TRANSMITTAL

To:	Bureau of Design and Environment
Attention:	Matthew J. Sunderland
From:	Illinois Natural History Survey
Regarding:	Wetland Mitigation Monitoring

Title and Location

Title:	IL 336 (FAP 315)
Location:	Near the LaMoine River
Project Number:	D-96-551-02
Sequence Number:	72680
Section Number:	34-4 (4B, B-1)
County:	Hancock
IDOT District:	District 6

Survey Conducted By: Scott Wiesbrook (soils and hydrology)
Brian Wilm and Paul Marcum (vegetation and hydrology)
Brad Zercher (GPS/GIS)
Illinois Natural History Survey
1816 South Oak Street
Champaign, Illinois 61820
(217) 265-0368 (Wiesbrook)
swiesbro@uiuc.edu

Date Conducted: August 5 and 6, 2008

Project Summary:

For the second year we monitored the site created for wetland impact mitigation for FAP 315 (IL 336/US 136), LaMoine River site in Hancock County. The site was completed and all trees planted by spring 2007. The attached report includes information detailing monitoring methods and results. The status of the created wetland site is discussed. The areas discussed are marked on the DOQ included with this report.

Signed: _____ Signed: _____

Dr. Allen E. Plocher
INHS/IDOT Project Coordinator

Dr. Edward J. Heske
INHS/IDOT Project Principal Investigator

Date:_____ Date: _____

WETLAND MITIGATION SITE MONITORING REPORT
FAP 315 (IL 336) Hancock County – LaMoine River Site

Introduction

This report details monitoring of the wetland mitigation site created to compensate for impacts associated with FAP 315 (IL 336) in Hancock County. The LaMoine River site consists of approximately 13.8 ha (34 ac) of wetland creation/restoration (IDOT 2006b). The wetland creation site is located approximately 8.8 km (5.5 mi) east of Carthage, IL, near the crossing of IL 336 over the LaMoine River. The legal location is SW/4, SE/4, and SE/4, SW/4 Section 18, T. 5 N., R. 5 W. The project area lies within the United States Geological Survey Mississippi River hydrologic unit 07130010, LaMoine River. The site was completed and all trees planted by spring 2007. On-site monitoring was conducted on August 5 and 6, 2008.

This report discusses the goals, objectives, and performance criteria for the mitigation project, the methods used for monitoring the site, monitoring results, and discussion and recommendations based on the results. Methods and results are discussed by performance criteria for each goal.

Goals, Objectives, and Performance Standards

Goals, objectives, and performance standards follow those typically used in INHS determinations of mitigation sites. Performance criteria are based on those specified in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), *Illinois Wetland Restoration and Creation Guide* (Admiraal et al. 1997), and in *Guidelines for Developing Mitigation Proposals* (USACE 1993). Each goal should be attained by the end of the 5-year monitoring period. Goals, objectives, and performance criteria are listed below.

Project goal 1: The created wetland community should be a jurisdictional wetland as defined by current federal standards.

Objective: The created wetland should compensate for the loss of wetland acreage.

Performance criteria:
a. Predominance of hydrophytic vegetation: More than 50% of the dominant plant species must be hydrophytic.
b. Occurrence of hydric soils: Hydric soil characteristics should be present, or conditions favorable for hydric soil formation should persist at the site.
c. Presence of wetland hydrology: The area must be either permanently or periodically inundated at average depths less than 2 m (6.6 ft) or have soils that are saturated to the surface for at least 12.5% of the growing season.

Project goal 2: The created wetland plant community should meet standards for planted species survival and floristic composition.

Objectives: Planting trees will create a forested wetland. Other herbaceous vegetation will be allowed to colonize the site naturally.

Performance criteria:

a. Planted species survivorship: At least 80% of the planted trees should be established and living by the end of the five year monitoring period.

b. Native species composition: At least 90% of the plants present should be non-weedy, native, perennial species.

c. Dominance of vegetation: None of the three most dominant plant species may be non-native or weedy species, such as cattails, sandbar willow, or reed canary grass.

Methods

Project goal 1

a. Predominance of hydrophytic vegetation

The method for determining dominant vegetation at a wetland site is described in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and further explained in the *Federal Manual for Identifying and Delineating Jurisdictional Wetlands* (Federal Interagency Committee for Wetland Delineation 1989). It is based on aerial coverage estimates for individual plant species. Each of the dominant plant species is then assigned its wetland indicator status rating (Reed 1988). Any plant rated facultative or wetter, i.e. FAC, FAC+, FACW, or OBL, is considered a hydrophyte. A predominance of wetland vegetation in the plant community exists if more than 50% of the dominant species present are hydrophytic. Since the survival of planted hydrophytic trees and shrubs on non-wetlands (e.g. yards) is well documented, these species were excluded from calculations of percentage of dominant hydrophytic species.

b. Occurrence of hydric soils

The soil was sampled in order to monitor hydric soil development. Soil profile morphology including horizon color, texture, and structure was described at various points throughout the site. Additionally, the presence, type, size, and abundance of redoximorphic features were noted. Hydric soils may develop slowly, and characteristics may not be apparent during the first several years after project construction. In the absence of hydric soil indicators at the end of the five-year monitoring period, hydrologic data could be used as corroborative evidence that conditions favorable for hydric soil formation persist at the site.

c. Presence of wetland hydrology

The extent of wetland hydrology at the Hancock County, Carthage Potential Wetland Compensation Site was monitored by the Illinois State Geological Survey and is shown on the accompanying figure (Fucciolo et al. 2008). Wetland hydrology occurs when inundation or saturation to land surface is present for greater than 5% of the growing season (10 days at this site). To be a wetland, where the soils and vegetation parameters in the Corps of Engineers Wetland Delineation Manual also are met, 5% hydrology is sufficient; if either is lacking, then inundation or saturation must be present for greater than 12.5% of the growing season (25 days at this site) to satisfy wetland hydrology criteria (Environmental Laboratory 1987). Inundation and saturation at the site were monitored using a combination of 23 monitoring wells and 3 stage gauges. Water levels were measured at least biweekly during April and May, and monthly during the remainder of the year. Manual readings were supplemented by 3 dataloggers, which measure surface-water levels at regular intervals to document all hydrologic events. Additional details regarding site conditions and monitoring results for wetland hydrology in 2008 are summarized in ISGS' Annual Report for Active IDOT Wetland Compensation and Hydrologic Monitoring Sites, September 1, 2007 to September 1, 2008 (Fucciolo et al. 2008).

Project goal 2

a. Planted species survivorship

In order to create floodplain forest, tree saplings were planted at the compensation site. The number of trees to be planted at the site (IDOT, 2006b) is listed in Table 1, which follows:

Table 1. Tree species planted in the created wetland (Final planting date spring 2007).

Species	Common Name	Number
Carya illinoensis	Pecan	250
Fraxinus pennsylvanica	Green ash	250
Platanus occidentalis	Sycamore	250
Quercus bicolor	Swamp white oak	250
Quercus palustris	Pin oak	248
TOTAL		1248

All of the trees were to be 5 gallon containerized trees. Survivorship and density of planted trees was determined through a census of the created wetland. All live trees were counted. Dead trees were counted but not identified by species. Tree survival was calculated as a percentage of the number of stems reported to have been planted: 100 x (Total number of live planted stems counted/total number of planted stems reported).

b. Native Species Composition

A complete list of plant species present was compiled. This was used to determine the number and percentage of species present that are non-weedy, native, perennials.

In each designated herbaceous plant community (sedge meadow, wet meadow, marsh) vegetation was quantitatively sampled. Parallel transects were established on a north (N) bearing at 50 m intervals. Sample points (39) were located at 25 m intervals along each transect. Vegetation was recorded by species and percent cover within 1 m^2 quadrats at each sample point. Within each community, Importance Value was calculated as an average of relative frequency and relative cover for each species present.

In addition, the Floristic Quality Assessment (Taft et al. 1997) was applied to the plant community at the site to evaluate floristic quality and nativity. The assessment methodology is used to identify natural areas and facilitate floristic comparisons among sites. This technique is part of the procedure for the long-term monitoring of natural areas and the monitoring of restored or created wetlands (Swink and Wilhelm 1994). The basis of the method is that each native plant species is assigned a conservatism coefficient (C) ranging from 0 to 10. Individual conservatism coefficients are ranks of species behavior and reflect the committee's (Taft et al. 1997) confidence level for a taxon's correspondence to anthropogenic disturbances. Coefficient values range from 0 to 10, with all adventive species given a coefficient of 0. Plant species assigned 0 have low affinities for natural areas, whereas those assigned 10 have very high affinities. When a complete species list is assembled for a wetland site, the overall average conservatism coefficient ($\bar{c}$) and a site floristic quality index (FQI) can be calculated. The $\bar{c}$ is calculated by summing the coefficients of conservatism ($\sum C$) and dividing by the total number of native species (N). The FQI is then calculated by dividing the $\sum C$ by the square root of N. These values provide a measure of site floristic quality. Floristic quality index (FQI) values less than 5 indicate that the area is extremely weedy or in an early successional stage

(Swink and Wilhelm 1994). FQI values between 20 and 35 ($\bar{c}$ = 3.0) indicate that the area has evidence of native character and can be considered an environmental asset. FQI values between 35 and 50 ($\bar{c}$ = 3.5) indicate that the area has significant native character.

c. Dominance of vegetation

Plant species dominance was determined as in project goal 1, a. Predominance of hydrophytic vegetation. The method for determining dominant vegetation at a wetland site is described in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and further explained in the *Federal Manual for Identifying and Delineating Jurisdictional Wetlands* (Federal Interagency Committee for Wetland Delineation 1989).

Photography stations were established in areas chosen to give maximum representation of the site. Locations of the photography stations can be seen in Figure 1 (page 6). Photographs were taken from the permanent photography stations established in 2007 and are in Appendix B of this report.

Results

Project goal 1

a. Predominance of hydrophytic vegetation

At all areas within this site, except the upland buffer and south tree planting areas, a majority of dominant plant species for the mitigation site in 2008 were rated OBL, FACW, FAC+, or FAC and were hydrophytic. Two areas had 100% of the dominants being hydrophytic, one area had 75%, and one area had 56%; all of which meet the minimum project goal of >50%. The south tree planting had only 50% and the upland buffer tree planting had 0% of the dominants being hydrophytic, and therefore did not meet the minimum project goal of >50%. Dominant species lists for each area can be found within the routine onsite wetland determination forms located in Appendix A of this report.

