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

**Project Label:** PCAP **Plot No:** 1215 **Date Sampled:** 6/13/12 **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) | Only had 1:1,000, made sketch there |
| Check cover page | X-axis Bearing of plot recorded | (Y) N | |
| | GPS coords. Recorded | (Y) N | |
| | North direction recorded | (Y) N | |
| | Photographs taken? | (Y) N | |
| Plot No., Date agreement on all pages? | | (Y) N | |
| Header data completed all pages? | | (Y) N | |
| Cover classes recorded in all Intensive modules | | (Y) N | |
| Browse Level By Species | | (Y) N | |
| Woody stem quality control check | | (Y) N | |
| Invasive plant quality control check | | (Y) N | |
| Ash trees mapped | | Y (N) | N/A |
| Cover by Strata? (confirm cover type) | | (Y) N | |
| Soil samples collected with matching plot #. | | (Y) N | |
| Vouchers labeled on datasheet with initials and number | | (Y) N | |
| Vouchers labeled on collection bag | | (Y) N | |
| Pink flags removed | | (Y) N | |
| Data sheet QA before leaving site? | | (Y) N | |
| Common equipment returned to tub. | | (Y) N | |
| Data sheets scanned? | | 6/15/12 | Enter date to left NS |
| Final data sheets scanned? | | | Enter date to left |
| Buffer Widths measured? | | (Y) N | JTP 6-22-2012 |
| Web Soil Survey | | (Y) N | LNH 6/18/12 |
| 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:**

# CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet



## GENERAL INFORMATION

**Project Label:** PCAP

**Project Name:** OMS2012

**Plot Name:** The Sunshine Log

**Plot No.:** 1215

☐ Level 4 (no nested corners sampled)

■ Level 5 (nested corners sampled)

**Date** (mm/dd/yyyy): 6/13/2012

End date (if > 1 day): / /

| Party | Role** |
|---|---|
| Z. Barton | Plot leader/buffer |
| A. Young | woody/soil/buffer |
| T. Kistler | woody/soil/buffer |
| S. Catella | Bot. Asst./buffer |
| L. Huffman | woody/soil/buffer |

** 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: Berea

Local Place Names: Royalview picnic area

Landowner: CM

**Data Confidentiality:**

Check one: ✓ Public data ☐ Private Data

☐ Fuzz 100m ☐ Fuzz 250m ☐ Fuzz 500m

**Reason:**

If data not public why?

Source of coordinates ☐ MAP ■ GPS

**Coordinate system:** ■ Lat/Long ☐ UTM ☐ StatePlane ☐ Other (*specify*)

**Coord. Units:** ■ deg ☐ deg min ■ 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:** 41.29944

**Longitude:** -81.79561

**Coord. Accuracy:** ✓ m ☐ ft +-1

GPS File Name: 1215A

**Plot size for cover data:** 0.1 (hectares)

**X-axis Bearing of plot:** [348] °

**Depth:** (1-5): 4

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

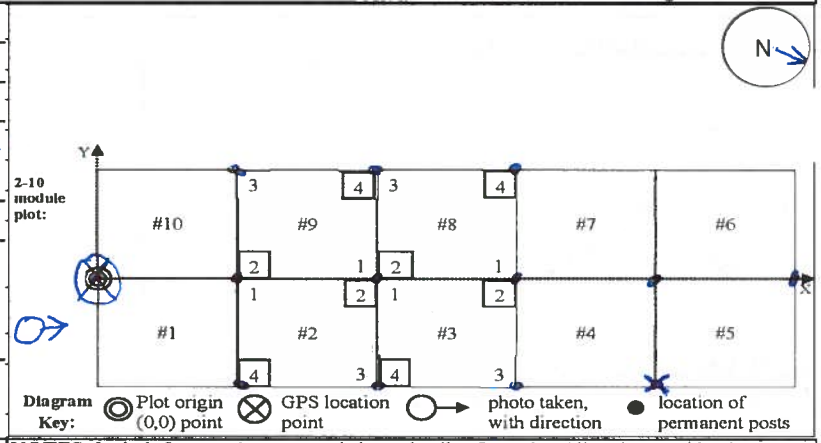
**Camera No.:** 4

**Photo Nos.:** 0084

**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

Rationale: GRTS

Location: Park at Royalview Picnic Area, plot is ~720m East, across small stream and up slope. There are bootleg trails leading up slope & across stream

Veg. Char.

Canopy: Acer saccharum, Quercus rubra, Liriodendron

Shrub: Ostrya, beech, ~~barberry~~ berberis, Acer saccharum

herb: Arisaema, Carex, Frax. seedlings, Quercus seedlings

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 - Background Data Sheet

Project Label: PCAP Project Name: 01MS2012 Plot No.: 125 

**MODIFIED NATURESERVE CLASS***

CODE (on separate form): Fit= 6 Conf= H

D

COMMUNITY NAME:

Mixed Forest

**HOMOGENEITY**

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

**DISTURBANCES**

| type* | severity** | yrs ago | % of plot | description |
|---|---|---|---|---|
| Human | | | | |
| Natural | | | | |
| Fire | | | | |
| Cut | | | | |
| Animal | MH | 0 | 100 | Browse |
| Other | | | | |

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

**Current Land Use:** Park

**Former Land Use:** Unk.

**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.)

Stand very depauperate, small patches of Pawpaw scattered throughout surrounding area. Light gap/depression to South of plot, much Teersia, not microstegium.

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

Project Label: PCAP Project name: OIMS2012 Plot no.: 1215

Total modules: 16 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 | 1 | | | 1 | 3 | | | 1 | 1 | | | 1 | 1 | | | | |
| %unveg. litter (bare litter) | 1 | 9 | | | 1 | 9 | | | 1 | 9 | | | 1 | 9 | | | | |

