
JO DAVIESS
STEPHENSON
WINNEBAGO
BOONE
MC HENRY
LAKE
CARROLL
OGLE
DE KALB
KANE
COOK
WHITESIDE
LEE
DU PAGE
WILL
LA SALLE
BUREAU
KENDALL
GRUNDY
ROCK ISLAND
MERCER
HENRY
PUTNAM
KANKAKEE
KNOX
STARK
MARSHALL
LIVINGSTON
WARREN
PEORIA
IROQUOIS
WOODFORD
HENDERSON
MC LEAN
FULTON
HANCOCK
MC DONOUGH
FORD
TAZEWELL
VERMILION
MASON
CHAMPAIGN
SCHUYLER
LOGAN
DEWITT
ADAMS
BROWN
CASS
MENARD
PIATT
MACON
PIKE
MORGAN
DOUGLAS
EDGAR
SCOTT
MOULTRIE
CHRISTIAN
SHELBY
COLES
SANGAMON
GREENE
MACOUPIN
CLARK
CALHOUN
MONTGOMERY
CUMBERLAND
JERSEY
FAYETTE
EFFINGHAM
JASPER
CRAWFORD
MADISON
BOND
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MARION
RICHLAND
LAWRENCE
CLINTON
CLAY
WAYNE
EDWARDS
WABASH
WASHINGTON
JEFFERSON
MONROE
ST. CLAIR
HAMILTON
WHITE
RANDOLPH
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GALLATIN
WILLIAMSON
UNION
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POPE
HARDIN
ALEXANDER
PULASKI
MASSAC

SAND ROAD **ISGS #15**
WETLAND COMPENSATION SITE
FAP 310
Madison County, near Poag, Illinois
Primary Project Manager: Bonnie J. Robinson
Secondary Project Manager: Steven E. Benton

SITE HISTORY

- August 1996: IDOT issued a task order to the ISGS to conduct a detailed mitigation site assessment. The hydrogeologic characterization of the site was initiated with the installation of monitoring wells and staff gauges.

- July 1997: An interim hydrogeologic characterization report was submitted to IDOT.

- Fall 1998: A berm, incorporating a water control structure, was built along the south margin of the site.

- March–November 2001: Twenty-one soil-zone (S) monitoring wells were installed to better define the area of wetland hydrology and the transition zone along the slope of the sand terrace.

- July 2004: IDOT requested that site monitoring be terminated.

WETLAND HYDROLOGY CALCULATION FOR 2004

The area that satisfied the criteria for wetland hydrology for greater than 5% of the growing season was estimated to be 13.6 ac (5.5 ha), whereas the area that satisfied wetland hydrology criteria for greater than 12.5% of the growing season in 2004 was estimated to be 12.0 ac (4.80 ha). These estimates for 2004 are based on the following:

- According to the Midwestern Climate Center, the median length of the growing season, as measured at the Belleville Weather Station, is 203 days (April 5 to October 25). Therefore, 5% of the growing seasons is 10 days and 12.5% of the growing season is 25 days.

- Precipitation at the nearby Edwardsville weather station during the monitoring period was 135% of normal. Despite above normal precipitation in September, dry conditions persisted onsite until lower evapotranspiration rates coupled with above normal precipitation occurred in November 2003. Alternating above and below normal precipitation continued throughout the winter, keeping water levels reasonably stable from November 2003 to the beginning of April 2004. Below normal precipitation in April 2004 (33% of normal) caused a steep drop in water levels onsite. Abnormally high precipitation in May 2004 (292% of normal) resulted in water levels rebounding and surface water persisting onsite until mid July when data loggers were removed.

- In 2004, water levels measured in wells 3S, 4U, 8U, 15S, 16S, 17S, 18S, 19S, 21S, 23S, 24S, 25S, 26S and 27S satisfied wetland hydrology criteria for greater than 5% of the growing season. All of the wells cited above, with the exception of 4U and 8U, also satisfied the criteria for wetland hydrology for a period greater than 12.5% of the growing season.

- Surface-water levels measured by the RDS data logger indicated that inundation occurred to an elevation of 128.4 m (421.26 ft) for a duration longer than 5% of the growing season and to an elevation of 128.345 m (421.08 ft) for a period that exceeded 12.5% of the growing season.

- Surface-water levels remained at or above the normal elevation of 128.0 m (420 ft) as specified in the IDOT Conceptual Wetland and Illinois Chorus Frog Compensation Plan from November 17, 2003 until monitoring ceased on July 8, 2004.

- Limitations of the wetland hydrology determination are as follows:
  - The wetland acreage determination contains pre-existing wetland.

