

TRANSMITTAL

To: Bureau of Design and Environment
Attention: Tom Brooks
From: Illinois Natural History Survey
Regarding: Wetland Monitoring

Route and Location

Route: FAP 999
County: St. Clair
IDOT District: 8
Local Name: Fairmont City Wetland Compensation Site

Survey Conducted By: David Ketzner and Dennis Keene
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Dates Conducted: 19-20 October 2010

Project Summary:

Third year monitoring of the wetland compensation site was completed in October. The enclosed report includes information detailing monitoring methods and results, and the status of the wetland restoration is evaluated and discussed. Three wetlands and four plant communities were identified at the site. In addition, the status of the decurrent false aster (*Boltonia decurrens*) at the site is discussed. Recommendations for future management are also included.

Signed: 
Dr. Allen E. Plocher
INHS/IDOT Project Coordinator

Date: 28 January 2011

Site Monitoring of the Fairmont City Wetland Compensation Site, St. Clair County, Illinois - 2010

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Introduction and Site Description

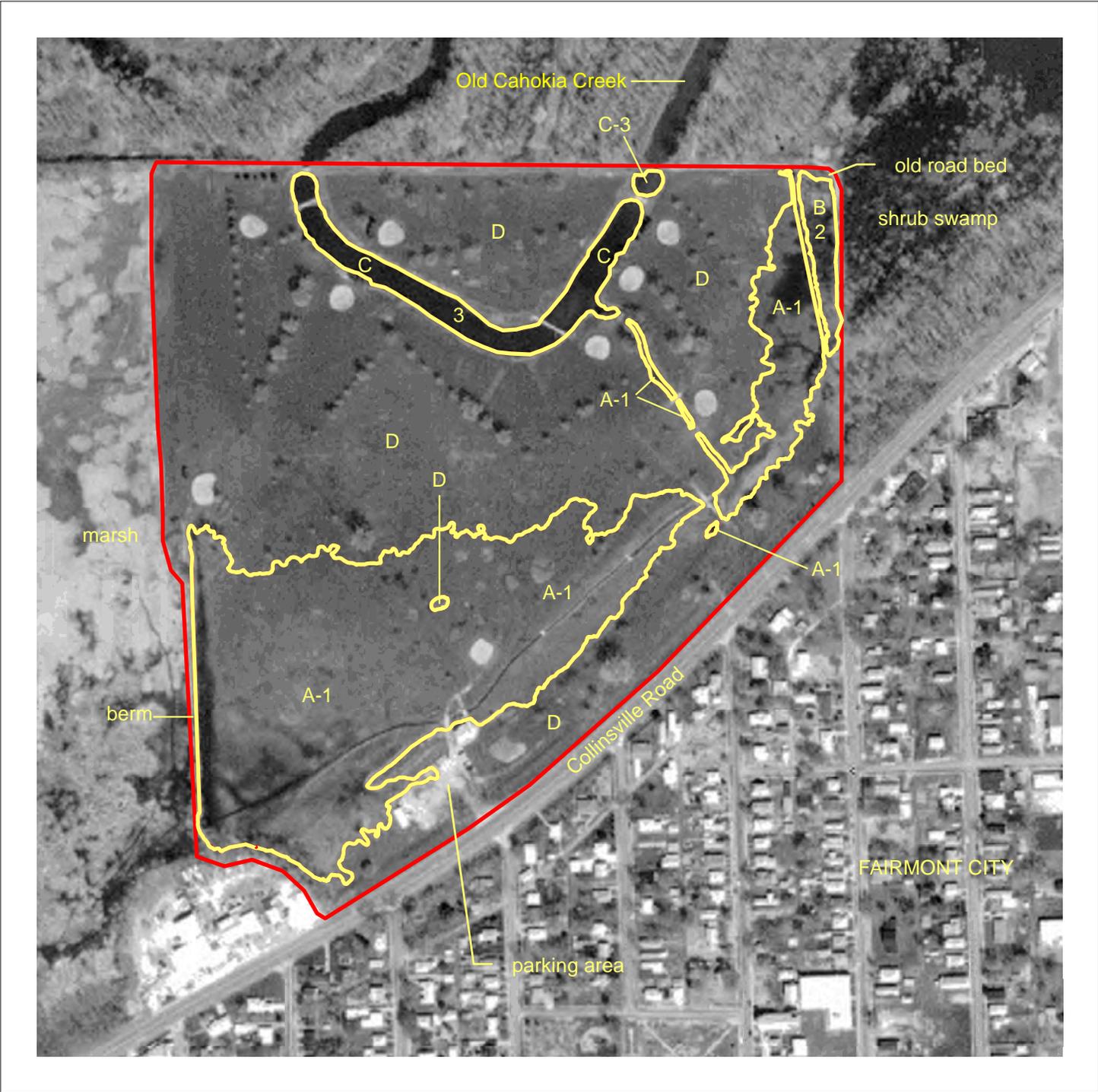
Wetland mitigation site monitoring was conducted on the Fairmont City Wetland Compensation Site, located near Fairmont City, in St. Clair County, Illinois. This tract was purchased in February 2000 by the Illinois Department of Transportation for mitigation of lost wetlands. The site is approximately 28 ha (69.3 acres) in size and is located in the American Bottoms, the broad floodplain of the Mississippi River east of St. Louis. The pre-settlement environment of this area consisted of bottomland forest, marsh, wet prairie and mesic prairie (Schwegman et al. 1973). Oxbow lakes and sloughs were also common in this region, with many of them persisting to this day. The Fairmont City Wetland Compensation Site is located just north of Collinsville Road (Figure 1), with marsh, shrub swamp and bottomland forest bordering the other three sides. A narrow berm along the southwest border of the site separates it from the deeper parts of the adjacent marsh. Along the east and north boundaries of the property, an old roadbed separates the site from the adjacent shrub swamp and bottomland forest. Old Cahokia Creek meanders through the north part of the mitigation site.

A mitigation site assessment was conducted on this site in August of 1999 (Keene and Ketzner 1999). At that time, the site was an active golf course with nine holes and a driving range. Flooding of the course and clubhouse was a reoccurring problem, and the site was soon sold to the IDOT. Since the closing of the golf course, water pumps were shut down and the clubhouse was demolished. Other than the shutting down of the water pumps, no hydrologic modifications were made to the site, and plant communities have largely been allowed to develop naturally. In 2005 most of the non-native trees on the site were removed, but no planting or seeding has been done by IDOT. Several features of the abandoned golf course are still present. Putting greens, planted in Bermuda grass, are still present and evident on aerial photos. Three foot bridges crossing Old Cahokia Creek are still functional. At the time of the mitigation site assessment, Old Cahokia Creek was almost entirely open water, with very little vegetation present. Since purchase by the IDOT, the old creek channel has grown-up in marsh and wet shrubland.

The mitigation site assessment identified two different plant communities on the site, including two wetland sites (Keene and Ketzner 1999). A wet meadow dominated by *Eleocharis erythropoda*, *Leersia oryzoides* and *Polygonum hydropiperoides* was identified in the southwest part of the site. This wetland was approximately 1.2 ha (3 acres) in size. Another wet meadow, approximately 0.3 ha (0.7 acre) in size, was found in the southeast part of the site. This wetland was dominated by *Leersia oryzoides*, *Polygonum hydropiperoides* and *Sagittaria latifolia*. The rest of the site was closely mown, non-native grassland (the golf course fairway), dominated by *Digitaria ischaemum*, *Eleusine indica*, *Plantago rugelii* and *Trifolium repens*. Large trees, many of them in rows, were also present in the north part of

Fairmont City Wetland Compensation Site St. Clair County

Figure 1



scale 1:4800
1 inch=400 ft



- Plant Communities
- A-marsh
 - B-wet floodplain forest
 - C-wet shrubland / marsh
 - D-non-native grassland



the site and along Collinsville Road. Many of these trees were probably planted, and most persist to this day.

