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

**Project Label:** PCAP **Plot No:** 1264 **Date Sampled:** 7-3-12 **Lead:** Brath

| | | | Comment required if item answer is NO |
|---|---|---|---|
| Parking/Access outside of Park Boundaries: | | Y (N) | If yes, write details in Comments section below |
| Field journals completed | | (Y) N | |
| Site sketch made on 1:3000 map? | | (Y) N | |
| Check cover page | X-axis Bearing of plot recorded | (Y) N | |
| | GPS coords. Recorded | (Y) N | |
| | North direction recorded | (Y) N | |
| | Photographs taken? | (Y) N | |
| Plot No., Date agreement on all pages? | | (Y) N | |
| Header data completed all pages? | | (Y) N | |
| Cover classes recorded in all Intensive modules | | (Y) N | |
| Browse Level By Species | | (Y) N | |
| Woody stem quality control check | | (Y) N | |
| Invasive plant quality control check | | (Y) N | |
| Ash trees mapped | | (Y) N | No Ash |
| 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 | No Vouchers collected |
| 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 SE 8/3/12 |
| Final data sheets scanned? | | | Enter date to left |
| Buffer Widths measured? | | (Y) N | NE 6-29-12 |
| Web Soil Survey | | (Y) N | SC 8/3/12 |
| 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:** OINC2012

**Plot Name:** Do you smell gas?

**Plot No.:** 1264

☐ Level 4 (no nested corners sampled)

■ Level 5 (nested corners sampled)

**Date** (mm/dd/yyyy): 07 / 31 / 2012

End date (if > 1 day): / /

| Party | Role** |
|---|---|
| M. Breth | Plot leader |
| J. Pettit | Bot Asst |
| K. Lewis | Fieldtech |
| L. Huffman | Fieldtech |
| | |

** 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: Mayfield Heights

Local Place Names: A. B. Williams Memorial Picnic area

Landowner: CM

**Data Confidentiality:**

Check one: ✓ ■ Public data ☐ Private Data

☐ Fuzz 100m ☐ Fuzz 250m ☐ Fuzz 500m

**Reason:**

If data not public why?

Source of coordinates ☐ MAP ■ GPS

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

**Datum:** ■ NAD83/WGS84 ☐ NAD27

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

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

**Latitude:** 41.55200

**Longitude:** -81.42652

**Coord. Accuracy:** ☐ m ☐ ft 100% +-

GPS File Name: 1264A

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

**X-axis Bearing of plot:** [100] °

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

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

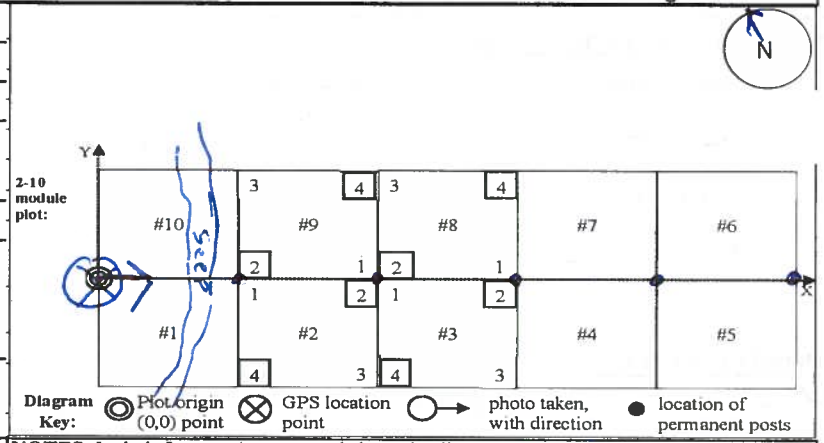
**Camera No.:** 3

**Photo Nos.:** 0986

**Plot placement:** ✓ ■ GRTS ☐ Representative

☐ Random ☐ Stratified Random ☐ Transect component

☐ Systematic (grid) ☐ Capture specific feature ☐ Other




**NOTES:** Include **Layout** (any unusual shape details), **Location** (directions and landscape content), **Rationale** (why here), and **Veg Characterization** (description of community, dominants, strata, BROWSE). Additional notes in space on back.