| T | S | H | (F) | (A) | Br | Species | c | Voucher # | depth | cov | depth | cov | depth | cov | depth | cov | depth | cov | depth | cov | depth | cov | depth | cov | depth | cov | depth | cov |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 5 | 1 | | | 8 | Acer saccharum | | | 4 | 5 | 4 | | 4 | 8 | 4 | | 4 | 8 | 2 | | 4 | 9 | 4 | | | | | |
| 16 | | | | | | Quercus rubra | | | 3 | 8 | 4 | | 4 | 7 | 4 | | | | 4 | 8 | 2 | 8 | 4 | | | | | |
| 2 | 2 | 2 | | | 6- | Fagus grandifolia | | | 4 | 3 | | | ~~4~~ | ~~4~~- | | | | | | | | | | | | | | |
| 6 | | 2 | | | | Carya cordiformis | | | ~~24~~ | 8 | 2 | | 3 | 7 | 4 | | | | 4 | 6 | 3 | 7 | 4 | | | | | |
| | | 2 | | | | Fraxinus seedlings | | | 3 | 2 | 2 | | 3 | 2 | 4 | | 3 | 2 | 3 | | 3 | 2 | 3 | | | | | |
| | | 2 | | | | Prenanthes sp. | | | 2 | 2 | 2 | | 2 | 1 | | | | | | | | | 2 | 2 | | | | |
| | | 2 | | | 3- | Arisaema triphyllum | | | 2 | 2 | 2 | | 3 | 2 | 3 | | 2 | 2 | 2 | | 2 | 2 | 3 | | | | | |
| 5 | | | | | | Acer rubrum | | | 3 | 6 | | | | | | | | | | | | | | | | | | |
| | | 2 | | | | Rhamnus frangula | | | 2 | 1 | | | 2 | 2 | 2 | | 2 | 2 | | | | | 2 | 2 | | | | |
| | 2 | 2 | | | | Crataegus sp. | | | 2 | 5 | 2 | | 1 | 1- | | | | | 2 | 1 | 1 | 2- | | | | | | |
| 5 | 2 | 2 | | | | Ostrya virginiana | | | | | 2 | 6 | 1 | 4- | | | 2 | 2 | | | | | | | | | | |
| | 2 | 2 | | | | Asimina triloba | | | 1 | 2- | | | | | | | | | 3 | 2 | 1 | 2- | | | | | | |
| | | 1 | | | | Podophyllum peltatum | | | 1 | 2- | | | 2 | 1 | | | | | | | | | | | | | | |
| | | 1 | | | | Epipactis helleborine | | | 1 | 2- | | | | | | | | | | | | | | | | | | |
| | | 1 | | | | Moss sp. | | | 1 | 1- | | | 1 | 1- | | | 1 | 1- | | | | | | | | | | |
| | | 1 | | | | ~~Unknown dicot 1~~ Isopyrum | | C4-0085 | 1 | 2- | | | | | | | | | | | | | | | | | | |
| | | 2 | | | 9- | Vitis aestivalis | | | 1 | 2 | | | 2 | 3 | | | 1 | 3 | | | | | 2 | 3 | | | | |
| | | | | | | ~~Unknown dicot 2~~ | | C4-0086 | | 2 | 2 | 1 | | | | | 1 | 1 | | | | | | | | | | |
| | | 2 | | | 9- | Mitchella repens | | | 1 | 2 | | | | | | | | | | | | | | | | | | |
| | | 2 | | | | Toxicodendron radicans | | | 1 | 1 | | | 1 | 1- | | | 1 | 2 | | | | | 2 | 2 | | | | |
| | | 1 | | | | ~~Unknown dicot 3~~ Solanum dulcamara | | C4-0087 | 1 | 1- | | | | | | | | | | | | | | | | | | |
| | | 1 | | | | LIGUSTRUM VULGARE | | SRE 10-10-12 | 1 | 1 | | | | | | | | | | | | | | | | | | |
| | | 1 | | | | Carex laxiflora | | ZSB012 | 1 | 1 | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | Tilia americana | | | | | | | 4 | 5 | | | 4 | 5 | | | | | | | | | | |
| | 2 | 1 | | | 9- | Rosa multiflora | | | | | | | | | +2 | 2 | | | +2 | 2 | 2 | 1 | | | | | | |

divided leaves

duplicate alternate

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

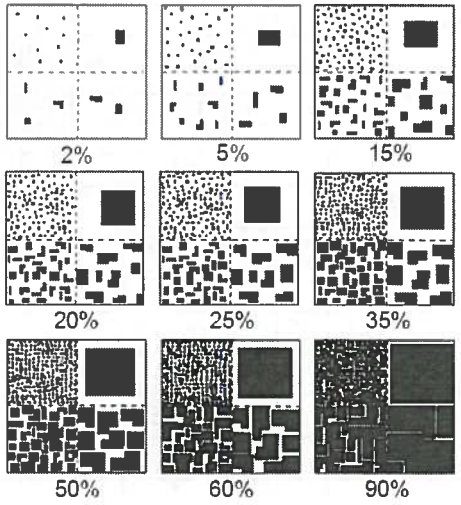
Natural Resource Management FORM NR/2010-02a

ZSB

ECR

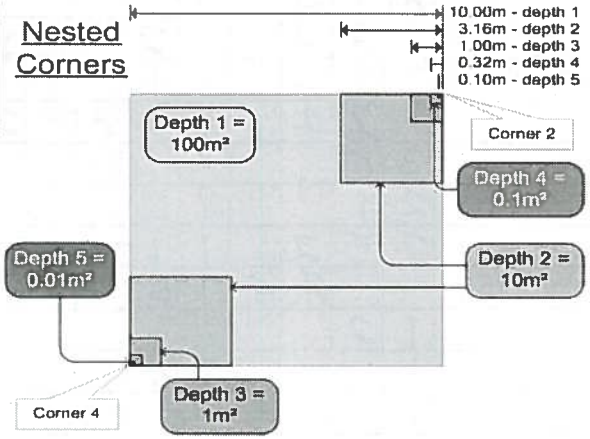
## *EXAMPLES OF PERCENT OF AREA COVERED*

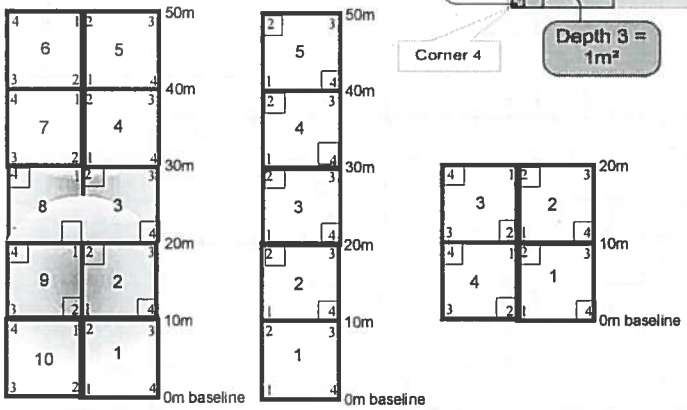
The following graphic can be used for various data elements to convey "Amount" or "Quantity". ***NOTE***: Within any given box, each quadrant contains the same total area covered, just different sized objects.




