

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 July 13 and 14, 2010.

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 (Miner et al. 2010). 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 monitoring wells and stage gauges. Water levels were measured at least biweekly from March through May, and monthly during the remainder of the year. Manual readings were supplemented by 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 2010 are summarized in ISGS' Annual Report for Active IDOT Wetland Mitigation and Hydrologic Monitoring Sites, September 1, 2009 to August 31, 2010 (Miner et al. 2010).

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
<i>Carya illinoensis</i>	Pecan	250
<i>Fraxinus pennsylvanica</i>	Green ash	250
<i>Platanus occidentalis</i>	Sycamore	250
<i>Quercus bicolor</i>	Swamp white oak	250
<i>Quercus palustris</i>	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: $100 \times (\text{Total number of live planted stems counted} / \text{total number of planted stems reported})$.

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 (38) were located at 25 m intervals along each transect. Vegetation was recorded by species and percent cover within 1 m² 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 (ΣC) and dividing by the total number of native species (N). The FQI is then calculated by dividing the ΣC 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 included 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 tree planting area, a majority of dominant plant species for the mitigation site in 2010 were rated OBL, FACW, FAC+, or FAC and were hydrophytic. Five areas had 100% of the dominants being hydrophytic and one area had 75%; all of which meet the minimum project goal of >50%. The upland buffer tree planting had 33% 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.

