



**HANCOCK COUNTY NEAR CARTHAGE  
WETLAND COMPENSATION SITE**

**ISGS #42**

FAP 315 & FAP 10

Hancock County, near Carthage, Illinois

**Primary Project Manager: Steven E. Benton**

**Secondary Project Manager:** not assigned

**SITE HISTORY**

- March 1997: IDOT tasked ISGS to monitor the site.
- August 2004: A Level II hydrogeologic characterization report was submitted to IDOT (ISGS Open-File Series 2004–13).
- July 2006: Wetland and highway construction began.
- July 2007: Tree planting was completed.

**WETLAND HYDROLOGY CALCULATION FOR 2007**

The area of the site that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for more than 5% of the 2007 growing season was estimated to be 9.1 ha (22.5 ac) out of an area of 17.9 ha (44.3 ac). The area of the site that satisfied wetland hydrology criteria for more than 12.5% of the growing season was estimated to be 8.5 ha (21.1 ac). These estimates are based on the following factors:

- According to the MRCC, the median date that the growing season begins in nearby La Harpe, Illinois, is April 9 and the season lasts 196 days; 5% of the growing season is 10 days and 12.5% of the growing season is 25 days.
- Total precipitation recorded at Bentley, Illinois during the monitoring period was 80% of normal. Precipitation in November 2006, and in January, February, March, April, June, and August 2007 was at or above normal.
- Monitoring wells 1U, 2U, 3U, 4U, 5U, 6U, 8U, 11S, 13S, 14S, 16S, and 17S satisfied the criteria for jurisdictional wetland hydrology at 5% of the growing season. With the exception of 11S, these monitoring wells also satisfied the criteria for jurisdictional wetland hydrology at 12.5% of the growing season.
- Surface-water elevations measured at RDS 1 were greater than or equal to 165.57 m (543.23 ft) for more than 5% of the growing season, and greater than or equal to 165.51 m (543.04 ft) for more than 12.5% of the growing season. Surface-water elevations measured at RDS 2 were greater than or equal to 165.60 m (543.33 ft) for more than 5% of the growing season, and greater than or equal to 165.56 m (543.20 ft) for more than 12.5% of the growing season. Surface-water elevations measured at RDS 3 were greater than or equal to 165.15 m (541.86 ft) for more than 5% of the growing season, and greater than or equal to 165.14 m (541.82 ft) for more than 12.5% of the growing season.
- Wetland construction appears to have had an effect on the acreage of jurisdictional wetland hydrology. In 2007, precipitation in the spring (April, May, June) was 71% of normal, and

