

**APPENDIX A**  
**Field Data Sheets**

**Tier 1: Assessment Overview**

**1.1 Site Identification:**

Wetland site name: \_\_\_\_\_

Ownership (if known): \_\_\_\_\_

USGS Topographic Quadrangle(s): \_\_\_\_\_

USGS Watershed map 14-Digit HUC: \_\_\_\_\_

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number					
Cowardin Classification					
Polygon Size (hectares)					

NWI Polygon ID Number					
Cowardin Classification					
Polygon Size (hectares)					

**1.2 Site Visit:**

Team members: \_\_\_\_\_

Agency: \_\_\_\_\_

Date assessed: \_\_\_\_\_ Time assessed: \_\_\_\_\_

Weather conditions: \_\_\_\_\_

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring, etc.):

\_\_\_\_\_

**1.3 Wetland Size:**

Size of site under assessment: \_\_\_\_\_

Size of total wetland complex (all contiguous wetland polygons): \_\_\_\_\_

**1.4 Site Setting:**

Degree of isolation from other wetlands or wetland complexes:

\_\_\_\_\_ The site is connected upstream and downstream with other wetlands

\_\_\_\_\_ The site is only connected upstream with other wetlands

\_\_\_\_\_ The site is only connected downstream with other wetlands

\_\_\_\_\_ Other wetlands are nearby (within 0.25 mile) but not connected

\_\_\_\_\_ The wetland site is isolated

General assessment of adjacent land use / land cover in the area forming the perimeter of the wetland site (indicate the % of each):

- \_\_\_\_\_ Native Vegetation - woodland
- \_\_\_\_\_ Native Vegetation - old field / scrub
- \_\_\_\_\_ Agricultural - tilled
- \_\_\_\_\_ Agricultural - pasture
- \_\_\_\_\_ Recreation - green space, mowed

- \_\_\_\_\_ Road / highway / railroad bed / parking lot
- \_\_\_\_\_ Industrial
- \_\_\_\_\_ Residential - single family
- \_\_\_\_\_ Commercial or multifamily residential

NWI Polygon # \_\_\_\_\_  
(see table on page one)

Data Reference # \_\_\_\_\_

**Tier 2 Individual Polygon: Preliminary Assessment** (to be completed on-site for each NWI polygon present in the wetland)

**2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):**

\_\_\_\_\_ Depressional \_\_\_\_\_ Slope \_\_\_\_\_ Floodplain \_\_\_\_\_ Lacustrine  
\_\_\_\_\_ Riverine (within the river/stream banks)

**2.2 Presence of Standing Water:**

Is standing water present in the polygon? \_\_\_\_\_

- If standing water is present, is the water greater than 2 meters in depth? \_\_\_\_\_

Is standing water present in an adjacent polygon? \_\_\_\_\_

**2.3 Apparent Hydroperiod (check one):**

\_\_\_\_\_ Permanently Flooded \_\_\_\_\_ Artificially Flooded  
\_\_\_\_\_ Seasonally Flooded  
\_\_\_\_\_ Saturated (surface water seldom present) \_\_\_\_\_ Artificially Drained

**2.4 Soil Type:**

\_\_\_\_\_ Organic (i.e. peat, etc.) \_\_\_\_\_ Mineral \_\_\_\_\_ Both Mineral and Organic Present

**2.5 Wetland Community Type for this NWI polygon (see *Key to Wetland Communities of Indiana*):**

\_\_\_\_\_

**2.6 Disturbances of Hydrology (check all that apply):**

\_\_\_\_\_ Ditching \_\_\_\_\_ Culvert  
\_\_\_\_\_ Tiles \_\_\_\_\_ Other Human Disturbances to the  
\_\_\_\_\_ Dams Hydrology (explain):  
\_\_\_\_\_ Road or Railroad Embankment

**2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):**

\_\_\_\_\_ Garlic Mustard \_\_\_\_\_ Glossy Buckthorn  
\_\_\_\_\_ *Phragmites* \_\_\_\_\_ Reed canary grass  
\_\_\_\_\_ Purple Loosestrife \_\_\_\_\_ Other (list): \_\_\_\_\_

**2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):**

\_\_\_\_\_

**2.9 Presence of Special Community Types:**

\_\_\_\_\_ Bog \_\_\_\_\_ Fen \_\_\_\_\_ Wet Sand / Muck Flat \_\_\_\_\_ Sinkhole pond or swamp

