

## Mitigation Site Assessment

To: Charles Perino  
From: Allen Plocher, Dennis Keene  
Date: 5 June 2000  
Re: Mitigation Site Assessment

Tiernan Property  
St. Clair County

Date Investigated: 17 March 2000

### Site Description

A wetland mitigation site assessment was carried out on a 26.3 ha (65 acre) tract near Cahokia, IL in St. Clair Co. (Legal location: T 1 N, R 10 W, Sect. 10, W/2 NE/4, E/2, NW/4). The site occurs on the Mississippi River floodplain and the presettlement environment consisted of mesic and hydric floodplain forests, wet shrublands, marshes and backwater ponds and sloughs. The surrounding land use is primarily cropland and developed land. The tract itself is a wet agricultural field to the north; marsh, floodplain forest and wet shrubland to the south, with a large drainage ditch to the east and north.

### Hydrology

The hydrologic inputs at this site are backflow from the Mississippi River, ditch overflow, precipitation and runoff from adjacent uplands. Water leaves the site by evapotranspiration, sheetflow to the south and ditchflow via Harding Ditch. Backflow from the Mississippi deposits sediment on the site. During periods of exceptionally high water, sediment may be carried offsite. The following hydrologic alterations are currently in effect: 1. Ditch/culvert system leads into a large canal to the south. 2. Levees separate the site from Harding Ditch and the Mississippi River. The topography of the site is level and elevation is 123 m (405 ft). The water table was at a depth of >1 m (40 in). The site has water at or near the surface for at least two weeks during the growing season. The Mississippi has a watershed greater than 25,920 km<sup>2</sup> (10,000 mi<sup>2</sup>). Its hydrologic basin unit code is 07140101, Mississippi River, Upper.

### Soils

The St. Clair Co. Soil Survey shows Darwin silty clay and Borrow Pit mapped at this site. Cores were taken in the project area and Karnak silty clay, poorly drained, was determined to be present on most of the site. A portion of the site is underlain by soil disturbed by excavation (probably previously Karnak). This soil exhibits slow to very slow permeability. The potential for occasional flooding exists. Karnak is a floodplain soil formed in silty clay alluvium under forest conditions and is a hydric soil.

### Vegetation

The community types found on this tract are marsh, floodplain forest, wet shrubland, and ditchbank (Table 1). The northern half of the site was cropped with soybean in 1999.

### Natural Areas

Little natural land occurs within 16 km (10 miles) of the site. Stemler Cave Woods, a 49 ha (120 acre) xeric upland forest, is the nearest Nature Preserve, located 11.3 km (7 mi) southeast of the site.

**Table 1. Plant Communities within the Project Area**

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A. Marsh (southern 1/2 of tract)

Dominant Species

Understory- *Typha angustifolia*, *Leersia oryzoides*, *Carex lacustris*

B. Floodplain Forest (southern portion of tract)

Dominant Species

Overstory- *Populus deltoides*  
Shrub- *Acer saccharinum*  
Understory- *Aster simplex*, *Carex* sp.

C. Wet Shrubland (southern 1/4 of tract)

Dominant Species

Sapling- *Salix exigua*  
Shrub- *Salix exigua*  
Understory- *Phalaris arundinacea*, *Polygonum pensylvanicum*

D. Ditchbank (northern and eastern portion of tract)

Dominant Species

Understory- *Apocynum sibiricum*, *Solidago canadensis*, *Polygonum pensylvanicum*  
*Scirpus fluviatilis*, *Carex lacustris*

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**Wetland Assessment**

The following sources were examined while surveying the project area to determine wetland locations and boundaries: United States Geologic Survey topographic map and National Wetland Inventory map (Cahokia 7.5 minute quadrangle); Soil Survey of St. Clair Co.; aerial photographs; *National List of Plant Species That Occur in Wetlands*; *The 1987 Corps of Engineers Wetland Delineation Manual*; and on-site vegetation, soil, and hydrologic indicators. Three of the five sites investigated meet the criteria of a wetland. Results of these determinations are summarized on the following pages and are described in more detail on the accompanying forms.

The Floristic Quality Index (FQI), Developed by Taft, Ladd, Wilhelm and Masters (Erigenia 1997), was not applied to the vegetation since the survey was conducted outside the growing season.

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Site 1: This cropland occupies the northern half of the tract. The site was unvegetated at the time of the survey. Hydric soils are present, but there is no clear evidence of wetland hydrology. The NRCS classifies the site as Prior Converted Wetland (PC). Therefore the site is not a wetland. Hydrologic inputs are precipitation, runoff from surrounding uplands,

and ditch overflow. Water leaves by evapotranspiration, sheetflow and ditchflow. The site occupies 17.8 ha (44 acres) and is uncoded by the NWI.

Site 2: This marsh occurs in the southern half of the tract. Hydrophytic vegetation, hydric soils and wetland hydrology are present. Therefore the site is a wetland. Hydrologic inputs are precipitation, runoff from surrounding uplands and ditch overflow. Water leaves by evapotranspiration and sheetflow. The site occupies 4.8 ha (11.8 acres). The NWI codes the site as PEMC (palustrine, emergent, seasonally flooded).

