

**APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers**

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 10-May-2010

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Chicago District, LRC-2010-00175-JD1

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State : IL - Illinois
County/parish/borough: McHenry
City: Richmond
Lat: 42.4811
Long: -88.27547
Universal Transverse Mercator Folder UTM List
UTM list determined by folder location

- NAD83 / UTM zone 16N

Waters UTM List
UTM list determined by waters location

- NAD83 / UTM zone 16N

Name of nearest waterbody:

Name of nearest Traditional Navigable Water (TNW):

Name of watershed or Hydrologic Unit Code (HUC):

- Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
- Check if other sites (e.g., offsite mitigation sites, disposal sites, etc.) are associated with the action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION:

- Office Determination Date:
- Field Determination Date(s): 02-Apr-2010

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION

There [] "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area.

- Waters subject to the ebb and flow of the tide.
- Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There [] "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area.

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area:¹

| Water Name | Water Type(s) Present |
|---|---|
| Unnamed Tributary to Elizabeth Lake Drain | Relatively Permanent Waters (RPWs) that flow directly or indirectly into TNWs |
| Wetland | Wetlands directly abutting RPWs that flow directly or indirectly into TNWs |

b. Identify (estimate) size of waters of the U.S. in the review area:

Area: (m²)

Linear: (m)

c. Limits (boundaries) of jurisdiction:

based on: []

OHWM Elevation: (if known)

2. Non-regulated waters/wetlands:³

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

1. TNW

Not Applicable.

2. Wetland Adjacent to TNW

Not Applicable.

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: []

Drainage area: []

Average annual rainfall: inches

Average annual snowfall: inches

(ii) Physical Characteristics

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through [] tributaries before entering TNW.

:Number of tributaries

Project waters are [] river miles from TNW.

Project waters are [] river miles from RPW.

Project Waters are [] aerial (straight) miles from TNW.

Project waters are [] aerial(straight) miles from RPW.

Project waters cross or serve as state boundaries.

Explain:

Identify flow route to TNW:⁵

Tributary Stream Order, if known:

| Order | Tributary Name |
|-------|---|
| 2 | Unnamed Tributary to Elizabeth Lake Drain |

(b) General Tributary Characteristics:

Tributary is:

| Tributary Name | Natural | Artificial | Explain | Manipulated | Explain |
|---|---------|------------|---------|-------------|---------|
| Unnamed Tributary to Elizabeth Lake Drain | X | - | - | - | - |

Tributary properties with respect to top of bank (estimate):

| Tributary Name | Width (ft) | Depth (ft) | Side Slopes |
|---|------------|------------|-------------|
| Unnamed Tributary to Elizabeth Lake Drain | 12 | 2 | 3:1 |

Primary tributary substrate composition:

| Tributary Name | Silt | Sands | Concrete | Cobble | Gravel | Muck | Bedrock | Vegetation | Other |
|---|------|-------|----------|--------|--------|------|---------|------------|-------|
| Unnamed Tributary to Elizabeth Lake Drain | X | - | - | - | - | X | - | - | - |

Tributary (conditions, stability, presence, geometry, gradient):

| Tributary Name | Condition\Stability | Run\Riffle\Pool Complexes | Geometry | Gradient (%) |
|---|------------------------------|---------------------------|------------|--------------|
| Unnamed Tributary to Elizabeth Lake Drain | Stable with vegetated banks. | Absent | Meandering | 1 |

(c) Flow:

| Tributary Name | Provides for | Events Per Year | Flow Regime | Duration & Volume |
|---|----------------|-----------------|-------------------------|-------------------|
| Unnamed Tributary to Elizabeth Lake Drain | Perennial flow | 20 (or greater) | Creek flows year round. | - |

Surface Flow is:

| Tributary Name | Surface Flow | Characteristics |
|---|-----------------------|-----------------------|
| Unnamed Tributary to Elizabeth Lake Drain | Discrete and confined | Defined bed and bank. |

Subsurface Flow:

| Tributary Name | Subsurface Flow | Explain Findings | Dye (or other) Test |
|---|-----------------|------------------|---------------------|
| Unnamed Tributary to Elizabeth Lake Drain | Unknown | - | - |

Tributary has:

| Tributary Name | Bed & Banks | OHWM | Discontinuous OHWM ⁷ | Explain |
|---|-------------|------|---------------------------------|---------|
| Unnamed Tributary to Elizabeth Lake Drain | X | - | - | - |

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction:**High Tide Line indicated by:**

Not Applicable.