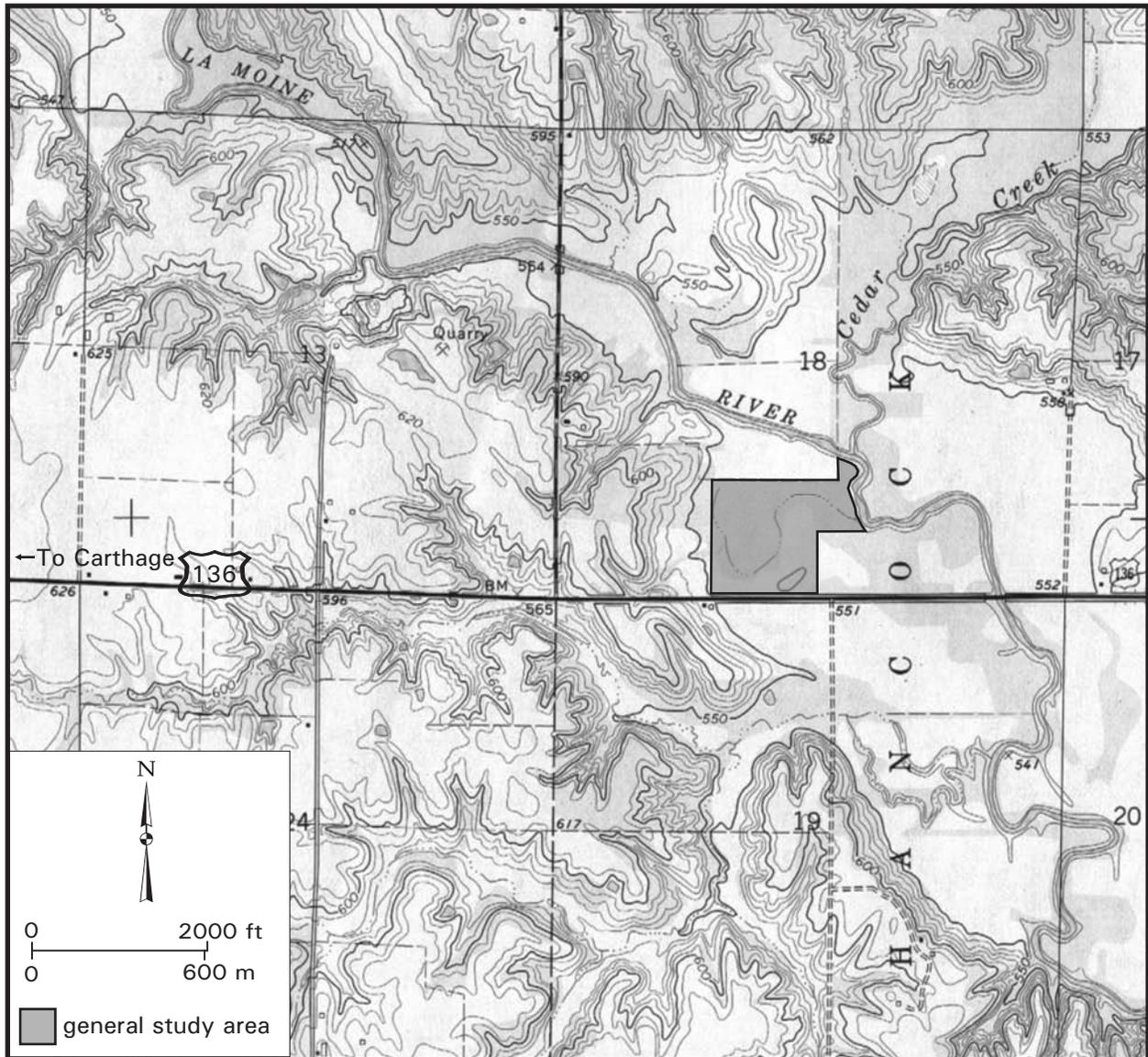
the area of jurisdictional wetland hydrology at 5% of the growing season was 9.1 ha (22.5 ac). In 2005, precipitation in the spring was 77% of normal, but the area of jurisdictional wetland hydrology at 5% of the growing season was only 6.0 ha (14.9 ac). In 2004, precipitation in the spring was 106% of normal, and the area of jurisdictional wetland hydrology at 5% of the growing season was only 4.9 ha (12.0 ac).

#### PLANNED FUTURE ACTIVITIES

- Monitoring of the site will continue until no longer required by IDOT.

**Hancock County near Carthage  
Wetland Compensation Site  
(FAP 315 and FAP 10)  
General Study Area and Vicinity**

from the USGS Topographic Series, Carthage East, IL 7.5-minute Quadrangle (USGS 1974)  
contour interval is 10 feet