Site 3: This floodplain forest occurs in several areas in the southern half of the tract. Hydrophytic vegetation, hydric soils and wetland hydrology are present. Therefore the site is a wetland. Hydrologic inputs are precipitation, runoff from surrounding uplands and ditch overflow. Water leaves by evapotranspiration, sheetflow and ditchflow. This site appears to have been shallowly excavated. The site is 2.5 ha (6.1 acres). The NWI codes the site as PEMC (palustrine, emergent, seasonally flooded).

Site 4: This wet shrubland occurs in the southern quarter of the tract. Hydrophytic vegetation, hydric soils and wetland hydrology are present. Therefore the site is a wetland. Hydrologic inputs are precipitation, runoff from surrounding uplands and ditch overflow. Water leaves by evapotranspiration and sheetflow. This site appears to have been shallowly excavated. The site is 0.61 ha (1.5 acres). The NWI codes the site as PEMC (palustrine, emergent, seasonally flooded).

Site 5: This ditchbank occurs in the northern and eastern portions of the tract. Although hydrophytic vegetation and hydric soils are present, the site lacks wetland hydrology. Therefore the site is not a wetland. Hydrologic inputs are precipitation, runoff from surrounding uplands and ditch overflow. Water leaves by evapotranspiration, sheetflow and ditchflow. The site occupies 0.73 ha (1.8 acres) and is uncoded by the NWI. The NRCS codes the site as prior converted (PC).

### **Wildlife Use and Habitat for Threatened and Endangered Species**

This tract provides habitat for waterfowl, fish, and aquatic mammals and herptiles. The marsh and floodplain forest may provide suitable foraging and nesting habitat for the great egret (*Casmerodius albus*), snowy egret (*Egretta thula*), black crowned night heron (*Nycticorax nycticorax*), yellow crowned night heron (*Nyctanassa violacea*), little blue heron (*Egretta caerulea*) and moorhen (*Gallinula chloropus*), which are known to occur in St. Clair County. The snowy egret, black crowned night heron and little blue heron are endangered in Illinois. The great egret, moorhen and yellow crowned night heron are threatened in Illinois. Although no threatened or endangered plant species were located, the federally threatened *Boltonia decurrens* may occur at this site.

### **Potential for Wetland Creation or Restoration**

The northern half of this site is a wet agricultural field. The NRCS classifies the area as prior converted wetland. A large canal borders the site. If left alone, this field will certainly become floodplain forest, possibly with marsh openings. Blocking the culverts and impeding the canal flow might be helpful. Plantings of *Quercus palustris*, *Q. bicolor*, *Carya illinoensis* and *C. cordiformis* might do well and would benefit wildlife.

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**Appendix 1: Wetland Determinations  
and Species Lists**

**ROUTINE ON-SITE WETLAND DETERMINATION**

Site 1 (page 1 of 2)

**Field Investigators:** Plocher, Keene      **Date:** 17 March 2000  
**Sect. No.:** P98-088-91      **Project Name:** FAP 999 (Mississippi R. Bridge)  
**State:** Illinois      **County:** St. Clair      **Applicant:** IDOT District 8  
**Site Name:** Cropland  
**Legal Description:** T. 1 N., R. 10 W., Sect. 10, N/2 NE/4, NE/4 NW/4  
**Location:** Northern half of tract

Do normal environmental conditions exist at this site?      Yes: X      No:  
Has the vegetation, soil, or hydrology been significantly disturbed?      Yes: X\*      No:  
\* This site is plowed and cropped annually.

**VEGETATION**

<b>Dominant Plant Species</b>	<b>Stratum</b>	<b>Indicator Status</b>
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None

Percent of dominant species that are OBL, FACW, FAC+, or FAC: 0%

**Hydrophytic vegetation:** Yes:      No: X  
**Rationale:** The site is unvegetated.

**SOILS**

Series and phase: Karnak silty clay  
On St. Clair County hydric soils list?      Yes: X      No:  
Is the soil a histosol?      Yes:      No: X      Histic epipedon present?      Yes:      No: X  
Redox concentrations:      Yes: X      No:      Redox depletions:      Yes: X      No:  
Matrix color: 5Y 5/1  
Other indicators: This soil is found in a level to depressional area on a floodplain.

**Hydric soils:** Yes: X      No:  
**Rationale:** Karnak silty clay meets the requirements of the Natural Resource Conservation Service hydric soil indicator F3, depleted matrix.

