

TRANSMITTAL FORM

To: Bureau of Design and Environment
Attn: Mr. Matthew Sunderland
From: Illinois Natural History Survey
Re: Wetland Mitigation Monitoring Report

Route and Location

Route: FAP 857 (IL 14)
County: Saline
Project Area: 30 acres just west of Harrisburg off IL 13 (Harrisburg 2)
Section: 101BR-6
Sequence Number: NA

Survey Conducted By: Dennis Keene, Dave Ketzner, Rick Larimore, Paul Marcum, and Brad Zercher
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Dates Conducted: August 27-28, 2008

Project Summary:

This is a wetland mitigation monitoring project located on approximately 30 acres off IL 13 just west of Harrisburg. This parcel is located in the SW/4 of Section 17 in T. 9S. and R. 6E. in Saline County. This is the first year of monitoring this site (Harrisburg 2). The attached report includes an explanation of monitoring methods and results. We also discuss the progress towards attaining the project goals. Additionally, wetland determinations and the computed FQI of the area along with photos and maps of the area are included.

Signed: 

Dr. Allen E. Plocher
INHS/IDOT Project Coordinator

Date: _____

Signed: _____

Dr. Edward Heske
INHS/IDOT Project Principal Investigator
Director, Center for Wildlife and Plant Ecology

Date: _____

2008 Wetland Mitigation Monitoring Report for Harrisburg Site 2, FAP 857 (IL 14), Fox River Bridge Replacement: Saline County, Illinois

Introduction:

This is a wetland mitigation monitoring site report for Harrisburg Site 2 (FAP 857, IL 14). This site is mitigation for the impact caused by the proposed bridge replacement at the Fox River crossing on IL Route 14 in White County. On August 27-28, 2008 we evaluated a site near Harrisburg that hopefully, if it succeeds, will be used as a wetland compensation site. This is the first year of the proposed five years of monitoring at the site. This wetland mitigation site is located on the western edge of the city of Harrisburg. The parcel is located in the SW/4 of Section 17 in T. 9S. and R. 6E. in Saline County. The goal of this project is to establish 10.2 acres of forested wetland. A wetland mitigation report was previously performed on this site in 2006 (Marcum, *et al*, 2006). Some site changes have occurred since that survey. The north part of the site has been reworked and preexisting vegetation was removed. Trees/shrubs that were originally in the north to northeast area of the site were removed and soils seemed to be scraped and compacted in these areas. At this site 1.962 ha (4.852 ac) of wetlands were delineated back in 2006 (Marcum, *et al*, 2006). As proposed in the monitoring plan, shrub stage wetland trees were planted along with a wetland grass mixture. Vegetation species lists, soil, and hydrology characteristics, as well as wetland determination forms are included in this report. Project goals, objectives, and performance criteria are incorporated in this report, as are monitoring methods, monitoring results, summary information, and recommendations.

Goals, Objectives, and Performance Criteria

Goals, objectives, and performance criteria follow those specified in the IDOT project request (Sunderland, 2008). Performance criteria are based on those specified in the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987). Each goal should be attained by the end of the five-year monitoring period. Goals, objectives, and performance criteria are listed below.

Project Goal #1: The created wetland mitigation area should be determined to be jurisdictional wetland by the current federal definition.

Objective: The created wetland should consist of approximately 10.2 acres of wet floodplain forest. It should satisfy the three criteria of the federal wetland definition: dominant hydrophytic vegetation, hydric soils, and wetland hydrology.

Performance Criteria:

A. Predominance of Hydrophytic Vegetation. More than 50% of the dominant plant species must be hydrophytic.

B. Presence of Wetland Hydrology. The site must have soils saturated to the surface (water table within 12 inches to the surface) or be inundated to a depth of less than 2 meters (6.6 ft) for at least 12.5% of the growing season.

C. Presence of Hydric Soils. Hydric soil characteristics should be present, or conditions favorable for hydric soil formation should persist at the site.

Project Goal #2: The forested wetland plant community should meet standards for survival of planted species and overall floristic composition.

Objective: The wetland restoration should compensate in-kind for loss of forested wetlands. The wetland compensation should be composed of vegetation characteristic of forested wetlands. Planted trees should dominate the site along with native non-weedy vegetation.

Performance Criteria: There should be a 90% survival rate of the planted trees by the end of a five-year monitoring period. The wetland mitigation-monitoring plan calls for a total of 715 trees for the whole project. There should be at least 644 (90% survival rate) live planted trees each year. Trees should be replanted if needed during the monitoring period. Including herbaceous cover, no single species should constitute more than 25% of the surviving species. Native vegetation, excluding *Phragmites australis*, *Phalaris arundinacea*, *Typha* spp., and *Lythrum salicaria* should cover at least 70% of the compensatory mitigation site. Spraying to control or limit the spread of *Phragmites australis* or other weedy vegetation will be done by various organizations mentioned in the Wetland Compensation Plan sent by IDOT (IDOT, 2006).

Methods

Project Goals #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). This method 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, and OBL) is considered hydrophytic. A predominance of hydrophytic vegetation in the wetland plant community exists if more than 50% of the dominant species present are hydrophytic.

B. Presence of Wetland Hydrology. The extent of wetland hydrology at the Harrisburg Site 2 Wetland Compensation Site was monitored by the Illinois State Geological Survey and is shown on the wetland hydrology map (Fucciolo, *et al.* 2008). Wetland hydrology occurs when inundation or saturation to land surface is present for greater than 5% of the growing season (11 days at this site) where the soils and vegetation parameters stated in the Corps of Engineers Wetland Delineation Manual also are met; if either is lacking, then inundation or saturation must be present for greater than 12.5% of the growing season (26 days at this site) to satisfy wetland hydrology criteria (Environmental Laboratory 1987 [<http://el.erdc.usace.army.mil/wetlands/pdfs/wlman87.pdf>]).

Inundation and saturation at the site were monitored using a combination of 21 monitoring wells and 8 staff gauges. Water levels were measured monthly during the year. 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). Also, Illinois Natural History Survey personnel will utilize hydrologic field indicators to determine the presence or absence of wetland hydrology as described in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987).

C. Presence of Hydric Soils. INHS personnel will examine soil cores for field indicators to determine the presence or absence of hydric soils as described in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987) and the *Field Indicators of Hydric Soils in the United States* (USDA, 2006). Soil profile descriptions from the sites can be found below.

Project Goals #2: All planted trees were counted and identified as Survey personnel traced through the site. All vegetation was identified at the various sites and species lists were compiled. Species dominants and percent cover was estimated in 2008.

Photography

Photos were taken showing the different community types. Photographs are presented in Appendix 2.

Results

Project Goal #1: The created wetland mitigation area should be determined to be a jurisdictional wetland by the current federal definition.

Performance Criteria

A. Predominance of Hydrophytic Vegetation.

Dominant hydrophytic vegetation is present at two sites (Sites 2 and 3). The herbaceous layer at Site 1 is dominated by red top (*Agrostis alba*, FACW), common ragweed (*Ambrosia artemisiifolia*, FACU), Italian rye grass (*Lolium multiflorum*, UPL), and bearded wheat (*Triticum aestivum*, UPL). In the shrub/sapling stage tree layer planted species of pecan (*Carya illinoensis*, FACW), swamp white oak (*Quercus bicolor*, FACW+), and pin oak (*Quercus palustris*, FACW) did not constitute enough coverage of the site to be considered dominants. Also found in the shrub/sapling stage tree layer were a few white oak (*Quercus alba*, FACU) and swamp chestnut oak (*Quercus michauxii*, FACW) that were planted but not on the planted list. Site 1 did not meet the dominant hydrophytic vegetation criterion.

The herbaceous layer found in the wet meadows (Site 2) are dominated by barnyard grass (*Echinochloa muricata*, OBL) and blunt spike rush (*Eleocharis obtusa*, OBL). Site 2 did meet the dominant hydrophytic vegetation criterion.

