JO DAVIESS
STEPHENSON
WINNEGABO
BOONE
MC HENRY
LAKE
CARROLL
OGLE
DE KALB
KANE
COOK
WHITESIDE
LEE
DU PAGE
WILL
LA SALLE
BUREAU
KENDALL
GRUNDY
ROCK ISLAND
MERCER
50
HENRY
KNOX
STARK
PUTNAM
KANKAKEE
WARREN
MARSHALL
LIVINGSTON
PEORIA
IROQUOIS
WOODFORD
HENDERSON
MC LEAN
FULTON
HANCOCK
MC DONOUGH
FORD
TAZEWELL
VERMILION
MASON
CHAMPAIGN
SCHUYLER
LOGAN
DEWITT
ADAMS
BROWN
CASS
MENARD
PIATT
MACON
PIKE
MORGAN
DOUGLAS
EDGAR
SCOTT
MOULTRIE
CHRISTIAN
SHELBY
COLES
SANGAMON
GREENE
MACOUPIN
CLARK
CALHOUN
MONTGOMERY
CUMBERLAND
JERSEY
FAYETTE
EFFINGHAM
JASPER
CRAWFORD
MADISON
BOND
RICHLAND
LAWRENCE
MARION
CLINTON
CLAY
WAYNE
EDWARDS
WABASH
WASHINGTON
JEFFERSON
MONROE
ST. CLAIR
HAMILTON
WHITE
RANDOLPH
PERRY
FRANKLIN
JACKSON
SALINE
GALLATIN
WILLIAMSON
UNION
JOHNSON
POPE
HARDIN
ALEXANDER
PULASKI
MASSAC

EDWARDS RIVER, MERCER COUNTY **ISGS #50**
WETLAND COMPENSATION SITE
FAP 310
Mercer County, near Boden, Illinois
Primary Project Manager: Steven E. Benton
Secondary Project Manager: Keith W. Carr

SITE HISTORY

- May 1996: ISGS submitted an initial site evaluation report to IDOT.
- Spring 1999: ISGS began post-construction monitoring.
- Fall 1999: Eleven sediment traps were added to the site at IDOT's request.
- April 2005: A berm was constructed at the northwest corner of the site by IDOT in order to increase the depth and duration of water retention on the site.

WETLAND HYDROLOGY CALCULATION FOR 2007

The area of the site that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the growing season was estimated to be 0.38 ha (0.95 ac) out of a total area of 0.61 ha (1.51 ac). The area of the site that satisfied wetland hydrology criteria for greater than 12.5% of the growing season was estimated to be 0.22 ha (0.54 ac). These estimates are based on the following factors:

- According to the MRCC, the median date that the growing season begins in nearby Aledo, Illinois, is April 11 and the season lasts 195 days; 5% of the growing season is 10 days and 12.5% of the growing season is 24 days.
- Total precipitation for the monitoring period was 88% of normal. Precipitation was at or above normal in November 2006, and in March, April, June and August 2007.
- In 2007, wetland hydrology occurred for more than 5% of the growing season at RDS 2, and at wells 3S, 3VS, 5SR, 6SR, 8VS, 9S, 11S, 12S, 12VS, 13S, and 13VS, and wetland hydrology also occurred for more than 12.5% of the growing season at RDS 2, and at wells 3VS, 8VS, 11S, 12VS, 13VS, and 13S.
- Surface-water levels measured at RDS 1 reveal that inundation occurred at an elevation greater than or equal to 193.68 m (635.46 ft) for more than 5%, but less than 12.5%, of the growing season.
- In 2007, inundation of the site was caused by two flood events, the first on February 25 and the second on March 1. Flood water flowed onto the site for about 20 hours during the first event, and for about 52 hours during the second event. The floods inundated the site to a depth of about 0.4 m (1.3 ft).
- The duration of these floods was much longer than in previous years, likely due to the berm built across the northwest corner of the site in 2005.

