CLEVELAND METROPARKS Plant Community Assessment Program: Quality Control Form Cleveland Metroparks

Project Label: PCAP **Plot No:** 3668 **Date Sampled:** 07/30/2015 **Lead:** S. Eysenbach

				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	
	Relocated Pins Mapped	(Y)	N	
Plot No., Date agreement on all pages?		(Y)	N	
Header data completed all pages?		(Y)	N	
Cover classes recorded in all Intensive modules		(Y)	N	
Browse Level By Species		(Y)	N	
Woody stem quality control check		(Y)	N	Check every line *and* cross check with the Tree Cover Sheet
Invasive plant quality control check		(Y)	N	
Ash trees mapped		(Y)	N	
Completed Forest Pest/Pathogen Datasheet		(Y)	N	
Cover by Strata? (confirm cover type)		(Y)	N	
Soil samples collected with matching plot #.		(Y)	N	
Cross check 2010 information		(Y)	N	Highlight any changes from 2010 information
Vouchers labeled on datasheet with initials and number		(Y)	N	
Vouchers labeled on collection bag		(Y)	N	
Pink flags removed		(Y)	N	
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	
Voucher Location	Refrigerator	Y	N	
(# vouchers collected)	Press (#)			Enter number to left
DDS004 – 008	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:

b q

CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet

GENERAL INFORMATION

Project Label: PCAP

Project Name: 02WC2015

Plot Name: Hungry Fish

Plot No.: 3668

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

Date (mm/dd/yyyy): 7/30/15

End date (if > 1 day): / /

Party	Role**
S Eysenbach	Plot leader
D. Sweet	Botany
M. Busam	Woody
R. Fogle-Malone	Woody

** 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:** Cuyahoga

Quadrangle: Cleveland South

Local Place Names: Floodplain

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: 41.37950

Longitude: 81.64404

Coord. Accuracy: ☐ m ☐ ft +-

GPS File Name: 3668A SHP 8/14/15

Plot size for cover data: 0.1 (hectares)

X-axis Bearing of plot: [173] °

Depth: (1-5): 4

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

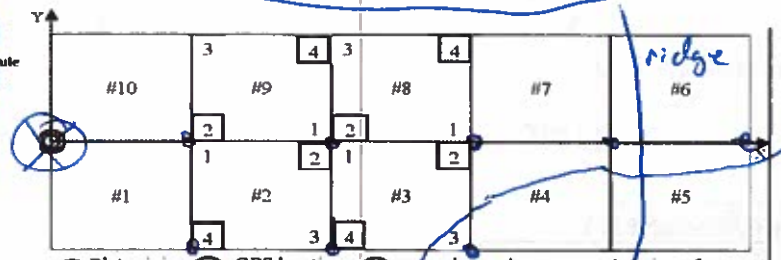
Camera No.: C2

Photo Nos.: C2-4457

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.

West Creek

L01 Mesic floodplain forest

Layout: 2x5

No pin at origin

Location: Park at Playground off of Parkview Ave. Take trail to Creek bridge. Plot is just 50m south in floodplain

Rationale: brts - resample

Veg Char:

Canopy: Very mixed w/ Red Maple, Tulip, Quercus, Sassafrass, Magnolia and Nyssa

Shrub: Mostly Hamamelis, Carpinus and acer rubrum, Some fagus, 1 fraxpen, 1 florist cornus

Herb: Mostly Frax Sp. Seedlings, Some prenanthes arisaema, Carpinus, a couple carex's! Some Sassy/acer/quercus/Liriodendron sprouts,

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 - Background Data Sheet

Project Label: PCAP Project Name: 02 WC2015 Plot No.: 3068

MODIFIED NATURERESERVE CLASS*

CODE (on separate form): Fit=___ Conf=___

L01

COMMUNITY NAME:

Mesic Floodplain

HOMOGENEITY

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

DISTURBANCES

type*	severity**	yrs ago	% of plot	description
Human	MH	0	30	Bootleg trail
Natural	H	0	100	Flood evidence
Fire				
Cut				
Animal	H	0	100	Browse
Other				

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

Current Land Use: RM

Former Land Use: UKN

SALINITY*

- ☐ Saltwater
- ☐ Brackish
- ☐ Fresh
- ☑ Upland (n/a)

(by default unless plot is a wetland)

HYDROLOGIC REGIME*

- ☐ Upland (seldom flooded)
- ☐ Intermittently/seasonally saturated (seldom flooded)
- ☐ Permanently/Semipermanent. saturated (dry <1/yr, seldom flooded)
- ☐ Occasionally flooded (<1/yr)
- ☑ Temporarily flooded
- ☐ Intermittently flooded
- ☐ Semipermanently flooded
- ☐ Permanently flooded
- ☐ Tidal/Seiche flooded daily
- ☐ Tidal/Seiche flooded monthly
- ☐ Tidal/Seiche flooded irregular (e.g. wind, storms)
- ☐ Unknown

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

- Browse was evidently on all sprouts of the Witch Hazel and Sassafrass
- Very limited herbaceous layer
- Evidence of standing water in the back of the plot
- There is a bootleg in the back of the plot

CLEVELAND METROPARKS Plant Community Assessment Program Species Cover Data Sheet

Project Label: PCAP Project name: 02WC2015 Plot no.: 3668

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

Cleveland Metroparks

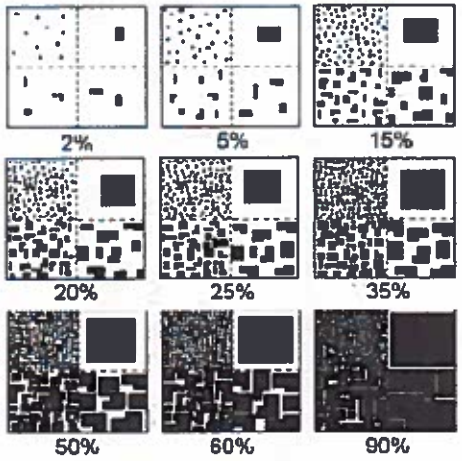
Br = Browse Level. Use cover classes to describe amount of browse per species over entire plot

