



**DE SOTO
WETLAND COMPENSATION SITE**

ISGS #68

FAP 322

Sequence #264

Jackson County, near De Soto, Illinois

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Secondary Project Manager: Gregory A. Shofner

SITE HISTORY

- August 2002: ISGS was tasked by IDOT to monitor wetland hydrology.
- November 2002: ISGS initiated monitoring activities at the compensation site.

WETLAND HYDROLOGY CALCULATION FOR 2005

We estimate that 1.6 ha (3.9 ac) out of an excavation of 2.4 ha (6.0 ac) satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the growing season in 2005, whereas 1.1 ha (2.8 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 the season 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 2004 through August 2005 was 85% of normal. Drier than normal conditions prevailed in September and December 2004 and in February through June and August 2005, with precipitation in February through June 2005 at only 52% of normal. Precipitation was at or above normal in October and November 2004 and in January and July 2005.
- In 2005, wells 1S, 2S, 3S, 5S, 6S, 8S, and 9S satisfied wetland hydrology criteria for greater than 5% of the growing season. Furthermore, wells 2S, 3S, 5S, and 8S satisfied the wetland hydrology criteria for greater than 12.5% of the growing season.
- The water levels recorded at Gauges A and B show that areas below approximately 110.5 m (362.5 ft) were inundated for greater than 5% of the growing season and therefore satisfy wetland hydrology criteria. Areas below 110.5 m (362.5 ft) were also inundated for greater than 12.5% of the growing season.
- Limitations of the wetland hydrology determination are as follows:
 - The area of wetland hydrology was calculated using GIS methods. The wetland-hydrology polygon was drawn from an ISGS topographic map (0.1-meter contour interval) rectified to GPS positions of water-level instruments and point features identifiable from a digital orthophotograph.

