



**HANCOCK COUNTY NEAR CARTHAGE  
POTENTIAL WETLAND COMPENSATION SITE**

**ISGS #42**

FAP 315 & 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. Highway construction plans include a new road bed, new lanes, and a new bridge over the La Moine River north of the existing portion of U.S. 136. Wetland construction plans include excavation in areas identified in the June 2001, Hancock County Wetland Mitigation Bank Hydrology/Hydraulics Evaluation.

**WETLAND HYDROLOGY CALCULATION FOR 2006**

The area of the site that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for more than 5% of the 2006 growing season was estimated to be 0.0 ha (0.0 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 0.0 ha (0.0 ac). These estimates are based on the following factors:

- According to the Midwestern Climate Center, 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 2006 monitoring period was 26.04 inches, which was 71% of normal. Data recorded at Bentley reveal that only one month during the monitoring period (March 2006) had above-normal precipitation.
- No monitoring wells satisfied the criteria for wetland hydrology at either 5% or 12.5%.
- Surface-water elevations measured at RDS 1, RDS 2, and RDS 3 reveal that inundation occurred for brief periods throughout the growing season, but that the longest periods were less than 5% of the growing season.

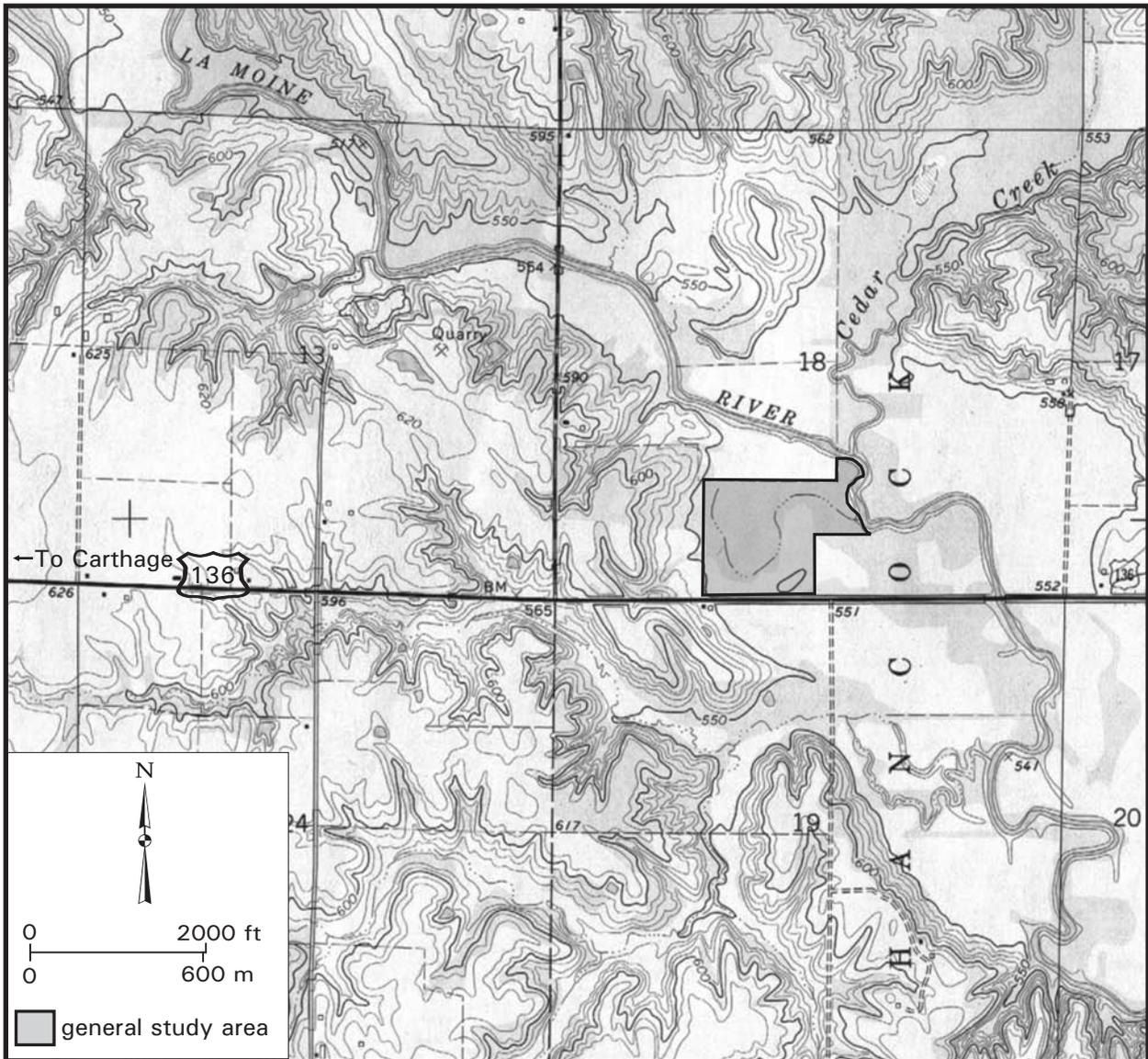
**PLANNED FUTURE ACTIVITIES**

- Monitoring of the site will continue until no longer required by IDOT.
- New monitoring wells and staff gauges will be installed when wetland construction is completed.