## ROUTINE ON-SITE WETLAND DETERMINATION

Site 1 (page 2 of 2)

**Field Investigators:** Plocher, Keene      **Date:** 17 March 2000  
**Sect. No.:** P98-088-91      **Project Name:** FAP 999 (Mississippi R. Bridge)  
**State:** Illinois      **County:** St. Clair      **Applicant:** IDOT District 8  
**Site Name:** Cropland  
**Legal Description:** T. 1 N., R. 10 W., Sect. 10, N/2 NE/4, NE/4 NW/4  
**Location:** Northern half of tract

### HYDROLOGY

Inundated: Yes:      No: X      Depth of standing water: NA  
Depth to saturated soil: 1.2 m (48 inches)  
Overview of hydrological flow through the system: Primary hydrologic inputs to this site are precipitation, runoff from the surrounding uplands and occasional ditch overflow. Evapotranspiration, sheetflow and ditchflow are the major outputs.  
Size of watershed: < 2.59 km<sup>2</sup> (1 mi<sup>2</sup>)  
Other field evidence observed: This site is level to depressional.  
**Wetland hydrology:** Yes:      No:      Undet.: X  
**Rationale:** This site is level to depressional. It is unclear whether the site is flooded or saturated for a sufficient period during the growing season to meet the criterion of wetland hydrology.

### WETLAND DETERMINATION AND RATIONALE:

**Is the site a wetland?:** Yes:      No: X  
**Rationale:** The site is unvegetated. Hydric soils are present. The presence of wetland hydrology is undetermined. The site is not coded by the NWI. The NRCS codes this site as PC (prior converted). Therefore the site is not a wetland.

Determined by: Allen Plocher (vegetation and hydrology)  
Dennis Keene (soils and hydrology)  
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**ROUTINE ON-SITE WETLAND DETERMINATION**  
Site 2 (page 1 of 3)

**Field Investigators:** Plocher, Keene      **Date:** 17 March 2000  
**Sect. No.:** P98-088-91      **Project Name:** FAP 999 (Mississippi R. Bridge)  
**State:** Illinois      **County:** St. Clair      **Applicant:** IDOT District 8  
**Site Name:** Marsh  
**Legal Description:** T. 1 N., R. 10 W., Sect. 10, SW/4 NE/4, SE/4 NW/4  
**Location:** Southern half of tract

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

**VEGETATION**

<b>Dominant Plant Species</b>	<b>Stratum</b>	<b>Indicator Status</b>
1. <i>Typha angustifolia</i>	herb	OBL
2. <i>Leersia oryzoides</i>	herb	OBL
3. <i>Carex lacustris</i>	herb	OBL

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

**Hydrophytic vegetation:** Yes: X      No:  
**Rationale:** More than 50% of dominants are OBL, FACW, FAC+, or FAC.

**SOILS**

Series and phase: Karnak silty clay  
On St. Clair County hydric soils list?      Yes: X      No:  
Is the soil a histosol?      Yes:      No: X      Histic epipedon present?      Yes:      No: X  
Redox concentrations:      Yes: X      No:      Redox depletions:      Yes: X      No:  
Matrix color: 5Y 5/1  
Other indicators: This soil is found in a level to depressional area on a floodplain.

**Hydric soils:** Yes: X      No:  
**Rationale:** Karnak silty clay meets the requirements of the Natural Resource Conservation Service hydric soil indicator F3, depleted matrix.

## ROUTINE ON-SITE WETLAND DETERMINATION

Site 2 (page 2 of 3)

**Field Investigators:** Plocher, Keene      **Date:** 17 March 2000  
**Sect. No.:** P98-088-91      **Project Name:** FAP 999 (Mississippi R. Bridge)  
**State:** Illinois      **County:** St. Clair      **Applicant:** IDOT District 8  
**Site Name:** Marsh  
**Legal Description:** T. 1 N., R. 10 W., Sect. 10, SW/4 NE/4, SE/4 NW/4  
**Location:** Southern half of tract

### HYDROLOGY

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

Depth to saturated soil: 1.2 m (48 inches)

Overview of hydrological flow through the system: Primary hydrologic inputs to this site are precipitation, runoff from the surrounding uplands and occasional ditch overflow.

Evapotranspiration and sheetflow are the major outputs.

Size of watershed: < 2.59 km<sup>2</sup> (1 mi<sup>2</sup>)

Other field evidence observed: Wetland drainage patterns, drift lines and water stained leaves were observed. This site is level to depressional.

**Wetland hydrology:** Yes: X      No:

**Rationale:** Field evidence cited above indicates that the site is flooded or saturated for a sufficient period during the growing season to meet the criterion of wetland hydrology.

### WETLAND DETERMINATION AND RATIONALE:

**Is the site a wetland?:** Yes: X      No:

**Rationale:** Hydrophytic vegetation, hydric soils and wetland hydrology are all present. Therefore the site is a wetland. The site is coded by the NWI as PEMC (palustrine, emergent, seasonally flooded).