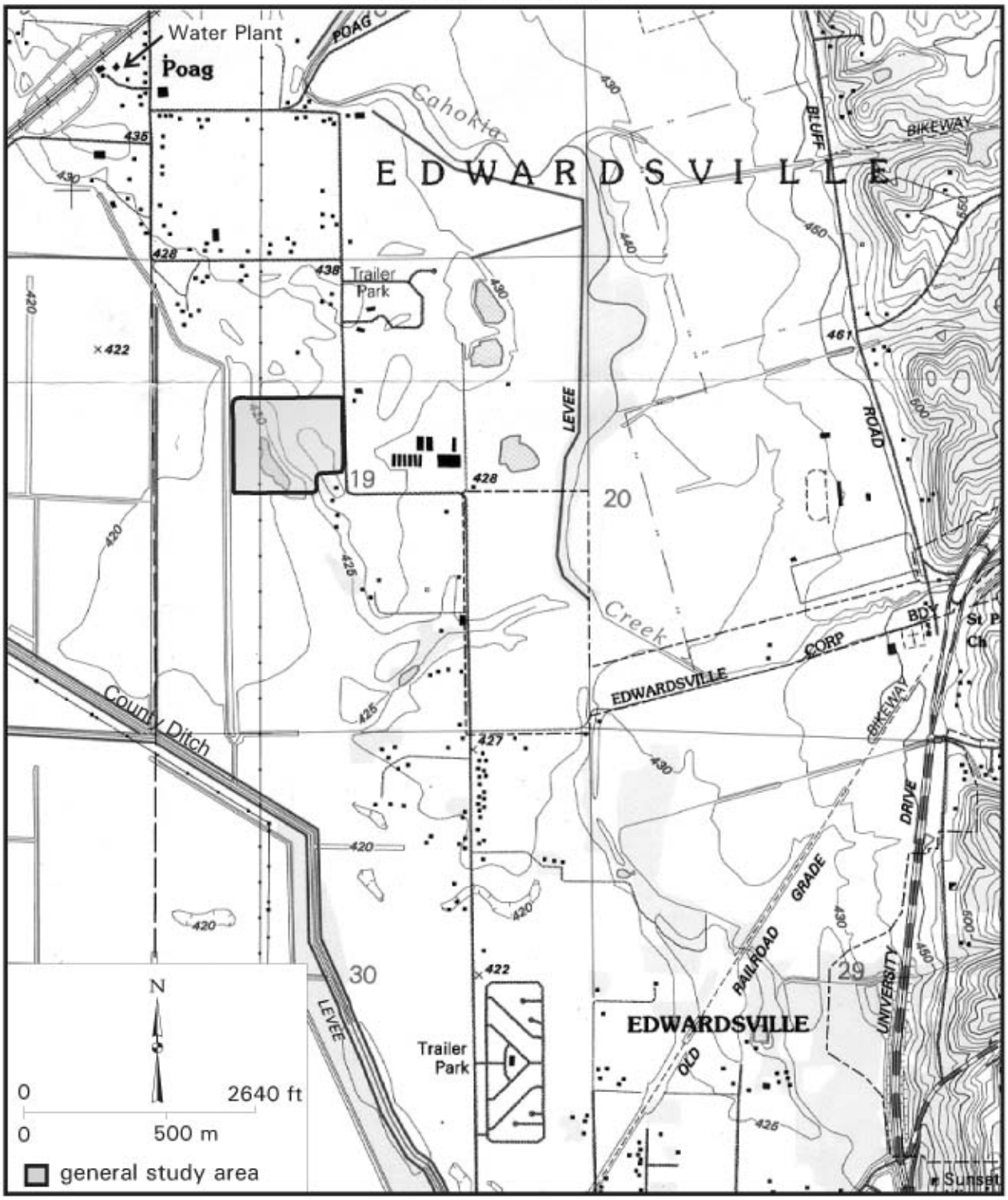
Sand Road Wetland Compensation Site

(FAP 310)

General Study Area and Vicinity

from the USGS Topographic Series, Wood River, IL-MO 7.5-minute Quadrangle (USGS 1994)

