

**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 2008**

The estimated area that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the 2008 growing season is 6.9 ha (17.1 ac) and the area that satisfied greater than 12.5% is 6.8 ha (16.8 ac) out of a total mitigation area of approximately 6.9 ha (17.1 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 105% of normal for the monitoring period of September 2007 through August 2008. Precipitation at this station was below normal in September, October, and November 2007, and in March, June, and August 2008. Precipitation amounts were normal or above normal for the remaining months of the 2007–2008 monitoring period. Significant rainfall in April, coupled with spring flooding along the Pecatonica River, resulted in elevated water levels that were sustained across almost all of the site for greater than 12.5% of the growing season. Heavy regional rainfall in late May and early June 2008 again caused the Pecatonica River to flood the site, resulting in almost the entire site satisfying the wetland hydrology criteria for greater than 5% of the 2008 growing season.
- In 2008, water levels measured in all soil-zone (S) monitoring wells 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 in each mitigation area indicated inundation below approximately 226.09 m (741.77 ft) and 226.04 m (741.60 ft), respectively, for greater than 5% of the growing season. Additionally, gauges C and H both indicated inundation below approximately 225.68 m (740.42 ft) for greater than 12.5% of the growing season.

- Approximately 10.6 ha (26.1 ac) of the total site outside of the mitigation areas satisfied wetland hydrology criteria for greater than 5% of the growing season and 10.1 ha (25.0 ac) satisfied wetland hydrology criteria for greater than 12.5% of the growing season. 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. Therefore, total site acreage may vary from other estimates.