Field monitoring of the mitigation site was conducted on 19 October 2010. This report details results of the third year of monitoring. Results of the first two years of monitoring can be found in Ketzner et al. (2009) and Ketzner and Keene (2009). Monitoring will continue on the site until further notice is received from the IDOT, and additional annual reports will follow.

Vegetation

Four plant communities are present within the project area (Table 1). The marsh community extends from the southwest part of the site, across the south quarter of the property, and into the northeast corner of the site (Figure 1). Tall graminoid plants dominate this community. Common reed (*Phragmites australis*) and cattails (*Typha* spp.) form a thick band on the periphery of the marsh, with a zone of rice cutgrass (*Leersia oryzoides*) to the inside. In the deeper middle of the marsh the graminoids give way to duckweed (*Lemna minor*) and open water. The FQI for this community is 25.3 and the mean C value is 2.9 (Appendix 1, Site 1). These values are indicative of good natural quality. There are actually three sections of marsh within the site (Figure 1), with the easternmost section separated from the others by a narrow roadbed. The marsh community covers approximately 8.16 ha (20.17 acres) of the site.

The wet floodplain forest is located in the northeast part of the site, between an old roadbed and a small berm. This forest is relatively young growth, and most of the trees are probably less than 20 years old. The FQI for this community is 20.9 and the mean C value is 3.0 (Appendix 1, Site 2). These values are indicative of good natural quality. The wet floodplain forest is approximately 0.29 ha (0.72 acre) in size.

The wet shrubland/marsh is located in the channel of Old Cahokia Creek. This community is a mosaic of shrubby areas dominated by buttonbush (*Cephalanthus occidentalis*) and marshy areas dominated by rice cutgrass (*Leersia oryzoides*) and narrow-leaved cattail (*Typha angustifolia*). Duckweed (*Lemna minor*) dominates the deeper areas of the old channel. Buttonbush will probably continue to increase in cover at this site, and the marshy areas will probably decrease. In 1999, the old creek channel was mostly open water. At that time, the site was an active golf course, and vegetation here may have been periodically cut or treated with herbicide to maintain an open channel. The FQI for this community is 19.2 and the mean C value is 3.1 (Appendix 1, Site 3). These values are indicative of fair natural quality. The wet shrubland/marsh community is approximately 0.93 ha (2.30 acres) in size.

The non-native grassland community includes most of the northern half of the site, and includes almost all of the area that is not wetland. This community is dominated by the non-native tall fescue (*Festuca arundinacea*), undoubtedly planted at the site, and Canada goldenrod (*Solidago canadensis*). In 1999, when the site was first visited, tall fescue was common but did not dominate the site. However, it increased dramatically after the Fairmont Golf Course was closed, and soon covered over half of the compensation site. In recent years, it has declined somewhat, and Canada goldenrod has increased in abundance. The non-native grassland community is approximately 18.6 ha (46.1 acres) in size. Including three species of trees that were probably planted, the FQI for this community is 19.5 and the mean C value is 2.2 (Appendix 2). Excluding planted species, the FQI for this community is 18.0 and the mean C value is 2.1. These values are all indicative of fair natural quality.

Table 1. Plant communities within the project area.

A Marsh (Wetland Site 1)

Dominant Plant Species

Herbs - *Leersia oryzoides*, *Phragmites australis*, *Typha angustifolia* & *Typha latifolia*

B Wet Floodplain Forest (Wetland Site 2)

Dominant Plant Species

Trees - *Fraxinus pennsylvanica*
Sapling - *Fraxinus pennsylvanica*
Sapling/Shrub - *Ilex decidua*

C Wet Shrubland/Marsh (Wetland Site 3)

Dominant Plant Species

Shrub - *Cephalanthus occidentalis*
Herbs - *Leersia oryzoides*, *Lemna minor* & *Typha angustifolia*

D Non-native Grassland

Dominant Plant Species

Herbs - *Festuca arundinacea* & *Solidago canadensis*

Soils

The soil survey of St. Clair County (Indorante and Leeper 2000) originally had Darwin silty clay and Fluvaquents mapped at this site. After conducting the field investigation of the site, it was determined that Karnak silty clay and Fluvaquents were present in this area. Fluvaquents are poorly drained bottomland soils. Fluvaquents were found in the wettest area (west part of site) and were, for the most part, inundated. Fluvaquents are rated as fair for potential for wetland plants and wetland wildlife. Karnak silty clay was found in the other areas and had a water table deeper than 1 m at the time of the field visit. Karnak silty clay is a poorly drained soil (hydric soil) with a low permeability rate. Karnak is rated good for potential for wetland plants and wetland wildlife.

Hydrology

The hydrologic inputs at this site appear to be precipitation, sheet flow from higher ground to the south (Collinsville Road and beyond), and from overflow of Old Cahokia Creek and the wetlands to the east and west of the site. It seems likely that during periods of high water, the shrub swamp to the east and the marsh to the west overtop the abandoned road and the berm separating them from the Fairmont City Wetland Compensation Site. The abandoned

road on the east boundary of the site is only a few inches higher than the shrub swamp, and does not provide much of a barrier to flow. Although the berm on the southwest boundary of the site is higher and wider than the old roadbed, water probably does overtop it at times. However, this berm probably acts as a barrier, most of the time, to flow from the east, and likely aids in retention of water onto the compensation site. Another low berm composed of dredge material, is situated along a shallow ditch, and separates the marsh community from the wet floodplain forest community within the site. This berm is very low and is breached in at least one area. It does not appear to impede flow from the wet floodplain forest to the marsh community.

In addition to overflow from wetlands to the east and west, the site probably receives floodwater from Old Cahokia Creek, via two ditches connecting the creek to the marsh community. One ditch runs parallel to the old roadbed on the northeast boundary of the site before abruptly turning south and draining into the marsh community. This ditch is very narrow and shallow, and probably only drains small amounts of water away from the creek during extreme flooding events. Since this ditch slopes downhill from the creek, it seems unlikely to ever drain water away from the marsh. The other ditch is much deeper and wider, and likely has a much greater influence on the hydrology of the compensation site. It probably drains water away from the marsh community to Old Cahokia Creek at times, while at other times acts to do the reverse, depending on relative water levels in the marsh and creek. Another ditch, entirely within the marsh community and running roughly parallel to Collinsville Road, is readily apparent on Figure 1. This ditch runs from the berm on the southwest boundary of the site, to a small roadbed in the southeast part of the property that runs through the marsh community. Although this ditch may have at one time helped drain the site while it was an active golf course, it appears to have little affect on the hydrology of the site since the water pumps were deactivated.

The hydrology of Old Cahokia Creek has been greatly modified from pre-settlement times, and it is difficult today to even determine which direction it historically flowed. Segments of the historic channel have been filled, and the creek no longer is directly connected to Horseshoe Lake as it once was. Today the creek is cut-off from Horseshoe Lake by the embankment along the Cahokia Canal, and possibly Interstate Route 55/70, northeast of the compensation site. To the northwest of the site, the creek now empties into a pond along Interstate Route 55/70, at the base of a landfill. From there, the historic channel is apparently buried by the landfill. Beaver also make extensive use of the creek, and their dams are apparent.

The USGS hydrologic unit code for this basin is 07140101 (Cahokia-Joachim, Illinois, Missouri). The watershed size of Old Cahokia Creek at the project site is probably less than 12.9 km² (5 mi²). Although within its historical floodplain, the area no longer receives direct flooding from the Mississippi River because of a levee system.

Wetland Survey

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 (Monks Mound Quadrangle, 7.5 Minute Series); Reed (1988); Indorante and Leeper (2000); and Environmental Laboratory (1987). Plant nomenclature primarily follows Mohlenbrock (1986). These materials were used during an on-site evaluation of vegetation, soils, and hydrology.