The herbaceous layer found in the marsh area (Site 3) is dominated by common reed (*Phragmites australis*, FACW+) and narrow-leaved cattail (*Typha augustifolia*, OBL). Site 3 did meet the dominant hydrophytic vegetation criterion.

The herbaceous layer found in the native grassland/prairie planting area (Site 4) is dominated by (*Festuca arundinacea*, FACU+) and prairie switchgrass (*Panicum virgatum*, FAC+). In the shrub/sapling stage tree layer planted species of pecan (*Carya illinoensis*, FACW), swamp white oak (*Quercus bicolor*, FACW+), and pin oak (*Quercus palustris*, FACW) did not constitute enough coverage of the site to be considered dominants. Site 4 did not meet the dominant hydrophytic vegetation criterion.

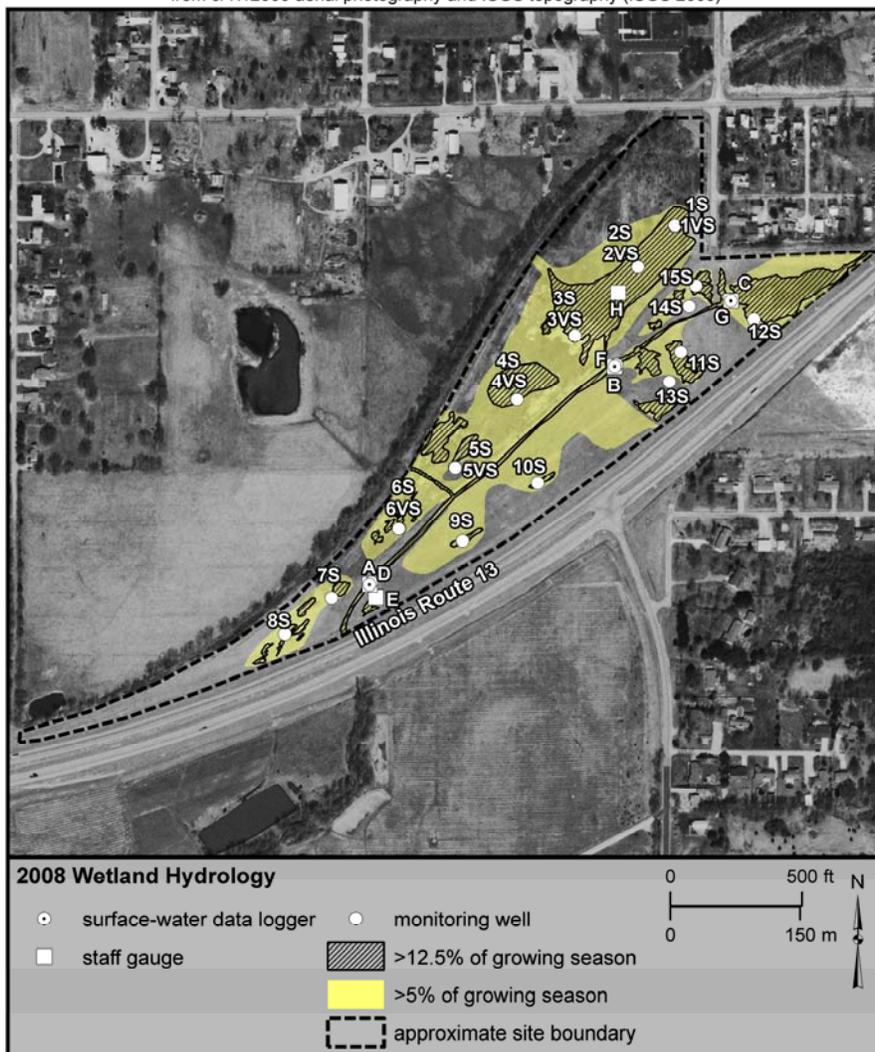
B. Presence of Wetland Hydrology.

Most of Site 1 had more than 5% wetland hydrology during the growing season and may fulfill the wetland hydrology criterion this year. Some of Site 1 achieved the 12.5% wetland hydrology during the growing season and these areas satisfied the wetland hydrology criterion. All of Site 2 had more than 5% wetland hydrology during the growing season and may fulfill the wetland hydrology criterion this year. Furthermore, most of Site 2 had greater than 12.5% hydrology and satisfied the wetland hydrology criterion. All of Site 3 achieved the greater than 5% and 12.5% wetland hydrology this year (2008). Due to this fact, Site 3 fulfills the wetland hydrology criterion. About half of Site 4 had no wetland hydrology at all. Most of the other half of Site 4 had greater

than 5% wetland hydrology during the growing season (2008) and may fulfill the wetland hydrology criterion. Very small areas in Site 4 had greater than 12.5% wetland hydrology during the growing season and would satisfy the wetland hydrology criterion this year (2008). Drainageway overflow, precipitation, and sheet flow from higher areas are the principle inputs of hydrology of all the sites discussed above. Water table depth was greater than 1 m (40 in) at all sites at the time of the field investigation. Well data map from the ISGS can be found on the following page and in the ISGS report on the site (Fucciolo, *et al.* 2008).

**Harrisburg, Site 2 Wetland Compensation Site
(FAP 857)**

Estimated Areal Extent of 2008 Wetland Hydrology
based on data collected between September 1, 2007 and September 1, 2008
map based on USGS digital orthophotograph Harrisburg NW quarter quadrangle
from 3/17/2005 aerial photography and ISGS topography (ISGS 2006)



C. Presence of Hydric Soils.

Soils were examined throughout the project site. Sites 1 and 2 consist of an old field along with a recently cleared floodplain forested area. This area was excavated to some extent to create a greater surface area for floodwater retention. This area is heavily compacted and soil probing was a problem. The soils in this area have been worked to the extent that they will be described as scraped and not given a soil series name. The soils at Site 1 and 2 appear to satisfy the hydric soil criterion. The soil found at Site 3 was excavated a few feet many years ago in conjunction with previous roadwork. Site 3 also satisfies the hydric soil criterion. Site 4 has the least soil disturbance and was mapped previously as Belknap silt loam (non-hydric) (Marcum, *et al*, 2006). The soil found at Site 4 is not wet and exists higher in the landscape than the other sites.

The tables below give a brief soil description of the hydric and non-hydric areas of found at this site. Hydric areas will be marked on the aerial photograph.

Site 1 (hydric soil - scraped area)

<u>Hor- izon</u>	<u>Depth</u>	<u>Matrix Color</u>	<u>Concre- -tions</u>	<u>Iron Masses</u>	<u>Pore linings</u>	<u>Iron Deplet.</u>	<u>Clay Deplet.</u>	<u>Tex- -ture</u>	<u>Structure</u>
	0-7 in	2.5Y 5/1, 6/1		FMP 7.5YR 5/8 CFP 7.5YR 4/6				sil	
	7-14 in	2.5Y 5/1, 6/1		CMP 7.5YR 5/8 FFP 7.5YR 4/6				sil	
	14-20 in	2.5Y 5/1		FMP 7.5YR 5/8 CMP 7.5YR 4/6				sil	
	20-30 in	2.5Y 5/1		CMP 7.5YR 5/8 CMP 7.5YR 4/6				sicl	

Site 2 (hydric soil - scraped area)

<u>Hor- izon</u>	<u>Depth</u>	<u>Matrix Color</u>	<u>Concre- -tions</u>	<u>Iron Masses</u>	<u>Pore linings</u>	<u>Iron Deplet.</u>	<u>Clay Deplet.</u>	<u>Tex- -ture</u>	<u>Structure</u>
	0-7 in	10YR 5/2		CMD 7.5YR 5/8 FFD 7.5YR 4/6				sil	
	7-15 in	2.5Y 5/1		CMP 7.5YR 5/8 FFP 7.5YR 4/6 FMP 10YR 5/6				sil	
	15-25 in	2.5Y 5/1		MMP 7.5YR 5/8 FFP 7.5YR 4/6 FFP 10YR 5/6				sil	

Site 3 (Bonnie silt loam, hydric soil - scraped area)