contour interval is 10 feet



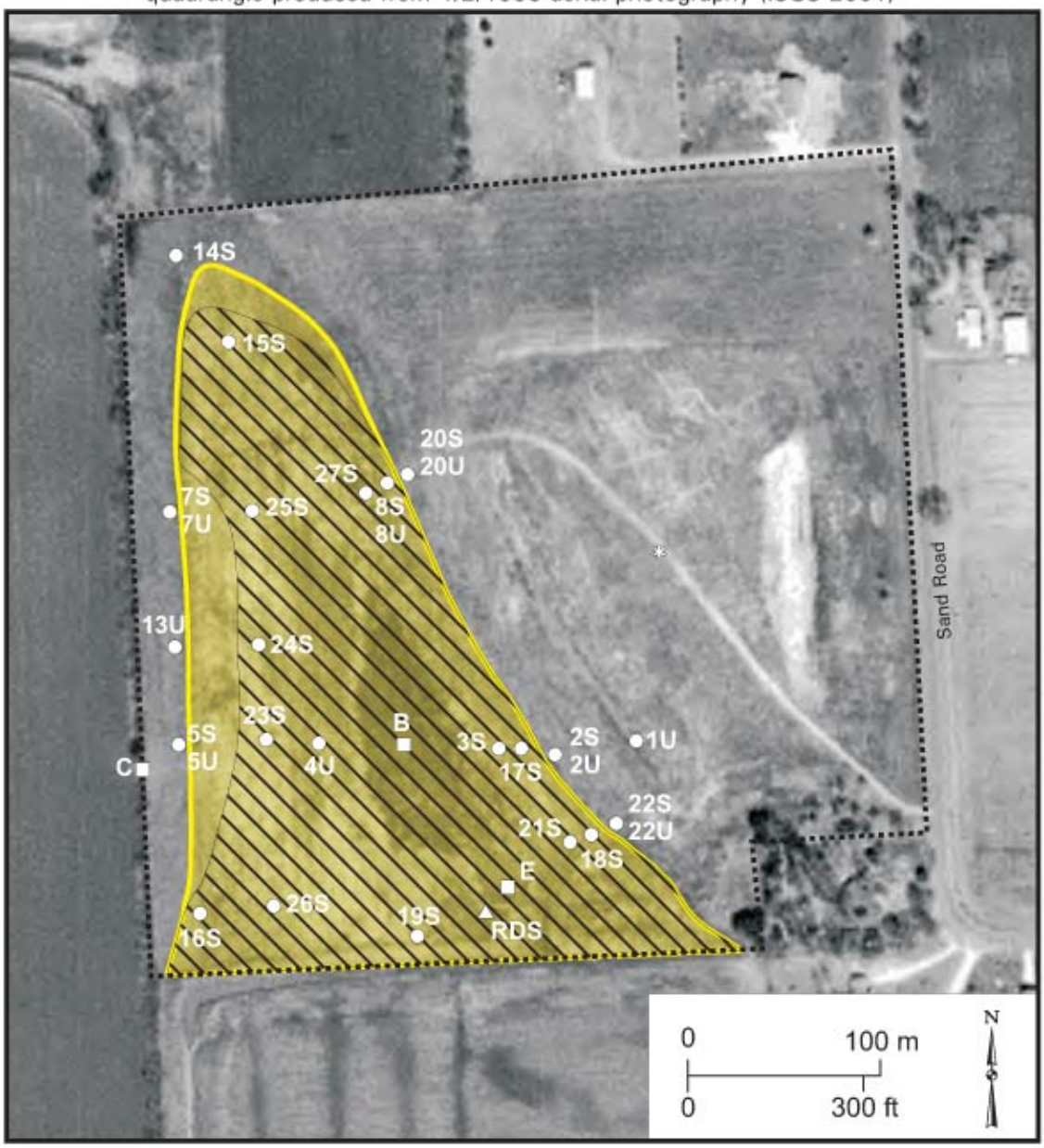
Sand Road Wetland Compensation Site

(FAP 310)

Estimated Areal Extent of 2004 Wetland Hydrology

based on data collected between September 1, 2003 and September 1, 2004

map based on USGS digital orthophotograph, Wood River, SE quarter quadrangle produced from 4/2/1998 aerial photography (ISGS 2001)



