



**PECATONICA RIVER FOREST PRESERVE  
WETLAND COMPENSATION SITE**

**ISGS #73**

Harrison Avenue Extension  
Sequence #3746

Winnebago County, near Pecatonica, Illinois

**Primary Project Manager: Eric T. Plankell**

**Secondary Project Manager: Steven E. Benton**

**SITE HISTORY**

- Summer 2003: Wetland construction was completed at the site.
- February 2005: ISGS was tasked by IDOT to monitor wetland hydrology.
- April 2005: ISGS began on-site monitoring with the installation of a monitoring network.

**WETLAND HYDROLOGY CALCULATION FOR 2007**

The estimated total area that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the 2007 growing season is 6.9 ha (17.1 ac) out of a total mitigation area of approximately 6.9 ha (17.1 ac). The estimated total area that satisfied wetland hydrology criteria for greater than 12.5% of the 2007 growing season is 3.8 ha (9.4 ac). Additional areas outside the designated mitigation areas also satisfied wetland hydrology criteria, and are discussed below. These estimates are based on the following factors:

- According to the MRCC, the median date that the growing season begins in nearby Freeport, Illinois is April 13, and the season lasts 183 days; 5% of the growing season is 9 days, and 12.5% of the growing season is 23 days.
- Total precipitation at the nearby Wastewater Treatment Plant weather station in Freeport, Illinois, was approximately 124% of normal for the monitoring period of September 2006 through August 2007. Precipitation at this station was below normal in January, May, and June 2007. Precipitation amounts were near or above normal for the remaining months of the 2006-2007 monitoring period. Melting snow and above-average precipitation in March and April 2007 caused the Pecatonica River to flood the site immediately prior to the beginning of the growing season. Heavy rains in August 2007 again caused the Pecatonica River to flood the site, resulting in nearly the entire site satisfying the wetland hydrology criteria for greater than 5% of the 2007 growing season.
- In 2007, water levels measured in all soil-zone (S) wells satisfied the wetland hydrology criteria for greater than 5% of the growing season. Water levels in soil-zone wells 1S, 2S, 3S, 4S, 5S, 6S, 8S, 9S, 10S, 11S, 13S, 14S, and 18S also satisfied the wetland hydrology criteria for greater than 12.5% of the growing season.
- Water-level records for the RDS data loggers at gauges C and H indicated inundation at elevations below approximately 225.60 m (740.16 ft) and 225.61 m (740.19 ft), respectively, for greater than 5% of the growing season. Additionally, gauges C and H indicated inundation at elevations below approximately 224.97 m (738.09 ft) and 224.82 m (737.60 ft), respectively, for greater than 12.5% of the growing season.

- Approximately 10.0 ha (24.6 ac) of the total site area outside of the mitigation areas satisfied wetland hydrology criteria for greater than 5% of the growing season and 3.7 ha (9.1 ac) satisfied wetland hydrology criteria for greater than 12.5% of the growing season. Note that these acreages include some preexisting wetland areas shown on the accompanying figure.
- For the purposes of this report, the boundaries of the mitigation areas were reproduced from engineering plans drawn by Hey and Associates, Inc, and then corrected to match features observed in the field and on aerial photography of the site taken in 2005.