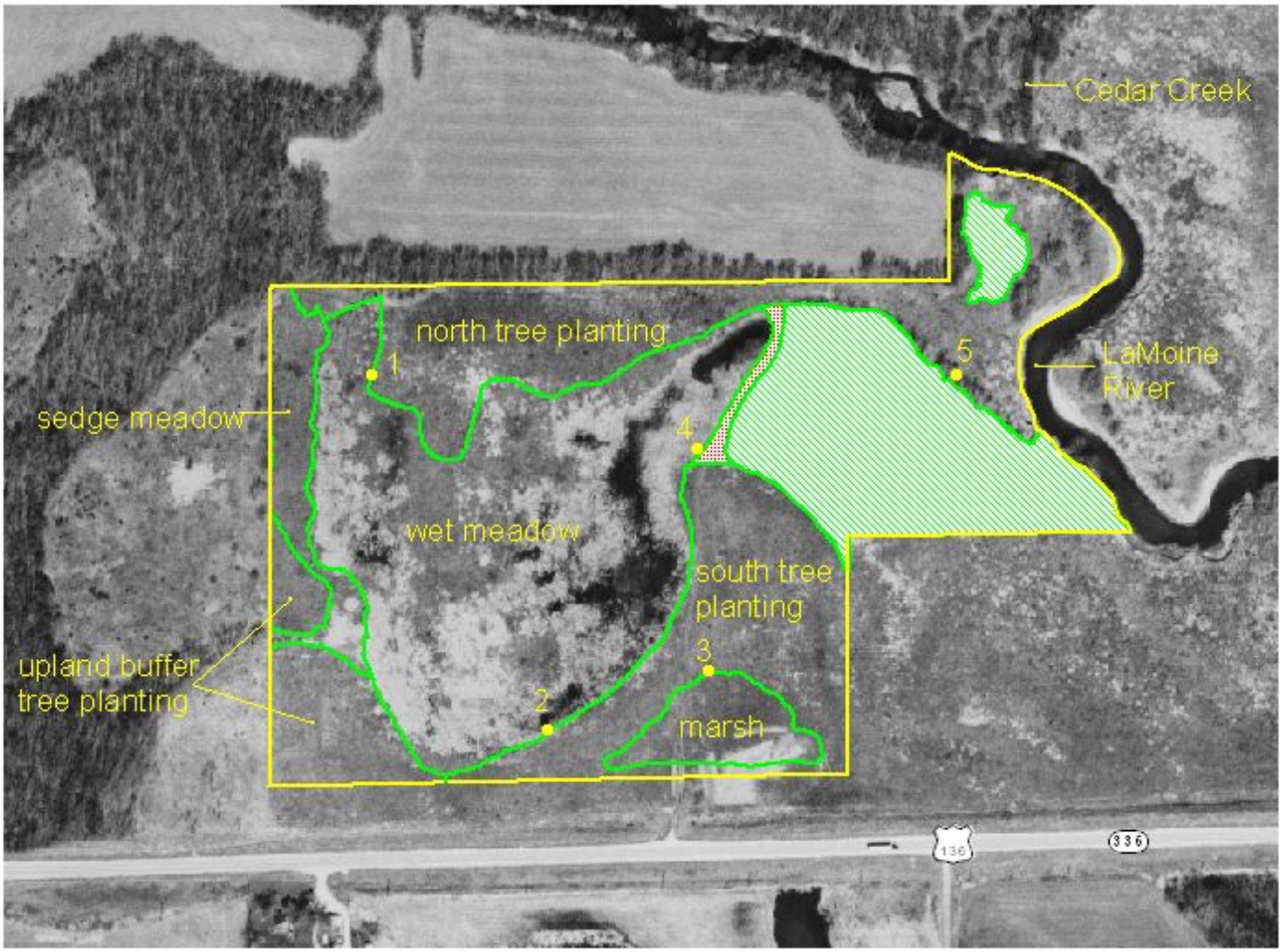
b. Occurrence of hydric soils

Soils examined at the site were found to be relatively undisturbed with the exception of the marsh. It appeared that hydric soil indicators are present within the sedge meadow, wet meadow, marsh, and a portion of the north tree planting area; these areas therefore met the hydric soil criterion. A portion of the north tree planting area, and both the south and upland buffer tree planting areas lacked hydric soil indicators and therefore do not meet the hydric soil criterion. A typical soil profile description for each area can be found within the routine onsite wetland determination forms located in Appendix A of this report.

c. Presence of wetland hydrology

The ISGS estimated that "the area of the site that satisfied wetland hydrology criteria for more than 12.5% of the 2008 growing season was estimated to be 24.3 ac (9.8 ha)" (Figure 2, page 7) (Fucciolo, et al. 2008). More information is available in the *Hancock County near Carthage, Wetland Compensation Site* report (ibid). At this time we estimate that 24.3 ac (9.8 ha) of the site currently has wetland hydrology.

LaMoine River Mitigation Site (FAP 315)
Hancock County, Illinois



0 400 800 Feet

scale 1:4800
1 inch=400 ft

0 100 200 Meters

Project boundary
Photo station
Vegetation boundary
Haul route
No trees planted

01/08

Figure 1. Site, photostation locations, and vegetation community boundaries.

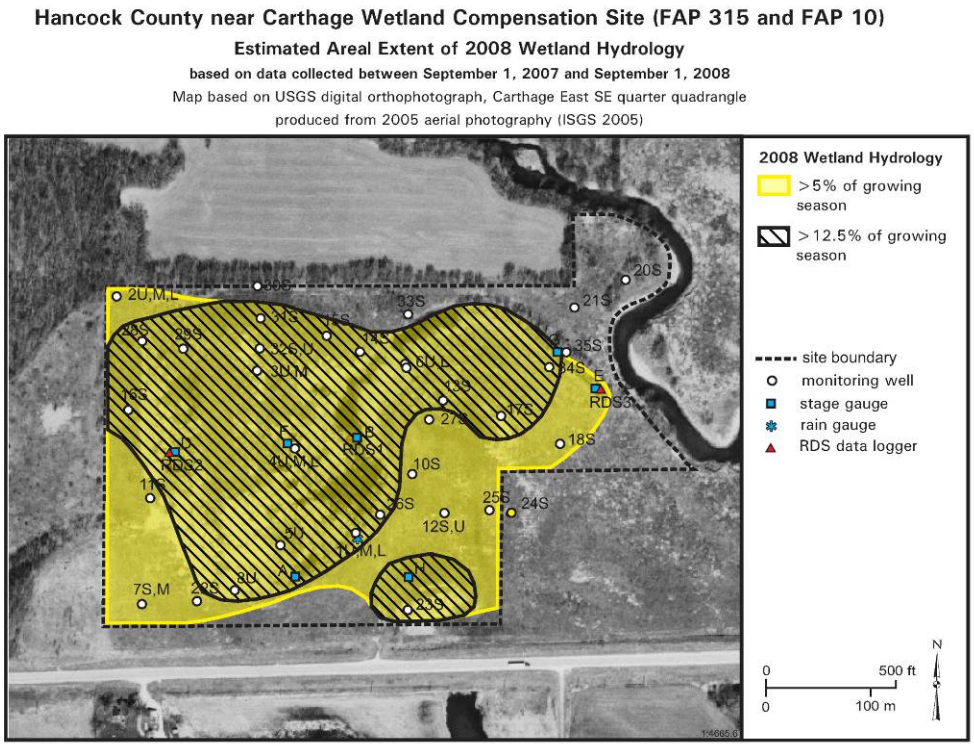


Figure 2. "Estimated Areal Extent of 2008 Wetland Hydrology" (Fucciolo, et al. 2008).

Project goal 2

a. Planted species survivorship

Table 2 shows the results of the census. There was a minor discrepancy between the numbers of trees reported as planted and the number of trees counted, as we counted 70 trees fewer than were reported as planted. There were many gaps in the rows where trees had been previously, but since there was no longer anything to count, these spots were not counted as dead trees. Table 2 also shows the percent survival for the trees. These figures were calculated both by species and overall for all species in the entire site. More than 92% of the trees reported planted were counted as surviving. This easily exceeds the project goal of >80%.

Table 2. Number of trees counted and percent tree survival (by species).

Species	Common Name	Number Planted	Number Counted	% Survival.
Carya illinoensis	Pecan	250	239	95.6
Fraxinus pennsylvanica	Green ash	250	239	95.6
Platanus occidentalis	Sycamore	250	205	82.0
Quercus palustris	Pin oak	248	236	95.2
Quercus bicolor	Swamp white oak	250	233	93.2
Spp.	Miscellaneous dead	-	26	x
TOTAL		1248	1178	92.3

b. Native species composition

Table 3 below shows the percentage non-weedy, native species for each area of this site. Therefore, none of the areas meet the requirement for native species composition (>90%). This calculation does not take into account whether a species is annual or perennial, but the numbers would obviously be lower if we excluded all annual species as well as the non-native and weedy species. It is normal, however, for a site to begin very weedy and develop more native character over time, so this site may be expected to increase in native species composition over time. However, this goal seems unrealistically high, as many natural area quality sites would likely not meet this level of 90% of species native, non-weedy, and perennial.

Table 3. Percentage non-weedy, native species, by year and area of site.

Area / Year	Sedge Meadow	Wet Meadow	Marsh	North tree planting	South tree planting	Upland buffer tree planting
2007	50.0	45.8	56.0	55.4	16.7	38.7
2008	52.4	69.0	64.0	45.1	27.3	47.9

FQI and mean c ($\bar{c}$) values were also calculated for this site from the species lists included in Appendix A. These values are displayed in Table 4 below.

Table 4. FQI and $\bar{c}$ values, by year and area of site.

	Sedge Meadow		Wet Meadow		Marsh		North tree planting		South tree planting		Upland buffer tree planting	
Year	FQI	$\bar{c}$	FQI	$\bar{c}$	FQI	$\bar{c}$	FQI	$\bar{c}$	FQI	$\bar{c}$	FQI	$\bar{c}$
2007	13.9	2.0	14.7	2.1	11.6	2.6	17.4	2.2	8.0	1.6	12.3	1.8
2008	20.2	2.4	20.9	2.4	12.8	2.7	14.3	1.9	8.0	1.5	20.8	2.5

These values indicate that the south tree planting area is of poor natural quality, the marsh and north tree planting area are of fair natural quality, and all other areas are of good natural quality. These values should continue to increase over time in each of the areas, as higher quality vegetation becomes established.

c. Dominance of vegetation

Quantitative vegetation sampling was conducted in the sedge meadow, wet meadow, and marsh communities. In the sedge meadow, dominant species were *Ambrosia artemisiifolia, Bidens aristosa, Trifolium repens, Geum laciniatum, Poa pratensis, Phalaris arundinacea, Carex vulpinoidea, Agrimonia parviflora,* and *Solidago canadensis* (Table 5, page 10). *Phalaris arundinacea* and *Polygonum pensylvanicum* dominated the wet meadow (Table 6, page 11). In the marsh, dominant species were *Alisma plantago-aquatica, Lindernia dubia, Eleocharis obtusa*, and *Ammania coccinea* (Table 7, page 12).

Based on visual estimation, dominant species in the north tree planting area were *Agrostis alba, Phalaris arundinacea, Rumex crispus,* and *Setaria faberi*. *Agrostis alba* and *Trifolium repens* dominated in the south tree planting area. The upland buffer tree planting area was dominated by *Ambrosia artemisiifolia, Aster pilosus, Poa pratensis,* and *Solidago canadensis*. Only the marsh has no non-native or weedy species among the three most dominant; in each of the other communities at least one of the three most dominant species is non-native or weedy native. At this time only the marsh meets the performance criteria for dominance of vegetation.

Table 5. Understory species composition of Sedge Meadow (Site 1). Frequency, Relative Frequency, Cover (m^2/m^2), Relative Cover, Importance Value (%), N=7.

Species	Cover	Relative Cover	Frequency	Relative Frequency	IV
Ambrosia artemesiifolia	25.71	16.64	0.86	4.88	10.76
Bidens aristosa	17.71	11.47	0.86	4.88	8.17
Trifolium repens	17.50	11.33	0.29	1.63	6.48
Geum laciniatum	8.86	5.73	0.86	4.88	5.31
Poa pratensis	11.50	7.44	0.43	2.44	4.94
Phalaris arundinacea	12.14	7.86	0.14	0.81	4.34
Carex vulpinoidea	6.64	4.30	0.57	3.25	3.78
Agrimonia parviflora	6.21	4.02	0.43	2.44	3.23
Solidago canadensis	4.79	3.10	0.57	3.25	3.17
Aster pilosus	3.43	2.22	0.57	3.25	2.74
Glyceria striata	3.43	2.22	0.57	3.25	2.74
Aster simplex	1.43	0.92	0.71	4.07	2.49
Scirpus atrovirens	3.00	1.94	0.43	2.44	2.19
Carex granularis	1.71	1.11	0.57	3.25	2.18
Oxalis stricta	2.64	1.71	0.43	2.44	2.07
Juncus dudleyi	1.36	0.88	0.57	3.25	2.07
Elymus virginicus	1.00	0.65	0.57	3.25	1.95
Acalypha rhomboidea	0.29	0.18	0.57	3.25	1.72
Carex annectens	2.57	1.66	0.29	1.63	1.65
Trifolium hybridum	2.57	1.66	0.29	1.63	1.65
Lythrum alatum	1.29	0.83	0.43	2.44	1.64
Eupatorium serotinum	1.29	0.83	0.43	2.44	1.64
Carex tribuloides	2.21	1.43	0.29	1.63	1.53
Lycopus americanus	0.93	0.60	0.43	2.44	1.52
Calystegia sepium	2.14	1.39	0.14	0.81	1.10
Lysimachia nummularia	2.14	1.39	0.14	0.81	1.10
Agrostis hyemalis	2.14	1.39	0.14	0.81	1.10
Carex frankii	0.86	0.55	0.29	1.63	1.09
Lycopus virginicus	0.86	0.55	0.29	1.63	1.09
Festuca arundinacea	0.86	0.55	0.29	1.63	1.09
Hypericum punctatum	0.50	0.32	0.29	1.63	0.97
Taraxacum officinale	0.50	0.32	0.29	1.63	0.97
Vernonia missurica	0.50	0.32	0.29	1.63	0.97
Elymus canadensis	0.50	0.32	0.29	1.63	0.97
Ambrosia trifida	0.14	0.09	0.29	1.63	0.86
Bromus commutatus	0.14	0.09	0.29	1.63	0.86
Polygonum pennsylvanicum	0.14	0.09	0.29	1.63	0.86
Lolium perenne	0.14	0.09	0.29	1.63	0.86
Total	154.50*	100.00*	17.57*	100.00*	100.00*

* Values include calculations for thirteen species with IV less than 0.55, including *Ulmus americana, Xanthium strumarium, Leersia oryzoides, Carex molesta, Sorghastrum nutans, Aster*

lateriflorus, Viola pratincola, Sida spinosa, Acer saccharinum, Cyperus strigosus, Prunella vulgaris, Cinna arundinacea, and *Rorippa islandica*.