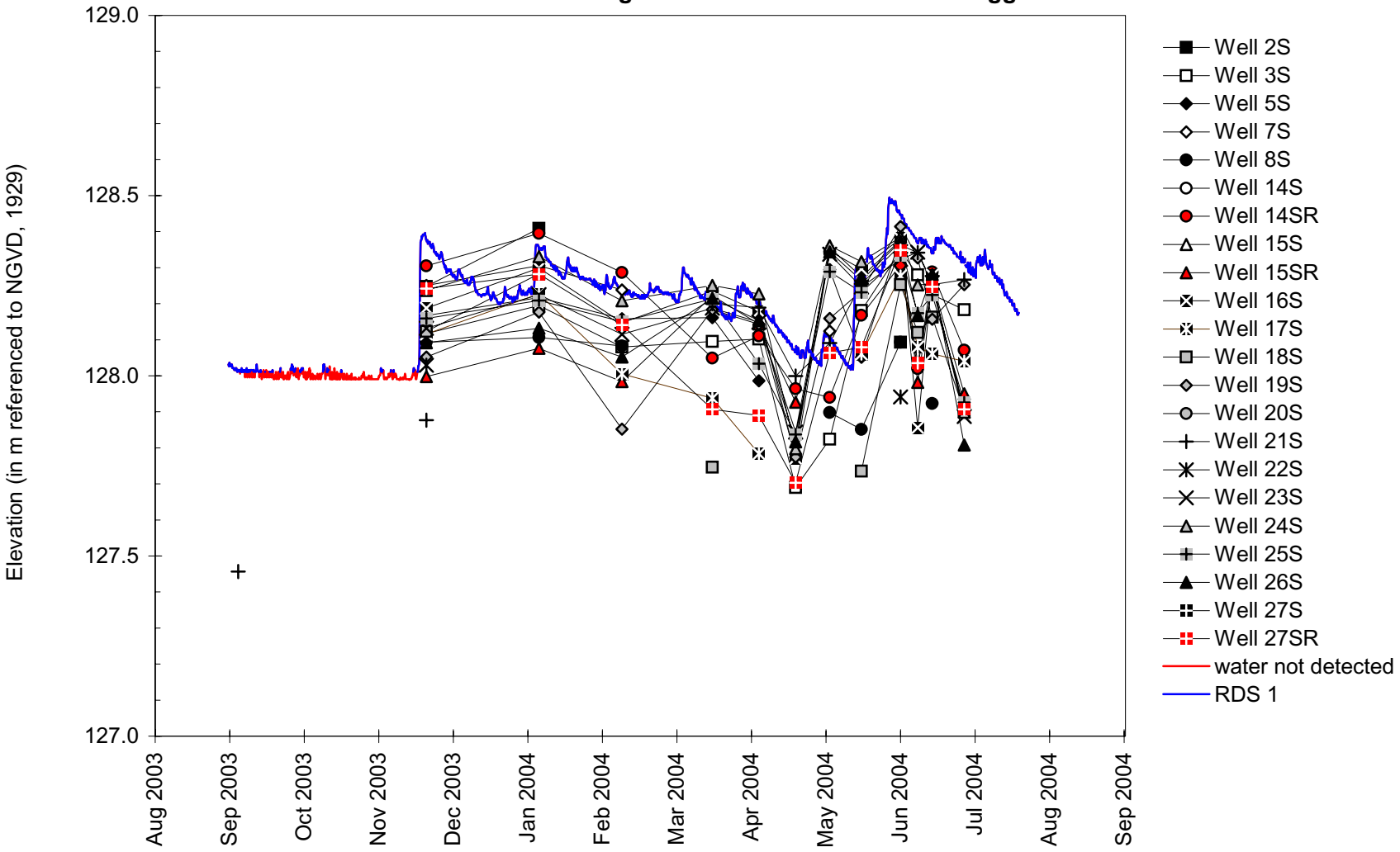
- ● monitoring well
- ■ stage gauge
- ✱ rain gauge
- ▲ RDS surface-water stage recorder
- site boundary