All potential wetlands within the project area were examined. Three routine on-site wetland determinations were performed. All three sites met all wetland criteria and, therefore, were determined to be wetlands. Results of the determinations are summarized below and are

described in more detail on the accompanying forms (Appendix 1). 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 using ArcView 3.2. A printout of the DOQ is included with this report (Figure 1). Locations of the sites, in relation to nearby roads, were measured from the edge of the pavement.

Included with the assessment of the site is its Floristic Quality Index (Taft et al. 1997). Although the Index is not a substitute for quantitative vegetation analysis in assessing plant communities, it provides a measure of the floristic integrity or level of disturbance of a site. Each plant species is assigned a rating between 0 and 10 (the Coefficient of Conservatism) that is a subjective indicator of how likely a plant may be found on an undisturbed site in a natural plant community. A plant species that has a low Coefficient of Conservatism (C) is common and is likely to tolerate disturbed conditions; a species with a high C is relatively rare and is likely to require specific, undisturbed habitats. Plants not identified to species level are not rated and are not included in the calculations.

The Floristic Quality Index (FQI) is calculated as follows: $FQI = R/\sqrt{N}$, where R represents the sum of the numerical ratings (C) for all species recorded for a site, and N represents the number of plants on the site. The mean C value (also known as mean rated quality) was also determined for each site. This value is calculated as follows: $mCv = R/N$. The C value for each species is shown in the species list for the site. Species not native to Illinois (indicated by ** in the species list for each site) are not included in calculations. An Index score below 10 suggests a site of low natural quality; below five, a highly disturbed site. An FQI value of 20 or more suggests that a site has evidence of native character and may be considered an environmental asset.

Wetland Site Summaries

Site 1: This marsh is located approximately 18.3 m (60 ft) north of Collinsville Road, extending from the southwest part of the site, across the south quarter of the property, into the northeast corner of the compensation site. Based on the presence of dominant hydrophytic vegetation, hydric soils, and wetland hydrology, we determined that this site is a wetland. This site is approximately 8.16 ha (20.17 acres) in size and is entirely within the project area. This marsh provides floodwater storage and wildlife habitat of good quality. The National Wetlands Inventory (NWI) codes parts of this site as PEMA (temporarily flooded, emergent, palustrine wetland), PEMC (seasonally flooded, emergent, palustrine wetland), PFO1A (temporarily flooded, broad-leaved deciduous, forested, palustrine wetland) and part as non-wetland. The FQI for the site is 25.3 and the mean C value is 2.9. These values are indicative of good natural quality, and this site can be considered an environmental asset. Four plants of decurrent false aster (*Boltonia decurrens*) were found at this site in 2010.

Site 2: This wet floodplain forest is located approximately 88.4 m (290 ft) north of Collinsville Road, along the old roadbed, in the northeast corner of the compensation site. Based on the presence of dominant hydrophytic vegetation, hydric soils, and wetland hydrology, we determined that this site is a wetland. This site is approximately 0.29 ha (0.72 acre) in size and is entirely within the project area. This wet floodplain forest provides floodwater storage and wildlife habitat of fairly good quality. The NWI codes part of this site as PEMC (seasonally flooded, emergent, palustrine wetland), part as PFO1A (temporarily flooded, broad-leaved deciduous, forested, palustrine wetland), and part as non-wetland. The FQI for the site is 20.9 and the mean C value is 3.0. These values are indicative of good natural quality, and this site can be considered an environmental asset.

One plant of decurrent false aster (*Boltonia decurrens*) was found at this site in 2010. Most of the trees at this site are probably under 20 years old.

Site 3: This wet shrubland/marsh is the channel of Old Cahokia Creek, located approximately 240.8 m (790 ft) north of Collinsville Road, in the north-central part of the compensation site. Based on the presence of dominant hydrophytic vegetation, hydric soils, and wetland hydrology, we determined that this site is a wetland. Although this site is located within a stream channel, it is well vegetated with rooted-emergent and woody hydrophytic plant species and, in our opinion possesses sufficient wetland character to be classified as a wetland. In addition, the Old Cahokia Creek appears to have been cut off during construction of the Cahokia Canal and, therefore, may no longer be a free-flowing stream. Beaver have also constructed dams within the channel, resulting in pooling and uneven water levels. This site is approximately 0.93 ha (2.30 acres) in size within the compensation site, and extends outside of the site an undetermined distance. This wet shrubland/marsh provides floodwater storage and wildlife habitat of good quality. The NWI codes this site as R2UBHx (excavated, permanently flooded, lower perennial, riverine system with an unconsolidated bottom). The FQI for the site is 19.2 and the mean C value is 3.1. These values are indicative of fair natural quality.

Survey for Decurrent False Aster

The decurrent false aster (*Boltonia decurrens*) is currently listed as federally threatened and threatened within the state of Illinois (U. S. Fish and Wildlife Service 1990, Illinois Endangered Species Protection Board 2005). This plant was first reported from the Fairmont City Wetland Compensation Site by Keene and Ketzner (1999). At that time, the site was an active, privately owned golf course, and ten plants were located in wet meadow habitat. Since then, the site was acquired by the IDOT and the decurrent false aster population was monitored yearly from 2002 to 2006 (Ketzner et al. 2007). Additional monitoring was requested by the U. S. Fish and Wildlife Service (Joyce Collins, personal communication) and the IDOT (Tom Brooks, personal communication) so monitoring was resumed in 2008. We will continue monitoring the decurrent false aster population at this site until we receive further notice from the IDOT.

Results from the monitoring of decurrent false aster at the Fairmont City Wetland Compensation Site can be found in Table 2, including results from previous monitoring. In 2008, we estimated that 750 to 1,000 plants were present. The plants were mostly located within the wetland sites outlined on Figure 1 (marsh, wet floodplain forest, and wet shrubland/marsh), usually around the margins of the wet areas. In 2008, the plants were more widely distributed than in 2005 and 2006, when almost all of the plants were located in one localized area along the west margin of the site, in the non-native grassland community. In 2009, only 254 plants were found, all within the marsh community and the non-native grassland community. No plants were found in the wet floodplain forest or wet shrubland/marsh communities in 2009. In 2010, only 16 plants were found. Eleven plants were located along the west boundary of the site in the non-native grassland community, four plants were found in the marsh, and one plant in the wet floodplain forest community. The population in 2010 was the lowest since monitoring began in 2002.

Discussion and Recommendations

Based on our fieldwork and the well data collected by the Illinois State Geological Survey, we estimate that approximately 9.39 ha (23.19 acres) of the site satisfied all wetland criteria in 2010. Miner et al. (2010) estimated that the area of the site that satisfied wetland hydrology criteria for more than 5% of the 2010 growing season was 14.1 ha (34.8 acres), and the area of the site that satisfied wetland hydrology for more than 12.5% of the 2010 growing season was estimated to be 14.1 ha (34.8 acres). However, not all of the area satisfying all wetland hydrology criteria has hydrophytic vegetation. A small area of

Table 2.

Results from monitoring *Boltonia decurrens* at the Fairmont City Wetland Compensation Site, 2002-2010

Year	#Plants
2002	43,323
2003	50,000 - 70,000
2004	15,000
2005	108
2006	115
2008	750 - 1,000
2009	254
2010	16

non-native grassland satisfied the wetland hydrology criteria in 2010. However, this area adjacent to the marsh community, is dominated by tall fescue (*Festuca arundinacea*) and Canada goldenrod (*Solidago canadensis*), neither of which is considered to be a hydrophyte. In addition, Miner et al. (2010) did not include the Old Cahokia Creek area in their estimate. We consider this site of approximately 0.93 ha (2.30 acres) to satisfy all wetland hydrology criteria and, therefore, to be a wetland. Hydric soils appear to be present throughout the entire wetland compensation area.