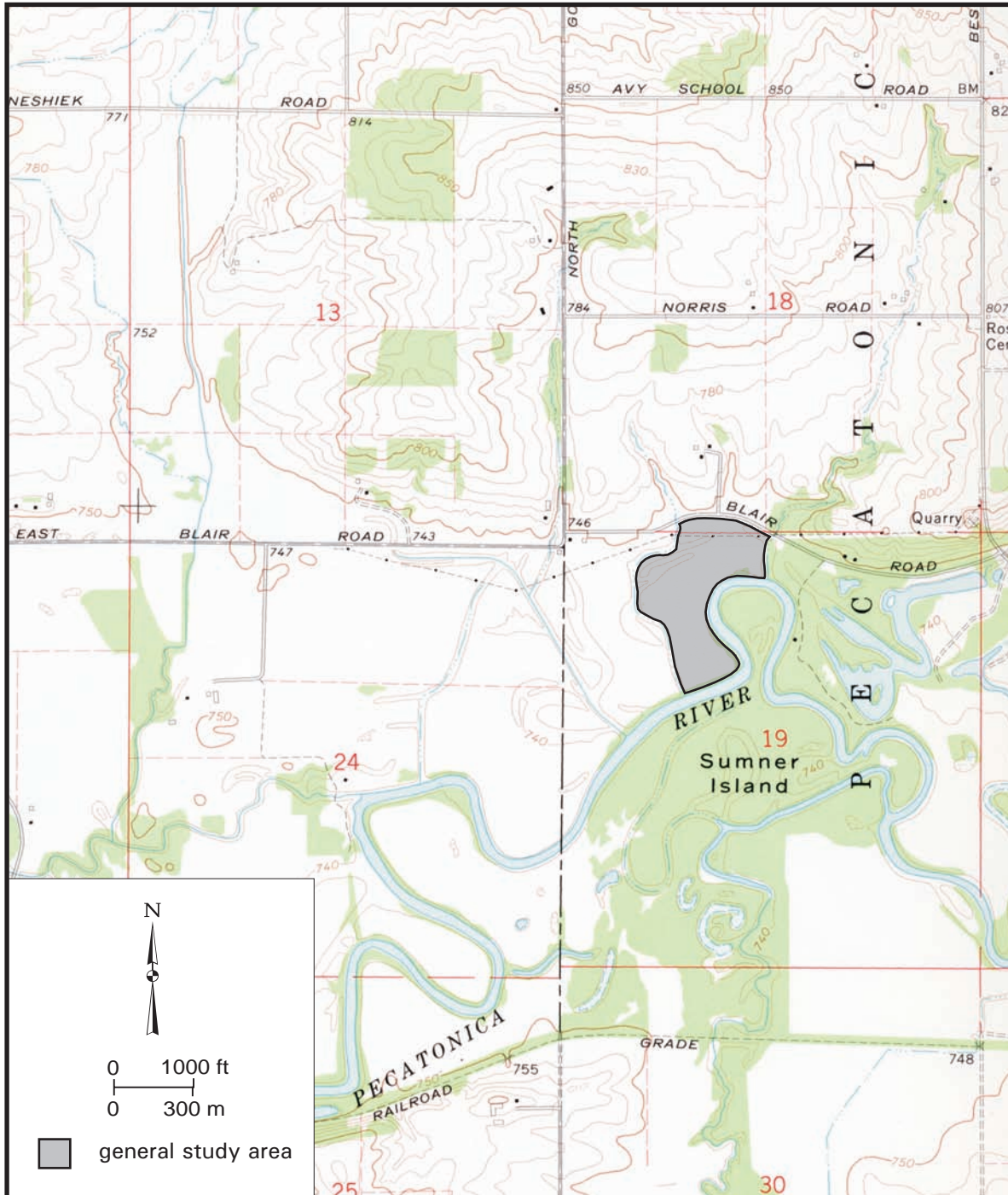
#### PLANNED FUTURE ACTIVITIES

- 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

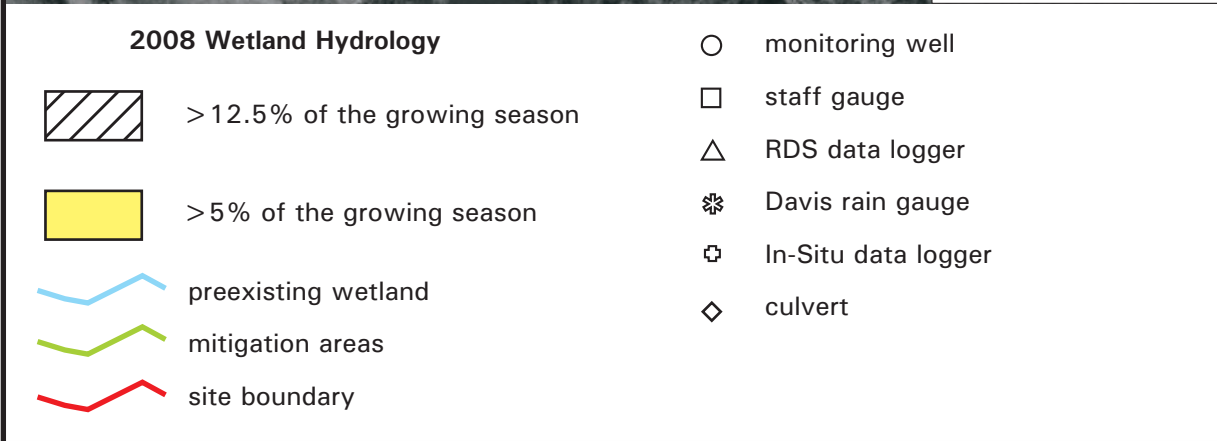