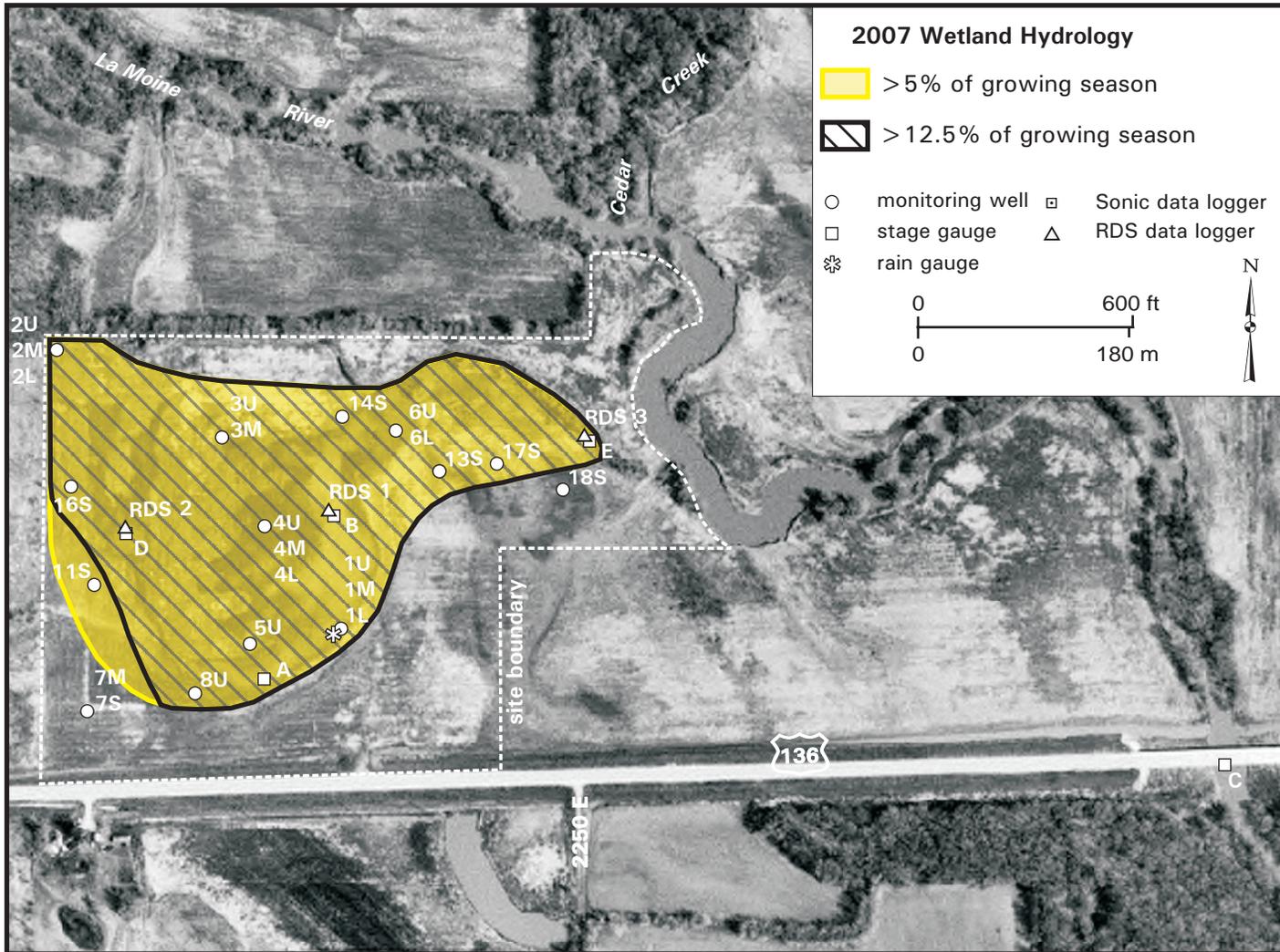


# Hancock County near Carthage Wetland Compensation Site (FAP 315 and FAP 10)

## Estimated Areal Extent of 2007 Wetland Hydrology

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

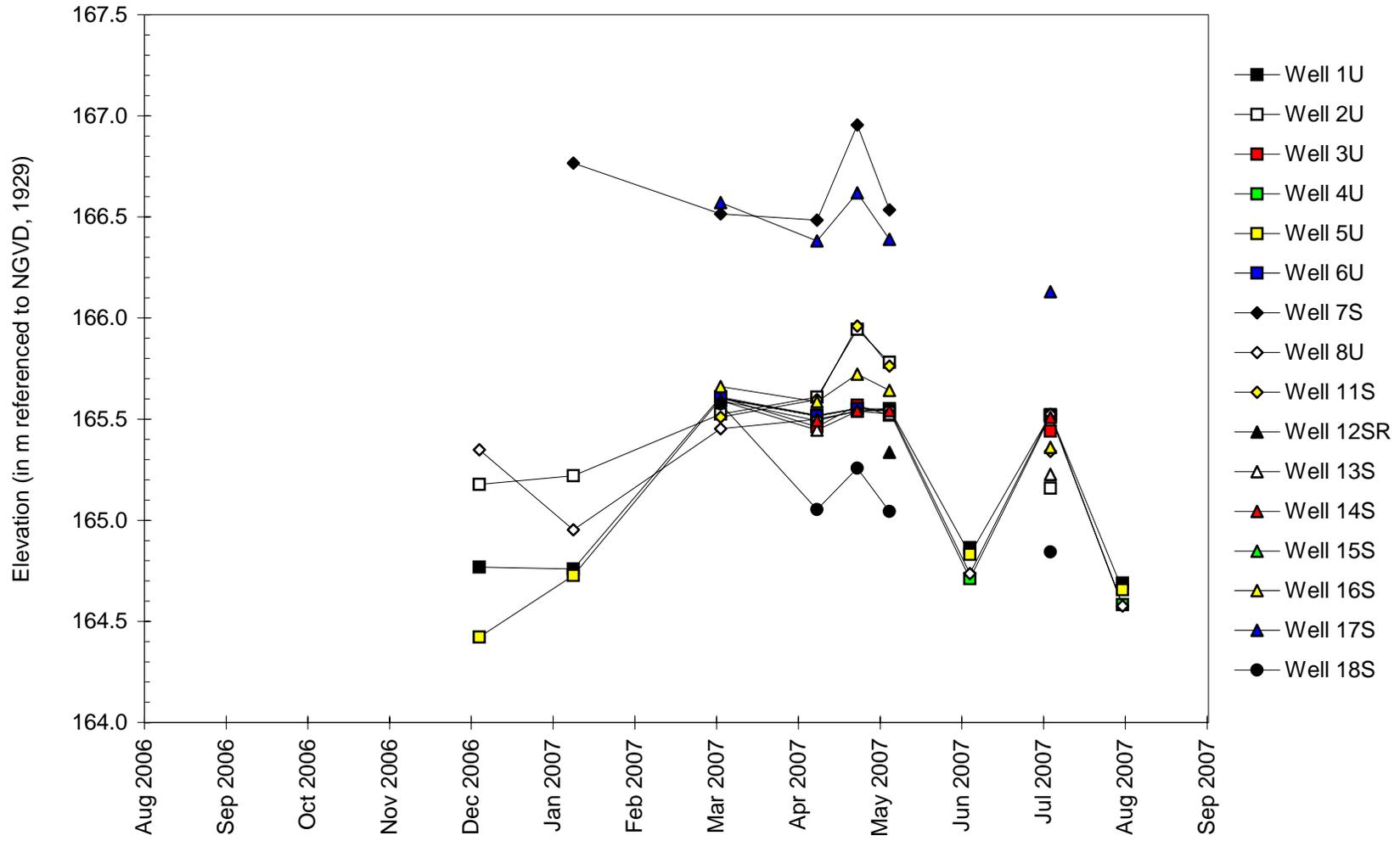
Map based on USGS digital orthophotograph, Carthage East SE quarter quadrangle  
produced from 4/14/98 aerial photography (ISGS 2002)