Strata - Cov. entire plot

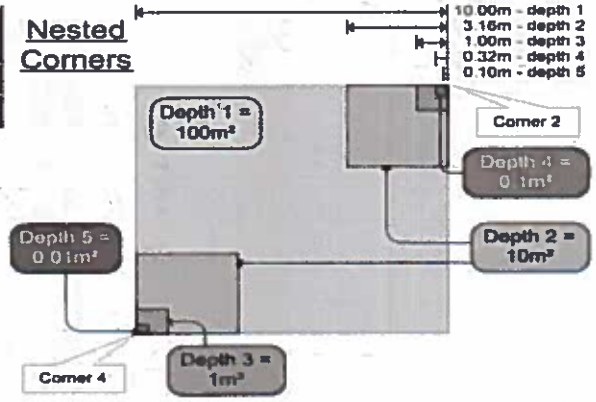
S	H	(F)	(A)	Br	Species	C	Voucher #	mod 2 depth	corner 4 cov	mod 2 depth	corner 2 cov	mod 3 depth	corner 4 cov	mod 3 depth	corner 2 cov	mod 8 depth	corner 4 cov	mod 8 depth	corner 2 cov	mod 9 depth	corner 4 cov	mod 9 depth	corner 2 cov	R depth
					Estimate for each intensive module: %open water			1	0			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	2			1	2			
					%unveg. litter (bare litter)			1	4			1	8			1	9			1	9			
7	2			10	Hamamelis virginiana			4	8	3		4	6				5	2		2	8	3		
	2				Prenanthes sp.			3	2	4		3	2	3		4	3	3		2	2			
	3				Fraxinus sp.			3	3	4		3	2	4		3	3	4		3	3	3		
	2				Prunus serotina			2	2											1	1			
	2				Carex sp. #1 (No hair, brown sheath)	/	DDS004	2	2															
	2				Arisaema triphyllum			2	2	3		2	2	2		1	2				2	2		
	2				Maianthemum racemosum			2	2	2		3	2			1	1							
6	2			8	Carpinus caroliniana			2	2	2		2	6	4		4/8	6			1	1			
	1				Moss sp.				1	4		1	2											
	1				BERBERIS THUNBERGII				1	2														
	2				Leersia virginica				1	2			5	2			2	2		1	2			
	2			8	Sassafrass albidum				2	2		2	2	3		2	2	2						
	2				Rhamnus frangula				2	2		3	2	2			2	3		1	1			
	2			7	Rosa multiflora				2	2		2	2								2	2		
	2				Parthenocissus quinquefolia				2	2														
	1				Pyrus sp.				1	2						2	1	3						
	2				Carex pensylvanica (red base)				2	2		3	2	2		2	2							
	1				Acer sp. (Seedling)				1	2		3	2							3	1			
	2				Quercus sp. (Seedling)				2	2		1	2			1	2			1	1			
	2				Amphicarpaea bracteata				1	2		1	2			4	1							
					~~Maianthemum~~																			
	2				Solidago caesia			1	2				2	2			1	3						
	1			5	Vitis sp.			1	1			4	1	3										
	2				Crataegus sp.			1	1			2	2											
	1				Viburnum dentatum			1	1															

EXAMPLES OF PERCENT OF AREA COVERED

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



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



BROWSE RATING NARRATIVE DESCRIPTION

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

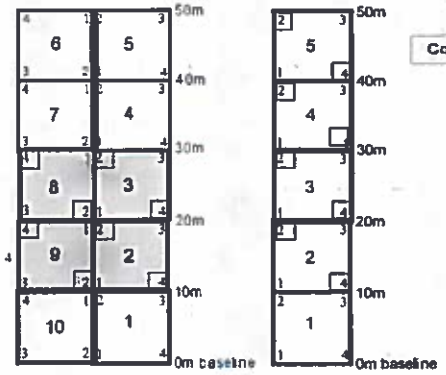
MEDIUM LOW values include evidence of browse at about 10 percent of the stems with no significant impact to plant reproduction evident. In this rating, plants are browsed but preferential species are observed to be reproducing in numbers that appear normal or near-normal in comparison to low browse areas.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

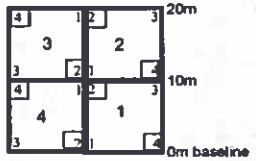
MEDIUM: browse affects greater than 10 percent and less than 25 percent of stems in the 1 m2 nested quadrat and intensive module. A browse line is usually not evident or obvious for all classes and species of vegetation, but careful examination may show preferential browse and/or browse lines for some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

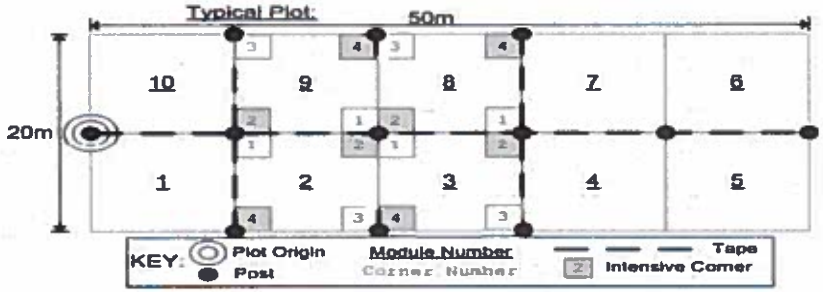
MEDIUM HIGH values include evidence of a browse line and 25 percent of stems browsed with very little vegetation regeneration evident. In this rating, for some species of plants, reproduction does not appear to occur or it is very severely limited.

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

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







CLEVELAND METROPARKS Plant Community Assessment Program Species Cover Data Sheet

Project Label: PCAP Project name: 02WC2015 Plot no.: 3668

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:

%open water: 1

%unvegetated open water: 1

%unveg. ground (bare soil): 1

%unveg. litter (bare litter): 1

S	H	(F)	(A)	Br	Species	c	Voucher #	mod depth	mod cov	corner depth	corner cov	mod depth	mod cov	mod depth	corner cov	mod depth	corner cov	mod depth	corner cov	mod depth	mod cov	corner depth	corner cov	mod depth	mod cov	mod depth	corner cov	mod depth	mod cov	mod depth	corner cov	mod R depth
3					Acer Saccharum			1	3			2	3																			
6					Acer rubrum			1	5							3	5			2	6											
	2				Liriodendron tulipifera							2	2			1	2															
	2				Polygonatum biflorum							2	2	2																		
	1				Geranium Maculatum							2	2																			
	2				Carex Sp. #2	/	DDS 005					2	2																			
					~~Magnolia acuminata~~									2+																		
	2				Glyceria Striata							1	2	3			2	2														
	1				Nyssa Sylvatica							1	1	3																		
	2				Carex #3							1	2	3																		
	2			4	Smilax rotundifolia							1	2																			
	2				Carex Swanii							1	2			2	2															
	1				Aster lateriflorus							1	2																			
	2				Podophyllum peltatum							1	2																			
	1				Collinsonia Canadensis							1	1																			
	1				Viola SP. #1							1	1																			
	1				Robinia pseudoacacia											3	1			1	1											
5					Fagus grandifolia												5	2		1	4											
3					Fraxinus pennsylvanica												3	2														
	1				Tilia americana		SRE17-17-15									1	1															
	2				Danthonia spicata	/	DDS 006									1	2															
	2				Poaceae #1											1	2															
	2				Carex Sp. #4	/	DDS 007																									2
	1				~~unknown forb #1~~ Hedyotis caerulea	/	C2-4458-4459																									2
3				10	Cornus florida		DDS008																									3

SRE_CM PCAP Species Cover Data .xls last revised 6/10/2015 jjm

Natural Resource Management FORM NR/2010-02a

Hirsuta

Blue/glaucous No repro

basal

Spicata?

rosea/radiata

adorable

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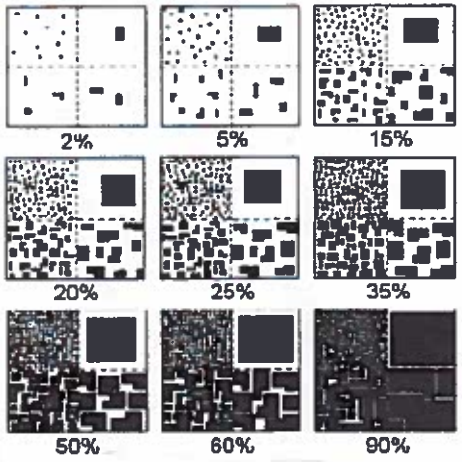