**2.10 Presence of Known Federal or Indiana Rare, Threatened or Endangered Species:**

\_\_\_\_\_ None observed or known to be present

\_\_\_\_\_ RTES Present (list): \_\_\_\_\_

**2.11 Wetland Polygon Quality Descriptor (see: *Wetland Quality Descriptions* and check one):**

\_\_\_\_\_ Good \_\_\_\_\_ Medium \_\_\_\_\_ Poor

### Tier 3a Individual Polygon: Rapid Hydrology Indicators

#### 3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon \_\_\_ 100-75 \_\_\_ 75-50 \_\_\_ 50-25 \_\_\_ <25

Estimated woody plant foliar cover in the polygon \_\_\_ 100-75 \_\_\_ 75-50 \_\_\_ 50-25 \_\_\_ <25

Amount of dead woody material on the soil surface:

\_\_\_ nil (<5% cover) \_\_\_ scattered (5-15% cover) \_\_\_ frequent (>20% cover)

#### 3a.2 Water Quality Protection Questions:

1. **Y N** Does the wetland have a significant amount of vegetative (specifically perennial and woody plant) density to potentially uptake dissolved nutrients?
2. **Y N** Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is **not** discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, if not, answer 3b  
 3a. **Y N** Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?  
 3b. **Y N** Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. **Y N** Does the wetland **lack** steep slopes (>12%), large impervious areas, moderate slopes (6-12%) with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. **Y N** Are there recreational lakes, navigable watercourses, or water supply sources located within a mile down gradient in the local watershed?
6. **Y N** Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.  
 Average width of buffer area (in meters) \_\_\_\_\_ approximate slope (percent) \_\_\_\_\_

#### 3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, if not, answer 1b  
 1a. **Y N** Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?  
 1b. **Y N** Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. **Y N** Does the wetland **lack** man-made structures that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. **Y N** Is the flood potential high in the sub-watershed in which the wetland is located (history of flood damages)?
4. **Y N** Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. **Y N** Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development (e.g. >50% area in row crop, commercial, or residential use)?

**Tier 3b Individual Polygon: Rapid Vegetation Description**

**3b.1 Zonation and Interspersion:**

1. How many vegetation zones are evident in this wetland polygon? \_\_\_\_\_

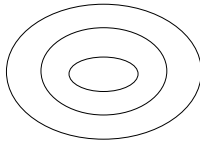
1b. If only one vegetation zone is evident, which best describes the site?

\_\_\_\_\_ Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks; heterogeneous textures across the polygon.

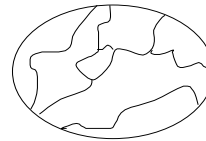
\_\_\_\_\_ Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

**Type One Interspersion**



**Type Two Interspersion**



**3b.2 Dominant Plant Species: Vegetation zone A**

Observation Point #1

Photo number(s) \_\_\_\_\_

(Note: V-mark location on the NWI polygon)

What % of the polygon does this vegetative zone occupy?

10 - 25%

25 - 50%

50 - 75%

75 - 90%

>90%

Is there notable layering/stratification in this vegetation zone? \_\_\_\_\_

Dominant **Herbaceous** Species (i.e. covering more than 10 % of the area) listed in order of relative abundance. (**Mark** with an \* any species that forms extensive monocultural patches).

a \_\_\_\_\_

d \_\_\_\_\_

b \_\_\_\_\_

e \_\_\_\_\_

c \_\_\_\_\_

f \_\_\_\_\_

Dominant **Shrub** Species listed in order of relative abundance.

a \_\_\_\_\_

c \_\_\_\_\_

b \_\_\_\_\_

d \_\_\_\_\_

Dominant **Tree** Species listed in order of relative abundance.

a \_\_\_\_\_

c \_\_\_\_\_

b \_\_\_\_\_

d \_\_\_\_\_

Tree & shrub canopy:  nil  separate, seldom touching  often touching  more or less closed

Mature trees (>12" dbh) present:  yes  no

**Other remarks** (include personal comments about what adds to or detracts from the quality of this wetland site).

NWI Polygon # \_\_\_\_\_

Data Reference # \_\_\_\_\_

**3b.2 Dominant Plant Species: Vegetation zone B**

Observation Point #2

Photo number(s) \_\_\_\_\_

(Note: V-mark location on the NWI polygon)

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? \_\_\_\_\_

Dominant **Herbaceous** Species (i.e. covering more than 10 % of the area) listed in order of relative abundance. (**Mark** with an \* any species that forms extensive monocultural patches).