| 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 |

## Nested Corners










## BROWSE RATING NARRATIVE DESCRIPTION

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

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

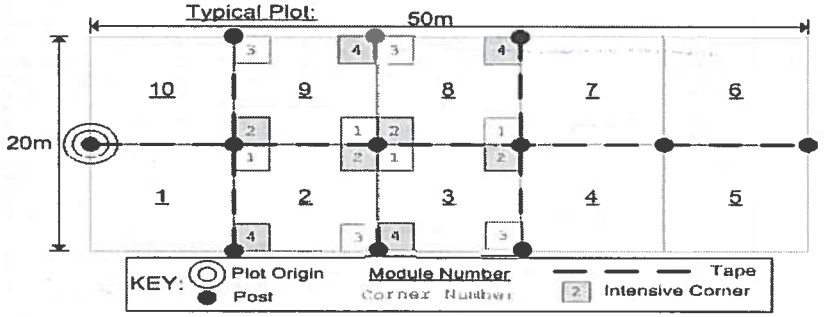
**MEDIUM**: browse affects greater than 10 percent and less than 25 percent of stems in the 1 m2 nested quadrat and intensive module. A browse line is usually not evident or obvious for all classes and species of vegetation, but careful examination may show preferential browse and/or browse lines for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

Typical Plot:



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

Project Label: PCAP Project name: OIMS 2012 Plot no.: 1215

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:

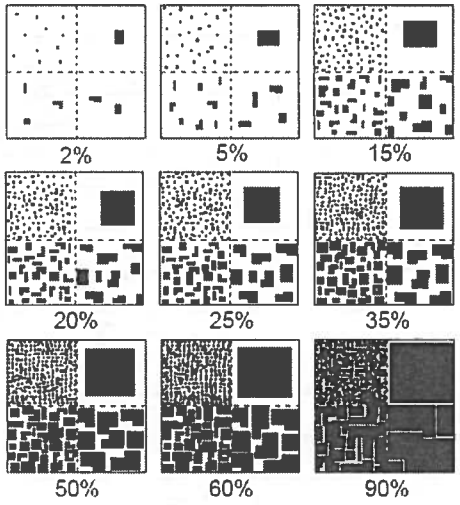
| | mod | corner | mod | corner | mod | corner | mod | corner | mod | corner | mod | corner | mod | corner | mod | corner | mod | corner |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | 4 | 2 | 2 | 3 | 4 | 3 | 2 | 8 | 4 | 8 | 2 | 9 | 4 | 9 | 2 | R | R |
| | depth | 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 # | depth | cov | depth | cov | depth | cov | depth | cov | depth | cov | depth | cov | depth | cov | depth | cov | depth | cov | depth | cov |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | | | | Leersia virginica | | | | | | | 1 | 1+ | | | | | +2 | 1 | | | | | | | | |
| | | 2 | | | | Quercus seedlings | | | 1 | 1 | | | | | 2 | 1 | 1 | 1 | | | 1 | 1+ | | | | | | |
| | | 2 | | | | Parthenocissus quinquefolia | | | | | | | | | 2 | 1 | 1 | 1 | | | 1 | 1 | | | | | | |
| 5 | | 1 | | | | Liriodendron tulipifera | | | | | | | | | 2 | 1 | 2 | 1 | | | | | 2 | 7 | | | | |
| | | 1 | | | | Prunus serotina | | | | | | | 1 | 1+ | | | | | | | | | | | | | | |
| 5 | | 1 | | | | Sassafras albidum | | | | | | | | | | | 2 | 6 | | | 2 | 2 | | | | | | |
| | | 1 | | | | Glyceria striata | | | | | | | | | | | 2 | 1 | | | | | | | | | | |
| | | 2 | | | | Allium tricoccum | | | | | | | | | | | 2 | 2 | | | 1 | 1+ | | | | | | |
| | | 1 | | | | Viburnum dentatum | | | | | | | | | | | 2 | 1 | | | 1 | 1+ | | | | | | |
| | | 2 | | | 6 | Berberis thunbergii | | | | | | | | | | | 1 | 3+ | | | | | | | | | | |
| | | 1 | | | | Acer seedlings | | | | | | | | | | | 1 | 1 | | | 1 | 1+ | | | | | | |
| 3 | 3 | | | | | Carpinus caroliniana | | | | | | | 1 | 4 | | | | | | | | | +2 | 3 | | | | |
| | | 2 | | | | Rubus sp. | | | | | 2 | 1 | | | | | 1 | 1 | | | 1 | 2+ | | | | | | |
| | | 1 | | | | Carex sp. | | | | | | | | | | | | | | | | | +2 | 2 | | | | |
| | | 1 | | | | Ranunculus sp. | | | | | | | | | | | | | | | 1 | 1+ | | | | | | |
| | | 1 | | | | Smilax sp. | | | | | | | | | | | | | | | 1 | 1 | | | | | | |
| 2 | | | | | | Ulmus americana | | | | | | | | | | | | | | | | | | | | | R | 3 |
| | | 1 | | | | Cornus sp. | | | | | | | | | | | | | | | | | | | | | R | 1 |
| | | 2 | | | | Polystichum acrostichoides | | | | | | | | | | | | | | | | | | | | | R | 2 |
| | | 1 | | | | Euonymus obovatus | | | | | | | | | | | | | | | | | | | | | R | 1 |
| | | 2 | | | | Carex swanii | | | | | | | | | | | | | | | | | | | | | R | 2 |
| | | 1 | | | | Lonicera morrowii | | | | | | | | | | | | | | | | | | | | | R | 1 |
| | | 1 | | | 10 | Lindera Benzoin | | | | | | | | | | | | | | | | | | | | | R | 1 |
| | | | | | | ↓ZSB 10-1-12 | | | | | | | | | | | | | | | | | | | | | | |

thin leaved

## 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 |
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| 4 | 2-5% | 0.035 |
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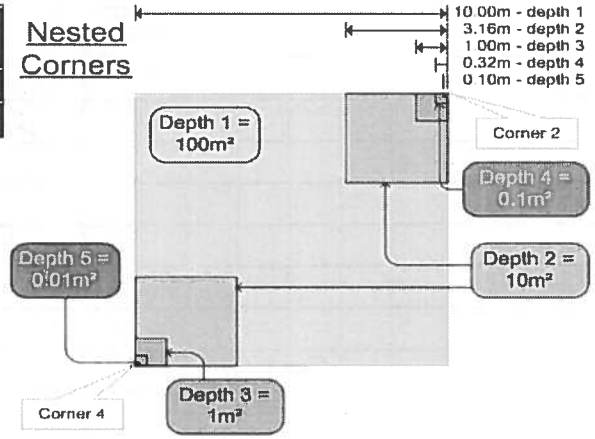