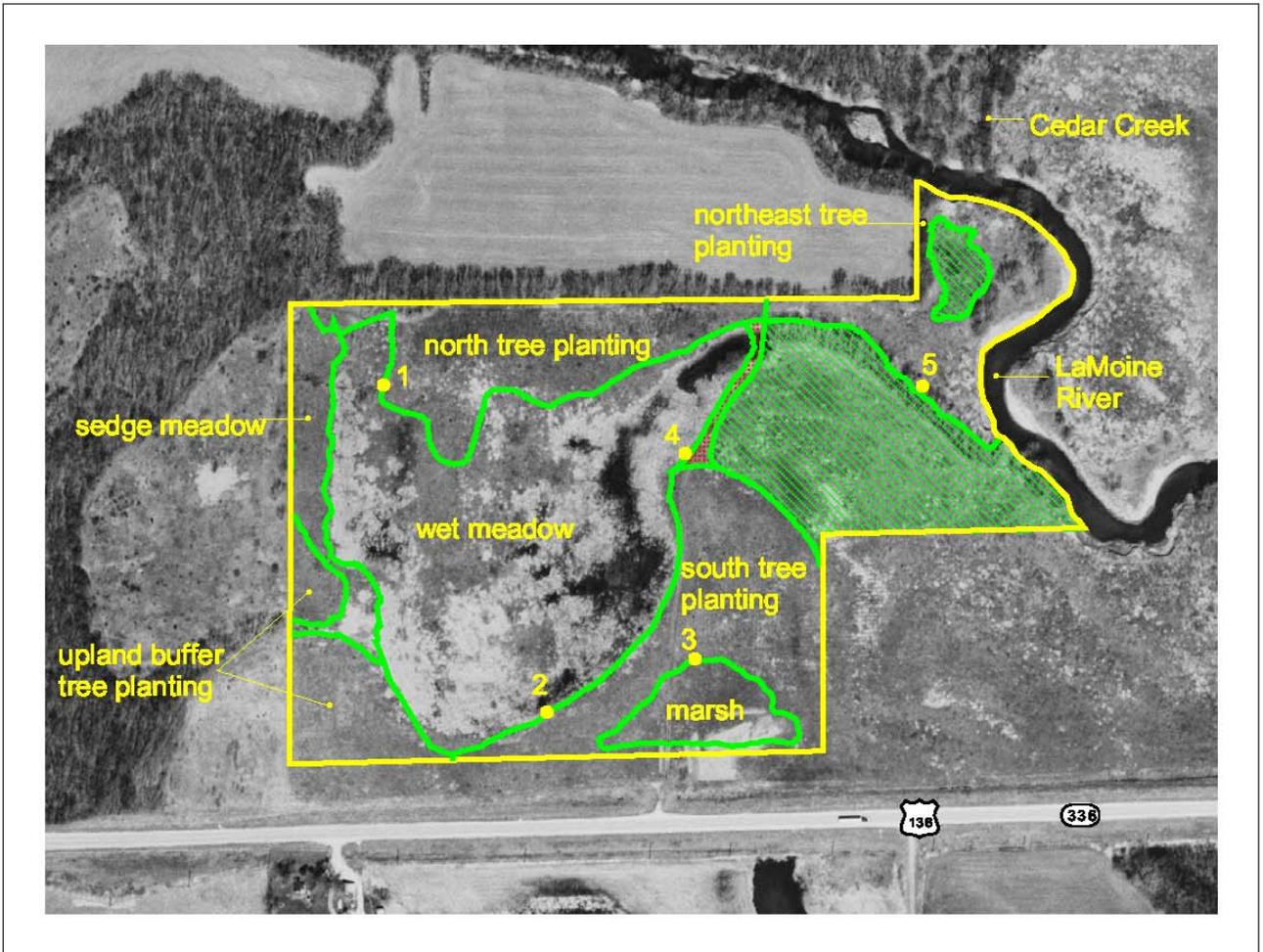
b. Occurrence of hydric soils

Soils examined at the site were found to be relatively undisturbed with the exception of the marsh. Hydric soil indicators are present within the sedge meadow, wet meadow, marsh, and the north tree planting area; these areas therefore met the hydric soil criterion. The northeast, 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 2010 growing season was estimated to be 14.2 ha (35.0 ac) out of an area of 18.7 ha (46.1 ac)” (Figure 2, page 7) (Miner, et al. 2010). More information is available in the *Hancock County near Carthage, Wetland Compensation Site* report (ibid). At this time we estimate that 14.2 ha (35.0 ac) of the site currently has wetland hydrology.

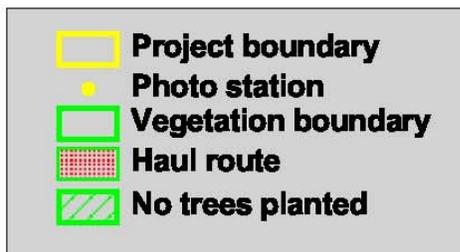
LaMoine River Mitigation Site (FAP 315) Hancock County, Illinois



0 400 800 Feet

scale 1:4800
1 inch=400 ft

0 100 200 Meters



12/2010

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

Hancock County near Carthage Wetland Mitigation Site (FAP 315 and FAP 10)
Estimated Areal Extent of 2010 Wetland Hydrology

September 1, 2009 through August 31, 2010

Map based on USGS digital orthophotograph, Carthage East SE quarter quadrangle
 produced from 2005 aerial photography (ISGS 2005)

