



**DE SOTO
WETLAND COMPENSATION SITE**

ISGS #68

FAP 322

Sequence #264

Jackson County, near De Soto, Illinois

Primary Project Manager: Geoffrey E. Pociask

Secondary Project Manager: not assigned

SITE HISTORY

- Summer 2000: The wetland compensation site was constructed.
- August 2002: ISGS was tasked by IDOT to monitor wetland hydrology. Post-construction water-level monitoring was initiated in November 2002.
- May 2006: IDOT held a site review meeting and proposed closure of this site after the 2006 monitoring season.

WETLAND HYDROLOGY CALCULATION FOR 2006

We estimate that 2.1 ha (5.1 ac) out of the 2.4-ha (6.0-ac) site area satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the growing season in 2006, whereas 0.7 ha (1.7 ac) satisfied wetland hydrology for greater than 12.5% of the growing season. These estimates are based on the following factors:

- According to the Midwestern Climate Center, the median date that the growing season begins in nearby Carbondale, Illinois, is April 4 and lasts 203 days; 5% of the growing season is 10 days and 12.5% of the growing season is 25 days.
- Total precipitation for the reporting period from September 2005 through August 2006 was 101% of normal. Drier than normal conditions prevailed in October and December 2005 and in February, April through June, and August 2006. Precipitation was at or above normal in September and November 2005 and in January, March, and July 2006.
- In 2006, wells 1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S, and 9S satisfied wetland hydrology criteria for greater than 5% of the growing season. Furthermore, wells 2S, 5S, 6S, and 8S satisfied the wetland hydrology criteria for greater than 12.5% of the growing season.
- The water levels recorded at Gauge A show that areas in the vicinity of that gauge below approximately 110.5 m (362.5 ft) were inundated for greater than 12.5% of the growing season and therefore satisfy wetland hydrology criteria.
- For the entire post-construction monitoring period of 2003 through 2006, wells 1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S, and 9S satisfied the wetland hydrology criteria for greater than 5% of the growing season in at least 2 of 4 years. Furthermore, wells 2S, 3S, 5S, 6S, 8S, and 9S also satisfied the wetland hydrology criteria for greater than 12.5% of the growing season in at least 2 of 4 years. We estimate that 2.2 ha (5.4 ac) of the 2.4-ha (6.0-ac) site satisfies wetland hydrology criteria for greater than 5% of the growing season, whereas 1.4 ha (3.4 ac) satisfied wetland hydrology for greater than 12.5% of the growing season.