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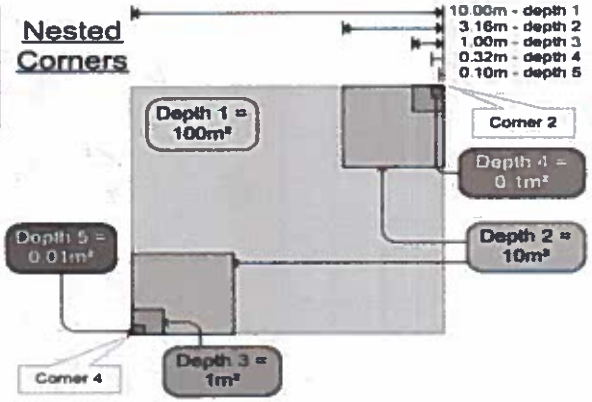
3	1-2%	0.015
4	2-5%	0.035
5	5-10%	0.075
6	10-25%	0.175
7	25-50%	0.375
8	50-75%	0.625
9	75-95%	0.850
10	95-100%	0.975



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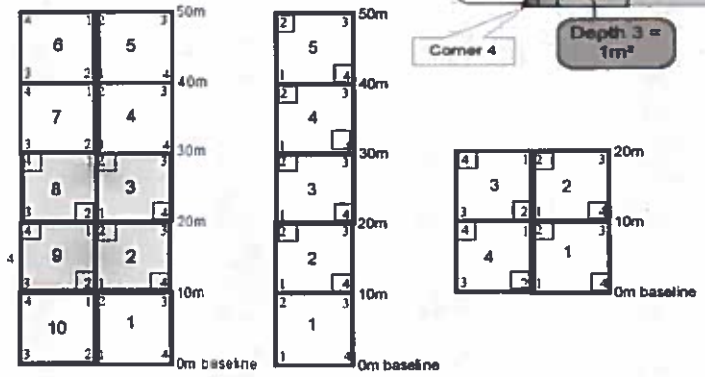

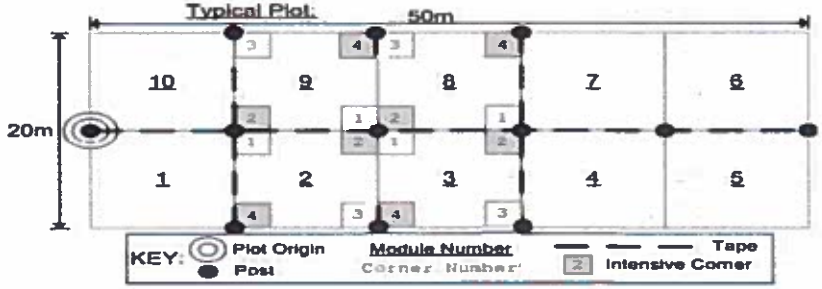

CLEVELAND METROPARKS Plant Community Assessment Program Species Cover Data Sheet

Project Label: PCAP Project name: 02WCZ015 Plot no.: 3668

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Cleveland Metroparks

Strata - Cov. entire plot

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

Estimate for each intensive module:

	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod	corner	mod
																	R
	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth	cov	depth
%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				

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
	2				Aster Macrophyllus																					2
	2				Potentilla Simplex																					2
	1				Bidens sp.																					1
2	2				Phalaris arundinacaea																					2
	1				Prunella vulgaris																					1
	1				Polygonum sp.																					1
	1				Anemonella thalictroides																					1
	1				Alliaria petiolata																					1
	1				Impatiens Capensis																					1
3				5	Quercus rubra							1	3			1	2									

SRE_CM PCAP Species Cover Data .xls last revised 6/10/2015 jjm

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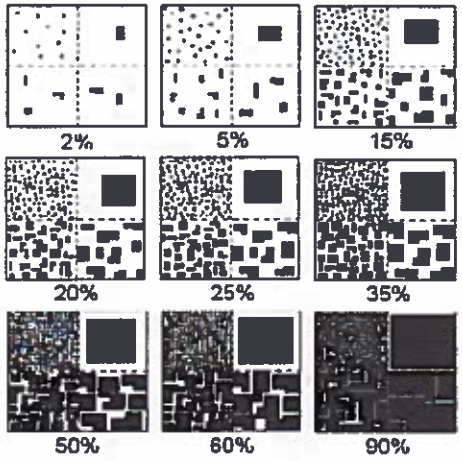

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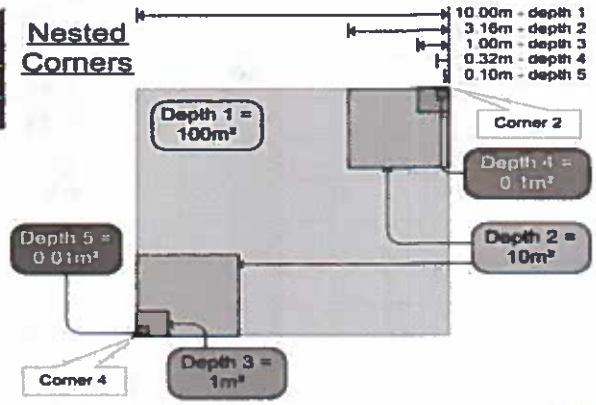
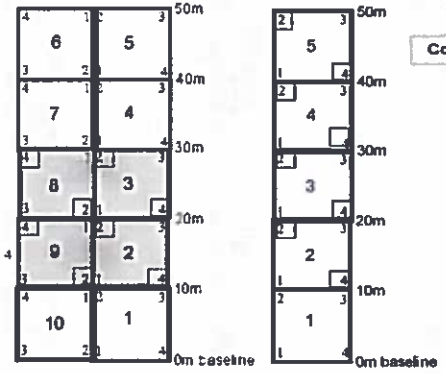
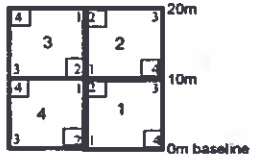
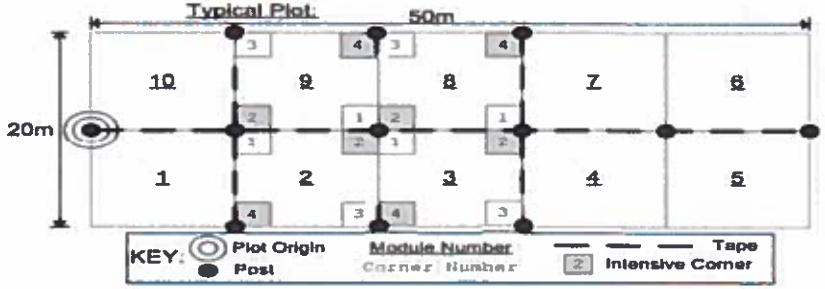








CLEVELAND METROPARKS Plant Community Assessment Program Tree Cover Data Sheet Page 1 of 1