Table 6. Understory species composition of Wet Meadow (Site 2). Frequency, Relative Frequency, Cover (m^2/m^2), Relative Cover, Importance Value (%), N=27.

Species	Cover	Relative Cover	Frequency	Relative Frequency	IV
Phalaris arundinacea	48.91	59.95	0.93	26.88	43.42
Polygonum pennsylvanicum	9.07	11.12	0.26	7.53	9.33
Solidago canadensis	6.61	8.10	0.33	9.68	8.89
Scirpus fluviatilis	3.81	4.68	0.11	3.23	3.95
Solidago gigantea	1.78	2.18	0.15	4.30	3.24
Geum laciniatum	1.67	2.04	0.11	3.23	2.63
Elymus virginicus	1.22	1.50	0.11	3.23	2.36
Carex vulpinoidea	1.13	1.38	0.11	3.23	2.31
Lysimachia nummularia	2.31	2.84	0.04	1.08	1.96
Carex frankii	1.11	1.36	0.07	2.15	1.76
Eupatorium serotinum	0.15	0.18	0.11	3.23	1.70
Calystegia sepium	0.22	0.27	0.07	2.15	1.21
Aster pilosus	0.04	0.05	0.07	2.15	1.10
Hypericum punctatum	0.04	0.05	0.07	2.15	1.10
Aster simplex	0.04	0.05	0.07	2.15	1.10
Eleocharis obtusa	0.04	0.05	0.07	2.15	1.10
Agrimonia parviflora	0.56	0.68	0.04	1.08	0.88
Scirpus atrovirens	0.56	0.68	0.04	1.08	0.88
Poa pratensis	0.56	0.68	0.04	1.08	0.88
Carex granularis	0.56	0.68	0.04	1.08	0.88
Apocynum cannabinum	0.56	0.68	0.04	1.08	0.88
Asclepias incarnata	0.11	0.14	0.04	1.08	0.61
Ambrosia trifida	0.11	0.14	0.04	1.08	0.61
Echinochloa muricata	0.11	0.14	0.04	1.08	0.61
Xanthium strumarium	0.11	0.14	0.04	1.08	0.61
Carex tribuloides	0.02	0.02	0.04	1.08	0.55
Oxalis stricta	0.02	0.02	0.04	1.08	0.55
Ulmus americana	0.02	0.02	0.04	1.08	0.55
Acalypha rhomboidea	0.02	0.02	0.04	1.08	0.55
Boehmeria cylindrica	0.02	0.02	0.04	1.08	0.55
Phyla lanceolata	0.02	0.02	0.04	1.08	0.55
Lycopus americanus	0.02	0.02	0.04	1.08	0.55
Amaranthus tuberculatus	0.02	0.02	0.04	1.08	0.55
Erechtites hieracifolia	0.02	0.02	0.04	1.08	0.55
Ammania coccinea	0.02	0.02	0.04	1.08	0.55
Lindernia dubia	0.02	0.02	0.04	1.08	0.55
Total	81.57	100.00	3.44	100.00	100.00

Table 7. Understory species composition of Marsh (Site 3). Frequency, Relative Frequency, Cover (m^2/m^2), Relative Cover, Importance Value (%), N = 5.

Species	Cover	Relative Cover	Frequency	Relative Frequency	IV
Alisma plantago-aquatica	54.00	40.51	0.80	16.67	28.59
Lindernia dubia	11.70	8.78	0.80	16.67	12.72
Eleocharis obtusa	10.50	7.88	0.40	8.33	8.11
Ammania coccinea	1.80	1.35	0.60	12.50	6.93
Eleocharis erythropoda	12.50	9.38	0.20	4.17	6.77
Scirpus fluviatilis	12.50	9.38	0.20	4.17	6.77
Eleocharis macrostachya	12.50	9.38	0.20	4.17	6.77
Echinochloa muricata	7.50	5.63	0.20	4.17	4.90
Lemna minor	0.70	0.53	0.40	8.33	4.43
Polygonum pennsylvanicum	0.60	0.45	0.40	8.33	4.39
Sagittaria latifolia	3.00	2.25	0.20	4.17	3.21
Phalaris arundinacea	3.00	2.25	0.20	4.17	3.21
Leersia oryzoides	3.00	2.25	0.20	4.17	3.21
Total	133.30	100.00	4.80	100.00	100.00

Discussion

After this second monitoring season, this site shows some progress toward forested wetland establishment. All standards for Project Goal 1 have been met at three areas, as these areas (sedge meadow, wet meadow, and marsh) are jurisdictional wetlands. A portion of the north tree planting area also meets the jurisdictional wetland criterion. Although the upland buffer and south tree planting areas met the 5% level of wetland hydrology this year, there is little evidence that they will develop hydric soils and hydrophytic vegetation to comply with this goal in the future. No areas have met all of the standards for Project Goal 2, although as the vegetative succession proceeds, this site may comply with that goal by the end of the monitoring period. The performance criteria for native species composition is probably unrealistically high, and will likely not be met at this site. The presence of the aggressive, weedy, non-native *Phalaris arundinacea* across this site is a concern, and it may need to be controlled in order to meet the standards for Project Goal 2.

While the vegetation is hydrophytic at the sedge meadow, wet meadow, marsh, and north tree planting area, at no area does it meet the dominance criteria for native non-weedy species. The marsh is the only area which met the native species composition requirement. The planted trees exhibited excellent survival, and should meet the planted species performance criteria at the end of the monitoring period There are still a large number of species at each site that have very low coefficients of conservatism (C). This is common on disturbed and early successional sites and is not a cause for concern at this time. It is likely that as succession progresses, more conservative species will become established on the site.

Currently, the primary concerns for this site are establishing non-weedy, native dominant hydrophytic vegetation at all areas, and establishing hydric soils and wetland hydrology at the upland buffer and south tree planting areas.

All of the wet meadow, sedge meadow, and marsh, and a portion of the north tree planting area satisfy the wetland criteria; therefore, current wetland acreage at this site is estimated to be 24.3 ac (9.8 ha), corresponding to that area determined by the ISGS to possess wetland hydrology for more than 12.5% of the growing season. This estimate will be refined in future years as more hydrologic data is gathered.

References

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Appendix A

Wetland Determination Forms

ROUTINE ONSITE WETLAND DETERMINATION
Site 1 (page 1 of 5)

Field Investigators: Wiesbrook, Wilm, and Marcum **Date:** Aug. 5 & 6, 2008
Project Name: FAP 315 (LaMoine River Site) **Section No.:** 34-4 (4B, B-1)
State: Illinois **County:** Hancock **Applicant:** IDOT Dist. 6
Area Name: Sedge meadow
Legal Description: SW/4, SE/4, and SE/4, SW/4 Section 18, T. 5 N., R. 5 W
Location: This wetland is located along the western edge of the site.

Do normal environmental conditions exist at this area? Yes: X No:
Has the vegetation, soils, or hydrology been significantly disturbed? Yes: No: X

VEGETATION

Dominant Plant Species	Stratum	Indicator Status
1. *Agrimonia parviflora*	Herb	FAC+
2. *Ambrosia artemisiifolia*	Herb	FACU
3. *Bidens aristosa*	Herb	FACW
4. *Carex vulpinoidea*	Herb	OBL
5. *Geum laciniatum*	Herb	FACW
6. *Phalaris arundinacea*	Herb	FACW+
7. *Poa pratensis*	Herb	FAC-
8. *Trifolium repens*	Herb	FACU+
9. *Solidago canadensis*	Herb	FACU

Percentage of dominant species that are OBL, FACW, FAC+, or FAC: 56%
Hydrophytic vegetation: Yes: X No:
Rationale: More than 50% of the dominants are OBL, FACW, FAC+, or FAC.

SOILS

Series and phase: NRCS mapped as Sawmill silty clay loam;
revised to Birds silt loam (Typic Fluvaquent)
On county hydric soils list? Yes: X No:
Is the soil a histosol? Yes: No: X
Histic epipedon present? Yes: No: X
Redox Concentrations? Yes: X No: Color: 10YR 5/4 and 5/6
Redox Depletions? Yes: X No: Color: N 5/
Matrix color: 10YR 3.5/1
Other indicators: None.
Hydric soils? Yes: X No:
Rationale: The Natural Resources Conservation Service identifies Birds silt loam as a Typic Fluvaquent which is poorly drained. This soil possesses redox concentrations and depletions within a low chroma matrix, which indicates saturated or reduced conditions for extended duration. Therefore, the soil at this site meets the hydric soil criterion. This soil meets NRCS hydric soil indicator F3 – Depleted matrix.

ROUTINE ONSITE WETLAND DETERMINATION
Site 1 (page 2 of 5)

Field Investigators: Wiesbrook, Wilm, and Marcum **Date:** Aug. 5 & 6, 2008
Project Name: FAP 315 (LaMoine River Site) **Section No.:** 34-4 (4B, B-1)
State: Illinois **County:** Hancock **Applicant:** IDOT Dist. 6
Area Name: Sedge meadow
Legal Description: SW/4, SE/4, and SE/4, SW/4 Section 18, T. 5 N., R. 5 W
Location: This wetland is located along the western edge of the site.

HYDROLOGY

Inundated: Yes: No: X Depth of standing water: N/A
Depth to saturated soil: >0.56 m (22 in)
Overview of hydrological flow through the system: This area is hydrologically influenced by overflow from the LaMoine River, sheet flow from surrounding uplands, some directed drainage from US 136, and precipitation. Water leaves the area via evapotranspiration, possible groundwater recharge, and drainage into the river.
Size of watershed: 1696 km^2 (655 mi^2) for the LaMoine River approximately 10 river miles downstream at Colmar, IL (Wicker, et al. 1996)
Other field evidence observed: The ISGS estimated that this area met the wetland hydrology criterion (Fucciolo et al. 2008). Wetland drainage patterns and drift were observed.

Wetland hydrology: Yes: X No:
Rationale: Field evidence cited above and ISGS data indicate that this area is inundated or saturated for a sufficient duration to satisfy the wetland hydrology criterion.

DETERMINATION AND RATIONALE:

Is the area a wetland? Yes: X No:
Rationale: Hydric soil, dominant hydrophytic vegetation, and wetland hydrology are present at this area; therefore, we determined that this area is a wetland.

ROUTINE ONSITE WETLAND DETERMINATION
Site 1 (page 3 of 5)

Field Investigators: Wiesbrook, Wilm, and Marcum **Date:** Aug. 5 & 6, 2008
Project Name: FAP 315 (LaMoine River Site) **Section No.:** 34-4 (4B, B-1)
State: Illinois **County:** Hancock **Applicant:** IDOT Dist. 6
Area Name: Sedge meadow
Legal Description: SW/4, SE/4, and SE/4, SW/4 Section 18, T. 5 N., R. 5 W
Location: This wetland is located along the western edge of the site.