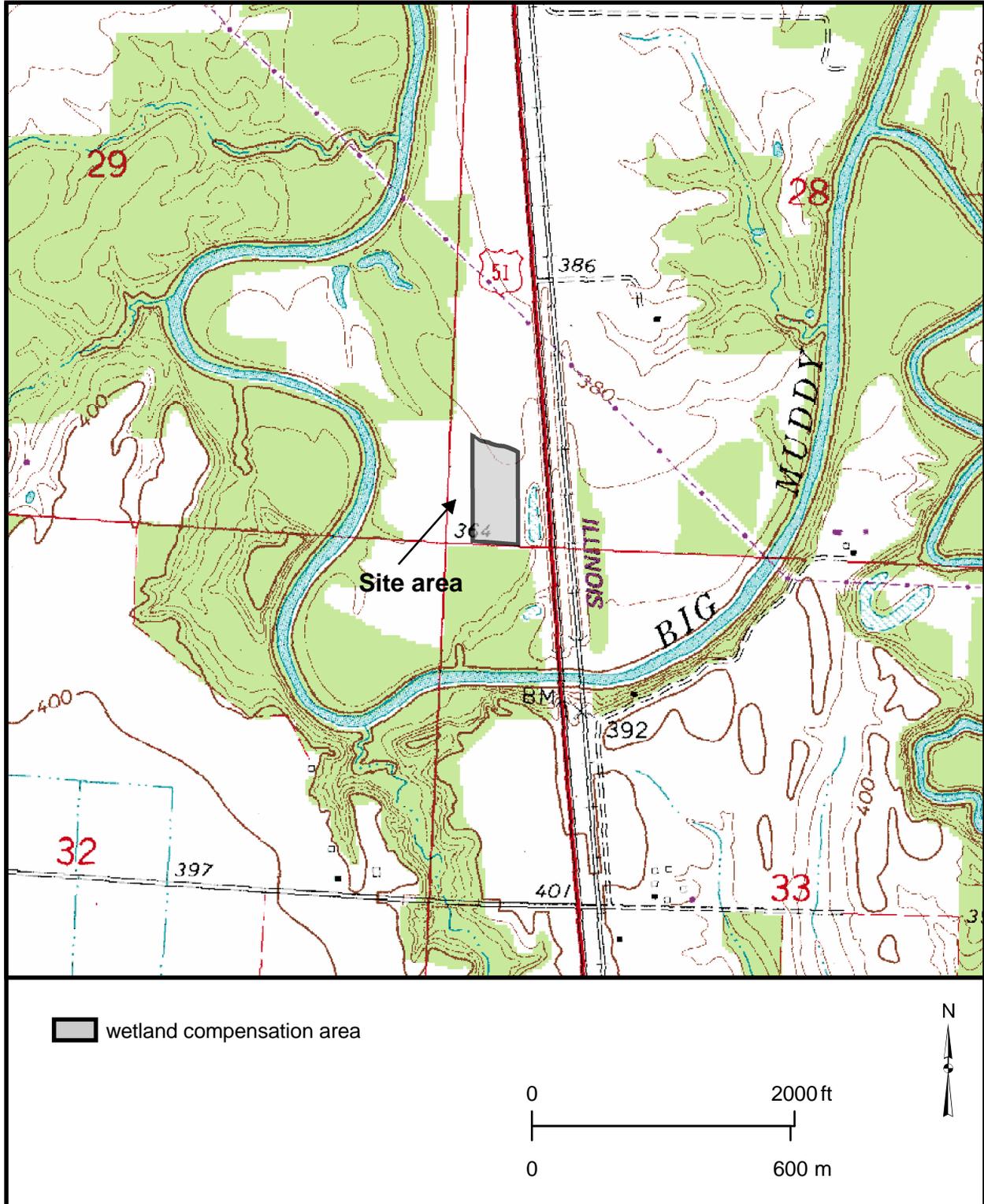
PLANNED FUTURE ACTIVITIES

- Monitoring will continue until no longer required by IDOT.

De Soto Wetland Compensation Site (FAP 322)

General Study Area and Vicinity

from the USGS Topographic Series, De Soto, IL 7.5-minute Quadrangle (USGS 1968; photorevised 1978)
contour interval is 10 feet



De Soto Wetland Compensation Site (FAP 322)

Estimated Areal Extent of 2006 Wetland Hydrology
based on data collected between September 1, 2005 and September 1, 2006