Approximately 340 exotic trees and shrubs were removed from the site in 2010. The work, conducted by Midwest Easement Services LLC, included removal of Siberian elm (*Ulmus pumila*), Amur honeysuckle (*Lonicera maackii*), white mulberry (*Morus alba*) and tree-of-Heaven (*Ailanthus altissima*). Most of the trees were small, but approximately 65 were larger than 10 cm. diameter breast height. Problem sites for exotic woody species were mostly found along Collinsville Road and near Old Cahokia Creek. Exotic trees and shrubs were last removed at the site in 2005, and some of the woody plants cut in 2010 were probably missed during the initial work. Some may have been re-sprouts from trees that were cut in 2005 that did not die. However, many of the problem woody species undoubtedly colonized the area since the initial treatment. Given the urban setting of the mitigation site, problem woody species will need to be periodically removed. Mature individuals of these problem species can be found just offsite and undoubtedly serve as a seed source.

This report details results of the third year of monitoring at this site. If more intensive monitoring is needed, the IDOT should notify the Illinois Natural History Survey prior to the beginning of the growing season. Monitoring will continue at this site until further notice is received.

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Appendix 1
Wetland Determination Data Forms

ROUTINE ON-SITE WETLAND DETERMINATION

Site 1 (page 1 of 5)

Field Investigators: Ketzner and Keene **Date:** 19 October 2010
Project Name: Fairmont City Wetland Compensation Site (FAP 999)
State: Illinois **County:** St. Clair
Applicant: IDOT District 8 **Site Name:** Marsh
Legal Description: SW ¼, Sec. 4, T2N, R9W
Location: 18.3 m (60 ft) north of Collinsville Road, extending from the southwest part of the site, across the south quarter of the property, into the northeast corner of the site.

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

VEGETATION

Dominant Plant Species	Indicator Status	Stratum
1. <i>Leersia oryzoides</i>	OBL	herb
2. <i>Phragmites australis</i>	FACW+	herb
3. <i>Typha angustifolia</i>	OBL	herb
4. <i>Typha latifolia</i>	OBL	herb

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

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

SOILS

Series and phase: Fluvaquent
On St. Clair County hydric soils list? Yes: No: Undetermined: 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: N 4/ and 5/
Other indicators: This soil is found in a depressional area.

Hydric soils: Yes: X No:
Rationale: This soil has iron masses and a gleyed matrix. Furthermore, this soil meets the Natural Resources Conservation Service hydric soil indicator F2 (loamy gleyed matrix). These characteristics are evidence of a hydric soil.

ROUTINE ON-SITE WETLAND DETERMINATION

Site 1 (page 2 of 5)

Field Investigators: Ketzner and Keene **Date:** 19 October 2010
Project Name: Fairmont City Wetland Compensation Site (FAP 999)
State: Illinois **County:** St. Clair
Applicant: IDOT District 8 **Site Name:** Marsh
Legal Description: SW ¼, Sec. 4, T2N, R9W
Location: 18.3 m (60 ft) north of Collinsville Road, extending from the southwest part of the site, across the south quarter of the property, into the northeast corner of the site.

HYDROLOGY

Inundated? Yes: X (in part) No: Depth of standing water: to approximately 0.9 m (3 ft)
Depth to saturated soil: at surface to > 0.8 m (30 in)

Overview of hydrological flow through the system: This site receives water through precipitation, sheet flow from adjacent higher ground, and probably from overflow of Old Cahokia Creek via a ditch. Water leaves the site via evapotranspiration and via the ditch connecting this marsh to Old Cahokia Creek.

Size of watershed: < 12.9 km² (5 mi²)

Other field evidence observed: This site is lower than adjacent ground to the north and south. Well data indicated this entire site satisfied the wetland hydrology criteria for more than 12.5% of the 2010 growing season (Miner et al. 2010). In addition, water-stained leaves were observed and hydrogen sulfide was detected at this site.

Wetland hydrology: Yes: X No:

Rationale: The relatively low landscape position, well data collected throughout the 2010 growing season, and other field evidence indicate that wetland hydrology is present. In our opinion, this site is flooded or saturated long enough to meet the wetland hydrology criterion.

DETERMINATION AND RATIONALE:

Is the site a wetland?
Rationale for decision:

Yes: X No:
Dominant hydrophytic vegetation, hydric soils, and wetland hydrology are all present. This site meets all of the wetland criteria. The NWI codes this site as PEMA (temporarily flooded, emergent, palustrine wetland), PEMC (seasonally flooded, emergent, palustrine wetland), PFO1A (temporarily flooded, broad-leaved deciduous, forested, palustrine wetland) and part as non-wetland.

Determined by: David Ketzner (vegetation, hydrology and GPS)
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ROUTINE ON-SITE WETLAND DETERMINATION

Site 1 (page 3 of 5)

Field Investigators: Ketzner and Keene **Date:** 19 October 2010
Project Name: Fairmont City Wetland Compensation Site (FAP 999)
State: Illinois **County:** St. Clair
Applicant: IDOT District 8 **Site Name:** Marsh
Legal Description: SW ¼, Sec. 4, T2N, R9W
Location: 18.3 m (60 ft) north of Collinsville Road, extending from the southwest part of the site, across the south quarter of the property, into the northeast corner of the site.

SPECIES LIST

Scientific name	Common name	Stratum	Wetland indicator status	C*
<i>Acer saccharinum</i>	silver maple	herb	FACW	1
<i>Alisma plantago-aquatica</i>	broad-leaf water-plantain	herb	OBL	2
<i>Asclepias incarnata</i>	swamp milkweed	herb	OBL	4
<i>Aster simplex</i>	panicked aster	herb	FACW	3
<i>Azolla mexicana</i>	water fern	herb	OBL	8
<i>Bidens cernua</i>	nodding beggar-ticks	herb	OBL	2
<i>Bidens frondosa</i>	common beggar-ticks	herb	FACW	1
<i>Boehmeria cylindrica</i>	false nettle	herb	OBL	3
<i>Boltonia decurrens</i>	false aster	herb	OBL	4
<i>Carex annectens</i>	sedge	herb	FACW	3
<i>Carex hyalinolepis</i>	sedge	herb	OBL	4
<i>Carex</i> sp.	sedge	herb	-----	--
<i>Carex vulpinoidea</i>	fox sedge	herb	OBL	3
<i>Catalpa speciosa</i>	catalpa	tree, sapling, shrub	FACU	0
<i>Celtis laevigata</i>	sugarberry	tree	FACW	5
<i>Cephalanthus occidentalis</i>	buttonbush	shrub	OBL	4
<i>Ceratophyllum demersum</i>	coontail	herb	OBL	3
<i>Cicuta maculata</i>	water hemlock	herb	OBL	4
<i>Cinna arundinacea</i>	stout wood reed	herb	FACW	5
<i>Cornus drummondii</i>	rough-leaved dogwood	shrub	FAC	2
<i>Cynodon dactylon</i>	Bermuda grass	herb	FACU	**
<i>Cyperus erythrorhizos</i>	red-rooted sedge	herb	OBL	1
<i>Cyperus esculentus</i>	yellow nutgrass	herb	FACW	0
<i>Cyperus ferruginescens</i>	galingale	herb	OBL	1
<i>Desmanthus illinoensis</i>	Illinois bundleflower	herb	FAC-	4
<i>Diospyros virginiana</i>	persimmon	shrub	FAC	2
<i>Echinochloa muricata</i>	barnyard grass	herb	OBL	0
<i>Eclipta prostrata</i>	yerba de tajo	herb	FACW	2
<i>Eleocharis erythropoda</i>	red-rooted spike rush	herb	OBL	3
<i>Eleocharis obtusa</i>	spike rush	herb	OBL	2
<i>Erechtites hieracifolia</i>	fire weed	herb	FACU	2

Species list continued on the following page.

ROUTINE ON-SITE WETLAND DETERMINATION

Site 1 (page 4 of 5)

Field Investigators: Ketzner and Keene **Date:** 19 October 2010
Project Name: Fairmont City Wetland Compensation Site (FAP 999)
State: Illinois **County:** St. Clair
Applicant: IDOT District 8 **Site Name:** Marsh
Legal Description: SW ¼, Sec. 4, T2N, R9W
Location: 18.3 m (60 ft) north of Collinsville Road, extending from the southwest part of the site, across the south quarter of the property, into the northeast corner of the site.