# Hancock County near Carthage Wetland Compensation Site

## September 1, 2006 to September 1, 2007

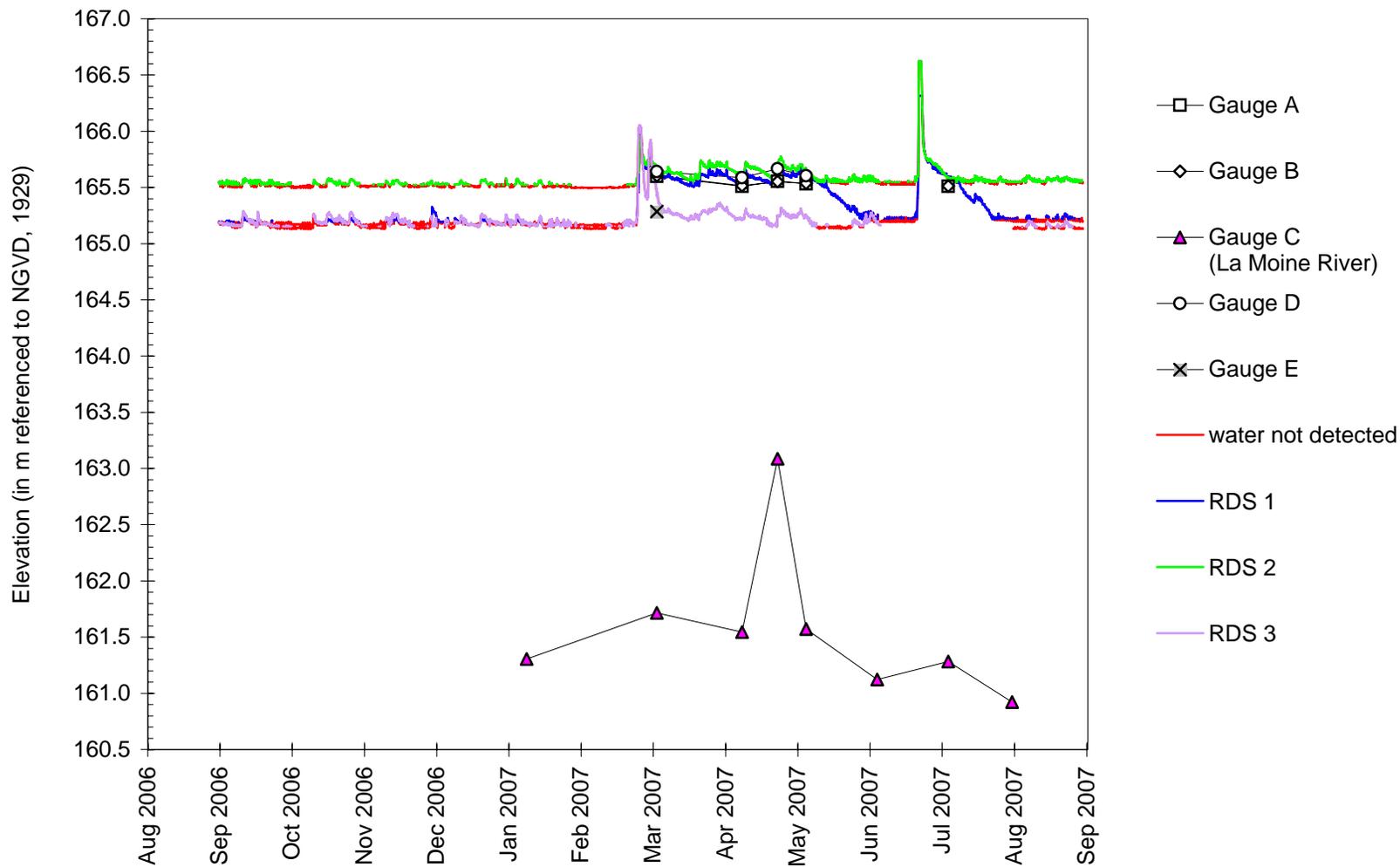
### Water-Level Elevations in Wells Used to Determine Areas Satisfying Wetland Hydrology Criteria



