CLEVELAND METROPARKS Plant Community Assessment Program: Quality Control Form

Project Label: PCAP **Plot No:** 1240 **Date Sampled:** 7/9/12 **Lead:** Barton

				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)	N/A
Vouchers labeled on collection bag		Y	(N)	N/A
Pink flags removed		Y	(N)	
Data sheet QA before leaving site?		(Y)	N	
Common equipment returned to tub.		(Y)	N	
Data sheets scanned?				Enter date to left
Final data sheets scanned?				Enter date to left
Buffer Widths measured?		(Y)	N	
Web Soil Survey		(Y)	N	AJY 7-13-2012
Voucher Location	Refrigerator	Y	N	
(# vouchers collected)	Press (#)			Enter number to left
	Drier	Y	N	
	Identified	Y	N	
	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:

Acer saccharum in mod 4 on woody stems, lx2.5 is cont. in margin.

CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet

GENERAL INFORMATION

Project Label: PCAP

Project Name: 015C2012

Plot Name: Tip-Toe & Sniff

Plot No.: 1240

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

Date (mm/dd/yyyy): 7 / 19 / 12

End date (if > 1 day): / /

Party	Role**
Z. Barton	Plot leader
M. Breth	B.S. Asst.
J. Pettit	Woody/Soil
S. Catella	Woody/Soil
K. Lewis	Woody/Soil

** 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.	X			n/a
bryo			X	
lichen				X

TAXONOMIC STANDARD

Authority: G&C Pub Date: 1998

LOCATION

State: OH County: Cuy

Quadrangle: Chagrin Falls

Local Place Names: The Arboretum

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: 41.41481

Longitude: -81.42384

Coord. Accuracy: ☐ m ☐ ft 100% +-

GPS File Name: 1240A

Plot size for cover data: 0.1 (hectares)

X-axis Bearing of plot: [261] °

Depth: (1-5): 4

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

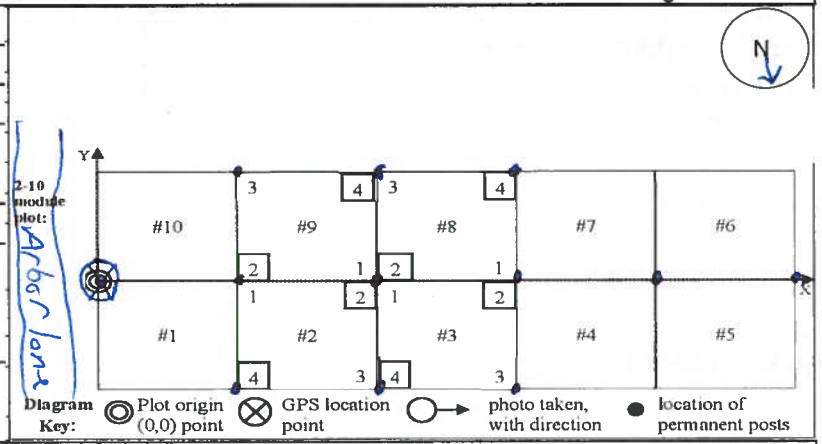
Camera No.: 4

Photo Nos.: 0132

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 South Chagrin Arboretum, walk NW 100m. Plot is 5m in from mowed area on Arbor Lane.

Rationale: GRTS

Veg. Char.: Canopy: Liriodendron tulipifera, Acer rubrum, saccharum, Quercus rubra

Shrub: Acer saccharum, prunus serotina, Fagus grandifolia, carpinus caroliniana, lindera benzoin, crataegus

Herb: Smilax rotundifolia, Acer seedlings, Maianthemum canadense, Liriodendron tulipifera

Minimum required fields in Bold and Underlined

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

OVER

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

Project Label: PCAP Project name: 0ISC2012 Plot no.: 1240

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	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	2			1	1			1	2				
%unveg. litter (bare litter)	1	9			1	4			1	4			1	10				

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
8	8				5	Acer saccharum			4	9	3		4	6	4		4	9	3		4	9	4					
6	6					Acer rubrum			4	8	4		4	7					4	7			4	2				
6	3				9	Liriodendron tulipifera			4	7			2	6	4		1	4			4	6	4					
		2				Mass sp.			3	2					2	2	2	2										
		2				Acer seedlings			2	3	2		3	2	4		4	2	2		3	2						
		2				Evonymus obovatus			2	2			2	2			1	1			4	2						
	3	2			4	Lindera benzoin			2	4	3		2	3	3				3	4	1	4						
	2	1			9	Rosa multiflora			1	2																		
6	5	2			6	Fagus grandifolia			1	4			2	6	2		2	6			4		4	5				
		2				Carex swanii			1	2																		
	2	2			10	Smilax rotundifolia					2	2	2	2	2				2	2								
4		1			8	Magnolia acuminata			1	4			4	5	4													
		2			4	Fraxinus seedlings					2	2	2	2					4	2			3	2				
		2			7	Solidago caesia					2	2					2	1										
		1				Rhamnus frangula			1	1																		
lax		1				Carex sp. 1 (no repro.)			1	2																		
		2				Maianthemum racemosum			1	2			2	2	4		1	2										
		2				Prenanthes sp.			1	1													3	1				
	2	2				Berberis thunbergii					2	3	1	2														
5	4	1			8	Quercus rubra					3	6	1	6			4	5										
		2				Toxicodendron radicans					2	1	2	2					2	2	1	2						
	4	1			10	Fraxinus pennsylvanica					2	3							4	2								
	1					Carya sp.			1	1													4	1				
thin lvs red bar		1				Carex sp. 2 (no repro.)			1	1																		
		3				Cornus florida							4	5														