SPECIES LIST (continued)

Scientific name	Common name	Stratum	Wetland indicator status	C*
<i>Euonymus fortunei</i>	climbing euonymus	woody vine	UPL	**
<i>Eupatorium serotinum</i>	late boneset	herb	FAC+	1
<i>Festuca arundinacea</i>	tall fescue	herb	FACU+	**
<i>Fraxinus pennsylvanica</i>	green ash	tree, sapling, shrub	FACW	2
<i>Geum canadense</i>	white avens	herb	FAC	2
<i>Gleditsia triacanthos</i>	honey locust	shrub	FAC	2
<i>Hibiscus laevis</i>	halberd-leaved rose mallow	herb	OBL	4
<i>Hydrocotyle ranunculoides</i>	water pennywort	herb	OBL	5
<i>Iva annua</i>	marsh elder	herb	FAC	0
<i>Juncus effusus</i>	common rush	herb	OBL	4
<i>Juncus interior</i>	inland rush	herb	FAC+	3
<i>Leersia oryzoides</i>	rice cutgrass	herb	OBL	3
<i>Lemna minor</i>	common duckweed	herb	OBL	3
<i>Liquidambar styraciflua</i>	sweet gum	tree, sapling, shrub	FACW	6
<i>Lonicera maackii</i>	Amur honeysuckle	shrub	UPL	**
<i>Lycopus americanus</i>	common water horehound	herb	OBL	3
<i>Panicum dichotomiflorum</i>	fall panicum	herb	FACW-	0
<i>Phragmites australis</i>	common reed	herb	FACW+	**
<i>Phyla lanceolata</i>	fog-fruit	herb	OBL	1
<i>Platanus occidentalis</i>	sycamore	shrub	FACW	3
<i>Polygonum amphibium</i>	water smartweed	herb	OBL	3
<i>Polygonum hydropiperoides</i>	mild water pepper	herb	OBL	4
<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	tree, sapling, shrub	FAC+	2
<i>Pyrus calleryana</i>	Bradford pear	shrub	UPL	**
<i>Ranunculus sceleratus</i>	cursed crowfoot	herb	OBL	3
<i>Rumex crispus</i>	curly dock	herb	FAC+	**
<i>Rumex verticillatus</i>	swamp dock	herb	OBL	5
<i>Sagittaria calycina</i>	arrowleaf	herb	OBL	6

Species list continued on the following page.

ROUTINE ON-SITE WETLAND DETERMINATION

Site 1 (page 5 of 5)

Field Investigators: Ketzner and Keene **Date:** 19 October 2010
Project Name: Fairmont City Wetland Compensation Site (FAP 999)
State: Illinois **County:** St. Clair
Applicant: IDOT District 8 **Site Name:** Marsh
Legal Description: SW ¼, Sec. 4, T2N, R9W
Location: 18.3 m (60 ft) north of Collinsville Road, extending from the southwest part of the site, across the south quarter of the property, into the northeast corner of the site.

SPECIES LIST (continued)

Scientific name	Common name	Stratum	Wetland indicator status	C*
<i>Sagittaria latifolia</i>	arrowhead	herb	OBL	4
<i>Salix amygdaloides</i>	peach-leaved willow	tree, sapling, shrub	FACW	4
<i>Salix exigua</i>	sandbar willow	tree, sapling, shrub	OBL	1
<i>Salix nigra</i>	black willow	tree, sapling, shrub	OBL	3
<i>Sambucus canadensis</i>	elderberry	herb	FACW-	2
<i>Scirpus atrovirens</i>	bulrush	herb	OBL	4
<i>Scirpus tabernaemontanii</i>	great bulrush	herb	OBL	4
<i>Scutellaria lateriflora</i>	mad-dog skullcap	herb	OBL	4
<i>Sium suave</i>	water parsnip	herb	OBL	5
<i>Solidago canadensis</i>	Canada goldenrod	herb	FACU	1
<i>Sparganium eurycarpum</i>	burreed	herb	OBL	5
<i>Spirodela polyrhiza</i>	big duckweed	herb	OBL	5
<i>Stachys tenuifolia</i>	hedge nettle	herb	OBL	5
<i>Toxicodendron radicans</i>	poison ivy	woody vine, herb	FAC+	1
<i>Typha angustifolia</i>	narrow-leaved cattail	herb	OBL	**
<i>Typha latifolia</i>	cattail	herb	OBL	1
<i>Ulmus americana</i>	American elm	tree, shrub	FACW-	5
<i>Utricularia vulgaris</i>	common bladderwort	herb	OBL	6
<i>Vitis cinerea</i>	winter grape	woody vine	FACW-	4
<i>Vitis riparia</i>	riverbank grape	woody vine	FACW-	2
<i>Wolffia columbiana</i>	common watermeal	herb	OBL	5

*Coefficient of Conservatism (Taft et al. 1997)

**Non-native species

$$FQI = R/\sqrt{N} = 218/\sqrt{74} = 25.3$$

$$mCv = R/N = 218/74 = 2.9$$

ROUTINE ON-SITE WETLAND DETERMINATION

Site 2 (page 1 of 4)

Field Investigators: Ketzner and Keene **Date:** 19 October 2010
Project Name: Fairmont City Wetland Compensation Site (FAP 999)
State: Illinois **County:** St. Clair
Applicant: IDOT District 8 **Site Name:** Wet Floodplain Forest
Legal Description: NW ¼, NE ¼, SW ¼, Sec. 4, T2N, R9W
Location: 88.4 m (290 ft) north of Collinsville Road, along old roadbed in
northeast corner of site.

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

VEGETATION

Dominant Plant Species	Indicator Status	Stratum
1. <i>Fraxinus pennsylvanica</i>	FACW	tree
2. <i>Fraxinus pennsylvanica</i>	FACW	sapling
3. <i>Ilex decida</i>	FACW	sapling/shrub

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

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

SOILS

Series and phase: 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: No: X
Matrix color: N 4/

Other indicators: This soil is found in a depression to level area.

Hydric soils: Yes: X No:
Rationale: Karnak silty clay has iron masses and a gleyed matrix. Furthermore, this soil meets the Natural Resources Conservation Service hydric soil indicator F2 (loamy gleyed matrix). These characteristics are evidence of a hydric soil.

ROUTINE ON-SITE WETLAND DETERMINATION

Site 2 (page 2 of 4)

Field Investigators: Ketzner and Keene **Date:** 19 October 2010
Project Name: Fairmont City Wetland Compensation Site (FAP 999)
State: Illinois **County:** St. Clair
Applicant: IDOT District 8 **Site Name:** Wet Floodplain Forest
Legal Description: NW ¼, NE ¼, SW ¼, Sec. 4, T2N, R9W
Location: 88.4 m (290 ft) north of Collinsville Road, along old roadbed in
northeast corner of site.

HYDROLOGY

Inundated? Yes: X (in part) No: Depth of standing water: to approximately 0.01 m (0.5 in)
Depth to saturated soil: at surface to approximately 0.05 m (2 in)
Overview of hydrological flow through the system: This site receives water through precipitation, sheet flow from adjacent higher ground, and from overflow of Site 1 and a wetland to the east. Water leaves the site via evapotranspiration and overflow into Site 1 via a break in the berm separating the two sites.
Size of watershed: < 12.9 km² (5 mi²)
Other field evidence observed: This site is lower than adjacent ground. Well data indicated this entire site satisfied the wetland hydrology criteria for more than 12.5% of the 2010 growing season (Miner et al. 2010). Water-stained leaves and water marks were observed at this site.

Wetland hydrology: Yes: X No:
Rationale: The relatively low landscape position, well data collected throughout the 2010 growing season, and other field evidence indicate that wetland hydrology is present. In our opinion, this site is flooded or saturated long enough to meet the wetland hydrology criterion.

