	○	○	○	
Fallow Field (OLD - GRASS, SHRUBS, TREES)	○	○	○	
Nursery	○	○	○	
Dairy	○	○	○	
Orchard	○	○	○	
Confined Animal Feeding	○	○	○	
Rural Residential	○	○	○	
Gravel Pit	○	○	○	
Irrigation	○	○	○	
Other: _____	○	○	○	

Industrial Development Stressors	1	2	3	Flag
Oil Drilling	○	○	○	
Gas Wells	○	○	○	
Mine (surface)	○	○	○	
Mine (underground)	○	○	○	
Military	○	○	○	
Other: _____	○	○	○	
Other: _____	○	○	○	
Other: _____	○	○	○	

Habitat/Vegetation Stressors	1	2	3	Flag
Forest Clear Cut	○	○	○	
Forest Selective Cut	○	○	○	
Tree Plantation	○	○	○	
Tree Canopy Herbivory (INSECT)	○	○	○	
Shrub Layer Browsed (WILD OR DOMESTIC)	●	●	●	
Highly Grazed Grasses (OVERALL <3" HIGH)	○	○	○	
Recently Burned Forest Canopy	○	○	○	
Recently Burned Grassland (BLACKENED)	○	○	○	

Habitat/Vegetation Stressors	1	2	3	Flag
Herbicide Use	○	○	○	
Mowing/Shrub Cutting	○	○	○	
Trails	○	○	○	
Soil Compaction (ANIMAL OR HUMAN)	○	○	○	
Offroad vehicle damage	○	○	○	
Soil erosion (FROM WIND, WATER, OR OVERUSE)	○	○	○	
Other: _____	○	○	○	
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