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**ROUTINE ON-SITE WETLAND DETERMINATION**

Site 2 (page 3 of 3)

**Field Investigators:** Plocher, Keene      **Date:** 17 March 2000  
**Sect. No.:** P98-088-91      **Project Name:** FAP 999 (Mississippi R. Bridge)  
**State:** Illinois      **County:** St. Clair      **Applicant:** IDOT District 8  
**Site Name:** Marsh  
**Legal Description:** T. 1 N., R. 10 W., Sect. 10, SW/4 NE/4, SE/4 NW/4  
**Location:** Southern half of tract

SPECIES LIST

Scientific name	Common name	Stratum	Wetland indicator status	FQI*
<i>Apocynum sibiricum</i>	dogbane	herb	FAC+	2
<i>Asclepias incarnata</i>	swamp milkweed	herb	OBL	4
<i>Aster</i> sp.	aster	herb	---	-
<i>Bidens</i> sp.	beggar's ticks	herb	---	-
<i>Boltonia</i> sp.	false aster	herb	---	-
<i>Carex lacustris</i>	lake sedge	herb	OBL	6
<i>Equisetum arvense</i>	horsertail	herb	FAC	0
<i>Juncus</i> sp.	rush	herb	---	-
<i>Leersia oryzoides</i>	rice cutgrass	herb	OBL	3
<i>Lycopus americanus</i>	horehound	herb	OBL	3
<i>Penthorum sedoides</i>	ditch stonecrop	herb	OBL	2
<i>Phragmites communis</i>	giant reed	herb	FACW+	1
<i>Rumex altissimus</i>	pale dock	herb	FACW-	2
<i>Setaria faberi</i>	giant foxtail	herb	FACU+	
<i>Solidago canadensis</i>	Canada goldenrod	herb	FACU	1
<i>Sparganium eurycarpum</i>	burreed	herb	OBL	5
<i>Typha angustifolia</i>	narrow leaf cattail	herb	OBL	

\*Floristic Quality Index, as developed by J. Taft, D. Ladd, G. Wilhelm and L. Masters (1997)

ROUTINE ON-SITE WETLAND DETERMINATION

Site 3 (page 1 of 3)

Field Investigators: Plocher, Keene Date: 17 March 2000
Sect. No.: P98-088-91 Project Name: FAP 999 (Mississippi R. Bridge)
State: Illinois County: St. Clair Applicant: IDOT District 8
Site Name: Floodplain Forest
Legal Description: T. 1 N., R. 10 W., Sect. 10, SW/4 NE/4, SE/4 NW/4, NE/4 SW/4
Location: Southern half of tract

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

VEGETATION

Table with 3 columns: Dominant Plant Species, Stratum, Indicator Status. Rows include Populus deltoides (tree, FAC+), Acer saccharinum (shrub, FACW), Aster simplex (herb, FACW), and Carex sp. (herb, -----).

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

Hydrophytic vegetation: Yes: X No:
Rationale: More than 50% of dominants are OBL, FACW, FAC+, or FAC.

SOILS

Series and phase: Undetermined
On St. Clair County hydric soils list? Yes: No: X
Is the soil a histosol? Yes: No: X Histic epipedon present? Yes: No: X
Redox concentrations: Yes: No: X Redox depletions: Yes: X No:
Matrix color: N 5/
Other indicators: This soil is found in a level to depressional area on the floodplain.

Hydric soils: Yes: X No:
Rationale: This area may have been disturbed many years ago as a borrow area. This soil meets the requirements of the Natural Resource Conservation Service hydric soil indicator S4, sandy gleyed matrix.

## ROUTINE ON-SITE WETLAND DETERMINATION

Site 3 (page 2 of 3)

**Field Investigators:** Plocher, Keene      **Date:** 17 March 2000  
**Sect. No.:** P98-088-91      **Project Name:** FAP 999 (Mississippi R. Bridge)  
**State:** Illinois      **County:** St. Clair      **Applicant:** IDOT District 8  
**Site Name:** Floodplain Forest  
**Legal Description:** T. 1 N., R. 10 W., Sect. 10, SW/4 NE/4, SE/4 NW/4, NE/4 SW/4  
**Location:** Southern half of tract

### HYDROLOGY

Inundated: Yes:      No: X      Depth of standing water: NA  
Depth to saturated soil: 1.2 m (48 inches)  
Overview of hydrological flow through the system: Primary hydrologic inputs to this site are precipitation, runoff from the surrounding uplands and occasional ditch overflow. Evapotranspiration, sheetflow and ditchflow are the major outputs.  
Size of watershed: < 2.59 km<sup>2</sup> (1 mi<sup>2</sup>)  
Other field evidence observed: wetland drainage patterns, drift lines and water stained leaves were observed

**Wetland hydrology:** Yes: X      No:  
**Rationale:** field evidence cited above indicate that the site is flooded or saturated for a sufficient period during the growing season to meet the criterion of wetland hydrology.

### WETLAND DETERMINATION AND RATIONALE:

**Is the site a wetland?:** Yes: X      No:  
**Rationale:** Hydrophytic vegetation, hydric soils and wetland hydrology are all present. Therefore the site is a wetland. The site is coded by the NWI as PEMC (palustrine, emergent, seasonally flooded).