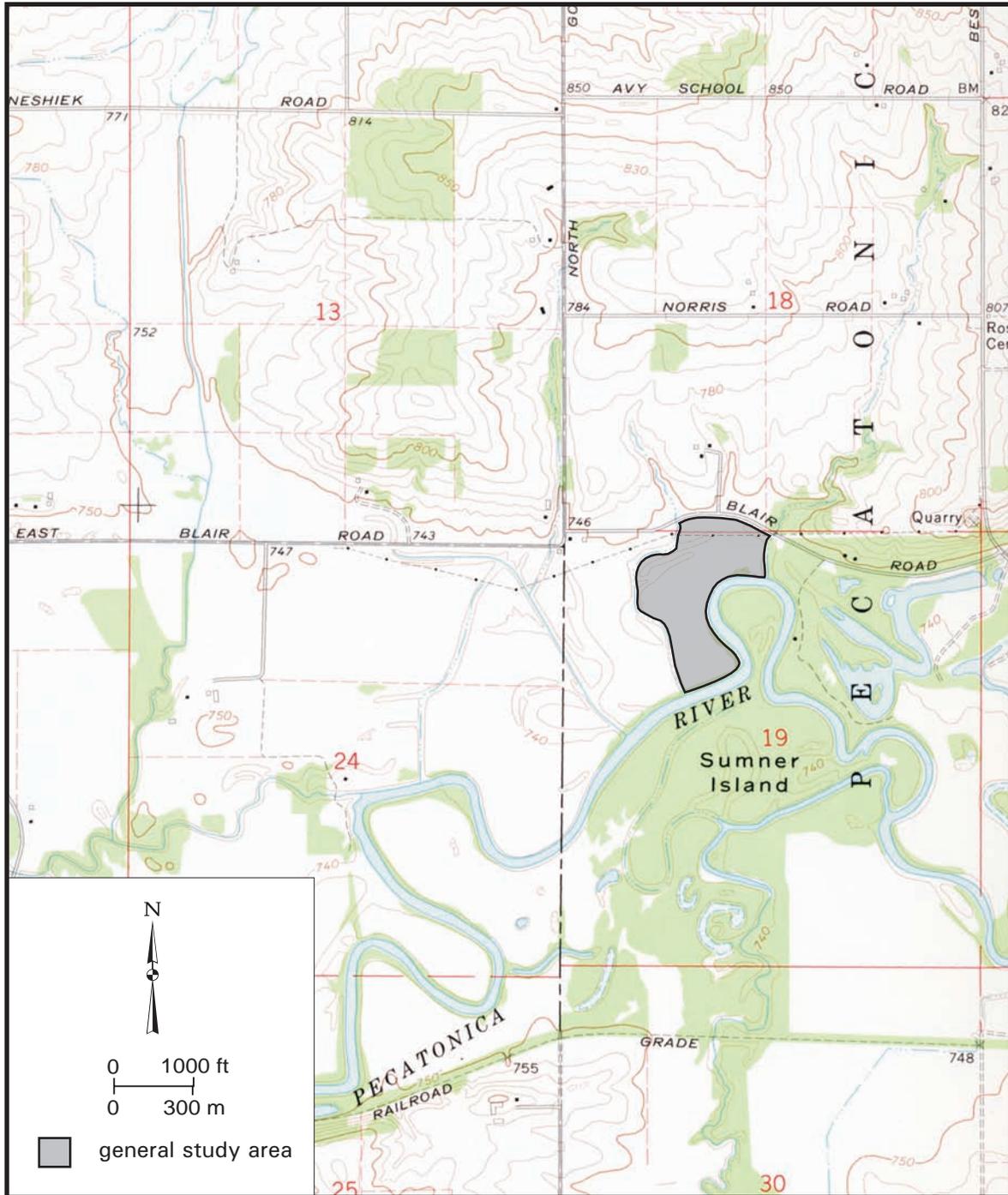
#### PLANNED FUTURE ACTIVITIES

- Hydrogeologic monitoring will continue at the site until no longer required by IDOT.

# Pecatonica River Forest Preserve Wetland Compensation Site (Sequence #3746)

## General Study Area and Vicinity

from the USGS Topographic Series, Ridott, IL 7.5-minute Quadrangle (USGS 1971)  
contour interval is 10 feet

