# APPENDIX D – WETLAND DELINEATION REPORT

# Wetland Delineation Report

## KN188 Solar

Township of Sugar Grove

Kane County, Illinois

Prepared for:

TPE IL KN188, LLC
3720 S Dahlia Street
Denver, CO 80237

Prepared by:

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August 2023

DRAFT

Kimley»Horn

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# 1 Introduction

Wetland scientists Jack Tierney and Susan Mayer with Kimley-Horn and Associates, Inc. conducted a wetland investigation and field delineation for TPE IL KN188, LLC and the KN188 Solar Project in the township of Sugar Grove, Kane County, Illinois. The wetland investigation and delineation included one parcel (PID 14-05-300-026) encompassing 29.6 acres of Section 5, Township 38N, Range 7 (the "study area"). The study area is shown on **Figure 1** and consists of forested and agricultural land.

A routine level 2 (onsite) wetland delineation, as outlined in the *1987 Corps of Engineers Wetlands Delineation Manual* (January 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) (August 2010)* occurred on July 5, 2023. The purpose of this delineation was to identify the extent of wetlands within the study area. The information will be used to facilitate project design and determine if aquatic resource impacts are avoidable and/or if minimization of impacts can result from design modifications.

# 2 Project Description

TPE IL KN188, LLC is proposing a 5-megawatt (MW) community scale solar development. The project will primarily consist of ground mounted solar panels, racking, associated electrical components, with security fencing and interior access roads.

# 3 Statement of Qualifications

**Kimley-Horn** has extensive experience completing wetland investigations and delineations across the United States. Kimley-Horn's personnel has been trained to use the *1987 Corps of Engineers Wetlands Delineation Manual (USACE, 1987)* along with the applicable regional supplements. Kimley-Horn has experience completing off-site hydrology analysis, historic aerial reviews, and difficult or atypical situation delineations.

**Ashley Payne** earned a Bachelor of Arts Degree in Environmental Biology from Saint Mary's University of Minnesota. She is an environmental scientist with over 14 years of experience specializing in wetland services environmental documentation and assessments, and geographic information systems mapping and data collection. During the last 14 years, she has successfully completed hundreds of delineations for various types of projects. In the last seven years, Ashley's primary focus has been the delineation of agricultural fields for future development. She is familiar with completing historic aerial reviews and off-site hydrology determinations which are required for delineation of farmed wetlands. Ashley has also obtained environmental permits for clients through efficient and thorough preparation of permit applications, and by coordinating with agency personnel. Ashley is a certified delineator in the state of Minnesota and her primary focus is environmental work in the Midwest. She has extensive experience working in Minnesota, Illinois, Wisconsin, Michigan, Iowa, and South Dakota.

**Susan Mayer** earned a Bachelor of Science degree in Environmental Sciences, Policy, and Management from the University of Minnesota and has over four years of professional experience in environmental consulting. Susan specializes in wetland delineation, permitting, and geographic information systems management. She has led field teams in the delineation of hundreds of aquatic resources in agricultural fields, herbaceous land, and unmanaged forested areas for private sector clients. Susan has prepared permit applications and documentation for projects in Minnesota, South Dakota, Indiana, Illinois, and Iowa. She has extensive experience in GIS data management, research, development, and optimization for client deliverables and visualization.

**Jack Tierney** holds a Bachelor of Arts in Environmental Studies from the Montana State University. Jack specializes in wetland delineations, GIS mapping, and threatened and endangered species due diligence. He has completed delineations throughout the Midwest in roadway corridors, developed sites, and agricultural fields. Jack has experience in permitting, transit, and solar projects, and has completed wetland delineations for both public and private sector clients.

# 4 Regulatory Requirements

A summary of the permit requirements that may pertain to the project is provided below. Any activity planned within areas identified as wetland must be coordinated with and approved by the appropriate agencies prior to commencement of such activities.

## 4.1 State and Federal Regulations

The regulatory authority of the U.S. Army Corps of Engineers (USACE) covers Waters of the United States (WOTUS) in accordance with Section 404 of the Clean Water Act. Generally, the USACE reviews delineations to determine whether wetlands are jurisdictional (i.e., WOTUS). On December 30, 2022, the U.S. Environmental Protection Agency and Department of the Army ("the agencies") announced the final "Revised Definition of 'Waters of the United States'" rule. The rule took effect on March 20, 2023. Based on a preliminary federal injunction on April 12, 2023, the Revised Definition was revoked and the pre-2015 regulatory regime is in effect for 26 states. In Illinois, the 2023 Revised Definition of the Waters of the United States is in effect as of the date of this report.

Based on the May 25, 2023 ruling of Sackett v. EPA (2023), the Clean Waters Act's use of "waters" encompasses only relatively permanent, standing, or continuously flowing bodies, ordinarily called streams, oceans, rivers, and lakes. Wetlands qualify as WOTUS only if "indistinguishable from waters of the United States," having a continuous surface connection to bodies that are waters of the United States in their own right, with no clear division between waters and wetlands.

Section 10 of the Rivers and Harbors Act requires that regulated activities conducted below the ordinary high-water mark elevation of navigable Waters of the U.S. or mean high water mark for tidal waters be approved/permitted by the USACE. Regulated activities include the placement/removal of structures, work involving dredging, disposal of dredged material, filling, excavation, or any other disturbance of soils/sediments or modification of a navigable waterway. Navigable Waters of the U.S. are those waters that are subject to the ebb and flow of the tide shoreward to the mean high-water mark and/or are presently used or have been used in the past or may be susceptible to use to transport interstate or foreign commerce.

At this time, Illinois does not regulate wetlands under Section 404, or require setback buffers for wetlands on private land.

## 4.2 Local Regulations

At this time, based on publicly available information, the township of Sugar Grove does not regulate wetlands or require setback buffers for wetlands.

The regulatory authority of the Kane County Planning Department covers wetlands, streams, rivers, lakes, and ponds in accordance with the Kane County Code of Ordinances. Per the Kane County Code of Ordinances, (Chapter 9-177) "Buffer widths required as a part of a USACE Section 404 permit supersede the widths required in this section, unless the width required herein is greater. If a USACE permit is obtained to permanently fill a portion of a wetland and no buffer is required, the buffer width required by this chapter immediately adjacent to the area of impact does not apply. 'Immediately adjacent' refers to the area within fifteen feet (15') of the area of impact, which may be used to transition from no buffer to the required width. In no case shall additional wetland area be filled to provide buffer required by this chapter." See the Kane County Code of Ordinances under References for additional information.

# 5 Mapping and Background Information

Prior to field reconnaissance, potential wetland areas within the project study areas were identified through a desktop review of United States Geological Survey (USGS) topographic maps, National Wetlands Inventory (NWI), National Hydrography Dataset (NHD), Illinois Department of Natural Resources (IDNR) Public Waters, LiDAR, the soil survey for Kane County, Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), aerial photography (2017), and antecedent precipitation for a location near the study area. The selected resources are described below:

## 5.1 Topography

The Sugar Grove 7.5-minute USGS topographic map and 2-foot contours derived from a digital elevation model (DEM) from USGS were reviewed for the study area. According to the USGS topographic map (see **Figure 2**), the study area is undeveloped land with a depression and unimproved road shown in the southern portion of the site. A pond is depicted east of the study area, and several structures and a gravel pit are within the study area vicinity. The 2-foot contour data depicts the study area sloping towards localized depressions in the southern portion of the study area, and towards the northeast in the northern portion of the study area. The study area ranges from 704 feet (above mean sea level) to 764 feet, see **Figure 3**.

## 5.2 National Wetlands Inventory

NWI mapping, available from the U.S. Fish and Wildlife Service (USFWS) Wetland Mapper (updated in 2022), depicts potential wetland areas and waterbodies based on stereoscopic analysis of high altitude and aerial photographs and was reviewed for the study area. According to the NWI map, there is one freshwater pond wetland (PUBGx) mapped in the southwest corner of the study area. There are several mapped NWI features within the study area vicinity, **see Figure 3**.

## 5.3 National Hydrography Dataset

The NHD, available from USGS, depicts drainage networks and related features, including rivers, streams, canals, lakes, and ponds. The NHD dataset is not field verified. According to NHD mapping, there are no identified drainage features or waterbodies within the study area. There are several drainage features and waterbodies within the vicinity of the study area, **see Figure 3**.

## 5.4 IDNR Public Waters

The IDNR Public Waters viewer depicts IDNR Public Waters. According to the Public Waters viewer, there are no Public Waters within the study area or the vicinity of the study area.

## 5.5 Soil Survey

The Natural Resources Conservation Service's (NRCS) *Web Soil Survey* for Kane County was reviewed for the study area. According to the survey, there are five soil mapping units within the study area which are generally loams with some muck. Approximately 27 percent of the study area is mapped with a predominantly hydric rating of 98 percent or a hydric rating of 100 percent. The remainder of the study area is mapped with a non-hydric rating of 0 percent or a predominantly non-hydric rating of 3 percent. Maps and information obtained from NRCS online web soil survey are included in **Figure 4** and **Appendix A**.

## 5.6 Federal Emergency Management Agency Floodplain

The FEMA FIRM was reviewed for the study area. According to FEMA, the study area is located in Zone X of panel 17089C0315J (effective July 17, 2012), which is outside the designated 100-year floodplain zones, see **Figure 5**.

## 5.7 Aerial Photography Review

Aerial photography, acquired from Google Earth, was reviewed to identify the potential for wetlands across the study area. Thirteen photos were reviewed between 1993 and 2017, available in **Appendix B**. These photos were used to determine the presence of wetland hydrology using industry accepted offsite hydrology analysis for areas showing crop stress or other potential wetland signatures. Each image was interpreted for the presence or lack of hydrologic indicators.

Four Areas of Investigation (AOIs) were identified in the study area. AOIs 1 and 3 had wetland signatures in at least 30% of the historic aerials with normal precipitation conditions, met primary hydrology indicators during the field delineation, and were delineated as Wetlands 2 and 4, respectively. AOI 2 did not have wetland signatures in at least 30% of the historic aerials with normal precipitation conditions, but had hydrology indicators in the field; thus, this area was delineated as part of Wetland 1. AOI 4 had wetland signatures in at least 30% of the historic aerials with normal precipitation conditions but was observed to be the summit of a hill in the field; thus, this area was not delineated as a wetland. The AOIs are shown in **Appendix B**.

## 5.8 Precipitation

Precipitation data for the study area were obtained from the U.S. Army Corps of Engineers Antecedent Precipitation Tool. WETS (Wetlands) tables were reviewed for climate stations within the vicinity of the study area to determine the current hydrologic conditions for the study area and if those conditions are typical for this time of year. Ninety-day rolling precipitation levels leading up to the field review were compared to historical data. The data show that April and May months had drier than normal and June had normal precipitation levels. In summary, the field visit constituted drier than normal precipitation conditions. This information is included in **Appendix C**.

# 6 Field Investigation

A routine level 2 (onsite) wetland delineation, as outlined in the *1987 Corps of Engineers Wetlands Delineation Manual* (January 1987) along with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) (August 2010)* occurred on July 5, 2023.

During the onsite delineation, vegetation, soils, and current hydrologic characteristics were evaluated at each wetland area and area of investigation identified within the study area. Wetland boundaries were digitally recorded with a Geode GPS with sub-meter accuracy until one or more of the three criteria were no longer present. The sample point locations, wetland boundaries, and aquatic resources are shown in **Figure 6**.

In addition to wetlands that were investigated and delineated, non-wetland aquatic features were sought but none were delineated. Non-wetland aquatic features are defined based on the observation of the following characteristics:

- Flow
    - Perennial: contains water at all times of the year except during extreme drought
    - Intermittent: contains water occasionally or seasonally
    - Ephemeral: contains water only during and immediately after periods of rainfall or snowmelt
- Ordinary High Water Mark (OHWM): The limit line on the shore established by the fluctuation of the water surface. It is shown by such things as a clear line impressed on the bank, shelving, changes in soil character, destruction of terrestrial vegetation, the presence of litter and debris, or other features influenced by the surrounding area
- Bank Shape
    - Undercut: banks that overhang the stream channel

- Steep: bank slope of approximately greater than 30 degrees
- Gradual: bank slope of approximately 30 degrees or less

Sample points were completed for all observed wetlands. Historic aerials were reviewed for sample points taken in agricultural fields (See **Appendix B**). The field data sheets are included in **Appendix D**. Study area photos and a photo locations map can be found in **Appendix E**.

# 7 Summary of Results

**Table 1: Wetland Delineation Summary**

| Resource ID | Wetland Plant Community | Cowardin Classification[1] | Size (acres)[2] | NWI? | Hydric Soils?[3] | Photo ID | Associated Sample Points | NOTES | Regulatory Status[4] |
|---|---|---|---|---|---|---|---|---|---|
| ***Wetlands*** | | | | | | | | | |
| **Wetland 1** | Wet Meadow / Shrub-Carr | PEMB / PSSA | 2.46 | N/A | Yes | 1, 4 | SP-5 (Wet) SP-4 (Up) | Wetland located in depression along the northwestern portion of the study area. The wetland collects runoff from the surrounding landscape and drains northwest offsite. The wetland boundary was based on the change in topography and dominance of hydrophytic vegetation. The resource appears to extend beyond the study area boundary and connect to the NHD features to the north. | Jurisdictional (USACE): wetland contributes surface water flow to an offsite Traditionally Navigable Water (TNW) or Relatively Permanent Water (RPW). |
| **Wetland 2** | Wet Meadow / Shrub-Carr | PEMB / PSSA | 0.20 | N/A | Yes | 2, 3 | SP-3 (Wet) SP-4 (Up) | Wetland located in a depression along the northeastern portion of the study area. The wetland collects runoff from the surrounding landscape and drains northeast offsite. The wetland boundary was based on the change in topography and dominance of hydrophytic vegetation. The resource extends beyond the study area boundary to the northeast but appears surficially isolated from other aquatic resources. | Non-Jurisdictional: does not connect via a significant nexus or directly abut a Traditionally Navigable Water (TNW) |
| **Wetland 3** | Seasonally Flooded Basin | PFOA | 0.02 | N/A | Yes | 6 | SP-6 (Wet) SP-7 (Up) | Wetland located in a depression along the southwestern portion of the study area. The wetland collects runoff from the surrounding landscape and drains to Pond 1 adjacent to the south of the wetland. The wetland boundary was based on the change in topography and the presence of hydric soils. The resource appears to be connected to Pond 1 adjacent to the south, but surficially isolated from other aquatic resources. | Non-Jurisdictional: does not connect via a significant nexus or directly abut a Traditionally Navigable Water (TNW) |

[1] The Cowardin Classification System codes are found here: https://www.fws.gov/wetlands/documents/Wetlands-and-Deepwater-Habitats-Classification-chart.pdf
[2] Size of wetland features and additional areas investigated provided in acres within the study area.
[3] Areas identified as hydric contain partially hydric soils (equal to or greater than 33% of soil component) mapped within the resource area.
[4] Regulatory Status is based on best professional judgment and has not been verified with agency staff.

| Resource ID | Wetland Plant Community | Cowardin Classification[1] | Size (acres)[2] | NWI? | Hydric Soils?[3] | Photo ID | Associated Sample Points | NOTES | Regulatory Status[4] |
|---|---|---|---|---|---|---|---|---|---|
| **Wetland 4** | Seasonally Flooded Basin | PEMAf | 0.39 | N/A | Yes | 5 | SP-1 (Wet) SP-2 (Up) | Wetland located in a depression along the central portion of the study area. The wetland collects runoff from the surrounding landscape and drains east offsite. The wetland boundary was based on the change in topography and historic aerial review. The resource appears surficially isolated from other aquatic resources. | Non-Jurisdictional: does not connect via a significant nexus or directly abut a Traditionally Navigable Water (TNW) |
| **Pond 1** | Shallow Open Water | PUBG | 0.12 | N/A | Yes | 7 | SP-7 (Up) | Wetland pond located in the southeast portion of the study area. The wetland collects runoff from the surrounding landscape and Wetland 3. The wetland boundary was based on the change in topography and the presence of hydric soils. The resource to be connected to Wetland 3 adjacent but appears surficially isolated from other aquatic resources. | Non-Jurisdictional: does not connect via a significant nexus or directly abut a Traditionally Navigable Water (TNW) |

# 8 Report Preparation

The procedures followed for this wetland delineation are in accordance with the *Corps of Engineers Wetlands Delineation Manual* and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) (August 2010).