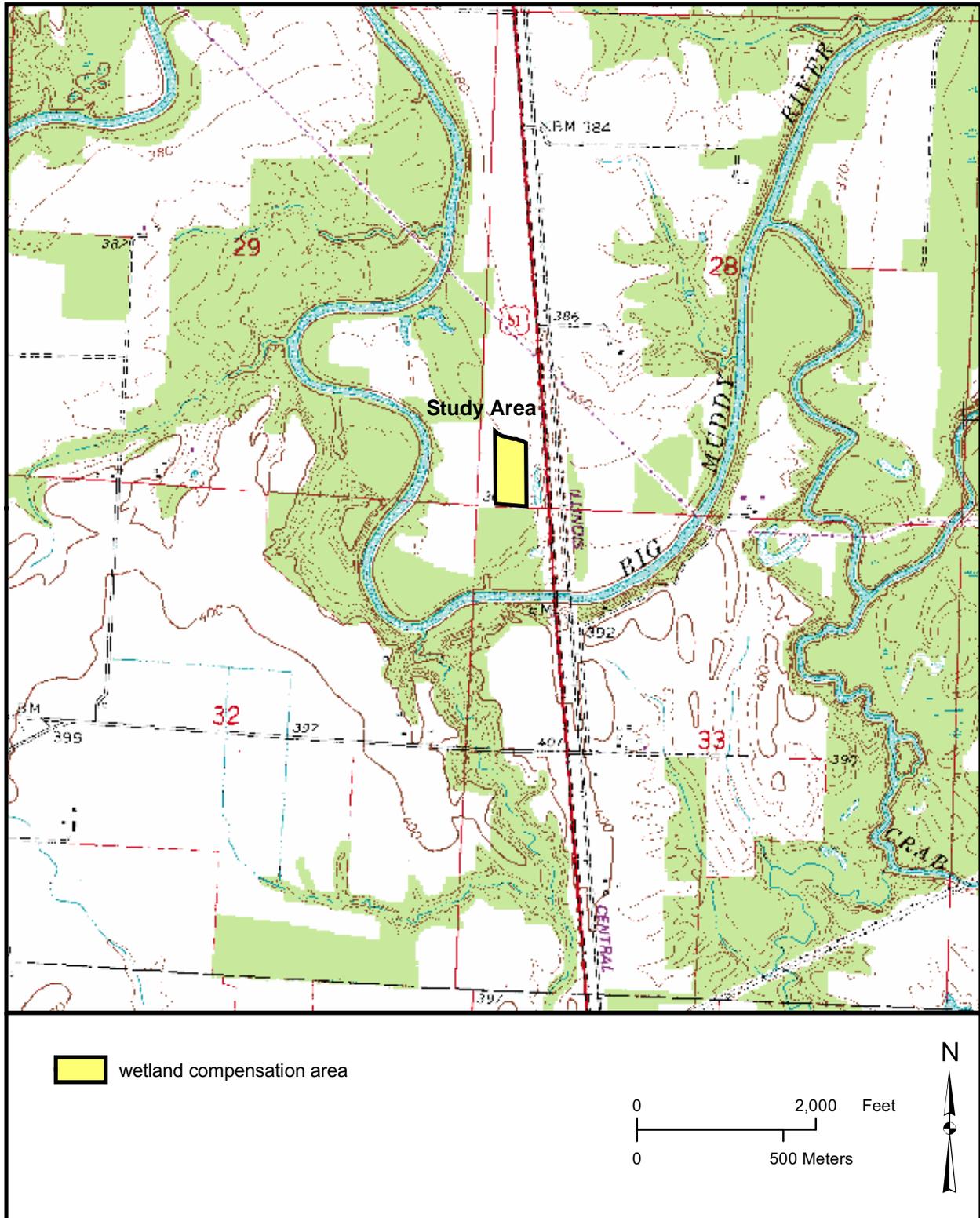
PLANNED FUTURE ACTIVITIES

- Monitoring will continue until September 2007 or until no longer required by IDOT.

De Soto Wetland Compensation Site (FAP 322)

General Study Area and Vicinity

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

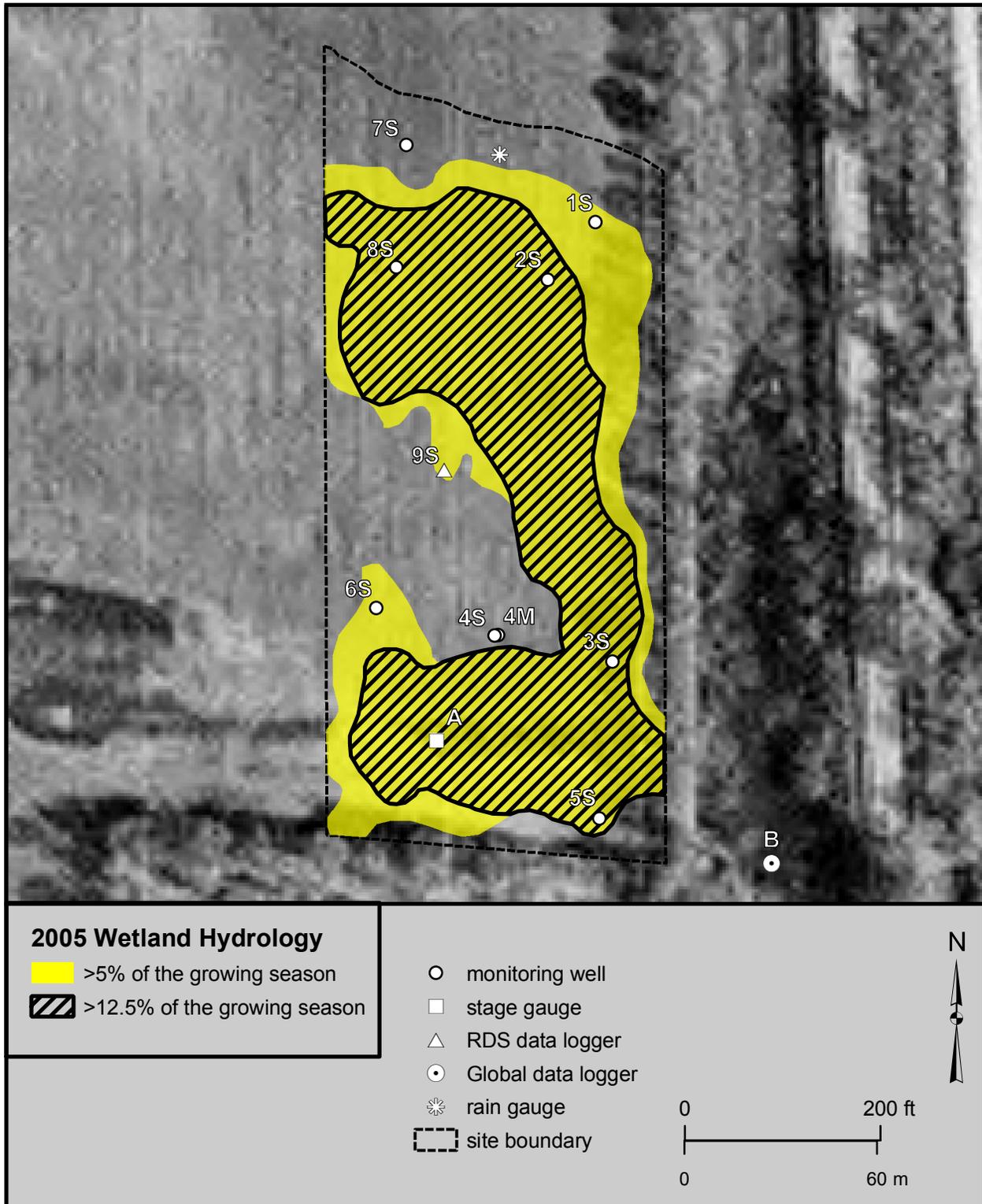


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Estimated Areal Extent of 2005 Wetland Hydrology