<u>Hor-izon</u>	<u>Depth</u>	<u>Matrix Color</u>	<u>Concre-tions</u>	<u>Iron Masses</u>	<u>Pore linings</u>	<u>Iron Deplet.</u>	<u>Clay Deplet.</u>	<u>Tex-ture</u>	<u>Structure</u>
	0-12 in	10YR 5/1	Few 10YR 2/1	FFP 7.5YR 5/8 CMP 7.5YR 4/6				sicl	
	12-20 in	2.5Y 6/1	Few 10YR 2/1	CMP 7.5YR 5/8 MMP 10YR 5/8				sicl	
	20-30 in	2.5Y 6/1, 7/1	Few 10YR 2/1	CMP 7.5YR 5/8 FFP 7.5YR 4/6				sicl	

Site 4 (Belknap silt loam, non-hydric soil)

<u>Hor-izon</u>	<u>Depth</u>	<u>Matrix Color</u>	<u>Concre-tions</u>	<u>Iron Masses</u>	<u>Pore linings</u>	<u>Iron Deplet.</u>	<u>Clay Deplet.</u>	<u>Tex-ture</u>	<u>Structure</u>
	0-15 in	10YR 4/3		CMP 7.5YR 5/8				sil	
	15-30 in	10YR 5/2		CMP 7.5YR 5/8				sil	

Wetland determination forms can be found in Appendix 1.

Project Goal #2: The forested wetland plant community should meet standards for survival of planted species and overall floristic composition.

Performance Criteria:

Tree Density (live planted trees/acre for each tree species). Live trees were counted and species tallied for the entire site. At this site at least 644 live-planted trees are required each year. The sapling/shrub stage wetland trees which were planted at the sites include the following: pecan (*Carya illinoensis*, FACW), swamp white oak (*Quercus bicolor*, FACW+), and pin oak (*Quercus palustris*, FACW). The number of individuals per species is presented below. This site had 664 sapling/shrub stage trees present. This site meets the tree density project goal for 2008.

Floristic Composition. As stated previously, no single species should constitute more than 25% cover at the site. Also, native vegetation excluding weedy species should constitute 70% or more of the vegetative cover of the site. Site 1 meets the dominant vegetation species goal of 25% or less but does not meet the goal of 70% or greater native vegetation. Site 2 does not meet the dominant vegetation species goal of 25% or less but does meet the goal of 70% or greater native vegetation. Site 3 does not meet the dominant vegetation species goal of 25% or less and does not meet the goal of 70% or greater native vegetation because of weedy species. Site 4 does not meet the dominant vegetation species goal of 25% or less and does not meet the goal of 70% or greater native vegetation.

<u>Planted Species</u>	<u>Individuals</u>
<i>Carya illinoensis</i> (pecan)	167
<i>Quercus alba</i> (white oak) *	13
<i>Quercus bicolor</i> (swamp white oak)	171
<i>Quercus michauxii</i> (basket oak) *	8
<i>Quercus palustris</i> (pin oak)	<u>305</u>
	664 sapling/shrub stage trees/10.2 acre

* Planted but not on tree plant list.

Summary and Recommendations

Project Goal 1(Wetlands):

This wetland mitigation monitoring site is located on a floodplain just west of Harrisburg. A mitigation site assessment was performed back in 2006 (Marcum, *et al*). The following community types existed at that time: non-native grassland, native grassland (prairie plantings), shrubland, mesic floodplain forest, marsh, wet meadow, and wet shrubland. After clearing and reworking some of the site the following community types are now present: non-native grassland, wet meadows, marsh, and native grassland (prairie plantings). Project Goal 1 consists of obtaining 10.2 wetland acres at this site. There were small areas of dominant hydrophytic vegetation found throughout the site. Approximately three quarters of the site had either hydric soils or hydric soil features caused by the site preparation and soil disturbance. About three quarters of the site had at least 5% wetland hydrology and about a third of this site had 12.5% or greater wetland hydrology during the growing season. Water control structures were recently installed in the drainageway. If these control structures function correctly, there could be an increase of water onto the site. Total wetland acreage found after the initial site investigation in 2006 was 1.962 ha (4.852 acre) (Marcum, *et al*). Total wetland acreage found after the first year of monitoring (2008) this site was 0.704 ha (1.744 acre). Thus, there was a decrease in wetland acreage from the 2006 mitigation site assessment survey. Thus Project Goal 1, establishing 10.2 wetland acres, was not achieved this year (2008). Site disturbance to the soils and vegetation while preparing this site may have caused a decrease in wetland acreage. Over the next few years, as long as wetland hydrology is present, hopefully the site will recover supporting dominant hydrophytic vegetation. If this occurs, there should be an increase in wetland acreage. Note, however, that wetland Site 3 remains unchanged from before site construction.

Project Goal 2 (Tree Density and Floristic Composition):

Planted sapling/shrub stage trees overall survival was 92% (664/715). Site goal documentation suggests there should be a 90% tree survival by the end of a five-year monitoring period. While this goal has been met this year by 20 or so trees, we suggest additional trees should be planted in order to ensure that this goal continues to be met as many of the live trees present were in poor condition. Secondly, due to the lack of wetland acreage, most of the planted trees occur at this time in nonwetlands. Thus, there would be no or very little acreage that would qualify as a palustrine forested wetland. If the young floodplain forest area at the NW corner of the site was not removed, it could have provided a valuable seed source for the mitigation area. Species formerly present included red maple, green ash, sweet gum, pin oak, as well as many *Carex* and *Juncus* spp.

No single species should constitute more than 25% of the site. Only one site (Site 1, non-wetland) out of four achieved this goal. Native vegetation, excluding *Phragmites australis*, *Phalaris arundinacea*, *Typha* spp., and *Lythrum salicaria*, should cover at least 70% of the site. Three (Sites 1, 3, and 4) out of the four sites do not meet the goal of at least 70% native cover. Also no non-native or weedy species should be dominant in the wetland areas. Once again, only Site 2 meets this goal.

One of the main problems at this monitoring site has been the proliferation of *Phragmites australis*. During the field investigation in 2006, Site 3 was heavily incorporated with *Phragmites australis*. After revisiting and monitoring the site in 2008, *Phragmites australis* was still present in Site 3 and has spread throughout the drainageway that bisects the site. The Wetland Compensation Plan states that *Phragmites australis* should be sprayed three times a year by various organizations mentioned in the report. As far as we can tell, this management plan has not been executed. *Phragmites australis* will continued to spread if spraying isn't implemented.

Appendix 1:

Wetland Report for the Wetland Mitigation Monitoring Report for FAP 857 (IL 14), Fox River Bridge Replacement: Saline County, Illinois

Project Description:

This is a wetland survey conducted for a wetland mitigation-monitoring project (FAP 857, IL 14) for the impact caused by the proposed bridge replacement at the Fox River crossing on IL Route 14 in White County. The following sources were examined while surveying the project area to determine wetland locations and boundaries: United States Geological Survey topographic map and National Wetland Inventory (NWI) map (Harrisburg 7.5 minute quadrangle); *Soil Survey of Saline County, Illinois* (Miles, 1978); aerial photographs; *National List of Plant Species That Occur In Wetlands: Illinois*; the 1987 *Corps of Engineers Wetlands Delineation Manual*; and onsite vegetation, soils, topographic and hydrologic indicators. Four routine onsite wetland determinations were completed. Sites 2 and 3 satisfied the wetland criteria.

The Floristic Quality Index (FQI), developed by Swink and Wilhelm (1979) and modified by J. Taft, *et al*, 1997), was applied to the vegetation of each wetland. This index should not be used as a substitute for quantitative vegetation analysis in assessing plant communities, but it does provide a measure of the floristic integrity of each site. The FQI was calculated as follows: $I = R/\sqrt{N}$, where R represents the sum of the numerical ratings for all species native to Illinois recorded in the area, and N represents the number of recorded native species. The numerical rating for each species is shown in the species list for the site. The mean-rated quality also was determined by dividing the sum of numerical ratings for all native taxa by the number of recorded native taxa. FQI values of ten or less indicate low natural quality. Sites with FQI values of 20 or more (mean rated quality ≥ 3.0) possess some evidence of native character and may be considered environmental assets.