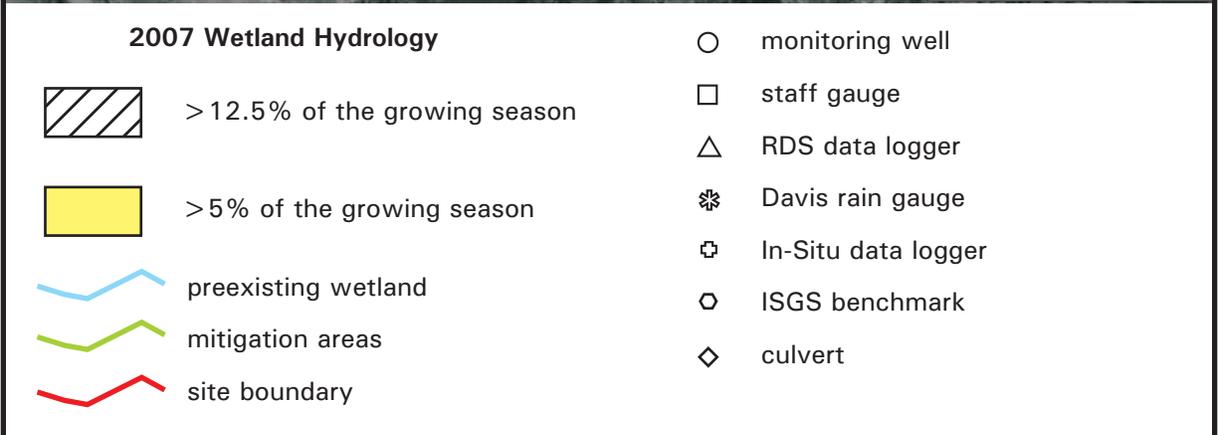
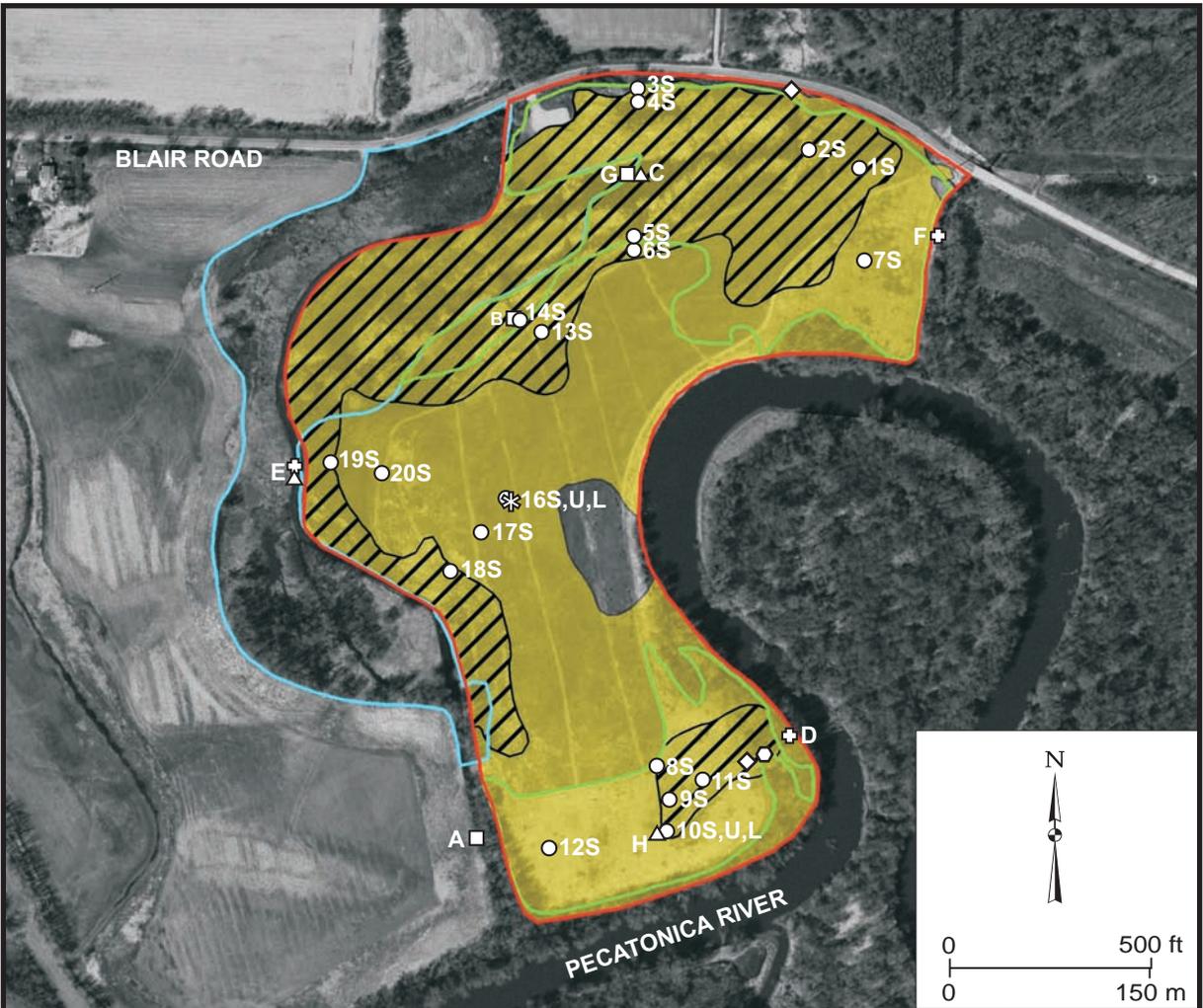


