



**DECATUR, U.S. ROUTE 51
WETLAND COMPENSATION SITE**

ISGS #27

FAP 322

Macon County, near Elwin, Illinois

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Secondary Project Manager: Geoffrey E. Pociask

SITE HISTORY

- May 1999: ISGS was tasked to conduct hydrologic monitoring.
- March and May 2000: ISGS installed a surface-water data logger (RDS 1) and a rain gauge, then later completed several shallow soil borings to investigate the presence and condition of a shallow confined aquifer across the site.
- June 2001: Construction of the wetland was completed.
- December 2001: ISGS installed eleven S-wells (1S-8S and 10S-12S), two surface-water staff gauges (A and B), and one additional surface-water data logger (RDS 2) at the site.

WETLAND HYDROLOGY CALCULATION FOR 2005

We estimate that the total area of created wetland that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the 2005 growing season was 2.1 ha (5.2 ac). These estimates are out of a total site area of approximately 4.7 ha (11.6 ac). The total area that satisfied wetland hydrology criteria for greater than 12.5% of the growing season was also 2.1 ha (5.2 ac). These estimates are based on the following factors:

- According to the Midwestern Climate Center, the median date that the growing season begins in Decatur, Illinois, is April 9 and the season lasts 193 days; 5% of the growing season is 10 days and 12.5% of the growing season is 24 days.
- During the period from September 2004 through August 2005, total precipitation at the Decatur weather station was 89% of normal. Precipitation on site or in the vicinity was below normal for the months of September and December 2004 and February to May 2005, and July to August 2005. Precipitation from February through August 2005 was 60% of normal, while precipitation amounts were above normal for the remaining months of the monitoring period.
- In 2005, water levels in wells 6S, 8S, 10S, 11SR, and 12S satisfied the wetland hydrology criteria for greater than 12.5% of the growing season. No additional wells satisfied the wetland hydrology criteria for greater than 5% of the growing season.
- Water-level records for data loggers RDS 1 and RDS 2 indicated inundation at elevations below approximately 221.00 m (725.07 ft) and 220.98 m (725.00 ft), respectively, for a duration that satisfied the wetland hydrology criteria for greater than 5% of the growing season. Water-level records for data loggers RDS 1 and RDS 2 indicated inundation at elevations below approximately 220.98 m (725.00 ft) and 220.96 m (724.93 ft), respectively, for a duration that satisfied the wetland hydrology criteria for greater than 12.5% of the growing season.