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

Project Label: PCAP Project name: 01SC2012 Plot no.: 1240

Total modules: _____ Intensive modules: _____ Plot configuration: _____ Plot area (ha): _____

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
	2*	2*			*8	Prunus serotina							4	4			3	3	2											
		1				Quercus seedlings							2	1			2	1												
		2				Thelypteris noveboracensis							2	3																
	3*					Carpinus caroliniana							X		+2	5	2	4	5											
						~~Carex sp.~~ swanii																								
3*	*	2*			8-	Ostrya virginiana							X		+2	6	4	5												
	2*	2*			*7-	Crataegus sp.									24	3	3	2												
		2				Polygonatum pubescens							X		4	2	2	2	3		2	2								
		2				V. burnum acerifolium											1	2+												
	2				*8	Pyrus sp.											1	3+			4	3								
		1				Ulmus seedlings															7		3	1						
4*						Fraxinus sp.															1	5								
		1				Arisaema triphyllum																							R	1
		1			8-	Ligustrum vulgare																							R	1
	2					Acer platanoides																							R	2
						Parthenocissus quinquefolia	X						1	1																
		2				Maianthemum canadense																							R	3
		2				Amelanchier sp.																							R	2
		1				Podophyllum peltatum																							R	1
	1*					Carya cordiformis																							R	1
		1				Epifagus virginiana																							R	1
		1				Carya seedlings																							R	1

CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet

Cleveland Metroparks

Project Label: PCAP Project Name: OISC1240 2072 Plot No.: 1240 Page: 1 of 5

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			:											••		42.7, 49.8
1	Acer rubrum							•		::	••		•				
1	Standing Dead						::	••			•						
1	Fagus grandifolia							•	••								
1	Acer saccharum			•			⌐	▣▣·	::								
1	Acer platanoides							•									
1	Fraxinus pennsylvanica							•									
1	Carya sp.							•									
2	Liriodendron tulipifera			•					::								48.4
2	Acer saccharum						⌐	▣▣⌐	▣·	••							
2	Standing Dead						⌐			•							
2	Fagus grandifolia							•									
2	Acer rubrum									•							
2	Lindera benzoin					:											
2	Fraxinus pennsylvanica								•								
2	Berberis thunbergii					::											
2	Smilax rotundifolia			⌐													
2	Rosa multiflora			•													
3	Fraxinus pennsylvanica							•									
3	Lindera benzoin					:		•									
3	Acer rubrum							•									115.3
3	Standing Dead							••									
3	Acer saccharum			•		••	::	::	••								
3	Quercus rubra			•				•			•						

CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet

Project Label: PCAP Project Name: OISC2012 Plot No.: 1240 Page: 2 of 5

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)
3	Carpinus caroliniana							•		•							
3	Berberis thunbergii					•											
3	Ostrya virginiana								•	••							
3	Prunus serotina								••	•							
3	Magnolia acuminata			•				••	••	••							
3	Fagus grandifolia			•				••	••								
3	Cornus florida									•							
3	Smilax rotundifolia			I:													
3	Fraxinus sp.			•													
4	Lindera benzoin			••		•											
4	Carpinus caroliniana								••								
4	Crataegus sp.			•				••									
4	Acer saccharum							••									
4	Prunus serotina								••								
4	Quercus rubra										•						
4	Fagus grandifolia						•	••	••	••	•		•				
4	Liriodendron tulipifera			••									--				
4	Standing Dead						•		••								
4	Ostrya virginiana								•								
4	Magnolia acuminata			X						•							
4	Smilax rotundifolia			•						•							
5	Fagus grandifolia			••				••	•	••		•					
5	Cornus florida									•							
5	Carpinus caroliniana								•								

CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet

Cleveland Metroparks

Project Label: PCAP Project Name: 015C2012 Plot No.: 1240 Page: 3 of 35

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)
S	Acer saccharum																47.1
S	Magnolia acuminata									•							
S	Standing Dead								•	•							72.5
S	Prunus serotina								••								
S	Acer rubrum							•			•						
S	Crataegus sp.			•					•								
S	Smilax rotundifolia			•													

CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet

Project Label: PCAP Project Name: 01SC2012 Plot No.: 1240 Page: 4 of 5

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	~~5~~	Carpinus caroliana																
6	~~5~~	Prunus serotina																
6	~~5~~	Standing dead																
6	~~5~~	Fagus grandifolia																
6	~~5~~	Acer saccharum																80.9
6	~~5~~	Magnolia acuminata																
6	~~5~~	Smilax rotundifolia																
7	~~6~~	Standing dead																
7	~~6~~	Fagus grandifolia																
7	~~6~~	Carpinus caroliniana																
7	~~6~~	Smilax rotundifolia																
7	~~6~~	Prunus serotina																
7	~~6~~	Quercus rubra																
7	~~6~~	Crataegus sp.																
7	~~6~~	Acer rubrum																
7	~~6~~	Carya cordiformis																
	8	Liriodendron tulipifera																
	8	Fagus grandifolia																
	8	Acer saccharum																58.1
	8	Carpinus caroliniana																
	8	Crataegus sp.																
	8	Ostrya virginiana																
	8	Standing dead																
	8	Prunus serotina																

CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet

Project Label: PCAP Project Name: 01 SC2012 Plot No.: 1240 Page: 5 of 5

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)
8	Pyrus sp.			1				1									
8	Lindera benzoin					2											
8	Smilax rotundifolia			2													
8	Quercus rubra			1													
9	Acer saccharum			2			1	3	1	2							
9	Standing dead						2	2			1		1				
9	Liriodendron tulipifera			2						1					1		44.3
9	Fraxinus sp.									1							
9	Fagus grandifolia							1	1	1							
9	Acer rubrum									1							
9	Lindera benzoin			1		2											
10	Liriodendron tulipifera			1												1	43.4, 60.0
10	Acer saccharum						2	3	2								
10	Standing dead						2	1									
10	Acer platanoides								1								
10	Prunus serotina			1				1									
10	Carpinus caroliniana								2								
10	Acer rubrum									1		1	1	1			
10	Fagus grandifolia			1				1	2	1							
10	Fraxinus pennsylvanica			1					1								
10	Ligustrum vulgare			1													

Acer Sacch 1 - 2.5 2 ~~2~~ ☒ (mod 9)

CLEVELAND METROPARKS Plant Community Assessment Program - Plant Cover and Earth Surface

Project Label: PCAP Project Name: 01SC2012 Plot No.: 1240

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 slop) 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		0	0	2	7	1	0	3	0
3		0	0	2	10	1	0	3	0
8		0	0	4	8	3	0	3	0
9		0	0	1	14	3	0	3	0

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 corresponding space. (4 dots per grid square)

Module	N	S	E	W
2	4	2	4	2
3	2	1	2	2
8	2	0	3	2
9	4	1	1	2

2	5	2	4	2
2	3	1	5	1
3	1	1	2	1
	3	1	3	2
8	3	0	3	3
	1	0	3	2
9	2	1	1	2
	5	1	1	2

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

Project label: PCAP Project Name: 01Sc 2012 Plot No.: 1240

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

Soil pit module # 3 (one per entire plot)

5 cm	matrix color	10YR 3/2
	mottle color	none
	%mottle	0
	oxid roots	Y (N)
	texture*	2
	redox features**	Y (N)
	hydr. cond.***	I S M (D)
20 cm	matrix color	2.5Y 4/4
	mottle color	none
	%mottle	0
	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)

Castings present. No Earthworms or middens

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

Web Soil Survey (information)

Soil Series/Type: Wadsworth silt loam

Soil Series Source: Ohio Soil Survey

Landform type: Knolls

Depth to rest. Layer: > 80 inches

Parent Material: Till

DRAINAGE

- ☐ 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	2.5	2.5	0	>30
3	1.7	1.7	0	>30
8	2	2	0	>30
9	1	1	0	>30

EARTH SURFACE & GROUND COVER

Underlying Earth Surface* (Sum = 100%)	percent	Ground Cover (Each ≤ 100%)	percent
Histosol	0	Coarse Woody Debris***	4
Mineral Soil	96	Fine Woody Debris****	2
Gravel-Cobble*	2	Litter	98
Boulder**	2	Duff (Ferm.+ Humus)	0
Bedrock	0	Bryophyte- Lichen	1
* Gravel-Cobble = 1/16-10"		Water	0
**Boulder = > 10 in		Bare Soil	1
*** >5 cm in diameter		Road/Trail	0
**** <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	

COVER BY STRATA %

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

Strata	Height Range (m)	Total Cover (%)
Tree	5 - X	88
Shrub	0.5 - 5	98
Herb	X - 0.5	8
(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