This report describes study area conditions for a specific date in time and is generally valid for a period of five years from the date of the final field investigation and delineation, which was July 5, 2023.

# 9 Conclusion

The field delineation identified four wetlands and one pond within the study area. Each of the delineated resources is described in Table 1. Wetland 1 is anticipated to be USACE jurisdictional, and Wetlands 2-4 and Pond 1 are not anticipated to be USACE-jurisdictional.

# 10 Disclaimer

Kimley-Horn has prepared this document based on limited field observations and our interpretation, as scientists, of applicable regulations and agency guidance. While Kimley-Horn believes our interpretation to be accurate, final authority to interpret the regulations lies with the appropriate regulatory agencies. Regulatory agencies occasionally issue guidance that changes the interpretation of published regulations. Guidance issued after the date of this report has the potential to invalidate our conclusions and/or recommendations and may cause a need to reevaluate our conclusions and/or recommendations.

Because Kimley-Horn has no regulatory authority, the Client understands that proceeding based solely upon this document does not protect the Client from potential sanction or fines from the applicable regulatory agencies. The Client acknowledges that they have the opportunity to submit documentation to the regulatory agencies for concurrence prior to proceeding with any work. If the Client elects not to do so, then the Client proceeds at their sole risk.

# References


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# Figures


Kimley»Horn

0 1,000 2,000 US Feet

N

**Figure 1. Project Location**
Sugar Grove Township, Kane County
TPE IL KN188, LLC

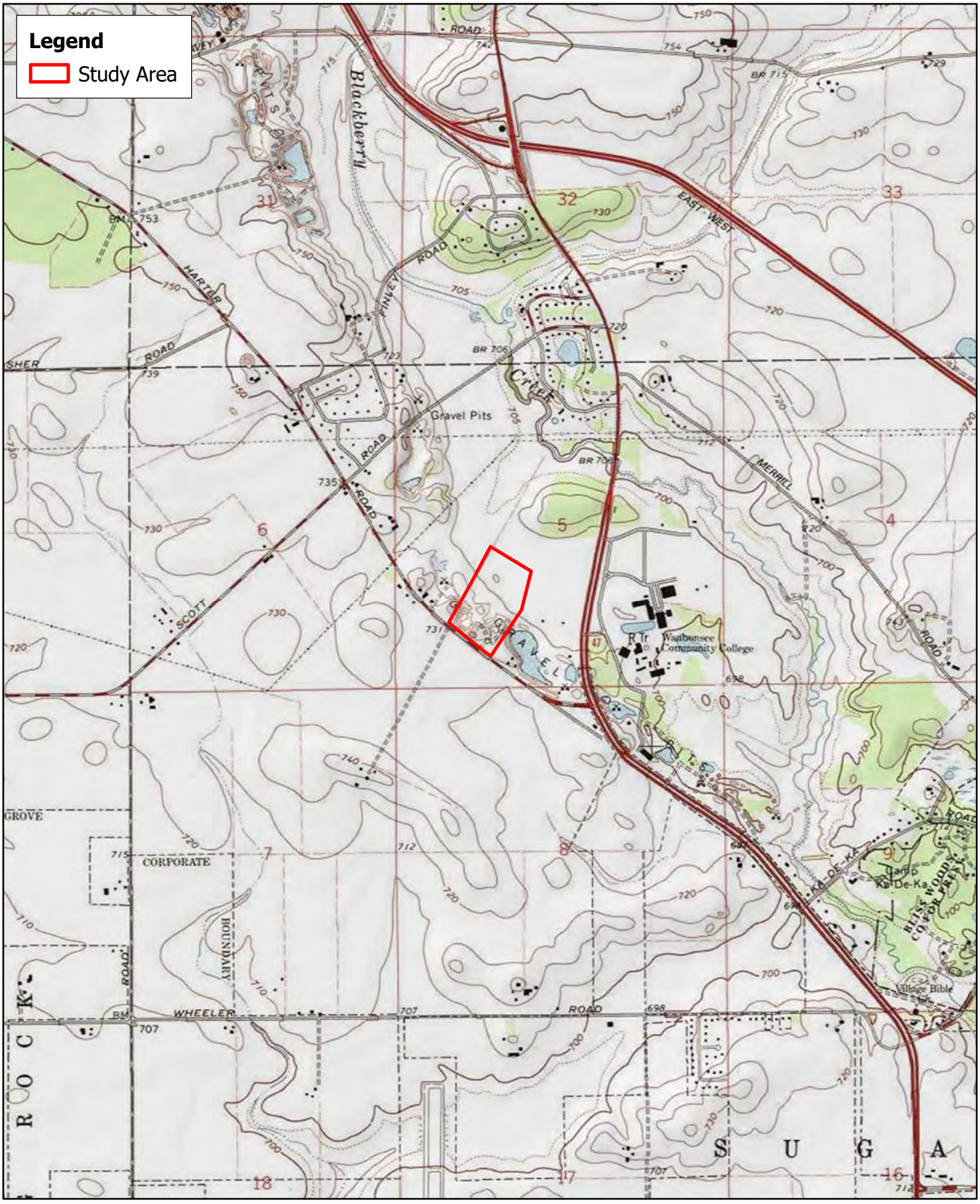



**Figure 2. USGS Topographic Map**
Sugar Grove Township, Kane County
TPE IL KN188, LLC

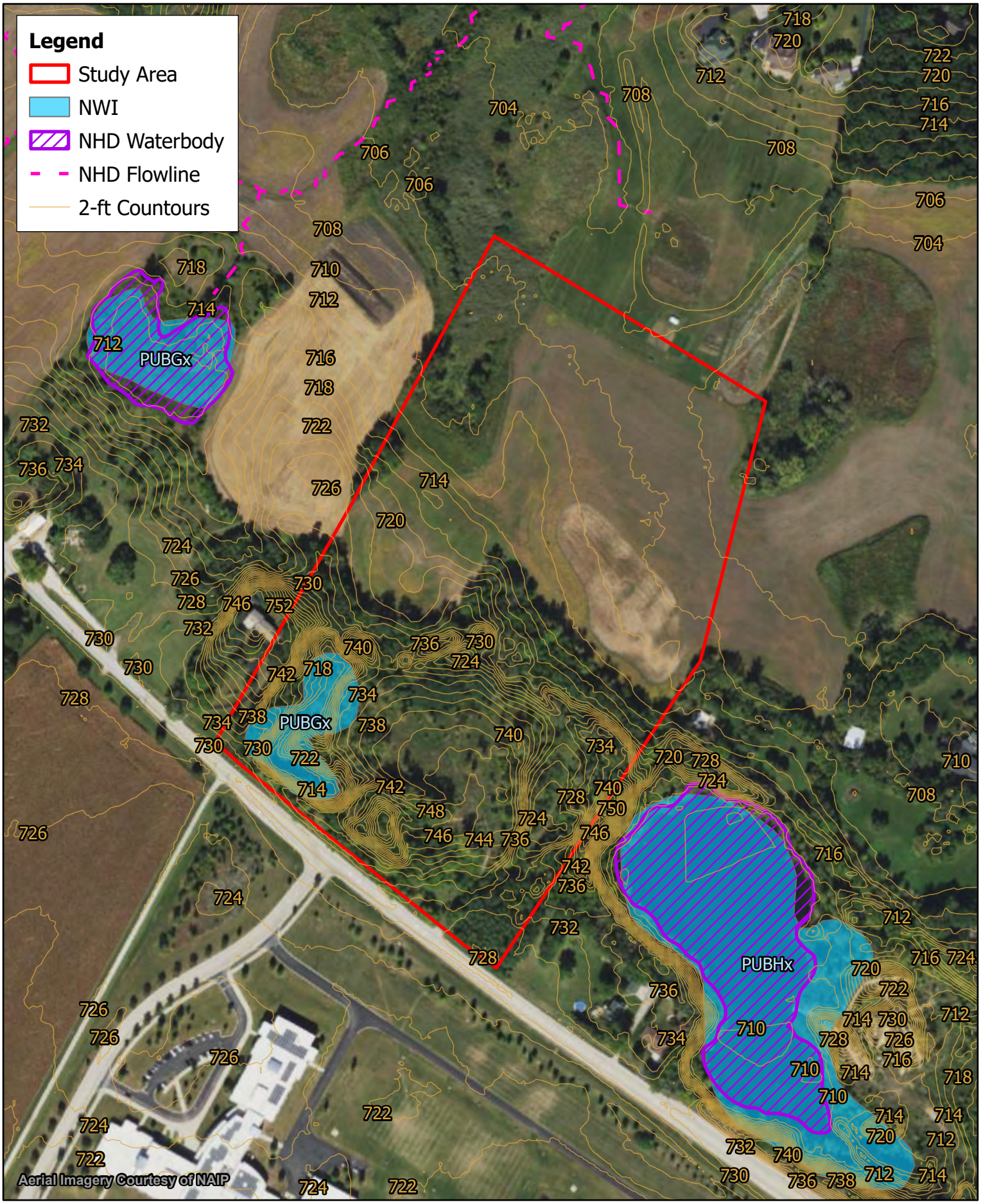
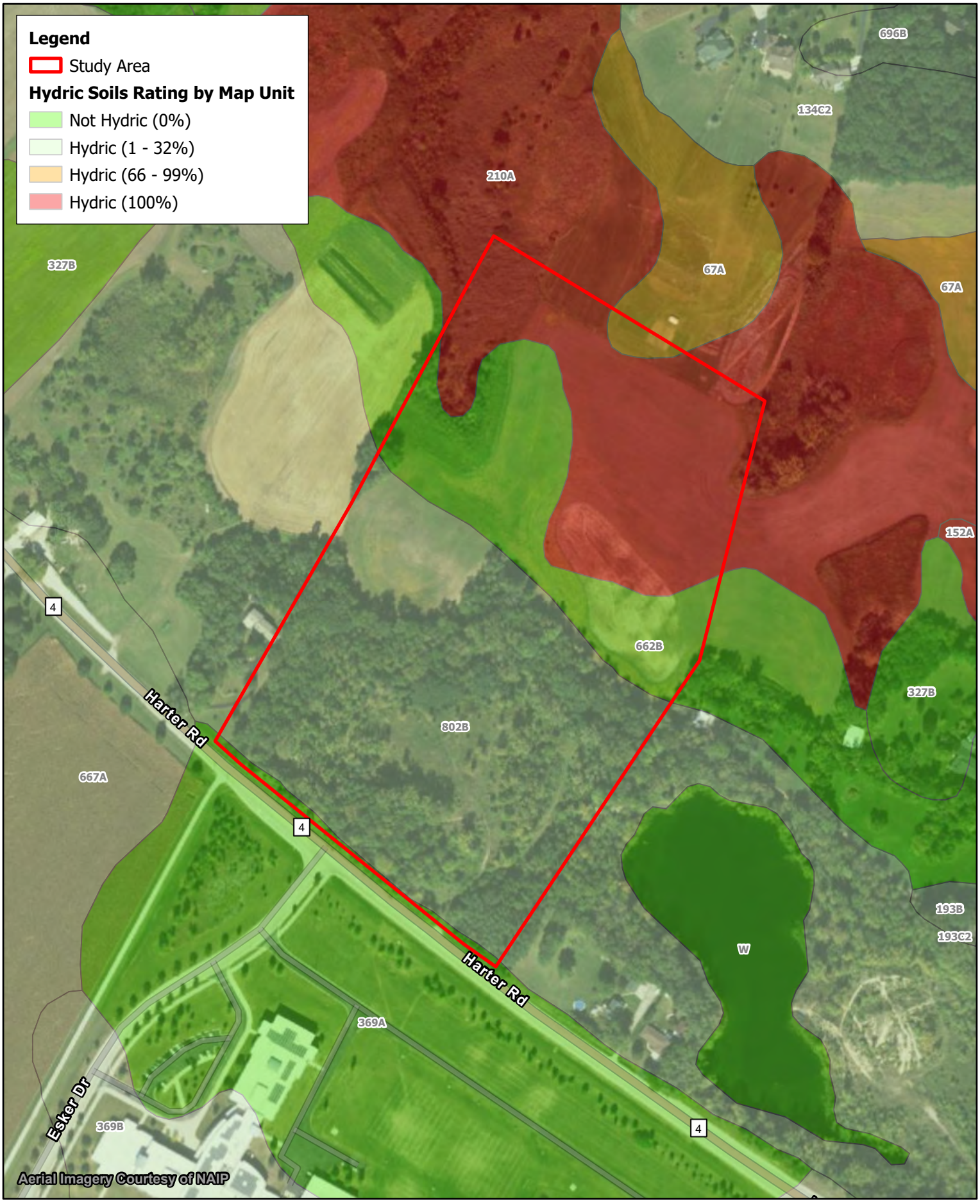



**Figure 3. NWI, NHD, and 2-ft Contours Map**
Sugar Grove Township, Kane County
TPE IL KN188, LLC

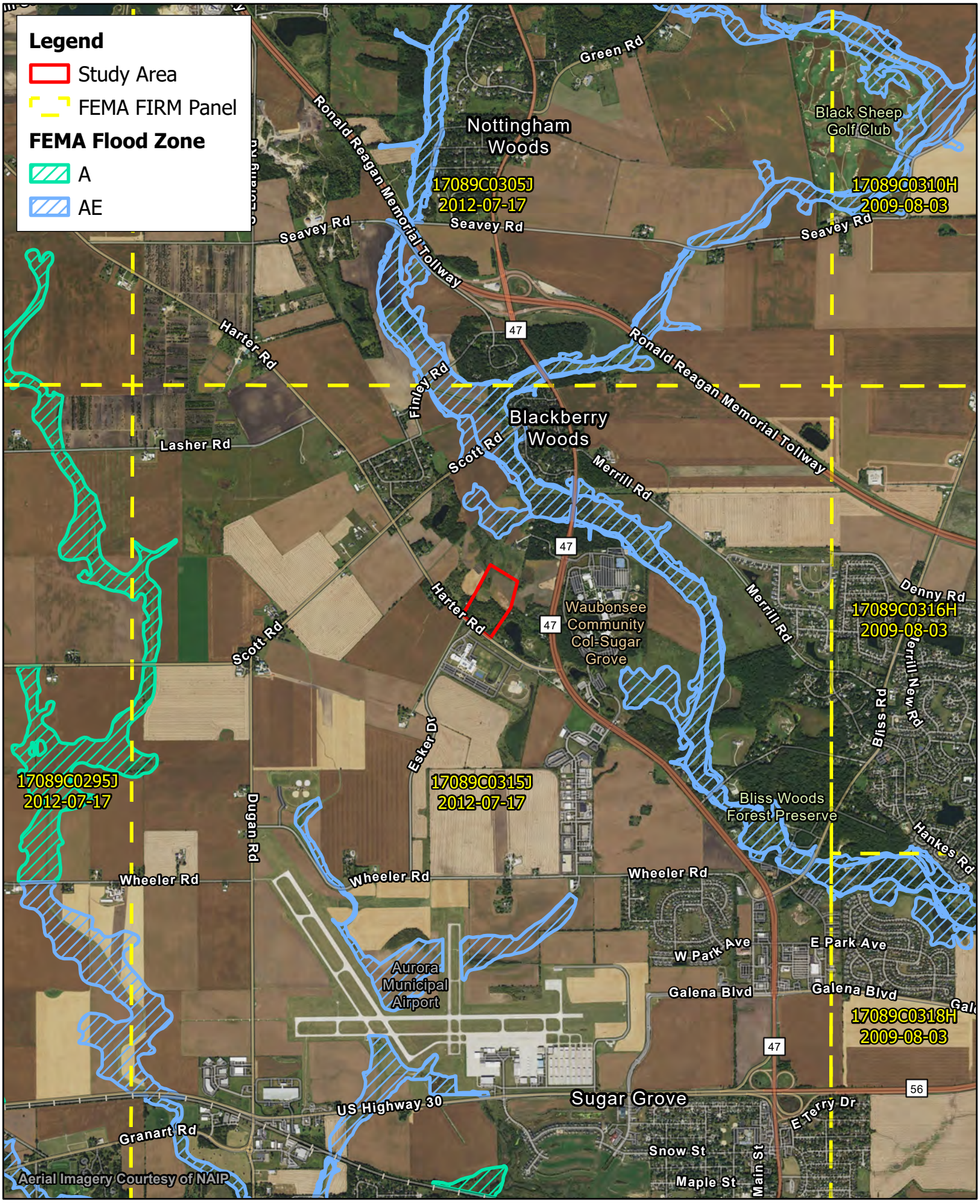



Kimley»Horn

0 150 300 US Feet

N

**Figure 4. Hydric Soils Map**
Sugar Grove Township, Kane County
TPE IL KN188, LLC




Kimley»Horn

0 1,500 3,000 US Feet

N

**Figure 5. FEMA Floodplain Map**
Sugar Grove Township, Kane County
TPE IL KN188, LLC


**Figure 6. Delineation Summary Map**
Sugar Grove Township, Kane County
TPE IL KN188, LLC

# Appendix A: Hydric Soils Information

Hydric Rating by Map Unit—Kane County, Illinois
(KN188)