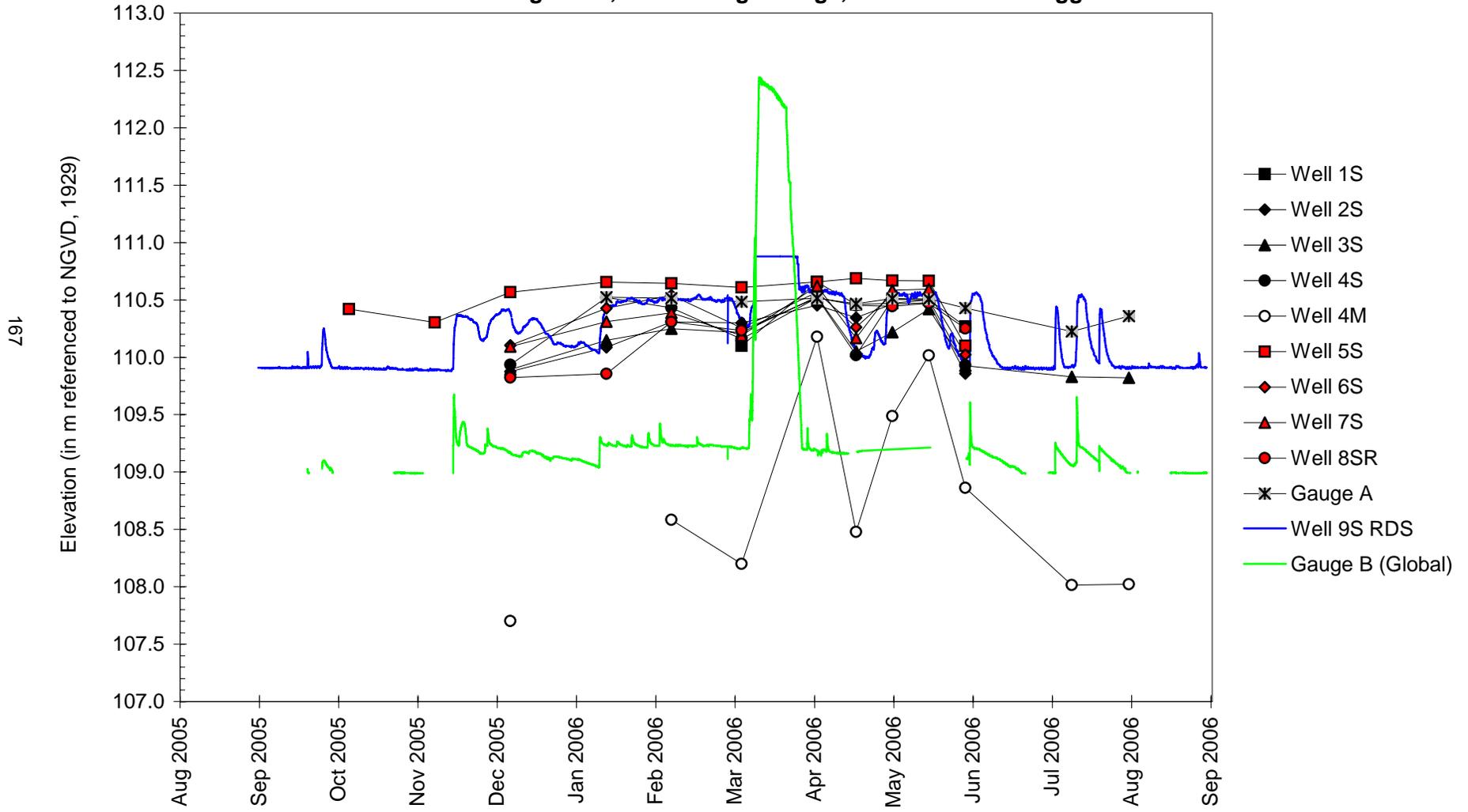
map based on USGS digital orthophotograph, De Soto NW quarter quadrangle
from 3/31/2005 aerial photography and ISGS topography (ISGS 2006)