- |         |         |
|---------|---------|
| a _____ | d _____ |
| b _____ | e _____ |
| c _____ | f _____ |

Dominant **Shrub** Species listed in order of relative abundance.

- |         |         |
|---------|---------|
| a _____ | c _____ |
| b _____ | d _____ |

Dominant **Tree** Species listed in order of relative abundance.

- |         |         |
|---------|---------|
| a _____ | c _____ |
| b _____ | d _____ |

Tree & shrub canopy:  nil  separate, seldom touching  often touching  more or less closed

Mature trees (>12" dbh) present:  yes  no

**Other remarks** (include personal comments about what adds to or detracts from the quality of this wetland site).

**3b.2 Dominant Plant Species: Vegetation zone C**

Observation Point #3

Photo number(s) \_\_\_\_\_

(Note: V-mark location on the NWI polygon)

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? \_\_\_\_\_

Dominant **Herbaceous** Species (i.e. covering more than 10 % of the area) listed in order of relative abundance. (**Mark** with an \* any species that forms extensive monocultural patches).

- |         |         |
|---------|---------|
| a _____ | d _____ |
| b _____ | e _____ |
| c _____ | f _____ |

NWI Polygon # \_\_\_\_\_

Data Reference # \_\_\_\_\_

Dominant **Shrub** Species listed in order of relative abundance.

a \_\_\_\_\_

c \_\_\_\_\_

b \_\_\_\_\_

d \_\_\_\_\_

Dominant **Tree** Species listed in order of relative abundance.

a \_\_\_\_\_

c \_\_\_\_\_

b \_\_\_\_\_

d \_\_\_\_\_

Tree & shrub canopy:  nil  separate, seldom touching  often touching  more or less closed

Mature trees (>12" dbh) present:  yes  no

**Other remarks** (include personal comments about what adds to or detracts from the quality of this wetland site).

**3b.2 Dominant Plant Species: Vegetation zone D**

Observation Point #4

Photo number(s) \_\_\_\_\_

(Note: V-mark location on the NWI polygon)

What % of the polygon does this vegetative zone occupy?

10 - 25%

25 - 50%

50 - 75%

75 - 90%

>90%

Is there notable layering/stratification in this vegetation zone? \_\_\_\_\_

Dominant **Herbaceous** Species (i.e. covering more than 10 % of the area) listed in order of relative abundance. (**Mark** with an \* any species that forms extensive monocultural patches).

a \_\_\_\_\_

d \_\_\_\_\_

b \_\_\_\_\_

e \_\_\_\_\_

c \_\_\_\_\_

f \_\_\_\_\_

Dominant **Shrub** Species listed in order of relative abundance.

a \_\_\_\_\_

c \_\_\_\_\_

b \_\_\_\_\_

d \_\_\_\_\_

Dominant **Tree** Species listed in order of relative abundance.

a \_\_\_\_\_

c \_\_\_\_\_

b \_\_\_\_\_

d \_\_\_\_\_

Tree & shrub canopy:  nil  separate, seldom touching  often touching  more or less closed

Mature trees (>12" dbh) present:  yes  no

**Other remarks** (include personal comments about what adds to or detracts from the quality of this wetland site).

**3b.3 Species richness and indicator species.** Check all species observed within the polygon.

**Important:** if multiple species from one genus or family (marked with spp.) are seen, indicate the *number of species*.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients \* = species with high conservatism)

**Herbs: non-seed plants**

- \_\_\_ horsetail, scouring rush spp. (*Equisetum*) 2  
 \_\_\_ \*ferns: marsh shield fern spp. (*Dryopteris*) 7  
 \_\_\_ \*cinnamon fern (*Osmunda cinnamomea*) 9  
 \_\_\_ \*royal fern (*Osmunda regalis*) 8  
 \_\_\_ sensitive fern (*Onoclea sensibilis*) 4  
 \_\_\_ \*other: species (if known) \_\_\_\_\_  
 \_\_\_ marsh club moss (*Selaginella apoda*) 4  
 \_\_\_ \*Sphagnum moss spp. (*Sphagnum*, N) 10