Mean High Water Mark indicated by:

Not Applicable.

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

| Tributary Name | Explain | Identify specific pollutants, if known |
|---|----------------------|--|
| Unnamed Tributary to Elizabeth Lake Drain | Tributary is cloudy. | Sediment, road salts. |

(iv) Biological Characteristics. Channel supports:

| Tributary Name | Riparian Corridor | Characteristics | Wetland Fringe | Characteristics | Habitat |
|---|-------------------|--|----------------|-----------------|---------|
| Unnamed Tributary to Elizabeth Lake Drain | X | Varies, but about 100 feet of floodplain forested area total on both sides of creek. | - | - | - |

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

| Wetland Name | Size (Acres) | Wetland Type | Wetland Quality | Cross or Serve as State Boundaries. Explain |
|--------------|--------------|----------------------|-----------------|---|
| Wetland | .1 | Floodplain forested. | Low | - |

(b) General Flow Relationship with Non-TNW:

Flow is:

| Wetland Name | Flow | Explain |
|--------------|----------|---------|
| Wetland | No flow. | - |

Surface flow is:

| Wetland Name | Flow | Characteristics |
|--------------|--------------------|--|
| Wetland | Overland sheetflow | Wetland is in floodplain, so floods during storm events. |

Subsurface flow:

| Wetland Name | Subsurface Flow | Explain Findings | Dye (or other) Test |
|--------------|-----------------|------------------|---------------------|
| Wetland | Unknown | - | - |

(c) Wetland Adjacency Determination with Non-TNW:

| Wetland Name | Directly Abutting | Discrete Wetland Hydrologic Connection | Ecological Connection | Separated by Berm/Barrier |
|--------------|-------------------|--|-----------------------|---------------------------|
| Wetland | Yes | - | - | - |

(d) Proximity (Relationship) to TNW:

| Wetland Name | River Miles From TNW | Aerial Miles From TNW | Flow Direction | Within Floodplain |
|--------------|----------------------|-----------------------|-----------------------------|-------------------|
| Wetland | 10-15 | 10-15 | Wetland to navigable waters | 50 - 100-year |

(ii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

| Wetland Name | Explain | Identify specific pollutants, if known |
|--------------|---------|--|
| Wetland | - | Sediment, road salts. |

(iii) Biological Characteristics. Wetland supports:

| Wetland Name | Riparian Buffer | Characteristics | Vegetation | Explain |
|--------------|-----------------|-----------------|------------|---------|
| Wetland | - | - | - | - |

3. Characteristics of all wetlands adjacent to the tributary (if any):

All wetlands being considered in the cumulative analysis:

Not Applicable.

Summarize overall biological, chemical and physical functions being performed:

Not Applicable.

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Significant Nexus: Not Applicable

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE:

1. TNWs and Adjacent Wetlands:

Not Applicable.

2. RPWs that flow directly or indirectly into TNWs:

| Wetland Name | Flow | Explain |
|---|-----------|-------------------------|
| Unnamed Tributary to Elizabeth Lake Drain | PERENNIAL | Creek flows year-round. |

Provide estimates for jurisdictional waters in the review area:

| Wetland Name | Type | Size (Linear) (m) | Size (Area) (m ²) |
|---|---|-------------------|-------------------------------|
| Unnamed Tributary to Elizabeth Lake Drain | Relatively Permanent Waters (RPWs) that flow directly or indirectly into TNWs | 152.4 | - |
| Total: | | 152.4 | 0 |

3. Non-RPWs that flow directly or indirectly into TNWs:⁸

Not Applicable.

Provide estimates for jurisdictional waters in the review area:

Not Applicable.

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

| Wetland Name | Flow | Explain |
|--------------|-----------|-------------------------|
| Wetland | PERENNIAL | Creek flows year-round. |

Provide acreage estimates for jurisdictional wetlands in the review area:

| Wetland Name | Type | Size (Linear) (m) | Size (Area) (m ²) |
|---------------|--|-------------------|-------------------------------|
| Wetland | Wetlands directly abutting RPWs that flow directly or indirectly into TNWs | - | 404.6856 |
| Total: | | 0 | 404.6856 |

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs:

Not Applicable.