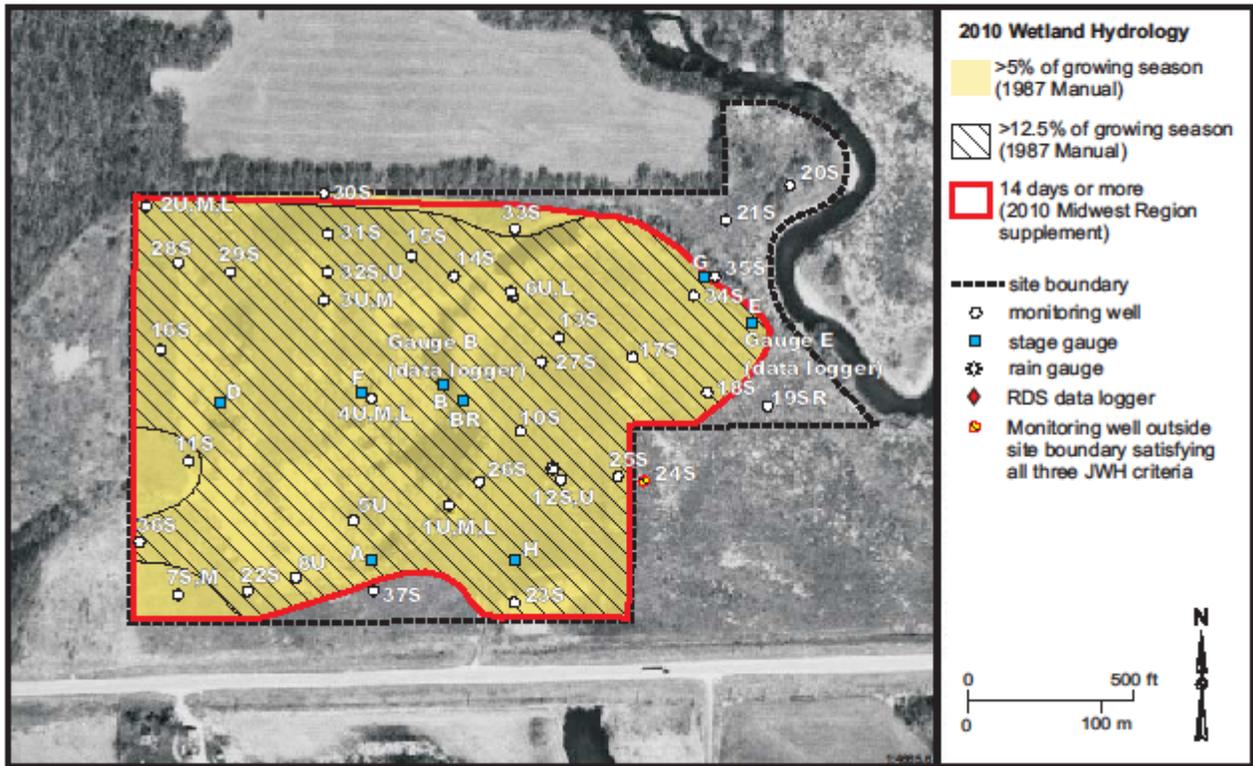


Figure 2. “Estimated Areal Extent of 2010 Wetland Hydrology” (Miner, et al. 2010).

Project goal 2

a. Planted species survivorship

Table 2 shows the results of the census. There was again a minor discrepancy between the numbers of trees reported as planted and the number of trees counted, as we counted 100 trees fewer than were reported as planted. There were once again many gaps in the rows where trees had (presumably) 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. About 89% of the total trees reported planted were counted as surviving. This 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.
<i>Carya illinoensis</i>	Pecan	250	220	88.0
<i>Fraxinus pennsylvanica</i>	Green ash	250	232	92.8
<i>Platanus occidentalis</i>	Sycamore	250	199	79.6
<i>Quercus palustris</i>	Pin oak	248	232	93.5
<i>Quercus bicolor</i>	Swamp white oak	250	228	91.2
Spp.	Miscellaneous dead	-	37	X
TOTAL		1248	1148	89.0

b. Native species composition

Table 3 below shows the percentage non-weedy, native species for each area of this site. These values show that 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 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	Northeast 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	*
2009	54.5	58.1	74.2	56.3	40.4	47.6	*
2010	65.5	74.1	77.3	64.4	50.0	53.1	55.3

* Prior to 2010 monitoring season, this area was grouped in with the North tree planting area.

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.

Year	Sedge Meadow		Wet Meadow		Marsh		North tree planting		South tree planting		Upland buffer tree planting		Northeast tree planting	
	FQI	\bar{c}	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	*	*
2009	17.7	2.4	17.5	2.2	16.6	3.1	21.0	2.3	13.2	2.2	20.0	2.5	*	*
2010	21.7	3.1	20.0	2.7	14.3	3.2	15.6	2.4	14.7	2.3	19.4	2.7	13.9	2.4

These values indicate that the sedge meadow and wet meadow areas are of good natural quality, and all other areas are of fair natural quality. These values should generally 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. The three most dominant species were determined using the calculated importance value. *Lemna minor*, *Alisma plantago-aquatica*, and *Typha angustifolia* dominated the marsh (Table 5, below). In the sedge meadow, the dominant species were *Carex vulpinoidea*, *Scirpus atrovirens*, and *Lysimachia nummularia* (Table 6, page 10). *Phalaris arundinacea*, *Geum laciniatum*, and *Aster simplex* dominated the wet meadow (Table 7, page 11).

Based on visual estimation, the three most dominant species in the north tree planting area were *Phalaris arundinacea*, *Carex vulpinoidea*, and *Acer saccharinum*. *Phalaris arundinacea*, *Laportea canadensis*, and *Solidago canadensis* dominated in the northeast tree planting area. The upland buffer tree planting area was dominated by *Phalaris arundinacea*, *Trifolium hybridum*, and *Solidago canadensis*. *Phalaris arundinacea*, *Agrostis alba*, and *Carex frankii* dominated in the south tree planting area. In all of the communities at least one of the three most dominant species is non-native or weedy native. At this time none of the areas meet the performance criteria for dominance of vegetation.

Table 5. Species composition of Marsh (Site 3). Frequency, Relative Frequency, Cover (m²/m²), Relative Cover, Importance Value (%), N = 5.

Species	Cover	Relative Cover	Frequency	Relative Frequency	IV
<i>Lemna minor</i>	18.80	46.19	0.80	30.77	38.48
<i>Alisma plantago-aquatica</i>	7.20	17.69	0.80	30.77	24.23
<i>Typha angustifolia</i>	10.50	25.80	0.40	15.38	20.59
<i>Eleocharis macrostachya</i>	3.60	8.85	0.40	15.38	12.11
<i>Ludwigia polycarpa</i>	0.60	1.47	0.20	7.69	4.58
Total	40.70	100.00	2.60	100.00	100.00

Table 6. Species composition of Sedge Meadow (Site 1). Frequency, Relative Frequency, Cover (m²/m²), Relative Cover, Importance Value (%), N=7.