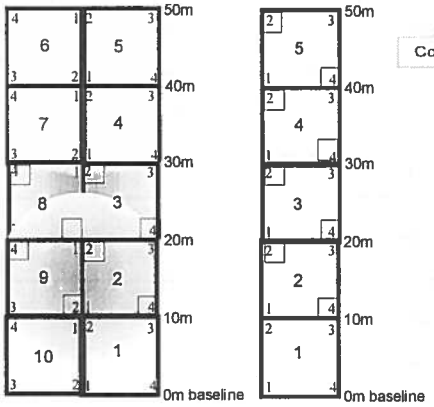





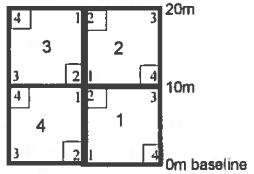


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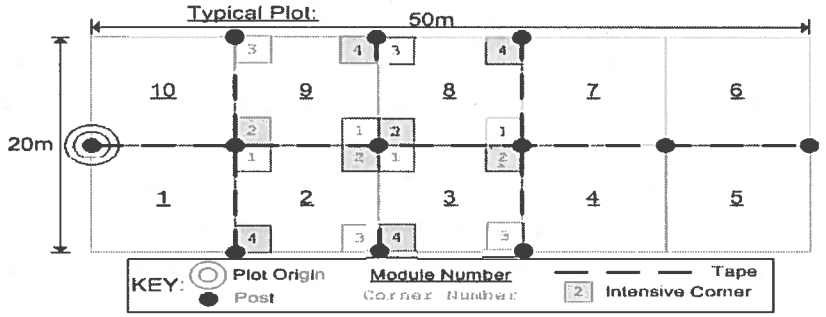
**MEDIUM LOW** values include evidence of browse at about 10 percent of the stems with no significant impact to plant reproduction evident. In this rating, plants are browsed but preferential species are observed to be reproducing in numbers that appear normal or near-normal in comparison to low browse 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 Natural Woody Stem Data Sheet**

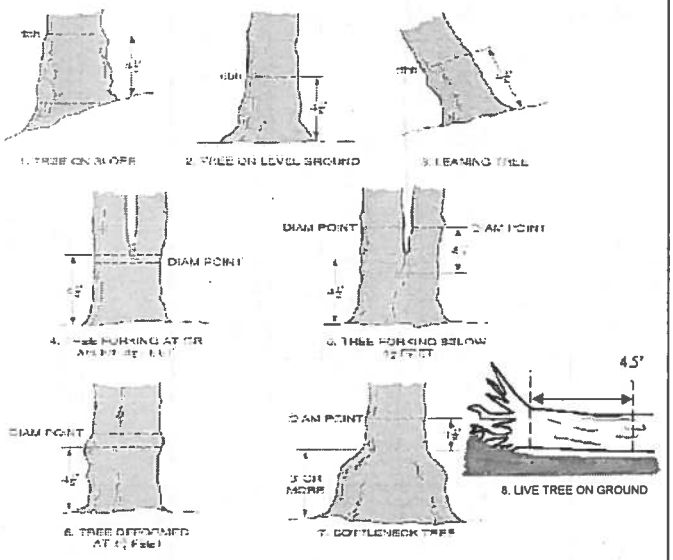
Cleveland Metroparks

Project Label: PCAP  Project Name: 01MS2012  Plot No.: 1215  Page: 1 of 3

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 | Vitis aestivalis | | | | | | | | •• • | • | | X | | | | | |
| ✓ 1 | Ulmus americana | | | | | | | | | | | • | | | | | |
| ✓ 1 | Acer saccharum | | | | | | | o | | o | | o • | | | o | | |
| ✓ 1 | Fagus grandifolia | | | • • | | | | o | • | | • | | | | | | |
| ~~2~~ | ~~Crataegus sp.~~ | | | | | | | | | | | | | | | | |
| ✓ 2 | Crataegus sp. | | | | | | | • • | | | | | | | | | |
| ✓ 2 | Vitis aestivalis | | | • | | | | | • • | • • • | | | | | | | |
| ✓ 2 | Acer rubrum | | | | | | | | | • • | | | | | | | |
| ✓ 2 | Carya cordiformis | | | | | | | | | • • • • | • • | | | | | | 67.1 |
| ✓ 2 | Ostrya virginiana | | | | | | | | o | o o | | | | | | | |
| ✓ 2 | Standing Dead | | | | | | | | | | | • | | | | | ~~X~~ |
| ✓ 2 | Acer saccharum | | | | | | | | | • | | | | | | | |
| ✓ 3 | Acer saccharum | | | | | | | • • • • | o | • • • • | • • | | | | | | |
| ✓ 3 | Vitis aestivalis | | | | | | | | o | o | | | | | | | |
| ✓ 3 | Crataegus sp. | | | | | | | | o | | | | | | | | |
| ✓ 3 | Quercus rubra | | | | | | | | | | | | | | | | 109.0 |
| ✓ 3 | Carya cordiformis | | | | | | | | | • | • | • | | | • | | 42.3 |
| ~~3~~ | ~~Fagus grandifolia~~ | | | | | | | | o | | | | | | | | |
| ✓ 3 | Carpinus caroliniana | | | • | | | | | • | | | | | | | | |
| ✓ 4 | Ostrya virginiana | | | | | | | | • • • • | • | | | | | | | |
| ✓ 4 | Acer saccharum | | | | | | | | | • • | | | | | | | |
| ✓ 4 | Standing dead | | | | | | | • | • • | • • | | | | | | | |
| ✓ 4 | Carya cordiformis | | | | | | | | | | • | | | • • | | • | |
| ✓ 4 | Quercus rubra | | | | | | | | | | | | • | | | | |

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

Project Label: PCAP  Project Name: CLMS2012  Plot No.: 1215  Page: 2 of 3

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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | 4 Fraxinus sp | | | •• | | | | | | | | | | | | | |
| ✓ | 4 Lindera benzoin | | | • | | | | | | | | | | | | | |
| ✓ | 4 Carya sp. | | | •• | | | | | | | | | | | | | |
| ✓ | 5 Quercus rubra | | | | | | | | | | | | | | | | 52.6, 53.4, 53.9 |
| ✓ | 5 Acer saccharum | | | | | | | | •• •• | • | •• • | • | | | | | |
| ✓ | 5 Carya cordiformis | | | | | | | | | | •• | | | • | | | |
| ✓ | 5 Vitis aestivalis | | | • | | | | | • | •• •• | | | | | | | |
| ✓ | 5 Rosa multiflora | | | • | | | | | | | | | | | | | |
| ✓ | 6 Carya cordiformis | | | | | | | | | • | | | | | • | | |
| ✓ | 6 standing dead | | | | | | | | • | | | | | | | | |
| ✓ | 6 Acer saccharum | | | | | | | | •• | X• | • | | | | | | |
| ✓ | 6 Vitis aestivalis | | | •• • | | | | | •• • | | | | | | | | |
| ✓ | 6 Fraxinus pennsylvanica | | | • | | | | | | | • | | | | | | |
| ✓ | 6 Ostrya virginiana | | | | | | | | | • | | | | | | | |
| ✓ | 7 Acer saccharum | | | | | | | | • | •• | X | | • | | | | |
| ✓ | 7 Vitis aestivalis | | | | | | | | • | | | | | | | | |
| ✓ | 7 Crataegus sp. | | | | | | | | • | | | | | | | | |
| ✓ | 7 Carya cordiformis | | | | | | | | | | | | • | | • | | |
| | ~~7 Carya glabra~~ | | | | | | | | | | | | • | | | | |
| ✓ | 7 Berberis thunbergii | | | | | • | | | | | | | | | | | |
| ✓ | 8 Sassafras albidum | | | • | | | | | | | | | | | • | | |
| ✓ | 8 Vitis aestivalis | | | | | | | • | • | | | | | | | | |
| ✓ | 8 Ostrya virginiana | | | | | | | | | • | | | | | | | |
| ✓ | 8 Acer saccharum | | | • | | | | | • | •• | | | • | | | | |