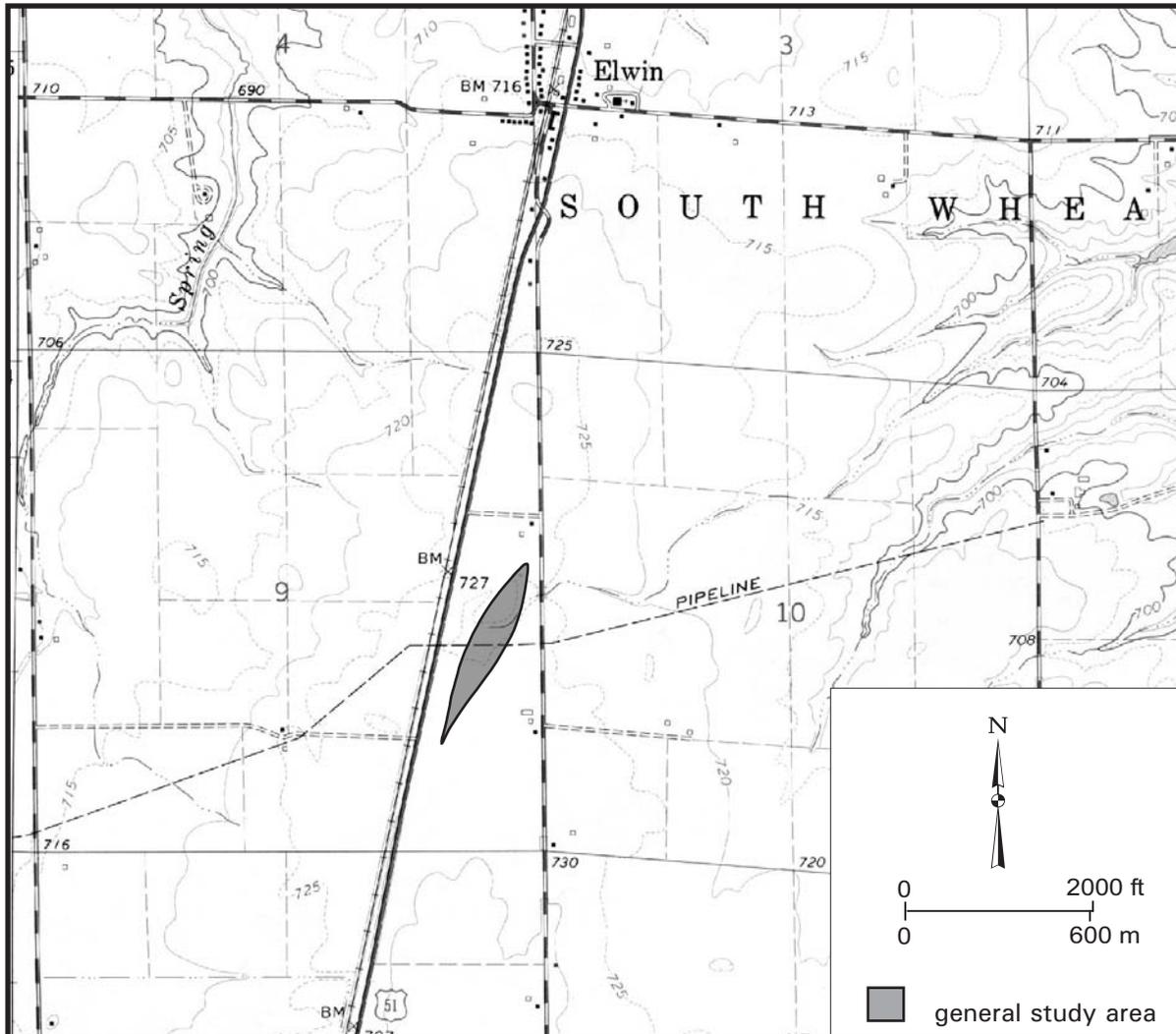
PLANNED FUTURE ACTIVITIES

- The current monitoring scheme will continue until July 2006, or until no longer required by IDOT.

Decatur, U.S. Route 51 Wetland Compensation Site (FAP 322)

General Study Area and Vicinity

from the USGS Topographic Series, Decatur, IL 7.5-minute Quadrangle (USGS 1967; photorevised 1975)
contour interval is 10 feet