DETERMINATION AND RATIONALE:

Is the site a wetland? Yes: X No:
Rationale for decision: Dominant hydrophytic vegetation, hydric soils, and wetland hydrology are all present. This site meets all of the wetland criteria. The NWI codes this site as PEMC (seasonally flooded, emergent, palustrine wetland), PFO1A (temporarily flooded, broad-leaved deciduous, forested, palustrine wetland) and part as non-wetland.

Determined by: David Ketzner (vegetation, hydrology and GPS)
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ROUTINE ON-SITE WETLAND DETERMINATION

Site 2 (page 3 of 4)

Field Investigators: Ketzner and Keene **Date:** 19 October 2010
Project Name: Fairmont City Wetland Compensation Site (FAP 999)
State: Illinois **County:** St. Clair
Applicant: IDOT District 8 **Site Name:** Wet Floodplain Forest
Legal Description: NW ¼, NE ¼, SW ¼, Sec. 4, T2N, R9W
Location: 88.4 m (290 ft) north of Collinsville Road, along old roadbed in
northeast corner of site.

SPECIES LIST

Scientific name	Common name	Stratum	Wetland indicator status	C*
<i>Acer saccharinum</i>	silver maple	tree, sapling	FACW	1
<i>Allium vineale</i>	field garlic	herb	FACU	**
<i>Ampelopsis cordata</i>	raccoon grape	woody vine	FAC+	2
<i>Aster simplex</i>	panicled aster	herb	FACW	3
<i>Bidens frondosa</i>	common beggar-ticks	herb	FACW	1
<i>Boehmeria cylindrica</i>	false nettle	herb	OBL	3
<i>Boltonia decurrens</i>	false aster	herb	OBL	4
<i>Campsis radicans</i>	trumpet creeper	woody vine, shrub	FAC	2
<i>Carex crus-corvi</i>	sedge	herb	OBL	6
<i>Carex hyalinolepis</i>	sedge	herb	OBL	4
<i>Carex</i> sp.	sedge	herb	-----	--
<i>Catalpa speciosa</i>	catalpa	tree, shrub	FACU	0
<i>Celtis laevigata</i>	sugarberry	tree, sapling	FACW	5
<i>Celtis occidentalis</i>	hackberry	sapling	FAC-	3
<i>Cephalanthus occidentalis</i>	buttonbush	shrub	OBL	4
<i>Cinna arundinacea</i>	stout wood reed	herb	FACW	5
<i>Cornus drummondii</i>	rough-leaved dogwood	shrub	FAC	2
<i>Diospyros virginiana</i>	persimmon	tree, shrub	FAC	2
<i>Elymus virginicus</i>	Virginia wild rye	herb	FACW-	4
<i>Erechtites hieracifolia</i>	fire weed	herb	FACU	2
<i>Euonymus fortunei</i>	climbing euonymus	herb	UPL	**
<i>Eupatorium serotinum</i>	late boneset	herb	FAC+	1
<i>Fraxinus pennsylvanica</i>	green ash	tree, sapling, shrub	FACW	2
<i>Geum canadense</i>	white avens	herb	FAC	2
<i>Glyceria striata</i>	fowl manna grass	herb	OBL	4
<i>Hydrocotyle ranunculoides</i>	water pennywort	herb	OBL	5
<i>Ilex decidua</i>	swamp holly	sapling, shrub	FACW	6
<i>Leersia oryzoides</i>	rice cutgrass	herb	OBL	3
<i>Lemna minor</i>	common duckweed	herb	OBL	3
<i>Liquidambar styraciflua</i>	sweet gum	tree, shrub	FACW	6
<i>Lonicera maackii</i>	Amur honeysuckle	shrub	UPL	**
<i>Lycopus americanus</i>	common water horehound	herb	OBL	3

Species list continued on the following page.

ROUTINE ON-SITE WETLAND DETERMINATION

Site 2 (page 4 of 4)

Field Investigators: Ketzner and Keene **Date:** 19 October 2010
Project Name: Fairmont City Wetland Compensation Site (FAP 999)
State: Illinois **County:** St. Clair
Applicant: IDOT District 8 **Site Name:** Wet Floodplain Forest
Legal Description: NW ¼, NE ¼, SW ¼, Sec. 4, T2N, R9W
Location: 88.4 m (290 ft) north of Collinsville Road, along old roadbed in
northeast corner of site.

SPECIES LIST (continued)

Scientific name	Common name	Stratum	Wetland indicator status	C*
<i>Morus alba</i>	white mulberry	tree	FAC	**
<i>Phyla lanceolata</i>	fog-fruit	herb	OBL	1
<i>Pilea pumila</i>	clearweed	herb	FACW	3
<i>Polygonum amphibium</i>	water smartweed	herb	OBL	3
<i>Polygonum punctatum</i>	dotted smartweed	herb	OBL	3
<i>Populus deltoides</i>	eastern cottonwood	tree	FAC+	2
<i>Quercus palustris</i>	pin oak	herb	FACW	4
<i>Ranunculus abortivus</i>	little-leaf buttercup	herb	FACW-	1
<i>Rubus pensylvanicus</i>	blackberry	shrub	FAC-	2
<i>Rumex verticillatus</i>	swamp dock	herb	OBL	5
<i>Salix nigra</i>	black willow	tree	OBL	3
<i>Scutellaria lateriflora</i>	mad-dog skullcap	herb	OBL	4
<i>Senecio glabellus</i>	butterweed	herb	OBL	0
<i>Sium suave</i>	water parsnip	herb	OBL	5
<i>Smilax hispida</i>	bristly greenbrier	woody vine	FAC	3
<i>Solidago canadensis</i>	Canada goldenrod	herb	FACU	1
<i>Spirodela polyrhiza</i>	big duckweed	herb	OBL	5
<i>Toxicodendron radicans</i>	poison ivy	woody vine, herb	FAC+	1
<i>Ulmus americana</i>	American elm	tree, sapling, shrub	FACW-	5
<i>Vitis aestivalis</i>	summer grape	herb	FACU	4

*Coefficient of Conservatism (Taft et al. 1997)

**Non-native species

$$FQI = R/\sqrt{N} = 143/\sqrt{47} = 20.9$$

$$mCv = R/N = 143/47 = 3.0$$

ROUTINE ON-SITE WETLAND DETERMINATION

Site 3 (page 1 of 4)

Field Investigators: Ketzner and Keene **Date:** 19 October 2010
Project Name: Fairmont City Wetland Compensation Site (FAP 999)
State: Illinois **County:** St. Clair
Applicant: IDOT District 8 **Site Name:** Wet Shrubland/Marsh
Legal Description: N ½, NW ¼, SW ¼, Sec. 4, T2N, R9W
Location: Old Cahokia Creek, approximately 240.8 m (790 ft) north of Collinsville Road, in the north-central part of the site.

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

VEGETATION

Dominant Plant Species	Indicator Status	Stratum
1. <i>Cephalanthus occidentalis</i>	OBL	shrub
2. <i>Leersia oryzoides</i>	OBL	herb
3. <i>Lemna minor</i>	OBL	herb
4. <i>Typha angustifolia</i>	OBL	herb

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

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

SOILS

Series and phase: undetermined
On St. Clair County hydric soils list? Yes: No: Undetermined: X
Is the soil a histosol? Yes: No: X
Histic epipedon present? Yes: No: X
Redox concentrations: Yes: No: Undetermined: X
Redox depletions: Yes: No: Undetermined: X
Matrix color: undetermined
Other indicators: This soil is inundated.

Hydric soils: Yes: X No:
Rationale: This soil is ponded for a long duration or a very long duration during the growing season. This characteristic is evidence of a hydric soil.