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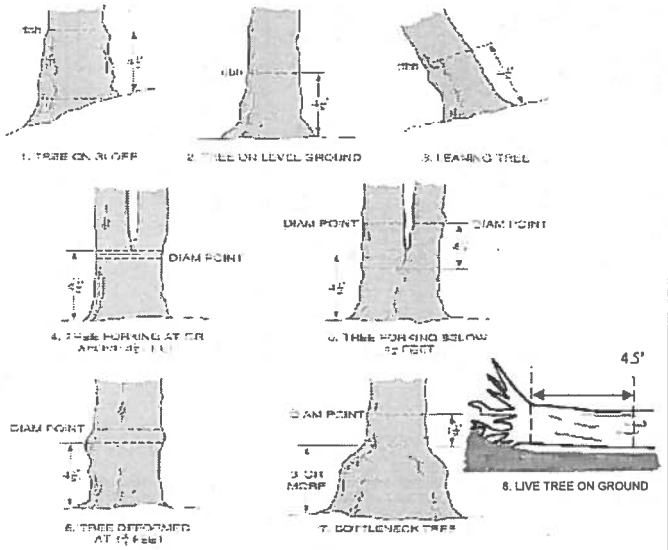


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**CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet**

Cleveland Metroparks

Project Label: PCAP  Project Name: 01 MS 2012  Plot No.: 1215  Page: 3 of 3

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | 8 | Berberis thunbergii | | | | | • | | | | | | | | | | | |
| ✓ | 8 | Carya cordiformis | | | | | | | | | | | • | | | | | |
| ✓ | 8 | Rosa multiflora | | | • | | | | | | X | | | | | | | |
| ✓ | 9 | Acer saccharum | | | | | | | • | • • | • • | • | | | | | | |
| ✓ | 9 | Liriodendron tulipfera | | | | | | | | | | | | • | | | | |
| | ~~9~~ | ~~Carya cordiformis~~ | | | | | | | | | • | | | | | | | |
| ✓ | 9 | Standing Dead | | | | | | | | • | | | | | | | | |
| ✓ | 9 | Crataegus sp. | | | | | | | • | | | | | | | | | |
| ✓ | 9 | Rosa multiflora | | | • | | | | | | | | | | | | | |
| ✓ | 9 | Vitis aestivalis | | | • | | | | | | | | | | | | | |
| ✓ | 10 | Liriodendron tulipifera | | | | | | | | | | | • | • | | | | |
| ✓ | 10 | Carpinus Caroliniana | | | | | | | | • | | | | | | | | |
| ✓ | 10 | Vitis aestivalis | | | • | | | | • • | • • | • | | | | | | | |
| ✓ | 10 | Ostraya virginiana | | | | | | | | | • | • | | | | | | |
| ✓ | 10 | Quercus rubra | | | | | | | | | | | | | | | | 44.4 |
| ✓ | 10 | Berberis Thunbergii | | | | | • • | | | | | | | | | | | |
| ✓ | 10 | Acer saccharum | | | • | | | | | • | • | • • | | | | | | |
| ✓ | 10 | Fagus grandifolia | | | • | | | | | | • | | | | | | | |
| ✓ | 10 | Rosa multiflora | | | • • | | | | | | | | | | | | | |
| ✓ | 7 | Acer rubrum | | | | | | | | | | • | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

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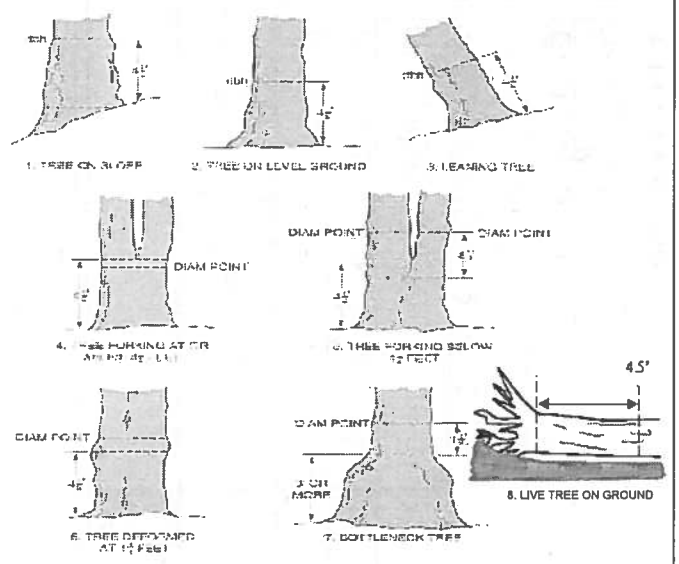


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**CLEVELAND METROPARKS Emerald Ash Borer - Fraxinus Sheet** *INTENSIVE MODULES ONLY* *TREES ≥ 10CM ONLY*

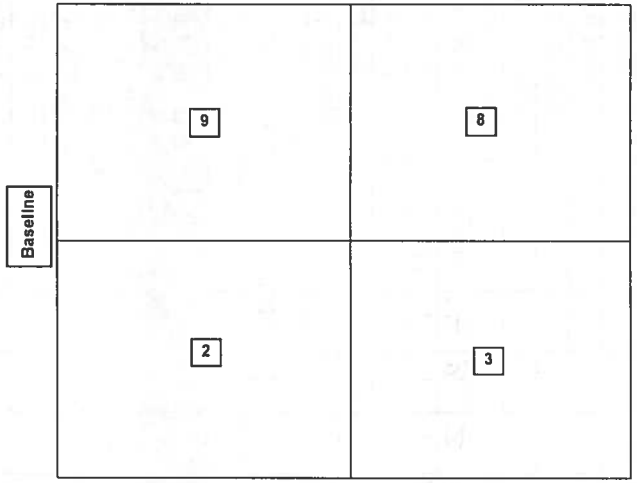
Project Label: PCAP Project Name: 01 MS 2012 Plot No.: 1215 Date: 6/13/12



| | | | | | | | | ASH Only | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Module | Tree ID. | Species | Dead | c | Voucher # | DBH (cm) | Ht @ DBH | Ash condition | *Dead condition | # Exit holes | Epicormic present | 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 | | | | | | | | | | | |