Layout: 2X5

Location: About 200m off of restricted road located by AB Williams Memorial picnic area.

Rationale: GRTS

Veg. Char: Canopy - Fagus grandifolia, Acer saccharum, ~~Quercus rubra~~, Prunus serotina

Shrub - Fagus grandifolia, Acer saccharum Acer rubrum, Carpinus caroliniana

Herb - Fagus grandifolia, Arisaema triphyllum, Smilax rotundifolia, ~~Mitchella repens~~ Viburnum acerifolium

Minimum required fields in Bold and Underlined

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

**OVER**

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

Project Label: PCAP Project name: OINC2012 Plot no.: 1264

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

Cleveland Metroparks

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

Strata - Cov. entire plot

Estimate for each intensive module:

| | mod | corner | mod | corner | mod | corner | mod | corner | mod | corner | mod | corner | mod | corner | mod | corner | mod | corner |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | 4 | 2 | 2 | 3 | 4 | 3 | 2 | 8 | 4 | 8 | 2 | 9 | 4 | 9 | 2 | R | R |
| | depth | cov | depth | cov | depth | cov | depth | cov | depth | cov | depth | cov | depth | cov | depth | cov | depth | cov |
| %open water | 1 | 6 | | | 1 | 0 | | | 1 | 6 | | | 1 | 0 | | | | |
| %unvegetated open water | 1 | 0 | | | 1 | 0 | | | 1 | 6 | | | 1 | 0 | | | | |
| %unveg. ground (bare soil) | 1 | 2 | | | 1 | 2 | | | 1 | 2 | | | 1 | 2 | | | | |
| %unveg. litter (bare litter) | 1 | 10 | | | 1 | 10 | | | 1 | 10 | | | 1 | 10 | | | | |