Species	Cover	Relative Cover	Frequency	Relative Frequency	IV
<i>Carex vulpinoidea</i>	23.07	17.95	1.00	10.45	14.20
<i>Scirpus atrovirens</i>	14.71	11.45	0.43	4.48	7.96
<i>Lysimachia nummularia</i>	11.57	9.01	0.57	5.97	7.49
<i>Aster simplex</i>	6.86	5.34	0.71	7.46	6.40
<i>Phalaris arundinacea</i>	11.07	8.62	0.29	2.99	5.80
<i>Carex cristatella</i>	7.93	6.17	0.43	4.48	5.32
<i>Carex tribuloides</i>	7.93	6.17	0.43	4.48	5.32
<i>Glyceria striata</i>	6.43	5.00	0.43	4.48	4.74
<i>Lythrum alatum</i>	3.43	2.67	0.57	5.97	4.32
<i>Bidens aristosa</i>	4.71	3.67	0.43	4.48	4.07
<i>Solidago canadensis</i>	5.79	4.50	0.29	2.99	3.74
<i>Juncus secundus</i>	3.00	2.33	0.43	4.48	3.41
<i>Lycopus virginicus</i>	3.00	2.33	0.43	4.48	3.41
<i>Juncus effusus</i>	2.57	2.00	0.29	2.99	2.49
<i>Vernonia missurica</i>	2.57	2.00	0.29	2.99	2.49
<i>Carex granularis</i>	0.50	0.39	0.29	2.99	1.69
<i>Oxalis stricta</i>	0.50	0.39	0.29	2.99	1.69
<i>Ludwigia alterniflora</i>	2.14	1.67	0.14	1.49	1.58
<i>Penthorum sedoides</i>	2.14	1.67	0.14	1.49	1.58
<i>Polygonum pensylvanicum</i>	2.14	1.67	0.14	1.49	1.58
<i>Spartina pectinata</i>	2.14	1.67	0.14	1.49	1.58
<i>Acalypha rhomboidea</i>	0.43	0.33	0.14	1.49	0.91
<i>Acer saccharinum</i>	0.43	0.33	0.14	1.49	0.91
<i>Agrimonia parviflora</i>	0.43	0.33	0.14	1.49	0.91
<i>Agrostis alba</i>	0.43	0.33	0.14	1.49	0.91
<i>Carex squarrosa</i>	0.43	0.33	0.14	1.49	0.91
<i>Elymus virginicus</i>	0.43	0.33	0.14	1.49	0.91
<i>Geum laciniatum</i>	0.43	0.33	0.14	1.49	0.91
<i>Glechoma hederacea</i>	0.43	0.33	0.14	1.49	0.91
<i>Hypericum punctatum</i>	0.43	0.33	0.14	1.49	0.91
<i>Lycopus americanus</i>	0.43	0.33	0.14	1.49	0.91
Total	128.50	100.00	9.57	100.00	100.00

Table 7. Species composition of Wet Meadow (Site 2). Frequency, Relative Frequency, Cover (m²/m²), Relative Cover, Importance Value (%), N=26.

Species	Cover	Relative Cover	Frequency	Relative Frequency	IV
<i>Phalaris arundinacea</i>	63.17	81.23	0.85	40.74	60.99
<i>Geum laciniatum</i>	1.96	2.52	0.19	9.26	5.89
<i>Aster simplex</i>	2.71	3.49	0.15	7.41	5.45
<i>Lysimachia nummularia</i>	2.60	3.34	0.12	5.56	4.45
<i>Carex vulpinoidea</i>	2.02	2.60	0.08	3.70	3.15
<i>Carex frankii</i>	1.15	1.48	0.08	3.70	2.59
<i>Rumex crispus</i>	0.23	0.30	0.08	3.70	2.00
<i>Penthorum sedoides</i>	0.23	0.30	0.08	3.70	2.00
<i>Scirpus fluviatilis</i>	0.58	0.74	0.04	1.85	1.30
<i>Carex</i> sp.	0.58	0.74	0.04	1.85	1.30
<i>Apocynum cannabinum</i>	0.58	0.74	0.04	1.85	1.30
<i>Carex cristatella</i>	0.58	0.74	0.04	1.85	1.30
<i>Carex tribuloides</i>	0.58	0.74	0.04	1.85	1.30
<i>Acer saccharinum</i>	0.12	0.15	0.04	1.85	1.00
<i>Ambrosia trifida</i>	0.12	0.15	0.04	1.85	1.00
<i>Calystegia sepium</i>	0.12	0.15	0.04	1.85	1.00
<i>Polygonum pensylvanicum</i>	0.12	0.15	0.04	1.85	1.00
<i>Carex lupulina</i>	0.12	0.15	0.04	1.85	1.00
<i>Lycopus virginicus</i>	0.12	0.15	0.04	1.85	1.00
<i>Viola pratincola</i>	0.12	0.15	0.04	1.85	1.00
Total	77.77	100.00	2.08	100.00	100.00

