



**PYATTS BLACKTOP  
WETLAND COMPENSATION SITE**

**ISGS #67**

FAP 42

Perry County, near Pyatts, Illinois

**Primary Project Manager: Geoffrey E. Pociask**

**Secondary Project Manager: Gregory A. Shofner**

**SITE HISTORY**

- April 2002: ISGS was tasked by IDOT to monitor wetland hydrology for the compensation site.
- May 2002: ISGS initiated monitoring of the site.

**WETLAND HYDROLOGY CALCULATION FOR 2004**

We estimate that the total area that satisfied wetland hydrology criteria in 2004 was 5.3 ac (2.1 ha) out of 16.4 ac (6.7 ha), whereas 0.3 ac (0.1 ha) satisfied wetland hydrology for greater than 12.5% of the growing season. These estimates are based on the following factors.

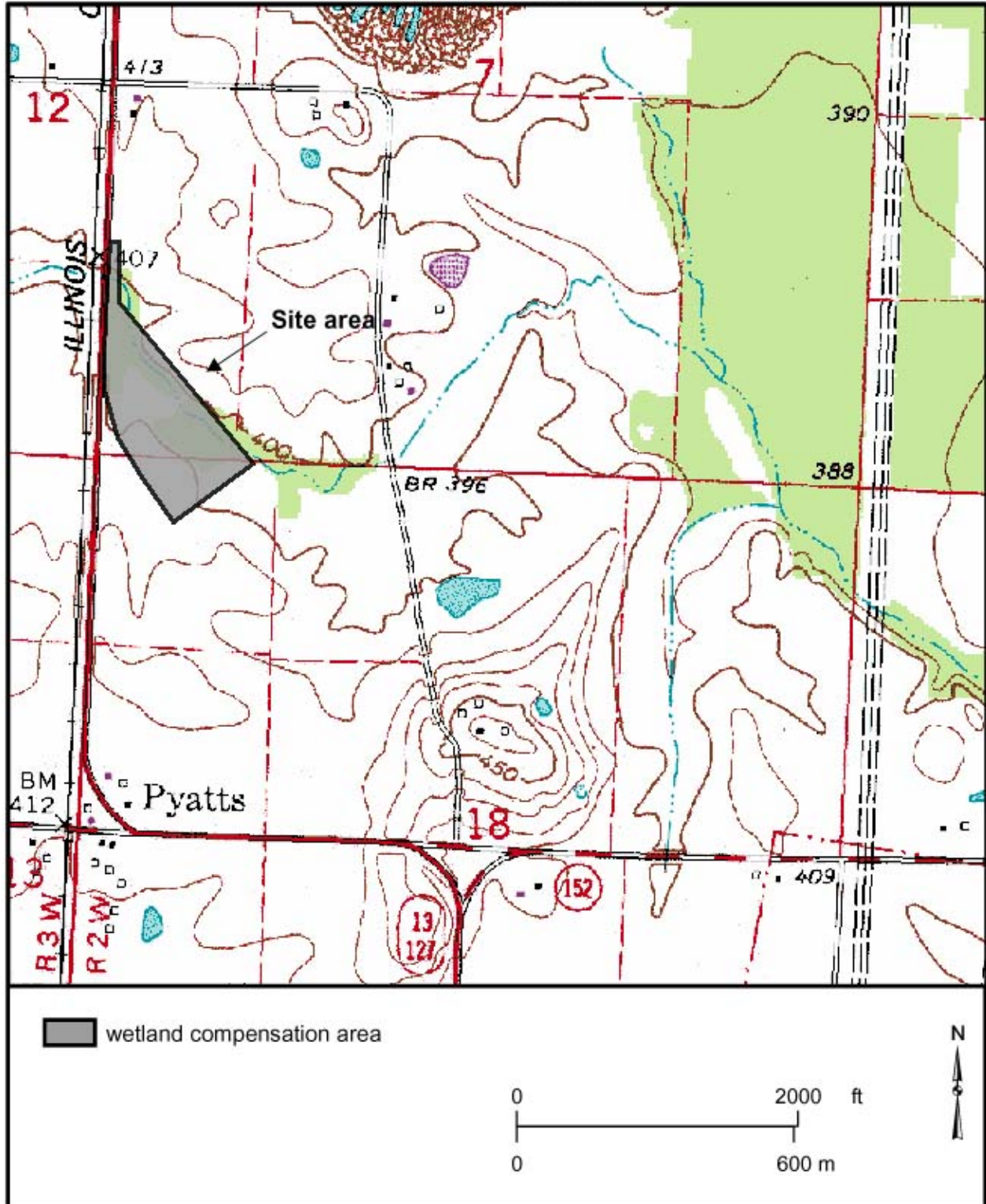
- According to the Midwestern Climate Center, the median date that the growing season begins in Du Quoin is April 5 and the season lasts 207 days; 5% of the growing season is 10 days and 12.5% of the growing season is 26 days.
- Total precipitation for the reporting period from September 2003 through August 2004 was 87% of normal. Drier than normal conditions prevailed in September, October, and December 2003, and in February, April, and June 2004. Precipitation was at or above normal in November 2003 and in January, March, May, July, and August 2004.
- Wells 1S, 2S, 3S, 4S, 5S, 7S, and 12S satisfied the wetland hydrology criteria of the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual for 5% of the growing season. Well 4S also satisfied wetland hydrology criteria for 12.5% of the growing season.
- The water levels recorded at Gauge B show that areas below 120.8 m (396.3 ft) were inundated for greater than 5% of the growing season and therefore satisfy wetland hydrology criteria. Furthermore, areas below approximately 120.6 m (395.7 ft) were inundated for greater than 12.5% of the growing season.
- Limitations of the wetland hydrology determination are as follows:
  - The wetland hydrology estimate includes the entire IDOT parcel. Therefore, areas planned for wetland preservation and enhancement are included in the wetland hydrology acreage estimate.
  - 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 digital orthophotography.
  - Instrument locations were determined using GPS in November 2002. The positions of instruments were superimposed on digital orthophotography.