De Soto Wetland Compensation Site

September 1, 2005 to September 1, 2006

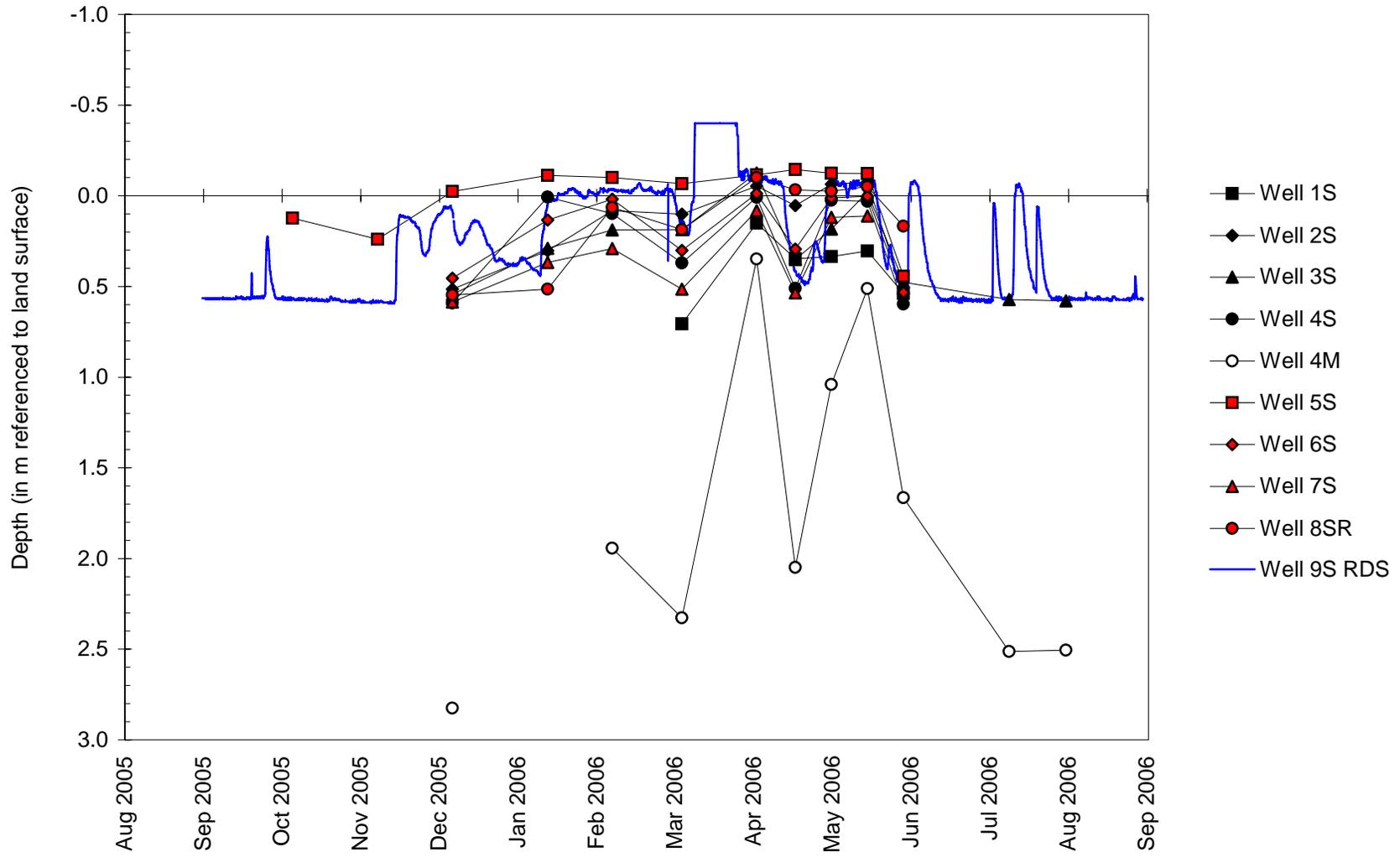
Water-Level Elevations in Monitoring Wells, on the Stage Gauge, and at the Data Loggers