Determined by: Allen Plocher (vegetation and hydrology)  
Dennis Keene (soils and hydrology)  
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## ROUTINE ON-SITE WETLAND DETERMINATION

Site 3 (page 3 of 3)

**Field Investigators:** Plocher, Keene      **Date:** 17 March 2000  
**Sect. No.:** P98-088-91      **Project Name:** FAP 999 (Mississippi R. Bridge)  
**State:** Illinois      **County:** St. Clair      **Applicant:** IDOT District 8  
**Site Name:** Floodplain Forest  
**Legal Description:** T. 1 N., R. 10 W., Sect. 10, SW/4 NE/4, SE/4 NW/4, NE/4 SW/4  
**Location:** Southern half of tract

### SPECIES LIST

Scientific name	Common name	Stratum	Wetland indicator status	FQI*
<i>Acer saccharinum</i>	silver maple	tree, shrub	FACW	1
<i>Asclepias incarnata</i>	swamp milkweed	herb	OBL	4
<i>Aster simplex</i>	panicked aster	herb	FACW	3
<i>Boltonia</i> sp.	false aster	herb	---	-
<i>Carex lacustris</i>	lake sedge	herb	OBL	6
<i>Carex normalis</i>	sedge	herb	FACW	4
<i>Carex</i> sp.	sedge	herb	---	-
<i>Cephalanthus occidentalis</i>	buttonbush	herb	OBL	4
<i>Cyperus</i> sp.	flat sedge	herb	---	-
<i>Hibiscus laevis</i>	halberd leaved rose mallow	herb	OBL	4
<i>Phalaris arundinacea</i>	reed canary grass	herb	FACW+	
<i>Platanus occidentalis</i>	sycamore	sapl	FACW	3
<i>Polygonum</i> sp.	smartweed	herb	---	-
<i>Populus deltoides</i>	cottonwood	tree, sapl	FAC+	2
<i>Quercus palustris</i>	pin oak	tree	FACW	4
<i>Ranunculus sceleratus</i>	cursed crowfoot	herb	OBL	3
<i>Rorippa islandica</i>	bog yellow cress	herb	OBL	4
<i>Rumex altissimus</i>	pale dock	herb	FACW-	2
<i>Rumex verticillatus</i>	swamp dock	herb	OBL	5
<i>Scirpus fluviatilis</i>	river bulrush	herb	OBL	3
<i>Sparganium eurycarpum</i>	burreed	herb	OBL	5
<i>Typha angustifolia</i>	narrow leaf cattail	herb	OBL	
<i>Ulmus americana</i>	American elm	tree, sapl	FACW-	5

\*Floristic Quality Index, as developed by J. Taft, D. Ladd, G. Wilhelm and L. Masters (1997)

**ROUTINE ON-SITE WETLAND DETERMINATION**  
Site 4 (page 1 of 3)

**Field Investigators:** Plocher, Keene      **Date:** 17 March 2000  
**Sect. No.:** P98-088-91      **Project Name:** FAP 999 (Mississippi R. Bridge)  
**State:** Illinois      **County:** St. Clair      **Applicant:** IDOT District 8  
**Site Name:** Wet Shrubland  
**Legal Description:** T. 1 N., R. 10 W., Sect. 10, NE/4 SW/4  
**Location:** Southern quarter of tract

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

**VEGETATION**

<b>Dominant Plant Species</b>	<b>Stratum</b>	<b>Indicator Status</b>
1. <i>Salix exigua</i>	sapling	OBL
2. <i>Salix exigua</i>	shrub	OBL
3. <i>Phalaris arundinacea</i>	herb	FACW+
4. <i>Polygonum pensylvanicum</i>	herb	FACW+

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

**Hydrophytic vegetation:** Yes: X      No:  
**Rationale:** More than 50% of dominants are OBL, FACW, FAC+, or FAC.

**SOILS**

Series and phase: Undetermined

On St. Clair County hydric soils list?      Yes:      No: X  
Is the soil a histosol?      Yes:      No: X      Histic epipedon present?      Yes:      No: X  
Redox concentrations:      Yes:      No: X      Redox depletions:      Yes: X      No:  
Matrix color: N 5/  
Other indicators: This soil is found in a level to depressional area on the floodplain.

**Hydric soils:** Yes: X      No:  
**Rationale:** This area may have been disturbed many years ago as a borrow area. This soil meets the requirements of the Natural Resource Conservation Service hydric soil indicator S4, sandy gleyed matrix.

**ROUTINE ON-SITE WETLAND DETERMINATION**  
Site 4 (page 2 of 3)

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**Field Investigators:** Plocher, Keene      **Date:** 17 March 2000  
**Sect. No.:** P98-088-91      **Project Name:** FAP 999 (Mississippi R. Bridge)  
**State:** Illinois      **County:** St. Clair      **Applicant:** IDOT District 8  
**Site Name:** Wet Shrubland  
**Legal Description:** T. 1 N., R. 10 W., Sect. 10, NE/4 SW/4  
**Location:** Southern quarter of tract

**HYDROLOGY**

Inundated: Yes:      No: X      Depth of standing water: NA  
Depth to saturated soil: 1.2 m (48 inches)  
Overview of hydrological flow through the system: Primary hydrologic inputs to this site are precipitation, runoff from the surrounding uplands and occasional ditch overflow. Evapotranspiration and sheetflow are the major outputs.