| T | S | H | (F) | (A) | Br | Species | c | Voucher # | depth | cov | depth | cov | depth | cov | depth | cov | depth | cov | depth | cov | depth | cov | depth | cov | depth | cov | depth | cov |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9 | 8 | 3 | | | 10 | Fagus grandifolia | | | 4 | 9 | 4 | | 4 | 9 | 4 | | 4 | 9 | 4 | | 4 | 9 | 4 | | 4 | 9 | 4 | | | |
| 8 | 6 | | | | | Acer saccharum | | | 4 | 6 | 4 | | 2 | 7 | 4 | | 2 | 8 | 4 | | 4 | 8 | 4 | | | | | | | |
| 2 | | 2 | | | | Prunus serotina | | | 2 | 2 | 2 | | 2 | 2 | 2 | | 2 | 2 | 2 | | 2 | 2 | 3 | | | | | | | |
| | | 2 | | | | Acer sp. (seedling) | | | 2 | 2 | 4 | | 2 | 2 | 3 | | 3 | 2 | 2 | | 3 | 2 | 3 | | | | | | | |
| | | 2 | | | | Moss sp. | | | | | 2 | 2 | 2 | 2 | 2 | | - | | 2 | 2 | 1 | 2 | | | | | | | | |
| | | 2 | | | | Thelypteris noveboracensis | | | | | 2 | 3 | 1 | 1 | | | | | | | | | | | 2 | 2 | | | | |
| 5 | | | | | | Acer rubrum | | | 1 | 4 | | | 1 | 5 | | | 2 | 4 | | | 2 | 2 | | | | | | | | |
| | | 2 | | | | Parthenocissus quinquefolia | | | | | | | 2 | 2 | | | | | | | | | | | | | | | | |
| | | 2 | | | | Toxicodendron radicans | | | | | | | 1 | 2 | | | | | | | 2 | 1 | | | | | | | | |
| | | 2 | | | 8 | Smilax rotundifolia | | | | | | | X | | | | | | | | | | | | | | R | 2 | | |
| | | 2 | | | | Viburnum acerifolium | | | | | | | 2 | 2 | | | 3 | 1 | | | | | | | | | | | | |
| | | 2 | | | | Mainanthemum canadense | | | | | | | 2 | 2 | | | | | | | | | | | | | | | | |
| | | 1 | | | | Lindera benzoin | | | | | | | 1 | 1 | | | | | | | | | | | | | | | | |
| | 1 | 1 | | | | Fraxinus sp. | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | |
| | | 2 | | | | Sassafras albidum | | | | | | | | | | | X | | | | 2 | 2 | 2 | | | | | | | |
| | | 2 | | | | Liriodendron tulipifera | | | | | | | | | | | | | | | 2 | 2 | 2 | | | | | | | |
| | | 2 | | | | Phytolacca americana SRF 8-22-12 | | | | | | | | | | | | | | | | | | | | | R | 2 | | |
| | | 2 | | | | ~~Viola sp. Unk Dicot #1~~ ~~Epilobium~~ | | C3-0988 Viola sp. 2513 8-9-12 | | | | | | | | | | | | | | | | | | | R | 2 | | |
| | | 2 | | | | Arcseama triphyllum | | | | | | | | | | | | | | | | | | | | | R | ? | | |
| | | 2 | | | | Podophyllum peltatum | | | | | | | | | | | | | | | | | | | | | R | 2 | | |
| | | 1 | | | | ~~Asteraceae~~ Epilobium ciliatum | | C3-0987 | | | | | | | | | | | | | | | | | | | R | 1 | | |
| | | 1 | | | | Carex sp. | | | | | | | | | | | | | | | | | | | | | R | 1 | | |
| | | 1 | | | | Rubus | | | | | | | | | | | | | | | | | | | | | R | 1 | | |
| | | 2 | | | | Magnolia acuminata | | | | | | | | | | | | | | | | | | | | | R | 2 | | |
| | | 2 | | | | ~~Unk Dicot #2~~ Rubus sp. | | C3-0989 | | | | | | | | | | | | | | | | | | | R | 2 | | |

Tiny Nocerro



SRF 8-22-12

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

Project Label: PCAP Project name: OINC2012 Plot no.: 1264

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

Cleveland Metroparks

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

Strata - Cov. entire plot

Estimate for each intensive module:

| | mod | corner | mod | corner | mod | corner | mod | corner | mod | corner | mod | corner | mod | corner | mod | corner | mod | corner |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | 4 | 2 | 2 | 3 | 4 | 3 | 2 | 8 | 4 | 8 | 2 | 9 | 4 | 9 | 3 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | | | | | | Carpinus caroliniana | | | | | | | | | | | | | | | | | R | 3 | | |