## PLANNED FUTURE ACTIVITIES

- Monitoring will continue at the site through 2007 or until no longer required by IDOT.

# Pyatts Blacktop Wetland Compensation Site (FAP 42) Site and Vicinity

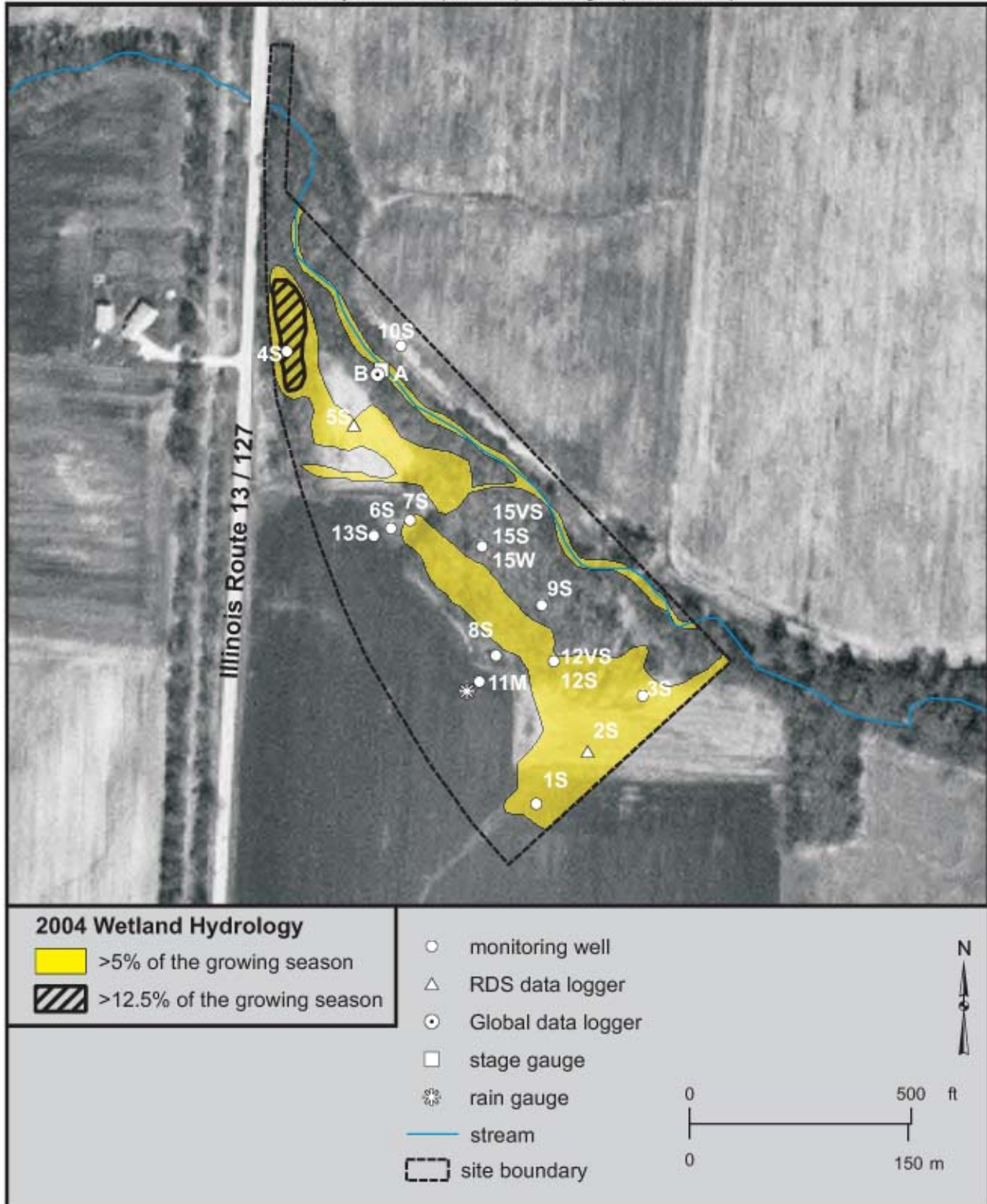
from the USGS Topographic Series, Pyatts, IL (USGS 1974; photorevised 1982) 7.5-minute Quadrangle  
contour interval is 10 feet