Discussion

After this fourth monitoring season, this site shows some progress toward forested wetland establishment. All standards for Project Goal 1 have been met at four areas, as these areas (sedge meadow, wet meadow, north tree planting area, and marsh) are jurisdictional wetlands. Although portions of the upland buffer and south tree planting areas met the 12.5% level of wetland hydrology, and the south tree planting area met the hydrophytic vegetation criteria this year, there is little evidence that they will develop hydric soils and lasting wetland hydrology to comply with this goal in the future. The northeast tree planting area met the dominant hydrophytic vegetation criteria, but lacks hydric soils and wetland hydrology. 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 criterion 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 all areas except the upland buffer tree planting area, at no area is the dominance criteria for native non-weedy species or the dominance of vegetation requirement met. The planted trees exhibited excellent survival, and should meet the planted species performance criteria at the end of the monitoring period. There are many 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 lasting wetland hydrology at the south and northeast tree planting areas.

All of the wet meadow, sedge meadow, marsh, and the north tree planting area satisfy the wetland criteria; therefore, current wetland acreage at this site is estimated to be approximately 24.3 ac (9.8 ha), corresponding to that area determined in 2008 by the ISGS to possess wetland hydrology for more than 12.5% of the growing season. This is the same areal estimate used in 2008 and 2009, as most of the additional area which had wetland hydrology in 2009 and/or 2010 does not have hydric soil. This estimate will be refined in future years as more hydrologic data is gathered.

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Appendix A

Wetland Determination Forms

ROUTINE ONSITE WETLAND DETERMINATION

Site 1 (page 1 of 4)

Field Investigators: Wiesbrook, Wilm, and Zylka

Date: July 13 & 14, 2010

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: No:

Has the vegetation, soils, or hydrology been significantly disturbed? Yes: No:

VEGETATION

Dominant Plant Species	Stratum	Indicator Status
1. <i>Carex vulpinoidea</i>	Herb	OBL
2. <i>Scirpus atrovirens</i>	Herb	OBL
3. <i>Lysimachia nummularia</i>	Herb	FACW+
4. <i>Aster simplex</i>	Herb	FACW
5. <i>Phalaris arundinacea</i>	Herb	FACW+
6. <i>Carex cristatella</i>	Herb	FACW+
7. <i>Carex tribuloides</i>	Herb	FACW+

Percentage of dominant species that are OBL, FACW, FAC+, or FAC: 100%

Hydrophytic vegetation: Yes: 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: No:

Is the soil a histosol? Yes: No:

Histic epipedon present? Yes: No:

Redox Concentrations? Yes: No: Color: 10YR 5/4 and 5/6

Redox Depletions? Yes: No: Color: N 5/

Matrix color: 10YR 3.5/1

Other indicators: None.

Hydric soils? Yes: 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 4)

Field Investigators: Wiesbrook, Wilm, and Zylka

Date: July 13 & 14, 2010

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: >0.10 m (4 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 km² (655 mi²) 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 (Miner et al. 2010). 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 1 of 4)

Field Investigators: Wiesbrook, Wilm, and Zylka

Date: July 13 & 14, 2010

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: No:

Has the vegetation, soils, or hydrology been significantly disturbed? Yes: No:

VEGETATION

Dominant Plant Species	Stratum	Indicator Status
1. <i>Phalaris arundinacea</i>	Herb	FACW+

Percentage of dominant species that are OBL, FACW, FAC+, or FAC: 100%

Hydrophytic vegetation: Yes: 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: No:

Is the soil a histosol? Yes: No:

Histic epipedon present? Yes: No:

Redox Concentrations? Yes: No: Color: 10YR 5/4 and 5/6

Redox Depletions? Yes: No: Color: N 5/

Matrix color: 10YR 3.5/1

Other indicators: None.