Project Label: PCAP Project name: 02WL2015 Plot no.: 3668

% COVER Strata - Cov. entire plot				Prensence of tree species (X)	mod 2	mod 3	mod 8	mod 9	R R
T	Br	Species	c	Voucher #					
5		Hamamelis virginiana			X				
6		Quercus rubra			X	X	X	X	
8		Acer rubrum			X	X	X		
7		Liriodendron tulipifera			X	X	X	X	
6	10	Sassafrass albidum			X	X	X	X	
4		Magnolia acuminata			X	X			
5		Robinia pseudoacacia			X				
5		Cornus florida				X			X
4		Nyssa Sylvatica				X			
4		~~Magnolia~~ Fagus grandifolia					X		
4		Acer Saccharum							X
4		Tilia americana							X
5		Fraxinus ~~Pennsylvanic~~							X
3		Vitis riparia							X

CLEVELAND METROPARKS Plant Community Assessment Program Tree Cover Data Sheet *Page ___ of ___*

Project Label: PCAP Project name: _____ Plot no.: _____

% COVER Strata - Cov. entire plot				Prensence of tree species (X)	mod	mod	mod	mod	R R
T	Br	Species	c	Voucher #					

CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet — Cleveland Metroparks

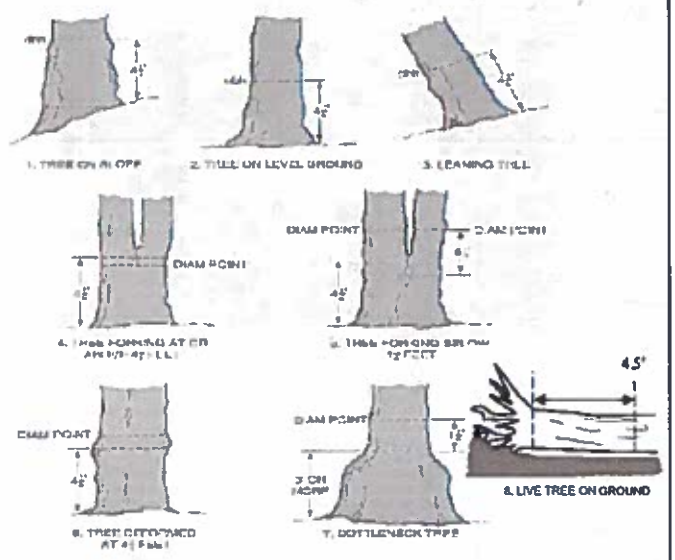
Project Label: PCAP   Project Name: 02WC2015   Plot No.: 36108   Page: 1 of 4

Explain subsample (additional room on back):

2010 did not have class

mod #	species	c	voucher#	# stems 0-1.4m browsed	% sub or super sample	# shrub clumps	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	Carpinas caroliniana			2					3								
1	Standing dead							3		3		1					
1	Quercus rubra			2					1								
T 1	Sassafras albidum			4							3						
1	Robinia pseudoacacia															1	
1	Acer rubrum							1	1								
1	Hamamelis virginiana			4				3	4	1							
1	Rosa multiflora			1													
2	Hamamelis virginiana			[illegible]			1	4	[illegible]	4							
2	Sassafras albidum			1								4	1				
2	Standing dead							3	2		1						
7? 2	Acer rubrum							1	1	2			1				
2	Quercus rubra									1							
2	Acer saccharum								1								
2	Liriodendron tulipifera													1			
3	Hamamelis virginiana			3				1	4								
3	Acer saccharum							1									
3	Magnolia acuminata										1						
3	Liriodendron tulipifera																48.6, 63.9 42.6,
3	Rosa multiflora			1													
3	Fraxinus pennsylvanica								1								
3	Cornus florida									1							
3	Nyssa sylvatica									1							
3	Quercus rubra							1									

DBH Measurement Rules



Woody Stem Deer Browse

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

Record using the tally system from 1 to 10

1 2 3 4 5

ASH CANOPY CONDITION

1. **Healthy, full canopy:** A healthy ash canopy is normally thinner than many other trees such as maple.
2. **Thinning canopy:** There aren't as many leaves as there ought to be, but all top branches exposed to sunlight have leaves.
3. **Dieback:** Canopy is thinning and some top branches exposed to sunlight are dead (have no leaves). Lower branches, not exposed to sunlight, die naturally and are not considered.
4. **>50% Dieback:** The canopy has less than half of the leaves that should be there and/or half of the top branches are dead.
5. **Dead canopy:** No leaves remain in the canopy portion of the tree. It still counts as a 5 even if there are epicormic sprouts below the canopy (lowest branch) on the trunk.

A B C D E

ASH CANOPY BREAKUP CONDITION (for dead trees):
(if an ash receives a score of 5 (dead) under canopy condition it must also receive a breakup condition rank as described below)

A: All main branches contain fine twigs (newly dead).
B: Over 50% of main branches have fine twigs.
C: Less than 50% of main branches have fine twigs.
D: Stem still standing and tertiary main branches present.
E: Central stem still standing.

CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet — Cleveland Metroparks

Project Label: PCAP Project Name: 02WC2015 Plot No.: 3468 Page: 2 of 4

Explain subsample (additional room on back):

mod#	species	c	voucher#	# stems 0-1.4m browsed	% sub or super sample	# shrub clumps	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	Acer rubrum										•						
3	Standing dead									•							
3	Carpinus caroliniana			••					•	•							
3	~~Smilax~~			•													
3	Smilax rotundifolia			•													
4	Quercus rubra									••	••	•					
4	Carpinus caroliniana			⊠•						[illegible]							
4	Standing dead													•••			
4	Sassafras albidum			⊠									••		•		
4	Rosa multiflora			•													
4	Smilax rotundifolia			••													
5	Standing dead											•					
5	Quercus rubra									•							
5	Carpinus caroliniana			•••				•	••	•							
5	Sassafras albidum			•										•			
5	Smilax rotundifolia			••••													
5	Fagus grandifolia									•							
5	Acer saccharum								•								
5	Tilia americana													•			
5	Fraxinus pennsylvanica																48.7
6	Standing dead						•				••		•				
6	Carpinus caroliniana							•	•••								
6	Quercus rubra								•	•						•	
6	Sassafras albidum			[illegible]						•			••				

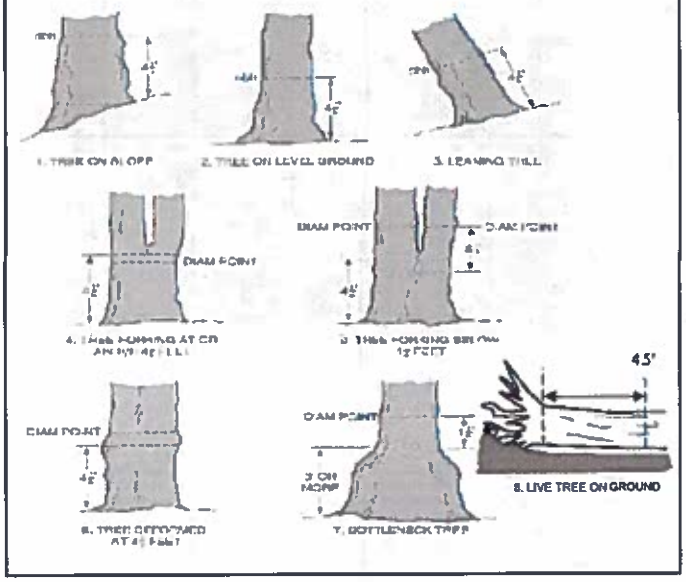
41.5 - 2010 not evidence of this in '15

inappro they called this a [illegible]