Wetland boundaries were recorded using a Trimble Global Positioning System. The locations of the determination sites were overlain on a digital orthoquad (DOQ), and approximate wetland acreages were determined for the site using ArcView 3.2. Printouts of the DOQ are included with this report.

Site 1: This non-native grassland is located north adjacent to the drainageway that bisects the site, south of an old railroad line, and east of St. Mary's Dr. Although this site had hydric soils and parts of this site had wetland hydrology, this site lacked dominant hydrophytic vegetation. Thus, we determined that this site is not a wetland. The NWI did not code this site as a wetland. The FQI is 18.2 and the mean-rated quality is 2.7. These values are indicative of an average natural quality.

Site 2: This site includes 12 wet meadow parcels that are scattered throughout the site with most of them occurring north of the drainageway and south of an old railroad line. Three areas occur south of the drainageway and north of IL 13. Dominant hydrophytic vegetation, hydric soils, and wetland hydrology are present; thus, this site meets the three criteria of a wetland. The NWI did not code this site as a wetland. This site functions as a floodwater storage area. The FQI is 19.6 and the mean-rated quality is 2.7. These values are indicative of an average natural quality. These wet meadows comprise approximately 0.379 ha (0.938 acre) in the project site.

Site 3: This marsh is located 24 m (80 ft) north of IL 13 at the southeast part of the site. Dominant hydrophytic vegetation, hydric soils, and wetland hydrology are present; thus, this site meets the three criteria of a wetland. The NWI did not code this site as a wetland. This site functions as a floodwater storage area. The FQI is 2.5 and the mean-rated quality is 16.7. These values are indicative of an average natural quality. This marsh comprises approximately 0.326 ha (0.806 acre) in the project site.

Site 4: This native grassland is located north adjacent to IL 13 and south adjacent to the drainageway that bisects the site. Although parts of this site had wetland hydrology, this site lacked dominant hydrophytic vegetation and hydric soils. Thus, we determined that this site is not a wetland. The NWI did not code this site as a wetland. The FQI is 21.3 and the mean-rated quality is 3.4. These values are indicative of a high natural quality and this site may be considered an environmental asset.

Stream Description and Characterization

One main drainageway is present within the mitigation site assessment area. This drainageway, an unnamed tributary to the West Harrisburg Ditch, flows from the southwest corner of the project area across the middle of the site and exits at the east edge of the project toward Harrisburg Site 1. This unnamed tributary, between 0.6 and 2.4 m (2 and 8 ft) wide, is straightened and channelized. Water was less than 0.3 m (1 ft) deep and had a slow to stagnant flow rate at the time of the field investigation. Drainageway substrate consisted of a silt-clay composition. A berm or a high bank is present on the north side of the drainageway preventing overflow in much of the project area. Water control structures were placed in the drainageway to produce overflow onto the site but this structures were not fully operational this year. This unnamed tributary drains into the Middle Fork of the Saline River approximately 5.6 km (3.5 mi) to the northeast. The Middle Fork of the Saline River then empties into the Saline River which flows into the Ohio River. The watershed area above the proposed mitigation site is approximately 3.9 km² (1.5 mi²). The USGS hydrologic unit code for this basin is 05140204 (Saline River).

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ROUTINE ON-SITE WETLAND DETERMINATION

Site 1 (page 1 of 5)

Field Investigators: Keene, Ketzner, Larimore , and Marcum

Date: 27-28 August 2008

Project Name: FAP 857 (IL 14)

State: Illinois **County:** Saline **Applicant:** IDOT District 9

Site Name: Non-native grassland

Legal Description: SW/4, Sec. 17 T. 9S., R. 6E.

Location: North adjacent to the drainageway that bisects the site, south of an old railroad line, and east of St. Mary's Dr.

Do normal environmental conditions exist at this site? Yes: X No:

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

Note: Soil surfaces were recently scraped in this area.

VEGETATION

Dominant Plant Species	Indicator Status	Stratum
1. <i>Agrostis alba</i>	FACW	herb
2. <i>Ambrosia artemisiifolia</i>	FACU	herb
3. <i>Lolium multiflorum</i>	UPL	herb
4. <i>Triticum aestivum</i>	UPL	herb

Percentage of dominant species that are OBL, FACW, FAC+, or FAC: 25%

Hydrophytic vegetation: Yes: No: X

Rationale: Less than 50% of the dominants are OBL, FACW, FAC+, or FAC.

SOILS

Series and phase: Undetermined (scraped soil)

On Saline County hydric soils list? Yes: No: Undet: X

Is the soil a histosol? Yes: No: X

Histic epipedon present? Yes: No: X

Redox concentrations: Yes: X No:

Redox depletions: Yes: No: X

Matrix color: 2.5Y 5/1 and 6/1

Other indicators: This soil is found in a low area.

Hydric soils: Yes: X No:

Rationale: This soil has a depleted matrix and iron masses. This soil meets the NRCS hydric soil indicator F3 (depleted matrix). Although this soil portrays hydric characteristics, there's no way to know if these characteristics are relic in nature due to the scraping of the site or a reflection of current wet conditions.

ROUTINE ON-SITE WETLAND DETERMINATION

Site 1 (page 2 of 5)

Field Investigators: Keene, Ketzner, Larimore , and Marcum

Date: 27-28 August 2008

Project Name: FAP 857 (IL 14)

State: Illinois **County:** Saline **Applicant:** IDOT District 9

Site Name: Non-native grassland

Legal Description: SW/4, Sec. 17 T. 9S., R. 6E.

Location: North adjacent to the drainageway that bisects the site, south of an old railroad line, and east of St. Mary's Dr.

HYDROLOGY

Inundated: Yes: No: X Depth of standing water: NA

Depth to saturated soil: > 1 m (40 in)

Overview of hydrological flow through the system: This site is hydrologically influenced by precipitation, sheet flow from any surrounding higher areas, and drainageway overflow. Water leaves the site via evapotranspiration, sheet flow to the drainageway, and groundwater recharge.

Size of watershed: Approximately 3.9 km² (1.5 mi²)

Other field evidence observed: Sparsely vegetated concave surface.

Wetland hydrology: Yes: X (in some areas) No:

Rationale: Well data collected by the ISGS substantiated that most of this site had greater than 5% wetland hydrology with part of the site having 12.5% wetland hydrology during the growing season this year (2008). The area having 12.5% or more wetland hydrology satisfies the wetland hydrology criteria.

DETERMINATION AND RATIONALE:

Is the site a wetland? Yes: No: X

Rationale for decision: Although this site had hydric soils and parts of this site had wetland hydrology, this site lacked dominant hydrophytic vegetation. Thus, we determined that this site is not a wetland. The NWI did not code this site as a wetland.

ROUTINE ON-SITE WETLAND DETERMINATION

Site 1 (page 3 of 5)

Field Investigators: Keene, Ketzner, Larimore , and Marcum

Date: 27-28 August 2008

Project Name: FAP 857 (IL 14)

State: Illinois **County:** Saline **Applicant:** IDOT District 9

Site Name: Non-native grassland

Legal Description: SW/4, Sec. 17 T. 9S., R. 6E.

Location: North adjacent to the drainageway that bisects the site, south of an old railroad line, and east of St. Mary's Dr.