Provide acreage estimates for jurisdictional wetlands in the review area:

Not Applicable.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs:

Not Applicable.

Provide estimates for jurisdictional wetlands in the review area:

Not Applicable.

7. Impoundments of jurisdictional waters:⁹

Not Applicable.

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS:¹⁰

Not Applicable.

Identify water body and summarize rationale supporting determination:

Not Applicable.

Provide estimates for jurisdictional waters in the review area:

Not Applicable.

F. NON-JURISDICTIONAL WATERS. INCLUDING WETLANDS

If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements:

Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce:

Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR):

Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (Explain):

Other (Explain):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (ie., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment:

Not Applicable.

Provide acreage estimates for non-jurisdictional waters in the review area, that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction.

Not Applicable.

SECTION IV: DATA SOURCES.**A. SUPPORTING DATA. Data reviewed for JD**

(listed items shall be included in case file and, where checked and requested, appropriately reference below):

Not Applicable.

B. ADDITIONAL COMMENTS TO SUPPORT JD:

Not Applicable.

¹-Boxes checked below shall be supported by completing the appropriate sections in Section III below.

²-For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

³-Supporting documentation is presented in Section III.F.

⁴-Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

⁵-Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

⁶-A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷-Ibid.

⁸-See Footnote #3.

⁹-To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹⁰-Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 05-May-2010

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Chicago District, LRC-2009-00023-JD4

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State : IL - Illinois
County/parish/borough: McHenry
City: Woodstock
Lat: 42.2824239415325
Long: -88.39760999999996
Universal Transverse Mercator
Folder UTM List
UTM list determined by folder location
 • NAD83 / UTM zone 16N
Waters UTM List
UTM list determined by waters location
 • NAD83 / UTM zone 16N
Name of nearest waterbody: Kishwaukee River
Name of nearest Traditional Navigable Water (TNW): Rock River
Name of watershed or Hydrologic Unit Code (HUC): Kishwaukee River

- Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
- Check if other sites (e.g., offsite mitigation sites, disposal sites, etc.) are associated with the action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION:

- Office Determination Date: 05-May-2010
- Field Determination Date(s): 09-Jan-2009

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION

There "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area.

- Waters subject to the ebb and flow of the tide.
- Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area.

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area:¹

| Water Name | Water Type(s) Present |
|-----------------------|--|
| LRC-2009-23 Wetland 2 | Non-RPWs that flow directly or indirectly into TNWs |
| LRC-2009-23 Wetland 1 | Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs |

b. Identify (estimate) size of waters of the U.S. in the review area:

Area: 73652 (m²)
Linear: (m)

c. Limits (boundaries) of jurisdiction:

based on: 1987 Delineation Manual.
OHWM Elevation: (if known)

2. Non-regulated waters/wetlands:³

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

1.76 acres of PUB3 wetlands were identified onsite, but wetland has no hydrological connection entering or exiting it. Only surface stormwater flows enter wetland area. This was confirmed on a 12-Mar-2010 site visit.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

1. TNW

Not Applicable.

2. Wetland Adjacent to TNW

Not Applicable.

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: 23333 acres
Drainage area: 225 acres
Average annual rainfall: 36 inches
Average annual snowfall: 38 inches

(ii) Physical Characteristics

(a) Relationship with TNW:

- Tributary flows directly into TNW.
 - Tributary flows through [] tributaries before entering TNW.
- :Number of tributaries

Project waters are 30 (or more) river miles from TNW.
Project waters are 1-2 river miles from RPW.
Project Waters are 30 (or more) aerial (straight) miles from TNW.
Project waters are 1 (or less) aerial(straight) miles from RPW.

Project waters cross or serve as state boundaries.