3aCM PCAP Natural Woody Stem Data Sheet ver 2.0.xls last revised 5/29/2012 jjm

Natural Resources Management FORM NR/2010-03a

DBH Measurement Rules



Woody Stem Deer Browse

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

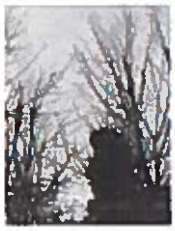
Record using the tally system from 1 to 10

1

2

3

4



5

ASH CANOPY CONDITION

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2. **Thinning canopy:** There aren't as many leaves as there ought to be, but all top branches exposed to sunlight have leaves.
3. **Dieback:** Canopy is thinning and some top branches exposed to sunlight are dead (have no leaves). Lower branches, not exposed to sunlight, die naturally and are not considered.
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A B C D E

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E: Central stem still standing.

CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet

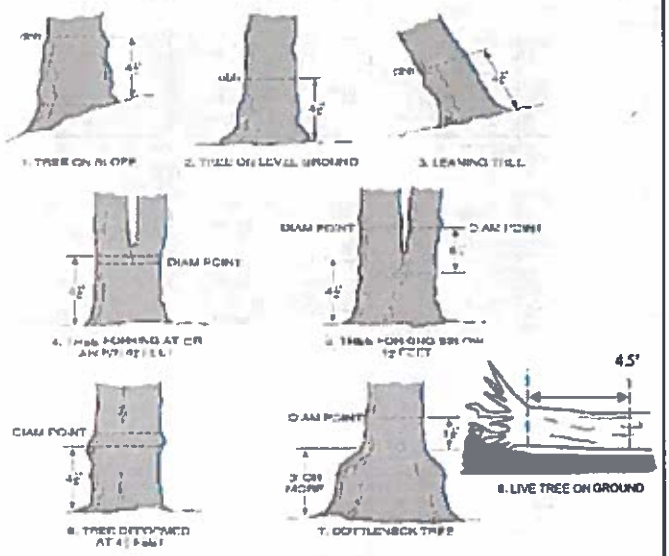
Project Label: PCAP Project Name: 02WC2015 Plot No.: 3668 Page: 3 of 14

Cleveland Metroparks

Explain subsample (additional room on back):

mod #	species	c	voucher#	# stems 0-1.4m browsed	% sub or super sample	# shrub clumps	size class (cm) woody stems >1.4m 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	Acer rubrum																
6	Liriodendron tulipifera																
6	Fagus grandifolia																
6	Tilia americana																
6	Smilax rotundifolia																
7	Standing dead																
7	Carpinus caroliniana																
7	Sassafras albidum																
7	Tilia americana																
7	Liriodendron tulipifera																70.0
7	Smilax rotundifolia																
7	Acer rubrum																52.4
7	Hamamelis virginiana																
7	Quercus rubra																
8	Carpinus caroliniana																
8	Sassafras albidum																
8	Acer rubrum																
8	Hamamelis virginiana																
8	Fraxinus pennsylvanica																
8	Standing dead																
8	Fagus grandifolia																
8	Quercus rubra																
9	Hamamelis virginiana																
9	Standing dead																

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

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(If an ash receives a score of 5 (dead) under canopy condition it must also receive a breakup condition rank as described below)

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B: Over 50% of main branches have fine twigs.
C: Less than 50% of main branches have fine twigs.
D: Stem still standing and tertiary main branches present.
E: Central stem still standing.

CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet

Project Label: PCAP Project Name: 02WC215 Plot No.: 3668 Page: 4 of 4

Explain subsample (additional room on back):

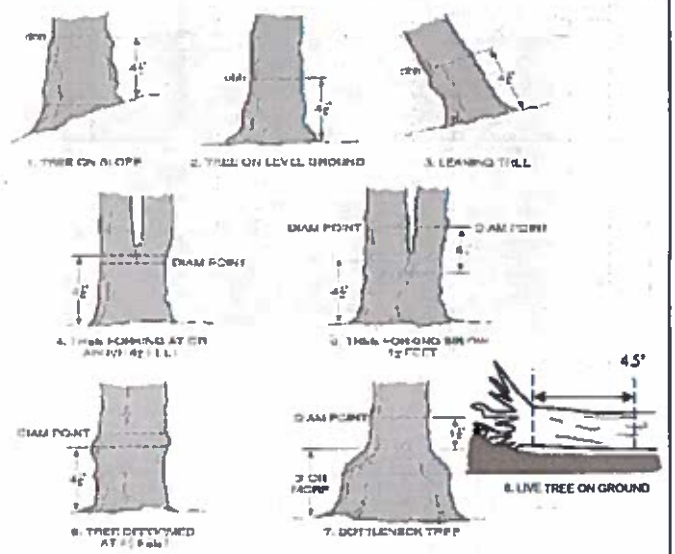
mod #	species	c	voucher#	# stems 0-1.4m browsed	% sub or super sample	# shrub clumps	size class (cm) woody stems >1.4m 1 0-<1	2 1-<2.5	3 2.5-<5	4 5-<10	5 10 - <15	6 15 - <20	7 20 - <25	8 25 - <30	9 30 - <35	10 35 - <40	11 >40 (record each tree)
9	Acer rubrum								c								
9	Rosa multiflora																
9	Fagus grandifolia																
10	Acer rubrum																41.4
10	Quercus rubra																
10	Hamamelis virginiana																
10	Sassafras albidum																
10	Vitis riperia																
10	Cornus florida																
10	Standing dead																
10	Fraxinus pennsylvanica																
10	Liriodendron tulipifera																86.4
2	Berberis thunbergii																

2010 measured as 2 splits above DBH in 2015

3aCM PCAP Natural Woody Stem Data Sheet ver 2.0.xls last revised 5/29/2012 jjm

Natural Resources Management FORM NR/2010-03a

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.
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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)

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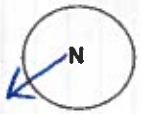
C: Less than 50% of main branches have fine twigs.
D: Stem still standing and tertiary main branches present.
E: Central stem still standing.