N

*** 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 | | | | | |
| 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) | ~~2~~ 1 | | 1 | | |
| Alnus glutinosa | European Alder | | | | | |
| Dipsacus laciniatus | Cut-leaf Teasel | | | | | |
| Elaeagnus umbellata | Autumn Olive (shrub) | | | | | |
| Lonicera maackii | Amur Honeysuckle (shrub) | | 1 | | | |
| Euonymus fortunei | Wintercreeper | | | | | |
| **Tier 3: Presence is of Interest** | | **# of Plants** | | | | **comments** |
| | | NE | SE | SW | NW | |
| Convallaria majalis (G-cover) | Lily of the Valley | | | | | |
| Coronilla varia (G-cover) | Crown Vetch | | | | | |
| Eleutherococcus pentaphyllus | Five-leaf Aralia (shrub) | | | | | |
| Pachysandra terminalis (G-cover) | Japanese Pachysandra | | | | | |
| Philadelphus coronarius | Mock Orange (shrub) | | | | | |
| Pulmonaria officinalis (G-cover) | Lungwort | | | | | |
| Rubus phoenicolasius | Wineberry | | | | | |
| Iris pseudacorus (wetland) | Yellow Flag Iris | | | | | |
| Ornithogalum umbellatum | Star of Bethlehem | | | | | |
| Viburnum opulus var. opulus | European Cranberry (shrub) | | | | | |
| Viburnum plicatum | Doublefile Viburnum (shrub) | | | | | |
| **Tier 4: Widespread and abundant** | | **Presence** | | | | **comments** |
| | | NE | SE | SW | NW | |
| Alliaria petiolata | Garlic Mustard | | | | | |
| Ligustrum vulgare | Common Privet (shrub) | X | 1 | | | SRE 10-10-12 |
| L. morrowii, L. tatarica | Bush Honeysuckles (shrub) | | | | 1 | |
| Phalaris arundinacea | Reed Canarygrass | | | | | |
| Phragmites australis (wetland) | Phragmites | | | | | |
| Polygonum cuspidatum | Japanese Knotweed | | | | | |
| Frangula alnus | Glossy Buckthorn (shrub) | 1 | 1 | 1 | 1 | SRE 10-10-12 |
| Rosa multiflora | Multiflora Rose (shrub) | 2 | 3 | 2 | 2 | |
| Typha angustifolia, T. x.glauca | Cattails (wetland) | | | | | |
| Cirsium arvense | Canada thistle | | | | | |
| Dipsacus fullonum | Common Teasel | | | | | |
| Hesperis matronalis | Dame's Rocket | | | | | |
| Vinca minor (G-cover) | Periwinkle | | | | | |

| Presence |
|---|
| X: yes |

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

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

| Presence |
|---|
| X: yes |

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

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

Project label: PCAP Project Name: 1215 Plot No.: 01 MS 2012



**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 / 3 |
| | mottle color | N/A |
| | %mottle | 0 |
| | oxid roots | Y (N) |
| | texture* | 1 |
| | redox features** | Y (N) |
| | hydr. cond.*** | I S M (D) |
| 20 cm | matrix color | 10yr / 4 / 2 |
| | mottle color | N/A |
| | %mottle | 0 |
| | oxid roots | Y (N) |
| | texture* | 1 |
| | redox features** | Y (N) |
| | hydro. cond.*** | I S M (D) |

* refer to texture classes on reverse side

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

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

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

- Worms, castings

**SOIL SAMPLES** Standard procedure: collect a soil sample of the top 10 cm of soil from center of each intensive module and composite the sample

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

**Web Soil Survey Information:**

Soil Series/Type: MgB - Mahoning silt loam

Soil Series Source: Ohio Soil Survey

Landform type: till plains

Depth to rest. Layer: >80 in

Parent Material: till

**DRAINAGE**

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

LNH 6/18/12

**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 | 3.2 | 3.2 | 0 | 730 |
| 3 | 3.0 | 3.0 | 0 | 730 |
| 8 | 2.5 | 2.5 | 0 | 730 |
| 9 | 3.6 | 3.6 | 0 | 730 |

**EARTH SURFACE & GROUND COVER**

| Underlying Earth Surface* (Sum = 100%) | percent | Ground Cover (Each ≤ 100%) | percent |
|---|---|---|---|
| Histosol | 0 | Coarse Woody Debris*** | 7 |
| Mineral Soil | 99 | Fine Woody Debris**** | 5 |
| Gravel-Cobble* | 1 | Litter | 90 |
| Boulder** | 0 | 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 | 23 |
| Herb | X - 0.5 | 8 |
| (Floating)* | - | — |
| (Aquatic)* | - | — |

* rooted and floating or slightly emersed

** submersed, most plant mass below surface

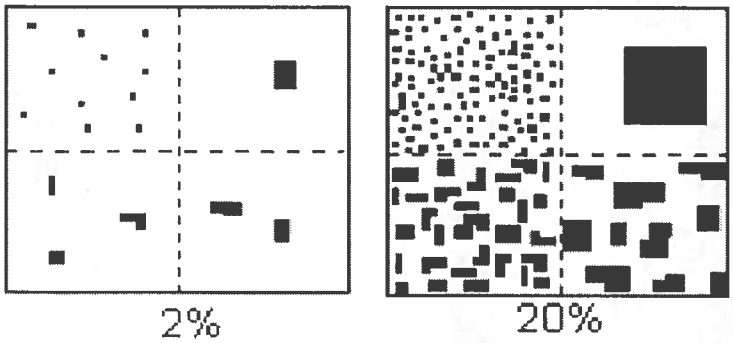
SEE BACK OF PAGE FOR "TYPICAL"STRATA DESCRIPTIONS. STRATA CAN VARY BY COVER TYPE.