ADDITIONAL INFORMATION

- The sediment traps on the site were emptied on August 17, 2007. All of the traps contained sediment, most of which was likely deposited by the flood events in February and March 2007, though some may have been deposited by a flood event in September 2006. The last flood event to affect the site was in May 2004. Sediment thickness in the wetland mitigation area (T1, T2, T3, T4, T5, T6, T7, T10, and T12) ranged from 0.17 cm (0.07 inches [in]) to 1.04 cm (0.41 in), and averaged 0.42 cm (0.16 in). Sediment thickness in the natural forested wetland (T9) was 0.62 cm (0.24 in), and sediment thickness on the levee (T8) was 0.26 cm (0.10 in).

PLANNED FUTURE ACTIVITIES

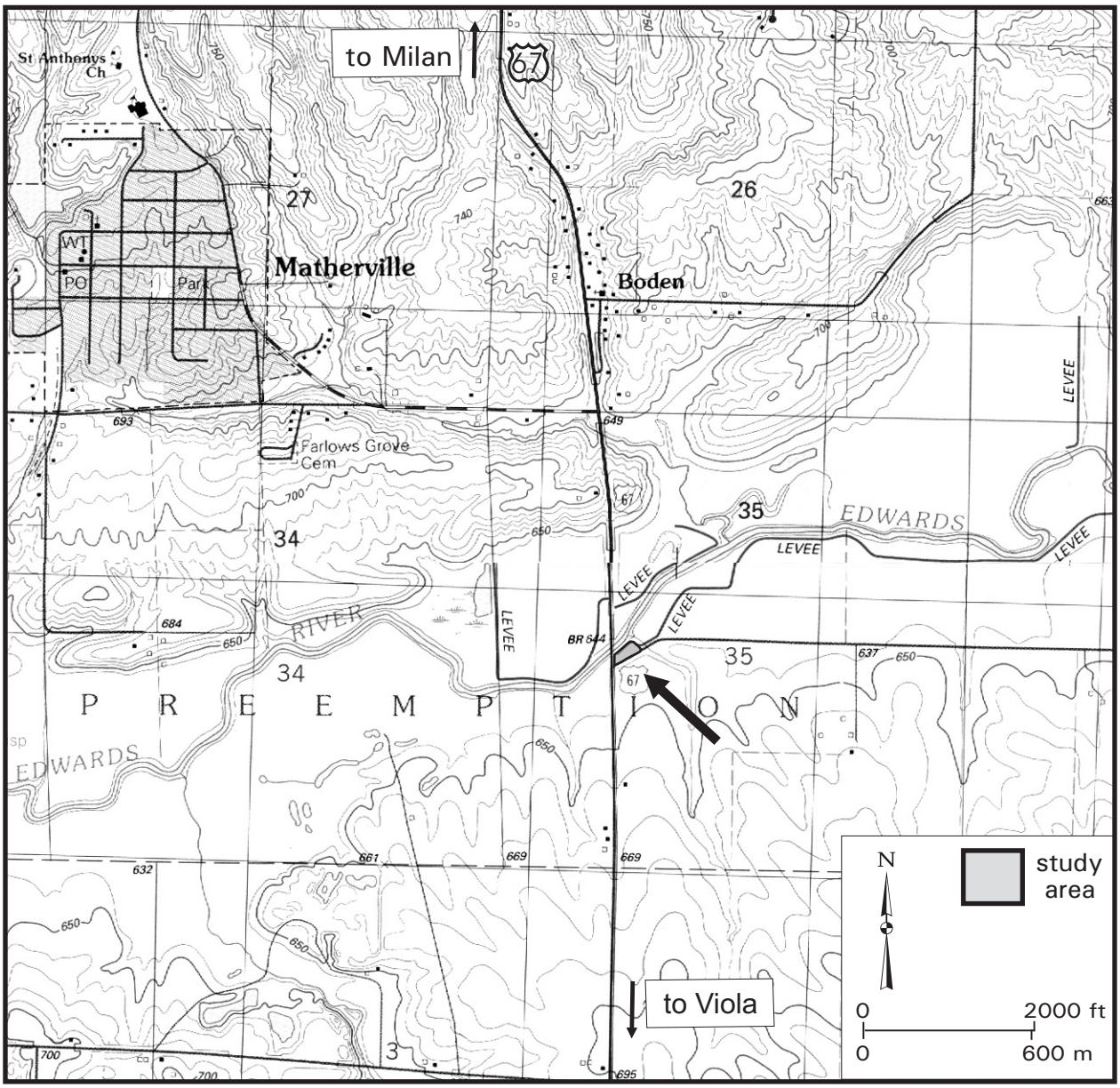
- Monitoring of hydrology and sediment deposition will continue until no longer required by IDOT.