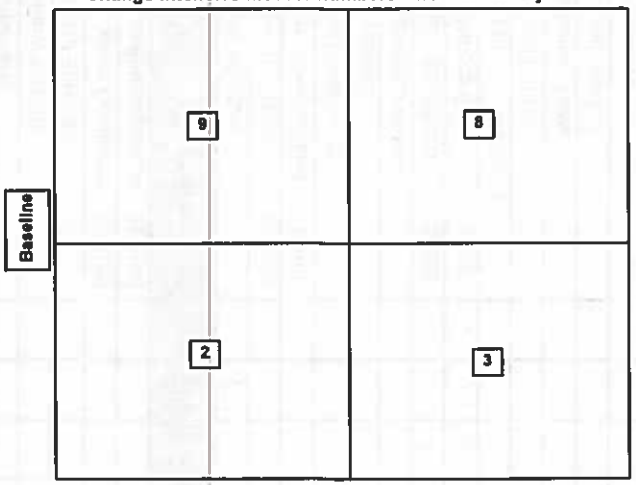
CLEVELAND METROPARKS Emerald Ash Borer - Fraxinus Sheet — *INTENSIVE MODULES ONLY* — *TREES ≥ 10CM ONLY*

Project Label: PCAP Project Name: 02WC2015 Plot No.: 3668 Date: 30 July 2015

Module	Tree ID.	Species	Dead	c	Voucher #	DBH (cm)	Ht @ DBH	ASH Only: Ash condition	ASH Only: *Dead condition	ASH Only: # Exit holes	ASH Only: Epicormic present	ASH Only: Woodpecker holes
—	1	No 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											



*** Change intensive module numbers when necessary



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

* If Ash Condition scores 5 (dead) provide breakup score (A-E)
Count EAB exit holes 1.25m≥ x ≥1.5m
Woodpecker and epicormic marked present (1) or absent (0)

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			1		41.37825, 81.69325
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		
Alnus glutinosa	European Alder					
Dipsacus laciniatus	Cut-leaf Teasel					
Elaeagnus umbellata	Autumn Olive (shrub)					
Lonicera maackii	Amur Honeysuckle (shrub)					
Euonymus fortunei	Wintercreeper					
Tier 3: Presence is of Interest		**# of Plants**				**comments**
		NE	SE	SW	NW	
Convallaria majalis (G-cover)	Lily of the Valley					
Coronilla varia (G-cover)	Crown Vetch					
Eleutherococcus pentaphyllus	Five-leaf Aralia (shrub)					
Pachysandra terminalis (G-cover)	Japanese Pachysandra					
Philadelphus coronarius	Mock Orange (shrub)					
Pulmonaria officinalis (G-cover)	Lungwort					
Rubus phoenicolasius	Wineberry					
Iris pseudacorus (wetland)	Yellow Flag Iris					
Ornithogalum umbellatum	Star of Bethlehem					
Viburnum opulus var. opulus	European Cranberry (shrub)					
Viburnum plicatum	Doublefile Viburnum (shrub)					
Tier 4: Widespread and abundant		**Presence**				**comments**
		NE	SE	SW	NW	
Alliaria petiolata	Garlic Mustard		/			
Ligustrum vulgare	Common Privet (shrub)					
L. morrowii, L. tatarica	Bush Honeysuckles (shrub)					
Phalaris arundinacea	Reed Canarygrass					
Phragmites australis (wetland)	Phragmites					
Polygonum cuspidatum	Japanese Knotweed					
Frangula alnus	Glossy Buckthorn (shrub)	/	/	/	/	
Rosa multiflora	Multiflora Rose (shrub)	/	/	/	/	
Typha angustifolia, T. x.glauca	Cattails (wetland)					
Cirsium arvense	Canada thistle					
Dipsacus fullonum	Common Teasel					
Hesperis matronalis	Dame's Rocket					
Vinca minor (G-cover)	Periwinkle					

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

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

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 Forest Pest and Pathogens Data Sheet

Cleveland Metroparks

Project Label: PCAP Project Name: D2WC2015 Plot No.: 3668 Page: 1 of 1

mod #	species	voucher#	# shrub clumps	size class (cm) woody stems >1m 1 0-<1	2 1-<2.5	3 2.5-<5	4 5-<10	5 10 - <15	6 15 - <20	7 20 - <25	8 25 - <30	9 30 - <35	10 35 - <40	11 >40 (record each tree)
1	No diseases present													
2														
3														
4														
5														
6														
7														
8														
9														
10														

* IF EVIDENCE OF PEST OR PATHOGEN RECORD TOTAL SPECIES POPULATION IN THE PLOT EVEN THE NOT INFECTED

Strata	# of stem infected	Severity (H,M, or L)
Tree (size class 3 or above)		
Shrub (size class 2 or below including shrub clumps)		

* Write **None Present** if no evidence:

None Beech (Fungus) _____ Asian Longhorned Beetle

_____ Hemlock (HWA) _____ Other Pest or Pathogen

_____ Walnut (Thousand Canker)

Severity
High = more than 50% of leaf/needle cover exhibiting symptoms
Medium = Less than 50% of leaf/needle cover exhibiting symptoms
Low = Only a few leaves or branches are exhibiting symptoms

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

Project Label: PCAP Project Name: OZWC 2016 Plot No.: 3618

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, weakly 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	1	22	0	0	2	1
3	—	0	0	1	10	2	0	2	1
8	—	0	0	1	6	1	0	2	1
9	—	0	0	0	20	1	0	2	1

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

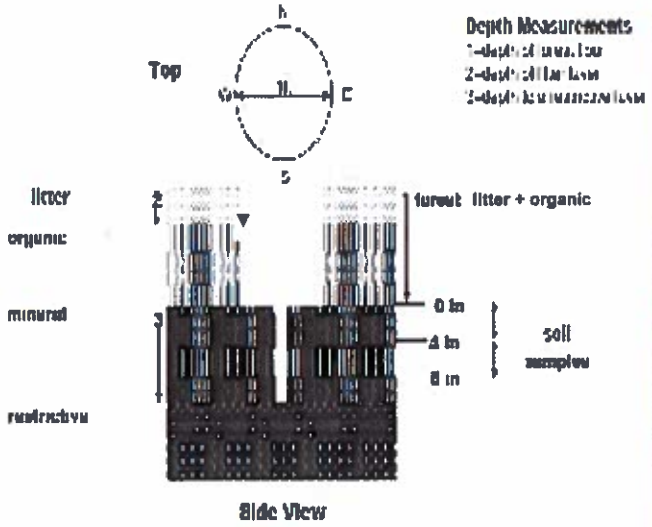
CROWN COVER (DENSIOMETER): Make 4 readings per module facing N, S, E, W Place dot count in corresponding space. (4 dots per grid square)

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

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.



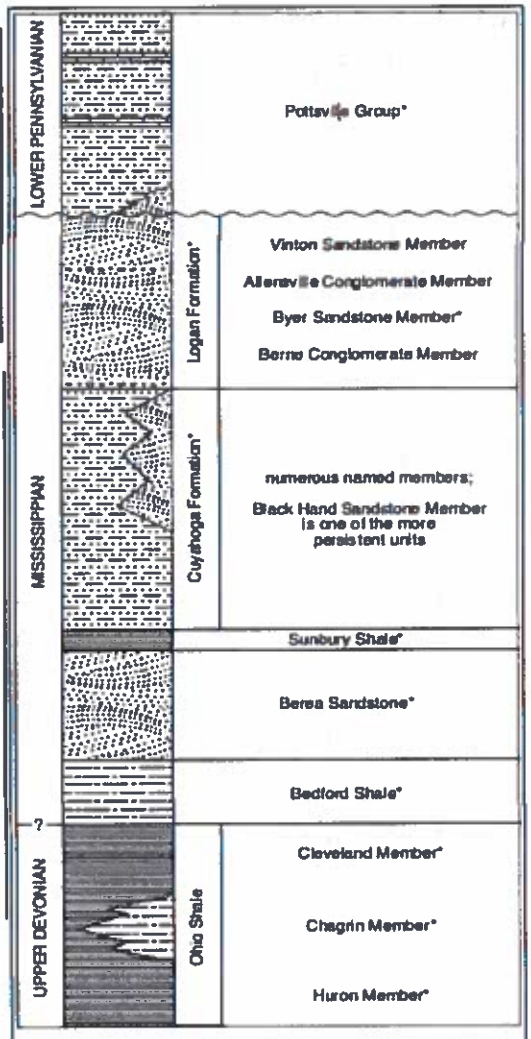


FIGURE 3-20.—Generalized section of Upper Devonian, Mississippian, and Lower Pennsylvanian formations in northeastern Ohio. Asterisks indicate units that are fossiliferous. This composite section represents about 400 meters of rock exposed across the area. The section is not to scale, but the thicknesses 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: 02WC2015 Plot No.: 3668