**Herbs: lvs. floating or submergent**

- \_\_\_ \*bladderwort spp. (*Utricularia*, N) 10  
 \_\_\_ coontail (*Ceratophyllum demersum*, N) 1  
 \_\_\_ duckweed spp. (*Lemnaceae*) 3  
 \_\_\_ \*pondweed spp. (*Potamogeton*) 8 (except 0 for introduced *P. crispus*)  
 \_\_\_ \*water lily (*Nymphaea tuberosa*, N) 6  
 \_\_\_ water shield (*Brasenia schreberi*, N) 4  
 \_\_\_ \*yellow spatterdock spp. (*Nuphar*) 6

**Herbs: insectivorous plants**

- \_\_\_ \*pitcher plant (*Sarracenia purpurea*, N) 10  
 \_\_\_ \*sundew spp. (*Drosera*, N) 10

**Herbs: linear-lvs. or ± leafless monocots**

- \_\_\_ \*beak rush spp. (*Rhynchospora*, N) 10  
 \_\_\_ blueflag iris (*Iris virginica*) 5  
 \_\_\_ bulrush spp. (*Scirpus* / *Schoenoplectus*) 5  
 \_\_\_ \*bur reed spp. (*Sparganium*) 9  
 \_\_\_ cat-tail spp. (*Typha*) 1  
 \_\_\_ \*cotton grass spp. (*Eriophorum*, N) 10

Grasses (family *Gramineae*) – indicate types & number of species

- \_\_\_ a. \*wild rice (*Zizania aquatica*, N) 10;  
 \_\_\_ b. most native perennial grass spp. 4: e.g. cut-grass, manna-g, Canada bluejoint, foxtail [*Alopecurus*]; other \_\_\_\_\_  
 \_\_\_ c. introduced grass spp. 0: reed canary grass [*Phalaris*], reed [*Phragmites*], annual grasses such as annual foxtail [*Setaria*] & barnyard grass *Echinochloa*  
 \_\_\_ needle sedge spp. (*Eleocharis*) sp.1=2  
     \*additional=8  
 \_\_\_ nutsedge spp. (*Cyperus*) 2  
 \_\_\_ \*orchid spp.: species (if known) \_\_\_\_\_  
 \_\_\_ rush spp. (*Juncus*) 4  
 \_\_\_ sedge spp. (*Carex*) sp.1=3 \*additional=7  
 \_\_\_ \*spiderlily (*Hymenocallis occidentalis*) 9  
 \_\_\_ sweet flag (*Acorus calamus*) 0  
 \_\_\_ \*3-way sedge (*Dulichium arundinaceum*) 10  
 \_\_\_ \*twig rush (*Cladium mariscoides*, N) 10  
 \_\_\_ \*umbrella sedge (*Fuirena squarrosa*, N) 10  
 \_\_\_ wild hyacinth (*Camassia scilloides*) 5

- \_\_\_ \*yellow-eyed grass (*Xyris torta*, N) 9

**Herbs: wide-leafed monocots**

- \_\_\_ \*arrow arum (*Peltandra virginica*, N) 6  
 \_\_\_ arrow-head spp. (*Sagittaria*) 4  
 \_\_\_ \*green dragon (*Arisaema dracontium*) 6  
 \_\_\_ Jack-in-the-pulpit (*Arisaema triphyllum*) 4  
 \_\_\_ pickerel weed (*Pontederia cordata*, N) 5  
 \_\_\_ \*skunk cabbage (*Symplocarpus foetidus*) 8  
 \_\_\_ \*water arum (*Calla palustris*, N) 10  
 \_\_\_ water plantain (*Alisma plantago-aquat.*) 2