SPECIES LIST

Scientific name	Common name	Stratum	Wetland indicator status	Coefficient of conservatism#
Acalypha rhomboidea	three-seeded mercury	herb	FACU	0+
Acer saccharinum	silver maple	sapling, shrub, herb	FACW	1+
Agalinis tenuifolia	slender false foxglove	herb	FACW	5
Agrimonia parviflora	swamp agrimony	herb	FAC+	5
Agrostis alba	red top	herb	FACW	0+
Agrostis hyemalis	hair grass	herb	FAC-	1+
Ambrosia artemisiifolia	common ragweed	herb	FACU	0+
Ambrosia trifida	giant ragweed	herb	FAC+	0+
Apocynum cannabinum	dogbane	herb	FAC	2
Asclepias incarnata	swamp milkweed	herb	OBL	4
Asclepias syriaca	common milkweed	herb	UPL	0+
Aster ericoides	heath aster	herb	FACU-	4
Aster lateriflorus	side-flowered aster	herb	FACW-	2
Aster pilosus	hairy aster	herb	FACU+	0+
Aster simplex	panicled aster	herb	FACW	3
Baptisia alba	white wild indigo	herb	FACU	6
Bidens aristosa	swamp marigold	herb	FACW	1+
Bidens frondosa	common beggar's ticks	herb	FACW	1+
Bromus commutatus	hairy brome	herb	UPL	* +
Calystegia sepium	American bindweed	herb	FAC	1+
Carex annectens	large yellow fox sedge	herb	FACW	3
Carex cristatella	sedge	herb	FACW+	3
Carex frankii	sedge	herb	OBL	4
Carex granularis	meadow sedge	herb	FACW+	2
Carex molesta	sedge	herb	FAC	2
Carex tribuloides	sedge	herb	FACW+	3
Carex vulpinoidea	fox sedge	herb	OBL	3
Cassia fasciculata	partridge pea	herb	FACU-	1+
Cinna arundinacea	stout wood reed	herb	FACW	5
Cyperus esculentus	yellow nut-sedge	herb	FACW	0+
Cyperus strigosus	straw-colored flatsedge	herb	FACW	0+
Daucus carota	Queen Anne's lace	herb	UPL	*+
Elymus canadensis	Canada wild rye	herb	FAC-	4
Elymus virginicus	Virginia wild rye	herb	FACW-	4
Epilobium coloratum	cinnamon willow herb	herb	OBL	3
Erigeron annuus	annual fleabane	herb	FAC-	1+
Eryngium yuccifolium	rattlesnake master	herb	FAC+	7

Species list continued on next page.

ROUTINE ONSITE WETLAND DETERMINATION
Site 1 (page 4 of 5)

Field Investigators: Wiesbrook, Wilm, and Marcum **Date:** Aug. 5 & 6, 2008
Project Name: FAP 315 (LaMoine River Site) **Section No.:** 34-4 (4B, B-1)
State: Illinois **County:** Hancock **Applicant:** IDOT Dist. 6
Area Name: Sedge meadow
Legal Description: SW/4, SE/4, and SE/4, SW/4 Section 18, T. 5 N., R. 5 W
Location: This wetland is located along the western edge of the site.

SPECIES LIST (Cont.)

Scientific name	Common name	Stratum	Wetland indicator status	Coefficient of conservatism#
Eupatorium serotinum	late boneset	herb	FAC+	1+
Festuca arundinacea	tall fescue	herb	FACU+	*+
Fraxinus pennsylvanica	green ash	shrub	FACW	2
Geum laciniatum	rough avens	herb	FACW	2
Glyceria striata	fowl manna grass	herb	OBL	4
Hypericum punctatum	spotted St. Johns-wort	herb	FAC+	3
Juncus dudleyi	Dudley's rush	herb	FAC	4
Leersia oryzoides	rice cutgrass	herb	OBL	3
Lolium perenne	crested rye grass	herb	FACU	*+
Lycopus americanus	common water horehound	herb	OBL	3
Lycopus virginicus	bugle weed	herb	OBL	5
Lysimachia nummularia	moneywort	herb	FACW+	*+
Lythrum alatum	winged loosestrife	herb	OBL	5
Oxalis stricta	yellow wood sorrel	herb	FACU	0+
Phalaris arundinacea	reed canary grass	herb	FACW+	*+
Phyla lanceolata	fog-fruit	herb	OBL	1+
Physalis subglabrata	smooth ground cherry	herb	UPL	0+
Plantago rugelii	red-stalked plantain	herb	FAC	0+
Poa pratensis	Kentucky bluegrass	herb	FAC-	*+
Polygonum pensylvanicum	giant smartweed	herb	FACW+	1+
Populus deltoides	eastern cottonwood	tree, sapling	FAC+	2
Potentilla norvegica	rough cinquefoil	herb	FAC	0+
Prunella vulgaris	self-heal	herb	FAC	*+
Quercus imbricaria	shingle oak	sapling, shrub	FAC-	2
Ratibida pinnata	drooping coneflower	herb	UPL	4
Rorippa islandica	marsh yellow cress	herb	OBL	4
Rudbeckia hirta	black-eyed Susan	herb	FACU	2
Rudbeckia subtomentosa	fragrant coneflower	herb	FACW	5
Rumex altissimus	pale dock	herb	FACW-	2
Rumex crispus	curly dock	herb	FAC+	*+
Salix nigra	black willow	sapling, shrub	OBL	3
Scirpus atrovirens	dark green bulrush	herb	OBL	4
Sida spinosa	prickly sida	herb	FACU	*+
Solanum carolinense	horse nettle	herb	FACU-	0+
Solidago canadensis	Canada goldenrod	herb	FACU	1+

Species list continued on next page.

ROUTINE ONSITE WETLAND DETERMINATION
Site 1 (page 5 of 5)

Field Investigators: Wiesbrook, Wilm, and Marcum **Date:** Aug. 5 & 6, 2008
Project Name: FAP 315 (LaMoine River Site) **Section No.:** 34-4 (4B, B-1)
State: Illinois **County:** Hancock **Applicant:** IDOT Dist. 6
Area Name: Sedge meadow
Legal Description: SW/4, SE/4, and SE/4, SW/4 Section 18, T. 5 N., R. 5 W
Location: This wetland is located along the western edge of the site.

SPECIES LIST (Cont.)

Scientific name	Common name	Stratum	Wetland indicator status	Coefficient of conservatism#
Sorghastrum nutans	Indian grass	herb	FACU+	4
Stachys tenuifolia	slenderleaf betony	herb	OBL	5
Taraxacum officinale	common dandelion	herb	FACU	*+
Trifolium hybridum	alsike clover	herb	FAC-	*+
Trifolium repens	white clover	herb	FACU+	*+
Ulmus americana	American elm	shrub, herb	FACW-	5
Vernonia missurica	Missouri ironweed	herb	FAC+	5
Viola pratincola	common blue violet	herb	FAC	1+
Vitis riparia	riverbank grape	herb	FACW-	2
Xanthium strumarium	cocklebur	herb	FAC	0+

Coefficient of Conservatism (Taft et al. 1997) + weedy native or non-native species, *non-native species

$FQI = \sum C/\sqrt{N} = 166/\sqrt{69} = 20.0$ $\bar{C} = \sum C/N = 166/69 = 2.4$

Determined by:

Scott Wiesbrook (soils and hydrology)
Brian Wilm and Paul Marcum (vegetation and hydrology)
Brad Zercher (GPS/GIS)
Illinois Natural History Survey
1816 South Oak Street
Champaign, Illinois 61820
(217) 265-0368 (Wiesbrook)
swiesbro@uiuc.edu

ROUTINE ONSITE WETLAND DETERMINATION

Site 2 (page 1 of 5)

Field Investigators: Wiesbrook, Wilm, and Marcum **Date:** Aug. 5 & 6, 2008
Project Name: FAP 315 (LaMoine River Site) **Section No.:** 34-4 (4B, B-1)
State: Illinois **County:** Hancock **Applicant:** IDOT Dist. 6
Area Name: Wet meadow
Legal Description: SW/4, SE/4, and SE/4, SW/4 Section 18, T. 5 N., R. 5 W
Location: This wetland occupies the large area on the west-central portion of the site where no trees were planted.

Do normal environmental conditions exist at this area? Yes: X No:
Has the vegetation, soils, or hydrology been significantly disturbed? Yes: No: X

VEGETATION

Dominant Plant Species	Stratum	Indicator Status
1. *Phalaris arundinacea*	Herb	FACW+
2. *Polygonum pensylvanicum*	Herb	FACW+

Percentage of dominant species that are OBL, FACW, FAC+, or FAC: 100%
Hydrophytic vegetation: Yes: X No:
Rationale: More than 50% of the dominants are OBL, FACW, FAC+, or FAC.

SOILS

Series and phase: NRCS mapped as Sawmill silty clay loam and Huntsville silt loam; revised to Birds silt loam (Typic Fluvaquent)
On county hydric soils list? Yes: X No:
Is the soil a histosol? Yes: No: X
Histic epipedon present? Yes: No: X
Redox Concentrations? Yes: X No: Color: 10YR 5/4 and 5/6
Redox Depletions? Yes: X No: Color: N 5/
Matrix color: 10YR 3.5/1
Other indicators: None.
Hydric soils? Yes: X No:
Rationale: The Natural Resources Conservation Service identifies Birds silt loam as a Typic Fluvaquent which is poorly drained. This soil possesses redox concentrations and depletions within a low chroma matrix, which indicates saturated or reduced conditions for extended duration. Therefore, the soil at this site meets the hydric soil criterion. This soil meets NRCS hydric soil indicator F3 – Depleted matrix.

ROUTINE ONSITE WETLAND DETERMINATION
Site 2 (page 2 of 5)

Field Investigators: Wiesbrook, Wilm, and Marcum **Date:** Aug. 5 & 6, 2008
Project Name: FAP 315 (LaMoine River Site) **Section No.:** 34-4 (4B, B-1)
State: Illinois **County:** Hancock **Applicant:** IDOT Dist. 6
Area Name: Wet meadow
Legal Description: SW/4, SE/4, and SE/4, SW/4 Section 18, T. 5 N., R. 5 W
Location: This wetland occupies the large area on the west-central portion of the site where no trees were planted.

HYDROLOGY

Inundated: Yes: No: X Depth of standing water: N/A
Depth to saturated soil: >0.56 m (22 in)
Overview of hydrological flow through the system: This area is hydrologically influenced by overflow from the LaMoine River, sheet flow from surrounding uplands, some directed drainage from US 136, and precipitation. Water leaves the area via evapotranspiration, possible groundwater recharge, and drainage into the river.
Size of watershed: 1696 km^2 (655 mi^2) for the LaMoine River approximately 10 river miles downstream at Colmar, IL (Wicker, et al. 1996)
Other field evidence observed: The ISGS estimated that this area met the wetland hydrology criterion (Fucciolo et al. 2008). Wetland drainage patterns and drift were observed.

Wetland hydrology: Yes: X No:
Rationale: Field evidence cited above and ISGS data indicate that this area is inundated or saturated for a sufficient duration to satisfy the wetland hydrology criterion.

DETERMINATION AND RATIONALE:

Is the area a wetland? Yes: X No:
Rationale: Hydric soil, dominant hydrophytic vegetation, and wetland hydrology are present at this area; therefore, we determined that this area is a wetland.

ROUTINE ONSITE WETLAND DETERMINATION
Site 2 (page 3 of 5)

Field Investigators: Wiesbrook, Wilm, and Marcum **Date:** Aug. 5 & 6, 2008
Project Name: FAP 315 (LaMoine River Site) **Section No.:** 34-4 (4B, B-1)
State: Illinois **County:** Hancock **Applicant:** IDOT Dist. 6
Area Name: Wet meadow
Legal Description: SW/4, SE/4, and SE/4, SW/4 Section 18, T. 5 N., R. 5 W
Location: This wetland occupies the large area on the west-central portion of the site where no trees were planted.