**Hancock County near Carthage  
Potential 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

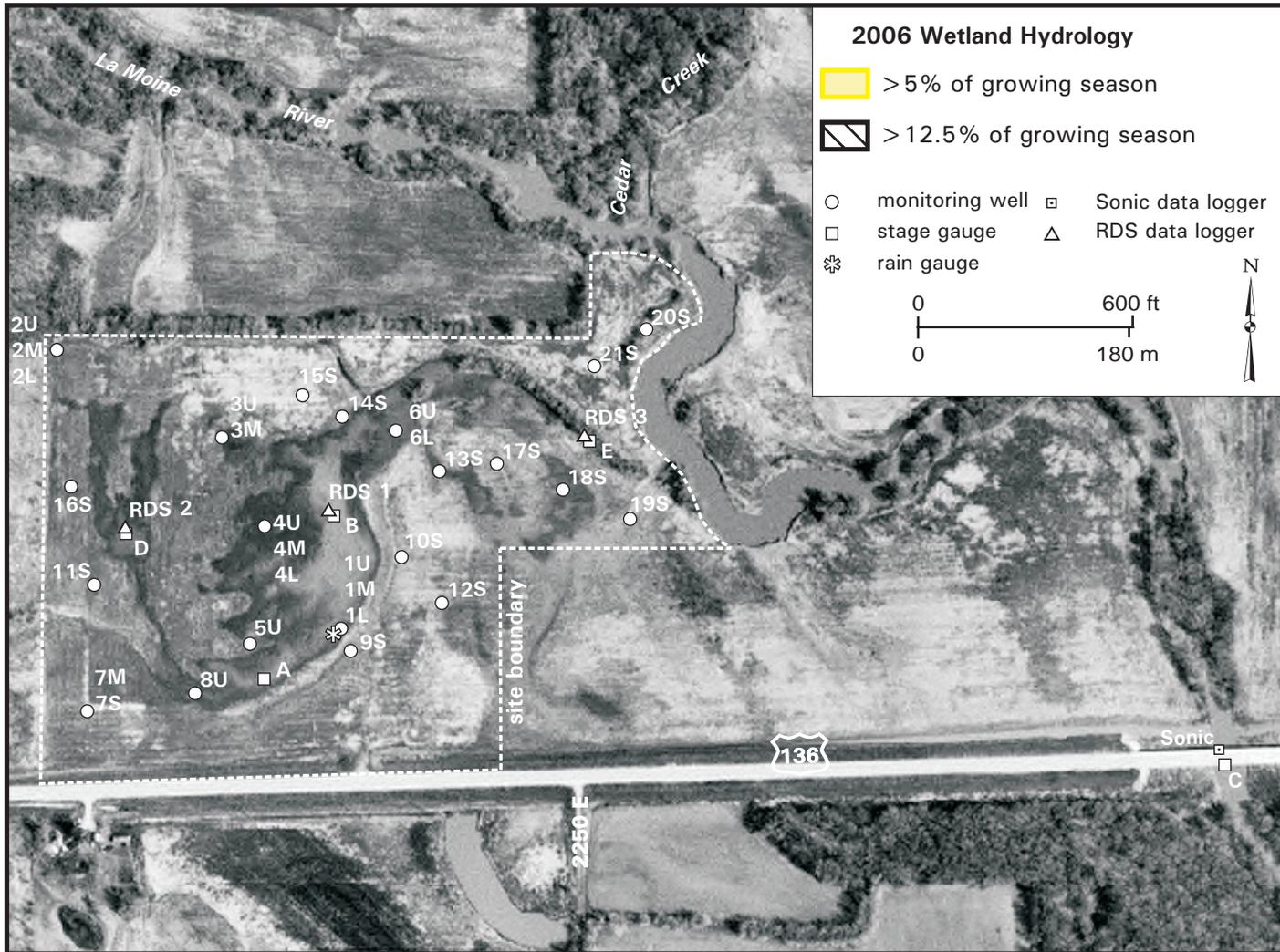


# Hancock County near Carthage Potential Wetland Compensation Site (FAP 315 and FAP 10)

## Estimated Areal Extent of 2006 