Edwards River, Mercer County Wetland Compensation Site

(FAP 310)

General Study Area and Vicinity

from the USGS Topographic Series, Viola, IL (USGS 1992) and
Matherville, IL (USGS 1991) 7.5-minute Quadrangles
contour interval is 10 ft



Edwards River, Mercer County Wetland Compensation Site

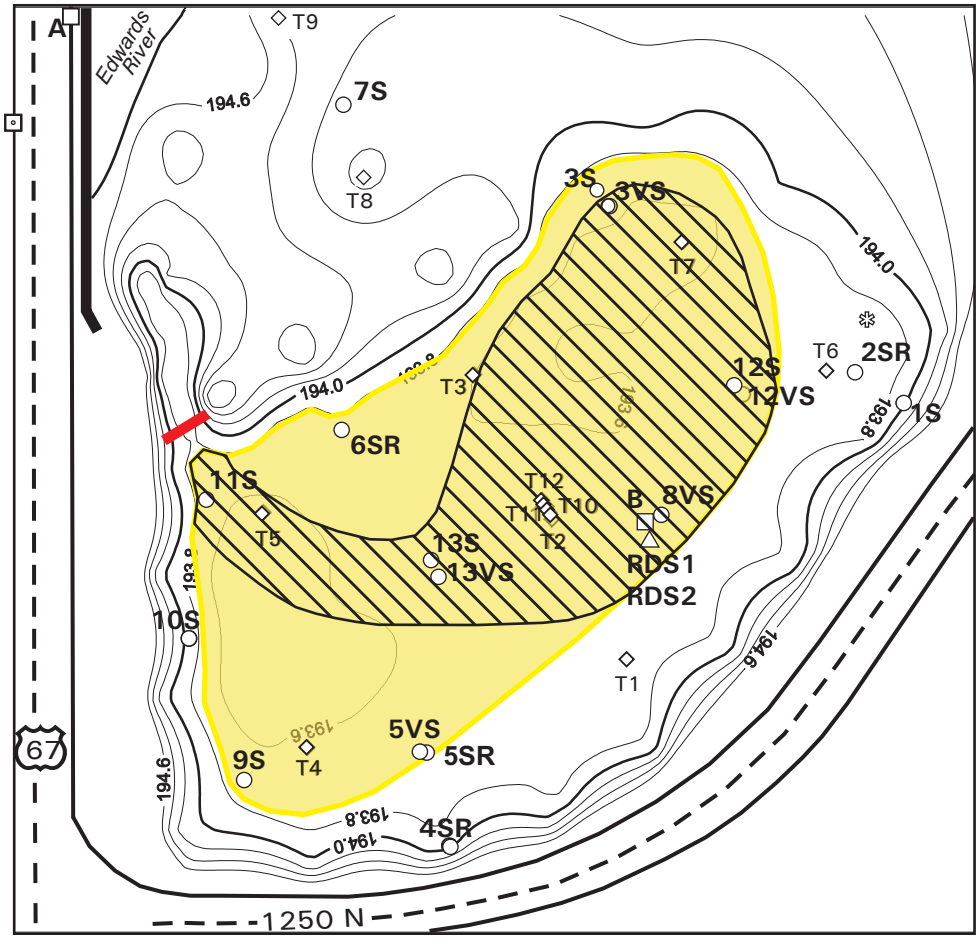
(FAP 310)