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

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

Project Label: PCAP Project Name: 01 NC 2012 Plot No.: 1264 Page: 1 of 2

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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Fagus grandifolia | | | 39 | | | 5 | 5 | 2 | | | | | | | | |
| 1 | Standing dead | | | | | | 1 | 2 | | | | | | | | | |
| 1 | Acer saccharum | | | | | | | | 2 | 2 | 2 | | | | | | |
| 2 | Fagus grandifolia | | | 35 | | | 4 | 3 | 2 | 2 | | | | | | | 76.0, 59.4 |
| 2 | Acer saccharum | | | | | | | 1 | 2 | 1 | 1 | | | | | | |
| 2 | Standing dead | | | | | | | 1 | | | | | | | | | |
| 2 | Acer rubrum | | | | | | | | | | 1 | | | | | | |
| 3 | Fagus grandifolia | | | 32 | | | 4 | 4 | 2 | | | 1 | | | | | |
| 3 | Acer saccharum | | | | | | | 1 | 2 | 1 | | | | | | | 85.3 |
| 3 | Prunus serotina | | | | | | | | 1 | | | | | | | | |
| 3 | Standing dead | | | | | | | | 1 | | | | | | | | |
| 4 | Fagus grandifolia | | | 76 | | | 4 | 4 | 1 | | | | | | | | |
| 4 | Acer saccharum | | | | | | | 1 | 2 | 2 | 1 | | | | | | |
| 4 | Acer rubarum | | | | | | | | 1 | | 1 | 1 | | | | | |
| 4 | Standing dead | | | | | | 1 | 1 | | | | | | | | | |
| 5 | Acer saccharum | | | | | | | X 1 | 2 | 3 | 1 | | | | | | |
| 5 | Standing dead | | | | | | 2 | 2 | 2 | | | | | | | | |
| 5 | Fagus grandifolia | | | 38 | | | 3 | 4 | 2 | | | | | | | | |
| 5 | Prunis ~~sef~~ serotina ~~sp~~ | | | | | | | | | 1 | | | | | | | |
| 5 | Smilax ~~sp~~ rotundifolia | | | 2 | | | 2 | | | | | | | | | | |
| 5 | Acer rubrum | | | | | | | | 1 | 2 | | 1 | | | | | |
| 6 | Fagus grandifolia | | | 73 | | | 2 | 4 | 1 | | | | | | | | |
| 6 | Acer saccharum | | | | | | | 1 | 2 | 2 | | | 2 | | | | |
| 6 | Standing dead | | | | | | 1 | | 2 | | | | | | | | |

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

Project Label: PCAP  Project Name: 01 NC 2012  Plot No.: 1264  Page: 2 of 2

Explain subsample (additional room on back):

| mod # | species | c | voucher# | # stems 0-1.4m browsed | % sub or super sample | # shrub clumps | size class (cm) woody stems >1.4m 1 0-<1 | 2 1-<2.5 | 3 2.5-<5 | 4 5-<10 | 5 10 - <15 | 6 15 - <20 | 7 20 - <25 | 8 25 - <30 | 9 30 - <35 | 10 35 - <40 | 11 >40 (record each tree) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7 | Standing dead | | | | | | | 1 | 1 | | | | | | | | 82.4 |
| 7 | Acer saccharum | | | | | | | | 2 | 2 | 1 | | | 1 | | | |
| 7 | Fagus grandifolia | | | 47 | | | 1 | 2 | | | | | | | | | |
| 7 | Acer rubrum | | | | | | | | 1 | | 2 | | | | | | |
| 7 | Smilax rotundifolia | | | 1 | | | | | | | | | | | | | |
| 8 | Standing dead | | | | | | 2 | | 1 | | | | | | | | |
| 8 | Acer saccharum | | | | | | | 2 | 3 | 2 | | | | | | | |
| 8 | Fagus grandifolia | | | 55 | | | 3 | 2 | | | | | | | | | 60.4, 57.1 |
| 8 | Acer rubrum | | | | | | | | | 1 | | | | | | | |
| 9 | Fagus grandifolia | | | 40 | | | 2 | 2 | | | | | | | | | 56.6, 50.2 |
| 9 | Acer saccharum | | | | | | 1 | 3 | 2 | 1 | | | | | | | |
| 9 | Acer rubrum | | | | | | | | | 1 | | | | | | | |
| 9 | Standing dead | | | | | | | 2 | | | | | | | | | |
| 10 | Acer saccharum | | | | | | | 2 | 2 | 2 | 1 | | | | | | |
| 10 | Fagus grandifolia | | | 41 | | | 2 | 1 | | 1 | | | | | | | |

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

Project Label: PCAP Project Name: 01 NC 2012 Plot No.: 1264

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 | ~~0~~ 1 | 5 | 1 | 0 | 2 | 0 |
| 3 | – | 0 | 0 | 0 | 14 | 8 | 2 | 3 | 2 |
| 8 | – | 0 | 0 | 1 | 4 | 1 | 1 | 3 | 2 |
| 9 | – | 0 | 0 | 1 | 2 | 0 | 0 | 2 | ~~0~~ 1 |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