**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

**PERCENT MOTTLES** (USE CLASS CODES):

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

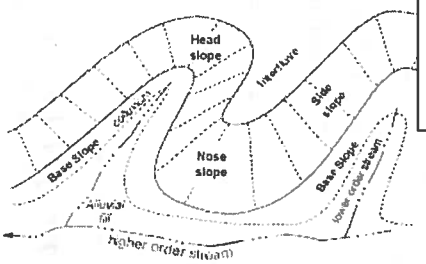



**SOIL TEXTURE**: Record the code for the soil texture of the 5 cm and 20 cm layers. To estimate texture, collect a soil sample from the appropriate layer and moisten it with water to the consistency of modeling clay/wet newspaper; the sample should be wet enough that all of the particles are saturated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

**0**= Organic
**1**= Loamy
**2**= Clayey
**3**= Sandy
**4**= Coarse Sand
**9**= Not measured - make plot note

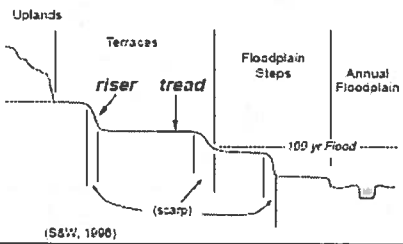
**Geomorphic Component** - Three-dimensional descriptors of parts of landforms or microfeatures that are best applied to areas. Unique descriptors are available for Hills, Terraces, Mountains, and Flat Plains; e.g., (for Hills) *nose slope* or *NS*.

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



(PJS, 1998; adapted from Ruhe, 1975)

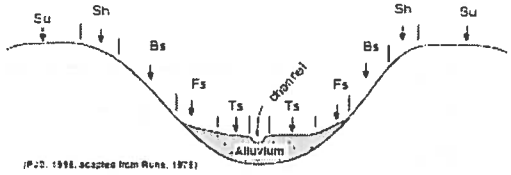
| Terraces | Code |
|---|---|
| riser | RI |
| tread | TR |



(S&W, 1998)

**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 |



(PJS, 1998, adapted from Ruhe, 1975)

**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.

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

Project Label: PCAP Project Name: 1215 Plot No.: 01 MS 2012

Cleveland Metroparks



**STANDING BIOMASS (required for emergent wetlands)**: collected in 0.1m clip plots (32x32 cm) from corners 1 and 3 in each intensive module. Required for VIBI-E score calculation. C?=check when collected

| Module # | C? | Corner | Corner |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

## CLASSIFICATION

(FIT = excellent, g Fit and Confidence

**Hydrogeomorphic class (WETLANDS ONLY):**

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

**Ohio EPA VIBI Plant Community Class (WETLANDS ONLY):**

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

## McNAB INDICES (degrees) + for up - for down

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

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

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

* Landform Index (position within landscape)

** Terrain Shape Index (site microtopographic shape)

## MICROTOPOGRAPHIC FEATURE COUNTS - Intensive modules only

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

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

0 feature is absent or functionally absent from the wetland

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

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

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

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

| mod# | corner | no. of tussocks depth 3 1x1m (count) | no. of hummocks uplands (Tip-Ups) depth 2 3.16x3.16m (count) | no. macro depressions depth 1 10x10m (count) | c.w.d (2-12 cm) depth 1 10x10m (count) | c.w.d (12-40cm) depth 1 10x10m (count) | c.w.d >40 cm depth 1 10x10m (count) | microhab. interspers. depth 1 10x10m (rank) | microhab SLOPE 10x10m (rank) |
|---|---|---|---|---|---|---|---|---|---|
| 2 | — | 0 | 0 | 1 | 17 | 3 | 0 | 2 | 1 |
| 3 | — | 0 | 0 | 0 | 21 | 0 | 0 | 2 | 1 |
| 8 | — | 0 | 0 | 1 | 15 | 2 | 0 | 2 | 1 |
| 9 | — | 0 | 0 | 1 | 17 | 2 | 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 | 4 | 2 | 2 | 2 |
| 3 | 5 | 3 | 4 | 1 |
| 8 | 2 | 2 | 1 | 2 |
| 9 | 2 | 2 | 1 | 3 |
| | 3 | 2 | 2 | 2 |
| | 4 | 2 | 5 | 1 |
| | 6 | 3 | 3 | 1 |
| | 1 | 2 | 1 | 2 |
| | 2 | 3 | 1 | 1 |
| | 1 | 1 | 0 | 4 |

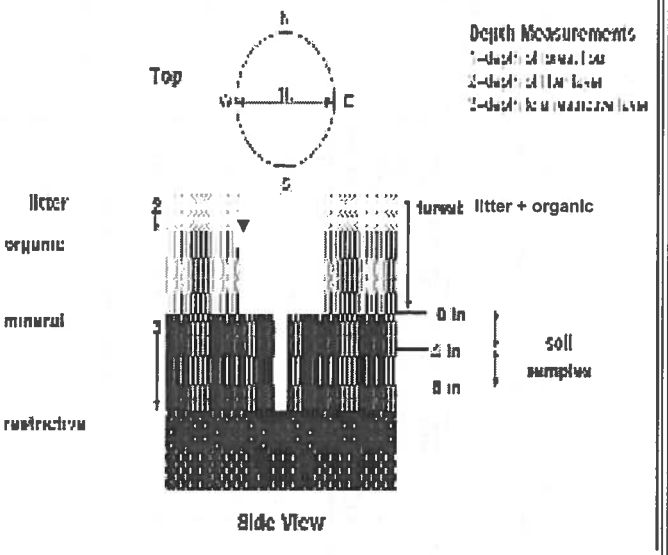
**COVER BY STRATA**

| 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.



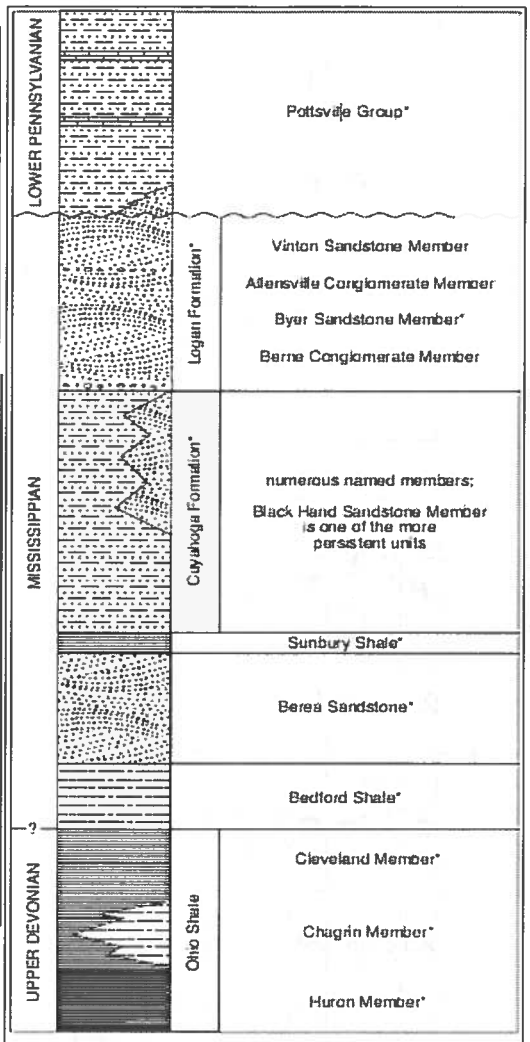




FIGURE 3-20.—Generalized section of Upper Devonian, Mississippian, and Lower Pennsylvanian formations in northeastern Ohio. Asterisks indicate units that are fossiliferous. This composite section represents about 400 meters of rock exposed across the area. The section is not to scale, but the thicknesses 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 3-16 for explanation of rock types.