Size of watershed: < 2.59 km<sup>2</sup> (1 mi<sup>2</sup>)

Other field evidence observed: Wetland drainage patterns, drift lines and water stained leaves were observed. This site is level to depressional.

**Wetland hydrology:** Yes: X      No:

**Rationale:** Field evidence cited above indicates that the site is flooded or saturated for a sufficient period during the growing season to meet the criterion of wetland hydrology.

**WETLAND DETERMINATION AND RATIONALE:**

**Is the site a wetland?:** Yes: X      No:

**Rationale:** Hydrophytic vegetation, hydric soils and wetland hydrology are all present. Therefore the site is a wetland. The site is coded by the NWI as PEMC (palustrine, emergent, seasonally flooded).

Determined by: Allen Plocher (vegetation and hydrology)  
Dennis Keene (soils and hydrology)  
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**ROUTINE ON-SITE WETLAND DETERMINATION**

Site 4 (page 3 of 3)

**Field Investigators:** Plocher, Keene      **Date:** 17 March 2000  
**Sect. No.:** P98-088-91      **Project Name:** FAP 999 (Mississippi R. Bridge)  
**State:** Illinois      **County:** St. Clair      **Applicant:** IDOT District 8  
**Site Name:** Wet Shrubland  
**Legal Description:** T. 1 N., R. 10 W., Sect. 10, NE/4 SW/4  
**Location:** Southern quarter of tract

**SPECIES LIST**

Scientific name	Common name	Stratum	Wetland indicator status	FQI*
<i>Acer saccharinum</i>	silver maple	shrub, sapl	FACW	1
<i>Acer negundo</i>	box elder	sapl, tree	FACW-	1
<i>Bidens</i> sp.	beggar's ticks	herb	-----	-
<i>Boltonia</i> sp.	false aster	herb	-----	-
<i>Cephalanthus occidentalis</i>	buttonbush	shrub, seedl	OBL	4
<i>Fraxinus pennsylvanica</i>	green ash	sapl	FACW	2
<i>Hibiscus laevis</i>	halberd leaved rose mallow	shrub	OBL	4
<i>Leersia oryzoides</i>	rice cutgrass	herb	OBL	3
<i>Lycopus americanus</i>	horehound	herb	OBL	3
<i>Phalaris arundinacea</i>	reed canary grass	herb	FACW+	
<i>Polygonum pennsylvanicum</i>	giant smartweed	herb	FACW+	1
<i>Ranunculus sceleratus</i>	cursed crowfoot	herb	OBL	3
<i>Rorippa islandica</i>	bog yellow cress	herb	OBL	4
<i>Rumex verticillatus</i>	swamp dock	herb	OBL	5
<i>Salix exigua</i>	sandbar willow	sapl, shrub	OBL	1
<i>Scirpus fluviatilis</i>	river bulrush	herb	OBL	3
<i>Sparganium eurycarpum</i>	burreed	herb	OBL	5
<i>Typha angustifolia</i>	narrow leaf cattail	herb	OBL	

\*Floristic Quality Index, as developed by J. Taft, D. Ladd, G. Wilhelm and L. Masters (1997)

## ROUTINE ON-SITE WETLAND DETERMINATION

Site 5 (page 1 of 3)

**Field Investigators:** Plocher, Keene      **Date:** 17 March 2000  
**Sect. No.:** P98-088-91      **Project Name:** FAP 999 (Mississippi R. Bridge)  
**State:** Illinois      **County:** St. Clair      **Applicant:** IDOT District 8  
**Site Name:** Ditch bank  
**Legal Description:** T. 1 N., R. 10 W., Sect. 10, W/2 NE/4, NE/4 SW/4,  
**Location:** Northern and eastern portion of tract

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

### VEGETATION

<b>Dominant Plant Species</b>	<b>Stratum</b>	<b>Indicator Status</b>
1. <i>Carex lacustris</i>	herb	OBL
2. <i>Apocynum sibiricum</i>	herb	FAC+
3. <i>Scirpus fluviatilis</i>	herb	OBL
4. <i>Polygonum pennsylvanicum</i>	herb	FACW+
5. <i>Solidago canadensis</i>	herb	FACU

Percent of dominant species that are OBL, FACW, FAC+, or FAC: 80%

**Hydrophytic vegetation:** Yes: X      No:

**Rationale:** More than 50% of dominants are OBL, FACW, FAC+, or FAC.

### SOILS

Series and phase: Karnak silty clay

On St. Clair County hydric soils list?      Yes: X      No:

Is the soil a histosol?      Yes:      No: X      Histic epipedon present?      Yes:      No: X

Redox concentrations:      Yes: X      No:      Redox depletions:      Yes: X      No:

Matrix color: 5Y 5/1

Other indicators: Deposition of dredge spoil has resulted in a slightly elevated topographic position at this site.