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					

Presence
X: yes

Tier 2: Assess as Needed		# of Plants				comments
		NE	SE	SW	NW	
Acer platanoides	Norway Maple	1	1			
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)	2	1		1	
Alnus glutinosa	European Alder					
Dipsacus laciniatus	Cut-leaf Teasel					
Elaeagnus umbellata	Autumn Olive (shrub)					
Lonicera maackii	Amur Honeysuckle (shrub)					
Euonymus fortunei	Wintercreeper					

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

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)					

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

Tier 4: Widespread and abundant		Presence				comments
		NE	SE	SW	NW	
Alliaria petiolata	Garlic Mustard				1	
Ligustrum vulgare	Common Privet (shrub)					
L. morrowii, L. tatarica	Bush Honeysuckles (shrub)					
Phalaris arundinacea	Reed Canarygrass					
Phragmites australis (wetland)	Phragmites					
Polygonum cuspidatum	Japanese Knotweed					
Frangula alnus	Glossy Buckthorn (shrub)	4	2	2	2	
Rosa multiflora	Multiflora Rose (shrub)	1	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

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

FORM B-1: BUFFER SAMPLE PLOTS (Front)

Reviewed by (initial): _____

Site ID: PCAPSc1240 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 ○ Leaf Type: ● N ○	Absent: ○ Flag	Buffer Plot 2	Canopy Type: ○ E ○ Leaf Type: ○ N ○	Absent: ○ Flag	Buffer Plot 3	Canopy Type: ○ D ○ E ○ Leaf Type: ○ B ○ N ○	Absent: ○ Flag
Big Trees (>0.3m DBH)	0 1 2 3 ●		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 ●		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 ●		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 ● 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 ● 2 3 4		Herbs, Forbs and Grasses	0 1 2 3 4		Herbs, Forbs and Grasses	0 1 2 3 4	
Bare ground	0 ● 2 3 4		Bare ground	0 1 2 3 4		Bare ground	0 1 2 3 4	
Litter, duff	0 1 2 3 ●		Litter, duff	0 1 2 3 4		Litter, duff	0 1 2 3 4	
Rock	0 ● 2 3 4		Rock	0 1 2 3 4		Rock	0 1 2 3 4	
Water	● 1 2 3 4		Water	0 1 2 3 4		Water	0 1 2 3 4	
Submerged Vegetation	● 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

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: PCAPSc1240

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)	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 ○ Flag)	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 ○ Flag)	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	○	●	○	2
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	●	○	○	1
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: PCAPSc1240

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
Big Trees (>0.3m DBH)	0 1 2 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 ● 2 3 4		
Bare ground	0 ● 2 3 4		
Litter, duff	0 1 2 3 ●		
Rock	● 1 2 3 4		
Water	● 1 2 3 4		
Submerged Vegetation	● 1 2 3 4		

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

Buffer Plot 3	Canopy Type: D ● E ○ / Leaf Type: B ● N ○	Absent: ○	Flag
Big Trees (>0.3m DBH)	0 1 2 ● 4		
Small Trees (<0.3m DBH)	0 1 ● 3 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 2 3 ●		
Bare ground	● 1 2 3 4		
Litter, duff	0 ● 2 3 4		
Rock	● 1 2 3 4		
Water	● 1 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	●	○	○	1
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: PCAD SC 1240 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)	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	1	2	3	Flag
Road - gravel	○	○	○	
Road - two lane	○	○	●	1
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)	○	○	○	

Herbicide Use	1	2	3	Flag
Herbicide Use	○	○	○	
Mowing/Shrub Cutting	○	○	●	1
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 SC 1240 **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	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 HIGH)	0	1	◉2	3	4	
Herbs, Forbs and Grasses	0	1	◉2	3	4	
Bare ground	0	◉1	2	3	4	
Litter, duff	0	1	2	3	◉4	
Rock	◉0	1	2	3	4	
Water	◉0	1	2	3	4	
Submerged Vegetation	◉0	1	2	3	4	

Buffer Plot 2	Canopy Type: D E Absent: ○ Leaf Type: B N Flag					
Big 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 HIGH)	0	◉1	2	3	4	
Herbs, Forbs and Grasses	0	◉1	2	3	4	
Bare ground	0	◉1	2	3	4	
Litter, duff	0	1	2	3	◉4	
Rock	◉0	1	2	3	4	
Water	◉0	1	2	3	4	
Submerged Vegetation	◉0	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	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 HIGH)	0	◉1	2	3	4	
Herbs, Forbs and Grasses	0	◉1	2	3	4	
Bare ground	0	◉1	2	3	4	
Litter, duff	0	1	2	3	◉4	
Rock	◉0	1	2	3	4	
Water	◉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				
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)	◉1	◉2	◉3	
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