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

Reviewed by (initial): _____

Site ID: MS1215PCAP

DATE: 06/13/2013

**Location:** ● AA Center ○ N ○ S ○ E ○ W

**Fill in bubble(s) if plot(s) could not be sampled and flag →** ○ Plot 1 ○ Plot 2 ○ Plot 3

## Buffer Natural Cover Strata

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

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

### 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**

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

Reviewed by (initial): _____

**Site ID:** MS 1215 PCAP **DATE:** 06/13/2012

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

| Fill bubble if present - Plot | 1 | 2 | 3 | Flag | Fill bubble if present - Plot | 1 | 2 | 3 | Flag | Fill bubble if present - Plot | 1 | 2 | 3 | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Eurasian Watermilfoil | ○ | ○ | ○ | | 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 41.29969 Longitude West 081.79556

**Use Decimal Degrees; NAD83**

| Flag | Comments |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

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

Reviewed by (initial): _____

Site ID: MS 1215 PCAP

DATE: 06/13/2012

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

| 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:** MS 121S PCAP **DATE:** 06/13/2013

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

| Fill bubble if present - Plot | 1 | 2 | 3 | Flag | Fill bubble if present - Plot | 1 | 2 | 3 | Flag | Fill bubble if present - Plot | 1 | 2 | 3 | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Eurasian Watermilfoil | ○ | ○ | ○ | | 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 41.90037 Longitude West 081.79587

**Use Decimal Degrees; NAD83**

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

Reviewed by (initial): _____

**Site ID:** MS 12 1S PCAP **DATE:** 06 / 13 / 2012

**Location:** ○ AA Center ○ N ○ S ● E ○ W

**Fill in bubble(s) if plot(s) could not be sampled and flag →** ○ Plot 1 ○ Plot 2 ○ Plot 3

## Buffer Natural Cover Strata

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

| | Buffer Plot 1 | | | | | | | Buffer Plot 2 | | | | | | | Buffer Plot 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Canopy Type: ● E / Leaf Type: ● N | | | | | Absent: ○ | Flag | Canopy Type: ● E / Leaf Type: ● N | | | | | Absent: ○ | Flag | Canopy Type: ● E / Leaf Type: ● 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

| 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) | ○ | ○ | ● | 2 |
| Other: recent tree fall | ● | ○ | ○ | 1 |
| 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:** MS 121S PCAP **DATE:** 06/13/2012

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

| Fill bubble if present - Plot | 1 | 2 | 3 | Flag | Fill bubble if present - Plot | 1 | 2 | 3 | Flag | Fill bubble if present - Plot | 1 | 2 | 3 | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Eurasian Watermilfoil | ○ | ○ | ○ | | 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):** Flag

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

Latitude North 41.29972 Longitude West 081.79406

**Use Decimal Degrees; NAD83**

| Flag | Comments |
|---|---|
| 1 | canopy mostly open because of recent tree fall |
| 2 | looks like flash flood of water flowed through (bare ground) |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

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

Reviewed by (initial): _____

Site ID: MS 1215 PCAP

DATE: 06/13/2012

**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: ● (E) Leaf Type: ● (N) | Absent: ○ | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Big Trees (>0.3m DBH) | 0 1 2 ● 4 | | | Big Trees (>0.3m DBH) | 0 1 ● 3 4 | | | Big Trees (>0.3m DBH) | 0 1 ● 3 4 | | |
| Small Trees (<0.3m DBH) | 0 1 2 ● 4 | | | Small Trees (<0.3m DBH) | 0 1 ● 3 4 | | | Small Trees (<0.3m DBH) | 0 1 2 ● 4 | | |
| Woody Shrubs, Saplings (0.5m-5m HIGH) | 0 1 ● 3 4 | | | Woody Shrubs, Saplings (0.5m-5m HIGH) | 0 1 2 3 ● | | | Woody Shrubs, Saplings (0.5m-5m HIGH) | 0 1 2 ● 4 | | |
| Woody Shrubs, Saplings (<0.5m HIGH) | 0 ● 2 3 4 | | | Woody Shrubs, Saplings (<0.5m HIGH) | 0 1 ● 3 4 | | | Woody Shrubs, Saplings (<0.5m HIGH) | 0 1 2 ● 4 | | |
| Herbs, Forbs and Grasses | 0 1 ● 3 4 | | | Herbs, Forbs and Grasses | 0 1 ● 3 4 | | | Herbs, Forbs and Grasses | 0 1 ● 3 4 | | |
| Bare ground | 0 ● 2 3 4 | | | Bare ground | 0 ● 2 3 4 | | | Bare ground | 0 ● 2 3 4 | | |
| Litter, duff | 0 1 2 3 ● | | | Litter, duff | 0 1 2 ● 4 | | | Litter, duff | 0 1 ● 3 4 | | |
| Rock | 0 ● 2 3 4 | | | Rock | ● 1 2 3 4 | | | Rock | 0 ● 2 3 4 | | |
| Water | ● 1 2 3 4 | | | Water | ● 1 2 3 4 | | | Water | ● 1 2 3 4 | | |
| Submerged Vegetation | ● 1 2 3 4 | | | Submerged Vegetation | ● 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:** MS 1215 PCAP **DATE:** 06/13/2012

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

| Fill bubble if present - Plot | 1 | 2 | 3 | Flag | Fill bubble if present - Plot | 1 | 2 | 3 | Flag | Fill bubble if present - Plot | 1 | 2 | 3 | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Eurasian Watermilfoil | ○ | ○ | ○ | | 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):** Flag

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

Latitude North 41.29834 Longitude West 081.79559

**Use Decimal Degrees; NAD83**

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

Reviewed by (initial): _____

**Site ID:** MS1215PCAP **DATE:** 6 / 13 / 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 | ○ | ○ | ○ | |
| 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 | ○ | ○ | ○ | |
| 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

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

Reviewed by (initial): _____

**Site ID:** MS1215PCAP **DATE:** 06/13/2012

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

| Fill bubble if present - Plot | 1 | 2 | 3 | Flag | Fill bubble if present - Plot | 1 | 2 | 3 | Flag | Fill bubble if present - Plot | 1 | 2 | 3 | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Eurasian Watermilfoil | ○ | ○ | ○ | | 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 41.29938 Longitude West 081.79729

**Use Decimal Degrees; NAD83**

| Flag | Comments |
|---|---|
| | |
| | |
| | |
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