# Pyatts Blacktop Wetland Compensation Site (FAP 42)

## Estimated Areal Extent of 2004 Wetland Hydrology

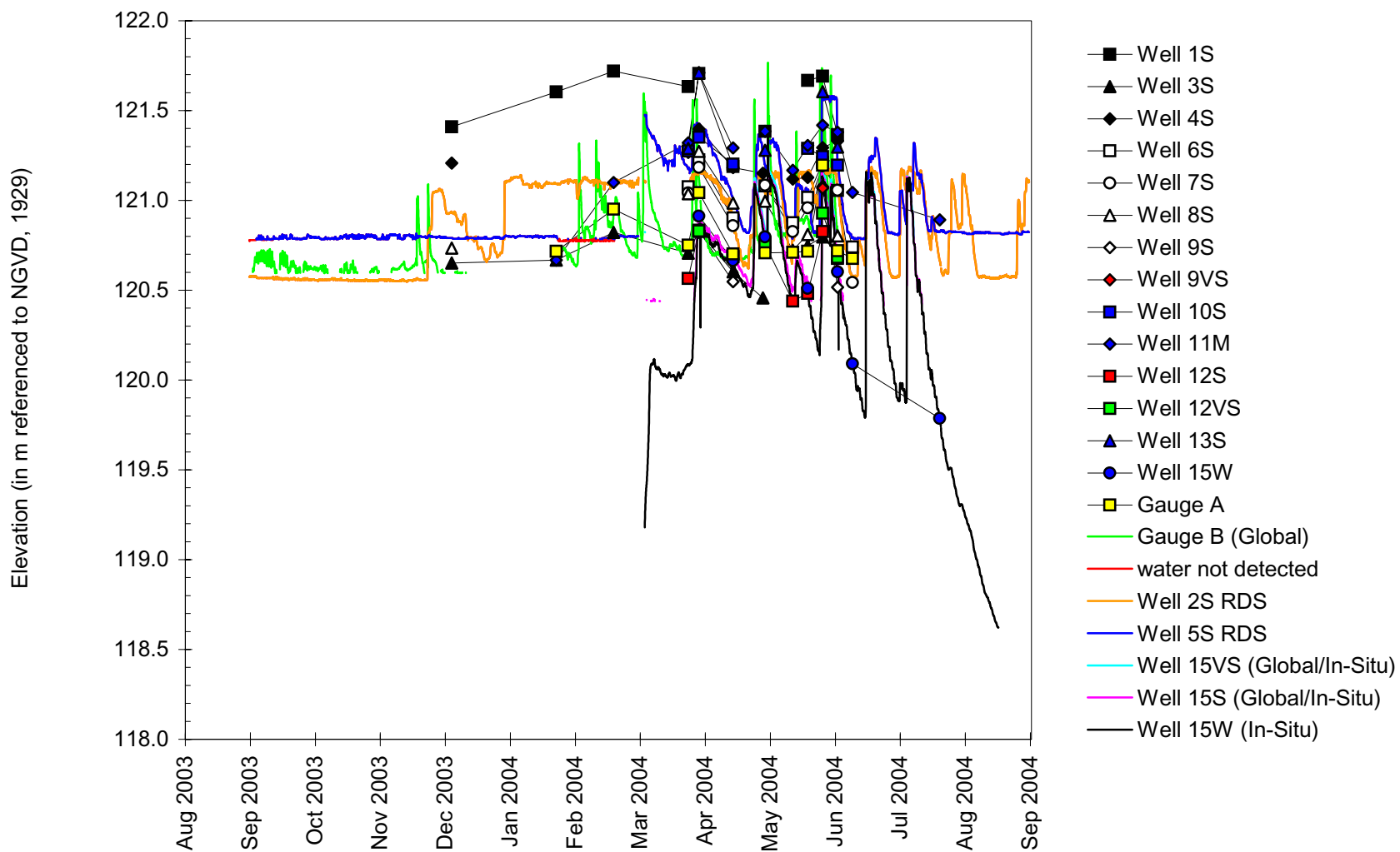
map produced by rectifying IDOT design plans to USGS digital orthophotograph  
Pinckneyville, SE quarter quadrangle (ISGS 2002)