Wetland Hydrology

based on data collected between September 1, 2005 and September 1, 2006

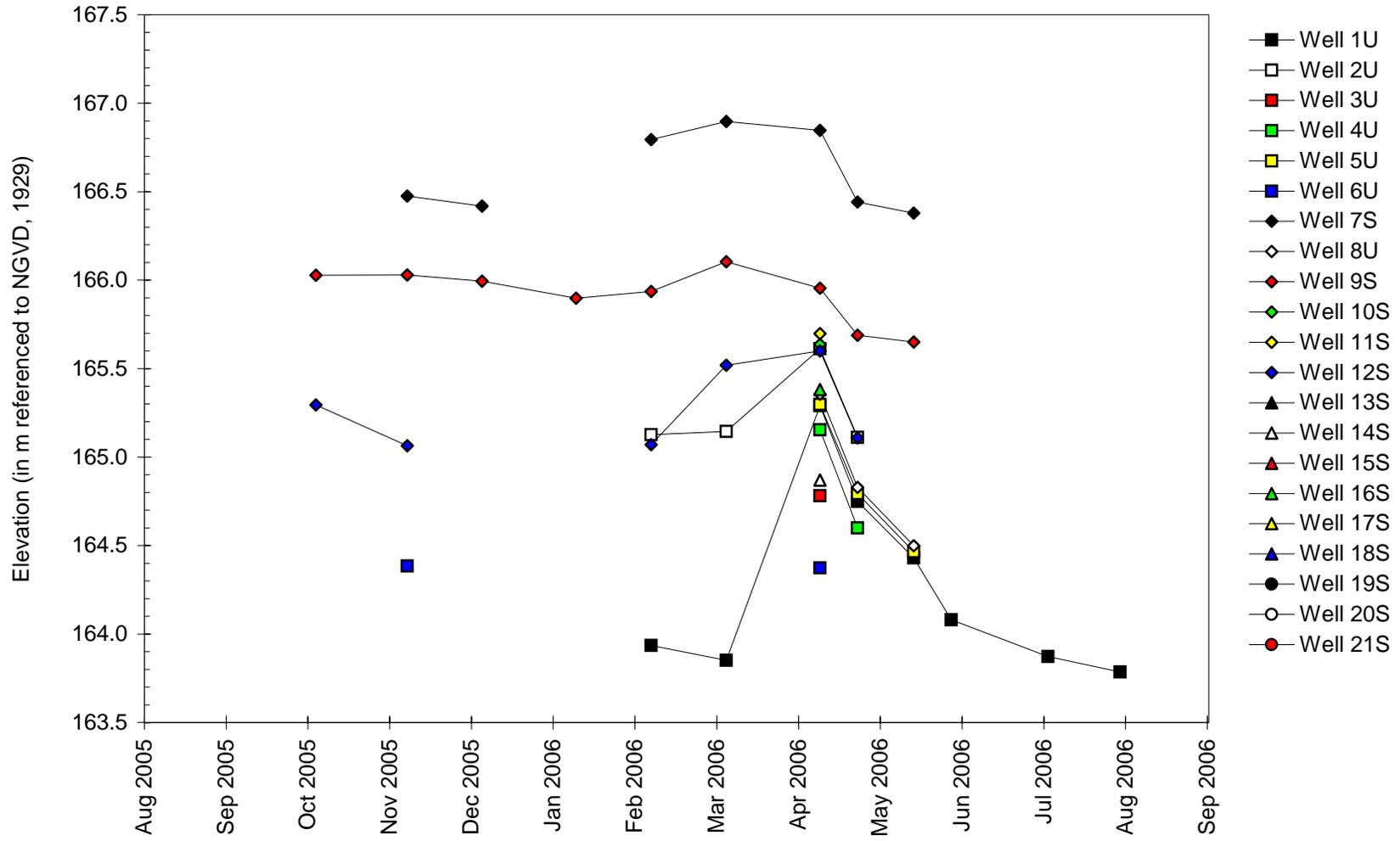
Map based on USGS digital orthophotograph, Carthage East SE quarter quadrangle  
produced from 4/14/98 aerial photography (ISGS 2002)