SPECIES LIST

Scientific name	Common name	Stratum	Wetland indicator status	C♦
<i>Agalinis fasciculata</i>	false foxglove	herb	FACW	6
<i>Agrostis alba</i>	red top	herb	FACW	0
<i>Ambrosia artemisiifolia</i>	common ragweed	herb	FACU	0
<i>Ambrosia trifida</i>	giant ragweed	herb	FAC+	0
<i>Apocynum cannabinum</i>	dogbane	herb	FAC	2
<i>Avena fatua</i>	wild oats	herb	UPL	*
<i>Barbarea vulgaris</i>	winter cress	herb	FAC	*
<i>Bidens aristosa</i>	swamp marigold	herb	FACW	1
<i>Calystegia sepium</i>	American bindweed	herb	FAC	1
<i>Campsis radicans</i>	trumpet creeper	vine, herb	FAC	2
♣ <i>Carya illinoensis</i>	pecan	tree	FACW	6
<i>Chamaesyce maculata</i>	nodding spurge	herb	FACU-	0
<i>Cuscuta campestris</i>	dodder	vine	UPL	2
<i>Cyperus esculentus</i>	yellow nut-sedge	herb	FACW	0
<i>Cyperus strigosus</i>	straw-colored flatsedge	herb	FACW	0
<i>Desmodium canescens</i>	hoary tick trefoil	herb	UPL	4
<i>Digitaria sanguinalis</i>	hairy crab grass	herb	FACU	*
<i>Diodia virginiana</i>	large buttonweed	herb	FACW	4
<i>Diospyros virginiana</i>	persimmon	shrub	FAC	2
<i>Echinochloa muricata</i>	barnyard grass	herb	OBL	0
<i>Elaeagnus umbellata</i>	autumn olive	shrub	UPL	*
<i>Elymus canadensis</i>	Canada wild rye	herb	FAC-	4
<i>Eupatorium perfoliatum</i>	common boneset	herb	FACW+	4
<i>Eupatorium serotinum</i>	late boneset	herb	FAC+	1
<i>Euthamia graminifolia</i>	grassleaf goldenrod	herb	FACW-	3
<i>Festuca arundinacea</i>	tall fescue	herb	FACU+	*
<i>Fimbristylis autumnalis</i>	autumn sedge	herb	FACW+	6
<i>Hibiscus lasiocarpus</i>	hairy rose mallow	herb	FACW+	5
<i>Hypericum mutilum</i>	dwarf St. John's wort	herb	FACW	5
<i>Ipomoea hederacea</i>	ivy-leaved morning glory	herb	FAC	*
<i>Ipomoea lacunosa</i>	small white morning-glory	herb	FACW	1
<i>Iva annua</i>	marsh elder	herb	FAC	0

(species list continued on following page)

ROUTINE ON-SITE WETLAND DETERMINATION

Site 1 (page 4 of 5)

Field Investigators: Keene, Ketzner, Larimore , and Marcum

Date: 27-28 August 2008

Project Name: FAP 857 (IL 14)

State: Illinois **County:** Saline **Applicant:** IDOT District 9

Site Name: Non-native grassland

Legal Description: SW/4, Sec. 17 T. 9S., R. 6E.

Location: North adjacent to the drainageway that bisects the site, south of an old railroad line, and east of St. Mary's Dr.

SPECIES LIST (concluded)

Scientific name	Common name	Stratum	Wetland indicator status	C♦
<i>Juncus tenuis</i>	path rush	herb	FAC	0
<i>Liquidambar styraciflua</i>	sweet gum	shrub	FACW	6
<i>Lolium multiflorum</i>	Italian rye grass	herb	UPL	*
<i>Ludwigia alternifolia</i>	seedbox	herb	OBL	5
<i>Melilotus</i> sp.	sweet clover	herb	----	--
<i>Mollugo verticillata</i>	carpetweed	herb	FAC	*
<i>Morus alba</i>	white mulberry	herb	FAC	*
<i>Panicum implicatum</i>	old field panic grass	herb	FAC	2
<i>Panicum virgatum</i>	prairie switchgrass	herb	FAC+	4
<i>Phragmites australis</i>	common red reed	herb	FACW+	1
<i>Polygonum lapathifolium</i>	curttop lady's thumb	herb	FACW+	0
<i>Polygonum pensylvanicum</i>	giant smartweed	herb	FACW+	1
<i>Polygonum punctatum</i>	dotted smartweed	herb	OBL	3
<i>Pyrus calleryana</i>	ornamental pear	shrub	UPL	*
♣ <i>Quercus alba</i>	white oak	shrub	FACU	5
♣ <i>Quercus bicolor</i>	swamp white oak	shrub	FACW+	7
♣ <i>Quercus michauxii</i>	basket oak	shrub	FACW	7
♣ <i>Quercus palustris</i>	pin oak	shrub	FACW	4
♣ <i>Quercus shumardii</i>	Shumard's oak	shrub	FACW-	7
<i>Rubus discolor</i>	Himalaya-berry	shrub	UPL	*
<i>Rudbeckia hirta</i>	black-eyed Susan	herb	FACU	2
<i>Rumex crispus</i>	curly dock	herb	FAC+	*
<i>Setaria faberi</i>	giant foxtail	herb	FACU+	*
<i>Sida spinosa</i>	prickly sida	herb	FACU	*
<i>Solanum carolinense</i>	horse nettle	herb	FACU-	0
<i>Solidago canadensis</i>	Canada goldenrod	herb	FACU	1
<i>Sonchus asper</i>	prickly sowthistle	herb	FAC	*
<i>Trifolium hybridum</i>	Alsike clover	herb	FAC-	*
<i>Trifolium pratense</i>	red clover	herb	FACU+	*
<i>Triticum aestivum</i>	bearded wheat	herb	UPL	*
<i>Verbena hastata</i>	blue vervain	herb	FACW+	3
<i>Vernonia missurica</i>	Missouri ironweed	herb	FAC+	5

♦ Coefficient of Conservatism (Taft *et al.* 1997)

*Non-native species

mean C value (mCv) = $\sum C/N = 122/45 = 2.7$

FQI = $\sum C/\sqrt{N} = 122/\sqrt{45} = 18.2$

ROUTINE ON-SITE WETLAND DETERMINATION

Site 1 (page 5 of 5)

Field Investigators: Keene, Ketzner, Larimore , and Marcum**Date:** 27-28 August 2008**Project Name:** FAP 857 (IL 14)**State:** Illinois **County:** Saline **Applicant:** IDOT District 9**Site Name:** Non-native grassland**Legal Description:** SW/4, Sec. 17 T. 9S., R. 6E.**Location:** North adjacent to the drainageway that bisects the site, south of an old railroad line, and east of St. Mary's Dr.

Determined by: Dennis J. Keene (soils and hydrology)
David Ketzner, Rick Larimore, and Paul Marcum (vegetation and hydrology)
David Ketzner (GPS)
Illinois Natural History Survey
1816 South Oak St.
Champaign, IL 61820
(217) 244-0873 (Keene)

ROUTINE ON-SITE WETLAND DETERMINATION

Site 2 (page 2 of 5)

Field Investigators: Keene, Ketzner, Larimore , and Marcum

Date: 27-28 August 2008

Project Name: FAP 857 (IL 14)

State: Illinois **County:** Saline **Applicant:** IDOT District 9

Site Name: Wet meadows

Legal Description: SW/4, Sec. 17 T. 9S., R. 6E.

Location: This site includes 12 parcels that are scattered throughout the site with most of them occurring north of the drainageway and south of an old railroad line. Three areas occur south of the drainageway and north of IL 13.

HYDROLOGY

Inundated: Yes: No: X Depth of standing water: NA

Depth to saturated soil: > 1 m (40 in)

Overview of hydrological flow through the system: This site is hydrologically influenced by precipitation, sheet flow from higher surrounding areas, and drainageway overflow.

Water leaves the site via evapotranspiration, sheet flow to the drainageway, and groundwater recharge.

Size of watershed: Approximately 3.9 km² (1.5 mi²)

Other field evidence observed: Some sparsely vegetated concave surface areas.

Wetland hydrology: Yes: X No:

Rationale: Well data collected by the ISGS substantiated that this site had greater than 5% wetland hydrology and some areas had more than 12.5% wetland hydrology during the growing season this year (2008). Thus, this site meets the criteria for wetland hydrology.

DETERMINATION AND RATIONALE:

Is the site a wetland? Yes: X No:

Rationale for decision: Based on the presence of dominant hydrophytic vegetation, hydric soils, and wetland hydrology, we determined that this site is a wetland. The NWI did not code this site as a wetland.