# Pyatts Blacktop Wetland Compensation Site

## September 1, 2003 to September 1, 2004

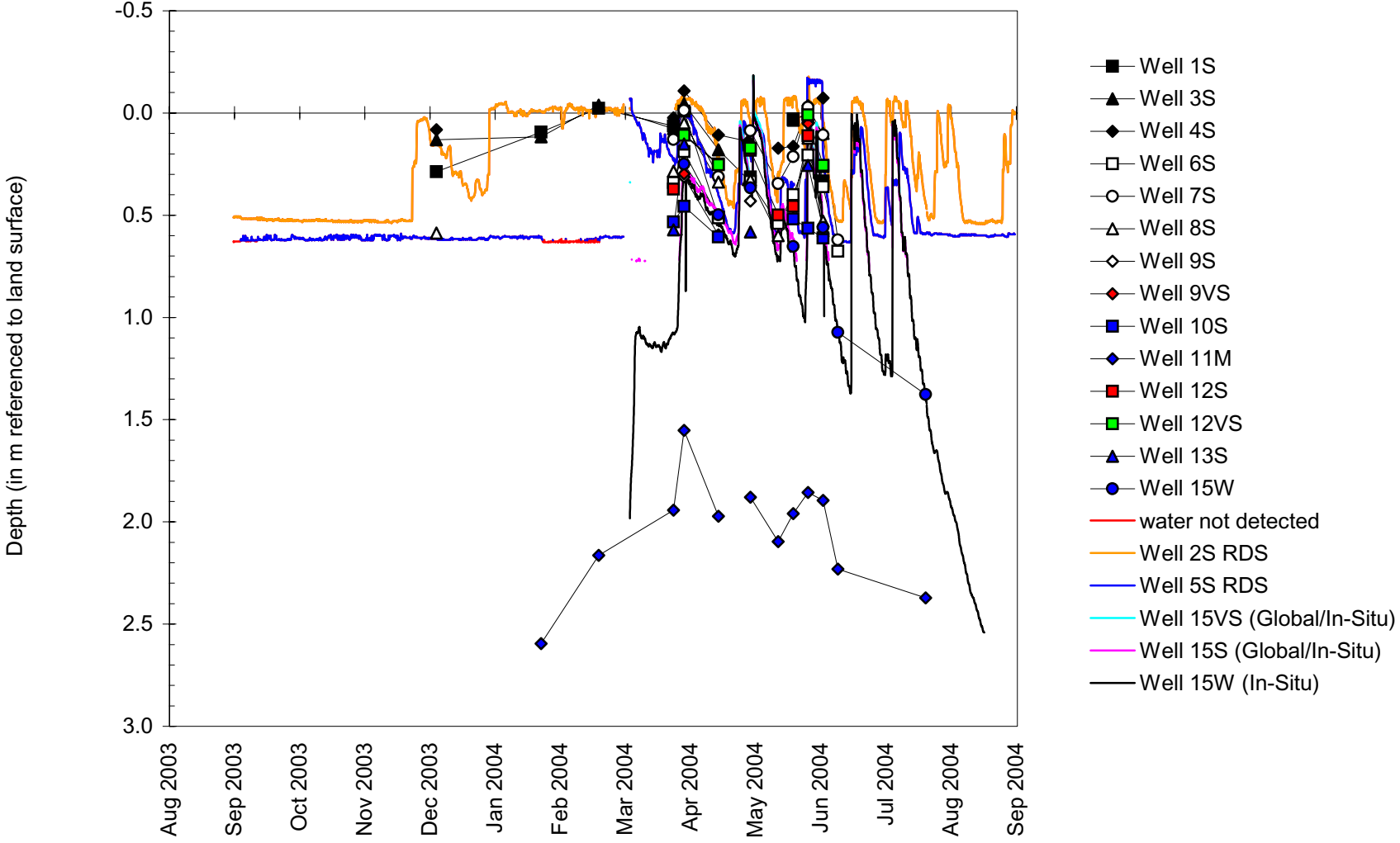
### Water-Level Elevations



# Pyatts Blacktop Wetland Compensation Site

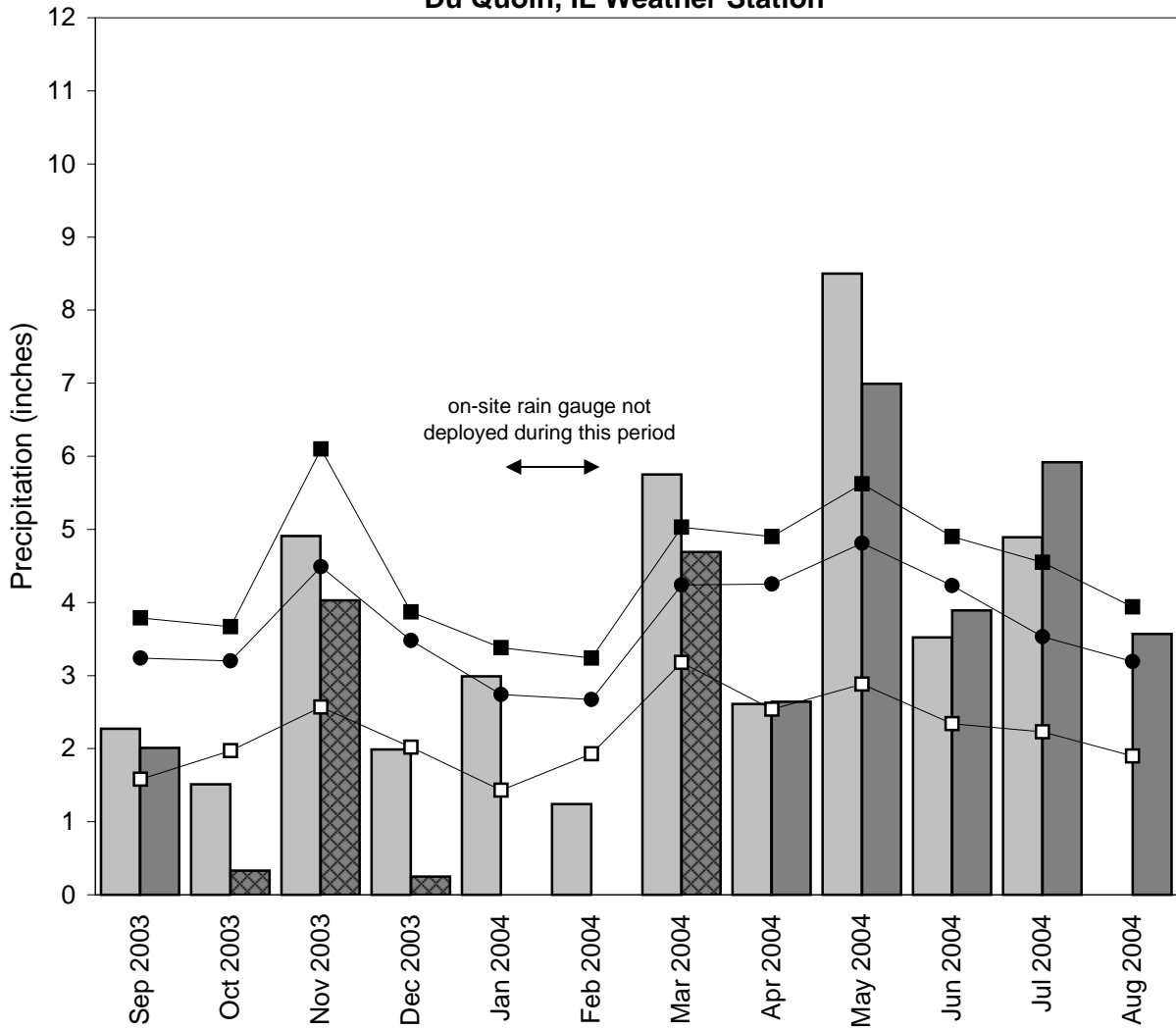
## September 1, 2003 to September 1, 2004

Depth to Water



## Pyatts Blacktop Wetland Compensation Site September 2003 through August 2004

### Total Monthly Precipitation Recorded On Site and at the Du Quoin, 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