Hydric soils? Yes: 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 4)

Field Investigators: Wiesbrook, Wilm, and Zylka

Date: July 13 & 14, 2010

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: >0.10 m (4 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 km² (655 mi²) 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 (Miner et al. 2010). 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 3 (page 1 of 3)

Field Investigators: Wiesbrook, Wilm, and Zylka

Date: July 13 & 14, 2010

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: No:

Has the vegetation, soils, or hydrology been significantly disturbed? Yes: No:

VEGETATION

Dominant Plant Species	Stratum	Indicator Status
1. <i>Lemna minor</i>	Herb	OBL
2. <i>Alisma plantago-aquatica</i>	Herb	OBL
3. <i>Typha angustifolia</i>	Herb	OBL

Percentage of dominant species that are OBL, FACW, FAC+, or FAC: 100%

Hydrophytic vegetation: Yes: 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:

Is the soil a histosol? Yes: No:

Histic epipedon present? Yes: No:

Redox Concentrations Yes: No: Color: 10YR 4/4 and 7.5YR 4/4

Redox Depletions? Yes: No: 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: 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 Zylka

Date: July 13 & 14, 2010

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:

Depth of standing water: <0.51 m (20 in)

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 km² (655 mi²) 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 (Miner et al. 2010). Wetland drainage patterns and drift were observed.

Wetland hydrology: Yes: 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: 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 4 (page 1 of 4)

Field Investigators: Wiesbrook, Wilm, and Zylka

Date: July 13 & 14, 2010

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 the area north of the silt-fenced areas and west of the haul route.

Do normal environmental conditions exist at this area? Yes: No:

Has the vegetation, soils, or hydrology been significantly disturbed? Yes: No:

VEGETATION

Dominant Plant Species	Stratum	Indicator Status
1. <i>Phalaris arundinacea</i>	Herb	FACW+
2. <i>Carex vulpinoidea</i>	Herb	OBL
3. <i>Acer saccharinum</i>	Herb	FACW

Percentage of dominant species that are OBL, FACW, FAC+, or FAC: 100%

Hydrophytic vegetation: Yes: 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 Coffeen silt loam; revised to Sawmill (Cumulic Endoaquoll)

On county hydric soils list? Yes: No:

Is the soil a histosol? Yes: No:

Histic epipedon present? Yes: No:

Redox Concentrations? Yes: No: Color: 7.5YR 4/6, 10YR 4/3 and 5/6

Redox Depletions? Yes: No: Color: N/A

Matrix color: 10YR 3/1 over 10YR 4/2

Other indicators: None.

Hydric soils? Yes: 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 4)

Field Investigators: Wiesbrook, Wilm, and Zylka **Date:** July 13 & 14, 2010
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 the area north of the silt-fenced areas and west of the haul route.

HYDROLOGY

Inundated: Yes: No: X Depth of standing water: N/A
Depth to saturated soil: From surface to 0.30 m (0-12 in)
Overview of hydrological flow through the system: This area is hydrologically influenced by overflow from the LaMoine River, sheet flow from surrounding uplands, and precipitation. Water leaves the area via evapotranspiration, possible groundwater recharge, and drainage into the river.
Size of watershed: 1696 km² (655 mi²) 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 (Miner et al. 2010). Wetland drainage patterns and drift were observed.

Wetland hydrology: Yes: X No:
Rationale: Field evidence cited above and ISGS data indicate that most 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 most of this area is a wetland. Site 4 in 2007, 2008, and 2009 reports included this area and site 7 (new area this year).

ROUTINE ONSITE WETLAND DETERMINATION

Site 4 (page 3 of 4)

Field Investigators: Wiesbrook, Wilm, and Zylka

Date: July 13 & 14, 2010

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 the area north of the silt-fenced areas and west of the haul route.

SPECIES LIST (Dominant species and strata indicated by bold)