# Hancock County near Carthage Potential Wetland Compensation Site

## September 1, 2005 to September 1, 2006

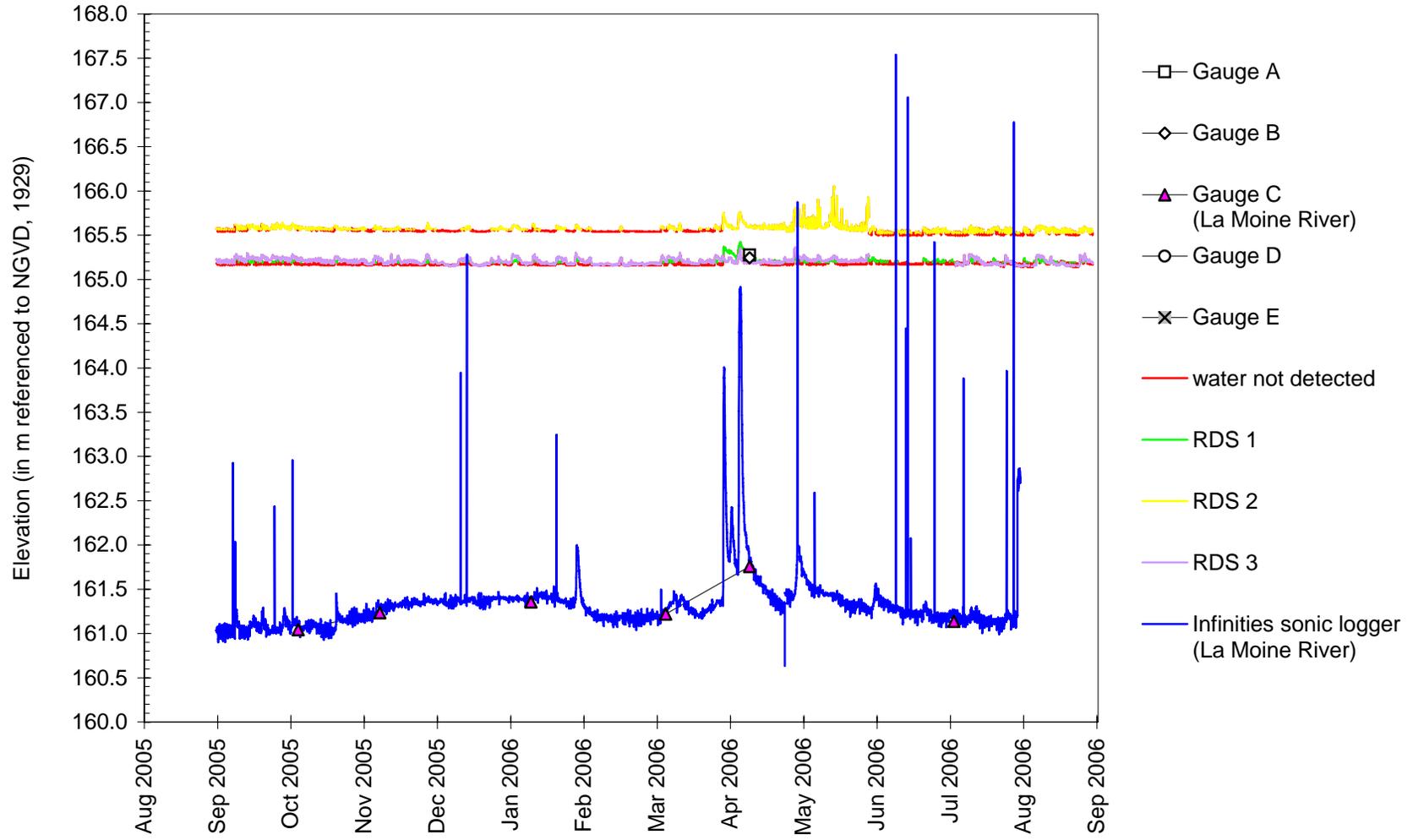
### Water-Level Elevations in Wells Used to Determine Areas Satisfying Wetland Hydrology Criteria