ROUTINE ON-SITE WETLAND DETERMINATION

Site 2 (page 3 of 5)

Field Investigators: Keene, Ketzner, Larimore , and Marcum

Date: 27-28 August 2008

Project Name: FAP 857 (IL 14)

State: Illinois **County:** Saline **Applicant:** IDOT District 9

Site Name: Wet meadows

Legal Description: SW/4, Sec. 17 T. 9S., R. 6E.

Location: This site includes 12 parcels that are scattered throughout the site with most of them occurring north of the drainageway and south of an old railroad line.

Three areas occur south of the drainageway and north of IL 13.

SPECIES LIST

Scientific name	Common name	Stratum	Wetland indicator status	C ♦
<i>Acer saccharinum</i>	silver maple	herb	FACW	1
<i>Agrostis alba</i>	red top	herb	FACW	0
<i>Ammannia coccinea</i>	long-leaved ammannia	herb	OBL	5
<i>Andropogon virginicus</i>	broom sedge	herb	FAC-	1
<i>Asclepias incarnata</i>	swamp milkweed	herb	OBL	4
<i>Aster ontarionis</i>	Ontario aster	herb	FAC	4
<i>Aster vimineus</i>	frost flower	herb	FACW-	3
<i>Bidens aristosa</i>	swamp marigold	herb	FACW	1
<i>Campsis radicans</i>	trumpet creeper	herb	FAC	2
<i>Carex tribuloides</i>	awl-fruited oval sedge	herb	FACW+	3
<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>Digitaria ischaemum</i>	smooth crab grass	herb	FACU	*
<i>Echinochloa muricata</i>	barnyard grass	herb	OBL	0
<i>Eclipta prostrata</i>	yerba de tajo	herb	FACW	2
<i>Eleocharis obtusa</i>	blunt spike rush	herb	OBL	2
<i>Eupatorium serotinum</i>	late boneset	herb	FAC+	1
<i>Euthamia graminifolia</i>	grassleaf goldenrod	herb	FACW-	3
<i>Festuca arundinacea</i>	tall fescue	herb	FACU+	*
<i>Fimbristylis autumnalis</i>	autumn sedge	herb	FACW+	6
<i>Fraxinus pennsylvanica</i>	green ash	herb	FACW	2
<i>Gratiola neglecta</i>	clammy hedge hyssop	herb	OBL	5
<i>Hypericum mutilum</i>	dwarf St. John's wort	herb	FACW	5
<i>Ipomoea lacunosa</i>	small white morning-glory	herb	FACW	1
<i>Iva annua</i>	marsh elder	herb	FAC	0
<i>Juncus acuminatus</i>	knotty-leaved rush	herb	OBL	4
<i>Juncus brachycarpus</i>	rush	herb	FACW	5
<i>Juncus effusus solutus</i>	common rush	herb	OBL	4
<i>Juncus marginatus</i>	grass-leaved rush	herb	FACW	5
<i>Juncus secundus</i>	rush	herb	FAC-	6

(species list continued on following page)

ROUTINE ON-SITE WETLAND DETERMINATION

Site 2 (page 4 of 5)

Field Investigators: Keene, Ketzner, Larimore , and Marcum

Date: 27-28 August 2008

Project Name: FAP 857 (IL 14)

State: Illinois **County:** Saline **Applicant:** IDOT District 9

Site Name: Wet meadows

Legal Description: SW/4, Sec. 17 T. 9S., R. 6E.

Location: This site includes 12 parcels that are scattered throughout the site with most of them occurring north of the drainageway and south of an old railroad line. Three areas occur south of the drainageway and north of IL 13.

SPECIES LIST (concluded)

Scientific name	Common name	Stratum	Wetland indicator status	C♦
<i>Leersia oryzoides</i>	rice cutgrass	herb	OBL	3
<i>Lindernia dubia anagallidea</i>	slender false pimpernel	herb	OBL	5
<i>Ludwigia alternifolia</i>	seedbox	herb	OBL	5
<i>Ludwigia palustris americana</i>	marsh purslane	herb	OBL	4
<i>Ludwigia polycarpa</i>	false loosestrife	herb	OBL	5
<i>Mimulus alatus</i>	winged monkey flower	herb	OBL	6
<i>Mollugo verticillata</i>	carpetweed	herb	FAC	*
<i>Oenothera biennis</i>	evening primrose	herb	FACU	1
<i>Panicum clandestinum</i>	deer-tongue grass	herb	FACW	4
<i>Panicum dichotomiflorum</i>	fall panicum	herb	FACW-	0
<i>Panicum implicatum</i>	old field panic grass	herb	FAC	2
<i>Panicum virgatum</i>	prairie switchgrass	herb	FAC+	4
<i>Paspalum laeve</i>	smooth lens grass	herb	UPL	2
<i>Penthorum sedoides</i>	ditch stonecrop	herb	OBL	2
<i>Phyla lanceolata</i>	fog-fruit	herb	OBL	1
<i>Polygonum cespitosum</i>	creeping smartweed	herb	UPL	*
<i>Polygonum lapathifolium</i>	curttop lady's thumb	herb	FACW+	0
<i>Polygonum pensylvanicum</i>	giant smartweed	herb	FACW+	1
<i>Polygonum punctatum</i>	dotted smartweed	herb	OBL	3
<i>Populus deltoides</i>	eastern cottonwood	herb	FAC+	2
<i>Rotala ramosior</i>	tooth-cup	herb	OBL	4
<i>Rumex crispus</i>	curly dock	herb	FAC+	*
<i>Salix nigra</i>	black willow	shrub	OBL	3
<i>Scirpus mucronatus</i>	pointed rush	herb	OBL	*
<i>Setaria faberi</i>	giant foxtail	herb	FACU+	*
<i>Setaria glauca</i>	pigeon grass	herb	FAC	*
<i>Sida spinosa</i>	prickly sida	herb	FACU	*
<i>Trifolium hybridum</i>	alsike clover	herb	FAC-	*
<i>Typha latifolia</i>	cattail	herb	OBL	1
<i>Verbena hastata</i>	blue vervain	herb	FACW+	3
<i>Verbena urticifolia</i>	white vervain	herb	FAC+	3

♦ Coefficient of Conservatism (Taft *et al.* 1997)

*Non-native species

mean C value (mCv) = $\sum C/N = 141/52 = 2.7$

FQI = $\sum C/\sqrt{N} = 141/\sqrt{52} = 19.6$

ROUTINE ON-SITE WETLAND DETERMINATION

Site 2 (page 5 of 5)

Field Investigators: Keene, Ketzner, Larimore , and Marcum**Date:** 27-28 August 2008**Project Name:** FAP 857 (IL 14)**State:** Illinois **County:** Saline **Applicant:** IDOT District 9**Site Name:** Wet meadows**Legal Description:** SW/4, Sec. 17 T. 9S., R. 6E.**Location:** This site includes 12 parcels that are scattered throughout the site with most of them occurring north of the drainageway and south of an old railroad line. Three areas occur south of the drainageway and north of IL 13.

Determined by: Dennis J. Keene (soils and hydrology)
David Ketzner, Rick Larimore, and Paul Marcum (vegetation and hydrology)
David Ketzner (GPS)
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1816 South Oak St.
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ROUTINE ON-SITE WETLAND DETERMINATION

Site 3 (page 2 of 4)

Field Investigators: Keene, Ketzner, Larimore , and Marcum
Date: 27-28 August 2008
Project Name: FAP 857 (IL 14)
State: Illinois **County:** Saline **Applicant:** IDOT District 9
Site Name: Marsh
Legal Description: SW/4, Sec. 17 T. 9S., R. 6E.
Location: 24 m (80 ft) north of IL 13 at the southeast part of the site

HYDROLOGY

Inundated: Yes: No: X Depth of standing water: NA

Depth to saturated soil: > 1 m (40 in)

Overview of hydrological flow through the system: This site is hydrologically influenced by groundwater, precipitation, sheet flow from any surrounding higher areas, and drainageway overflow. Water leaves the site via evapotranspiration, sheet flow to the drainageway, and groundwater recharge.

Size of watershed: Approximately 3.9 km² (1.5 mi²)

Other field evidence observed: This site is found in a depressional area.