2004 Wetland Hydrology

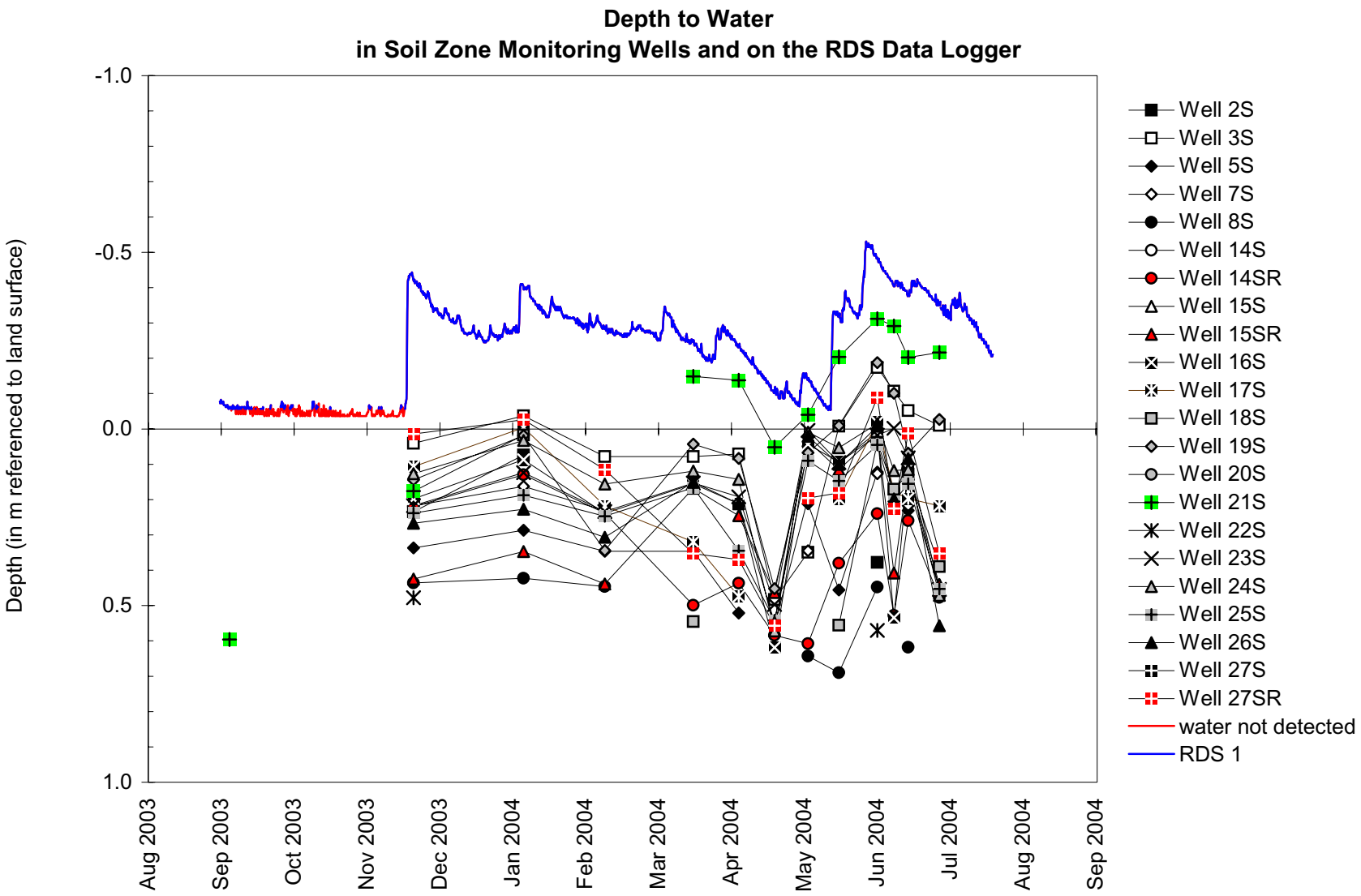
- >12.5% of the growing season
- >5% of the growing season