ROUTINE ON-SITE WETLAND DETERMINATION

Site 3 (page 2 of 4)

Field Investigators: Ketzner and Keene **Date:** 19 October 2010
Project Name: Fairmont City Wetland Compensation Site (FAP 999)
State: Illinois **County:** St. Clair
Applicant: IDOT District 8 **Site Name:** Wet Shrubland/Marsh
Legal Description: N ½, NW ¼, SW ¼, Sec. 4, T2N, R9W
Location: Old Cahokia Creek, approximately 240.8 m (790 ft) north of Collinsville Road, in the north-central part of the site.

HYDROLOGY

Inundated? Yes: X No: Depth of standing water: to approximately 0.76 m (2.5 ft)
Depth to saturated soil: at surface

Overview of hydrological flow through the system: This site receives water through precipitation, sheet flow from adjacent higher ground, and possibly from overflow of Site 1 via a ditch. Water leaves the site via evapotranspiration and probably by overflow to Site 1 via the ditch connecting the two sites.

Size of watershed: < 12.9 km² (5 mi²)

Other field evidence observed: This site, the channel of Old Cahokia Creek, is lower than adjacent ground. Old Cahokia Creek appears to have been cut off during construction of the Cahokia Canal and, therefore, may no longer be a free-flowing stream.

Wetland hydrology: Yes: X No:

Rationale: The relatively low landscape position, the visual observation of inundation and soil saturation, and other field evidence indicate that wetland hydrology is present. In our opinion, this site is flooded or saturated long enough to meet the wetland hydrology criterion.

DETERMINATION AND RATIONALE:

Is the site a wetland?
Rationale for decision:

Yes: X No:
Dominant hydrophytic vegetation, hydric soils, and wetland hydrology are all present. This site meets all of the wetland criteria. The NWI codes this site as R2UBHx (excavated, permanently flooded, lower perennial, riverine system with an unconsolidated bottom).

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ROUTINE ON-SITE WETLAND DETERMINATION

Site 3 (page 3 of 4)

Field Investigators: Ketzner and Keene **Date:** 19 October 2010
Project Name: Fairmont City Wetland Compensation Site (FAP 999)
State: Illinois **County:** St. Clair
Applicant: IDOT District 8 **Site Name:** Wet Shrubland/Marsh
Legal Description: N ½, NW ¼, SW ¼, Sec. 4, T2N, R9W
Location: Old Cahokia Creek, approximately 240.8 m (790 ft) north of Collinsville Road, in the north-central part of the site.

SPECIES LIST

Scientific name	Common name	Stratum	Wetland indicator status	C*
<i>Acer saccharinum</i>	silver maple	tree	FACW	1
<i>Ammannia coccinea</i>	long-leaved ammannia	herb	OBL	5
<i>Aster simplex</i>	panicked aster	herb	FACW	3
<i>Azolla mexicana</i>	water fern	herb	OBL	8
<i>Bidens cernua</i>	nodding beggar-ticks	herb	OBL	2
<i>Bidens frondosa</i>	common beggar-ticks	herb	FACW	1
<i>Boehmeria cylindrica</i>	false nettle	herb	OBL	3
<i>Cephalanthus occidentalis</i>	buttonbush	shrub	OBL	4
<i>Commelina diffusa</i>	day flower	herb	FACW	3
<i>Crataegus viridis</i>	green thorn	tree	FACW	5
<i>Cyperus erythrorhizos</i>	red-rooted sedge	herb	OBL	1
<i>Cyperus ferruginescens</i>	galingale	herb	OBL	1
<i>Cyperus strigosus</i>	straw colored flatsedge	herb	FACW	0
<i>Desmanthus illinoensis</i>	Illinois bundleflower	herb	FAC-	4
<i>Echinochloa muricata</i>	barnyard grass	herb	OBL	0
<i>Eclipta prostrata</i>	yerba de tajo	herb	FACW	2
<i>Eleocharis acicularis</i>	spike rush	herb	OBL	3
<i>Eleocharis erythropoda</i>	red-rooted spike rush	herb	OBL	3
<i>Fraxinus pennsylvanica</i>	green ash	herb	FACW	2
<i>Hibiscus laevis</i>	halberd-leaved rose mallow	herb	OBL	4
<i>Hibiscus lasiocarpus</i>	hairy rose mallow	herb	FACW+	5
<i>Hydrocotyle ranunculoides</i>	water pennywort	herb	OBL	5
<i>Iva annua</i>	marsh elder	herb	FAC	0
<i>Leersia oryzoides</i>	rice cutgrass	herb	OBL	3
<i>Lemna minor</i>	common duckweed	herb	OBL	3
<i>Liquidambar styraciflua</i>	sweet gum	herb	FACW	6
<i>Ludwigia peploides</i>	creeping primrose willow	herb	OBL	5
<i>Phyla lanceolata</i>	fog-fruit	herb	OBL	1
<i>Platanus occidentalis</i>	sycamore	shrub	FACW	3
<i>Polygonum cespitosum</i>	creeping smartweed	herb	UPL	**
<i>Polygonum hydropiperoides</i>	mild water pepper	herb	OBL	4
<i>Polygonum pennsylvanicum</i>	giant smartweed	herb	FACW+	1

Species list continued on the following page.

ROUTINE ON-SITE WETLAND DETERMINATION

Site 3 (page 4 of 4)

Field Investigators: Ketzner and Keene **Date:** 19 October 2010
Project Name: Fairmont City Wetland Compensation Site (FAP 999)
State: Illinois **County:** St. Clair
Applicant: IDOT District 8 **Site Name:** Wet Shrubland/Marsh
Legal Description: N ½, NW ¼, SW ¼, Sec. 4, T2N, R9W
Location: Old Cahokia Creek, approximately 240.8 m (790 ft) north of Collinsville Road, in the north-central part of the site.

SPECIES LIST (continued)

Scientific name	Common name	Stratum	Wetland indicator status	C*
<i>Sagittaria latifolia</i>	arrowhead	herb	OBL	4
<i>Sium suave</i>	water parsnip	herb	OBL	5
<i>Sparganium eurycarpum</i>	burreed	herb	OBL	5
<i>Spirodela polyrhiza</i>	big duckweed	herb	OBL	5
<i>Toxicodendron radicans</i>	poison ivy	herb	FAC+	1
<i>Typha angustifolia</i>	narrow-leaved cattail	herb	OBL	**
<i>Typha latifolia</i>	cattail	herb	OBL	1
<i>Verbena urticifolia</i>	white vervain	herb	FAC+	3
<i>Wolffia columbiana</i>	common watermeal	herb	OBL	5

*Coefficient of Conservatism (Taft et al. 1997)

**Non-native species

$$FQI = R/\sqrt{N} = 120/\sqrt{39} = 19.2$$

$$mCv = R/N = 120/39 = 3.1$$

Appendix 2
Species List for Non-native Grassland Community

Species list for non-native grassland community.