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

5 1
12 10 2
3 1 1 3 3
1 3 1

## 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 | 2 | 1 | 2 | 4 |
| 3 | 1 | 2 | 3 | 1 |
| 8 | 1 | 2 | 4 | 2 |
| 9 | 1 | 3 | 1 | 3 |

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

Project label: PCAP  Project Name: OINC2012  Plot No.: 1264



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

Soil pit module # 8 (one per entire plot)

| | | | |
|---|---|---|---|
| 5 cm | matrix color | 10YR 4/2 | |
| | 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 4/4 | |
| | mottle color | N/A | |
| | %mottle | 0 | |
| | oxid roots | Y | (N) |
| | texture* | 2 | |
| | redox features** | Y | (N) |
| | hydro. cond.*** | I S (M) D | |

* refer to texture classes on reverse side

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

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

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

no ~~ear~~ signs of earthworms

**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: Ellsworth Silt Loam

Soil Series Source: Ohio Soil Survey

Landform type: End moraines, Knolls on ground moraines

Depth to rest. Layer: >80"

Parent Material: Till

DRAINAGE:

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

SC 6/3/12

**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 | 6.9 | 4.6 | 0 | >30 |
| 3 | 6.9 | 4.0 | 0 | >30 |
| 8 | 5.6 | 3.0 | 0 | >30 |
| 9 | 4.6 | 2.5 | 0 | >30 |

**EARTH SURFACE & GROUND COVER**

| Underlying Earth Surface* (Sum = 100%) | percent | Ground Cover (Each ≤ 100%) | percent |
|---|---|---|---|
| Histosol | Ø | Coarse Woody Debris*** | 18 |
| Mineral Soil | 99 | Fine Woody Debris**** | 8 |
| Gravel-Cobble* | 1 | Litter | 98 |
| Boulder** | Ø | Duff (Ferm.+ Humus) | 98 |
| Bedrock | Ø | Bryophyte- Lichen | 1 |
| * Gravel-Cobble = 1/16-10" | | Water | Ø |
| **Boulder = > 10 in | | Bare Soil | 5 |
| *** >5 cm in diameter | | Road/Trail | Ø |
| **** <5 cm in diameter | | Other | Ø |

**TRAIL INFORMATION:**

record type and cover for each

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

Natural

**COVER BY STRATA** %

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

| Strata | Height Range (m) | Total Cover (%) |
|---|---|---|
| Tree | > - 5 | 93 |
| Shrub | 0.5 - 5 | 68 |
| Herb | < - 0.5 | 13 |
| (Floating)* | / - | / |
| (Aquatic)* | / - | / |

* rooted and floating or slightly emersed

** submersed, most plant mass below surface

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

**STAND SIZE**

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

**CLEVELAND METROPARKS Plant Community Assessment Program: Invasive Species Survey** Cleveland Metroparks

| Tier 1: Early detection/ Rapid response | | Presence | | | | GPS |
|---|---|---|---|---|---|---|
| | | NE | SE | SW | NW | |
| Microstegium vimineum | Japanese stiltgrass | | | | | |
| Ranunculus ficaria | Lesser Celandine | | | | | |
| Cynanchum louiseae (vine) | Black Swallow-wort | | | | | |
| Butomus umbellatus (wetland) | Flowering Rush | | | | | |
| Heracleum mantegazzianum | Giant Hogweed | | | | | |

| 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) | | | | | |
| 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 |

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

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



* No invasives found on Invasive Survey!