Wetland hydrology: Yes: X No:

Rationale: Well data collected by the ISGS substantiated that this site had greater than 12.5% wetland hydrology during the growing season this year (2008). This data satisfies the wetland hydrology criteria.

DETERMINATION AND RATIONALE:

Is the site a wetland? Yes: X No:
Rationale for decision: Based on the presence of dominant hydrophytic vegetation, hydric soils, and wetland hydrology, we determined that this site is a wetland. The NWI did not code this site as a wetland.

ROUTINE ON-SITE WETLAND DETERMINATION

Site 3 (page 3 of 4)

Field Investigators: Keene, Ketzner, Larimore , and Marcum

Date: 27-28 August 2008

Project Name: FAP 857 (IL 14)

State: Illinois **County:** Saline **Applicant:** IDOT District 9

Site Name: Marsh

Legal Description: SW/4, Sec. 17 T. 9S., R. 6E.

Location: 24 m (80 ft) north of IL 13 at the southeast part of the site

SPECIES LIST

Scientific name	Common name	Stratum	Wetland indicator status	C ♦
<i>Ambrosia artemisiifolia</i>	common ragweed	herb	FACU	0
<i>Ambrosia trifida</i>	giant ragweed	herb	FAC+	0
<i>Andropogon virginicus</i>	broom sedge	herb	FAC-	1
<i>Apocynum cannabinum</i>	dogbane	herb	FAC	2
<i>Asclepias incarnata</i>	swamp milkweed	herb	OBL	4
<i>Aster simplex</i>	panicked aster	herb	FACW	3
<i>Bidens aristosa</i>	swamp marigold	herb	FACW	1
<i>Bidens frondosa</i>	common beggar's ticks	herb	FACW	1
<i>Campsis radicans</i>	trumpet creeper	herb	FAC	2
<i>Carex annectens</i>	large yellow fox sedge	herb	FACW	3
<i>Carex aureolensis</i>	sedge	herb	OBL	4
<i>Carex tribuloides</i>	awl-fruited oval sedge	herb	FACW+	3
<i>Carex vulpinoidea</i>	fox sedge	herb	OBL	3
<i>Cicuta maculata</i>	water hemlock	herb	OBL	4
<i>Cyperus esculentus</i>	yellow nut-sedge	herb	FACW	0
<i>Cyperus pseudovegetus</i>	false green flatsedge	herb	FACW	5
<i>Cyperus strigosus</i>	straw-colored flatsedge	herb	FACW	0
<i>Diodia virginiana</i>	large buttonweed	herb	FACW	4
<i>Echinochloa muricata</i>	barnyard grass	herb	OBL	0
<i>Eclipta prostrata</i>	yerba de tajo	herb	FACW	2
<i>Eupatorium perfoliatum</i>	common boneset	herb	FACW+	4
<i>Eupatorium serotinum</i>	late boneset	herb	FAC+	1
<i>Euthamia graminifolia</i>	grassleaf goldenrod	herb	FACW-	3
<i>Festuca arundinacea</i>	tall fescue	herb	FACU+	*
<i>Fraxinus pennsylvanica</i>	green ash	shrub, herb	FACW	2
<i>Gleditsia triacanthos</i>	honey locust	shrub	FAC	2
<i>Hibiscus lasiocarpus</i>	hairy rose mallow	herb	FACW+	5
<i>Ipomoea lacunosa</i>	small white morning-glory	herb	FACW	1
<i>Iva annua</i>	marsh elder	herb	FAC	0
<i>Juncus brachycarpus</i>	rush	herb	FACW	5
<i>Juncus effusus solutus</i>	common rush	herb	OBL	4
<i>Juncus marginatus</i>	grass-leaved rush	herb	FACW	5

(species list continued on following page)

ROUTINE ON-SITE WETLAND DETERMINATION

Site 3 (page 4 of 4)

Field Investigators: Keene, Ketzner, Larimore, and Marcum

Date: 27-28 August 2008

Project Name: FAP 857 (IL 14)

State: Illinois **County:** Saline **Applicant:** IDOT District 9

Site Name: Marsh

Legal Description: SW/4, Sec. 17 T. 9S., R. 6E.

Location: 24 m (80 ft) north of IL 13 at the southeast part of the site

SPECIES LIST (concluded)

Scientific name	Common name	Stratum	Wetland indicator status	C♦
<i>Juncus secundus</i>	rush	herb	FAC-	6
<i>Leersia oryzoides</i>	rice cutgrass	herb	OBL	3
<i>Lycopus americanus</i>	common water horehound	herb	OBL	3
<i>Panicum virgatum</i>	prairie switchgrass	herb	FAC+	4
<i>Paspalum laeve</i>	smooth lens grass	herb	UPL	2
<i>Phragmites australis</i>	common red reed	herb	FACW+	1
<i>Phyla lanceolata</i>	fog-fruit	herb	OBL	1
<i>Polygonum hydropiperoides</i>	mild water pepper	herb	OBL	4
<i>Populus deltoides</i>	eastern cottonwood	shrub	FAC+	2
<i>Rumex crispus</i>	curly dock	herb	FAC+	*
<i>Scirpus atrovirens</i>	dark green bulrush	herb	OBL	4
<i>Setaria glauca</i>	pigeon grass	herb	FAC	*
<i>Solidago canadensis</i>	Canada goldenrod	herb	FACU	1
<i>Toxicodendron radicans</i>	poison ivy	herb	FAC+	1
<i>Typha angustifolia</i>	narrow-leaved cattail	herb	OBL	*
<i>Verbena hastata</i>	blue vervain	herb	FACW+	3
<i>Vernonia gigantea</i>	tall iron weed	herb	FAC	4
<i>Xanthium strumarium</i>	cocklebur	herb	FAC	0

♦ Coefficient of Conservatism (Taft *et al.* 1997)

mean C value (mCv) = $\sum C/N = 113/46 = 2.5$

*Non-native species

FQI = $\sum C/\sqrt{N} = 113/\sqrt{46} = 16.7$

Determined by: Dennis J. Keene (soils and hydrology)
 David Ketzner, Rick Larimore, and Paul Marcum (vegetation and hydrology)
 David Ketzner (GPS)
 Illinois Natural History Survey
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 Champaign, IL 61820
 (217) 244-0873 (Keene)

ROUTINE ON-SITE WETLAND DETERMINATION

Site 4 (page 3 of 5)

Field Investigators: Keene, Ketzner, Larimore , and Marcum

Date: 27-28 August 2008

Project Name: FAP 857 (IL 14)

State: Illinois **County:** Saline **Applicant:** IDOT District 9

Site Name: Native grassland

Legal Description: SW/4, Sec. 17 T. 9S., R. 6E.

Location: An area north adjacent to IL 13 and south adjacent to the drainageway that bisects the site.

SPECIES LIST

Scientific name	Common name	Stratum	Wetland indicator status	C ♦
<i>Agrostis hyemalis</i>	hair grass	herb	FAC-	1
<i>Allium sativum</i>	garlic	herb	UPL	*
<i>Andropogon gerardii</i>	big bluestem	herb	FAC-	5
<i>Asclepias incarnata</i>	swamp milkweed	herb	OBL	4
<i>Asclepias tuberosa interior</i>	butterflyweed	herb	UPL	5
<i>Aster novae-angliae</i>	New England aster	herb	FACW	4
<i>Aster pilosus</i>	hairy aster	herb	FACU+	0
<i>Carex aureolensis</i>	sedge	herb	OBL	4
<i>Carex brevior</i>	fescue sedge	herb	FAC	4
♣ <i>Carya illinoensis</i>	pecan	tree	FACW	6
<i>Coreopsis grandiflora</i>	large-flowered coreopsis	herb	UPL	*
<i>Coreopsis tinctoria</i>	golden coreopsis	herb	FAC-	*
<i>Cosmos bipinnatus</i>	common cosmos	herb	FACW-	*
<i>Cyperus acuminatus</i>	taperleaf flat sedge	herb	OBL	2
<i>Cyperus ovularis</i>	hedgehog club rush	herb	FAC	2
<i>Desmodium canadense</i>	showy tick trefoil	herb	FAC-	5
<i>Dianthus armeria</i>	Deptford pink	herb	UPL	*
<i>Diodia teres</i>	poor Joe	herb	FACU	2
<i>Diodia virginiana</i>	large buttonweed	herb	FACW	4
<i>Echinacea purpurea</i>	broad-leaved purple coneflower	herb	UPL	6
<i>Eragrostis spectabilis</i>	purple love grass	herb	UPL	3
<i>Erigeron annuus</i>	annual fleabane	herb	FAC-	1
<i>Eupatorium coelestinum</i>	blue bonset	herb	FAC+	3
<i>Eupatorium serotinum</i>	late boneset	herb	FAC+	1
<i>Festuca arundinacea</i>	tall fescue	herb	FACU+	*
<i>Gnaphalium obtusifolium</i>	catfoot	herb	UPL	2
<i>Hypericum mutilum</i>	dwarf St. John's wort	herb	FACW	5
<i>Hypericum punctatum</i>	spotted St. Johns-wort	herb	FAC+	3
<i>Juncus interior</i>	inland rush	herb	FAC+	3