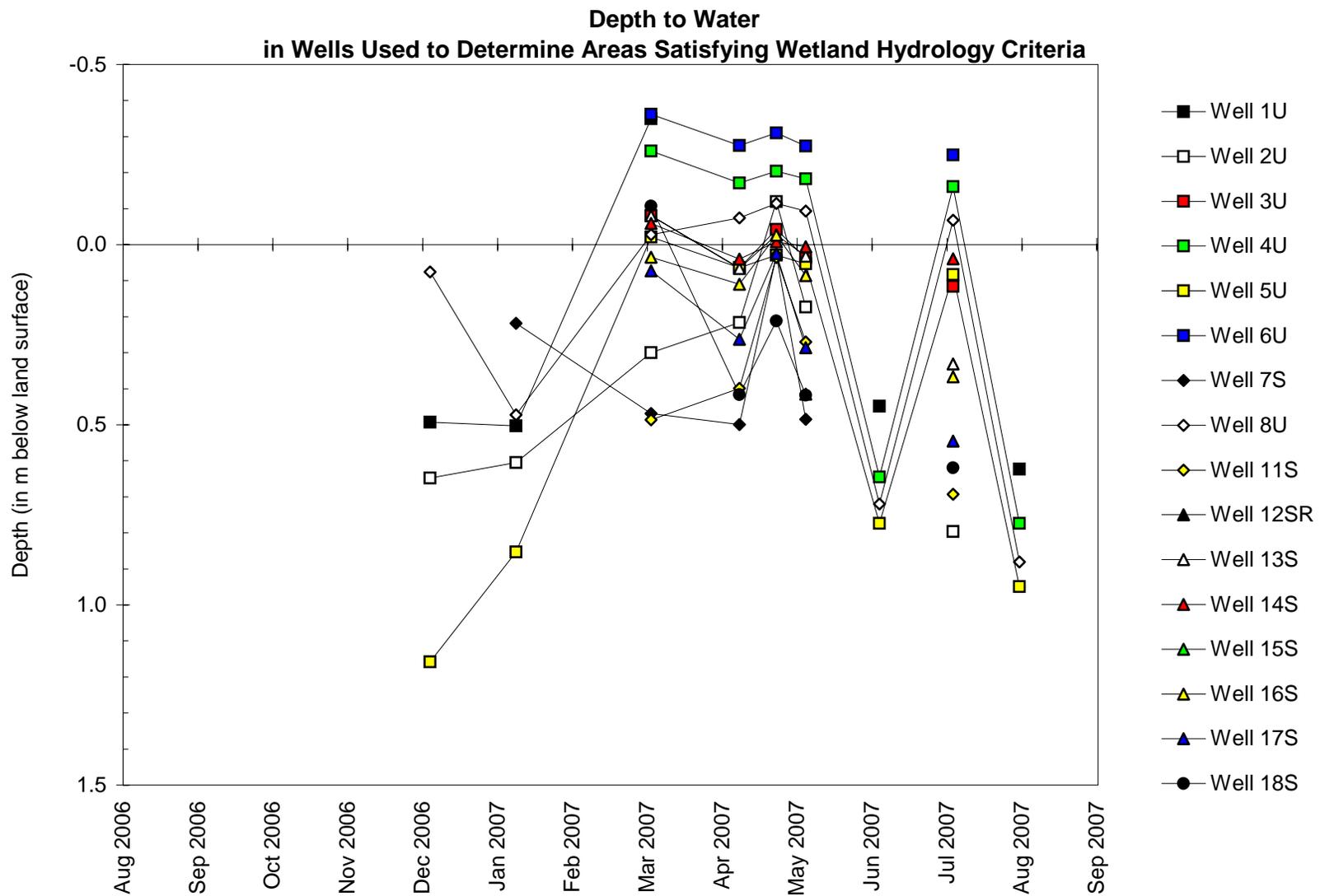
# Hancock County near Carthage Wetland Compensation Site