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## Estimated Areal Extent of 2007 Wetland Hydrology

based on data collected between September 1, 2006 and September 14, 2007

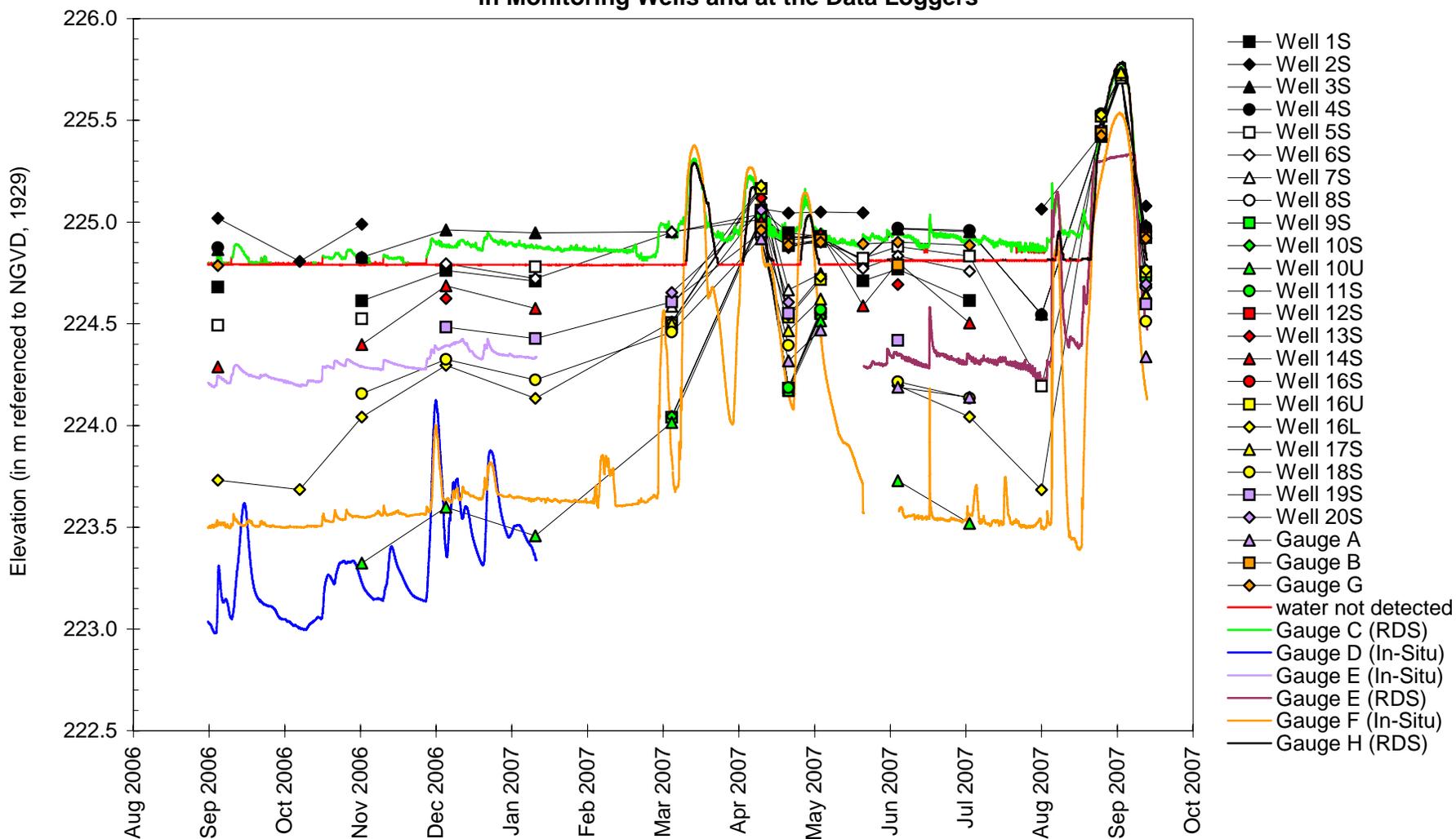
Map based on USGS digital orthophotograph Ridott, NE quarter quadrangle  
produced from 4/8/99 aerial photography (ISGS 2005)