**Hydric soils:** Yes: X      No:

**Rationale:** Karnak silty clay meets the requirements of the Natural Resource Conservation Service hydric soil indicator F3, depleted matrix.

## ROUTINE ON-SITE WETLAND DETERMINATION

Site 5 (page 2 of 3)

**Field Investigators:** Plocher, Keene      **Date:** 17 March 2000  
**Sect. No.:** P98-088-91      **Project Name:** FAP 999 (Mississippi R. Bridge)  
**State:** Illinois      **County:** St. Clair      **Applicant:** IDOT District 8  
**Site Name:** Ditch bank  
**Legal Description:** T. 1 N., R. 10 W., Sect. 10, W/2 NE/4, NE/4 SW/4,  
**Location:** Northern and eastern portion of tract

### HYDROLOGY

**Inundated:** Yes:      No: X      **Depth of standing water:** NA  
**Depth to saturated soil:**      1.2 m (48 in)  
**Overview of hydrological flow through the system:** Primary hydrologic inputs to this site are precipitation, runoff from the surrounding uplands and ditch overflow. Evapotranspiration and ditchflow are the major outputs.  
**Size of watershed:** < 2.59 km<sup>2</sup> (1 mi<sup>2</sup>)  
**Other field evidence observed:** Deposition of dredge spoil has resulted in a slightly elevated topographic position at this site. However, the site is still nearly level and on a floodplain

**Wetland hydrology:** Yes:      No: X  
**Rationale:** Field evidence is inconclusive. We find no strong evidence that the site is flooded or saturated for a sufficient period during the growing season to meet the criterion of wetland hydrology.

### WETLAND DETERMINATION AND RATIONALE:

**Is the site a wetland?:** Yes:      No: X  
**Rationale:** Although hydrophytic vegetation and hydric soils are present, wetland hydrology is not. Therefore the site is not a wetland. The site is not coded by the NWI. The NRCS codes the site as PC (prior converted).

**Determined by:** Allen Plocher (vegetation and hydrology)  
Dennis Keene (soils and hydrology)  
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Center for Wildlife Ecology  
607 East Peabody Drive  
Champaign, Illinois 61820  
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**ROUTINE ON-SITE WETLAND DETERMINATION**

Site 5 (page 3 of 3)

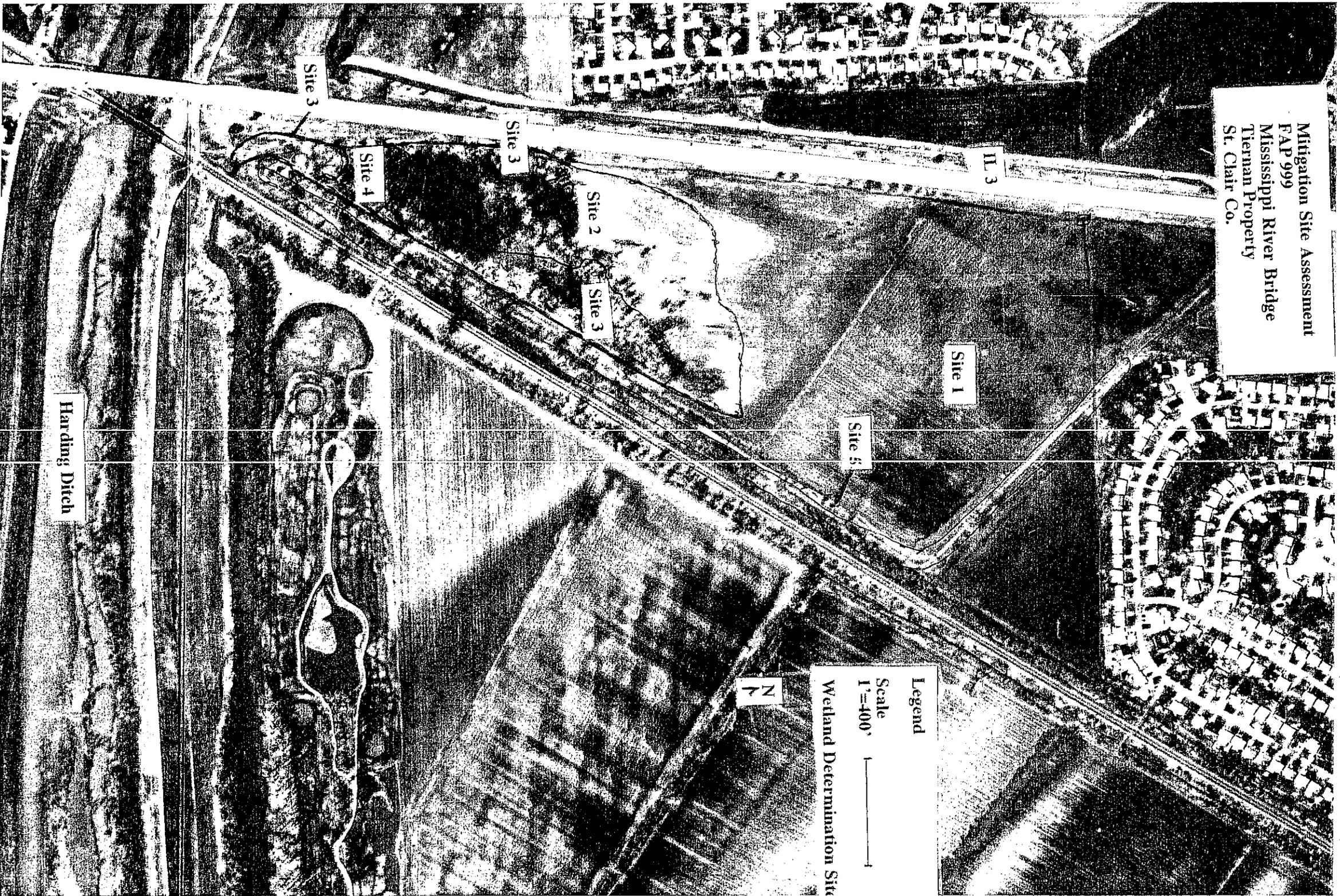
**Field Investigators:** Plocher, Keene      **Date:** 17 March 2000  
**Sect. No.:** P98-088-91      **Project Name:** FAP 999 (Mississippi R. Bridge)  
**State:** Illinois      **County:** St. Clair      **Applicant:** IDOT District 8  
**Site Name:** Ditch bank  
**Legal Description:** T. 1 N., R. 10 W., Sect. 10, W/2 NE/4, NE/4 SW/4,  
**Location:** Northern and eastern portion of tract