# Hancock County near Carthage Potential Wetland Compensation Site

September 1, 2005 to September 1, 2006

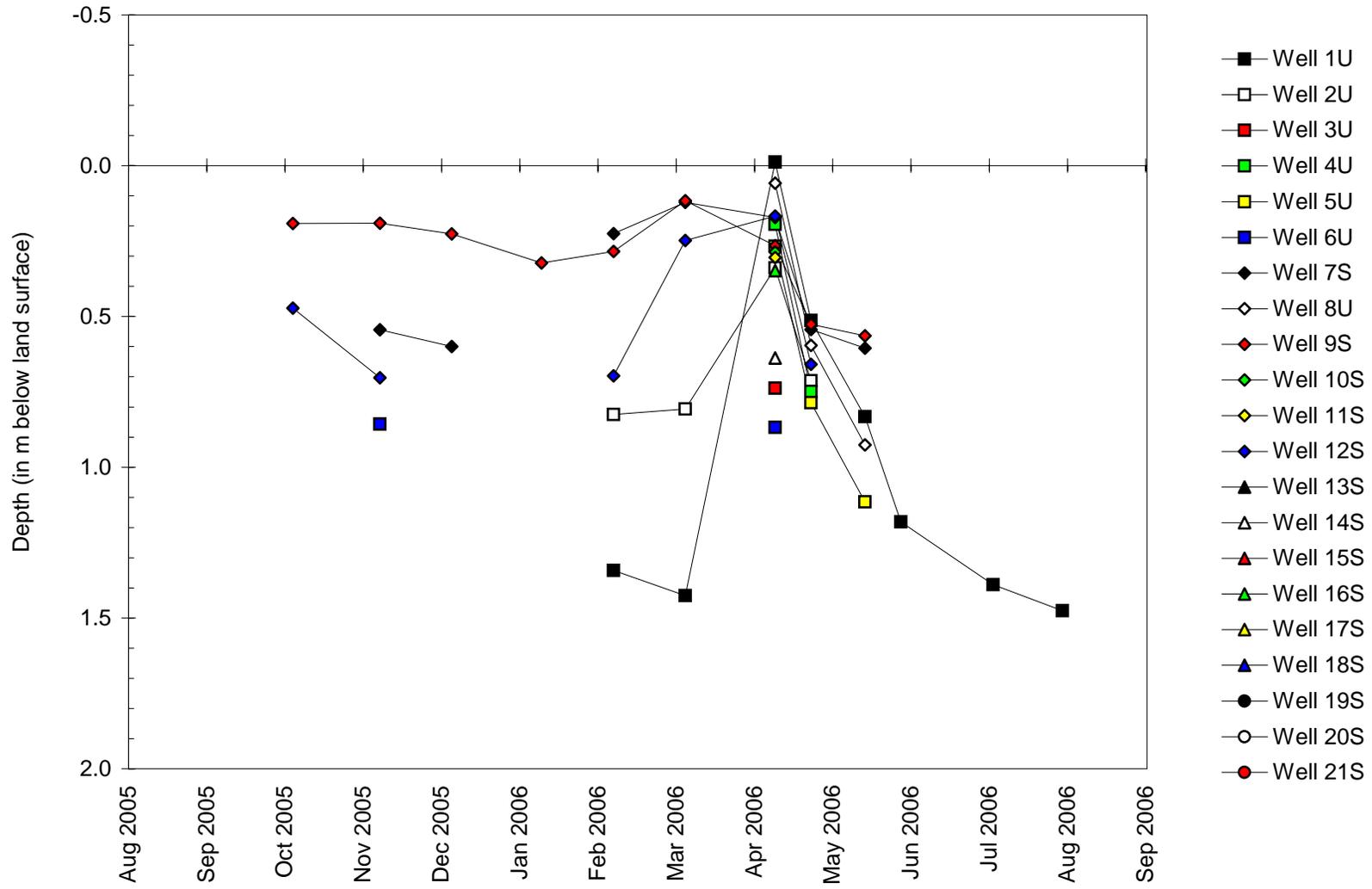
## Water-Level Elevations on Stage Gauges and at Data Loggers