# Pecatonica River Forest Preserve Wetland Compensation Site

## September 1, 2006 to September 14, 2007

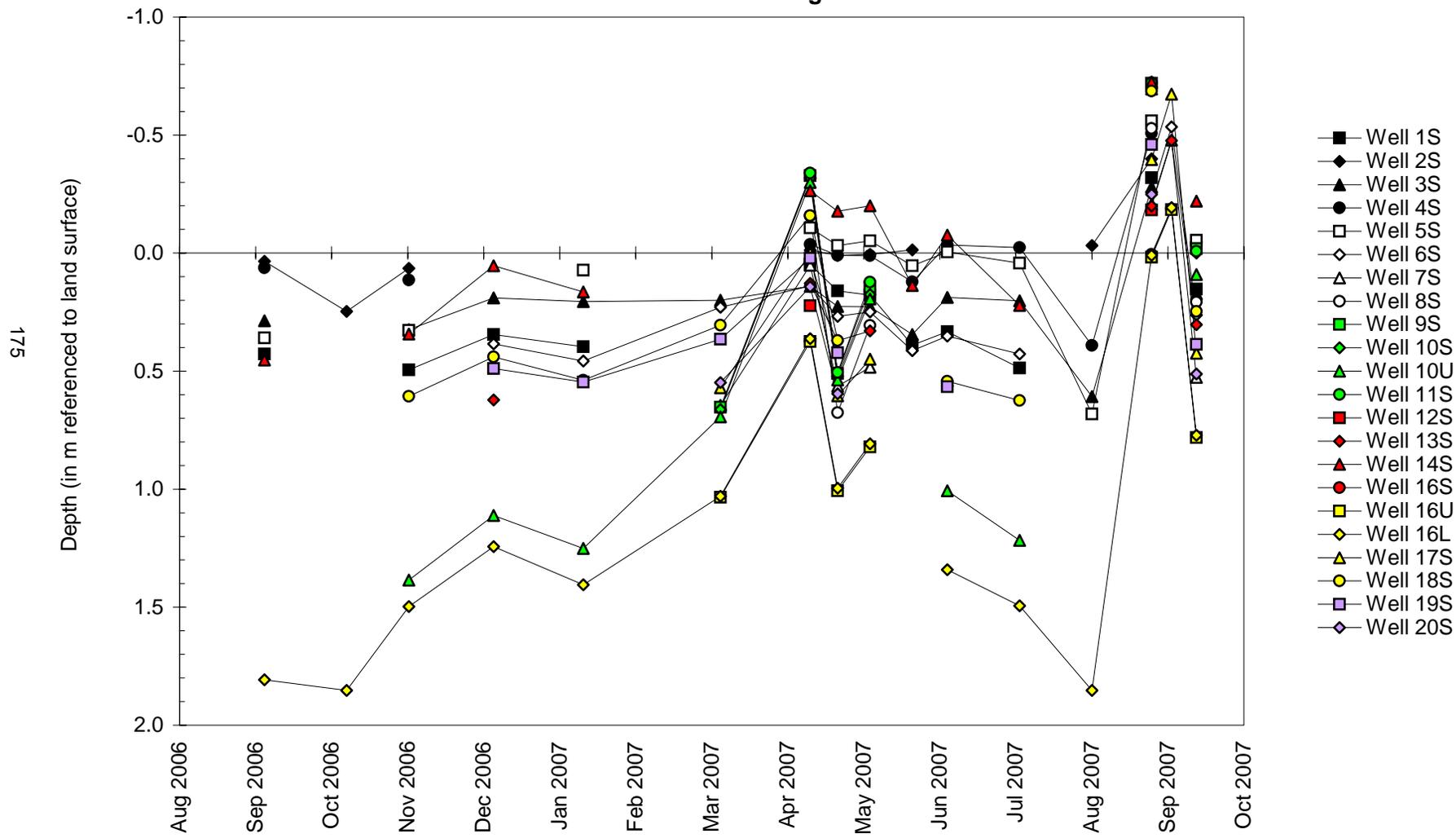
### Water-Level Elevations in Monitoring Wells and at the Data Loggers