Explain:

Identify flow route to TNW:⁵

There is an excavated hole in the southeast portion of the on-site wetland that accepts a drain tile from the east and a 15" CMP drain tile from the excavated channel that extends for approximately 4200 feet through the wetland. From this point within the wetland, water was photographed during the January 9, 2009 site visit entering a 15" CMP that travels south, southeast roughly 730 feet and discharges in an excavated ditch. This ditch is the non-RPW, although it is expected that it holds water for most or all of the year. This ditch conveys water above ground to the south for roughly 800 feet before re-entering drain tile. The southernmost portion of this ditch was photographed during the January 9, 2009 site visit. There are two drain tile inlets at this location. One drain tile enters the other after traveling a short distance to the east. This 15" concrete tile extends approximately 1100 feet to the east before turning southerly at a 15" plastic riser pipe. The drain tile extends an estimated 800 feet before discharging off-site in an excavated drainage ditch. This ditch is considered a RPW and likely holds water all year. It conveys water above-ground to the south before turning westward and finally discharging into the Kishwaukee River (RPW) after approximately 3,400 feet. In the drain tile survey, the above stretch of drain tile was reported to be full of water in all areas that were inspected. In summary, there are two stretches of drain tile separating the wetland from an RPW. One stretch is between the wetland and the non-RPW. Again, this is only a non-RPW because it then discharges into a second stretch of drain tile, before discharging off-site into a RPW.

Tributary Stream Order, if known:

| Order | Tributary Name |
|-------|-----------------------|
| 1 | LRC-2009-23 Wetland 2 |

(b) General Tributary Characteristics:

Tributary is:

| Tributary Name | Natural | Artificial | Explain | Manipulated | Explain |
|-----------------------|---------|------------|---|-------------|---------|
| LRC-2009-23 Wetland 2 | - | X | Excavated ditch. This area appears to be somewhat wet on the 1939 aerial, so it may have conveyed some water in the past. | - | - |

Tributary properties with respect to top of bank (estimate):

| Tributary Name | Width (ft) | Depth (ft) | Side Slopes |
|-----------------------|------------|------------|-------------|
| LRC-2009-23 Wetland 2 | 10 | 6 | 2:1 |

Primary tributary substrate composition:

| Tributary Name | Silt | Sands | Concrete | Cobble | Gravel | Muck | Bedrock | Vegetation | Other |
|-----------------------|------|-------|----------|--------|--------|------|---------|------------|-------|
| LRC-2009-23 Wetland 2 | X | - | - | - | - | - | - | - | - |

Tributary (conditions, stability, presence, geometry, gradient):

| Tributary Name | Condition\Stability | Run\Riffle\Pool Complexes | Geometry | Gradient (%) |
|-----------------------|---|---------------------------|---------------------|--------------|
| LRC-2009-23 Wetland 2 | It was viewed in winter, but it appears to be stable. | - | Relatively straight | 0 |

(c) Flow:

| Tributary Name | Provides for | Events Per Year | Flow Regime | Duration & Volume |
|-----------------------|----------------|-----------------|--|---|
| LRC-2009-23 Wetland 2 | Perennial flow | 20 (or greater) | The drain tile was reported to be full of water during the drain tile survey, completed May 22, 2003. On January 9, 2009 when the Corps site visit was conducted, water was seen flowing from wetland 1 into the drain tiles. A video from July 9th, 2009 shows water exiting the drain tile south of Route 14 into the ditch that leads to the Kishwaukee River. This drainage ditch appears to have been wet during the wetland delineation site visits based on the 2 wetland delineation reports. During the January 5th, 2010 site visit for the appeal meeting, water was seen exiting the drainage ditch into the drain tiles. Since every site visit indicates the presence of water flowing through the system, it is thought that there is a relatively permanent flow of water through the tributary. | The slope of the tributary is relatively flat. Water is thought to flow through the system very slowly. This probably contributes to the fact that water appears to be relatively permanent. The long period of time to get through the system is probably a benefit to water quality, allowing longer time within the upstream wetland and within the tributary allowing increased sediment trapping capabilities. |

Surface Flow is:

| Tributary Name | Surface Flow | Characteristics |
|-----------------------|--------------|--|
| LRC-2009-23 Wetland 2 | Confined | Surface flow is in a confined drainage ditch |

Subsurface Flow:

| Tributary Name | Subsurface Flow | Explain Findings | Dye (or other) Test |
|-----------------------|-----------------|--|---------------------|
| LRC-2009-23 Wetland 2 | Yes | Between the wetland and the open drainage ditch, and the ditch and the downstream RPW, water flows through drain tile. | - |

Tributary has:

| Tributary Name | Bed & Banks | OHWM | Discontinuous OHWM ⁷ | Explain |
|-----------------------|-------------|------|---------------------------------|---------|
| LRC-2009-23 Wetland 2 | X | X | - | - |

Tributaries with OHWM⁶ - (as indicated above)
Not Applicable.