# Hancock County near Carthage Potential Wetland Compensation Site

## September 1, 2005 to September 1, 2006

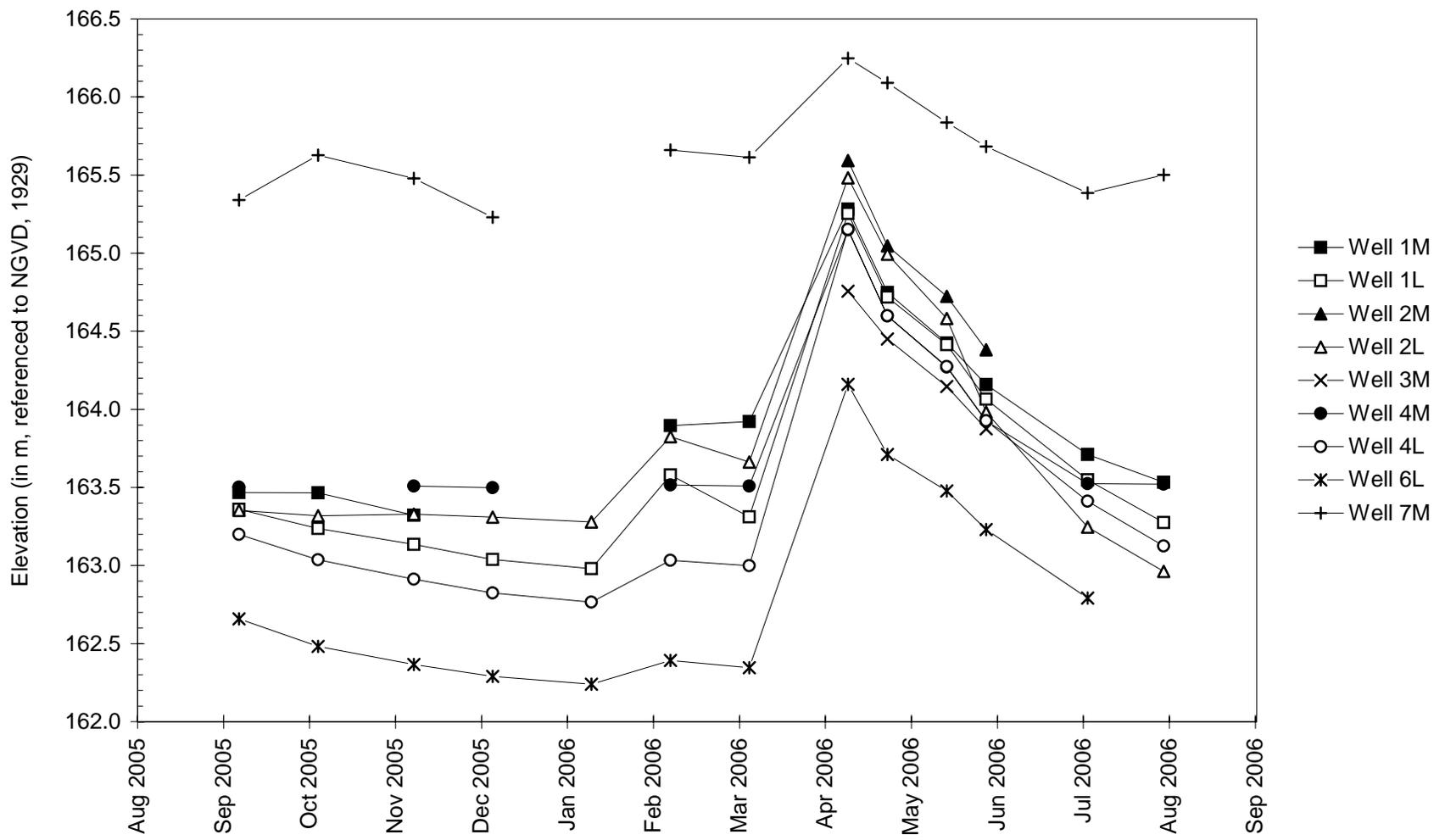
**Depth to Water**  
**in Wells Used to Determine Areas Satisfying Wetland Hydrology Criteria**