Estimated Areal Extent of 2007 Wetland Hydrology

based on data collected between September 1, 2006 and September 1, 2007

Map based on 2002 ISGS elevation survey referenced to NGVD, 1929

contour interval is 0.2 meters



2007 Wetland Hydrology

> 12.5% of the growing season

> 5% of the growing season

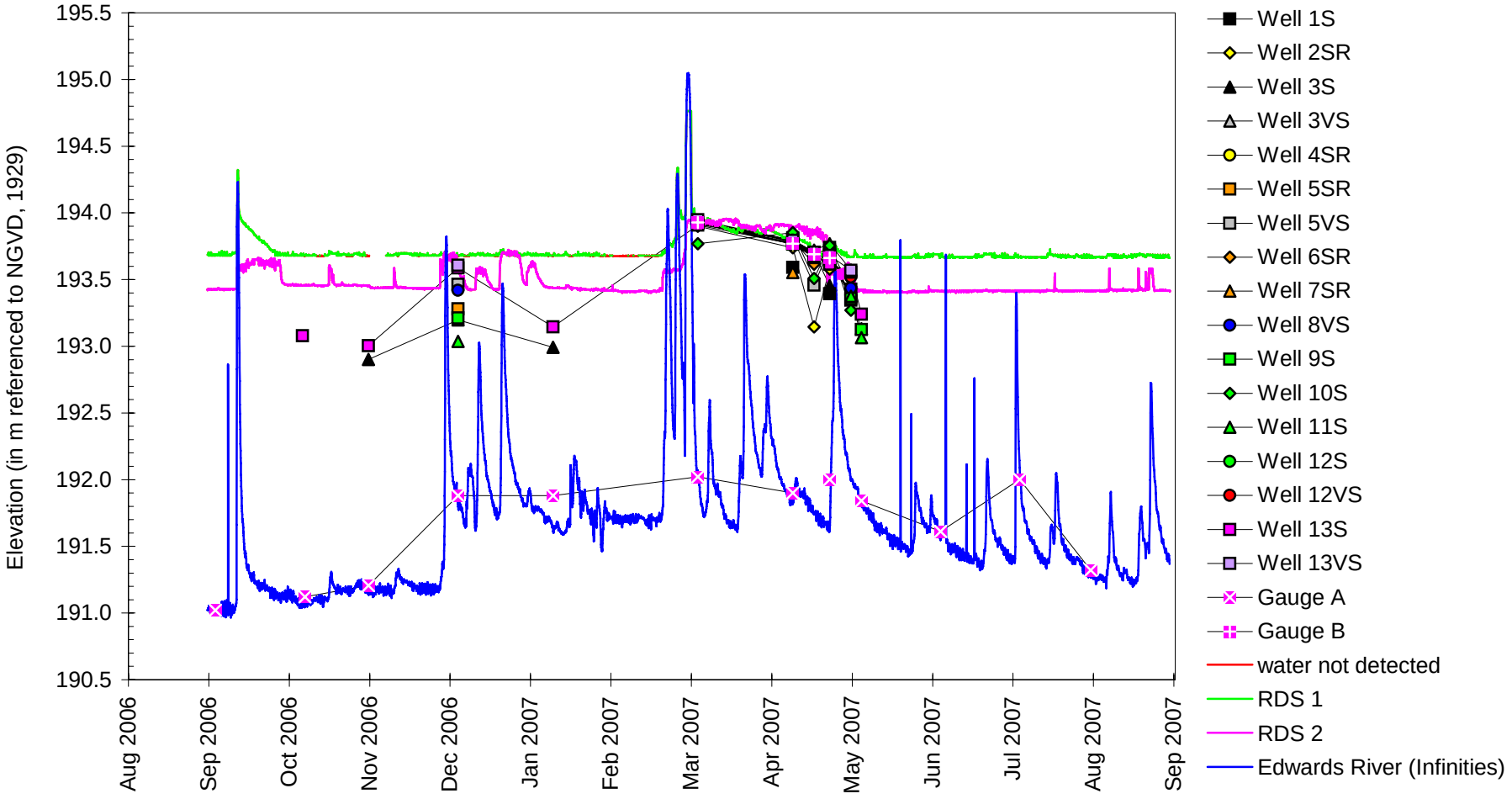
- soil-zone wells
- Infinities sonic data logger
- stage gauge
- RDS data logger
- rain gauge
- T6 sediment trap
- berm