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction:

High Tide Line indicated by:
Not Applicable.

Mean High Water Mark indicated by:
Not Applicable.

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

| Tributary Name | Explain | Identify specific pollutants, if known |
|-----------------------|---|--|
| LRC-2009-23 Wetland 2 | The water in the tributary appears clear. | - |

(iv) Biological Characteristics. Channel supports:

| Tributary Name | Riparian Corridor | Characteristics | Wetland Fringe | Characteristics | Habitat |
|-----------------------|-------------------|--|----------------|-----------------|---------|
| LRC-2009-23 Wetland 2 | X | Roughly 20 feet in width with some small trees. No plant inventory was taken in this area. | - | - | - |

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

| Wetland Name | Size (Acres) | Wetland Type | Wetland Quality | Cross or Serve as State Boundaries. Explain |
|-----------------------|--------------|---|---|---|
| LRC-2009-23 Wetland 1 | 76.5 | PEMc - Palustrine, emergent, temporary. McHenry ADID study lists this wetland as a marsh community. | Listed in the McHenry County ADID wetland study as wetland K673, a high quality wetland for habitat. The wetland report completed by the applicants consultant lists an FQI of 12-13. The ADID wetland study lists and FQI of 24.7. | - |

(b) General Flow Relationship with Non-TNW:

Flow is:

| Wetland Name | Flow | Explain |
|-----------------------|-----------------|---------|
| LRC-2009-23 Wetland 1 | Perennial flow. | - |

Surface flow is:

| Wetland Name | Flow | Characteristics |
|-----------------------|--------------------|--|
| LRC-2009-23 Wetland 1 | Overland sheetflow | The wetland is very flat allowing water to flow slowly through the wetland and eventually toward the south. There is a very deep, excavated drainage ditch beginning in the western farmed wetland that extends along the northern portion of the wetland before turning south where it eventually enters drain tiles that convey water off-site to the south towards the Kishwaukee River. Water was evident in this location within the excavated hole and drainage ditch. The ice was open in the areas where the water entered the excavated hole and where it entered the drain tile that conveyed the water to the south. In the 2003 and 2007 wetland delineation reports provided by Ehorn Environmental, there was approximately 4 inches of water depth at plot 3, which appears to be near the excavated hole. The total length of the ditch along the north and east sides of the wetland is approximately 4,200 feet. |

Subsurface flow:

| Wetland Name | Subsurface Flow | Explain Findings | Dye (or other) Test |
|-----------------------|-----------------|---|---------------------|
| LRC-2009-23 Wetland 1 | Yes | Water drains into and out of the wetland through drain tiles. | - |

(c) Wetland Adjacency Determination with Non-TNW:

| Wetland Name | Directly Abutting | Discrete Wetland Hydrologic Connection | Ecological Connection | Separated by Berm/Barrier |
|-----------------------|-------------------|--|-----------------------|---------------------------|
| LRC-2009-23 Wetland 1 | No | X | - | - |

(d) Proximity (Relationship) to TNW:

| Wetland Name | River Miles From TNW | Aerial Miles From TNW | Flow Direction | Within Floodplain |
|-----------------------|----------------------|-----------------------|-----------------------------|-------------------|
| LRC-2009-23 Wetland 1 | 30 (or more) | 30 (or more) | Wetland to navigable waters | 50 - 100-year |

(ii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

| Wetland Name | Explain | Identify specific pollutants, if known |
|-----------------------|---------|--|
| LRC-2009-23 Wetland 1 | - | - |

(iii) Biological Characteristics. Wetland supports:

| Wetland Name | Riparian Buffer | Characteristics | Vegetation | Explain |
|-----------------------|-----------------|-----------------|------------|-----------------------------|
| LRC-2009-23 Wetland 1 | - | - | X | 76% native vegetative cover |

Habitat for:

| Wetland Name | Habitat | Federally Listed Species | Explain Findings | Spawn Area | Explain Findings | Other Environmentally Sensitive Species | Explain Findings | Aquatic/Wildlife Diversity | Explain Findings |
|-----------------------|---------|--------------------------|------------------|------------|------------------|---|---------------------------------------|----------------------------|---|
| LRC-2009-23 Wetland 1 | X | - | - | - | - | X | A diverse range of wetland vegetation | X | Sandhill Crane identified by EcoCAT in the area |

3. Characteristics of all wetlands adjacent to the tributary (if any):

All wetlands being considered in the cumulative analysis:
Not Applicable.