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

Reviewed by (initial): _____

Site ID: PCAPNC1264 DATE: 07 / 31 / 2012

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

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

## Buffer Natural Cover Strata

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

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

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

| Residential and Urban Stressors | | | | | Hydrology Stressors | | | | | Agricultural & Rural Stressors | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fill bubble if present - Plot | 1 | 2 | 3 | Flag | Fill bubble if present - Plot | 1 | 2 | 3 | Flag | Fill bubble if present - Plot | 1 | 2 | 3 | Flag |
| Road - gravel | ○ | ○ | ○ | | Ditches, Channelization | ○ | ○ | ○ | | Pasture/Hay | ○ | ○ | ○ | |
| Road - two lane | ○ | ○ | ○ | | Dike/Dam/Road/RR Bed (IMPEDE FLOW) | ○ | ○ | ○ | | Range | ○ | ○ | ○ | |
| Road - four lane | ○ | ○ | ○ | | Water Level Control Structure | ○ | ○ | ○ | | Row Crops | ○ | ○ | ○ | |
| Parking Lot/Pavement | ○ | ○ | ○ | | Excavation, Dredging | ○ | ○ | ○ | | Fallow Field (RECENT-RESTING ROW CROP FIELD) | ○ | ○ | ○ | |
| Golf Course | ○ | ○ | ○ | | Fill/Spoil Banks | ○ | ○ | ○ | | Fallow Field (OLD - GRASS, SHRUBS, TREES) | ○ | ○ | ○ | |
| Lawn/Park | ○ | ○ | ○ | | Freshly Deposited Sediment (UNVEGETATED) | ○ | ○ | ○ | | Nursery | ○ | ○ | ○ | |
| Suburban Residential | ○ | ○ | ○ | | Soil Loss/Root Exposure | ○ | ○ | ○ | | Dairy | ○ | ○ | ○ | |
| Urban/Multifamily | ○ | ○ | ○ | | Wall/Riprap | ○ | ○ | ○ | | Orchard | ○ | ○ | ○ | |
| Landfill | ○ | ○ | ○ | | Inlets, Outlets | ○ | ○ | ○ | | Confined Animal Feeding | ○ | ○ | ○ | |
| Dumping | ○ | ○ | ○ | | Point Source/Pipe (EFFLUENT OR STORMWATER) | ○ | ○ | ○ | | Rural Residential | ○ | ○ | ○ | |
| Trash | ○ | ○ | ○ | | Impervious surface input (SHEETFLOW) | ○ | ○ | ○ | | Gravel Pit | ○ | ○ | ○ | |
| Other: _____ | ○ | ○ | ○ | | Other: _____ | ○ | ○ | ○ | | Irrigation | ○ | ○ | ○ | |
| Other: _____ | ○ | ○ | ○ | | Other: _____ | ○ | ○ | ○ | | Other: _____ | ○ | ○ | ○ | |

| Industrial Development Stressors | | | | | Habitat/Vegetation Stressors | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fill bubble if present - Plot | 1 | 2 | 3 | Flag | Fill bubble if present - Plot | 1 | 2 | 3 | Flag | Fill bubble if present - Plot | 1 | 2 | 3 | Flag |
| Oil Drilling | ○ | ○ | ○ | | Forest Clear Cut | ○ | ○ | ○ | | Herbicide Use | ○ | ○ | ○ | |
| Gas Wells | ○ | ○ | ○ | | Forest Selective Cut | ○ | ○ | ○ | | Mowing/Shrub Cutting | ○ | ○ | ○ | |
| Mine (surface) | ○ | ○ | ○ | | Tree Plantation | ○ | ○ | ○ | | Trails | ○ | ○ | ○ | |
| Mine (underground) | ○ | ○ | ○ | | Tree Canopy Herbivory (INSECT) | ○ | ○ | ○ | | Soil Compaction (ANIMAL OR HUMAN) | ○ | ○ | ○ | |
| Military | ○ | ○ | ○ | | Shrub Layer Browsed (WILD OR DOMESTIC) | ● | ○ | ○ | | Offroad vehicle damage | ○ | ○ | ○ | |
| Other: _____ | ○ | ○ | ○ | | Highly Grazed Grasses (OVERALL <3" HIGH) | ○ | ○ | ○ | | Soil erosion (FROM WIND, WATER, OR OVERUSE) | ○ | ○ | ○ | |
| Other: _____ | ○ | ○ | ○ | | Recently Burned Forest Canopy | ○ | ○ | ○ | | Other: _____ | ○ | ○ | ○ | |
| Other: _____ | ○ | ○ | ○ | | Recently Burned Grassland (BLACKENED) | ○ | ○ | ○ | | Other: _____ | ○ | ○ | ○ | |