SPECIES LIST

Scientific name	Common name	Stratum	Wetland indicator status	Coefficient of conservatism#
Acalypha rhomboidea	three-seeded mercury	herb	FACU	0+
Acer saccharinum	silver maple	tree, sapling, shrub, herb	FACW	1+
Agrimonia parviflora	swamp agrimony	herb	FAC+	5
Alisma plantago-aquatica	broad-leaf water-plantain	herb	OBL	2
Amaranthus tuberculatus	tall waterhemp	herb	OBL	1+
Ambrosia artemisiifolia	common ragweed	herb	FACU	0+
Ambrosia trifida	giant ragweed	herb	FAC+	0+
Ammannia coccinea	long-leaved ammannia	herb	OBL	5
Apocynum cannabinum	dogbane	herb	FAC	2
Asclepias incarnata	swamp milkweed	herb	OBL	4
Asclepias syriaca	common milkweed	herb	UPL	0+
Aster lateriflorus	side-flowered aster	herb	FACW-	2
Aster pilosus	hairy aster	herb	FACU+	0+
Aster simplex	panicled aster	herb	FACW	3
Bidens aristosa	swamp marigold	herb	FACW	1+
Bidens connata	purplestem beggar's ticks	herb	OBL	2
Boehmeria cylindrica	false nettle	herb	OBL	3
Calystegia sepium	American bindweed	herb	FAC	1+
Carex crinita	fringed sedge	herb	OBL	8
Carex cristatella	sedge	herb	FACW+	3
Carex frankii	sedge	herb	OBL	4
Carex granularis	meadow sedge	herb	FACW+	2
Carex lupulina	hop sedge	herb	OBL	5
Carex molesta	sedge	herb	FAC	2
Carex tribuloides	sedge	herb	FACW+	3
Carex vulpinoidea	fox sedge	herb	OBL	3
Cicuta maculata	water hemlock	herb	OBL	4
Cirsium discolor	pasture thistle	herb	UPL	3
Cyperus esculentus	yellow nut-sedge	herb	FACW	0+
Daucus carota	Queen Anne's lace	herb	UPL	*+
Echinochloa muricata	barnyard grass	herb	OBL	0+
Eleocharis erythropoda	spike rush	herb	OBL	3
Eleocharis macrostachya	spike rush	herb	OBL	5
Eleocharis obtusa	blunt spike rush	herb	OBL	2
Elymus virginicus	Virginia wild rye	herb	FACW-	4
Erechtites hieracifolia	fire weed	herb	FACU	2
Erigeron annuus	annual fleabane	herb	FAC-	1+

Species list continued on next page.

ROUTINE ONSITE WETLAND DETERMINATION
Site 2 (page 4 of 5)

Field Investigators: Wiesbrook, Wilm, and Marcum **Date:** Aug. 5 & 6, 2008
Project Name: FAP 315 (LaMoine River Site) **Section No.:** 34-4 (4B, B-1)
State: Illinois **County:** Hancock **Applicant:** IDOT Dist. 6
Area Name: Wet meadow
Legal Description: SW/4, SE/4, and SE/4, SW/4 Section 18, T. 5 N., R. 5 W
Location: This wetland occupies the large area on the west-central portion of the site where no trees were planted.

SPECIES LIST (Cont.)

Scientific name	Common name	Stratum	Wetland indicator status	Coefficient of conservatism#
Eupatorium serotinum	late boneset	herb	FAC+	1+
Fraxinus pennsylvanica	green ash	sapling, shrub	FACW	2
Geum canadense	white avens	herb	FAC	2
Geum laciniatum	rough avens	herb	FACW	2
Gleditsia triacanthos	honey locust	shrub	FAC	2
Glyceria striata	fowl manna grass	herb	OBL	4
Hypericum punctatum	spotted St. Johns-wort	herb	FAC+	3
Lactuca canadensis	Canada lettuce	herb	FACU+	1+
Laportea canadensis	wood nettle	herb	FACW	2
Leersia oryzoides	rice cutgrass	herb	OBL	3
Lindernia dubia	false pimpernel	herb	OBL	5
Ludwigia polycarpa	false loosestrife	herb	OBL	5
Lycopus americanus	common water horehound	herb	OBL	3
Lysimachia ciliata	fringed loosestrife	herb	FACW	4
Lysimachia nummularia	moneywort	herb	FACW+	*+
Menispermum canadense	moonseed	herb	FAC	4
Oenothera biennis	evening primrose	herb	FACU	1+
Oxalis stricta	yellow wood sorrel	herb	FACU	0+
Pastinaca sativa	parsnip	herb	UPL	*+
Penthorum sedoides	ditch stonecrop	herb	OBL	2
Phalaris arundinacea	reed canary grass	herb	FACW+	*+
Phyla lanceolata	fog-fruit	herb	OBL	1+
Physalis subglabrata	smooth ground cherry	herb	UPL	0+
Platanus occidentalis	sycamore	shrub	FACW	3
Poa pratensis	Kentucky bluegrass	herb	FAC-	*+
Polygonum amphibium	water smartweed	herb	OBL	3
Polygonum lapathifolium	curttop lady's thumb	herb	FACW+	0+
Polygonum pensylvanicum	giant smartweed	herb	FACW+	1+
Populus deltoides	eastern cottonwood	tree, sapling, shrub	FAC+	2
Prunella vulgaris	self-heal	herb	FAC	*+
Rorippa islandica	marsh yellow cress	herb	OBL	4
Rubus allegheniensis	common blackberry	shrub	FACU+	2
Rudbeckia laciniata	cutleaf coneflower	herb	FACW+	3
Rumex altissimus	pale dock	herb	FACW-	2
Rumex crispus	curly dock	herb	FAC+	*+

Species list continued on next page.

ROUTINE ONSITE WETLAND DETERMINATION
Site 2 (page 5 of 5)

Field Investigators: Wiesbrook, Wilm, and Marcum **Date:** Aug. 5 & 6, 2008
Project Name: FAP 315 (LaMoine River Site) **Section No.:** 34-4 (4B, B-1)
State: Illinois **County:** Hancock **Applicant:** IDOT Dist. 6
Area Name: Wet meadow
Legal Description: SW/4, SE/4, and SE/4, SW/4 Section 18, T. 5 N., R. 5 W
Location: This wetland occupies the large area on the west-central portion of the site where no trees were planted.

SPECIES LIST (Cont.)

Scientific name	Common name	Stratum	Wetland indicator status	Coefficient of conservatism#
Salix exigua	sandbar willow	shrub	OBL	1
Salix nigra	black willow	tree, sapling, shrub	OBL	3
Scirpus atrovirens	dark green bulrush	herb	OBL	4
Scirpus fluviatilis	river bulrush	herb	OBL	3
Sida spinosa	prickly sida	herb	FACU	*
Smilax hispida	bristly greenbrier	herb	FAC	3
Solidago canadensis	Canada goldenrod	herb	FACU	1
Solidago gigantea	late goldenrod	herb	FACW	3
Toxicodendron radicans	poison ivy	herb	FAC+	1
Ulmus americana	American elm	shrub, herb	FACW-	5
Urtica dioica	stinging nettle	herb	FAC+	2
Verbena urticifolia	white vervain	herb	FAC+	3
Vernonia missurica	Missouri ironweed	herb	FAC+	5
Vitis riparia	riverbank grape	vine, herb	FACW-	2
Xanthium strumarium	cocklebur	herb	FAC	0

Coefficient of Conservatism (Taft et al. 1997) + weedy native or non-native species, *non-native species

$FQI = \sum C/\sqrt{N} = 185/\sqrt{78} = 20.9$ $\bar{C} = \sum C/N = 185/78 = 2.4$

Determined by:

Scott Wiesbrook (soils and hydrology)
Brian Wilm and Paul Marcum (vegetation and hydrology)
Brad Zercher (GPS/GIS)
Illinois Natural History Survey
1816 South Oak Street
Champaign, Illinois 61820
(217) 265-0368 (Wiesbrook)
swiesbro@uiuc.edu

ROUTINE ONSITE WETLAND DETERMINATION
Site 3 (page 1 of 3)

Field Investigators: Wiesbrook, Wilm, and Marcum **Date:** Aug. 5 & 6, 2008
Project Name: FAP 315 (LaMoine River Site) **Section No.:** 34-4 (4B, B-1)
State: Illinois **County:** Hancock **Applicant:** IDOT Dist. 6
Area Name: Marsh
Legal Description: SW/4, SE/4, and SE/4, SW/4 Section 18, T. 5 N., R. 5 W
Location: This wetland occupies the excavated area in the southeastern corner of the site.

Do normal environmental conditions exist at this area? Yes: X No:
Has the vegetation, soils, or hydrology been significantly disturbed? Yes: No: X

VEGETATION

Dominant Plant Species	Stratum	Indicator Status
1. *Alisma plantago-aquatica*	Herb	OBL
2. *Ammannia coccinea*	Herb	OBL
3. *Eleocharis obtusa*	Herb	OBL
4. *Lindernia dubia*	Herb	OBL

Percentage of dominant species that are OBL, FACW, FAC+, or FAC: 100%
Hydrophytic vegetation: Yes: X No:
Rationale: More than 50% of the dominants are OBL, FACW, FAC+, or FAC.

SOILS

Series and phase: NRCS mapped as Hickory loam; revised to generic Typic Endoaquoll
On county hydric soils list? Yes: No: X
Is the soil a histosol? Yes: No: X
Histic epipedon present? Yes: No: X
Redox Concentrations Yes: X No: Color: 10YR 4/4 and 7.5YR 4/4
Redox Depletions? Yes: No: X Color: N/A
Matrix color: 10YR 2.5/1 over N 3.5/
Other indicators: This site is located within an excavated depression.
Hydric soils? Yes: X No:
Rationale: The Natural Resources Conservation Service defines Typic Endoaquolls as poorly drained. Presence of redox concentrations within a low chroma and gleyed matrix indicates that this site is saturated or inundated for a significant duration during the growing season. Therefore, this soil meets the hydric soil criterion. This soil meets NRCS hydric soil indicator A11 – Depleted below dark surface.

ROUTINE ONSITE WETLAND DETERMINATION
Site 3 (page 2 of 3)

F Field Investigators: Wiesbrook, Wilm, and Marcum **Date:** Aug. 5 & 6, 2008
Project Name: FAP 315 (LaMoine River Site) **Section No.:** 34-4 (4B, B-1)
State: Illinois **County:** Hancock **Applicant:** IDOT Dist. 6
Area Name: Marsh
Legal Description: SW/4, SE/4, and SE/4, SW/4 Section 18, T. 5 N., R. 5 W
Location: This wetland occupies the excavated area in the southeastern corner of the site.

HYDROLOGY

Inundated: Yes: No: X Depth of standing water: N/A
Depth to saturated soil: At surface
Overview of hydrological flow through the system: This area is hydrologically influenced by overflow from the LaMoine River, sheet flow from surrounding uplands, some directed drainage from US 136, and precipitation. Water leaves the area via evapotranspiration, possible groundwater recharge, and drainage into the river.
Size of watershed: 1696 km^2 (655 mi^2) for the LaMoine River approximately 10 river miles downstream at Colmar, IL (Wicker, et al. 1996)
Other field evidence observed: The ISGS estimated that this area met the wetland hydrology criterion (Fucciolo et al. 2008). Wetland drainage patterns and drift were observed.

Wetland hydrology: Yes: X No:
Rationale: Field evidence cited above indicates that this area is inundated or saturated for a sufficient duration to satisfy the wetland hydrology criterion.

DETERMINATION AND RATIONALE:

Is the area a wetland? Yes: X No:
Rationale: Hydric soil, dominant hydrophytic vegetation, and wetland hydrology are present at this area; therefore, we determined that this area is a wetland.

ROUTINE ONSITE WETLAND DETERMINATION
Site 3 (page 3 of 3)

Field Investigators: Wiesbrook, Wilm, and Marcum **Date:** Aug. 5 & 6, 2008
Project Name: FAP 315 (LaMoine River Site) **Section No.:** 34-4 (4B, B-1)
State: Illinois **County:** Hancock **Applicant:** IDOT Dist. 6
Area Name: Marsh
Legal Description: SW/4, SE/4, and SE/4, SW/4 Section 18, T. 5 N., R. 5 W
Location: This wetland occupies the excavated area in the southeastern corner of the site.