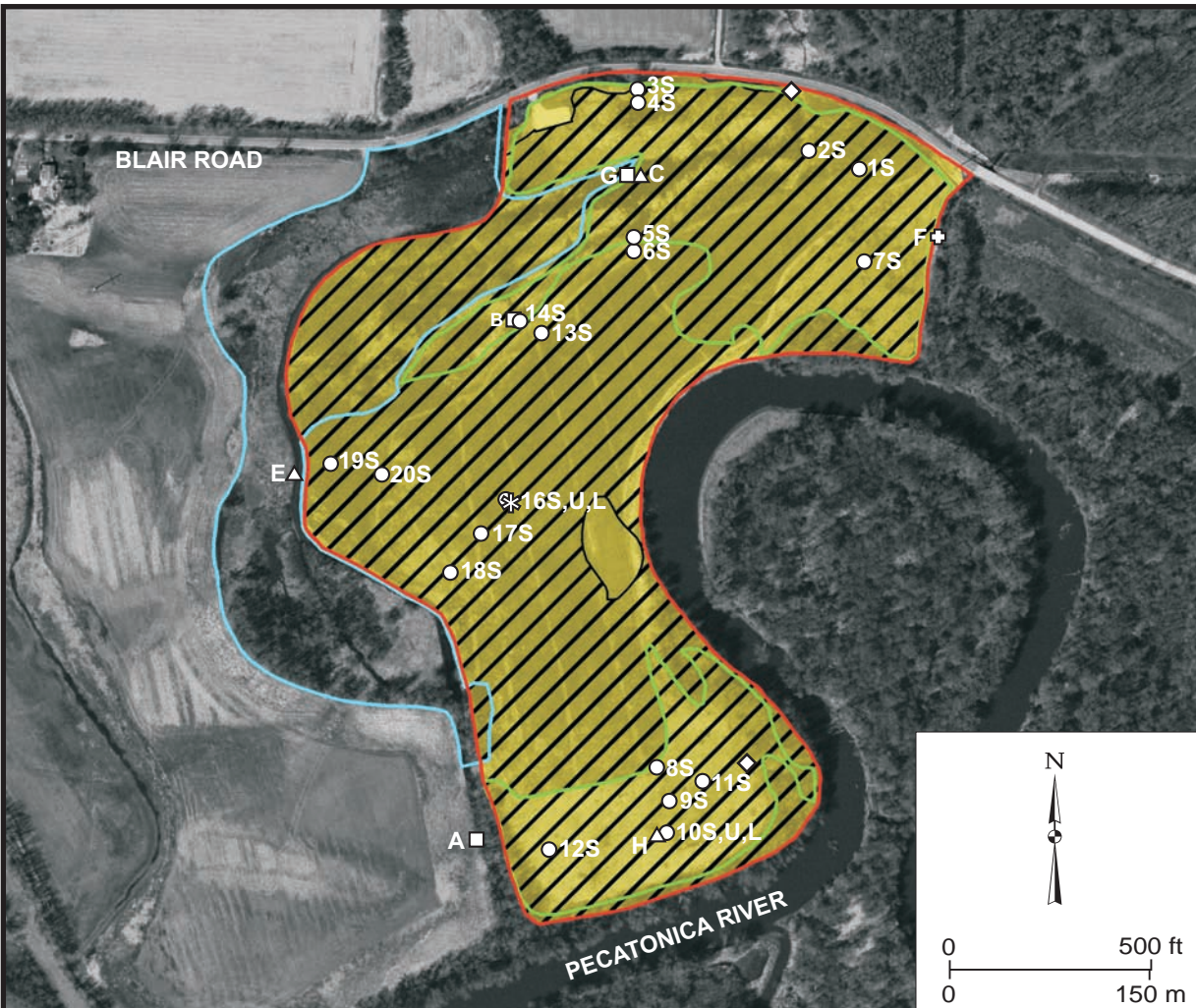


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## Estimated Areal Extent of 2008 Wetland Hydrology