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

2428168304

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

Reviewed by (initial): _____

**Site ID:** PCAPNC1264 **DATE:** 07 / 31 / 2012

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

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

## Buffer Natural Cover Strata

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

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

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

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

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

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

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

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

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

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

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

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

2428168304

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

Reviewed by (initial): _____

Site ID: PCAPNC1264 DATE: 07 / 31 / 2012

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

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

## Buffer Natural Cover Strata

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

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

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

### Residential and Urban Stressors

| 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) | ○ | ○ | ○ | |

### Herbicide Use / Mowing/Shrub Cutting / Trails / Soil Compaction (ANIMAL OR HUMAN) / Offroad vehicle damage / Soil erosion (FROM WIND, WATER, OR OVERUSE) / Other: _____ / Other: _____

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

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

2428168304

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

Reviewed by (initial): _____

**Site ID:** PCAP NC1264 **DATE:** 07 / 31 / 2012

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

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

## Buffer Natural Cover Strata

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

| Buffer Plot 1 | Canopy Type: D ○ E ○ Absent: ○ Leaf Type: B ● N ○ Flag | | | | | | Buffer Plot 2 | Canopy Type: D ● E ○ Absent: ○ Leaf Type: B ● N ○ Flag | | | | | | Buffer Plot 3 | Canopy Type: D ● E ○ Absent: ○ Leaf Type: B ● N ○ 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 | ● | 3 | 4 | |
| Small Trees (<0.3m DBH) | 0 | 1 | 2 | 3 | ● | | Small Trees (<0.3m DBH) | 0 | 1 | 2 | ● | 4 | | Small Trees (<0.3m DBH) | 0 | 1 | 2 | 3 | ● | |
| Woody Shrubs, Saplings (0.5m-5m HIGH) | 0 | 1 | ● | 3 | 4 | | Woody Shrubs, Saplings (0.5m-5m HIGH) | 0 | 1 | 2 | ● | 4 | | Woody Shrubs, Saplings (0.5m-5m HIGH) | 0 | 1 | 2 | ● | 4 | |
| Woody Shrubs, Saplings (<0.5m HIGH) | 0 | ● | 2 | 3 | 4 | | Woody Shrubs, Saplings (<0.5m HIGH) | 0 | ● | 2 | 3 | 4 | | Woody Shrubs, Saplings (<0.5m HIGH) | 0 | ● | 2 | 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 | ● | 1 | 2 | 3 | 4 | | Bare ground | 0 | ● | 2 | 3 | 4 | |
| Litter, duff | 0 | 1 | 2 | 3 | ● | | Litter, duff | 0 | 1 | 2 | 3 | ● | | Litter, duff | 0 | 1 | 2 | 3 | ● | |
| Rock | 0 | ● | 2 | 3 | 4 | | Rock | ● | 1 | 2 | 3 | 4 | | Rock | ● | 1 | 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 | | | | | Hydrology Stressors | | | | | Agricultural & Rural Stressors | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fill bubble if present - Plot | 1 | 2 | 3 | Flag | Fill bubble if present - Plot | 1 | 2 | 3 | Flag | Fill bubble if present - Plot | 1 | 2 | 3 | Flag |
| Road - gravel | ○ | ○ | ○ | | Ditches, Channelization | ○ | ○ | ○ | | Pasture/Hay | ○ | ○ | ○ | |
| Road - two lane | ○ | ○ | ○ | | Dike/Dam/Road/RR Bed (IMPEDE FLOW) | ○ | ○ | ○ | | Range | ○ | ○ | ○ | |
| Road - four lane | ○ | ○ | ○ | | Water Level Control Structure | ○ | ○ | ○ | | Row Crops | ○ | ○ | ○ | |
| Parking Lot/Pavement | ○ | ○ | ○ | | Excavation, Dredging | ○ | ○ | ○ | | Fallow Field (RECENT-RESTING ROW CROP FIELD) | ○ | ○ | ○ | |
| Golf Course | ○ | ○ | ○ | | Fill/Spoil Banks | ○ | ○ | ○ | | Fallow Field (OLD - GRASS, SHRUBS, TREES) | ○ | ○ | ○ | |
| Lawn/Park | ○ | ○ | ○ | | Freshly Deposited Sediment (UNVEGETATED) | ○ | ○ | ○ | | Nursery | ○ | ○ | ○ | |
| Suburban Residential | ○ | ○ | ○ | | Soil Loss/Root Exposure | ○ | ○ | ○ | | Dairy | ○ | ○ | ○ | |
| Urban/Multifamily | ○ | ○ | ○ | | Wall/Riprap | ○ | ○ | ○ | | Orchard | ○ | ○ | ○ | |
| Landfill | ○ | ○ | ○ | | Inlets, Outlets | ○ | ○ | ○ | | Confined Animal Feeding | ○ | ○ | ○ | |
| Dumping | ○ | ○ | ○ | | Point Source/Pipe (EFFLUENT OR STORMWATER) | ○ | ○ | ○ | | Rural Residential | ○ | ○ | ○ | |
| Trash | ○ | ○ | ○ | | Impervious surface input (SHEETFLOW) | ○ | ○ | ○ | | Gravel Pit | ○ | ○ | ○ | |
| Other: _____ | ○ | ○ | ○ | | Other: _____ | ○ | ○ | ○ | | Irrigation | ○ | ○ | ○ | |
| Other: _____ | ○ | ○ | ○ | | Other: _____ | ○ | ○ | ○ | | Other: _____ | ○ | ○ | ○ | |