Summarize overall biological, chemical and physical functions being performed:
Not Applicable.

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Findings for: LRC-2009-23 Wetland 2, LRC-2009-23 Wetland 1

The physical connection between the subject wetland and the nearest Traditional Navigable Water (TNW), the Rock River, is described below. The wetland in question contains an excavated ditch running from west to east along the entire northern border and part of the eastern boundary. In the eastern portion of the wetland at the terminus of the excavated ditch, water is discharged into drain tiles that visibly transport water towards the south. From this point, the water travels through drain tile, then through an excavated ditch, followed by more drain tile, and into another excavated ditch (an RPW). At the end of the above described tributary, water discharges into the Kishwaukee River (a RPW). The Kishwaukee River is tributary to the Rock River, a TNW. The direct water connection between the wetland and the Kishwaukee River demonstrates the ability of the tributary to carry pollutants, flood waters, nutrients and organic carbon to the TNW. Information on the duration, volume, and frequency of flow through the system was recorded. The drain tile was reported to be full of water during the drain tile survey, completed May 22, 2003. On January 9, 2009 when the Corps site visit was conducted, water was seen flowing from wetland 1 into the drain tiles. A video from July 9th, 2009 shows water exiting the drain tile south of Route 14 into the ditch that leads to the Kishwaukee River. This drainage ditch appears to have been wet during the wetland delineation site visits based on the 2 wetland delineation reports. During the January 5th, 2010 site visit for the appeal meeting, water was seen exiting the drainage ditch into the drain tiles. Since every site visit indicates the presence of water flowing through the system, it is thought that there is a relatively permanent flow of water through the tributary. As such, the continuous flow of water through the system would present the opportunity for the wetlands system to affect the physical, chemical and biological integrity of the downstream waters. This is discussed further below. The wetland in question is over 30 miles from the nearest TNW. This factor, however, does not automatically eliminate this wetland from being considered jurisdictional. In general, the eastern half of McHenry County drains to the Fox River, a TNW, and the western half of the county drains to the Rock River. The Fox River runs through portions of the eastern edge of the county and is much closer than the Rock River. Therefore, many wetlands within the western portion of McHenry County are of a similar distance to the Rock River. This does not indicate a lack of importance on the chemical, physical, and biological integrity of the Rock River. This wetland, along with similarly situated wetlands within McHenry County, have a substantial and more than speculative positive influence on the overall integrity of the Rock River. The subject wetland is less than a half mile away from the Kishwaukee River, an extremely valuable resource for the area and known to be jurisdictional under many previous authorizations from the Corps. There is a clear and direct path from the subject wetland to the Kishwaukee River. Once the water enters the open ditch on the south side of Route 14, it is in jurisdictional waters. The short distance that water travels through drain tile in no way diminishes the benefits provided by the wetland prior to discharge from the site. It should further be noted that if water did not flow below ground for a portion of the time and was instead contained within an open ditch, the tributary system that conveys water from the subject wetland would be clearly jurisdictional under current regulations without the additional requirement of performing a significant nexus determination. Based on the above, the distance of the subject wetland from the downstream TNW does not negate the beneficial effects provided by that wetland. The physical, chemical and biological functions performed by the subject wetland, the tributary and all of its adjacent wetlands is discussed below. Stormwater storage provided by this wetland reduces the frequency and extent of downstream flooding. The filling of this wetland would increase flood peaks in the Kishwaukee River and in turn, the Rock River. The additional volume of water at an increased rate of speed would result in increased erosion along the Kishwaukee River and the Rock River and thereby result in direct, negative physical impacts on the Kishwaukee River and the Rock River. These destructive physical impacts of the increased erosion and resultant sedimentation would in turn negatively impact navigation along the Rock River. The sediment and pollutant/toxicant retention provided by the subject wetland has a direct, positive effect on the Rock River in regards to navigation and aquatic food webs that are not adapted to