SPECIES LIST

Scientific name	Common name	Stratum	Wetland indicator status	FQI*
<i>Acer saccharinum</i>	silver maple	seedl	FACW	1
<i>Allium canadense</i>	wild onion	herb	FACU	2
<i>Ambrosia trifida</i>	giant ragweed	herb	FAC+	0
<i>Apocynum sibiricum</i>	dogbane	herb	FAC+	2
<i>Asclepias incarnata</i>	swamp milkweed	herb	OBL	4
<i>Aster</i> sp.	aster	herb	-----	-
<i>Carex lacustris</i>	lake sedge	herb	OBL	6
<i>Celtis occidentalis</i>	hackberry	tree, sapling, shrub	FAC-	3
<i>Cephalanthus occidentalis</i>	buttonbush	shrub	OBL	4
<i>Cirsium discolor</i>	field thistle	herb	UPL	2
<i>Cornus drummondii</i>	rough leaved dogwood	shrub	FAC	2
<i>Elymus virginicus</i>	Virginia wild rye	herb	FACW-	4
<i>Festuca pratensis</i>	English bluegrass	herb	FACU-	
<i>Gaura biennis</i>	gaura	herb	UPL	2
<i>Helianthus tuberosus</i>	Jerusalem artichoke	herb	FAC	3
<i>Juniperus virginiana</i>	redcedar	shrub	FACU	1
<i>Lamium amplexicaule</i>	henbit	herb	UPL	
<i>Lonicera japonica</i>	Japanese honeysuckle	woody vine, herb	FACU	
<i>Lonicera maackii</i>	Amur honeysuckle	shrub	UPL	
<i>Morus alba</i>	white mulberry	tree, sapl, shrub	FAC	
<i>Oenothera biennis</i>	evening primrose	herb	FACU	1
<i>Polygonum pensylvanicum</i>	giant smartweed	herb	FACW+	1
<i>Populus deltoides</i>	cottonwood	tree, sapl, shrub	FAC+	2
<i>Prunus serotina</i>	black cherry	tree, sapl	FACU	1
<i>Rhus glabra</i>	smooth sumac	sapl, shrub	UPL	1
<i>Rorippa islandica</i>	bog yellow cress	herb	OBL	4
<i>Rubus allegheniensis</i>	blackberry	shrub	FACU+	2
<i>Rumex altissimus</i>	pale dock	herb	FACW-	2
<i>Rumex crispus</i>	curly dock	herb	FAC+	
<i>Salix exigua</i>	sandbar willow	sapling, shrub	OBL	1
<i>Salix nigra</i>	black willow	tree, sapling	OBL	3
<i>Scirpus fluviatilis</i>	river bulrush	herb	OBL	3
<i>Solidago canadensis</i>	Canada goldenrod	herb	FACU	1
<i>Solidago gigantea</i>	late goldenrod	herb	FACW	3
<i>Sorghum halapense</i>	Johnson grass	herb	FACU	
<i>Typha angustifolia</i>	narrowleaf cattail	herb	OBL	
<i>Ulmus americana</i>	American elm	tree, shrub	FACW-	5
<i>Verbena urticifolia</i>	white vervain	herb	FAC+	3

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Mitigation Site Assessment  
FAP 999  
Mississippi River Bridge  
Tieman Property  
St. Clair Co.



Site 1

IL 3

Site 5

N

Legend

Scale  
1"=400'

Wetland Determination Site

Site 2

Site 3

Site 3

Site 4

Site 3

Harding Ditch