Cleveland Metroparks

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

Soil pit module # ____ (one per entire plot)

6 cm	matrix color				
	mottle color				
	%mottle				
	oxid roots	Y	N		
	texture*				
	redox features**	Y	N		
	hydr cond.***	I	S	M	D
20 cm	matrix color				
	mottle color				
	%mottle				
	oxid roots	Y	N		
	texture*				
	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)

2 - no evidence
3 - castings evidence
8 - castings evidence worms present
9 castings evident
7 no worms present in any soil

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:

Soil Series Source: Ohio Soil Survey

Landform type:

Depth to rest. Layer:

Parent Material:

DRAINAGE*

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

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	0.3	0.3		
3	1.1	1.1		
8	0.9	0.9		
9	1.2	1.2		

EARTH SURFACE & GROUND COVER

Underlying Earth Surface* (Sum = 100%)	percent	Ground Cover (Each ≤ 100%)	percent
Histosol	—	Coarse Woody Debris***	3
Mineral Soil	100	Fine Woody Debris****	3
Gravel-Cobble*	0	Litter	85
Boulder**	0	Duff (Ferm.+ Humus)	—
Bedrock	0	Bryophyte- Lichen	2
* Gravel-Cobble = 1/16-10"		Water	0
**Boulder = > 10 in		Bare Soil	8
*** >5 cm in diameter		Road/Trail	6
**** <5 cm in diameter		Other	

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

Strata	Height Range (m)	Total Cover (%)
Tree	7.5	93
Shrub	.5-5	83
Herb	<.5	18
(Floating)*	-	0
(Aquatic)*	-	0

* 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.

TRAIL INFORMATION:
record type and cover for each

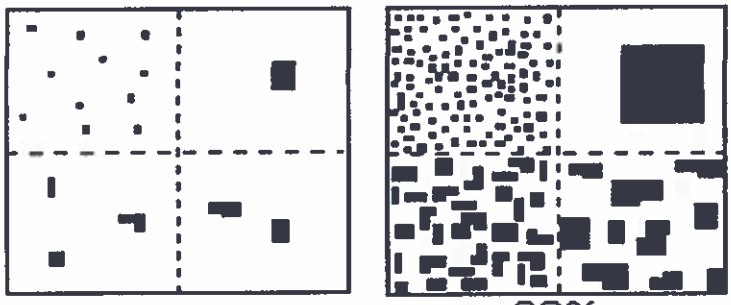
Type	%Cover
☐ All Purpose	
☐ Bridle	
☐ Hiking sanctioned	
☐ Bootleg unsanctioned	6
☐ Gravel	
☐ Deer	

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

PERCENT MOTTLES (USE CLASS CODES):

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



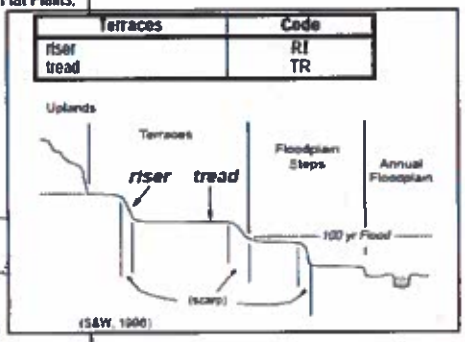
SOIL TEXTURE: Record the code for the soil texture of the 5 cm and 20 cm layers. To estimate texture, collect a soil sample from the appropriate layer and moisten it with water to the consistency of modeling clay/wet newspaper; the sample should be wet enough that all of the particles are saturated but 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*.

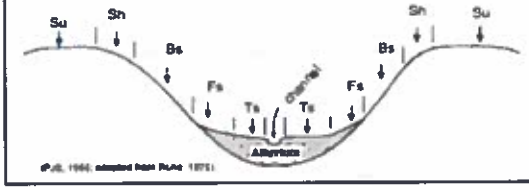
Hills	Code	
	PDP	NASIS
interfluve	IF	IF
head slope	HS	HS
nose slope	NS	NS
side slope	SS	SS
base slope	—	BS

Terraces	Code
riser	RI
tread	TR



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 (Front)

Reviewed by (initial): ________

Site ID: 3668 WCBPS **DATE:** 07 / 30 / 2015

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	D ● E ○	D ● E ○	D ● E ○
Absent	○	○	○
Leaf Type	B ● N ○	B ● N ○	B ● N ○

Strata	Plot 1 (0-4)	Flag	Plot 2 (0-4)	Flag	Plot 3 (0-4)	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 - TARGETED ALIEN SPECIES (Back)

Reviewed by (initial): _____

Site ID: 36068 WLBPS **DATE:** 07 / 30 / 2015

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	O	O	O		Purple Loosestrife	O	O	O		Johnson Grass	O	O	O	
Water hyacinth	O	O	O		Knotweed	O	O	O		Kudzu	O	O	O	
Yellow Floating Heart	O	O	O		Japanese Knotweed	O	O	O		Multiflora Rose	O	O	O	
Giant Salvinia	O	O	O		Perennial Pepperweed	O	O	O		Common Buckthorn	O	O	O	
Garlic Mustard	O	O	O		Giant Reed	O	O	O		Himalayan Blackberry	O	O	O	
Poison Hemlock	O	O	O		Cheatgrass	O	O	O		Tamarisk	O	O	O	
Mile-A-Minute Weed	O	O	O		Reed Canary Grass	O	O	O		Other: _____	O	O	O	
Birdsfoot Trefoil	O	O	O		Common Reed	O	O	O		Other: _____	O	O	O	
Canada Thistle	O	O	O		Leafy Spurge	O	O	O		Other: _____	O	O	O	
										Other: _____	O	O	O	

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): Flag

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

Latitude North 41 . 37825 Longitude West 081 . 69328

Use Decimal Degrees; NAD83

Flag	Comments

7966623548

S Micro at pt 3 — SW Rosa, Rhus — NE Rhamnus Rosa

FORM B-1: BUFFER SAMPLE PLOTS (Front)

Reviewed by (Initial): ______

Site ID: 3668 IACBPF **DATE:** 07/30/2015

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 (D / E)	● D ○ E	● D ○ E	● D ○ E
Leaf Type (B / N)	● B ○ N	● B ○ N	● B ○ N
Absent	○	○	○

Strata	Plot 1 (0 1 2 3 4)	Flag	Plot 2 (0 1 2 3 4)	Flag	Plot 3 (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 - TARGETED ALIEN SPECIES (Back)