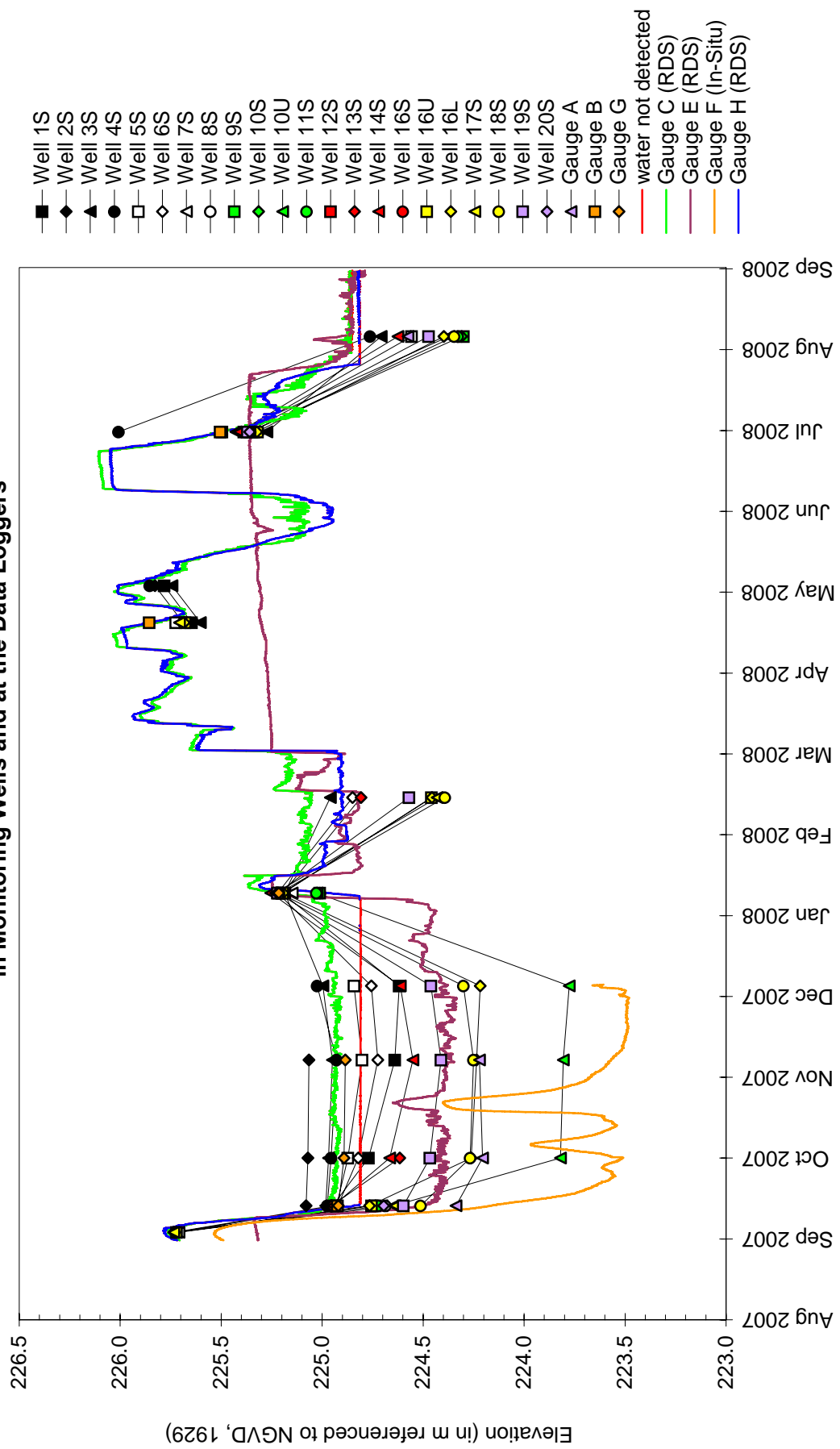
based on data collected between September 1, 2007 and September 1, 2008