# Hancock County near Carthage Potential Wetland Compensation Site

September 1, 2005 to September 1, 2006

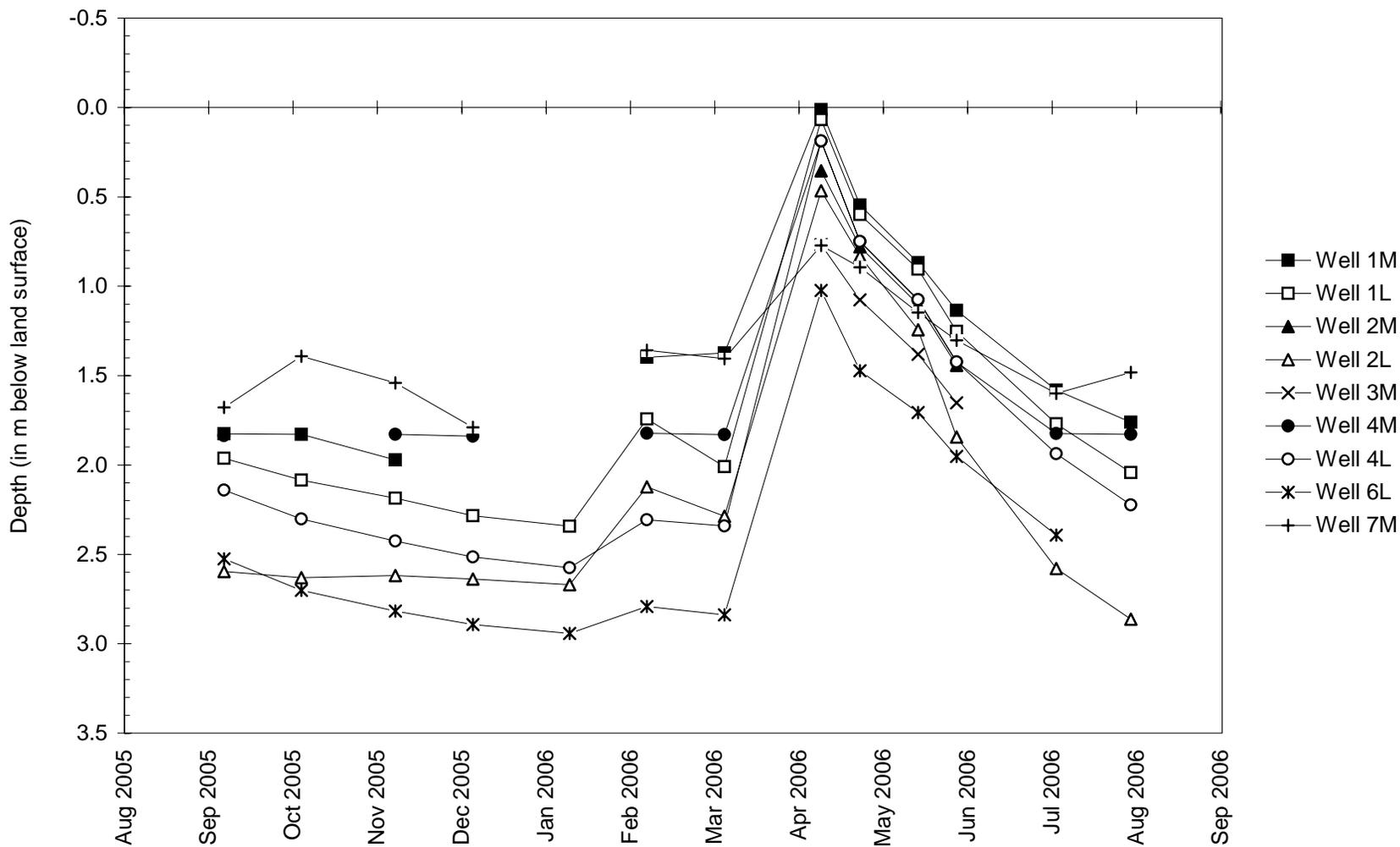
## Water-Level Elevations in Deeper Monitoring Wells