Reviewed by (initial): _____

Site ID: 3688 WCBP E DATE: 07/30/2015

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	O	O	O		Purple Loosestrife	O	O	O		Johnson Grass	O	O	O	
Water hyacinth	O	O	O		Knotweed	O	O	O		Kudzu	O	O	O	
Yellow Floating Heart	O	O	O		Japanese Knotweed	O	O	O		Multiflora Rose	O	O	O	
Giant Salvinia	O	O	O		Perennial Pepperweed	O	O	O		Common Buckthorn	O	O	O	
Garlic Mustard	O	O	O		Giant Reed	O	O	O		Himalayan Blackberry	O	O	O	
Poison Hemlock	O	O	O		Cheatgrass	O	O	O		Tamarisk	O	O	O	
Mile-A-Minute Weed	O	O	O		Reed Canary Grass	O	O	O		Other:	O	O	O	
Birdsfoot Trefoil	O	O	O		Common Reed	O	O	O		Other:	O	O	O	
Canada Thistle	O	O	O		Leafy Spurge	O	O	O		Other:	O	O	O	
										Other:	O	O	O	

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):

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

Flag: ☐

Latitude North 41 . 37.98.16 Longitude West 081 . 69.288

Use Decimal Degrees; NAD83

Flag	Comments

FORM B-1: BUFFER SAMPLE PLOTS (Front)

Reviewed by (initial): _____

Site ID: 3668 WQP C

DATE: 07 / 30 / 2015

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	○	○	○	
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

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

Reviewed by (initial): _____

Site ID: 3668 WC BPC DATE: 07 / 30 / 2015

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	○	○	○		Purple Loosestrife	○	○	○		Johnson Grass	○	○	○	
Water hyacinth	○	○	○		Knotweed	○	○	○		Kudzu	○	○	○	
Yellow Floating Heart	○	○	○		Japanese Knotweed	○	○	○		Multiflora Rose	○	●	○	
Giant Salvinia	○	○	○		Perennial Pepperweed	○	○	○		Common Buckthorn	○	○	○	
Garlic Mustard	○	○	○		Giant Reed	○	○	○		Himalayan Blackberry	○	○	○	
Poison Hemlock	○	○	○		Cheatgrass	○	○	○		Tamarisk	○	○	○	
Mile-A-Minute Weed	○	○	○		Reed Canary Grass	○	○	○		Other: _____	○	○	○	
Birdsfoot Trefoil	○	○	○		Common Reed	○	○	○		Other: _____	○	○	○	
Canada Thistle	○	○	○		Leafy Spurge	○	○	○		Other: _____	○	○	○	
										Other: _____	○	○	○	

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 . 37955 Longitude West 81 . 69456

Use Decimal Degrees; NAD83

Flag	Comments

FORM B-1: BUFFER SAMPLE PLOTS (Front)

Reviewed by (initial): _____

Site ID: 3668 WCBRN

DATE: 07 / 30 / 2015

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		2	3	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)		1	2	3	4	
Herbs, Forbs and Grasses	0	1		3	4	
Bare ground	0	1		3	4	
Litter, duff	0	1		3	4	
Rock		1	2	3	4	
Water		1	2	3	4	
Submerged Vegetation	0	1	2	3	4	

Buffer Plot 2 (Canopy Type: D E; Leaf Type: B N; Absent: ○; Flag)						
Big Trees (>0.3m DBH)		1	2	3	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)		1	2	3	4	
Herbs, Forbs and Grasses	0	1	2	3		
Bare ground	0		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	

Buffer Plot 3 (Canopy Type: D E; Leaf Type: B N; Absent: ○; Flag)						
Big Trees (>0.3m DBH)	0		2	3	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)		1	2	3	4	
Herbs, Forbs and Grasses	0	1	2		4	
Bare ground	0		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	○	○	○	
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 - TARGETED ALIEN SPECIES (Back)

Reviewed by (initial): _____

Site ID: 36108WCBPN **DATE:** 07 / 30 / 2015

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	O	O	O		Purple Loosestrife	O	O	O		Johnson Grass	O	O	O	
Water hyacinth	O	O	O		Knotweed	O	O	O		Kudzu	O	O	O	
Yellow Floating Heart	O	O	O		Japanese Knotweed	O	O	O		Multiflora Rose	O	●	O	
Giant Salvinia	O	O	O		Perennial Pepperweed	O	O	O		Common Buckthorn	O	O	O	
Garlic Mustard	O	O	O		Giant Reed	O	O	O		Himalayan Blackberry	O	O	O	
Poison Hemlock	O	O	O		Cheatgrass	O	O	O		Tamarisk	O	O	O	
Mile-A-Minute Weed	O	O	O		Reed Canary Grass	O	O	O		Other: _____	O	O	O	
Birdsfoot Trefoil	O	O	O		Common Reed	O	O	O		Other: _____	O	O	O	
Canada Thistle	O	O	O		Leafy Spurge	O	O	O		Other: _____	O	O	O	
										Other: _____	O	O	O	

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): Flag

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

Latitude North 41.37967 Longitude West 081.69411

Use Decimal Degrees; NAD83

Flag	Comments

7966623548

FORM B-1: BUFFER SAMPLE PLOTS (Front)

Reviewed by (initial): _____

Site ID: 36008 WCBPW

DATE: 07 / 30 / 2015

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

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	(1)	(2)	○		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	(1)	○	○	
Mine (underground)	○	○	○		Tree Canopy Herbivory (INSECT)	○	○	○		Soil Compaction (ANIMAL OR HUMAN)	(1)	○	○	
Military	○	○	○		Shrub Layer Browsed (WILD OR DOMESTIC)	○	○	○		Offroad vehicle damage	○	○	○	
Other: _____	○	○	○		Highly Grazed Grasses (OVERALL <3" HIGH)	○	○	○		Soil erosion (FROM WIND, WATER, OR OVERUSE)	(1)	(2)	○	
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: 36068 LWCBP W DATE: 07 / 30 / 2015

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	O	O	O		Purple Loosestrife	O	O	O		Johnson Grass	O	O	O	
Water hyacinth	O	O	O		Knotweed	O	O	O		Kudzu	O	O	O	
Yellow Floating Heart	O	O	O		Japanese Knotweed	O	O	O		Multiflora Rose	O	●	O	
Giant Salvinia	O	O	O		Perennial Pepperweed	O	O	O		Common Buckthorn	O	O	O	
Garlic Mustard	O	O	O		Giant Reed	O	O	O		Himalayan Blackberry	O	O	O	
Poison Hemlock	O	O	O		Cheatgrass	O	O	O		Tamarisk	O	O	O	
Mile-A-Minute Weed	O	O	O		Reed Canary Grass	O	O	O		Other:	O	O	O	
Birdsfoot Trefoil	O	O	O		Common Reed	O	O	O		Other:	O	O	O	
Canada Thistle	O	O	O		Leafy Spurge	O	O	O		Other:	O	O	O	
										Other:	O	O	O	

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):

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

Flag: 1

Latitude North 41 . 37926 Longitude West 081 . 69465

Use Decimal Degrees; NAD83

Flag	Comments
1	Plot 3 was too steep to reach took GPS pt at Plot 2