September 1, 2006 to September 1, 2007

## Water-Level Elevations on Stage Gauges and at Data Loggers



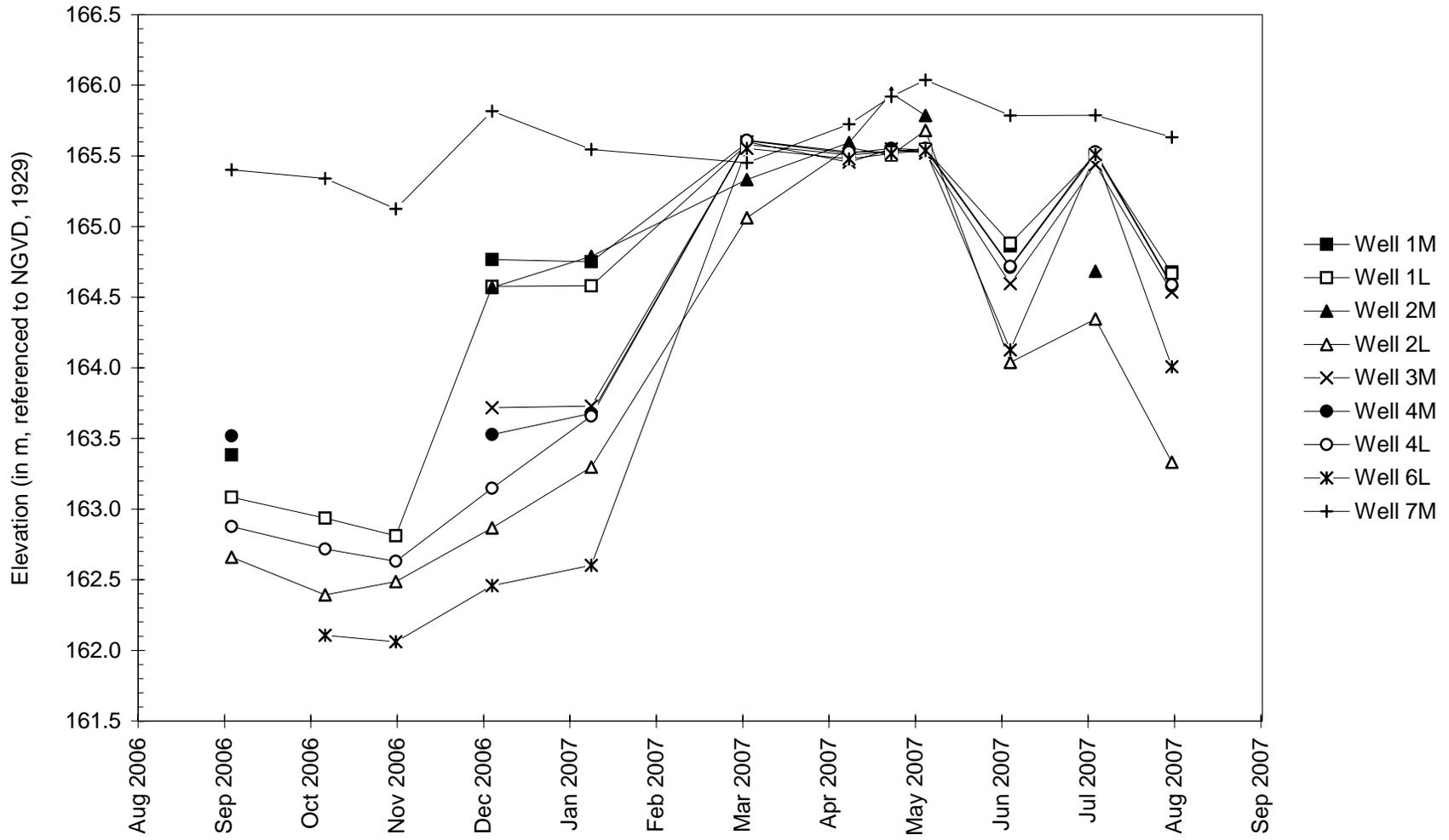
## Hancock County near Carthage Wetland Compensation Site September 1, 2006 to September 1, 2007