SPECIES LIST

Scientific name	Common name	Stratum	Wetland indicator status	Coefficient of conservatism#
Agrostis alba	red top	herb	FACW	0+
Alisma plantago-aquatica	broad-leaf water-plantain	herb	OBL	2
Ammannia coccinea	long-leaved ammannia	herb	OBL	5
Aster simplex	panicled aster	herb	FACW	3
Carex frankii	sedge	herb	OBL	4
Cyperus esculentus	yellow nut-sedge	herb	FACW	0+
Echinochloa muricata	barnyard grass	herb	OBL	0+
Eleocharis erythropoda	spike rush	herb	OBL	3
Eleocharis macrostachya	spike rush	herb	OBL	5
Eleocharis obtusa	blunt spike rush	herb	OBL	2
Eupatorium serotinum	late boneset	herb	FAC+	1+
Leersia oryzoides	rice cutgrass	herb	OBL	3
Lemna minor	common duckweed	herb	OBL	3
Lindernia dubia	false pimpernel	herb	OBL	5
Ludwigia polycarpa	false loosestrife	herb	OBL	5
Mimulus ringens	monkey flower	herb	OBL	5
Penthorum sedoides	ditch stonecrop	herb	OBL	2
Phalaris arundinacea	reed canary grass	herb	FACW+	*+
Polygonum pensylvanicum	giant smartweed	herb	FACW+	1+
Rumex crispus	curly dock	herb	FAC+	*+
Sagittaria latifolia	arrowhead	herb	OBL	4
Salix exigua	sandbar willow	shrub	OBL	1+
Salix nigra	black willow	herb	OBL	3
Scirpus fluviatilis	river bulrush	herb	OBL	3
Typha angustifolia	narrow-leaved cattail	herb	OBL	*+

Coefficient of Conservatism (Taft et al. 1997) + weedy native or non-native species, *non-native species

$FQI = \sum C/\sqrt{N} = 60/\sqrt{22} = 12.8$ $\bar{C} = \sum C/N = 60/22 = 2.7$

Determined by:

Scott Wiesbrook (soils and hydrology)
Brian Wilm and Paul Marcum (vegetation and hydrology)
Brad Zercher (GPS/GIS)
Illinois Natural History Survey
1816 South Oak Street
Champaign, Illinois 61820
(217) 265-0368 (Wiesbrook)
swiesbro@uiuc.edu

ROUTINE ONSITE WETLAND DETERMINATION

Site 4 (page 1 of 5)

Field Investigators: Wiesbrook, Wilm, and Marcum **Date:** Aug. 5 & 6, 2008
Project Name: FAP 315 (LaMoine River Site) **Section No.:** 34-4 (4B, B-1)
State: Illinois **County:** Hancock **Applicant:** IDOT Dist. 6
Area Name: North tree planting area
Legal Description: SW/4, SE/4, and SE/4, SW/4 Section 18, T. 5 N., R. 5 W
Location: This tree planting area occupies that area north of the silt-fenced areas.

Do normal environmental conditions exist at this area? Yes: X No:
Has the vegetation, soils, or hydrology been significantly disturbed? Yes: No: X

VEGETATION

Dominant Plant Species	Stratum	Indicator Status
1. *Agrostis alba*	Herb	FACW
2 *Phalaris arundinacea*	Herb	FACW+
3. *Rumex crispus*	Herb	FAC+
4. *Setaria faberi*	Herb	FACU+

Percentage of dominant species that are OBL, FACW, FAC+, or FAC: 75%
Hydrophytic vegetation: Yes: X No:
Rationale: More than 50% of the dominants are OBL, FACW, FAC+, or FAC.

SOILS

Series and phase: NRCS mapped as Sawmill silty clay loam, and Lawson and Coffeen silt loams; revised to predominantly Sawmill (Cumulic Endoaquoll)
On county hydric soils list? Yes: X No:
Is the soil a histosol? Yes: No: X
Histic epipedon present? Yes: No: X
Redox Concentrations? Yes: X No: Color: 7.5YR 4/6, 10YR 4/3 and 5/6
Redox Depletions? Yes: No: X Color: N/A
Matrix color: 10YR 3/1 over 10YR 4/2
Other indicators: None.
Hydric soils? Yes: X No:
Rationale: The Natural Resources Conservation Service identifies Sawmill silty clay loam as a Cumulic Endoaquoll which is poorly drained. This soil possesses redox concentrations within a low chroma matrix, which indicates saturated or reduced conditions for extended duration. Therefore, the soil at this site meets the hydric soil criterion. This soil meets none of the NRCS hydric soil indicators.

ROUTINE ONSITE WETLAND DETERMINATION
Site 4 (page 2 of 5)

Field Investigators: Wiesbrook, Wilm, and Marcum **Date:** Aug. 5 & 6, 2008
Project Name: FAP 315 (LaMoine River Site) **Section No.:** 34-4 (4B, B-1)
State: Illinois **County:** Hancock **Applicant:** IDOT Dist. 6
Area Name: North tree planting area
Legal Description: SW/4, SE/4, and SE/4, SW/4 Section 18, T. 5 N., R. 5 W
Location: This tree planting area occupies that area north of the silt-fenced areas.

HYDROLOGY

Inundated: Yes: No: X Depth of standing water: N/A
Depth to saturated soil: From 0. 51->0.99 m (20->39 in)
Overview of hydrological flow through the system: This area is hydrologically influenced by overflow from the LaMoine River, sheet flow from surrounding uplands, some directed drainage from US 136, and precipitation. Water leaves the area via evapotranspiration, possible groundwater recharge, and drainage into the river.
Size of watershed: 1696 km^2 (655 mi^2) for the LaMoine River approximately 10 river miles downstream at Colmar, IL (Wicker, et al. 1996)
Other field evidence observed: The ISGS estimated that a portion of this area met the wetland hydrology criterion (Fucciolo et al. 2008). Wetland drainage patterns and drift were observed over part of this site.

Wetland hydrology: Yes: X No:
Rationale: Field evidence cited above and ISGS data indicate that a portion of this area is inundated or saturated for a sufficient duration to satisfy the wetland hydrology criterion.

DETERMINATION AND RATIONALE:

Is the area a wetland? Yes: X No:
Rationale: Hydric soil, dominant hydrophytic vegetation, and wetland hydrology are present at part of this area; therefore, we determined that a portion of this area is a wetland. This site will be divided into two areas (wet and non-wet portions) for study next year.

ROUTINE ONSITE WETLAND DETERMINATION
Site 4 (page 3 of 5)

Field Investigators: Wiesbrook, Wilm, and Marcum **Date:** Aug. 5 & 6, 2008
Project Name: FAP 315 (LaMoine River Site) **Section No.:** 34-4 (4B, B-1)
State: Illinois **County:** Hancock **Applicant:** IDOT Dist. 6
Area Name: North tree planting area
Legal Description: SW/4, SE/4, and SE/4, SW/4 Section 18, T. 5 N., R. 5 W
Location: This tree planting area occupies that area north of the silt-fenced areas.

SPECIES LIST

Scientific name	Common name	Stratum	Wetland indicator status	Coefficient of conservatism#
Acalypha rhomboidea	three-seeded mercury	herb	FACU	0+
Acer negundo	box elder	tree, sapling	FACW-	1+
Acer saccharinum	silver maple	herb	FACW	1+
Agrostis alba	red top	herb	FACW	0+
Amaranthus tuberculatus	tall waterhemp	herb	OBL	1+
Ambrosia trifida	giant ragweed	herb	FAC+	0+
Apocynum cannabinum	dogbane	herb	FAC	2
Asclepias syriaca	common milkweed	herb	UPL	0+
Aster pilosus	hairy aster	herb	FACU+	0+
Aster simplex	panicled aster	herb	FACW	3
Boehmeria cylindrica	false nettle	herb	OBL	3
Bromus commutatus	hairy brome	herb	UPL	*+
Calystegia sepium	American bindweed	herb	FAC	1+
Carex frankii	sedge	herb	OBL	4
Carex granularis	meadow sedge	herb	FACW+	2
Cirsium discolor	pasture thistle	herb	UPL	3
Clematis virginiana	virgin's bower	vine	FAC	3
Conyza canadensis	horseweed	herb	FAC-	0+
Cyperus acuminatus	taperleaf flat sedge	herb	OBL	2
Cyperus esculentus	yellow nut-sedge	herb	FACW	0+
Echinochloa muricata	barnyard grass	herb	OBL	0+
Eleocharis acicularis	needle spike rush	herb	OBL	3
Eleocharis obtusa	blunt spike rush	herb	OBL	2
Elymus canadensis	Canada wild rye	herb	FAC-	4
Elymus virginicus	Virginia wild rye	herb	FACW-	4
Erigeron annuus	annual fleabane	herb	FAC-	1+
Eupatorium serotinum	late boneset	herb	FAC+	1+
Festuca arundinacea	tall fescue	herb	FACU+	*+
Fraxinus pennsylvanica	green ash	sapling, shrub	FACW	2
Geum canadense	white avens	herb	FAC	2
Geum laciniatum	rough avens	herb	FACW	2
Gleditsia triacanthos	honey locust	tree	FAC	2
Lactuca floridana	blue lettuce	herb	FAC-	4
Lactuca saligna	willow-leaved lettuce	herb	FACU	*+
Laportea canadensis	wood nettle	herb	FACW	2
Lindernia dubia	false pimpernel	herb	OBL	5
Lycopus virginicus	bugle weed	herb	OBL	5
Lysimachia nummularia	moneywort	herb	FACW+	*+

Species list continued on next page.

ROUTINE ONSITE WETLAND DETERMINATION
Site 4 (page 4 of 5)

Field Investigators: Wiesbrook, Wilm, and Marcum **Date:** Aug. 5 & 6, 2008
Project Name: FAP 315 (LaMoine River Site) **Section No.:** 34-4 (4B, B-1)
State: Illinois **County:** Hancock **Applicant:** IDOT Dist. 6
Area Name: North tree planting area
Legal Description: SW/4, SE/4, and SE/4, SW/4 Section 18, T. 5 N., R. 5 W
Location: This tree planting area occupies that area north of the silt-fenced areas.

SPECIES LIST (Cont.)

Scientific name	Common name	Stratum	Wetland indicator status	Coefficient of conservatism#
Morus alba	white mulberry	tree, sapling, shrub, herb	FAC	*+
Muhlenbergia frondosa	common satin grass	herb	FACW	3
Oxalis stricta	yellow wood sorrel	herb	FACU	0+
Panicum dichotomiflorum	fall panicum	herb	FACW-	0+
Penthorum sedoides	ditch stonecrop	herb	OBL	2
Phalaris arundinacea	reed canary grass	herb	FACW+	*+
Phryma leptostachya	lopseed	herb	UPL	4
Physalis subglabrata	smooth ground cherry	herb	UPL	0+
Pilea pumila	Canada clearweed	herb	FACW	3
Plantago rugelii	red-stalked plantain	herb	FAC	0+
Poa pratensis	Kentucky bluegrass	herb	FAC-	*+
Polygonum pensylvanicum	giant smartweed	herb	FACW+	1+
Polygonum scandens	climbing buckwheat	herb	FAC	2
Potentilla norvegica	rough cinquefoil	herb	FAC	0+
Ranunculus abortivus	little-leaf buttercup	herb	FACW-	1+
Rudbeckia laciniata	cutleaf coneflower	herb	FACW+	3
Rudbeckia subtomentosa	fragrant coneflower	herb	FACW	5
Rumex crispus	curly dock	herb	FAC+	*+
Sambucus canadensis	common elder	shrub, herb	FACW-	2
Setaria faberi	giant foxtail	herb	FACU+	*+
Setaria glauca	pigeon grass	herb	FAC	*+
Sida spinosa	prickly sida	herb	FACU	*+
Solidago canadensis	Canada goldenrod	herb	FACU	1+
Stachys tenuifolia	slenderleaf betony	herb	OBL	5
Taraxacum officinale	common dandelion	herb	FACU	*+
Trifolium hybridum	alsike clover	herb	FAC-	*+
Trifolium pratense	red clover	herb	FACU+	*+
Trifolium repens	white clover	herb	FACU+	*+
Ulmus americana	American elm	herb	FACW-	5
Urtica dioica	stinging nettle	herb	FAC+	2
Viola pratincola	common blue violet	herb	FAC	1+
Vitis riparia	riverbank grape	vine, herb	FACW-	2
Xanthium strumarium	cocklebur	herb	FAC	0+

Coefficient of Conservatism (Taft et al. 1997) + weedy native or non-native species, *non-native species

$FQI = \sum C/\sqrt{N} = 107/\sqrt{56} = 14.3$ $\bar{C} = \sum C/N = 107/56 = 1.9$

ROUTINE ONSITE WETLAND DETERMINATION
Site 4 (page 5 of 5)

Field Investigators: Wiesbrook, Wilm, and Marcum **Date:** Aug. 5 & 6, 2008
Project Name: FAP 315 (LaMoine River Site) **Section No.:** 34-4 (4B, B-1)
State: Illinois **County:** Hancock **Applicant:** IDOT Dist. 6
Area Name: North tree planting area
Legal Description: SW/4, SE/4, and SE/4, SW/4 Section 18, T. 5 N., R. 5 W
Location: This tree planting area occupies that area north of the silt-fenced areas.