0 20 m
0 60 ft

N

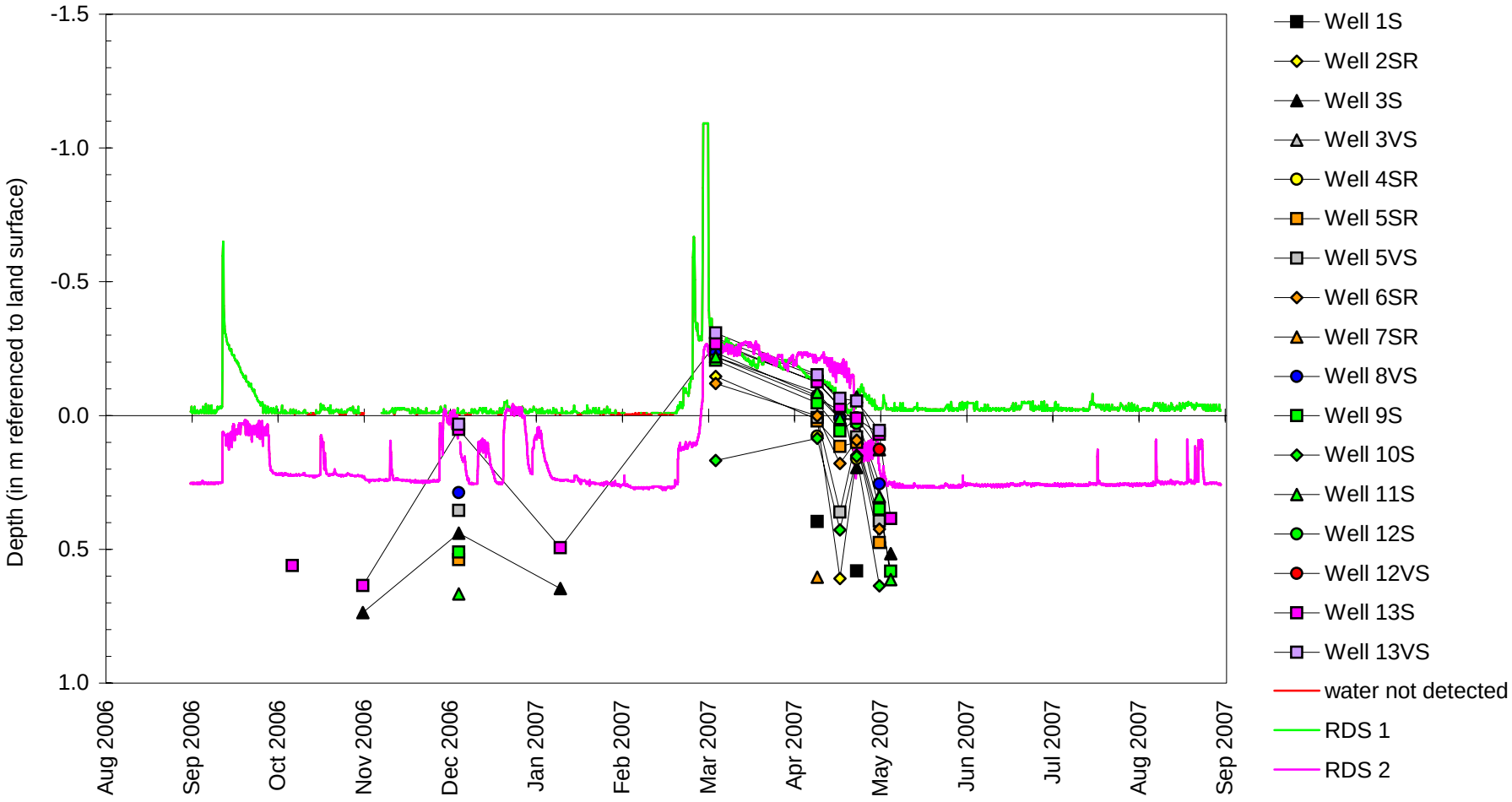
Edwards River, Mercer County Wetland Compensation Site
September 1, 2006 to September 1, 2007