Sand Road Wetland Compensation Site
September 1, 2003 to September 1, 2004

Water-Level Elevations
in Soil Zone Monitoring Wells and on the RDS Data Logger

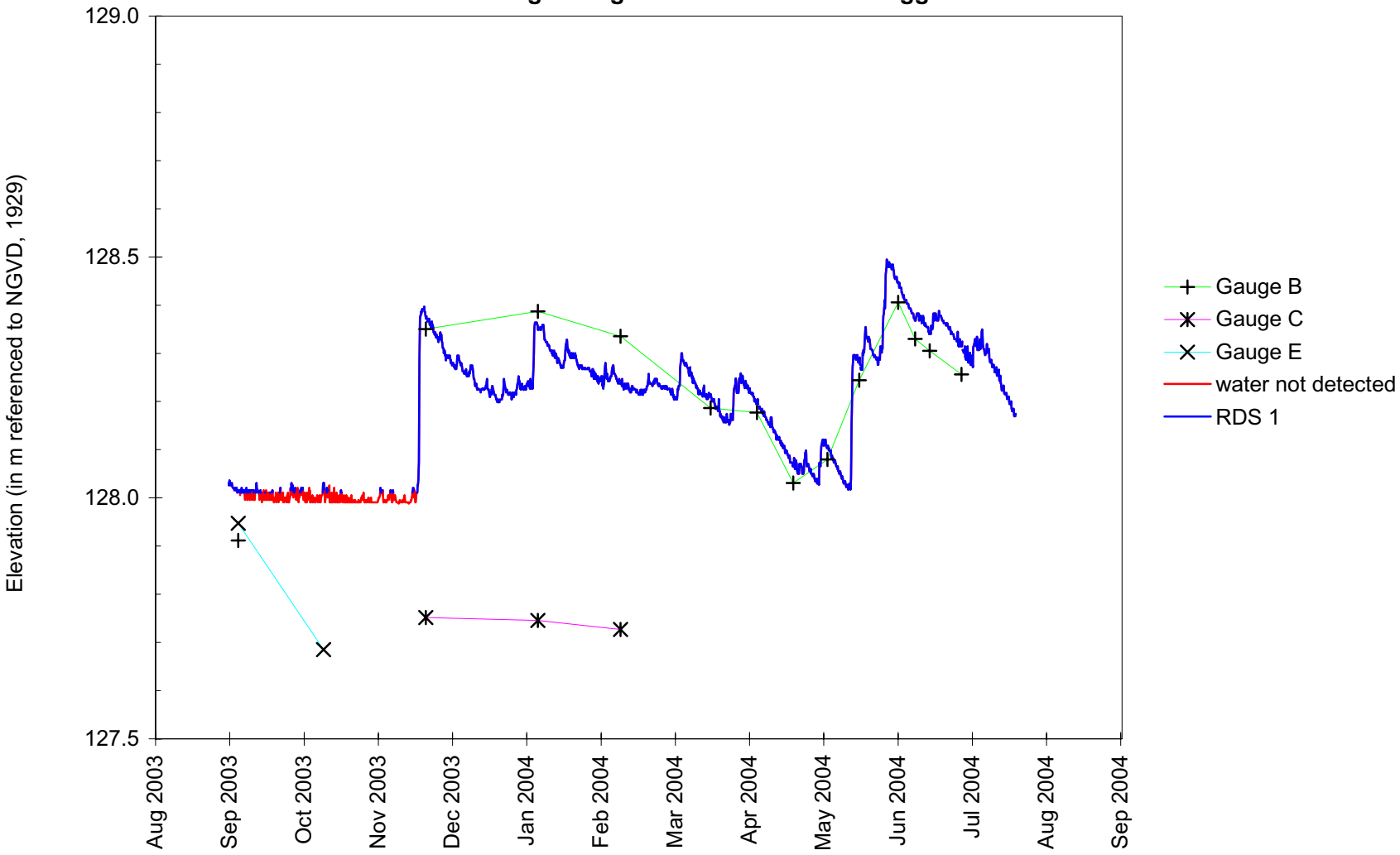


Sand Road Wetland Compensation Site
September 1, 2003 to September 1, 2004



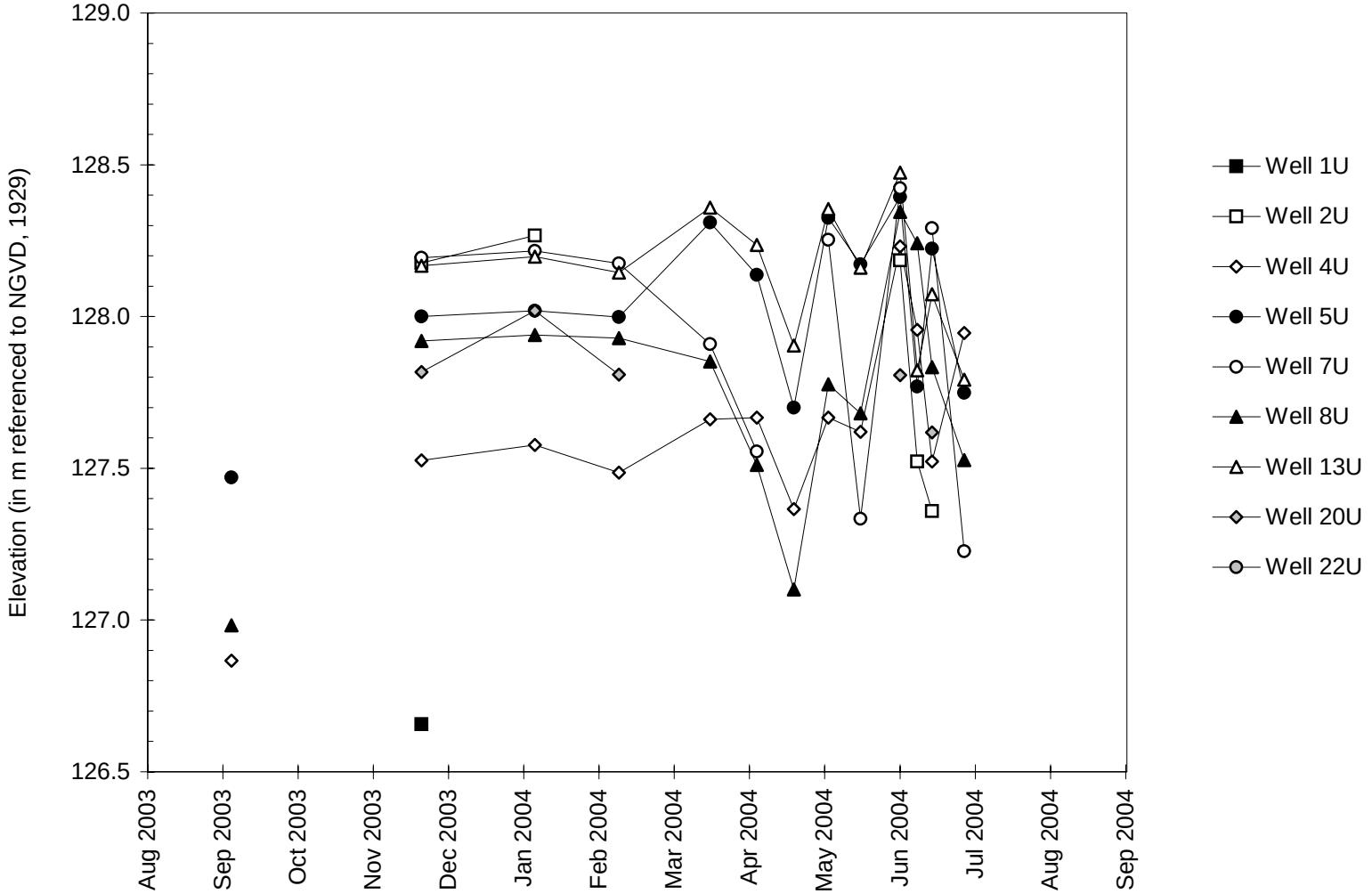
Sand Road Wetland Compensation Site
September 1, 2003 to September 1, 2004