Scientific name	Common name	Stratum status	Wetland indicator conservatism#	Coefficient of
<i>Acalypha rhomboidea</i>	three-seeded mercury	herb	FACU	0+
<i>Acer negundo</i>	box elder	tree, sapling, shrub	FACW-	1+
<i>Acer saccharinum</i>	silver maple	tree, sapling, shrub, herb	FACW	1+
<i>Agrostis alba</i>	red top	herb	FACW	0+
<i>Alisma plantago-aquatica</i>	broad-leaf water-plantain	herb	OBL	2
<i>Ambrosia trifida</i>	giant ragweed	herb	FAC+	0+
<i>Ammannia coccinea</i>	long-leaved ammannia	herb	OBL	5
<i>Apocynum cannabinum</i>	dogbane	herb	FAC	2
<i>Asclepias incarnata</i>	swamp milkweed	herb	OBL	4
<i>Aster simplex</i>	panicled aster	herb	FACW	3
<i>Bidens connata</i>	purplestem beggar's ticks	herb	OBL	2
<i>Boltonia asteroides</i>	false aster	herb	FACW	5
<i>Calystegia sepium</i>	American bindweed	herb	FAC	1+
<i>Carex frankii</i>	sedge	herb	OBL	4
<i>Carex granularis</i>	meadow sedge	herb	FACW+	2
<i>Carex lupulina</i>	hop sedge	herb	OBL	5
<i>Carex sp.</i>	sedge	herb	----	--
<i>Carex tribuloides</i>	sedge	herb	FACW+	3
<i>Carex vulpinoidea</i>	fox sedge	herb	OBL	3
<i>Cicuta maculata</i>	water hemlock	herb	OBL	4
<i>Cyperus acuminatus</i>	taperleaf flat sedge	herb	OBL	2
<i>Cyperus esculentus</i>	yellow nut-sedge	herb	FACW	0+
<i>Cyperus strigosus</i>	straw-colored flatsedge	herb	FACW	0+
<i>Echinochloa muricata</i>	barnyard grass	herb	OBL	0+
<i>Eleocharis erythropoda</i>	spike rush	herb	OBL	3
<i>Eleocharis macrostachya</i>	spike rush	herb	OBL	5
<i>Eleocharis obtusa</i>	blunt spike rush	herb	OBL	2
<i>Eupatorium serotinum</i>	late boneset	herb	FAC+	1+
<i>Fraxinus pennsylvanica</i>	green ash	tree, sapling, shrub	FACW	2
<i>Ludwigia polycarpa</i>	false loosestrife	herb	OBL	5
<i>Lycopus americanus</i>	common water horehound	herb	OBL	3
<i>Lycopus virginicus</i>	bugle weed	herb	OBL	5
<i>Melilotus alba</i>	white sweet clover	herb	FACU	*+
<i>Penthorum sedoides</i>	ditch stoncrop	herb	OBL	2
<i>Phalaris arundinacea</i>	reed canary grass	herb	FACW+	*+
<i>Phyla lanceolata</i>	fog-fruit	herb	OBL	1+
<i>Polygonum punctatum</i>	dotted smartweed	herb	OBL	3
<i>Populus deltoides</i>	eastern cottonwood	tree, herb	FAC+	2

Species list continued on next page.

ROUTINE ONSITE WETLAND DETERMINATION

Site 5 (page 1 of 4)

Field Investigators: Wiesbrook, Wilm, and Zylka

Date: July 13 & 14, 2010

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 the area south and east of the wet meadow (Site 2).

Do normal environmental conditions exist at this area? Yes: No:

Has the vegetation, soils, or hydrology been significantly disturbed? Yes: No:

VEGETATION

Dominant Plant Species	Stratum	Indicator Status
1. <i>Phalaris arundinacea</i>	Herb	FACW+
2. <i>Agrostis alba</i>	Herb	FACW
3. <i>Carex frankii</i>	Herb	OBL

Percentage of dominant species that are OBL, FACW, FAC+, or FAC: 100%

Hydrophytic vegetation: Yes: No:

Rationale: 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 (Udolic Endoaqualf)

On county hydric soils list? Yes: No:

Is the soil a histosol? Yes: No:

Histic epipedon present? Yes: No:

Redox Concentrations? Yes: No: Color: 10YR 4/4 and 5/6

Redox Depletions? Yes: 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:

Rationale: The Natural Resources Conservation Service identifies Clarksdale silt loam as an Udolic 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 Zylka

Date: July 13 & 14, 2010

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 the 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: 0.25 m (10 in)

Overview of hydrological flow through the system: This area is hydrologically influenced by overflow from the LaMoine River, 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 km² (655 mi²) for the LaMoine River approximately 10 river miles downstream at Colmar, IL (Wicker, et al. 1996)

Other field evidence observed: The ISGS estimated that most of this area met the wetland hydrology criterion (Miner et al. 2010). No field evidence was observed.

Wetland hydrology: Yes: No: X

Rationale: Lack of field evidence and previous years' ISGS data indicate that the majority of this area is not inundated or saturated for a sufficient duration in most years to satisfy the wetland hydrology criterion.

DETERMINATION AND RATIONALE:

Is the area a wetland? Yes: No: X

Rationale: While dominant hydrophytic vegetation and wetland hydrology were present this year, hydric soil was absent; therefore, we determined that this area is not a wetland.