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

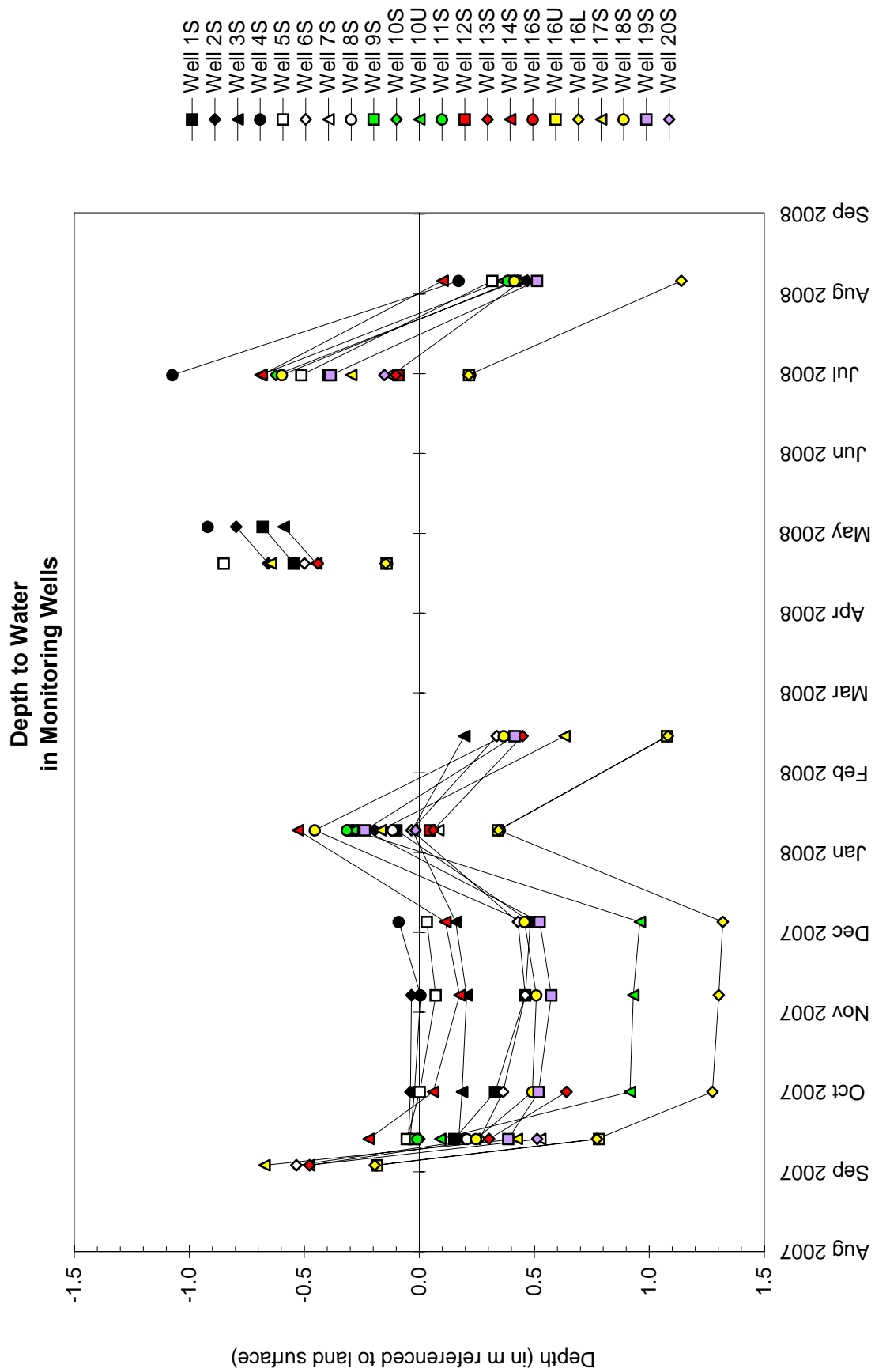


# Pecatonica River Forest Preserve Wetland Compensation Site