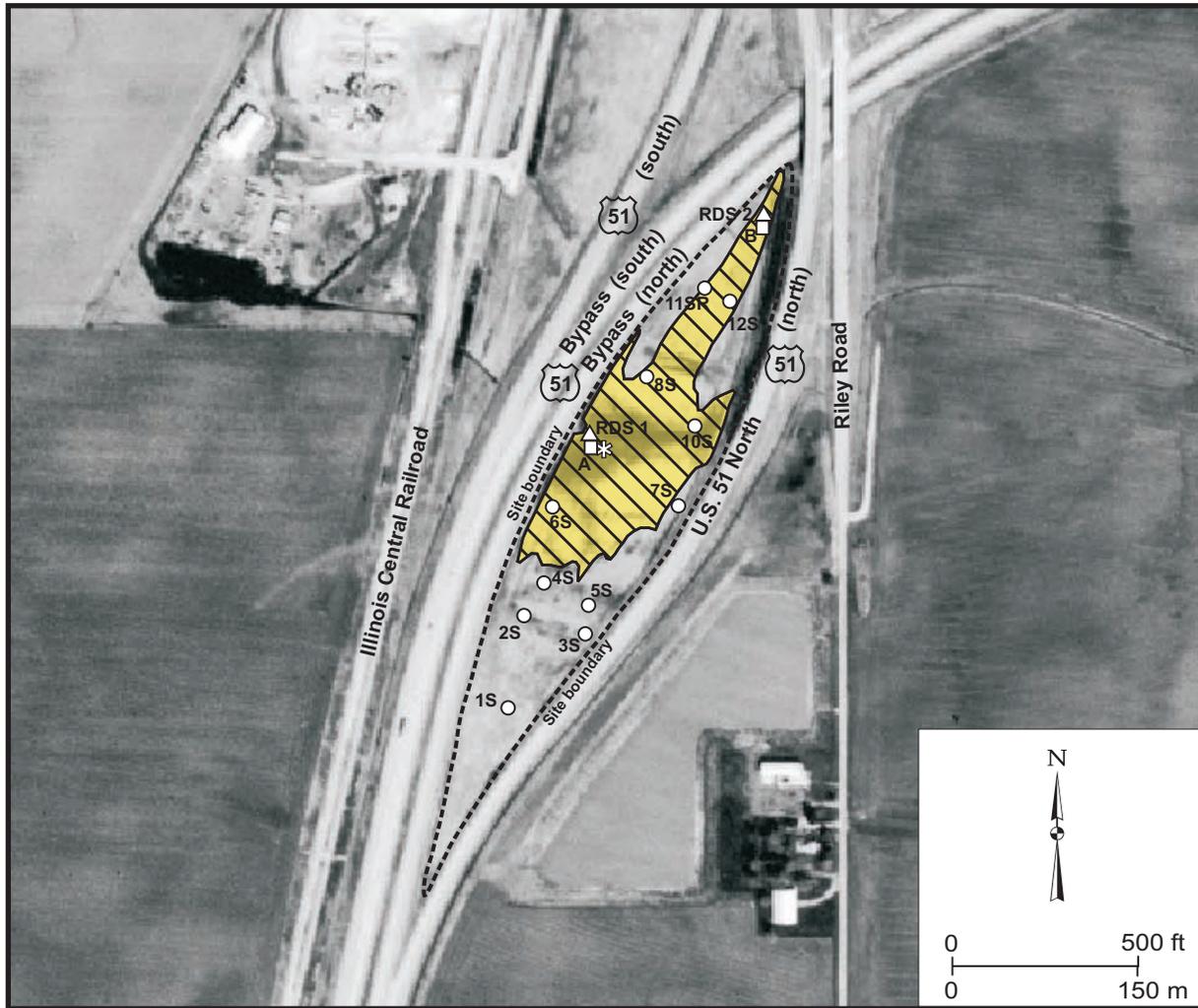


Decatur, U.S. Route 51 Wetland Compensation Site (FAP 322)

Estimated Areal Extent of 2005 Wetland Hydrology

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

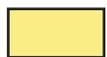
Map based on USGS digital orthophotograph Decatur, SW quarter quadrangle
produced from 4/14/98 aerial photography (ISGS 2000)