ROUTINE ONSITE WETLAND DETERMINATION

Site 6 (page 1 of 5)

Field Investigators: Wiesbrook, Wilm, and Zylka

Date: July 13 & 14, 2010

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 the area south and west of the wet meadow (Site 2).

Do normal environmental conditions exist at this area? Yes: No:

Has the vegetation, soils, or hydrology been significantly disturbed? Yes: No:

VEGETATION

Dominant Plant Species	Stratum	Indicator Status
1. <i>Phalaris arundinacea</i>	Herb	FACW+
2. <i>Solidago canadensis</i>	Herb	FACU
3. <i>Trifolium hybridum</i>	Herb	FAC-

Percentage of dominant species that are OBL, FACW, FAC+, or FAC: 33%

Hydrophytic vegetation: Yes: No:

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:

Is the soil a histosol? Yes: No:

Histic epipedon present? Yes: No:

Redox Concentrations? Yes: No: Color: 10YR 5/6 and 4/6

Redox Depletions? Yes: No: Color: 10YR 4/1

Matrix color: 10YR 4/2 over 10YR 5/3

Other indicators: None.

Hydric soils? Yes: No:

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 Zylka **Date:** July 13 & 14, 2010
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 the 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: 0.25 m (10 in)

Overview of hydrological flow through the system: This area is hydrologically influenced by overflow from the LaMoine River, 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 km² (655 mi²) for the LaMoine River approximately 10 river miles downstream at Colmar, IL (Wicker, et al. 1996)

Other field evidence observed: The ISGS estimated that most/all of this area met the wetland hydrology criterion (Miner et al. 2010). No field evidence was observed.

Wetland hydrology: Yes: No: X

Rationale: Lack of field evidence and previous years' ISGS data indicate that the majority of this area is not inundated or saturated for a sufficient duration in most years to satisfy the wetland hydrology criterion.

DETERMINATION AND RATIONALE:

Is the area a wetland? Yes: No: X

Rationale: While wetland hydrology was present this year, dominant hydrophytic vegetation and hydric soil were absent; therefore, we determined that this area is not a wetland.

ROUTINE ONSITE WETLAND DETERMINATION

Site 6 (page 5 of 5)

Field Investigators: Wiesbrook, Wilm, and Zylka

Date: July 13 & 14, 2010

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 the area south and west of the wet meadow (Site 2).

Determined by:

Scott Wiesbrook (soils and hydrology)

Brian Wilm and Jason Zylka (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 7 (page 2 of 4)

Field Investigators: Wiesbrook, Wilm, and Zylka

Date: July 13 & 14, 2010

Project Name: FAP 315 (LaMoine River Site)

Section No.: 34-4 (4B, B-1)

State: Illinois

County: Hancock

Applicant: IDOT Dist. 6

Area Name: Northeast 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 the area north of the silt-fenced areas.

HYDROLOGY

Inundated: Yes: No: X Depth of standing water: N/A

Depth to saturated soil: From surface to 0.30 m (0-12 in)

Overview of hydrological flow through the system: This area is hydrologically influenced by overflow from the LaMoine River, sheet flow from surrounding uplands, and precipitation.

Water leaves the area via evapotranspiration, possible groundwater recharge, and drainage into the river.

Size of watershed: 1696 km² (655 mi²) for the LaMoine River approximately 10 river miles downstream at Colmar, IL (Wicker, et al. 1996)

Other field evidence observed: The ISGS estimated that none of this area met the wetland hydrology criterion (Miner et al. 2010). No field evidence was observed.

Wetland hydrology: Yes: No: X

Rationale: Lack of field evidence cited above and 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: X No:

Rationale: While dominant hydrophytic vegetation was present, wetland hydrology and hydric soil were absent; therefore, we determined that this area is not a wetland. Site 4 in 2007, 2008, and 2009 reports included this area and site 4 (2010).

ROUTINE ONSITE WETLAND DETERMINATION

Site 7 (page 4 of 4)

Field Investigators: Wiesbrook, Wilm, and Zylka

Date: July 13 & 14, 2010

Project Name: FAP 315 (LaMoine River Site)

Section No.: 34-4 (4B, B-1)

State: Illinois

County: Hancock

Applicant: IDOT Dist. 6

Area Name: Northeast 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 the area north of the silt-fenced areas.

Determined by:

Scott Wiesbrook (soils and hydrology)

Brian Wilm and Jason Zylka (vegetation and hydrology)

Brad Zercher (GPS/GIS)

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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 south from photostation 2 (overlooking south tree planting towards highway).



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



Picture 5. Facing northeast 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)].