Water-Level Elevations
on Stage Gauges and the RDS Data Logger



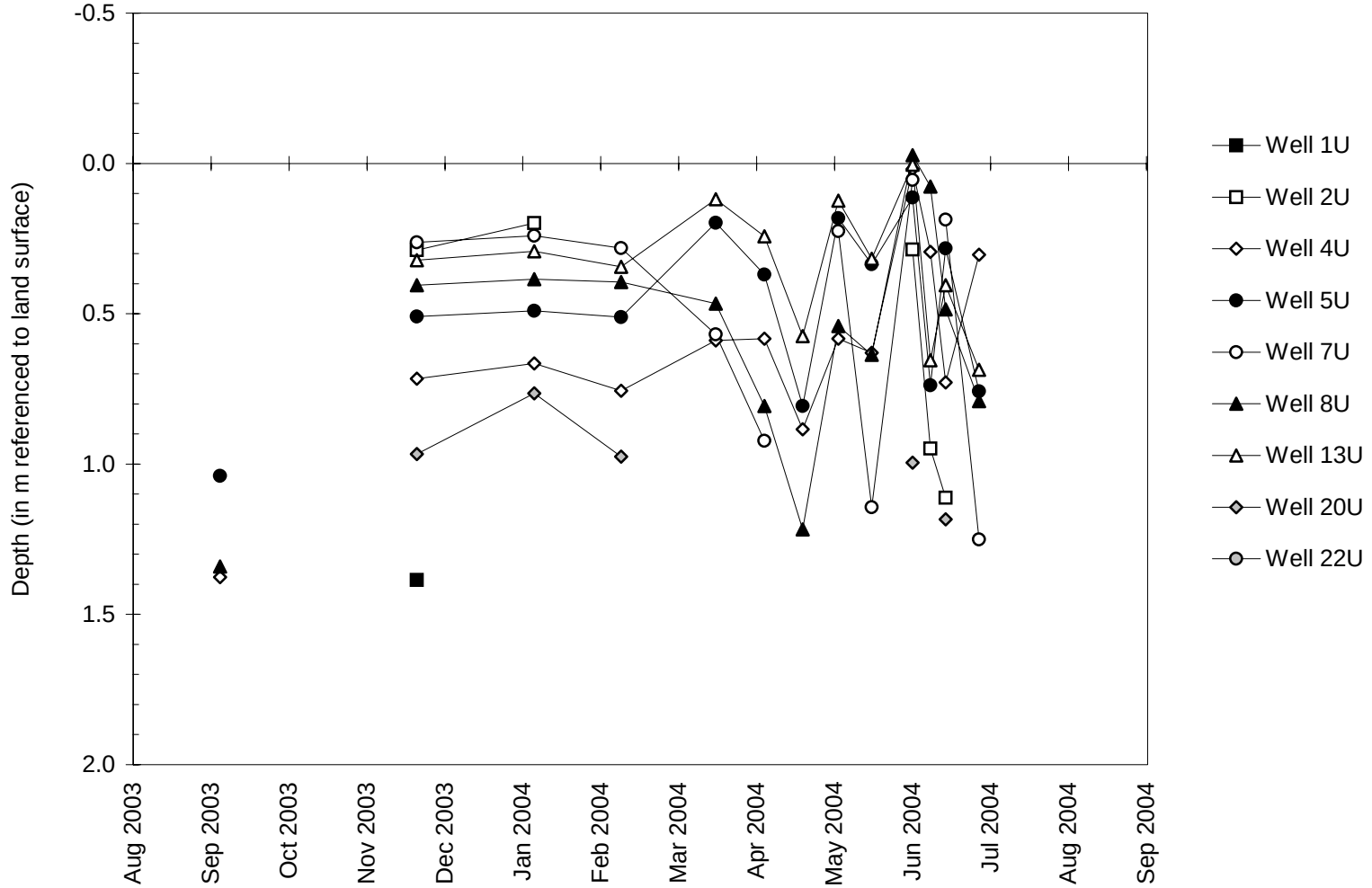
Sand Road Wetland Compensation Site
September 1, 2003 to September 1, 2004