## MAP LEGEND

**Area of Interest (AOI)**
- Area of Interest (AOI)

**Soils**

**Soil Rating Polygons**
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

**Soil Rating Lines**
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

**Soil Rating Points**
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

**Water Features**
- Streams and Canals

**Transportation**
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

**Background**
- Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Kane County, Illinois
Survey Area Data: Version 16, Aug 31, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 13, 2020—Jul 6, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

# Hydric Rating by Map Unit

| Map unit symbol | Map unit name | Rating | Acres in AOI | Percent of AOI |
|---|---|---|---|---|
| 67A | Harpster silty clay loam, 0 to 2 percent slopes | 98 | 0.3 | 0.9% |
| 210A | Lena muck, 0 to 2 percent slopes | 100 | 7.6 | 25.6% |
| 369A | Waupecan silt loam, 0 to 2 percent slopes | 0 | 0.3 | 1.1% |
| 662B | Barony silt loam, 2 to 5 percent slopes | 0 | 5.5 | 18.6% |
| 802B | Orthents, loamy, 1 to 6 percent slopes | 3 | 15.9 | 53.8% |
| **Totals for Area of Interest** | | | **29.6** | **100.0%** |

# Appendix B: Historic Aerial Review

**Appendix B. Historic Aerial Review***

| | | Image Interpretation** (Area of Investigation) | | | |
|---|---|---|---|---|---|
| Date Image Taken | Climate Condition*** | 1 | 2 | 3 | 4 |
| 3/29/1993 | Normal | NSS | NSS | NSS | NSS |
| 4/4/1998 | Normal | NSS | NSS | NSS | NSS |
| 2/28/2002 | Normal | NSS | NSS | NSS | NSS |
| 3/31/2005 | Normal | NV | NV | NV | NV |
| 6/2/2006 | Drier than normal | NV | NV | NV | CS |
| 10/10/2007 | Normal | NV | NV | NV | NV |
| 5/3/2008 | Normal | SS | SS | NSS | NSS |
| 6/27/2009 | Normal | CS | NC | CS | CS |
| 6/23/2010 | Wetter than normal | NV | CS | CS | NV |
| 9/14/2011 | Normal | CS | NV | CS | CS |
| 5/23/2013 | Wetter than normal | NV | NV | NV | NV |
| 9/20/2015 | Wetter than normal | NV | NV | NV | NV |
| 9/9/2017 | Normal | NV | NV | CS | CS |
| Number of normal years | | 9 | 9 | 9 | 9 |
| Number of normal years with wet signatures | | 3 | 1 | 3 | 3 |
| Percent of normal years with wet signatures | | 33% | 11% | 33% | 33% |
| Hydric Soils present | | Yes | No | Yes | No |
| Identified on NWI | | No | No | No | No |
| Hydrology indicators observed during field review? | | Yes | Yes | Yes | No |
| Has wetland signature in 30% or more in normal years? | | Yes | No | Yes | Yes |
| **Wetland Present?** | | Yes | Yes | Yes | No |
| **Wetland Number** | | 2 | 1 | 4 | N/A |

**Methodology for determining the presence of wetland explained in Guidance for Offsite Hydrology/ Wetland Determinations from Minnesota Board of Water and Soil Resources (BWSR) and St Paul District Corps of Engineers (July 1, 2016)*

***CS = Crop Stress, NC = Not Cropped, SS = Soil Wetness Signature, SW = Standing Water, AP = Altered Pattern, NV = Normal Vegetative Cover, DO= Drowned Out*

****Climate condition based on USACE APT 90-day rolling precipitation total for wetland hydrology determination for the given photo date. Methodology is described in report.*


Kimley»Horn

0 100 200 US Feet

N

**Historic Areas of Investigation Map**
Sugar Grove Township, Kane County
TPE IL KN188, LLC


Kimley»Horn

0 100 200 US Feet

N

**Historic Aerial Map (March 1993)**
Sugar Grove Township, Kane County
TPE IL KN188, LLC


Kimley»Horn

0 100 200
US Feet

N

**Historic Aerial Map (April 1998)**
Sugar Grove Township, Kane County
TPE IL KN188, LLC


Kimley»Horn

0 100 200
US Feet

N

**Historic Aerial Map (February 2002)**
Sugar Grove Township, Kane County
TPE IL KN188, LLC


Kimley»Horn

0 100 200 US Feet

N

**Historic Aerial Map (March 2005)**
Sugar Grove Township, Kane County
TPE IL KN188, LLC


Kimley»Horn

0 100 200 US Feet

N

**Historic Aerial Map (June 2006)**
Sugar Grove Township, Kane County
TPE IL KN188, LLC


Kimley»Horn

0 100 200
US Feet

N

**Historic Aerial Map (October 2007)**
Sugar Grove Township, Kane County
TPE IL KN188, LLC


Kimley»Horn

0 100 200
US Feet

N

**Historic Aerial Map (May 2008)**
Sugar Grove Township, Kane County
TPE IL KN188, LLC


Kimley»Horn

0 100 200 US Feet

N

**Historic Aerial Map (June 2009)**
Sugar Grove Township, Kane County
TPE IL KN188, LLC


Kimley»Horn

0 100 200
US Feet

N

**Historic Aerial Map (June 2010)**
Sugar Grove Township, Kane County
TPE IL KN188, LLC


Kimley»Horn

0 100 200 US Feet

N

**Historic Aerial Map (September 2011)**
Sugar Grove Township, Kane County
TPE IL KN188, LLC


Kimley»Horn

0 100 200
US Feet

N

**Historic Aerial Map (May 2013)**
Sugar Grove Township, Kane County
TPE IL KN188, LLC


Kimley»Horn

0 100 200 US Feet

N

**Historic Aerial Map (September 2015)**
Sugar Grove Township, Kane County
TPE IL KN188, LLC


Kimley»Horn

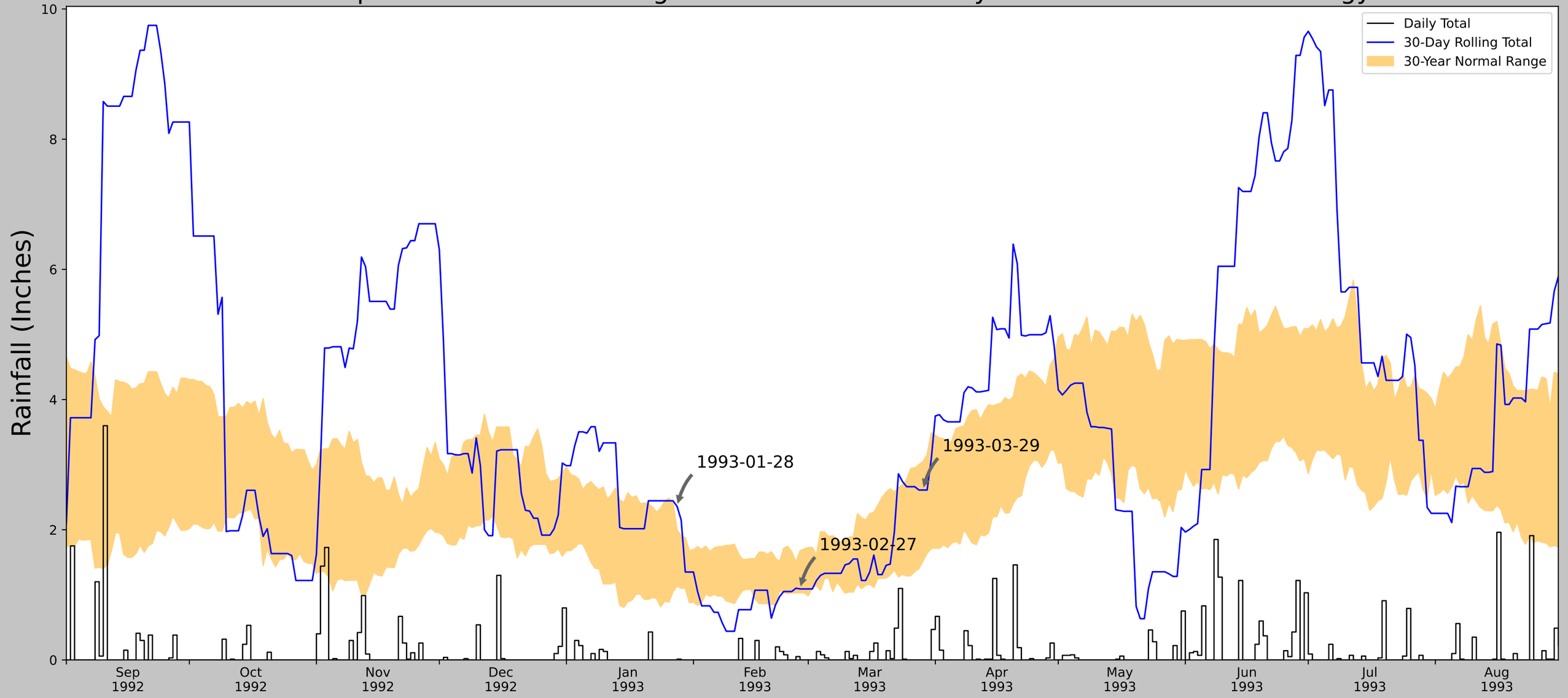
0 100 200
US Feet

N

**Historic Aerial Map (September 2017)**
Sugar Grove Township, Kane County
TPE IL KN188, LLC

# Appendix C: Precipitation Data

# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network




| | |
|---|---|
| Coordinates | 41.798151, -88.467854 |
| Observation Date | 1993-03-29 |
| Elevation (ft) | 715.222 |
| Drought Index (PDSI) | Moderate wetness |
| WebWIMP $H_2O$ Balance | Wet Season |

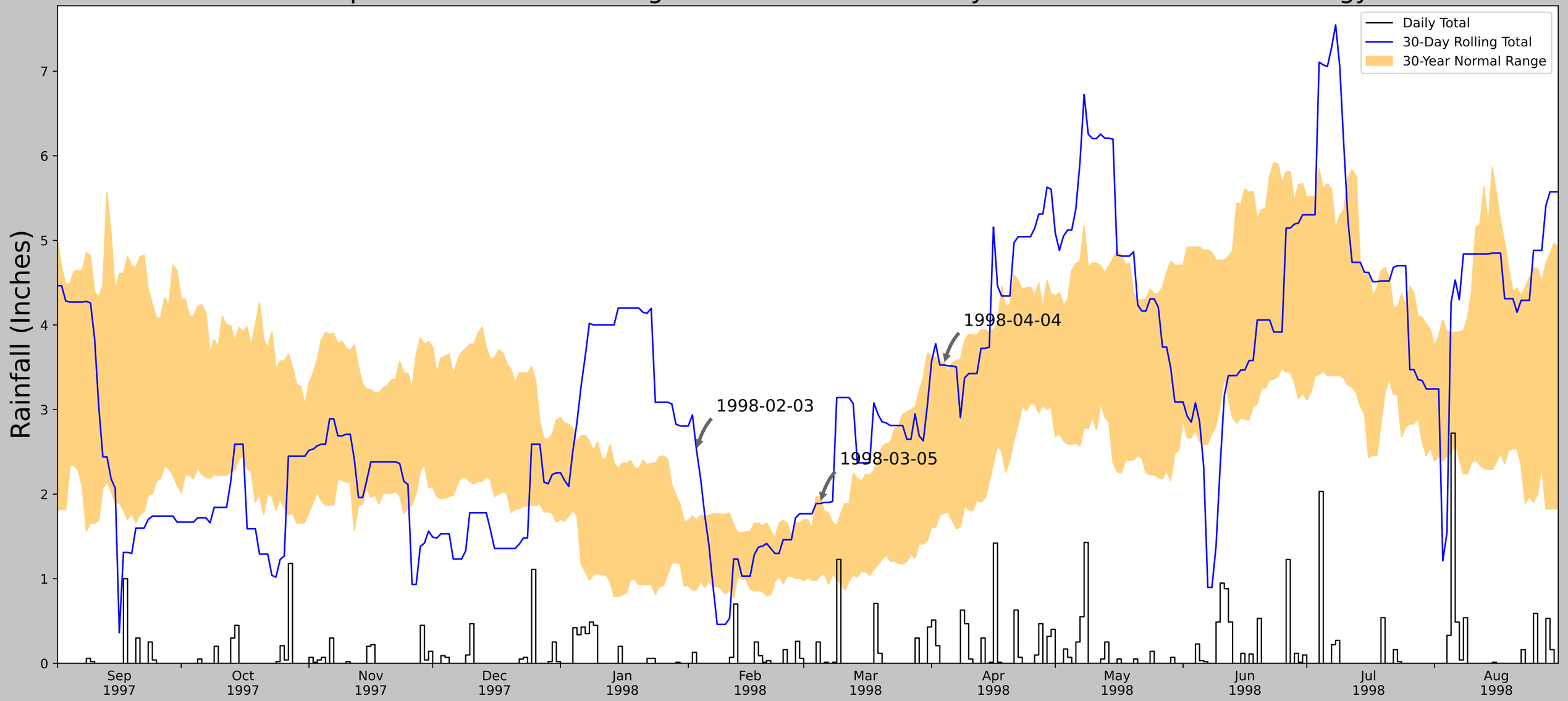
| 30 Days Ending | 30$^{th}$ %ile (in) | 70$^{th}$ %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product |
|---|---|---|---|---|---|---|---|
| 1993-03-29 | 1.522047 | 3.047244 | 2.610236 | Normal | 2 | 3 | 6 |
| 1993-02-27 | 1.030709 | 1.676772 | 1.090551 | Normal | 2 | 2 | 4 |
| 1993-01-28 | 1.133465 | 1.997244 | 2.358268 | Wet | 3 | 1 | 3 |
| Result | | | | | | | Normal Conditions - 13 |

Figure and tables made by the
**Antecedent Precipitation Tool**
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

| Weather Station Name | Coordinates | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days Normal | Days Antecedent |
|---|---|---|---|---|---|---|---|
| AURORA | 41.7803, -88.3092 | 660.105 | 8.266 | 55.117 | 4.175 | 11036 | 58 |
| WHEATON 3 SE | 41.8128, -88.0728 | 680.118 | 12.382 | 20.013 | 5.82 | 286 | 32 |
| CHICAGO OHARE INTL AP | 41.9603, -87.9317 | 671.916 | 23.063 | 11.811 | 10.651 | 31 | 0 |

# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network




| | |
|---|---|
| Coordinates | 41.798151, -88.467854 |
| Observation Date | 1998-04-04 |
| Elevation (ft) | 715.222 |
| Drought Index (PDSI) | Mild wetness |
| WebWIMP $H_2O$ Balance | Wet Season |

| 30 Days Ending | $30^{th}$ %ile (in) | $70^{th}$ %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product |
|---|---|---|---|---|---|---|---|
| 1998-04-04 | 1.775197 | 3.559843 | 3.527559 | Normal | 2 | 3 | 6 |
| 1998-03-05 | 1.035827 | 1.964567 | 1.889764 | Normal | 2 | 2 | 4 |
| 1998-02-03 | 0.872047 | 1.696063 | 2.515748 | Wet | 3 | 1 | 3 |
| Result | | | | | | | Normal Conditions - 13 |

Figure and tables made by the
**Antecedent Precipitation Tool**
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

| Weather Station Name | Coordinates | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days Normal | Days Antecedent |
|---|---|---|---|---|---|---|---|
| AURORA | 41.7803, -88.3092 | 660.105 | 8.266 | 55.117 | 4.175 | 10994 | 90 |
| WHEATON 3 SE | 41.8128, -88.0728 | 680.118 | 12.382 | 20.013 | 5.82 | 328 | 0 |
| CHICAGO OHARE INTL AP | 41.9603, -87.9317 | 671.916 | 23.063 | 11.811 | 10.651 | 31 | 0 |

# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network


| | |
|---|---|
| Coordinates | 41.798151, -88.467854 |
| Observation Date | 2002-02-28 |
| Elevation (ft) | 715.222 |
| Drought Index (PDSI) | Mild wetness |
| WebWIMP $H_2O$ Balance | Wet Season |

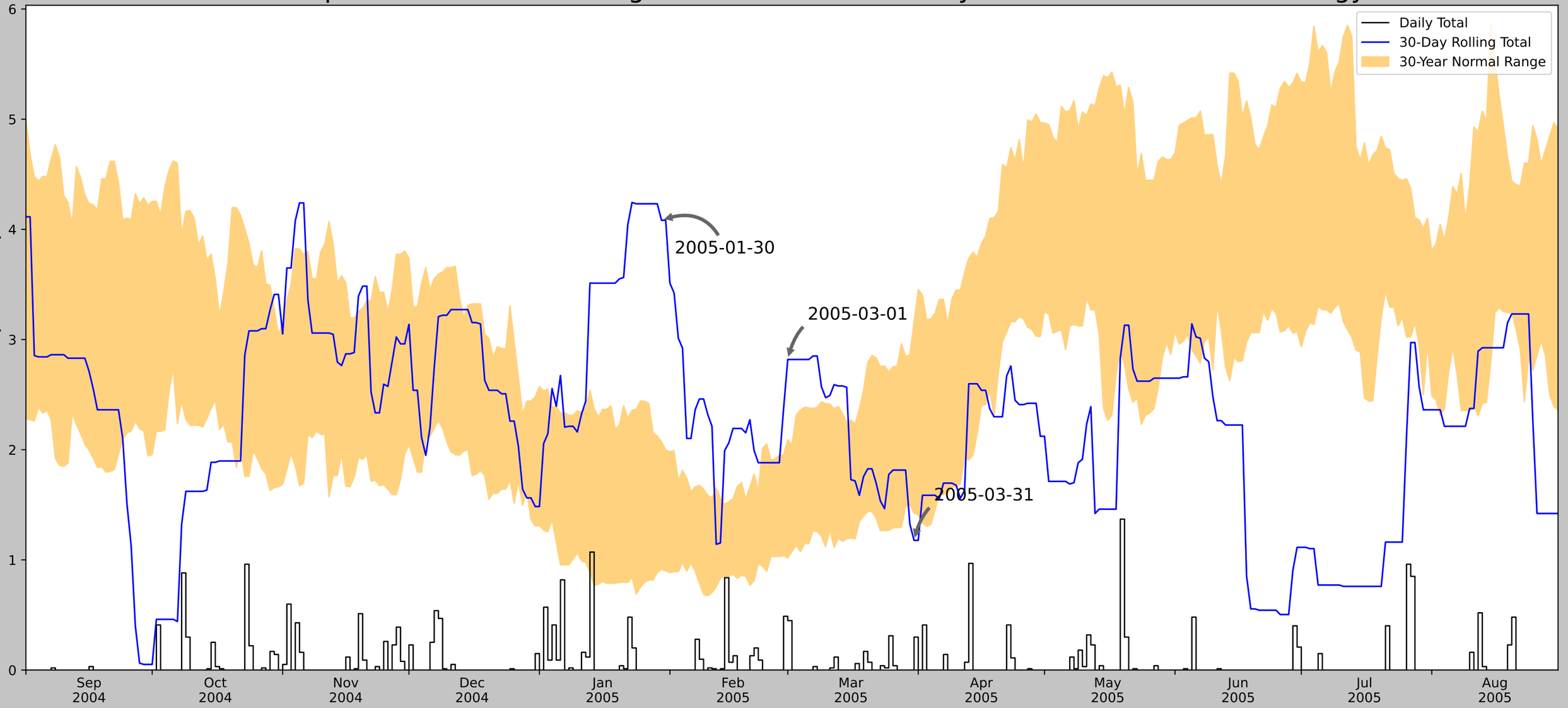
| 30 Days Ending | $30^{th}$ %ile (in) | $70^{th}$ %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product |
|---|---|---|---|---|---|---|---|
| 2002-02-28 | 1.075197 | 1.798425 | 2.149606 | Wet | 3 | 3 | 9 |
| 2002-01-29 | 1.108661 | 2.124803 | 0.562992 | Dry | 1 | 2 | 2 |
| 2001-12-30 | 1.485433 | 2.637795 | 1.330709 | Dry | 1 | 1 | 1 |
| Result | | | | | | | Normal Conditions - 12 |

Figure and tables made by the
**Antecedent Precipitation Tool**
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

| Weather Station Name | Coordinates | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days Normal | Days Antecedent |
|---|---|---|---|---|---|---|---|
| AURORA | 41.7803, -88.3092 | 660.105 | 8.266 | 55.117 | 4.175 | 10990 | 90 |
| CHICAGO AURORA MUNI AP | 41.7714, -88.4814 | 701.116 | 8.894 | 41.011 | 4.367 | 4 | 0 |
| WHEATON 3 SE | 41.8128, -88.0728 | 680.118 | 12.382 | 20.013 | 5.82 | 328 | 0 |
| CHICAGO OHARE INTL AP | 41.9603, -87.9317 | 671.916 | 23.063 | 11.811 | 10.651 | 31 | 0 |

# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network




| | |
|---|---|
| Coordinates | 41.798151, -88.467854 |
| Observation Date | 2005-03-31 |
| Elevation (ft) | 715.222 |
| Drought Index (PDSI) | Normal |
| WebWIMP $H_2O$ Balance | Wet Season |

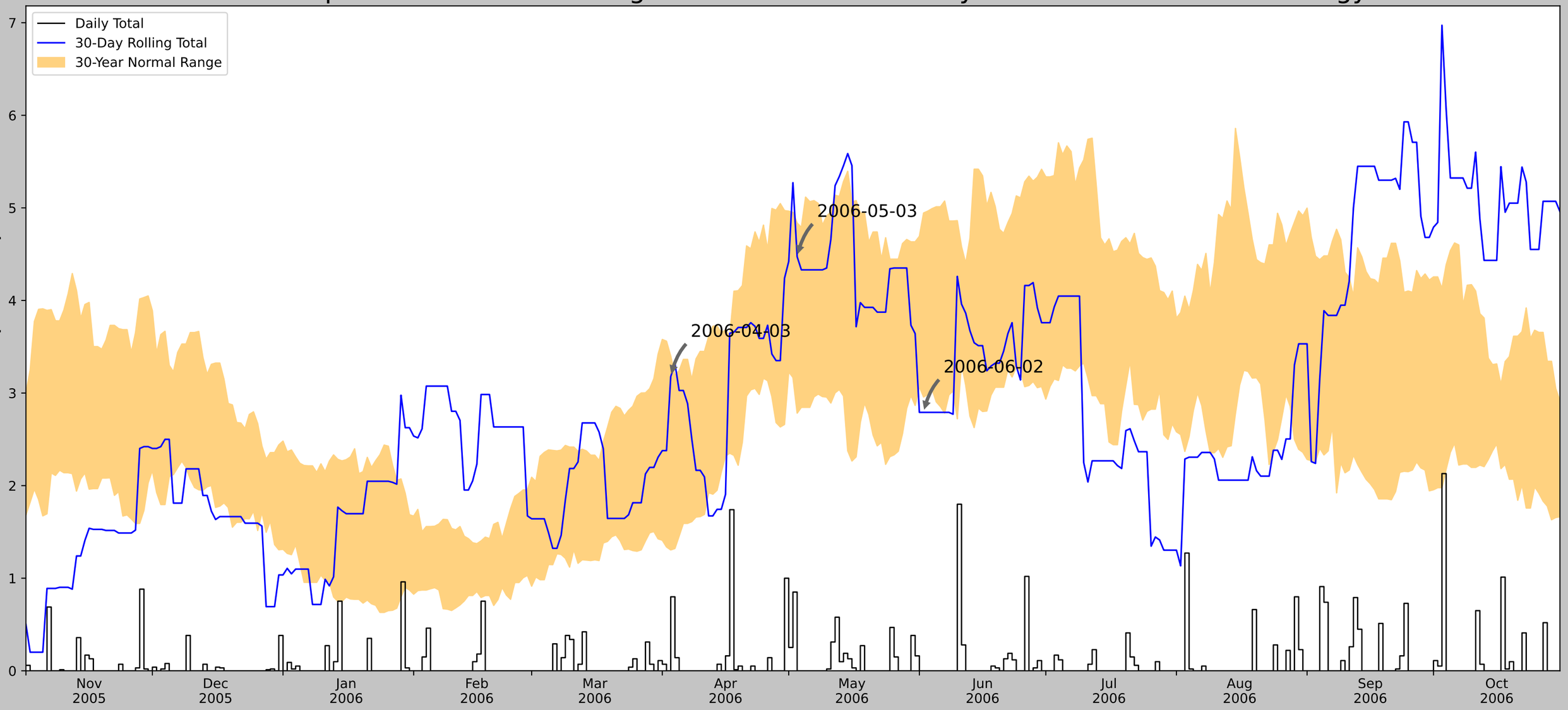
| 30 Days Ending | $30^{th}$ %ile (in) | $70^{th}$ %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product |
|---|---|---|---|---|---|---|---|
| 2005-03-31 | 1.425591 | 3.157874 | 1.177165 | Dry | 1 | 3 | 3 |
| 2005-03-01 | 1.016929 | 2.090945 | 2.818898 | Wet | 3 | 2 | 6 |
| 2005-01-30 | 0.916535 | 2.072835 | 4.082677 | Wet | 3 | 1 | 3 |
| Result | | | | | | | Normal Conditions - 12 |

Figure and tables made by the
**Antecedent Precipitation Tool**
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

| Weather Station Name | Coordinates | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days Normal | Days Antecedent |
|---|---|---|---|---|---|---|---|
| AURORA | 41.7803, -88.3092 | 660.105 | 8.266 | 55.117 | 4.175 | 10989 | 90 |
| CHICAGO AURORA MUNI AP | 41.7714, -88.4814 | 701.116 | 8.894 | 41.011 | 4.367 | 5 | 0 |
| WHEATON 3 SE | 41.8128, -88.0728 | 680.118 | 12.382 | 20.013 | 5.82 | 328 | 0 |
| CHICAGO OHARE INTL AP | 41.9603, -87.9317 | 671.916 | 23.063 | 11.811 | 10.651 | 31 | 0 |

# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network




| | |
|---|---|
| Coordinates | 41.798151, -88.467854 |
| Observation Date | 2006-06-02 |
| Elevation (ft) | 715.222 |
| Drought Index (PDSI) | Severe drought |
| WebWIMP $H_2O$ Balance | Dry Season |

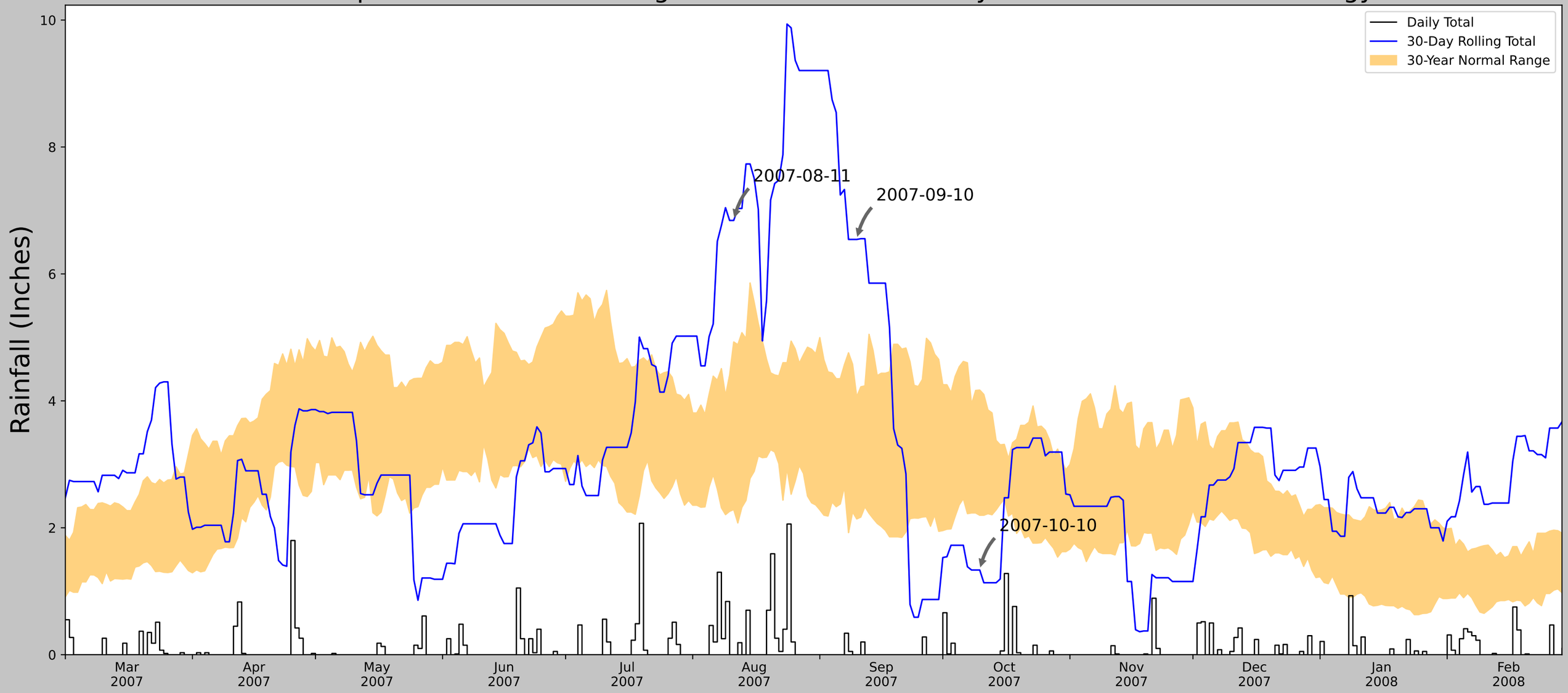
| 30 Days Ending | $30^{th}$ %ile (in) | $70^{th}$ %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product |
|---|---|---|---|---|---|---|---|
| 2006-06-02 | 2.957087 | 4.944882 | 2.791339 | Dry | 1 | 3 | 3 |
| 2006-05-03 | 2.782677 | 4.836221 | 4.472441 | Normal | 2 | 2 | 4 |
| 2006-04-03 | 1.305512 | 3.400788 | 3.177165 | Normal | 2 | 1 | 2 |
| Result | | | | | | | Drier than Normal - 9 |

Figure and tables made by the
**Antecedent Precipitation Tool**
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

| Weather Station Name | Coordinates | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days Normal | Days Antecedent |
|---|---|---|---|---|---|---|---|
| AURORA | 41.7803, -88.3092 | 660.105 | 8.266 | 55.117 | 4.175 | 10989 | 90 |
| CHICAGO AURORA MUNI AP | 41.7714, -88.4814 | 701.116 | 8.894 | 41.011 | 4.367 | 5 | 0 |
| WHEATON 3 SE | 41.8128, -88.0728 | 680.118 | 12.382 | 20.013 | 5.82 | 328 | 0 |
| CHICAGO OHARE INTL AP | 41.9603, -87.9317 | 671.916 | 23.063 | 11.811 | 10.651 | 31 | 0 |

# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network




| | |
|---|---|
| Coordinates | 41.798151, -88.467854 |
| Observation Date | 2007-10-10 |
| Elevation (ft) | 715.222 |
| Drought Index (PDSI) | Moderate wetness |
| WebWIMP $H_2O$ Balance | Wet Season |

| 30 Days Ending | $30^{th}$ %ile (in) | $70^{th}$ %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product |
|---|---|---|---|---|---|---|---|
| 2007-10-10 | 2.19685 | 4.170473 | 1.334646 | Dry | 1 | 3 | 3 |
| 2007-09-10 | 2.138583 | 4.063386 | 6.543307 | Wet | 3 | 2 | 6 |
| 2007-08-11 | 2.286614 | 4.928347 | 6.84252 | Wet | 3 | 1 | 3 |
| Result | | | | | | | Normal Conditions - 12 |