Determined by:

Scott Wiesbrook (soils and hydrology)
Brian Wilm and Paul Marcum (vegetation and hydrology)
Brad Zercher (GPS/GIS)
Illinois Natural History Survey
1816 South Oak Street
Champaign, Illinois 61820
(217) 265-0368 (Wiesbrook)
swiesbro@uiuc.edu

ROUTINE ONSITE WETLAND DETERMINATION
Site 5 (page 1 of 4)

Field Investigators: Wiesbrook, Wilm, and Marcum **Date:** Aug. 5 & 6, 2008
Project Name: FAP 315 (LaMoine River Site) **Section No.:** 34-4 (4B, B-1)
State: Illinois **County:** Hancock **Applicant:** IDOT Dist. 6
Area Name: South tree planting area
Legal Description: SW/4, SE/4, and SE/4, SW/4 Section 18, T. 5 N., R. 5 W
Location: This tree planting area occupies that area south and east of the wet meadow (Site 2).

Do normal environmental conditions exist at this area? Yes: X No:
Has the vegetation, soils, or hydrology been significantly disturbed? Yes: No: X

VEGETATION

Dominant Plant Species	Stratum	Indicator Status
1. *Agrostis alba*	Herb	FACW
2. *Trifolium repens*	Herb	FACU+

Percentage of dominant species that are OBL, FACW, FAC+, or FAC: 50%
Hydrophytic vegetation: Yes: No: X
Rationale: Not more than 50% of the dominants are OBL, FACW, FAC+, or FAC.

SOILS

Series and phase: NRCS mapped as Larson, Clarksdale, and Fishhook silt loams; revised to Clarksdale silt loam (Udollic Endoaqualf)
On county hydric soils list? Yes: No: X
Is the soil a histosol? Yes: No: X
Histic epipedon present? Yes: No: X
Redox Concentrations? Yes: X No: Color: 10YR 4/4 and 5/6
Redox Depletions? Yes: X No: Color: 10YR 5/1 and 4/1
Matrix color: 10YR 3/2 over 10YR 5/4 (where topsoil shallow) or 10YR 4/2 (where topsoil deep)
Other indicators: None.
Hydric soils? Yes: No: X
Rationale: The Natural Resources Conservation Service identifies Clarksdale silt loam as an Udollic Endoaqualf which is somewhat poorly drained. This soil possesses redox concentrations and depletions within a medium chroma matrix, which indicates saturated or reduced conditions for brief duration. Therefore, the soil at this site does not meet the hydric soil criterion. This soil meets none of the NRCS hydric soil indicators.

ROUTINE ONSITE WETLAND DETERMINATION
Site 5 (page 2 of 4)

Field Investigators: Wiesbrook, Wilm, and Marcum **Date:** Aug. 5 & 6, 2008
Project Name: FAP 315 (LaMoine River Site) **Section No.:** 34-4 (4B, B-1)
State: Illinois **County:** Hancock **Applicant:** IDOT Dist. 6
Area Name: South tree planting area
Legal Description: SW/4, SE/4, and SE/4, SW/4 Section 18, T. 5 N., R. 5 W
Location: This tree planting area occupies that area south and east of the wet meadow (Site 2).

HYDROLOGY

Inundated: Yes: No: X Depth of standing water: N/A
Depth to saturated soil: >0.66 m (26 in)
Overview of hydrological flow through the system: This area is hydrologically influenced by overflow from the LaMoine River, sheet flow from surrounding uplands, some directed drainage from US 136, and precipitation. Water leaves the area via evapotranspiration, possible groundwater recharge, and drainage into the river.
Size of watershed: 1696 km^2 (655 mi^2) for the LaMoine River approximately 10 river miles downstream at Colmar, IL (Wicker, et al. 1996)
Other field evidence observed: The ISGS estimated that this area did not meet the wetland hydrology criterion (Fucciolo et al. 2008). No field evidence was observed.

Wetland hydrology: Yes: No: X
Rationale: ISGS data indicate that this area is not inundated or saturated for a sufficient duration to satisfy the wetland hydrology criterion.

DETERMINATION AND RATIONALE:

Is the area a wetland? Yes: No: X
Rationale: Dominant hydrophytic vegetation, wetland hydrology, and hydric soil were absent; therefore, we determined that this area is not a wetland.

ROUTINE ONSITE WETLAND DETERMINATION
Site 5 (page 3 of 4)

Field Investigators: Wiesbrook, Wilm, and Marcum **Date:** Aug. 5 & 6, 2008
Project Name: FAP 315 (LaMoine River Site) **Section No.:** 34-4 (4B, B-1)
State: Illinois **County:** Hancock **Applicant:** IDOT Dist. 6
Area Name: South tree planting area
Legal Description: SW/4, SE/4, and SE/4, SW/4 Section 18, T. 5 N., R. 5 W
Location: This tree planting area occupies that area south and east of the wet meadow (Site 2).

SPECIES LIST

Scientific name	Common name	Stratum	Wetland indicator status	Coefficient of conservatism#
Acalypha rhomboidea	three-seeded mercury	herb	FACU	0+
Agrostis alba	red top	herb	FACW	0+
Ambrosia artemisiifolia	common ragweed	herb	FACU	0+
Ambrosia trifida	giant ragweed	herb	FAC+	0+
Apocynum cannabinum	dogbane	herb	FAC	2
Asclepias incarnata	swamp milkweed	herb	OBL	4
Asclepias syriaca	common milkweed	herb	UPL	0+
Aster pilosus	hairy aster	herb	FACU+	0+
Aster simplex	panicled aster	herb	FACW	3
Bromus commutatus	hairy brome	herb	UPL	*+
Calystegia sepium	American bindweed	herb	FAC	1+
Carex frankii	sedge	herb	OBL	4
Carex granularis	meadow sedge	herb	FACW+	2
Carex tribuloides	sedge	herb	FACW+	3
Carex vulpinoidea	fox sedge	herb	OBL	3
Chamaesyce maculata	nodding spurge	herb	FACU-	0+
Cirsium discolor	pasture thistle	herb	UPL	3
Echinochloa muricata	barnyard grass	herb	OBL	0+
Elymus canadensis	Canada wild rye	herb	FAC-	4
Elymus virginicus	Virginia wild rye	herb	FACW-	4
Eupatorium serotinum	late boneset	herb	FAC+	1+
Lycopus americanus	common water horehound	herb	OBL	3
Melilotus alba	white sweet clover	herb	FACU	*+
Morus alba	white mulberry	shrub	FAC	*+
Oenothera biennis	evening primrose	herb	FACU	1+
Phalaris arundinacea	reed canary grass	herb	FACW+	*+
Phyla lanceolata	fog-fruit	herb	OBL	1+
Physalis subglabrata	smooth ground cherry	herb	UPL	0+
Plantago lanceolata	narrow-leaved plantain	herb	FAC	*+
Plantago rugelii	red-stalked plantain	herb	FAC	0+
Poa pratensis	Kentucky bluegrass	herb	FAC-	*+
Polygonum pensylvanicum	giant smartweed	herb	FACW+	1+
Populus deltoides	eastern cottonwood	herb	FAC+	2
Potentilla norvegica	rough cinquefoil	herb	FAC	0+
Rumex crispus	curly dock	herb	FAC+	*+
Setaria faberi	giant foxtail	herb	FACU+	*+

Species list continued on next page.

ROUTINE ONSITE WETLAND DETERMINATION
Site 5 (page 4 of 4)

Field Investigators: Wiesbrook, Wilm, and Marcum **Date:** Aug. 5 & 6, 2008
Project Name: FAP 315 (LaMoine River Site) **Section No.:** 34-4 (4B, B-1)
State: Illinois **County:** Hancock **Applicant:** IDOT Dist. 6
Area Name: South tree planting area
Legal Description: SW/4, SE/4, and SE/4, SW/4 Section 18, T. 5 N., R. 5 W
Location: This tree planting area occupies that area south and east of the wet meadow (Site 2).

SPECIES LIST (Cont.)

Scientific name	Common name	Stratum	Wetland indicator status	Coefficient of conservatism#
Setaria glauca	pigeon grass	herb	FAC	*+
Sida spinosa	prickly sida	herb	FACU	*+
Solidago canadensis	Canada goldenrod	herb	FACU	1+
Taraxacum officinale	common dandelion	herb	FACU	*+
Trifolium hybridum	alsike clover	herb	FAC-	*+
Trifolium pratense	red clover	herb	FACU+	*+
Trifolium repens	white clover	herb	FACU+	*+
Viola pratincola	common blue violet	herb	FAC	1+

Coefficient of Conservatism (Taft et al. 1997) + weedy native or non-native species, *non-native species

$FQI = \sum C/\sqrt{N} = 44/\sqrt{30} = 8.0$ $\bar{C} = \sum C/N = 44/30 = 1.5$

Determined by:

Scott Wiesbrook (soils and hydrology)
Brian Wilm and Paul Marcum (vegetation and hydrology)
Brad Zercher (GPS/GIS)
Illinois Natural History Survey
1816 South Oak Street
Champaign, Illinois 61820
(217) 265-0368 (Wiesbrook)
swiesbro@uiuc.edu

ROUTINE ONSITE WETLAND DETERMINATION

Site 6 (page 1 of 5)

Field Investigators: Wiesbrook, Wilm, and Marcum **Date:** Aug. 5 & 6, 2008
Project Name: FAP 315 (LaMoine River Site) **Section No.:** 34-4 (4B, B-1)
State: Illinois **County:** Hancock **Applicant:** IDOT Dist. 6
Area Name: Upland buffer tree planting area
Legal Description: SW/4, SE/4, and SE/4, SW/4 Section 18, T. 5 N., R. 5 W
Location: This tree planting area occupies that area south and west of the wet meadow (Site 2).

Do normal environmental conditions exist at this area? Yes: X No:
Has the vegetation, soils, or hydrology been significantly disturbed? Yes: No: X

VEGETATION

Dominant Plant Species	Stratum	Indicator Status
1. *Ambrosia artemisiifolia*	Herb	FACU
2. *Aster pilosus*	Herb	FACU+
3. *Poa pratensis*	Herb	FAC-
4. *Solidago canadensis*	Herb	FACU

Percentage of dominant species that are OBL, FACW, FAC+, or FAC: 0%
Hydrophytic vegetation: Yes: No: X
Rationale: Fewer than 50% of the dominants are OBL, FACW, FAC+, or FAC.