Water-Level Elevations in Upper Monitoring Wells



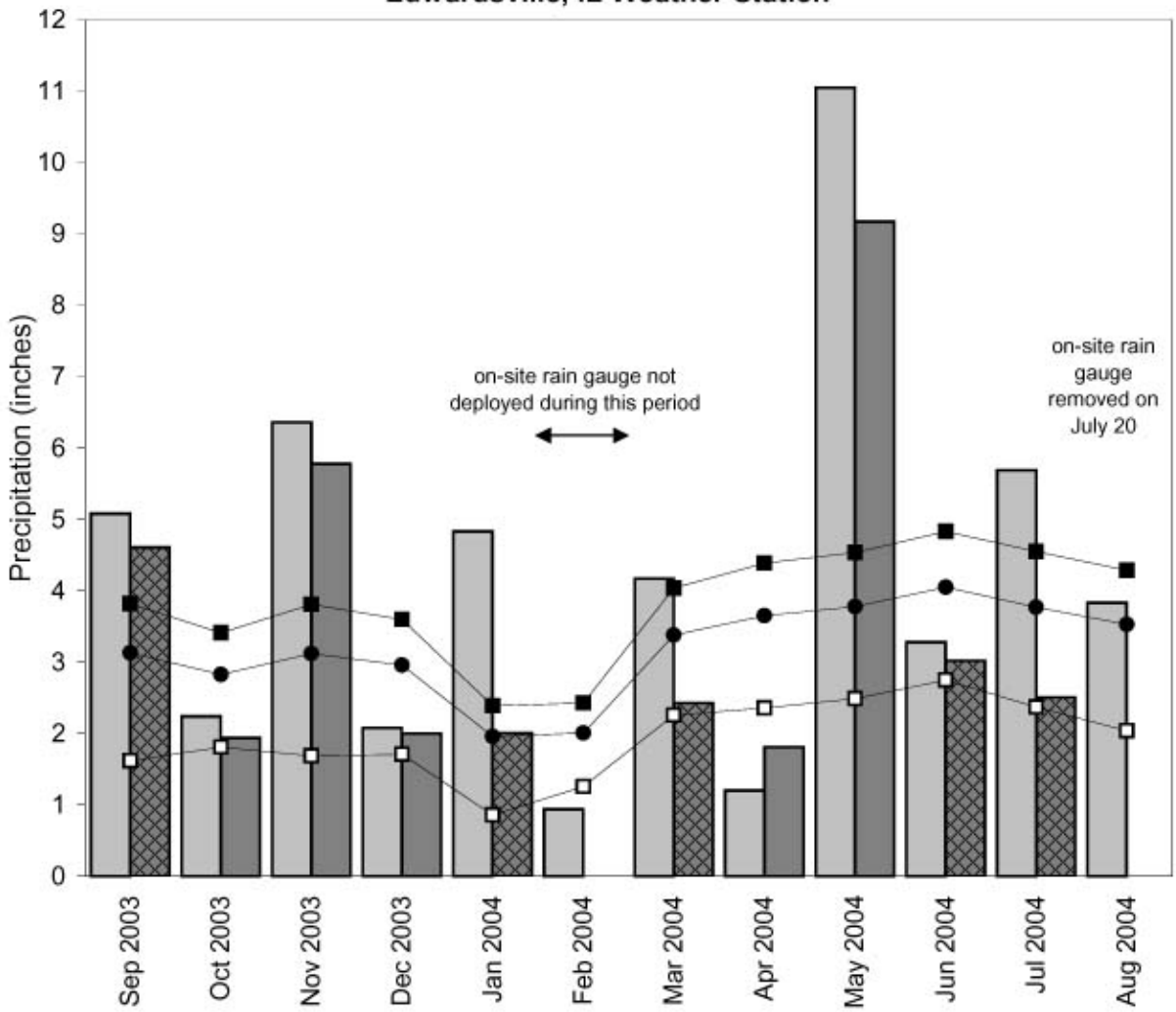
Sand Road Wetland Compensation Site
September 1, 2003 to September 1, 2004

Depth to Water
in Upper Monitoring Wells



Sand Road Wetland Compensation Site
September 2003 through August 2004

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



monthly precipitation recorded at weather station (Midwestern Regional Climate Center)

monthly precipitation recorded on site by ISGS

1961-1990 monthly average precipitation (National Water and Climate Center)

1961-1990 monthly 30% above average threshold (National Water and Climate Center)

1961-1990 monthly 30% below average threshold (National Water and Climate Center)

data incomplete

Graph last updated October 1, 2004