September 1, 2007 to September 1, 2008

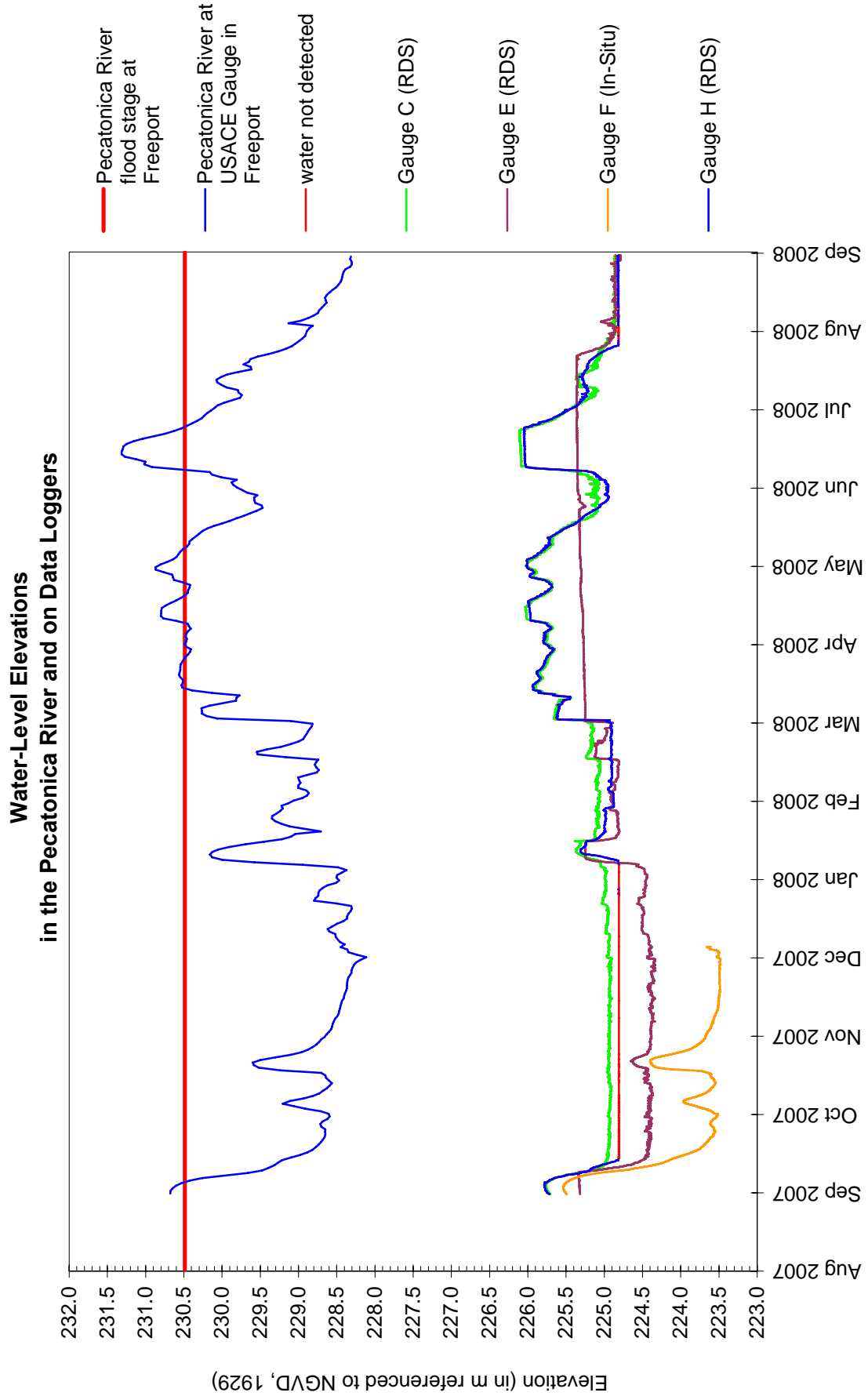
**Water-Level Elevations  
in Monitoring Wells and at the Data Loggers**