SOILS

Series and phase: NRCS mapped as Lawson and Keomah silt loams and Sawmill silty clay loam; revised to Keomah silt loam (Aeric Endoaqualf)

On county hydric soils list?	Yes:	No: X	
Is the soil a histosol?	Yes:	No: X	
Histic epipedon present?	Yes:	No: X	
Redox Concentrations?	Yes: X	No:	Color: 10YR 5/6 and 4/6
Redox Depletions?	Yes: X	No:	Color: 10YR 4/1

Matrix color: 10YR 4/2 over 10YR 5/3
Other indicators: None.
Hydric soils? Yes: No: X
Rationale: The Natural Resources Conservation Service identifies Keomah silt loam as an Aeric Endoaqualf which is somewhat poorly drained. This soil possesses redox concentrations and depletions within a medium chroma matrix, which indicates saturated or reduced conditions for brief duration. Therefore, the soil at this site does not meet the hydric soil criterion. This soil meets none of the NRCS hydric soil indicators.

ROUTINE ONSITE WETLAND DETERMINATION
Site 6 (page 2 of 5)

Field Investigators: Wiesbrook, Wilm, and Marcum **Date:** Aug. 5 & 6, 2008
Project Name: FAP 315 (LaMoine River Site) **Section No.:** 34-4 (4B, B-1)
State: Illinois **County:** Hancock **Applicant:** IDOT Dist. 6
Area Name: Upland buffer tree planting area
Legal Description: SW/4, SE/4, and SE/4, SW/4 Section 18, T. 5 N., R. 5 W
Location: This tree planting area occupies that area south and west of the wet meadow (Site 2).

HYDROLOGY

Inundated: Yes: No: X Depth of standing water: N/A
Depth to saturated soil: >0.76 m (30 in)
Overview of hydrological flow through the system: This area is hydrologically influenced by overflow from the LaMoine River, sheet flow from surrounding uplands, some directed drainage from US 136, and precipitation. Water leaves the area via evapotranspiration, possible groundwater recharge, and drainage into the river.
Size of watershed: 1696 km^2 (655 mi^2) for the LaMoine River approximately 10 river miles downstream at Colmar, IL (Wicker, et al. 1996)
Other field evidence observed: The ISGS estimated that this area did not meet the wetland hydrology criterion (Fucciolo et al. 2008). No field evidence was observed.

Wetland hydrology: Yes: No: X
Rationale: ISGS data indicate that this area is not inundated or saturated for a sufficient duration to satisfy the wetland hydrology criterion.

DETERMINATION AND RATIONALE:

Is the area a wetland? Yes: No: X
Rationale: Dominant hydrophytic vegetation, wetland hydrology, and hydric soil were absent; therefore, we determined that this area is not a wetland.

ROUTINE ONSITE WETLAND DETERMINATION
Site 6 (page 3 of 5)

Field Investigators: Wiesbrook, Wilm, and Marcum **Date:** Aug. 5 & 6, 2008
Project Name: FAP 315 (LaMoine River Site) **Section No.:** 34-4 (4B, B-1)
State: Illinois **County:** Hancock **Applicant:** IDOT Dist. 6
Area Name: Upland buffer tree planting area
Legal Description: SW/4, SE/4, and SE/4, SW/4 Section 18, T. 5 N., R. 5 W
Location: This tree planting area occupies that area south and west of the wet meadow (Site 2).

SPECIES LIST

Scientific name	Common name	Stratum	Wetland indicator status	Coefficient of conservatism#
Acalypha rhomboidea	three-seeded mercury	herb	FACU	0+
Acer saccharinum	silver maple	tree, sapling, shrub, herb	FACW	1+
Achillea millefolium	common milfoil	herb	FACU	*+
Agrimonia parviflora	swamp agrimony	herb	FAC+	5
Agrostis alba	red top	herb	FACW	0+
Ambrosia artemisiifolia	common ragweed	herb	FACU	0+
Ambrosia trifida	giant ragweed	herb	FAC+	0+
Anemone sp.	anemone	herb	-----	--
Antennaria neglecta	cat's foot	herb	UPL	4
Asclepias syriaca	common milkweed	herb	UPL	0+
Aster lateriflorus	side-flowered aster	herb	FACW-	2
Aster pilosus	hairy aster	herb	FACU+	0+
Baptisia alba	white wild indigo	herb	FACU	6
Bidens aristosa	swamp marigold	herb	FACW	1+
Bromus commutatus	hairy brome	herb	UPL	*+
Bromus inermis	awnless brome grass	herb	UPL	*+
Campanula americana	American bellflower	herb	FAC	4
Carex annectens	large yellow fox sedge	herb	FACW	3
Carex cristatella	sedge	herb	FACW+	3
Carex frankii	sedge	herb	OBL	4
Carex molesta	sedge	herb	FAC	2
Cassia fasciculata	partridge pea	herb	FACU-	1+
Cichorium intybus	chickory	herb	UPL	*+
Cirsium discolor	pasture thistle	herb	UPL	3
Cornus drummondii	rough-leaved dogwood	shrub, herb	FAC	2
Daucus carota	Queen Anne's lace	herb	UPL	*+
Desmodium paniculatum	panicled tick trefoil	herb	FACU	2
Dianthus armeria	deptford pink	herb	UPL	*+
Echinacea purpurea	broad-leaved purple coneflower	herb	UPL	6
Elaeagnus umbellata	autumn olive	shrub	UPL	*+
Elymus canadensis	Canada wild rye	herb	FAC-	4
Elymus virginicus	Virginia wild rye	herb	FACW-	4
Eragrostis capillaris	lace grass	herb	FACW	5
Erigeron annuus	annual fleabane	herb	FAC-	1+
Eupatorium serotinum	late boneset	herb	FAC+	1+
Euthamia gymnospermoides	grassleaf goldenrod	herb	FAC+	5
Festuca arundinacea	tall fescue	herb	FACU+	*+

Species list continued on next page.

ROUTINE ONSITE WETLAND DETERMINATION
Site 6 (page 4 of 5)

Field Investigators: Wiesbrook, Wilm, and Marcum **Date:** Aug. 5 & 6, 2008
Project Name: FAP 315 (LaMoine River Site) **Section No.:** 34-4 (4B, B-1)
State: Illinois **County:** Hancock **Applicant:** IDOT Dist. 6
Area Name: Upland buffer tree planting area
Legal Description: SW/4, SE/4, and SE/4, SW/4 Section 18, T. 5 N., R. 5 W
Location: This tree planting area occupies that area south and west of the wet meadow (Site 2).

SPECIES LIST (Cont.)

Scientific name	Common name	Stratum	Wetland indicator status	Coefficient of conservatism#
Fragaria virginiana	wild strawberry	herb	FAC-	2
Gleditsia triacanthos	honey locust	shrub	FAC	2
Hypericum punctatum	spotted St. Johns-wort	herb	FAC+	3
Juncus dudleyi	Dudley's rush	herb	FAC	4
Kummerowia striata	Japanese lespedeza	herb	FACU	*+
Lespedeza capitata	bush clover	herb	FACU	4
Lobelia inflata	Indian tobacco	herb	FACU-	4
Lycopus americanus	common water horehound	herb	OBL	3
Medicago lupulina	black medic	herb	FAC-	*+
Medicago sativa	alfalfa	herb	UPL	*+
Melilotus alba	white sweet clover	herb	FACU	*+
Melilotus officinalis	yellow sweet clover	herb	FACU	*+
Oenothera biennis	evening primrose	herb	FACU	1+
Oxalis stricta	yellow wood sorrel	herb	FACU	0+
Panicum dichotomiflorum	fall panicum	herb	FACW-	0+
Pastinaca sativa	parsnip	herb	UPL	*+
Phalaris arundinacea	reed canary grass	herb	FACW+	*+
Plantago lanceolata	narrow-leaved plantain	herb	FAC	*+
Platanus occidentalis	sycamore	shrub, herb	FACW	3
Poa compressa	Canadian bluegrass	herb	FACU+	*+
Poa pratensis	Kentucky bluegrass	herb	FAC-	*+
Polygonum pensylvanicum	giant smartweed	herb	FACW+	1+
Polygonum scandens	climbing buckwheat	herb	FAC	2
Populus deltoides	eastern cottonwood	tree, sapling	FAC+	2
Potentilla norvegica	rough cinquefoil	herb	FAC	0+
Prunella vulgaris	self-heal	herb	FAC	*+
Pycnanthemum pilosum	hairy mountain mint	herb	UPL	6
Pyrrhopappus carolinianus	false dandelion	herb	UPL	1+
Quercus imbricaria	shingle oak	sapling, shrub	FAC-	2
Ratibida pinnata	drooping coneflower	herb	UPL	4
Robinia pseudoacacia	black locust	shrub	FACU-	1+
Rubus allegheniensis	common blackberry	shrub	FACU+	2
Rudbeckia hirta	black-eyed Susan	herb	FACU	2
Rudbeckia triloba	brown-eyed Susan	herb	FAC-	3
Rumex crispus	curly dock	herb	FAC+	*+
Salix exigua	sandbar willow	sapling, shrub	OBL	1+
Salix nigra	black willow	tree, sapling, shrub	OBL	3

Species list continued on next page.

ROUTINE ONSITE WETLAND DETERMINATION
Site 6 (page 5 of 5)

Field Investigators: Wiesbrook, Wilm, and Marcum **Date:** Aug. 5 & 6, 2008
Project Name: FAP 315 (LaMoine River Site) **Section No.:** 34-4 (4B, B-1)
State: Illinois **County:** Hancock **Applicant:** IDOT Dist. 6
Area Name: Upland buffer tree planting area
Legal Description: SW/4, SE/4, and SE/4, SW/4 Section 18, T. 5 N., R. 5 W
Location: This tree planting area occupies that area south and west of the wet meadow (Site 2).

SPECIES LIST (Cont.)

Scientific name	Common name	Stratum	Wetland indicator status	Coefficient of conservatism#
Scirpus atrovirens	dark green bulrush	herb	OBL	4
Setaria faberi	giant foxtail	herb	FACU+	*+
Setaria glauca	pigeon grass	herb	FAC	*+
Sida spinosa	prickly sida	herb	FACU	*+
Silphium laciniatum	compass-plant	herb	FACU-	5
Solidago canadensis	Canada goldenrod	herb	FACU	1+
Solidago nemoralis	dyersweed goldenrod	herb	UPL	3
Sorghastrum nutans	Indian grass	herb	FACU+	4
Stachys tenuifolia	slenderleaf betony	herb	OBL	5
Toxicodendron radicans	poison ivy	herb	FAC+	1+
Tridens flavus	common purple top	herb	UPL	1+
Trifolium hybridum	alsike clover	herb	FAC-	*+
Trifolium pratense	red clover	herb	FACU+	*+
Trifolium repens	white clover	herb	FACU+	*+
Ulmus americana	American elm	shrub, herb	FACW-	5
Verbena urticifolia	white vervain	herb	FAC+	3
Vernonia missurica	Missouri ironweed	herb	FAC+	5
Vitis aestivalis	summer grape	vine	FACU	4
Vitis vulpina	frost grape	vine	FACW-	4
Xanthium strumarium	cocklebur	herb	FAC	0+

Coefficient of Conservatism (Taft et al. 1997) + weedy native or non-native species, *non-native species

$FQI = \sum C/\sqrt{N} = 170/\sqrt{67} = 20.8$ $\bar{C} = \sum C/N = 170/67 = 2.5$

Determined by:

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Illinois Natural History Survey
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(217) 265-0368 (Wiesbrook)
swiesbro@uiuc.edu

Appendix B

Photographs of Wetland Mitigation Sites

Picture 1. Facing east from photostation 1 (overlooking north tree planting).

Picture 2. Facing west from photostation 1 (overlooking wet meadow).

Picture 3. Facing southwest from photostation 2 (overlooking south tree planting towards highway).

Picture 4. Facing south from photostation 3 (overlooking marsh towards highway).

Picture 5. Facing north from photostation 3 (overlooking south tree planting).

Picture 6. Facing west from photostation 4 (overlooking wet meadow).

Picture 7. Facing east from photostation 4 [overlooking area with no trees planted (background)].

Picture 8. Facing north from photostation 5 (overlooking north tree planting).

Picture 9. Facing northeast from IL 336 [overlooking wet meadow (photo left), south tree planting (photo middle), and marsh (photo right)].

Picture 10. Facing northwest from IL 336 [overlooking upland buffer tree planting (photo left and middle), and wet meadow (photo right)].