Figure and tables made by the
**Antecedent Precipitation Tool**
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

| Weather Station Name | Coordinates | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days Normal | Days Antecedent |
|---|---|---|---|---|---|---|---|
| AURORA | 41.7803, -88.3092 | 660.105 | 8.266 | 55.117 | 4.175 | 11024 | 90 |
| CHICAGO AURORA MUNI AP | 41.7714, -88.4814 | 701.116 | 8.894 | 41.011 | 4.367 | 5 | 0 |
| WHEATON 3 SE | 41.8128, -88.0728 | 680.118 | 12.382 | 20.013 | 5.82 | 292 | 0 |
| CHICAGO OHARE INTL AP | 41.9603, -87.9317 | 671.916 | 23.063 | 11.811 | 10.651 | 31 | 0 |

# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network


| | |
|---|---|
| Coordinates | 41.798151, -88.467854 |
| Observation Date | 2008-05-03 |
| Elevation (ft) | 715.222 |
| Drought Index (PDSI) | Moderate wetness |
| WebWIMP $H_2O$ Balance | Wet Season |

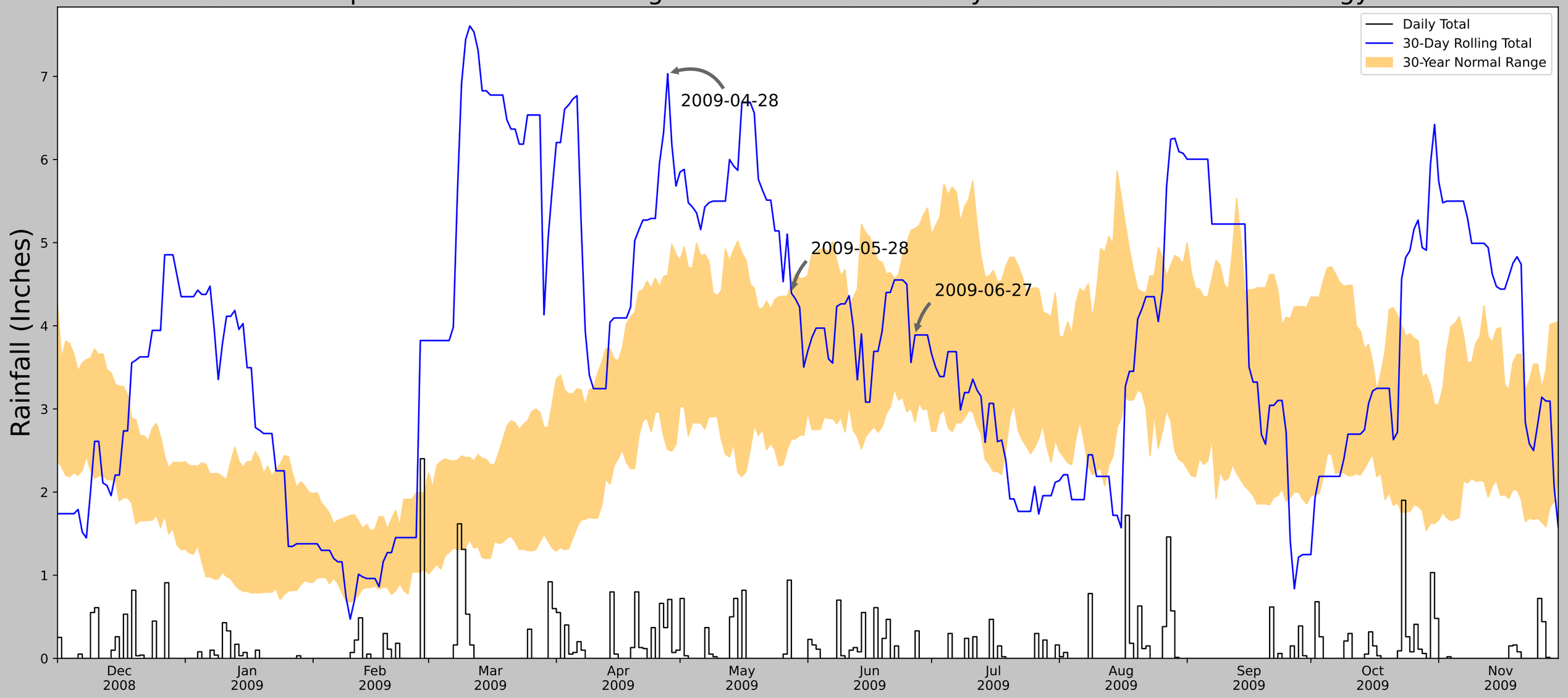
| 30 Days Ending | $30^{th}$ %ile (in) | $70^{th}$ %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product |
|---|---|---|---|---|---|---|---|
| 2008-05-03 | 2.678347 | 4.702756 | 3.015748 | Normal | 2 | 3 | 6 |
| 2008-04-03 | 1.305512 | 3.400788 | 1.42126 | Normal | 2 | 2 | 4 |
| 2008-03-04 | 0.983858 | 2.316536 | 3.625984 | Wet | 3 | 1 | 3 |
| Result | | | | | | | Normal Conditions - 13 |

Figure and tables made by the
**Antecedent Precipitation Tool**
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

| Weather Station Name | Coordinates | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days Normal | Days Antecedent |
|---|---|---|---|---|---|---|---|
| AURORA | 41.7803, -88.3092 | 660.105 | 8.266 | 55.117 | 4.175 | 11024 | 90 |
| CHICAGO AURORA MUNI AP | 41.7714, -88.4814 | 701.116 | 8.894 | 41.011 | 4.367 | 5 | 0 |
| WHEATON 3 SE | 41.8128, -88.0728 | 680.118 | 12.382 | 20.013 | 5.82 | 292 | 0 |
| CHICAGO OHARE INTL AP | 41.9603, -87.9317 | 671.916 | 23.063 | 11.811 | 10.651 | 31 | 0 |

# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network




| | |
|---|---|
| Coordinates | 41.798151, -88.467854 |
| Observation Date | 2009-06-27 |
| Elevation (ft) | 715.222 |
| Drought Index (PDSI) | Extreme wetness |
| WebWIMP $H_2O$ Balance | Dry Season |

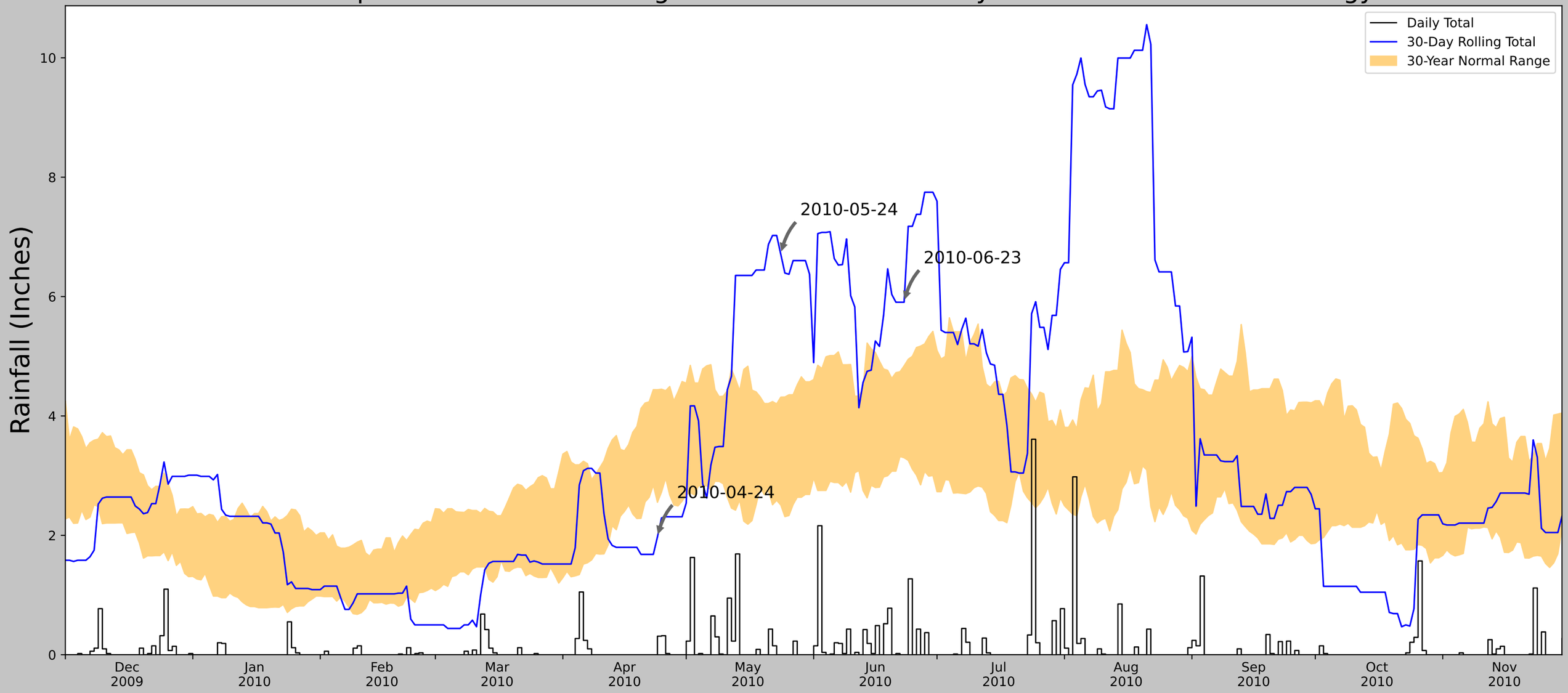
| 30 Days Ending | $30^{th}$ %ile (in) | $70^{th}$ %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product |
|---|---|---|---|---|---|---|---|
| 2009-06-27 | 2.845276 | 5.170473 | 3.889764 | Normal | 2 | 3 | 6 |
| 2009-05-28 | 2.637795 | 4.520866 | 4.393701 | Normal | 2 | 2 | 4 |
| 2009-04-28 | 2.509843 | 4.611024 | 7.031496 | Wet | 3 | 1 | 3 |
| Result | | | | | | | Normal Conditions - 13 |

Figure and tables made by the
**Antecedent Precipitation Tool**
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

| Weather Station Name | Coordinates | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days Normal | Days Antecedent |
|---|---|---|---|---|---|---|---|
| AURORA | 41.7803, -88.3092 | 660.105 | 8.266 | 55.117 | 4.175 | 11025 | 90 |
| CHICAGO AURORA MUNI AP | 41.7714, -88.4814 | 701.116 | 8.894 | 41.011 | 4.367 | 5 | 0 |
| WHEATON 3 SE | 41.8128, -88.0728 | 680.118 | 12.382 | 20.013 | 5.82 | 292 | 0 |
| CHICAGO OHARE INTL AP | 41.9603, -87.9317 | 671.916 | 23.063 | 11.811 | 10.651 | 31 | 0 |

# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network




| | |
|---|---|
| Coordinates | 41.798151, -88.467854 |
| Observation Date | 2010-06-23 |
| Elevation (ft) | 715.222 |
| Drought Index (PDSI) | Severe wetness |
| WebWIMP $H_2O$ Balance | Dry Season |

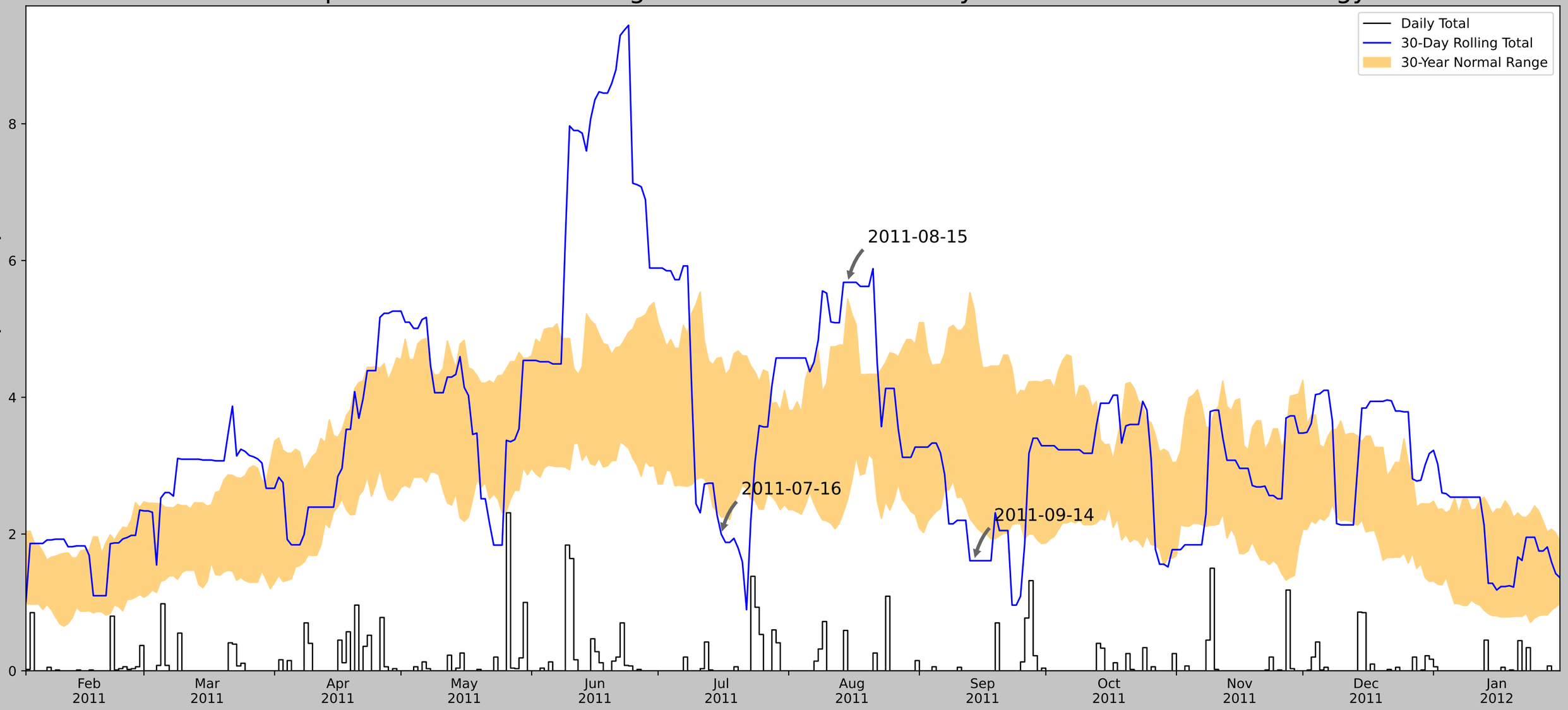
| 30 Days Ending | $30^{th}$ %ile (in) | $70^{th}$ %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product |
|---|---|---|---|---|---|---|---|
| 2010-06-23 | 3.299606 | 4.840158 | 5.905512 | Wet | 3 | 3 | 9 |
| 2010-05-24 | 2.508661 | 4.315354 | 6.712599 | Wet | 3 | 2 | 6 |
| 2010-04-24 | 2.553543 | 4.43937 | 1.972441 | Dry | 1 | 1 | 1 |
| Result | | | | | | | Wetter than Normal - 16 |

Figure and tables made by the
**Antecedent Precipitation Tool**
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

| Weather Station Name | Coordinates | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days Normal | Days Antecedent |
|---|---|---|---|---|---|---|---|
| AURORA | 41.7803, -88.3092 | 660.105 | 8.266 | 55.117 | 4.175 | 11025 | 90 |
| CHICAGO AURORA MUNI AP | 41.7714, -88.4814 | 701.116 | 8.894 | 41.011 | 4.367 | 5 | 0 |
| WHEATON 3 SE | 41.8128, -88.0728 | 680.118 | 12.382 | 20.013 | 5.82 | 292 | 0 |
| CHICAGO OHARE INTL AP | 41.9603, -87.9317 | 671.916 | 23.063 | 11.811 | 10.651 | 31 | 0 |

# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network




| | |
|---|---|
| Coordinates | 41.798151, -88.467854 |
| Observation Date | 2011-09-14 |
| Elevation (ft) | 715.222 |
| Drought Index (PDSI) | Severe wetness |
| WebWIMP $H_2O$ Balance | Wet Season |