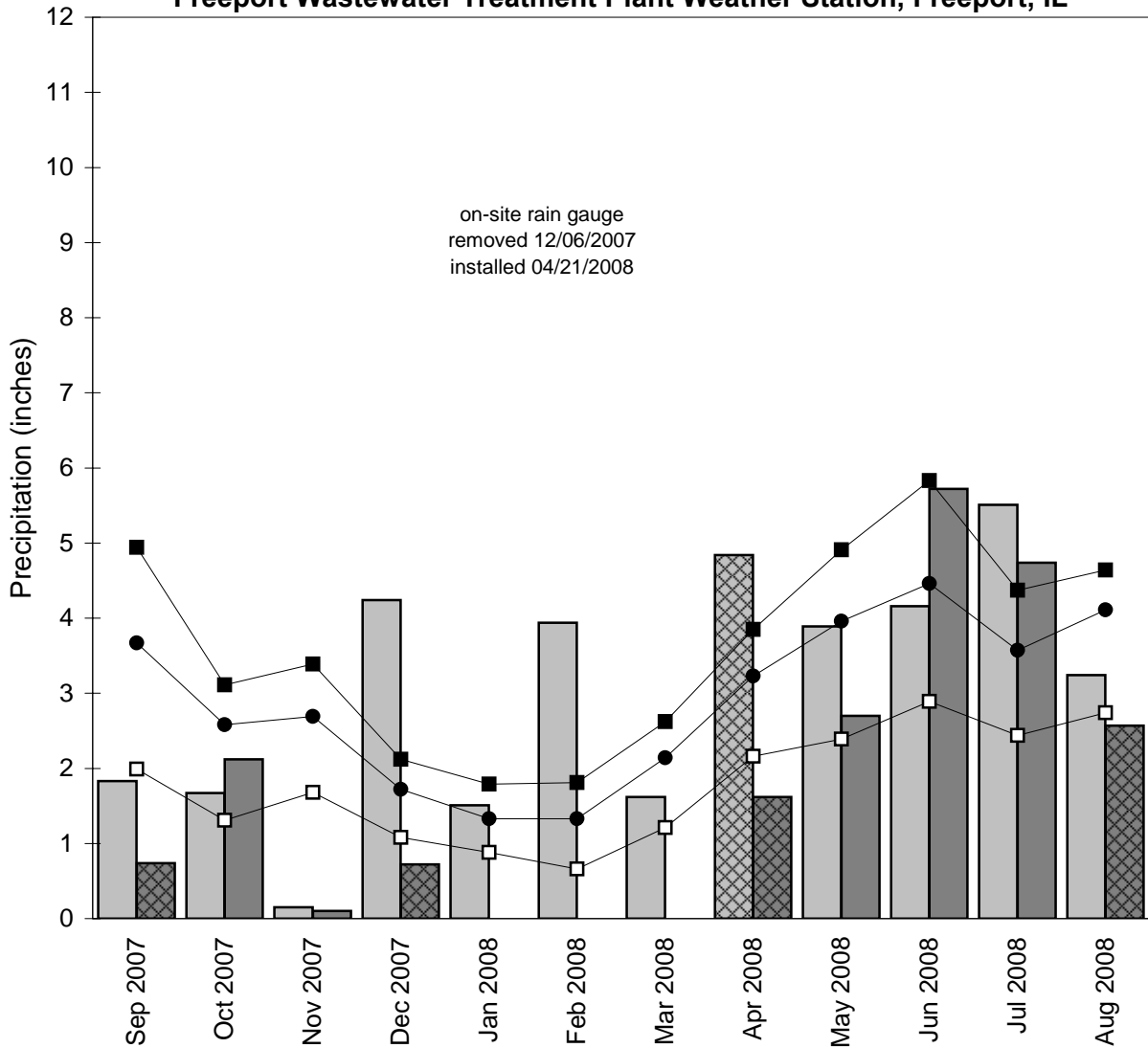
# Pecatonica River Forest Preserve Wetland Compensation Site September 1, 2007 to September 1, 2008



# Pecatonica River Forest Preserve Wetland Compensation Site September 1, 2007 to September 1, 2008



**Pecatonica River Forest Preserve  
Wetland Compensation Site  
September 2007 through August 2008  
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 7, 2008