thrive in sediment-choked environments. The subject wetland not only provides on-site sediment and pollutant retention, but the reduction in flow rate and volume by the wetland reduces downstream erosion and sedimentation, as described above. This additional reduction in sediment and pollutants to the Kishwaukee and Rock Rivers provides a direct benefit to the chemical integrity of the Rock River. The subject wetlands, in combination with other similarly situated wetlands along the Kishwaukee River, also support the biological integrity of the Rock River. The subject wetland is located within a region that is either already highly urbanized or quickly developing. More specifically, the surrounding area was mostly rural but has seen increasing development in recent years. A wetland such as the one in question is a valuable resource to the biological integrity of region. The wetland is 94.7 acres in total size (76.5 on-site and 18.2 off-site) which is relatively large for the region. This wetland provides habitat that would be suitable for various amphibians, birds and mammals. Specifically, the EcoCAT (Ecological Compliance Assessment Tool) provided as a guide in natural resource reviews by the IDNR identified the Sandhill Crane in the location of this wetland. Again, in a region with diminishing natural areas, wetlands such as this provide valuable resources to migrating species. The wetland is identified on the McHenry County Advanced Identification (ADID) wetland map (ADID wetland K673) as being a high habitat wetland. High quality habitat sites are considered irreplaceable based on the fact that the complex biological systems and functions that these sites support cannot be successfully recreated within a reasonable time frame using existing restoration or creation methods. The ADID study identified 34 native species within the 76.4 acres high habitat portion of the subject wetland with an FQI of 24.7. The great majority of land within the Chicago region has FQI values of less than 20 and is therefore of little significance as a natural area (Swink and Wilhelm, 1994). The FQI value of 24.7 indicates that this wetland is higher in quality than most wetland areas within the region and deserves special protections. These facts lead to the conclusion that this wetland supports a high diversity of native plant species and is therefore of significant biological importance. Additional information was gained by performing an analysis of any ADID wetland that has some portion of its mapped boundaries with the sub-watershed of the larger Kishwaukee River Watershed. The site in question is located within the Upper Kishwaukee Watershed which is 31,379 acres in size. A total of 558 features were found to be at least partially contained within this sub-watershed. Many of these are relatively small wetlands and not all are of high quality. Also, the two largest features selected were actually only on the edge of the sub-watershed and a more thorough analysis, which is not possible here, would eliminate them from consideration. With these two features still in consideration, the average size of these selected waters is 11.6 acres for a total of 6,470 acres. The portion of the subject wetland that is determined to be high habitat wetland is 76.4 acres. There were 13 other wetlands that were larger in size and 6 of these were considered high value wetlands. So, off all 558 features selected within this subwatershed, only six were above larger size with comparable or better quality. This information is intended to give an idea as to the relative importance of this particular wetland within this sub-watershed. Larger wetlands have greater potential for providing adequate habitat for dependant species. This wetland is clearly an important part of the overall biological integrity of the sub-watershed. The largest feature selected in the ADID analysis is a 1,723 acre wetland that extends from the confluence of this sub-watershed in question and extends westward to the border of McHenry County. This wetland complex is considered to be a high habitat wetland and extends along the Kishwaukee River. Preservation of the quality of this wetland has important consequences for the protection of the Rock River. The subject wetland drains to the Kishwaukee River and flows directly through this important resource. The degradation or loss of the subject wetland would cause negative physical impacts on the downstream resources such as this 1,723 acre wetland, as discussed above. This, in turn, would result in negative physical, biological, and chemical impacts to the Rock River. The subject wetland, alone and in combination with other similarly situated area wetlands, significantly affect the physical, chemical and biological integrity of the Rock River. These factors, as described above, contribute to the finding of a significant nexus between the on-site wetland and the Rock River. References: Swink, Floyd and Gerould Wilhelm. 1994. Plants of the Chicago region. 4th ed. Indianapolis: Indiana Academy of Science.