(species list continued on following page)

ROUTINE ON-SITE WETLAND DETERMINATION

Site 4 (page 4 of 5)

Field Investigators: Keene, Ketzner, Larimore , and Marcum

Date: 27-28 August 2008

Project Name: FAP 857 (IL 14)

State: Illinois **County:** Saline **Applicant:** IDOT District 9

Site Name: Native grassland

Legal Description: SW/4, Sec. 17 T. 9S., R. 6E.

Location: An area north adjacent to IL 13 and south adjacent to the drainageway that bisects the site.

SPECIES LIST (concluded)

Scientific name	Common name	Stratum	Wetland indicator status	C♦
<i>Juncus tenuis</i>	path rush	herb	FAC	0
<i>Lespedeza cuneata</i>	sericea lespedeza	herb	NI	*
<i>Melilotus alba</i>	white sweet clover	herb	FACU	*
<i>Monarda fistulosa</i>	wild bergamot	herb	FACU	4
<i>Panicum implicatum</i>	old field panic grass	herb	FAC	2
<i>Panicum virgatum</i>	prairie switchgrass	herb	FAC+	4
<i>Paspalum laeve</i>	smooth lens grass	herb	UPL	2
<i>Plantago rugelii</i>	red-stalked plantain	herb	FAC	0
<i>Plantago virginica</i>	dwarf plantain	herb	FACU-	3
<i>Poa pratensis</i>	Kentucky bluegrass	herb	FAC-	*
<i>Prunella vulgaris</i>	self-heal	herb	FAC	*
<i>Pycnanthemum tenuifolium</i>	slender mountain mint	herb	FAC	4
♣ <i>Quercus bicolor</i>	swamp white oak	shrub	FACW+	7
♣ <i>Quercus palustris</i>	pin oak	shrub	FACW	4
♣ <i>Quercus shumardii</i>	Shumard's oak	shrub	FACW-	7
<i>Ratibida pinnata</i>	drooping coneflower	herb	UPL	4
<i>Rumex crispus</i>	curly dock	herb	FAC+	*
<i>Schizachyrium scoparium</i>	little bluestem	herb	FACU-	5
<i>Setaria geniculata</i>	perennial foxtail	herb	FAC	6
<i>Solidago canadensis</i>	Canada goldenrod	herb	FACU	1
<i>Solidago nemoralis</i>	dyersweed goldenrod	herb	UPL	3
<i>Solidago rigida</i>	rigid goldenrod	herb	FACU-	4
<i>Sorghum halepense</i>	Johnson grass	herb	FACU	*
<i>Trifolium campestre</i>	low hop clover	herb	UPL	*
<i>Trifolium hybridum</i>	alsike clover	herb	FAC-	*
<i>Trifolium pratense</i>	red clover	herb	FACU+	*

♦ Coefficient of Conservatism (Taft *et al.* 1997)

*Non-native species

mean C value (mCv) = $\sum C/N = 135/40 = 3.4$

FQI = $\sum C/\sqrt{N} = 135/\sqrt{40} = 21.3$

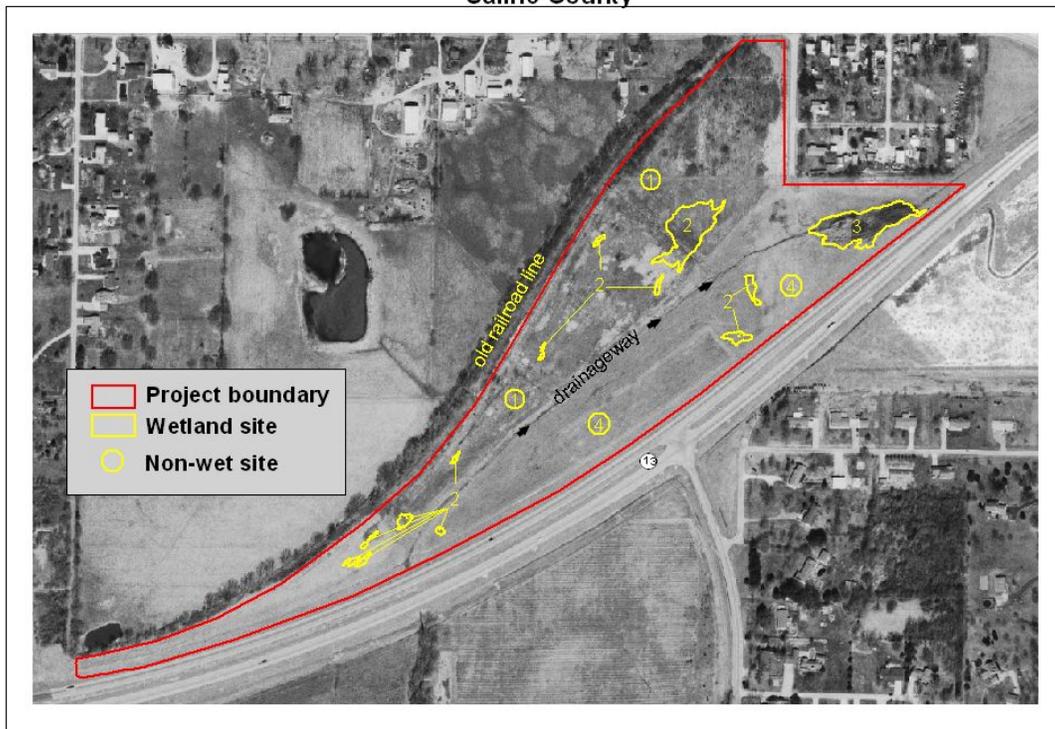
ROUTINE ON-SITE WETLAND DETERMINATION

Site 4 (page 5 of 5)

Field Investigators: Keene, Ketzner, Larimore , and Marcum**Date:** 27-28 August 2008**Project Name:** FAP 857 (IL 14)**State:** Illinois **County:** Saline **Applicant:** IDOT District 9**Site Name:** Native grassland**Legal Description:** SW/4, Sec. 17 T. 9S., R. 6E.**Location:** An area north adjacent to IL 13 and south adjacent to the drainageway that bisects the site.

Determined by: Dennis J. Keene (soils and hydrology)
David Ketzner, Rick Larimore, and Paul Marcum (vegetation and hydrology)
David Ketzner (GPS)
Illinois Natural History Survey
1816 South Oak St.
Champaign, IL 61820
(217) 244-0873 (Keene)

FAP 857, IL Route 14
Mitigation Site Monitoring
Saline County



0 400 800 Feet

scale 1:4800
1 inch=400 ft

0 100 200 Meters



01/09

Soil map coming soon to a theater near you

Appendix 2:
Wetland Mitigation Monitoring Photos for
FAS 857 (IL 14)



Site 1, facing east



Photo of Site 2 (wetland), facing east



Photo of site 3 (wetland)



Photo of drainageway with spreading Phragmites