# Pecatonica River Forest Preserve Wetland Compensation Site

September 1, 2006 to September 14, 2007

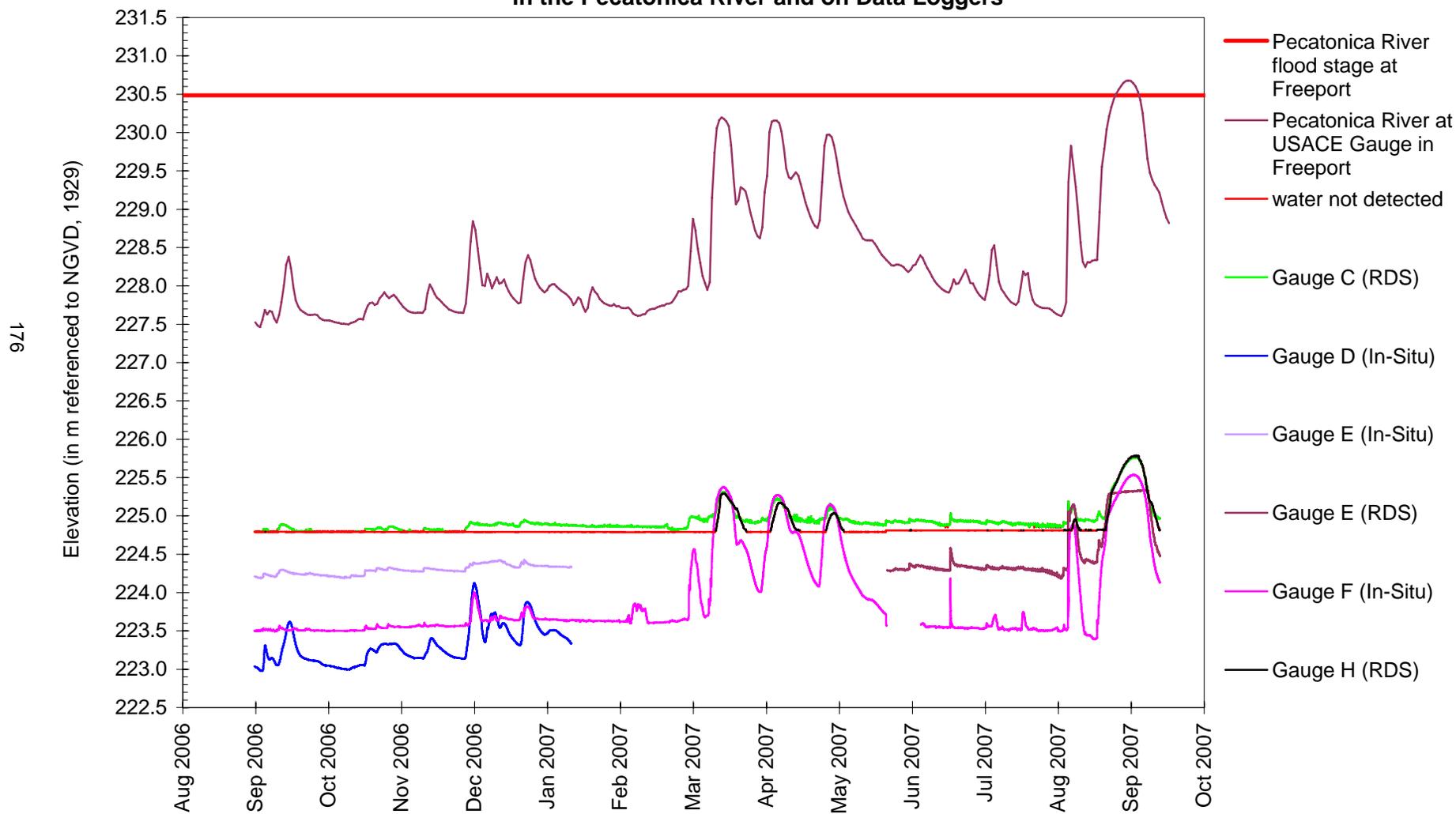
## Depth to Water in Monitoring Wells



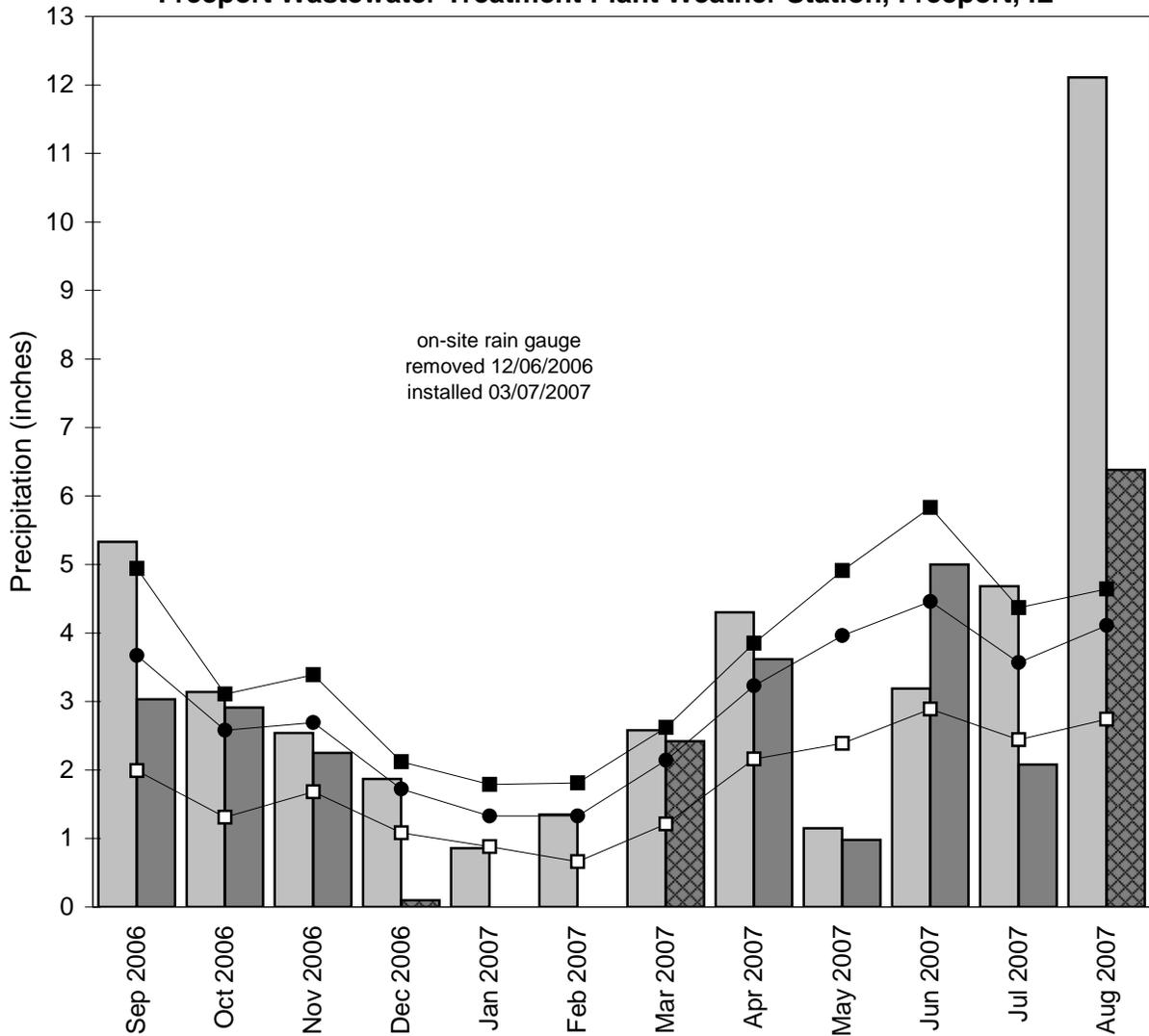
# Pecatonica River Forest Preserve Wetland Compensation Site

## September 1, 2006 to September 14, 2007

### Water-Level Elevations in the Pecatonica River and on Data Loggers



**Pecatonica River Forest Preserve  
Wetland Compensation Site  
September 2006 through August 2007  
Total Monthly Precipitation Recorded On Site and at the  
Freeport Wastewater Treatment Plant Weather Station, Freeport, 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)
- 1971-2000 monthly average precipitation (National Water and Climate Center)
- 1971-2000 monthly 30% below average threshold (National Water and Climate Center)
- ▒ data incomplete

Graph last updated October 9, 2007