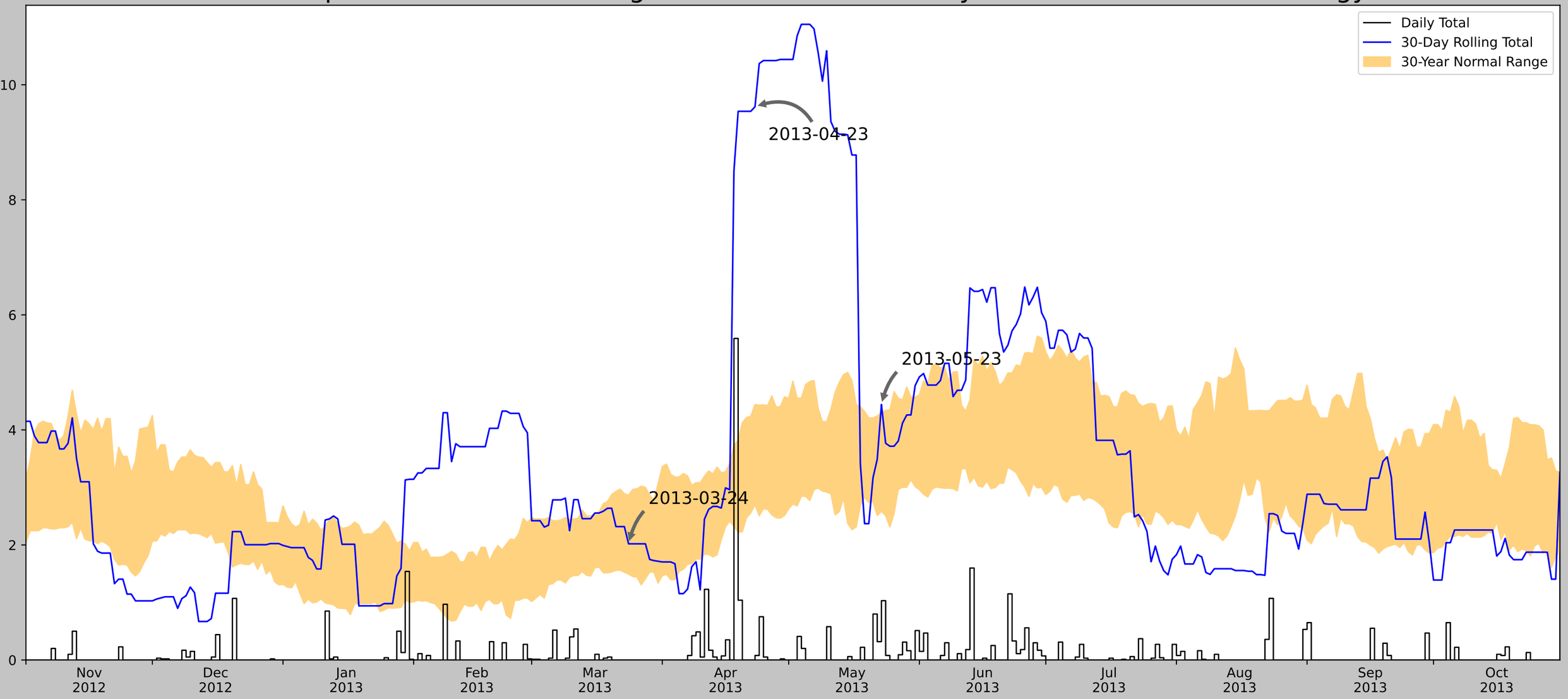
| 30 Days Ending | $30^{th}$ %ile (in) | $70^{th}$ %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product |
|---|---|---|---|---|---|---|---|
| 2011-09-14 | 2.145669 | 5.291732 | 1.610236 | Dry | 1 | 3 | 3 |
| 2011-08-15 | 2.509843 | 5.438977 | 5.681103 | Wet | 3 | 2 | 6 |
| 2011-07-16 | 2.247638 | 4.580709 | 1.996063 | Dry | 1 | 1 | 1 |
| Result | | | | | | | Normal Conditions - 10 |

Figure and tables made by the
**Antecedent Precipitation Tool**
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

| Weather Station Name | Coordinates | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days Normal | Days Antecedent |
|---|---|---|---|---|---|---|---|
| AURORA | 41.7803, -88.3092 | 660.105 | 8.266 | 55.117 | 4.175 | 11025 | 90 |
| CHICAGO AURORA MUNI AP | 41.7714, -88.4814 | 701.116 | 8.894 | 41.011 | 4.367 | 5 | 0 |
| WHEATON 3 SE | 41.8128, -88.0728 | 680.118 | 12.382 | 20.013 | 5.82 | 292 | 0 |
| CHICAGO OHARE INTL AP | 41.9603, -87.9317 | 671.916 | 23.063 | 11.811 | 10.651 | 31 | 0 |

# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network




| | |
|---|---|
| Coordinates | 41.798151, -88.467854 |
| Observation Date | 2013-05-23 |
| Elevation (ft) | 715.222 |
| Drought Index (PDSI) | Moderate wetness |
| WebWIMP $H_2O$ Balance | Wet Season |

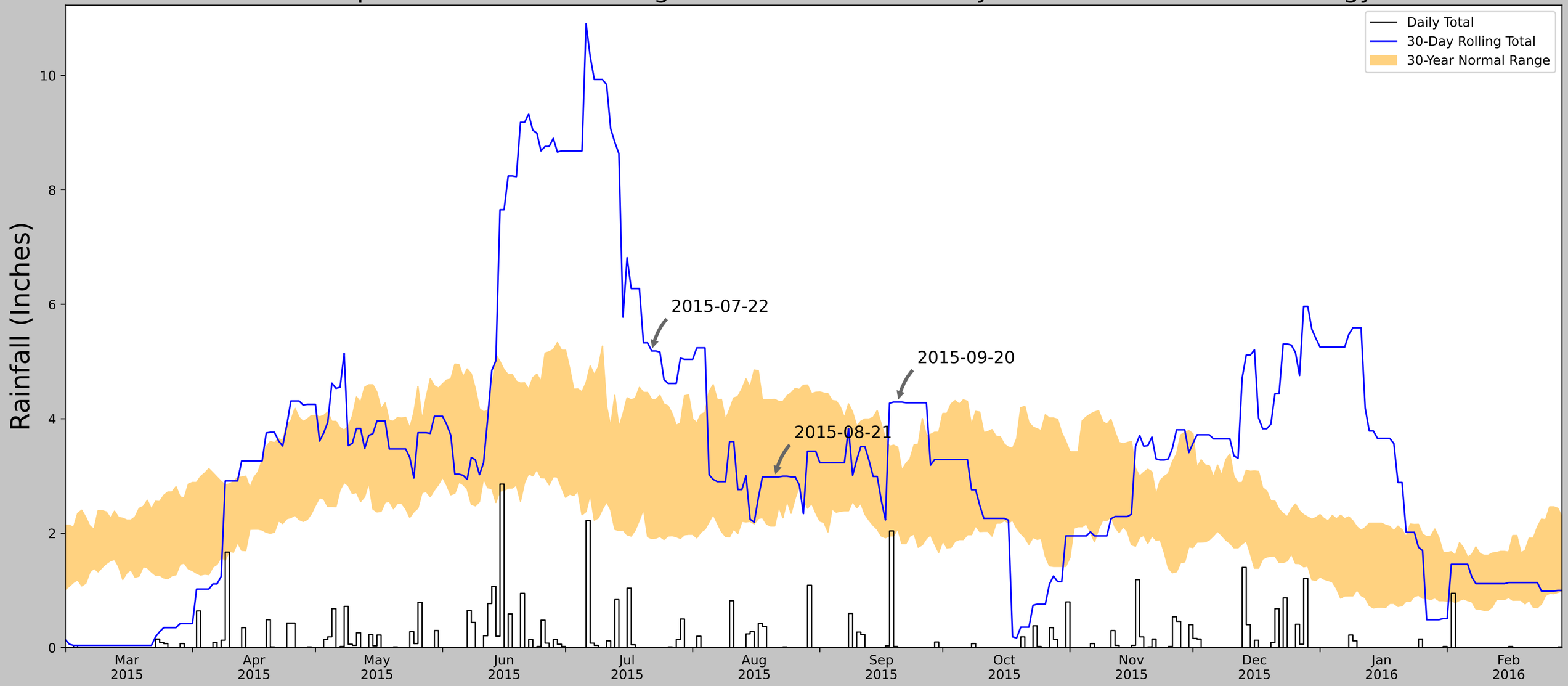
| 30 Days Ending | $30^{th}$ %ile (in) | $70^{th}$ %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product |
|---|---|---|---|---|---|---|---|
| 2013-05-23 | 2.586614 | 4.301575 | 4.440945 | Wet | 3 | 3 | 9 |
| 2013-04-23 | 2.700787 | 4.440551 | 9.618111 | Wet | 3 | 2 | 6 |
| 2013-03-24 | 1.492126 | 2.86378 | 2.019685 | Normal | 2 | 1 | 2 |
| Result | | | | | | | Wetter than Normal - 17 |

Figure and tables made by the
**Antecedent Precipitation Tool**
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

| Weather Station Name | Coordinates | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days Normal | Days Antecedent |
|---|---|---|---|---|---|---|---|
| AURORA | 41.7803, -88.3092 | 660.105 | 8.266 | 55.117 | 4.175 | 11083 | 89 |
| AURORA 3.4 W | 41.7723, -88.3577 | 689.961 | 2.559 | 29.856 | 1.228 | 2 | 1 |
| NORTH AURORA 1.5 NE | 41.8163, -88.3068 | 719.16 | 2.49 | 59.055 | 1.268 | 1 | 0 |
| CHICAGO AURORA MUNI AP | 41.7714, -88.4814 | 701.116 | 8.894 | 41.011 | 4.367 | 5 | 0 |
| WHEATON 3 SE | 41.8128, -88.0728 | 680.118 | 12.382 | 20.013 | 5.82 | 231 | 0 |
| CHICAGO OHARE INTL AP | 41.9603, -87.9317 | 671.916 | 23.063 | 11.811 | 10.651 | 31 | 0 |

# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network




| | |
|---|---|
| Coordinates | 41.798151, -88.467854 |
| Observation Date | 2015-09-20 |
| Elevation (ft) | 715.222 |
| Drought Index (PDSI) | Moderate wetness |
| WebWIMP $H_2O$ Balance | Wet Season |

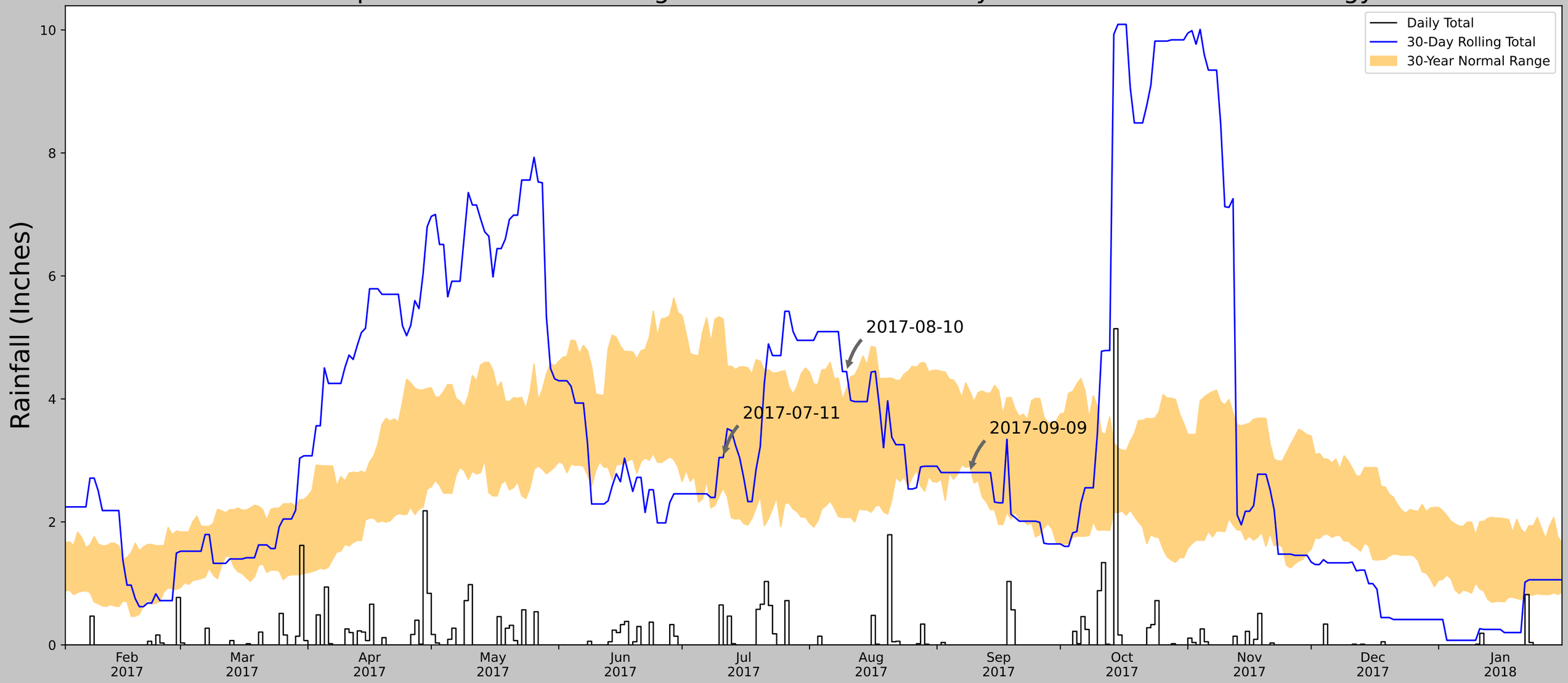
| 30 Days Ending | $30^{th}$ %ile (in) | $70^{th}$ %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product |
|---|---|---|---|---|---|---|---|
| 2015-09-20 | 2.077559 | 3.502362 | 4.291339 | Wet | 3 | 3 | 9 |
| 2015-08-21 | 2.126378 | 4.338189 | 2.984252 | Normal | 2 | 2 | 4 |
| 2015-07-22 | 1.906299 | 4.336614 | 5.18504 | Wet | 3 | 1 | 3 |
| Result | | | | | | | Wetter than Normal - 16 |

Figure and tables made by the
**Antecedent Precipitation Tool**
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

| Weather Station Name | Coordinates | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days Normal | Days Antecedent |
|---|---|---|---|---|---|---|---|
| CHICAGO AURORA MUNI AP | 41.7714, -88.4814 | 701.116 | 1.976 | 14.106 | 0.917 | 5805 | 90 |
| SUGAR GROVE 0.7 NE | 41.7762, -88.4478 | 714.895 | 1.763 | 13.779 | 0.818 | 6 | 0 |
| AURORA | 41.7803, -88.3092 | 660.105 | 8.894 | 41.011 | 4.367 | 5281 | 0 |
| WHEATON 3 SE | 41.8128, -88.0728 | 680.118 | 21.242 | 20.998 | 10.005 | 230 | 0 |
| ELGIN | 42.0628, -88.2861 | 763.123 | 22.499 | 62.007 | 11.52 | 31 | 0 |

# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network




| | |
|---|---|
| Coordinates | 41.798151, -88.467854 |
| Observation Date | 2017-09-09 |
| Elevation (ft) | 715.222 |
| Drought Index (PDSI) | Moderate wetness |
| WebWIMP $H_2O$ Balance | Wet Season |