Water-Level Elevations



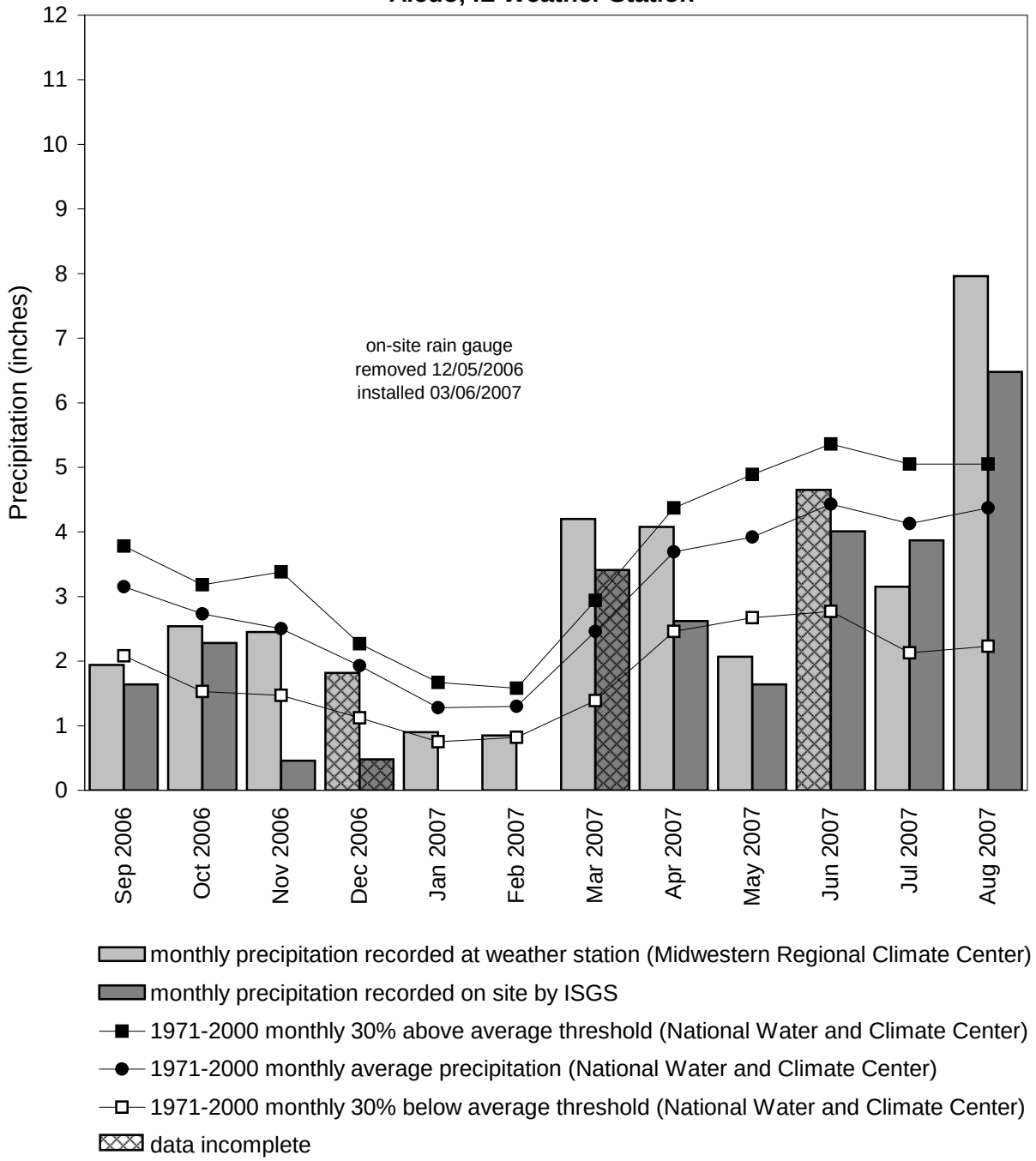
Edwards River, Mercer County Wetland Compensation Site
September 1, 2006 to September 1, 2007

Depth to Water



Edwards River, Mercer County
Wetland Compensation Site
September 2006 through August 2007

Total Monthly Precipitation Recorded On Site and at the Aledo, IL Weather Station



Graph last updated October 9, 2007