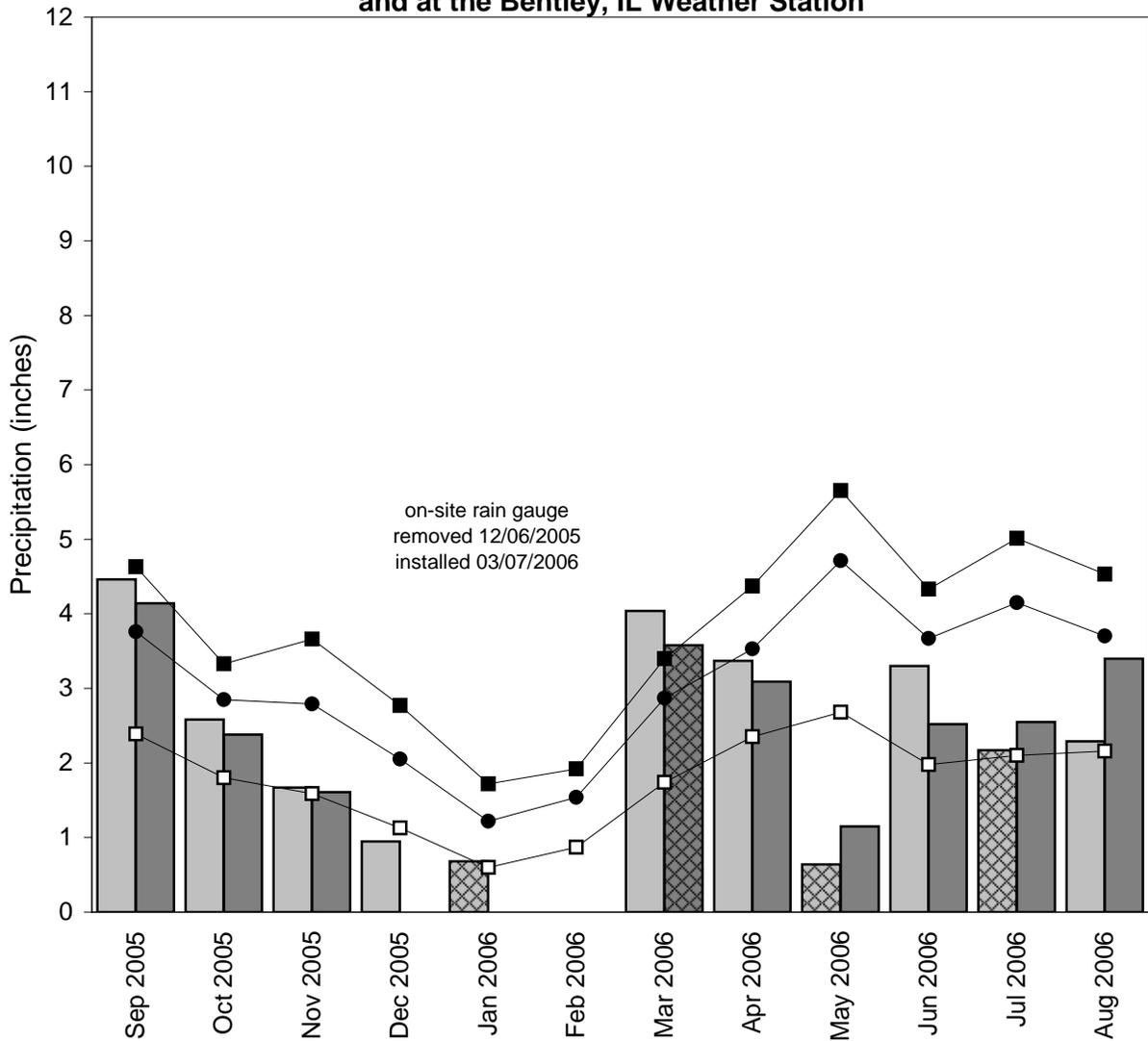
# Hancock County near Carthage Potential Wetland Compensation Site

September 1, 2005 to September 1, 2006

## Depth to Water in Deeper Monitoring Wells



**Hancock County near Carthage  
Potential Wetland Compensation Site  
September 2005 through August 2006  
Total Monthly Precipitation Recorded On Site  
and at the Bentley, IL Weather Station**



- monthly precipitation recorded at weather station (Midwestern Regional Climate Center)
- monthly precipitation recorded on site by ISGS
- 1971-2000 monthly 30% above average threshold (National Water and Climate Center)
- 1971-2000 monthly average precipitation (National Water and Climate Center)
- 1971-2000 monthly 30% below average threshold (National Water and Climate Center)
- ▨ data incomplete

Graph last updated October 13, 2006