Scientific name	Common name	Stratum	Wetland indicator status	C*
<i>Acer negundo</i>	box elder	sapling, shrub	FACW-	1
<i>Acer rubrum</i>	red maple	tree	FAC	5♠
<i>Acer saccharinum</i>	silver maple	tree, sapling, shrub	FACW	1
<i>Acer saccharum</i>	sugar maple	tree	FACU	4♠
<i>Ailanthus altissima</i>	tree-of-Heaven	tree	NI	**
<i>Amaranthus tuberculatus</i>	tall waterhemp	herb	OBL	1
<i>Ambrosia artemisiifolia</i>	common ragweed	herb	FACU	0
<i>Ambrosia trifida</i>	giant ragweed	herb	FAC+	0
<i>Ampelopsis cordata</i>	raccoon grape	woody vine	FAC+	2
<i>Andropogon virginicus</i>	broom sedge	herb	FAC-	1
<i>Asclepias incarnata</i>	swamp milkweed	herb	OBL	4
<i>Asclepias syriaca</i>	common milkweed	herb	UPL	0
<i>Aster pilosus</i>	hairy aster	herb	FACU-	0
<i>Aster simplex</i>	panicked aster	herb	FACW	3
<i>Bidens aristosa</i>	swamp marigold	herb	FACW	1
<i>Boltonia decurrens</i>	false aster	herb	OBL	4
<i>Campsis radicans</i>	trumpet creeper	woody vine	FAC	2
<i>Carduus nutans</i>	nodding thistle	herb	UPL	**
<i>Carex hyalinolepis</i>	sedge	herb	OBL	4
<i>Carex</i> sp.	sedge	herb	-----	--
<i>Cassia marilandica</i>	Maryland senna	herb	FACW	4
<i>Catalpa speciosa</i>	catalpa	tree, sapling, shrub	FACU	0
<i>Celastrus scandens</i>	bittersweet	woody vine	FACU	2
<i>Celtis occidentalis</i>	hackberry	sapling, shrub	FAC-	3
<i>Cephalanthus occidentalis</i>	buttonbush	shrub	OBL	4
<i>Chenopodium album</i>	lamb's quarters	herb	FAC-	**
<i>Cirsium discolor</i>	field thistle	herb	UPL	3
<i>Cirsium vulgare</i>	bull thistle	herb	FACU-	**
<i>Cornus drummondii</i>	rough-leaved dogwood	shrub	FAC	2
<i>Crataegus viridis</i>	green thorn	tree	FACW	5
<i>Cynanchum laeve</i>	blue vine	herb	FAC	1
<i>Cynodon dactylon</i>	Bermuda grass	herb	FACU	**
<i>Cyperus acuminatus</i>	taperleaf flat sedge	herb	OBL	2
<i>Cyperus erythrorhizos</i>	red-rooted sedge	herb	OBL	1
<i>Cyperus esculentus</i>	yellow nutgrass	herb	FACW	0
<i>Daucus carota</i>	Queen-Anne's-lace	herb	UPL	**
<i>Digitaria sanguinalis</i>	hairy crab grass	herb	FACU	**
<i>Diospyros virginiana</i>	persimmon	tree, shrub	FAC	2
<i>Echinochloa muricata</i>	barnyard grass	herb	OBL	0
<i>Eleocharis erythropoda</i>	red-rooted spike rush	herb	OBL	3
<i>Eleusine indica</i>	goose grass	herb	FACU	**
<i>Elymus virginicus</i>	Virginia wild rye	herb	FACW-	4
<i>Erechtites hieracifolia</i>	fire weed	herb	FACU	2
<i>Euonymus fortunei</i>	climbing euonymus	woody vine	UPL	**

Species list continued on following page.

Species list for non-native grassland community (continued).

Scientific name	Common name	Stratum	Wetland indicator status	C*
<i>Eupatorium rugosum</i>	white snakeroot	herb	FACU	2
<i>Eupatorium serotinum</i>	late boneset	herb	FAC+	1
<i>Festuca arundinacea</i>	tall fescue	herb	FACU+	**
<i>Fraxinus pennsylvanica</i>	green ash	tree, sapling, shrub	FACW	2
<i>Geum canadense</i>	white avens	herb	FAC	2
<i>Gleditsia triacanthos</i>	honey locust	tree, sapling, shrub	FAC	2
<i>Hackelia virginiana</i>	stickseed	herb	FAC-	1
<i>Hibiscus lasiocarpus</i>	hairy rose mallow	herb	FACW+	5
<i>Ilex decidua</i>	swamp holly	tree, sapling, shrub	FACW	6
<i>Ipomoea lacunosa</i>	white morning-glory	herb	FACW	1
<i>Juncus</i> sp.	rush	herb	-----	--
<i>Juniperus virginiana</i>	eastern red cedar	tree, shrub	FACU	1
<i>Leersia oryzoides</i>	rice cutgrass	herb	OBL	3
<i>Ligustrum vulgare</i>	privet	shrub	UPL	**
<i>Liquidambar styraciflua</i>	sweet gum	tree, sapling, shrub	FACW	6
<i>Lonicera japonica</i>	Japanese honeysuckle	woody vine	FACU	**
<i>Lonicera maackii</i>	Amur honeysuckle	shrub	UPL	**
<i>Morus alba</i>	white mulberry	sapling	FAC	**
<i>Oxalis stricta</i>	yellow wood sorrel	herb	FACU	0
<i>Panicum dichotomiflorum</i>	fall panicum	herb	FACW-	0
<i>Phragmites australis</i>	common reed	herb	FACW+	**
<i>Phyla lanceolata</i>	fog-fruit	herb	OBL	1
<i>Phytolacca americana</i>	pokeweed	herb	FAC-	1
<i>Platanus occidentalis</i>	sycamore	tree	FACW	3
<i>Poa pratensis</i>	Kentucky bluegrass	herb	FAC-	**
<i>Polygonum pensylvanicum</i>	giant smartweed	herb	FACW+	1
<i>Polygonum punctatum</i>	dotted smartweed	herb	OBL	3
<i>Populus deltoides</i>	eastern cottonwood	tree	FAC+	2
<i>Pyrrhopappus carolinianus</i>	false dandelion	herb	UPL	1
<i>Quercus palustris</i>	pin oak	tree	FACW	4
<i>Rubus flagellaris</i>	dewberry	herb	FACU-	2
<i>Rubus pensylvanicus</i>	blackberry	shrub	FAC-	2
<i>Rumex crispus</i>	curly dock	herb	FAC+	**
<i>Salix amygdaloides</i>	peach-leaved willow	tree	FACW	4
<i>Salix exigua</i>	sandbar willow	tree, sapling, shrub	OBL	1
<i>Salix nigra</i>	black willow	sapling	OBL	3
<i>Schizachyrium scoparium</i>	little bluestem	herb	FACU-	5
<i>Setaria faberi</i>	giant foxtail	herb	FACU+	**
<i>Setaria glauca</i>	yellow foxtail	herb	FAC	**
<i>Solanum carolinense</i>	horse-nettle	herb	FACU-	0
<i>Solanum</i> sp.	nightshade	herb	-----	--
<i>Solidago canadensis</i>	Canada goldenrod	herb	FACU	1
<i>Sorghum halepense</i>	Johnson grass	herb	FACU	**
<i>Spartina pectinata</i>	cord grass	herb	FACW+	4

Species list continued on following page.

Species list for non-native grassland community (continued).

Scientific name	Common name	Stratum	Wetland indicator status	C*
<i>Spermacoce glabra</i>	smooth buttonweed	herb	FACW+	4
<i>Sporobolus asper</i>	dropseed	herb	UPL	3
<i>Taxodium distichum</i>	bald cypress	tree	OBL	7♠
<i>Toxicodendron radicans</i>	poison ivy	woody vine, shrub, herb	FAC+	1
<i>Tridens flavus</i>	purple-top	herb	UPL	1
<i>Trifolium repens</i>	white clover	herb	FACU+	**
<i>Ulmus americana</i>	American elm	sapling	FACW-	5
<i>Ulmus pumila</i>	Siberian elm	tree, sapling, shrub	UPL	**
<i>Urtica dioica</i>	stinging nettle	herb	FAC+	2
<i>Verbascum thapsus</i>	woolly mullein	herb	UPL	**
<i>Verbena urticifolia</i>	white vervain	herb	FAC+	3
<i>Viola pratincola</i>	common blue violet	herb	FAC	1
<i>Vitis riparia</i>	riverbank grape	woody vine	FACW-	2
<i>Xanthium strumarium</i>	cockle bur	herb	FAC	0

*Coefficient of Conservatism (Taft et al. 1997)

**Non-native species

♠Planted species

$FQI = R/\sqrt{N} = 170/\sqrt{76} = 19.5$ (including planted species)

$mCv = R/N = 170/76 = 2.2$ (including planted species)

$FQI = R/\sqrt{N} = 154/\sqrt{73} = 18.0$ (excluding planted species)

$mCv = R/N = 154/73 = 2.1$ (excluding planted species)