**Herbs: dicots - lvs. opposite/whorled**

- \_\_\_ \*bedstraw spp. (*Galium*) 6  
 \_\_\_ beggar's tick spp. (*Bidens*) 3  
 \_\_\_ blue vervain (*Verbena hastata*) 3  
 \_\_\_ boneset (*Eupatorium perfoliatum*) 4  
 \_\_\_ bugleweed spp. (*Lycopus*) 5  
 \_\_\_ clearweed spp. (*Pilea*) 3  
 \_\_\_ cup plant (*Silphium perfoliatum*) 4  
 \_\_\_ false nettle (*Boehmeria cylindrica*) 3  
 \_\_\_ \*fen betony (*Pedicularis lanceolata*) 6  
 \_\_\_ \*gentian spp. (*Gentiana* & *Gentianopsis*) 8  
 \_\_\_ giant ragweed (*Ambrosia trifida*) 0  
 \_\_\_ Indian hemp (*Apocynum cannabinum*) 2  
 \_\_\_ Joe-pye weed spp. (*Eupatorium*) 5  
 \_\_\_ \*loosestrife spp. (*Lysimachia*) 6  
 \_\_\_ meadow beauty (*Rhexia virginica*) 5  
 \_\_\_ mint spp.: e.g. hedge nettle, mtn. m., skullcap 5  
 \_\_\_ moneywort (*Lysimachia nummularia*) 0  
 \_\_\_ monkey flower spp. (*Mimulus*) 4  
 \_\_\_ nettle (*Urtica procera*) 1  
 \_\_\_ purple loosestrife (*Lythrum salicaria*) 0  
 \_\_\_ \*richweed (*Collinsonia canadensis*) 8  
 \_\_\_ \*St. John's wort spp. (*Hypericum/Triandemum*) 8  
 \_\_\_ sunflower spp. (*Helianthus*) 4  
 \_\_\_ \*swamp loosestrife (*Decodon verticillatus*, N) 8  
 \_\_\_ swamp milkweed (*Asclepias incarnata*) 4  
 \_\_\_ toothcup spp. (*Ammania* & *Rotala*) 2  
 \_\_\_ \*turtlehead spp. (*Chelone*) 8  
 \_\_\_ virgin's bower (vine) (*Clematis virginiana*) 3  
 \_\_\_ water puslane (*Ludwigia palustris*) 3  
 \_\_\_ winged loosestrife (*Lythrum alatum*) 5

**Herbs (vines): dicots - lvs. alternate or basal and simple**

- \_\_\_ Amer. bellflower (*Campanula americana*) 4  
 \_\_\_ \*asters: bristly aster (*Aster puniceus*) 7  
 \_\_\_ \*flat-topped aster (*A. umbellatus*) 8  
 \_\_\_ other aster spp. (e.g. New Engl.-, panicked-a) 3  
 \_\_\_ \*black-eyed Susan (*Rudbeckia fulgida*) 8  
 \_\_\_ cardinal flower (*Lobelia cardinalis*) 4

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- \_\_\_ cress spp. (*Cardamine*) 4
- \_\_\_ dock spp.: swamp-, water-, pale- (*Rumex*) 4
- \_\_\_ garlic mustard (*Alliaria petiolata*) 0
- \_\_\_ golden ragwort (*Senecio aureus*) 4
- \_\_\_ \*goldenrod spp. (*Solidago ohioensis*, *S. patula*, *S. riddellii*) 9
- \_\_\_ \*grass of Parnassus (*Parnassia glauca*) 10
- \_\_\_ \*Indian plantain (*Cacalia plantaginea*) 10
- \_\_\_ ironweed spp. (*Vernonia*) 4
- \_\_\_ jewelweed, touch-me-not spp. (*Impatiens*) 3
- \_\_\_ lizard's tail (*Saururus cernuus*) 4
- \_\_\_ lobelia spp. (*Lobelia*) 4
- \_\_\_ \*marsh marigold (*Caltha palustris*) 7
- \_\_\_ \*moonseed (vine) (*Menispermum canadense*) 6
- \_\_\_ primrose-willow spp. (*Epilobium* & *Ludwigia*) 3
- \_\_\_ rose mallow spp. (*Hibiscus*) 4
- \_\_\_ smartweed spp.: incl. jumpseed, pinkweed, tearthumb, water-pepper, water-sm. (*Polygonum*) 4 [Except \*for *P. arifolium* 10]
- \_\_\_ sneezeweed (*Helenium autumnale*) 3
- \_\_\_ stinging nettle (*Laportea canadensis*) 2
- \_\_\_ \*swamp saxifrage (*Saxifraga pa.*) 10
- \_\_\_ \*Virginia bluebells (*Mertensia virginica*) 6
- \_\_\_ waterhemp (*Amaranthus tuberculatus*) 1
- \_\_\_ wingstem (*Actinomeris alternifolia*) 3