De Soto Wetland Compensation Site

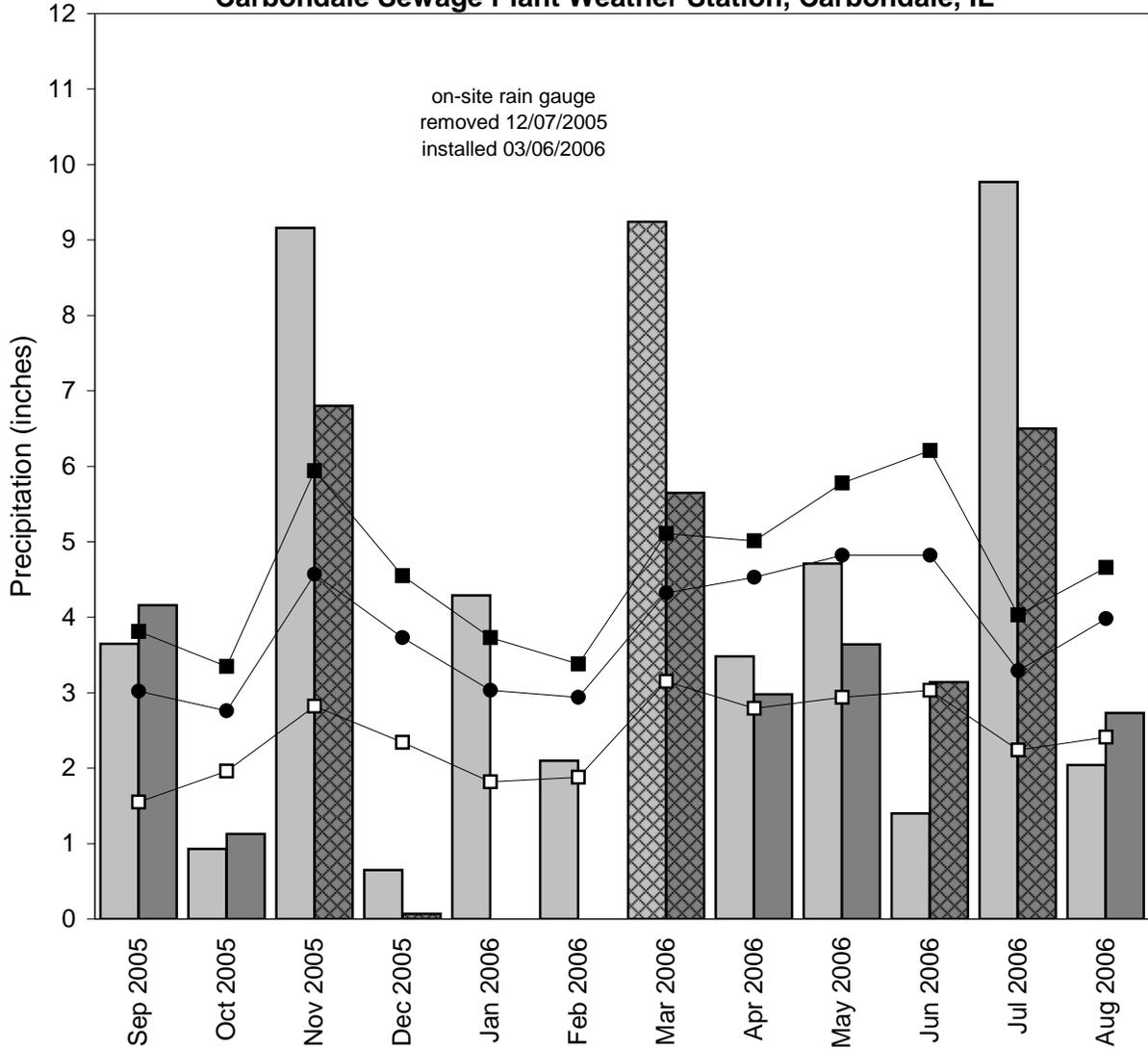
September 1, 2005 to September 1, 2006

Depth to Water in Monitoring Wells and the RDS Data Logger



De Soto Wetland Compensation Site September 2005 through August 2006

Total Monthly Precipitation Recorded On Site and at the Carbondale Sewage Plant Weather Station, Carbondale, IL



- 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)
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- 1971-2000 monthly 30% below average threshold (National Water and Climate Center)
- data incomplete

Graph last updated October 13, 2006