# Hancock County near Carthage Wetland Compensation Site

September 1, 2006 to September 1, 2007

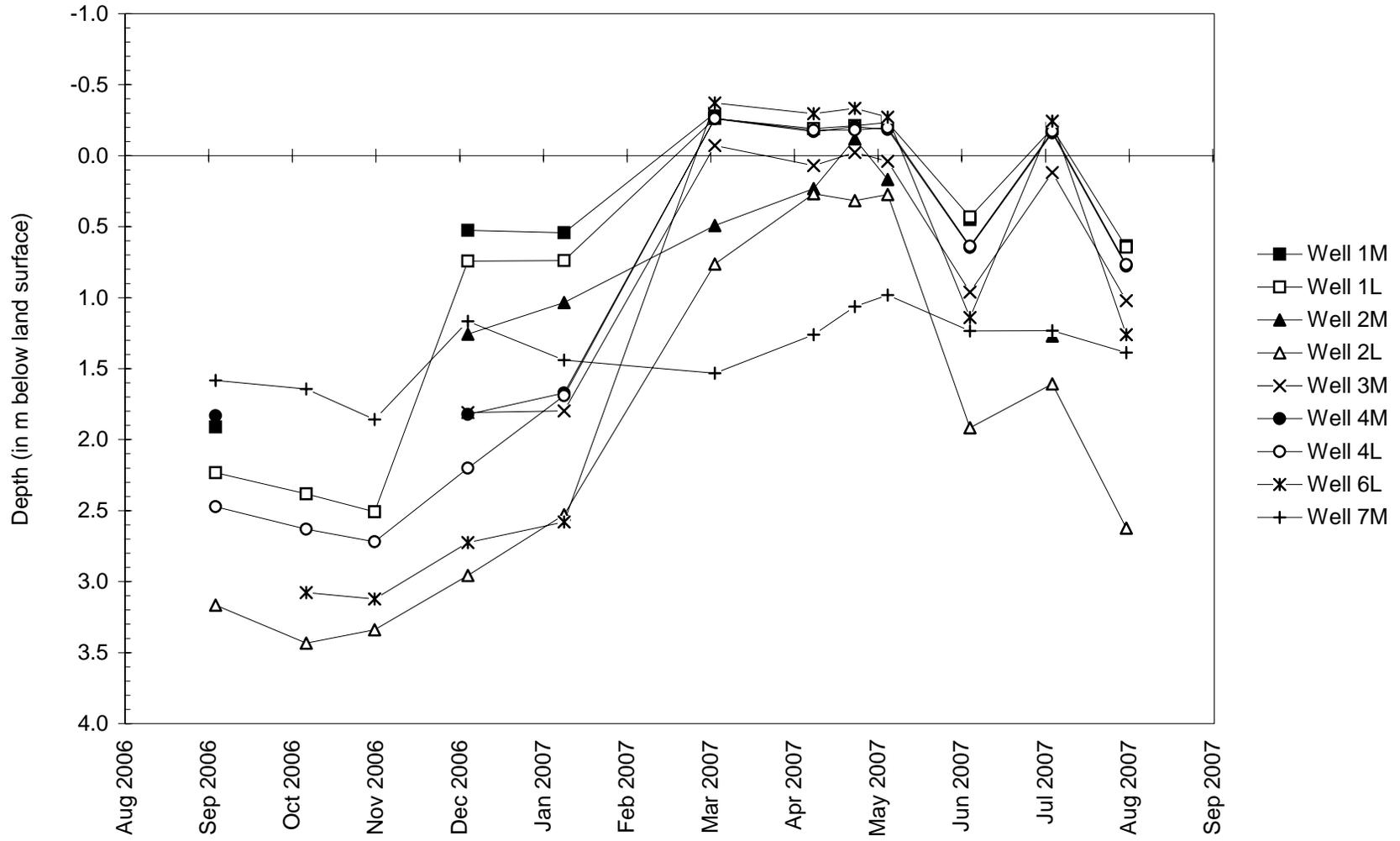
## Water-Level Elevations in Deeper Monitoring Wells