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE:

1. TNWs and Adjacent Wetlands:
Not Applicable.

2. RPWs that flow directly or indirectly into TNWs:
Not Applicable.

Provide estimates for jurisdictional waters in the review area:
Not Applicable.

3. Non-RPWs that flow directly or indirectly into TNWs:⁸
Not Applicable.

Provide estimates for jurisdictional waters in the review area:

| Tributary Name | Type | Size (Linear) (m) | Size (Area) (m²) |
|----------------|------|-------------------|------------------|
| | | | |

| | | | |
|-----------------------|---|---------------|----------|
| LRC-2009-23 Wetland 2 | Non-RPWs that flow directly or indirectly into TNWs | 243.84 | - |
| Total: | | 243.84 | 0 |

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.
Not Applicable.

Provide acreage estimates for jurisdictional wetlands in the review area:
Not Applicable.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs:
Not Applicable.

Provide acreage estimates for jurisdictional wetlands in the review area:
Not Applicable.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs:
Not Applicable.

Provide estimates for jurisdictional wetlands in the review area:

| Wetland Name | Type | Size (Linear) (m) | Size (Area) (m ²) |
|-----------------------|--|-------------------|-------------------------------|
| LRC-2009-23 Wetland 1 | Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs | - | 309584.484 |
| Total: | | 0 | 309584.484 |

7. Impoundments of jurisdictional waters:⁹
Not Applicable.

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS:¹⁰
Not Applicable.

Identify water body and summarize rationale supporting determination:
Not Applicable.

Provide estimates for jurisdictional waters in the review area:
Not Applicable.

F. NON-JURISDICTIONAL WATERS. INCLUDING WETLANDS

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements:
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce:
- Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR):
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (Explain):

- Other (Explain):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (ie., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment:

| Water Name | Type | Size (Linear) (m) | Size (Area) (m ²) |
|-----------------------|--|-------------------|-------------------------------|
| LRC-2009-23 Wetland 2 | Non-RPWs that flow directly or indirectly into TNWs | 243.84 | - |
| LRC-2009-23 Wetland 1 | Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs | - | 309584.484 |
| Total: | | 243.84 | 309584.484 |

Provide acreage estimates for non-jurisdictional waters in the review area, that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction.
Not Applicable.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD

(listed items shall be included in case file and, where checked and requested, appropriately reference below):

| Data Reviewed | Source Label | Source Description |
|--|-----------------------------|--|
| --Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant | Subsurface Drain Tile Study | Completed by HLC Surveying dated 04/24/2007. |
| --Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant | Wetland Survey | Dated 06/12/2003. An updated survey would be required for a boundary concurrence. |
| --Data sheets prepared/submitted by or on behalf of the applicant/consultant | 2007 Wetland Data Sheets | Vegetation, soils, and hydrology data |
| --USDA Natural Resources Conservation Service Soil Survey. | Current Soil Map | Most of wetland is labeled as 103A - Houghton Much. This is a very poorly drained soil, prone to frequent ponding of water with a low depth the water table and a very high water holding capacity |
| --State/Local wetland inventory map (s): | NRCS Farmed Wetland Map | Identified farmed wetlands on-site |
| --State/Local wetland inventory map (s): | McHenry ADID Wetland Map | Identified ADID wetland K673, high habitat value wetland. Two farmed wetlands were also identified. |
| --FEMA/FIRM maps | FEMA Map | Identified a portion of the wetland on the FEMA map as within the 100-year floodplain. |
| --Photographs | - | - |

| | | |
|---|-------------------------------------|--|
| ----Aerial | 1939 Aerial | Shows presence of on-site wetland. |
| ----Other | Photos taken by Corps | Photo 1: Water entering excavated hole from excavated ditch that runs along teh northern and a portion of teh eastern boundaries of teh wetland. Photo 2: Shows water exiting the excavated hole into drain tile. Photo 3: Shows water entering the drain tile at the southern end of the excavated ditch (the non-RPW) in the southern portion of teh site. Drain tile conveys water east from this point and off-site. |
| --Applicable/supporting scientific literature | Swink, Floyd and Gerould Wilhelm. | Swink, Floyd and Gerould Wilhelm. 1994. Plants of the Chicago region. 4th ed. Indianapolis: Indiana Academy of Science. |
| --Other information | 1996 McHenry County ADID Study Data | Indicates a higher FQI than the wetland delineation report provided by Ehorn Environmental. |

B. ADDITIONAL COMMENTS TO SUPPORT JD:

Not Applicable.

¹-Boxes checked below shall be supported by completing the appropriate sections in Section III below.

²-For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

³-Supporting documentation is presented in Section III.F.

⁴-Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

⁵-Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

⁶-A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷-Ibid.

⁸-See Footnote #3.

⁹-To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹⁰-Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.