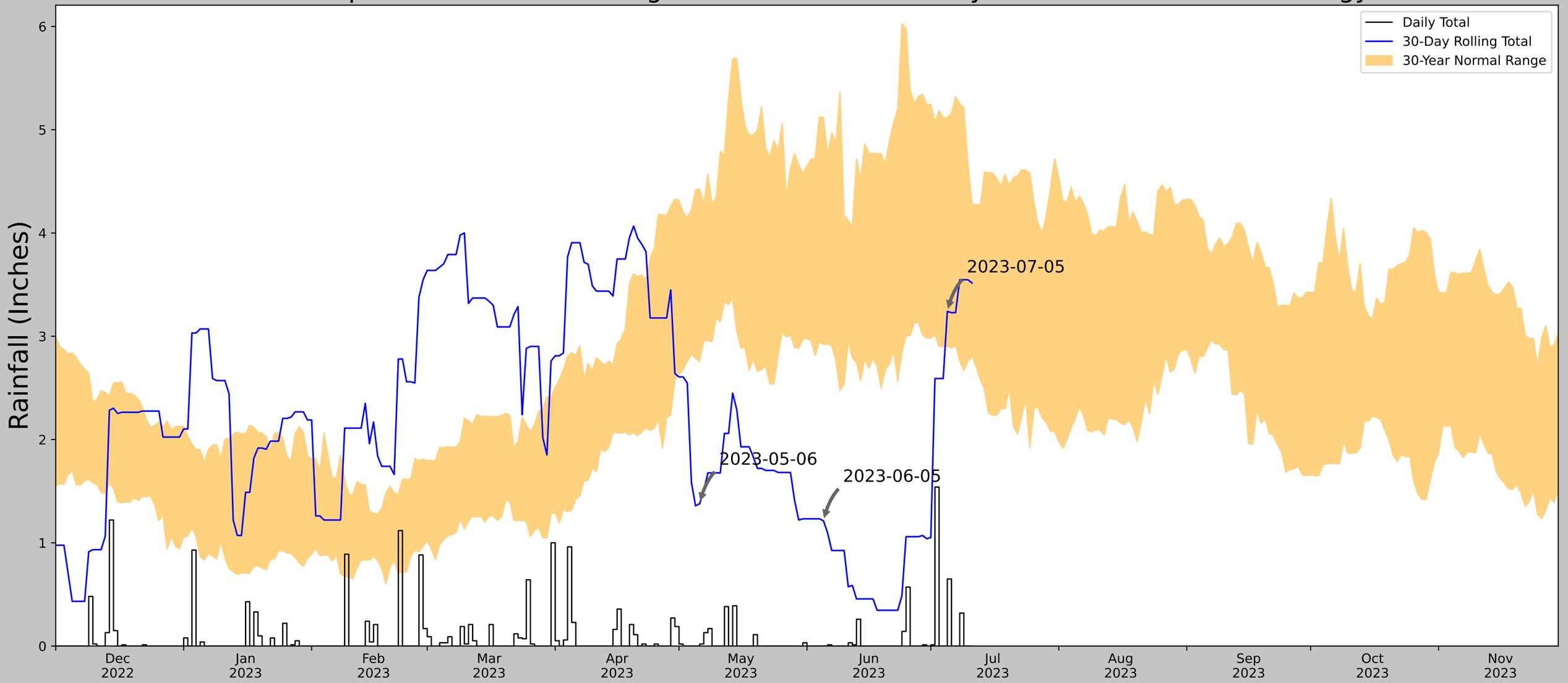
| 30 Days Ending | $30^{th}$ %ile (in) | $70^{th}$ %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product |
|---|---|---|---|---|---|---|---|
| 2017-09-09 | 2.900787 | 4.116536 | 2.80315 | Dry | 1 | 3 | 3 |
| 2017-08-10 | 2.072047 | 4.162205 | 4.444882 | Wet | 3 | 2 | 6 |
| 2017-07-11 | 2.549213 | 5.298032 | 3.047244 | Normal | 2 | 1 | 2 |
| Result | | | | | | | Normal Conditions - 11 |

Figure and tables made by the
**Antecedent Precipitation Tool**
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

| Weather Station Name | Coordinates | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days Normal | Days Antecedent |
|---|---|---|---|---|---|---|---|
| CHICAGO AURORA MUNI AP | 41.7714, -88.4814 | 701.116 | 1.976 | 14.106 | 0.917 | 6530 | 89 |
| SUGAR GROVE 0.7 NE | 41.7762, -88.4478 | 714.895 | 1.763 | 13.779 | 0.818 | 11 | 1 |
| SUGAR GROVE 1.4 ENE | 41.7787, -88.4343 | 688.976 | 2.479 | 12.14 | 1.146 | 1 | 0 |
| AURORA | 41.7803, -88.3092 | 660.105 | 8.894 | 41.011 | 4.367 | 4550 | 0 |
| WHEATON 3 SE | 41.8128, -88.0728 | 680.118 | 21.242 | 20.998 | 10.005 | 230 | 0 |
| ELGIN | 42.0628, -88.2861 | 763.123 | 22.499 | 62.007 | 11.52 | 31 | 0 |

# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network




| | |
|---|---|
| Coordinates | 41.798151, -88.467854 |
| Observation Date | 2023-07-05 |
| Elevation (ft) | 715.222 |
| Drought Index (PDSI) | Moderate drought (2023-06) |
| WebWIMP $H_2O$ Balance | Dry Season |

| 30 Days Ending | $30^{th}$ %ile (in) | $70^{th}$ %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product |
|---|---|---|---|---|---|---|---|
| 2023-07-05 | 2.901181 | 5.115748 | 3.240158 | Normal | 2 | 3 | 6 |
| 2023-06-05 | 2.920473 | 5.118504 | 1.212598 | Dry | 1 | 2 | 2 |
| 2023-05-06 | 2.757087 | 4.425197 | 1.377953 | Dry | 1 | 1 | 1 |
| Result | | | | | | | Drier than Normal - 9 |

Figure and tables made by the
**Antecedent Precipitation Tool**
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

| Weather Station Name | Coordinates | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days Normal | Days Antecedent |
|---|---|---|---|---|---|---|---|
| CHICAGO AURORA MUNI AP | 41.7714, -88.4814 | 701.116 | 1.976 | 14.106 | 0.917 | 8701 | 90 |
| SUGAR GROVE 0.7 NE | 41.7762, -88.4478 | 714.895 | 1.763 | 13.779 | 0.818 | 29 | 0 |
| SUGAR GROVE 1.4 ENE | 41.7787, -88.4343 | 688.976 | 2.479 | 12.14 | 1.146 | 2 | 0 |
| AURORA 3.1 WSW | 41.7565, -88.3518 | 704.068 | 6.758 | 2.952 | 3.061 | 1 | 0 |
| AURORA | 41.7803, -88.3092 | 660.105 | 8.894 | 41.011 | 4.367 | 2573 | 0 |
| WHEATON 3 SE | 41.8128, -88.0728 | 680.118 | 21.242 | 20.998 | 10.005 | 47 | 0 |

# Appendix D: Field Data Sheets

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: KN188 | Twsp/County: Sugar Grove/Kane | Sampling Date: 7/5/2023

Applicant/Owner: TPE IL KN188, LLC | State: IL | Sampling Point: SP-1

Investigator(s): S. Mayer, J. Tierney | Section, Township, Range: S5 T38N R7E

Landform (hillslope, terrace, etc.): Broad swale | Local relief (concave, convex, none): None

Slope (%): 0 | Lat: 41.7984398 | Long: -88.4667941 | Datum: WGS 1984

Soil Map Unit Name: Lena muck, 0 to 2 percent slopes | NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation X, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances" present? No

Are vegetation ____, soil ____, or hydrology ____ naturally problematic?

### SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

| | | | |
|---|---|---|---|
| Hydrophytic vegetation present? | Y | | |
| Hydric soil present? | Y | **Is the sampled area within a wetland?** | Y |
| Indicators of wetland hydrology present? | Y | If yes, optional wetland site ID: | |

Remarks: (Explain alternative procedures here or in a separate report.)

Agriculture field with broad swale. Wetland vegetations follows swale to the southeast. According to the USACE Antecedent Precipitation Tool, 90-day rolling precipitation levels before the site visit had drier than normal precipitatoin conditions.

### VEGETATION -- Use scientific names of plants.

| Tree Stratum (Plot size: 30') | Absolute % Cover | Dominant Species | Indicator Staus |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 | = Total Cover | |

| Sapling/Shrub stratum (Plot size: 15') | | | |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 | = Total Cover | |

| Herb stratum (Plot size: 5') | | | |
|---|---|---|---|
| 1 *Zea mays* | 30 | Y | UPL |
| 2 *Cyperus esculentus* | 15 | Y | FACW |
| 3 *Rumex crispus* | 10 | N | FAC |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| | 55 | = Total Cover | |

| Woody vine stratum (Plot size: 30') | | | |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| | 0 | = Total Cover | |

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 50.00% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:

| | | | | |
|---|---|---|---|---|
| OBL species | 0 | x 1 = | 0 | |
| FACW species | 15 | x 2 = | 30 | |
| FAC species | 10 | x 3 = | 30 | |
| FACU species | 0 | x 4 = | 0 | |
| UPL species | 30 | x 5 = | 150 | |
| Column totals | 55 | (A) | 210 | (B) |

Prevalence Index = B/A = 3.82

**Hydrophytic Vegetation Indicators:**

- ____ Rapid test for hydrophytic vegetation
- ____ Dominance test is >50%
- ____ Prevalence index is ≤3.0*
- ____ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- X Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Hydrophytic vegetation present?** Y

Remarks: (Include photo numbers here or on a separate sheet)

Disturbed and problematic vegetation due to the presence of hydrology and hydric soils. Swale further to the southeast has additional sedges and cattails.

## SOIL

**Sampling Point:** SP-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (Inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type* | Loc** | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-20 | 10 YR 2/1 | 98 | 10 YR 4/4 | 2 | C | M | Silty clay | |
| 20-26 | 10 YR 5/1 | 85 | 5B 6/1 | 15 | D | M | Silty clay | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

**Hydric Soil Indicators:**

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils:**

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric soil present?** Y

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils
- X (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- X Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface water present? | Yes | | No | X | Depth (inches): | |
| Water table present? | Yes | | No | X | Depth (inches): | |
| Saturation present? (includes capillary fringe) | Yes | X | No | | Depth (inches): | 14 |

**Indicators of wetland hydrology present?** Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Zea mays is more stressed in broad swale compared to surrounding area. Saturations ended at 16".

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site KN188 | Twsp/County: Sugar Grove/Kane | Sampling Date: 7/5/2023

Applicant/Owner: TPE IL KN188, LLC | State: IL | Sampling Point: SP-2

Investigator(s): S. Mayer, J. Tierney | Section, Township, Range: S5 T38N R7E

Landform (hillslope, terrace, etc.): Plain | Local relief (concave, convex, none): None

Slope (%): 0 | Lat: 41.798552 | Long: -88.4664829 | Datum: WGS 1984

Soil Map Unit Name Lena muck, 0 to 2 percent slopes | NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation X, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances" present? No

Are vegetation ____, soil ____, or hydrology ____ naturally problematic?

### SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

| | |
|---|---|
| Hydrophytic vegetation present? | N |
| Hydric soil present? | Y |
| Indicators of wetland hydrology present? | Y |

**Is the sampled area within a wetland?** N

If yes, optional wetland site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

Agriculture field 1-ft upslope of SP-1. According to the USACE Antecedent Precipitation Tool, 90-day rolling precipitation levels before the site visit had drier than normal precipitation conditions.

### VEGETATION -- Use scientific names of plants.

| Tree Stratum (Plot size: 30') | Absolute % Cover | Dominant Species | Indicator Staus |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 = Total Cover | | |
| **Sapling/Shrub stratum (Plot size: 15')** | | | |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 = Total Cover | | |
| **Herb stratum (Plot size: 5')** | | | |
| 1 *Zea mays* | 45 | Y | UPL |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| | 45 = Total Cover | | |
| **Woody vine stratum (Plot size: 30')** | | | |
| 1 | | | |
| 2 | | | |
| | 0 = Total Cover | | |

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:

| | | | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 45 | x 5 = | 225 |
| Column totals | 45 (A) | | 225 (B) |

Prevalence Index = B/A = 5.00

**Hydrophytic Vegetation Indicators:**

- ____ Rapid test for hydrophytic vegetation
- ____ Dominance test is >50%
- ____ Prevalence index is ≤3.0*
- ____ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Hydrophytic vegetation present?** N

Remarks: (Include photo numbers here or on a separate sheet)

Zea mays not stunted/stressed compared to SP-1.

## SOIL

**Sampling Point:** SP-2

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (Inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type* | Loc** | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-15 | 10 YR 2/1 | 98 | 10 YR 4/4 | 2 | C | M | Silty clay | |
| 15-24 | 10 YR 2/1 | 85 | 10 YR 5/6 | 15 | C | M | Silty clay | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

**Hydric Soil Indicators:**

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils:**

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric soil present?** Y

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils
- X (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface water present? | Yes | ___ | No | X | Depth (inches): ___ |
| Water table present? | Yes | ___ | No | X | Depth (inches): ___ |
| Saturation present? (includes capillary fringe) | Yes | ___ | No | X | Depth (inches): ___ |

**Indicators of wetland hydrology present?** Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No wetland hydrology due to best professional judgement. Landform and local relief does not reflect a wetland area.

# WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site KN188 | Twsp/County: Sugar Grove/Kane | Sampling Date: 7/5/2023

Applicant/Owner: TPE IL KN188, LLC | State: IL | Sampling Point: SP-3

Investigator(s): S. Mayer, J. Tierney | Section, Township, Range: S5 T38N R7E

Landform (hillslope, terrace, etc.): Toeslope | Local relief (concave, convex, none): Concave

Slope (%): 0 | Lat: 41.7992441 | Long: -88.4657476 | Datum: WGS 1984

Soil Map Unit Name Lena muck, 0 to 2 percent slopes | NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? ____ (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances"

Are vegetation ____, soil ____, or hydrology ____ naturally problematic? present? Yes

## SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

| | | | |
|---|---|---|---|
| Hydrophytic vegetation present? | Y | | |
| Hydric soil present? | Y | **Is the sampled area within a wetland?** | Y |
| Indicators of wetland hydrology present? | Y | f yes, optional wetland site ID: | |

Remarks: (Explain alternative procedures here or in a separate report.)

Fringe of wetland in an agricultural depression. According to the USACE Antecedent Precipitation Tool, 90-day rolling precipitation levels before the site visit had drier than normal precipitation conditions.

## VEGETATION -- Use scientific names of plants.

| Tree Stratum (Plot size: 30') | Absolute % Cover | Dominant Species | Indicator Staus |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 | = Total Cover | |
| **Sapling/Shrub stratum (Plot size: 15')** | | | |
| 1 *Salix nigra* | 10 | Y | OBL |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 10 | = Total Cover | |
| **Herb stratum (Plot size: 5')** | | | |
| 1 *Phragmites australis* | 60 | Y | FACW |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| | 60 | = Total Cover | |
| **Woody vine stratum (Plot size: 30')** | | | |
| 1 | | | |
| 2 | | | |
| | 0 | = Total Cover | |

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:

| | | | | |
|---|---|---|---|---|
| OBL species | 10 | x 1 = | 10 | |
| FACW species | 60 | x 2 = | 120 | |
| FAC species | 0 | x 3 = | 0 | |
| FACU species | 0 | x 4 = | 0 | |
| UPL species | 0 | x 5 = | 0 | |
| Column totals | 70 | (A) | 130 | (B) |

Prevalence Index = B/A = 1.86

**Hydrophytic Vegetation Indicators:**

- X Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ____ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Hydrophytic vegetation present?** Y

Remarks: (Include photo numbers here or on a separate sheet)

## SOIL

**Sampling Point:** SP-3

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (Inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type* | Loc** | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-24 | 10 YR 2/1 | 90 | 10 YR 4/4 | 10 | C | M | Silty loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

**Hydric Soil Indicators:**

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils:**

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric soil present?** Y

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface water present? | Yes | ___ | No | X | Depth (inches): ___ |
| Water table present? | Yes | ___ | No | X | Depth (inches): ___ |
| Saturation present? (includes capillary fringe) | Yes | ___ | No | X | Depth (inches): ___ |

**Indicators of wetland hydrology present?** Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site KN188 | Twsp/County: Sugar Grove/Kane | Sampling Date: 7/5/2023

Applicant/Owner: TPE IL KN188, LLC | State: IL | Sampling Point: SP-4

Investigator(s): S. Mayer, J. Tierney | Section, Township, Range: S5 T38N R7E

Landform (hillslope, terrace, etc.): Plain | Local relief (concave, convex, none): None

Slope (%): 0 | Lat: 41.7992365 | Long: -88.4659424 | Datum: WGS 1984

Soil Map Unit Name Lena muck, 0 to 2 percent slopes | NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? ____ (If no, explain in remarks)

Are vegetation X, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances" present? No

Are vegetation ____, soil ____, or hydrology ____ naturally problematic?

### SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

| | | | |
|---|---|---|---|
| Hydrophytic vegetation present? | N | | |
| Hydric soil present? | Y | **Is the sampled area within a wetland?** | N |
| Indicators of wetland hydrology present? | N | If yes, optional wetland site ID: | |

Remarks: (Explain alternative procedures here or in a separate report.)