2005 Wetland Hydrology



>12.5% of the growing season



>5% of the growing season

○ monitoring well

□ stage gauge

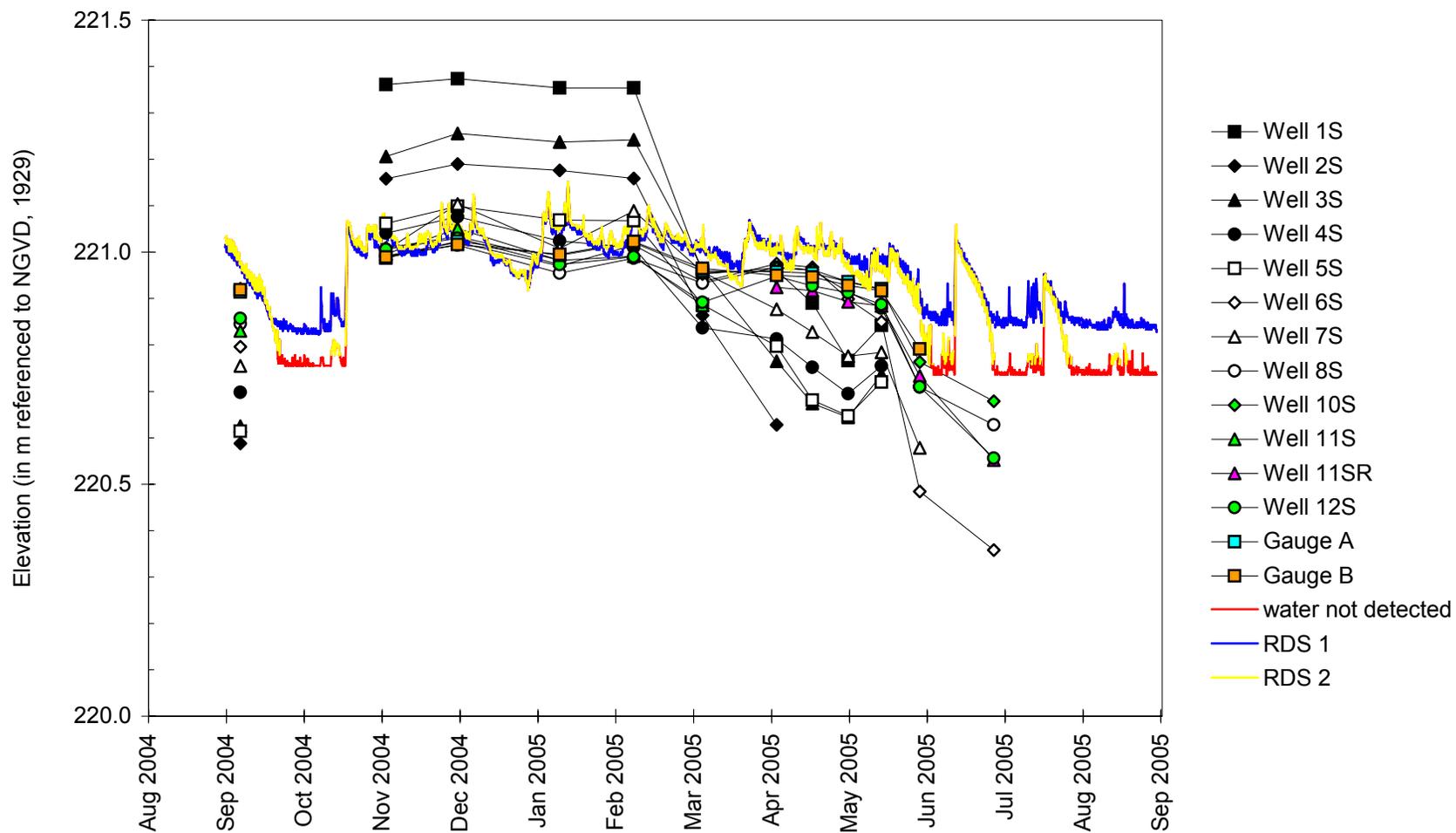
△ RDS data logger

✱ rain gauge

Decatur, U.S. Route 51 Wetland Compensation Site