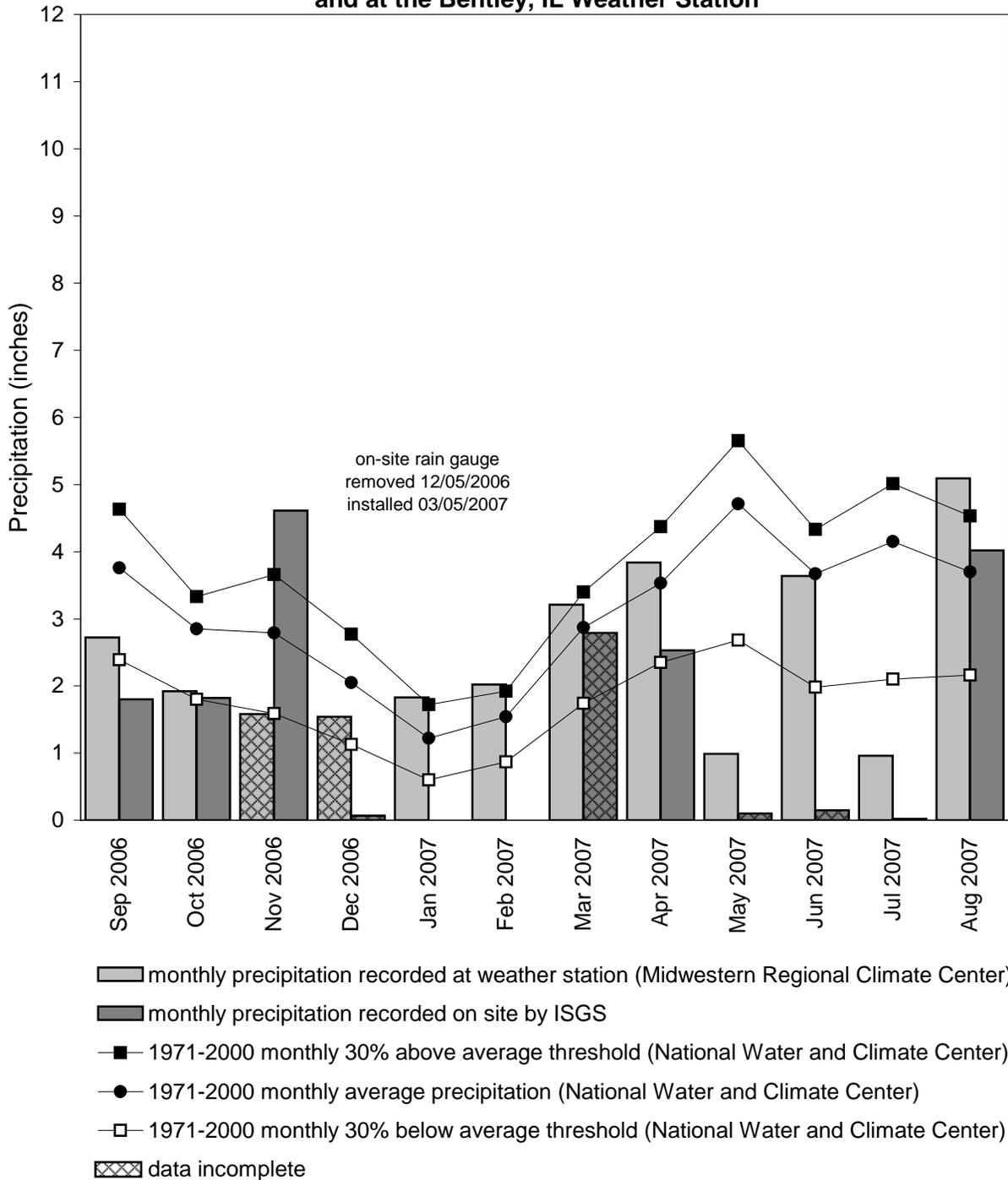
# Hancock County near Carthage Wetland Compensation Site

September 1, 2006 to September 1, 2007

## Depth to Water in Deeper Monitoring Wells



**Hancock County near Carthage  
Wetland Compensation Site  
September 2006 through August 2007  
Total Monthly Precipitation Recorded On Site  
and at the Bentley, IL Weather Station**



Graph last updated October 9, 2007