based on data collected between September 1, 2004 and September 1, 2005

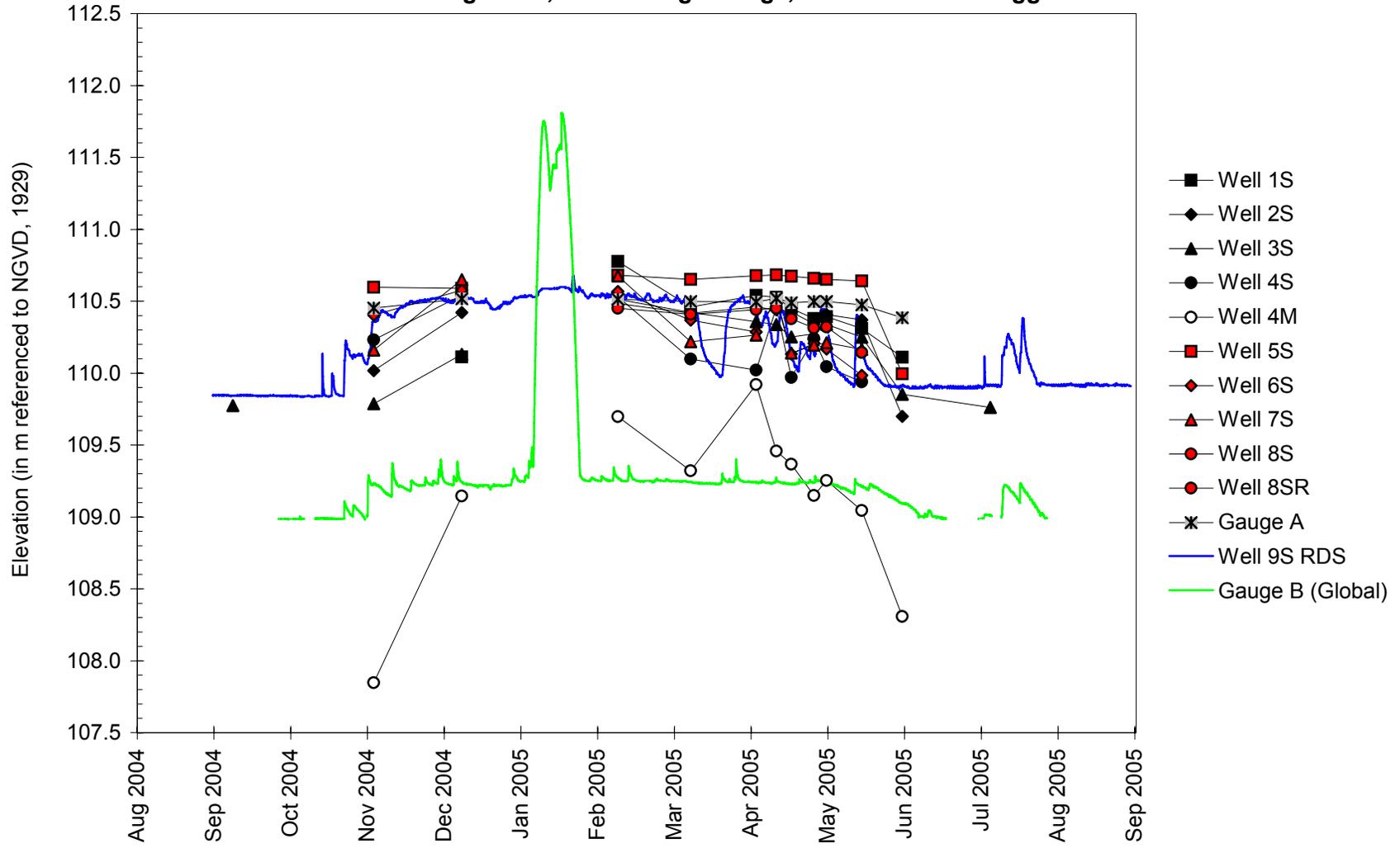
Map produced by rectifying IDOT as-built plans and ISGS topography to USGS digital orthophotograph
De Soto, NW quarter quadrangle from 04/06/1998 aerial photography (ISGS 2001)



De Soto Wetland Compensation Site

September 1, 2004 to September 1, 2005

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



De Soto Wetland Compensation Site September 2004 through August 2005

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