September 1, 2004 to September 1, 2005

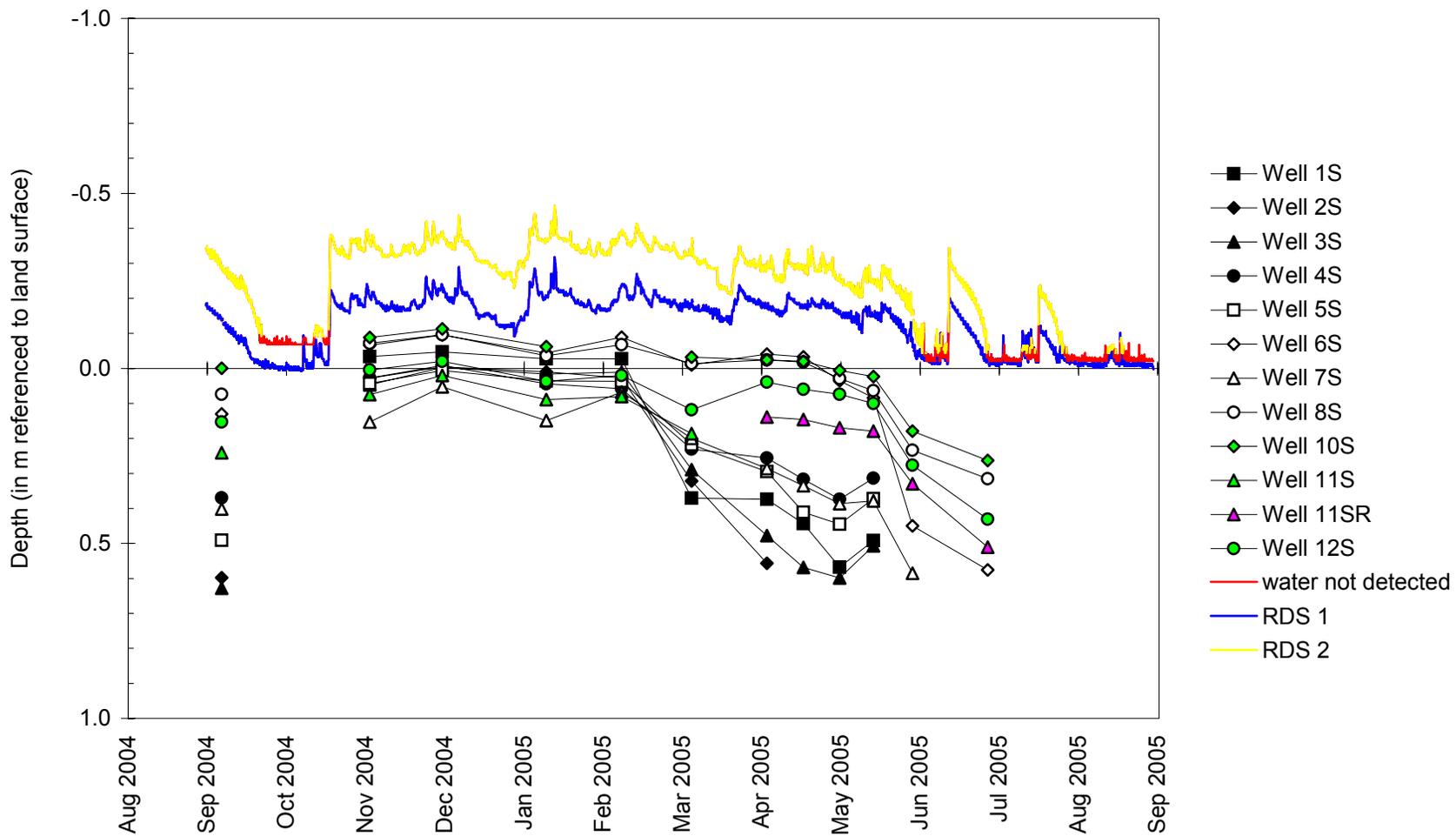
Water-Level Elevation



Decatur, U.S. Route 51 Wetland Compensation Site

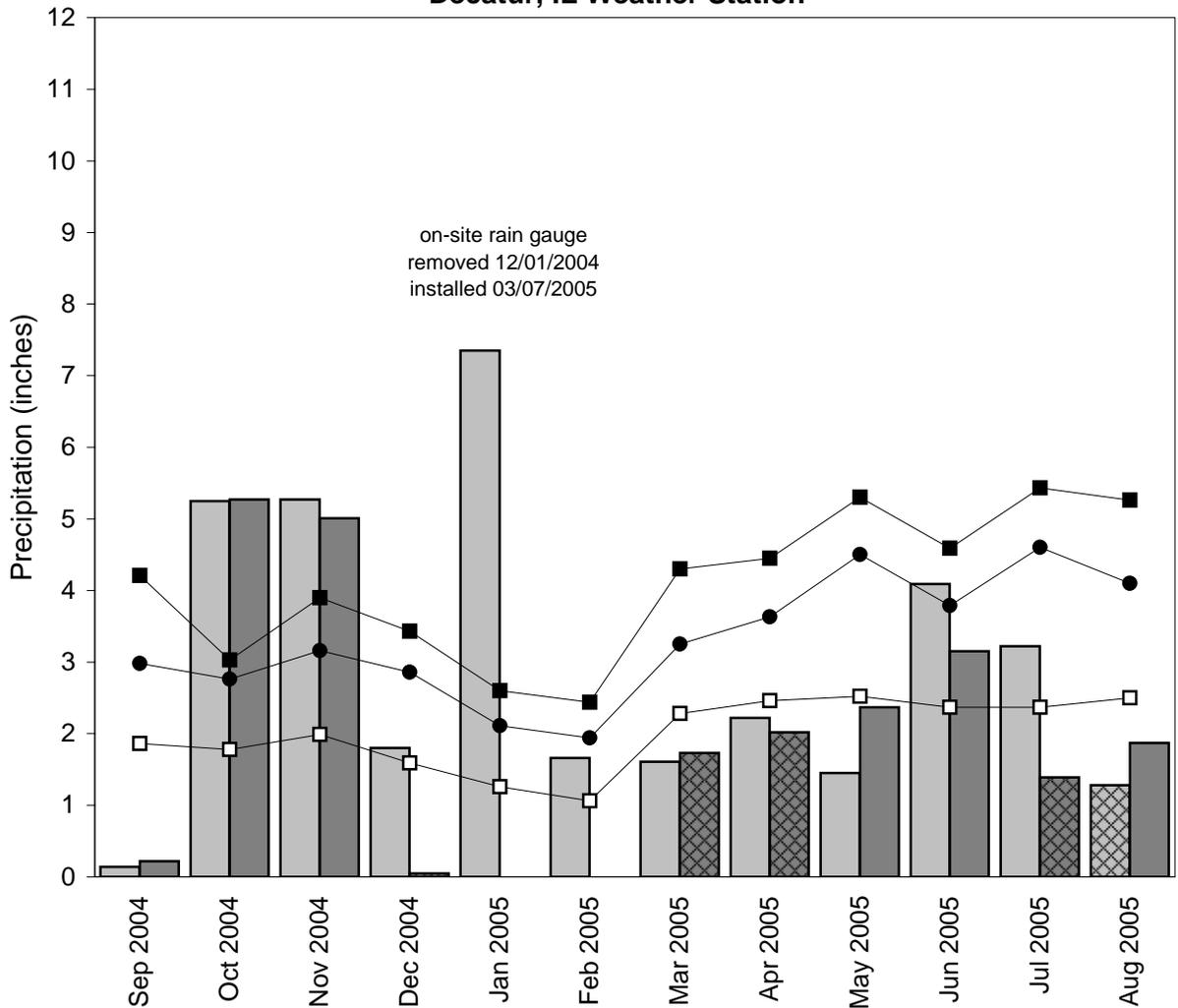
September 1, 2004 to September 1, 2005

Depth to Water



Decatur Wetland Compensation Site September 2004 through August 2005

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



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