**Herbs: dicots - lvs. basal or alternate and compound or deeply lobed**

- \_\_\_ aven spp.: rough a., white a. (*Geum*) 2
- \_\_\_ \*buttercup spp: e.g. cursed b., hooked b., swamp b. (*Ranunculus*) 6
- \_\_\_ chervil (*Chaerophyllum procumbens*) 3
- \_\_\_ \*cowbane (*Oxypolis rigidior*) 7
- \_\_\_ \*great angelica (*Angelica atropurpurea*) 6
- \_\_\_ hog peanut/ gd. nut spp. (*Amphicarpaea* & *Apios*) 5
- \_\_\_ honewort (*Cryptotaenia canadensis*) 3
- \_\_\_ meadow rue spp. (*Thalictrum*) 5
- \_\_\_ poison ivy (vine) (*Rhus radicans*) 1
- \_\_\_ \*queen-of-the-prairie (*Filipendula rubra*) 9
- \_\_\_ senna spp. (*Cassia*) 4
- \_\_\_ swamp agrimony (*Agrimonia parviflora*) 4
- \_\_\_ \*swamp thistle (*Cirsium muticum*) 8
- \_\_\_ tall coneflower (*Rudbeckia laciniata*) 3
- \_\_\_ \*water hemlock spp. (*Cicuta*) 7
- \_\_\_ water parsnips (*Sium suave*) 5

**Shrubs - leaves opposite or whorled**

- \_\_\_ bladdernut (*Staphylea trifolia*) 5
- \_\_\_ buckthorn spp. (*Rhamnus cathar.* & *frangula*) 0
- \_\_\_ buttonbush (*Cephalanthus occidentalis*) 5
- \_\_\_ dogwood, red-osier (*Cornus stolonifera*) 4
- \_\_\_ \*dogwood, blue-fruited or silky *Cornus*

- \_\_\_ *obliqua*) 7
- \_\_\_ dogwood, gray (*C. racemosa*) 2
- \_\_\_ elderberry (*Sambucus*) 2

**Shrubs - lvs. alternate**

- \_\_\_ \*cranberry spp. (*Vaccinium*, N) 10
- \_\_\_ \*dwarf birch (*Betula pumila*, N) 10
- \_\_\_ \*highbush blueberry (*V. corymbosum*, N) 9
- \_\_\_ \*leatherleaf (*Chamaedaphne calycul.*, N) 10
- \_\_\_ meadowsweet & hardhack spp. (*Spiraea*) 4
- \_\_\_ \*ninebark (*Physocarpus opulifolius*) 7
- \_\_\_ \*shrubby cinquefoil (*Potentilla fruticosa*) 9
- \_\_\_ spice bush (*Lindera benzoin*) 5
- \_\_\_ \*swamp dewberry (*Rubus hispidus*) 6
- \_\_\_ \*swamp holly & winterberry (*Ilex* spp.) 7
- \_\_\_ swamp rose (*Rosa palustris*) 5

**Trees - lvs. needle shaped**

- \_\_\_ \*tamarack (*Larix laricina*, N) 10

**Trees - lvs. compound**

- \_\_\_ \*ash, black (*Fraxinus nigra*) 7
- \_\_\_ ash, green (*Fraxinus pensylvanica*) 3
- \_\_\_ \*ash, pumpkin (*Fraxinus tomentosa*, SW) 8
- \_\_\_ boxelder (*Acer negundo*) 1
- \_\_\_ hickory, bitternut (*Carya cordiformis*) 5
- \_\_\_ \*hickory, shellbark (*Carya laciniosa*) 8
- \_\_\_ honey locust (*Gleditsia triacanthos*) 1
- \_\_\_ \*poison sumac (*Rhus vernix*) 10

**Trees - lvs. simple and opposite**

- \_\_\_ red maple (*Acer rubrum*) 5
- \_\_\_ silver maple (*A. saccharinum*) 1

**Trees - lvs. simple and alternate**

- \_\_\_ \*alder, speckled (*Alnus rugosa*) 9
- \_\_\_ birch, river (*Betula nigra*) 2
- \_\_\_ black gum (*Nyssa sylvatica*) 5
- \_\_\_ cottonwood, eastern (*Populus deltoides*) 1
- \_\_\_ \*cottonwood, swamp (*P. heterophylla*, SW) 8
- \_\_\_ elm, Amer. (*Ulmus americana*) 3
- \_\_\_ hackberry (*Celtis occidentalis*) 3
- \_\_\_ ironwood (*Carpinus caroliniana*) 5
- \_\_\_ oak, pin or white (*Quercus*) 4
- \_\_\_ \*oak, Shumard's, sw. chestnut, sw. white 7
- \_\_\_ \*papaw (*Asimina triloba*) 6
- \_\_\_ \*sugarberry (*Celtis laevigata*, S) 7
- \_\_\_ sweet gum (*Liquidambar styraciflua*) 4
- \_\_\_ sycamore, Amer. (*Platanus occidentalis*) 3
- \_\_\_ willow spp. (*Salix*) sp.1=3; \*additional=7

**OTHER** \_\_\_\_\_