| Industrial Development Stressors | | | | | Habitat/Vegetation Stressors | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fill bubble if present - Plot | 1 | 2 | 3 | Flag | Fill bubble if present - Plot | 1 | 2 | 3 | Flag | Fill bubble if present - Plot | 1 | 2 | 3 | Flag |
| Oil Drilling | ○ | ○ | ○ | | Forest Clear Cut | ○ | ○ | ○ | | Herbicide Use | ○ | ○ | ○ | |
| Gas Wells | ○ | ○ | ○ | | Forest Selective Cut | ○ | ○ | ○ | | Mowing/Shrub Cutting | ○ | ○ | ○ | |
| Mine (surface) | ○ | ○ | ○ | | Tree Plantation | ○ | ○ | ○ | | Trails | ○ | ○ | ○ | |
| Mine (underground) | ○ | ○ | ○ | | Tree Canopy Herbivory (INSECT) | ○ | ○ | ○ | | Soil Compaction (ANIMAL OR HUMAN) | ○ | ○ | ○ | |
| Military | ○ | ○ | ○ | | Shrub Layer Browsed (WILD OR DOMESTIC) | ● | ● | ● | | Offroad vehicle damage | ○ | ○ | ○ | |
| Other: _____ | ○ | ○ | ○ | | Highly Grazed Grasses (OVERALL <3" HIGH) | ○ | ○ | ○ | | Soil erosion (FROM WIND, WATER, OR OVERUSE) | ○ | ○ | ○ | |
| Other: _____ | ○ | ○ | ○ | | Recently Burned Forest Canopy | ○ | ○ | ○ | | Other: _____ | ○ | ○ | ○ | |
| Other: _____ | ○ | ○ | ○ | | Recently Burned Grassland (BLACKENED) | ○ | ○ | ○ | | Other: _____ | ○ | ○ | ○ | |

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



2428168304

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

Reviewed by (initial): _____

**Site ID:** PCAPNC1264 **DATE:** 07 / 31 / 2012

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

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

## Buffer Natural Cover Strata

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

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