Agriculture field upslope of Wetland 2. According to the USACE Antecedent Precipitation Tool, 90-day rolling precipitation levels before the site visit had drier than normal precipitation conditions.

### VEGETATION -- Use scientific names of plants.

| Tree Stratum (Plot size: 30') | Absolute % Cover | Dominant Species | Indicator Staus |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 | = Total Cover | |

| Sapling/Shrub stratum (Plot size: 15') | | | |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 | = Total Cover | |

| Herb stratum (Plot size: 5') | | | |
|---|---|---|---|
| 1 *Zea mays* | 50 | Y | UPL |
| 2 *Cyperus esculentus* | 5 | N | FACW |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| | 55 | = Total Cover | |

| Woody vine stratum (Plot size: 30') | | | |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| | 0 | = Total Cover | |

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:

| | | | | |
|---|---|---|---|---|
| OBL species | 0 | x 1 = | 0 | |
| FACW species | 5 | x 2 = | 10 | |
| FAC species | 0 | x 3 = | 0 | |
| FACU species | 0 | x 4 = | 0 | |
| UPL species | 50 | x 5 = | 250 | |
| Column totals | 55 | (A) | 260 | (B) |

Prevalence Index = B/A = 4.73

**Hydrophytic Vegetation Indicators:**

- ____ Rapid test for hydrophytic vegetation
- ____ Dominance test is >50%
- ____ Prevalence index is ≤3.0*
- ____ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Hydrophytic vegetation present?** N

Remarks: (Include photo numbers here or on a separate sheet)

## SOIL

**Sampling Point:** SP-4

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (Inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type* | Loc** | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-20 | 10 YR 2/1 | 98 | 10 YR 4/4 | 2 | C | M | Silty clay loam | |
| 20-26 | 10 Y 5/1 | 95 | 10 Y 6/1 | 5 | C | M | Silty clay | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

**Hydric Soil Indicators:**

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils:**

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric soil present?** Y

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils
- X (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface water present? | Yes | ___ | No | X | Depth (inches): ___ |
| Water table present? | Yes | ___ | No | X | Depth (inches): ___ |
| Saturation present? (includes capillary fringe) | Yes | ___ | No | X | Depth (inches): ___ |

**Indicators of wetland hydrology present?** N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No wetland hydrology due to best professional judgement. Landform and local relief does not reflect a wetland area.

# WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site KN188 | Twsp/County: Sugar Grove/Kane | Sampling Date: 7/5/2023

Applicant/Owner: TPE IL KN188, LLC | State: IL | Sampling Point: SP-5

Investigator(s): S. Mayer, J. Tierney | Section, Township, Range: S5 T38N R7E

Landform (hillslope, terrace, etc.): Toeslope | Local relief (concave, convex, none): Concave

Slope (%): 0 | Lat: 41.7998698 | Long: -88.4677785 | Datum: WGS 1984

Soil Map Unit Name Lena muck, 0 to 2 percent slopes | NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances" present? Yes

Are vegetation ____, soil ____, or hydrology ____ naturally problematic?

## SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

| | | | |
|---|---|---|---|
| Hydrophytic vegetation present? | Y | | |
| Hydric soil present? | Y | **Is the sampled area within a wetland?** | Y |
| Indicators of wetland hydrology present? | Y | f yes, optional wetland site ID: | |

Remarks: (Explain alternative procedures here or in a separate report.)

Fringe of wetland and agricluture field. According to the USACE Antecedent Precipitation Tool, 90-day rolling precipitation levels before the site visit had drier than normal precipitation conditions.

## VEGETATION -- Use scientific names of plants.

| Tree Stratum (Plot size: 30') | Absolute % Cover | Dominant Species | Indicator Staus |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 | = Total Cover | |
| **Sapling/Shrub stratum (Plot size: 15')** | | | |
| 1 *Salix nigra* | 15 | Y | OBL |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 15 | = Total Cover | |
| **Herb stratum (Plot size: 5')** | | | |
| 1 *Phragmites australis* | 75 | Y | FACW |
| 2 *Solidago gigantea* | 10 | N | FACW |
| 3 *Cyperus esculentus* | 10 | N | FACW |
| 4 *Carex lacustris* | 10 | N | OBL |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| | 105 | = Total Cover | |
| **Woody vine stratum (Plot size: 30')** | | | |
| 1 | | | |
| 2 | | | |
| | 0 | = Total Cover | |

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:

| | | | |
|---|---|---|---|
| OBL species | 25 | x 1 = | 25 |
| FACW species | 95 | x 2 = | 190 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column totals | 120 (A) | | 215 (B) |

Prevalence Index = B/A = 1.79

**Hydrophytic Vegetation Indicators:**

- X Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ____ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Hydrophytic vegetation present?** Y

Remarks: (Include photo numbers here or on a separate sheet)

## SOIL

**Sampling Point:** SP-5

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (Inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type* | Loc** | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-24 | 10 YR 2/1 | 95 | 10 YR 4/4 | 5 | C | M | Silty clay | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

**Hydric Soil Indicators:**

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils:**

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric soil present?** Y

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface water present? | Yes | ___ | No | X | Depth (inches): ___ |
| Water table present? | Yes | ___ | No | X | Depth (inches): ___ |
| Saturation present? (includes capillary fringe) | Yes | ___ | No | X | Depth (inches): ___ |

**Indicators of wetland hydrology present?** Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site KN188 | Twsp/County: Sugar Grove/Kane | Sampling Date: 7/5/2023

Applicant/Owner: TPE IL KN188, LLC | State: IL | Sampling Point: SP-6

Investigator(s): S. Mayer, J. Tierney | Section, Township, Range: S5 T38N R7E

Landform (hillslope, terrace, etc.): Ravine | Local relief (concave, convex, none): Concave

Slope (%): 0 | Lat: 41.7971292 | Long: -88.469956 | Datum: WGS 1984

Soil Map Unit Name Orthents, loamy, 1 to 6 percent slopes | NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances" present? Yes

Are vegetation ____, soil ____, or hydrology ____ naturally problematic?

### SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

| | |
|---|---|
| Hydrophytic vegetation present? | Y |
| Hydric soil present? | Y |
| Indicators of wetland hydrology present? | Y |
| **Is the sampled area within a wetland?** | Y |
| If yes, optional wetland site ID: | |

Remarks: (Explain alternative procedures here or in a separate report.)

Ravine at the bottom of the channel. According to the USACE Antecedent Precipitation Tool, 90-day rolling precipitation levels before the site visit had drier than normal precipitation conditions.

### VEGETATION -- Use scientific names of plants.

| Tree Stratum (Plot size: 30') | Absolute % Cover | Dominant Species | Indicator Staus |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 = Total Cover | | |
| **Sapling/Shrub stratum (Plot size: 15')** | | | |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 = Total Cover | | |
| **Herb stratum (Plot size: 5')** | | | |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| | 0 = Total Cover | | |
| **Woody vine stratum (Plot size: 30')** | | | |
| 1 | | | |
| 2 | | | |
| | 0 = Total Cover | | |

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:

| | | | | |
|---|---|---|---|---|
| OBL species | 0 | x 1 = | 0 | |
| FACW species | 0 | x 2 = | 0 | |
| FAC species | 0 | x 3 = | 0 | |
| FACU species | 0 | x 4 = | 0 | |
| UPL species | 0 | x 5 = | 0 | |
| Column totals | 0 | (A) | 0 | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- ____ Rapid test for hydrophytic vegetation
- ____ Dominance test is >50%
- ____ Prevalence index is ≤3.0*
- ____ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- X Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Hydrophytic vegetation present?** Y

Remarks: (Include photo numbers here or on a separate sheet)

100% bare ground, likely due to hydology and hydric soils.

## SOIL

**Sampling Point:** SP-6

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (Inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type* | Loc** | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-5 | 10 YR 3/1 | 85 | 7.5 YR 3/4 | 10 | C | M | Silty clay loam | |
| | | | 7.5 YR 4/6 | 5 | C | M | | |
| 5-12 | 10 YR 4/1 | 70 | 7.5 YR 3/4 | 15 | C | M | Sandy clay | |
| | | | 7.5 YR 4/6 | 15 | C | M | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

**Hydric Soil Indicators:**

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils:**

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric soil present?** Y

Remarks:

A4 within the top 12 inches.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface water present? | Yes | ___ | No | X | Depth (inches): | ___ |
| Water table present? | Yes | ___ | No | X | Depth (inches): | ___ |
| Saturation present? (includes capillary fringe) | Yes | X | No | ___ | Depth (inches): | 5 |

**Indicators of wetland hydrology present?** Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site KN188 | Twsp/County: Sugar Grove/Kane | Sampling Date: 7/5/2023

Applicant/Owner: TPE IL KN188, LLC | State: IL | Sampling Point: SP-7

Investigator(s): S. Mayer, J. Tierney | Section, Township, Range: S5 T38N R7E

Landform (hillslope, terrace, etc.): Shoulder | Local relief (concave, convex, none): Convex

Slope (%): 3 | Lat: 41.7971292 | Long: -88.469956 | Datum: WGS 1984

Soil Map Unit Name Orthents, loamy, 1 to 6 percent slopes | NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances" present? Yes

Are vegetation ____, soil ____, or hydrology ____ naturally problematic?

### SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

| | | | |
|---|---|---|---|
| Hydrophytic vegetation present? | Y | | |
| Hydric soil present? | N | **Is the sampled area within a wetland?** | N |
| Indicators of wetland hydrology present? | N | If yes, optional wetland site ID: | |

Remarks: (Explain alternative procedures here or in a separate report.)

Upland point 2-ft upslope of SP-6. According to the USACE Antecedent Precipitation Tool, 90-day rolling precipitation levels before the site visit had drier than normal precipitation conditions.

### VEGETATION -- Use scientific names of plants.

| Tree Stratum (Plot size: 30') | Absolute % Cover | Dominant Species | Indicator Staus |
|---|---|---|---|
| 1 *Juglans nigra* | 50 | Y | FACU |
| 2 *Populus deltoides* | 30 | Y | FAC |
| 3 *Acer saccharum* | 30 | Y | FACU |
| 4 | | | |
| 5 | | | |
| | 110 | = Total Cover | |

| Sapling/Shrub stratum (Plot size: 15') | | | |
|---|---|---|---|
| 1 *Rhamnus cathartica* | 50 | Y | FAC |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 50 | = Total Cover | |

| Herb stratum (Plot size: 5') | | | |
|---|---|---|---|
| 1 *Toxicodendron radicans* | 25 | Y | FAC |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| | 25 | = Total Cover | |

| Woody vine stratum (Plot size: 30') | | | |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| | 0 | = Total Cover | |

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across all Strata: 5 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 60.00% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:

| | | | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 105 | x 3 = | 315 |
| FACU species | 80 | x 4 = | 320 |
| UPL species | 0 | x 5 = | 0 |
| Column totals | 185 (A) | | 635 (B) |

Prevalence Index = B/A = 3.43

**Hydrophytic Vegetation Indicators:**

- ____ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- ____ Prevalence index is ≤3.0*
- ____ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Hydrophytic vegetation present?** Y

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL** **Sampling Point:** SP-7

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (Inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type* | Loc** | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-6 | 10 YR 3/3 | 100 | | | | | Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

**Hydric Soil Indicators:**

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils:**

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

**Restrictive Layer (if observed):**
Type: Roots
Depth (inches): 6"

**Hydric soil present?** N

Remarks:
Could not dig past 6" due to roots. Assumed not hydric due to the topographic location.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

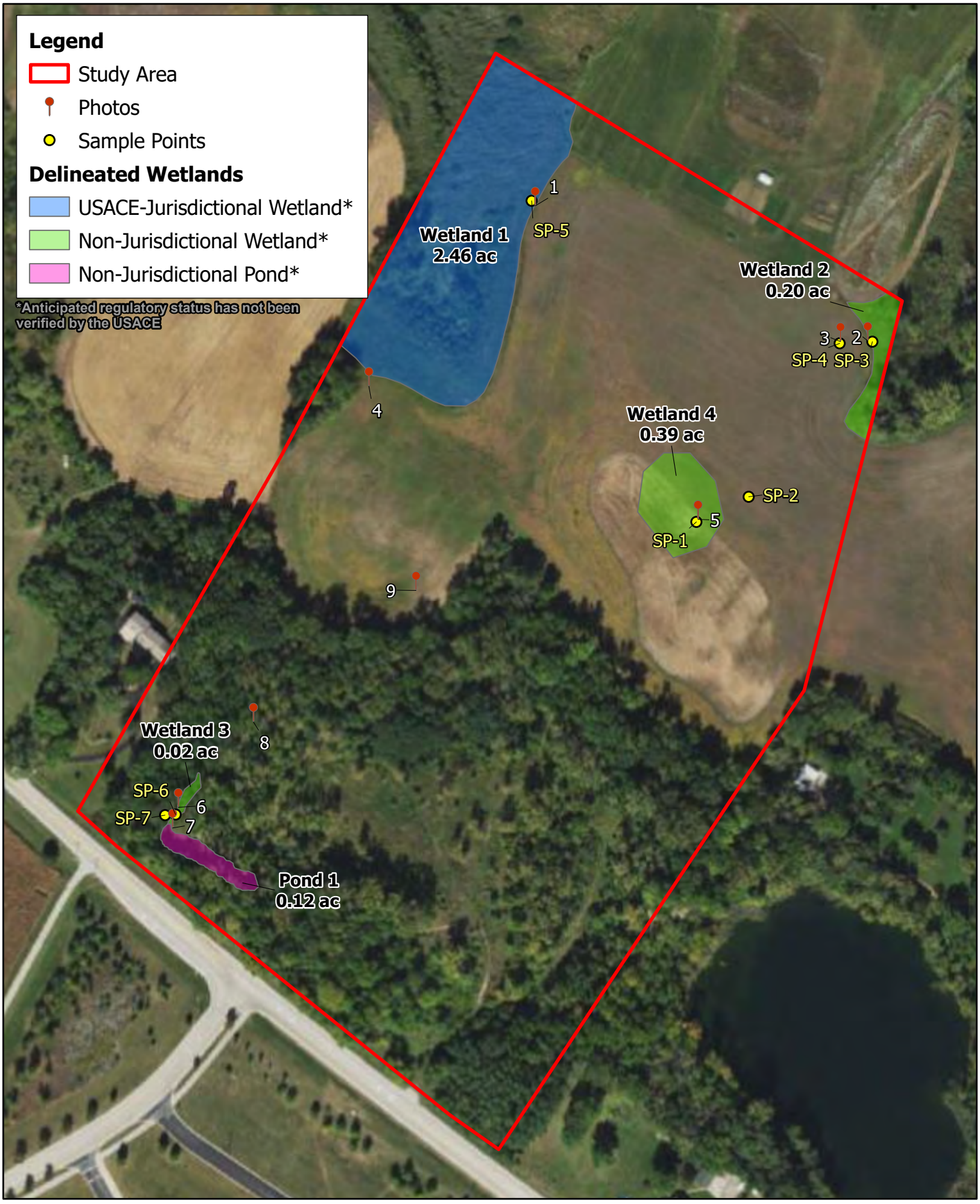
| | | | | | |
|---|---|---|---|---|---|
| Surface water present? | Yes | ___ | No | X | Depth (inches): ___ |
| Water table present? | Yes | ___ | No | X | Depth (inches): ___ |
| Saturation present? (includes capillary fringe) | Yes | ___ | No | X | Depth (inches): ___ |

**Indicators of wetland hydrology present?** N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

# Appendix E: Photos




Kimley»Horn

0 100 200 US Feet

N

**Appendix E. Photo Locations Map**
Sugar Grove Township, Kane County
TPE IL KN188, LLC

**Photo 1: Wetland 1, dominated by phragmites, facing northwest.**

**Photo 2: Wetland 2, dominated by phragmites, facing north.**

**Photo 3: Upland dominated by corn near SP-4, facing north.**

**Photo 4: Southern portion of Wetland 1, facing northeast.**

**Photo 5: Wetland 4 near SP-1 dominated by corn, facing south.**

**Photo 6: Wetland 3 near SP-6, facing south towards Wetland Pond 1.**

**Photo 7: Pond 1, facing southeast.**

**Photo 8: Upland area in mapped NWI, facing north.**

**Photo 9: Upland point in the west central portion of the site, facing north.**