

**FREEPORT BYPASS WEST  
WETLAND MITIGATION SITE 6W**

**ISGS #72**

US 20

FAP 301

Sequence #10487

Stephenson County, near Freeport, Illinois

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

**Secondary Project Manager:** not assigned

**SITE HISTORY**

- December 2003: ISGS monitoring network was installed.
- Summer 2006: Tree planting was completed and a berm was installed at the western end of the central drainage ditch.
- February 2007: ISGS submitted a Level II hydrogeologic characterization report to IDOT (ISGS Open-File Series 2007-01).

**WETLAND HYDROLOGY CALCULATION FOR 2010**

The area that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the 2010 growing season is estimated to be 9.4 ha (23.3 ac) out of a total site area of 9.6 ha (23.6 ac). The area that satisfied wetland hydrology criteria for greater than 12.5% of the 2010 growing season is estimated to be 8.1 ha (20.1 ac). Using the 2010 Midwest Region supplement (U.S. Army Corps of Engineers 2010) to the 1987 Manual, it is estimated that 9.1 ha (22.4 ac) satisfied wetland hydrology criteria for 14 or more consecutive days during the growing season. These estimates are based on the following factors:

- According to the MRCC, the median date that the growing season begins in 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. According to methods outlined in the 2010 Midwest Region supplement, it is estimated that March 16 was the starting date of the 2010 growing season based on soil temperatures observed at the mitigation site.
- Regional precipitation for the monitoring period, as recorded at the Freeport Wastewater Plant in Illinois, was 141% of normal, and was 103% of normal for the period March through May 2010. More than 13 inches of precipitation were recorded at the weather station in July 2010, and resulted in the largest flooding event to occur along the Pecatonica River during the 2010 growing season. This flood peaked on July 24, and along with additional precipitation through early August, resulted in the largest observed areas that satisfied wetland hydrology criteria for the monitoring period.
- In 2010, water levels measured in all monitoring wells satisfied wetland hydrology criteria for greater than 5% of the growing season. Water levels in all wells, except well 4S, satisfied wetland hydrology criteria for greater than 12.5% of the growing season. According to the 2010 Midwest Region supplement, all wells also satisfied wetland hydrology criteria for 14 or more consecutive days of the growing season.
- Water-level records for the data logger at Gauge C indicated on-site inundation at or above 231.51 m (759.55 ft) for greater than 5% of the growing season, and inundation at or above 230.86 m (757.41 ft) for greater than 12.5% of the growing season. Based on

the 2010 Midwest Region supplement, water-level records for the data logger at Gauge C indicated inundation at or above 230.93 m (757.64 ft) for 14 or more consecutive days of the growing season.

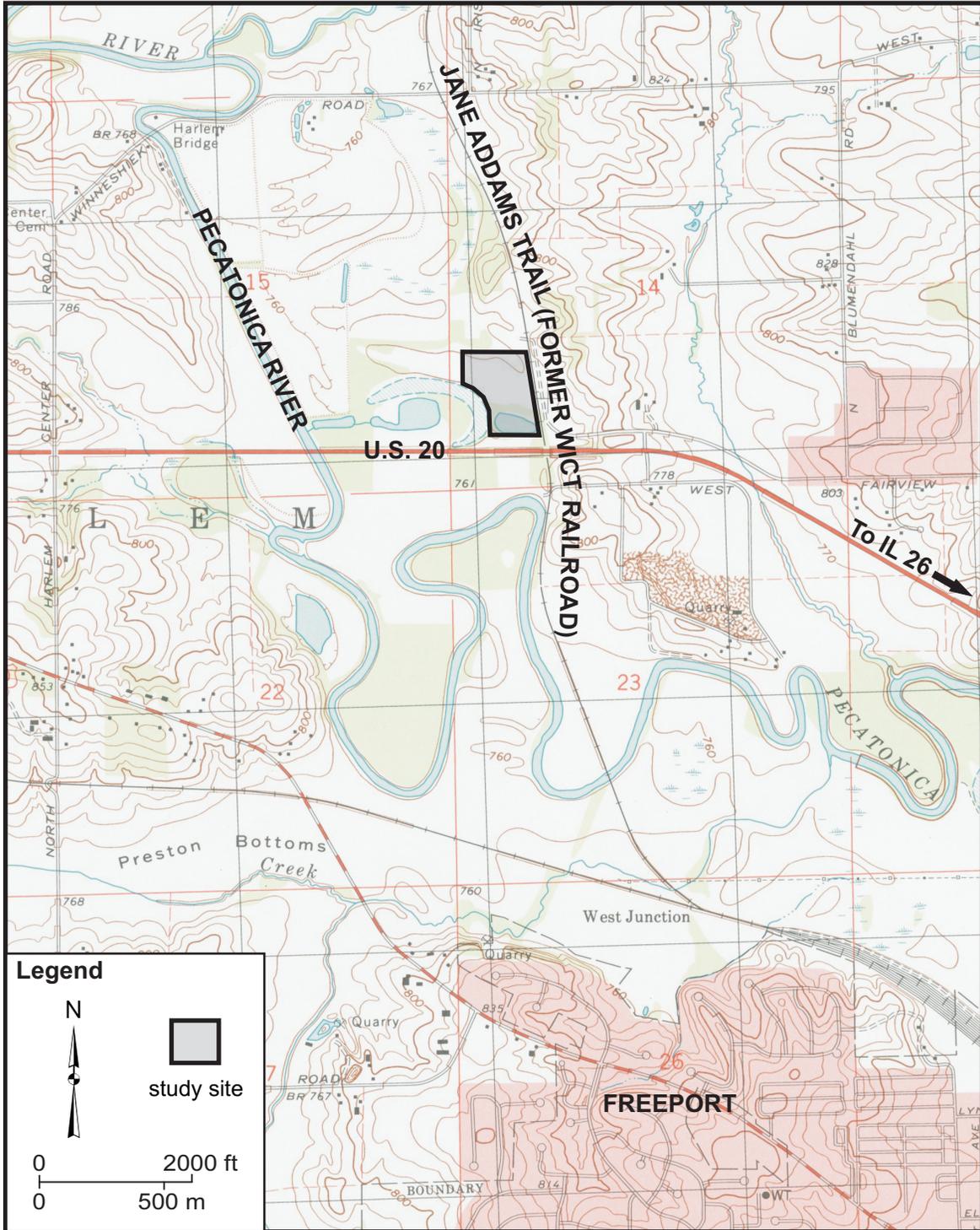
#### PLANNED FUTURE ACTIVITIES

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

# Freeport Bypass West Wetland Mitigation Site 6W (FAP 301 [US 20])

## General Study Area and Vicinity

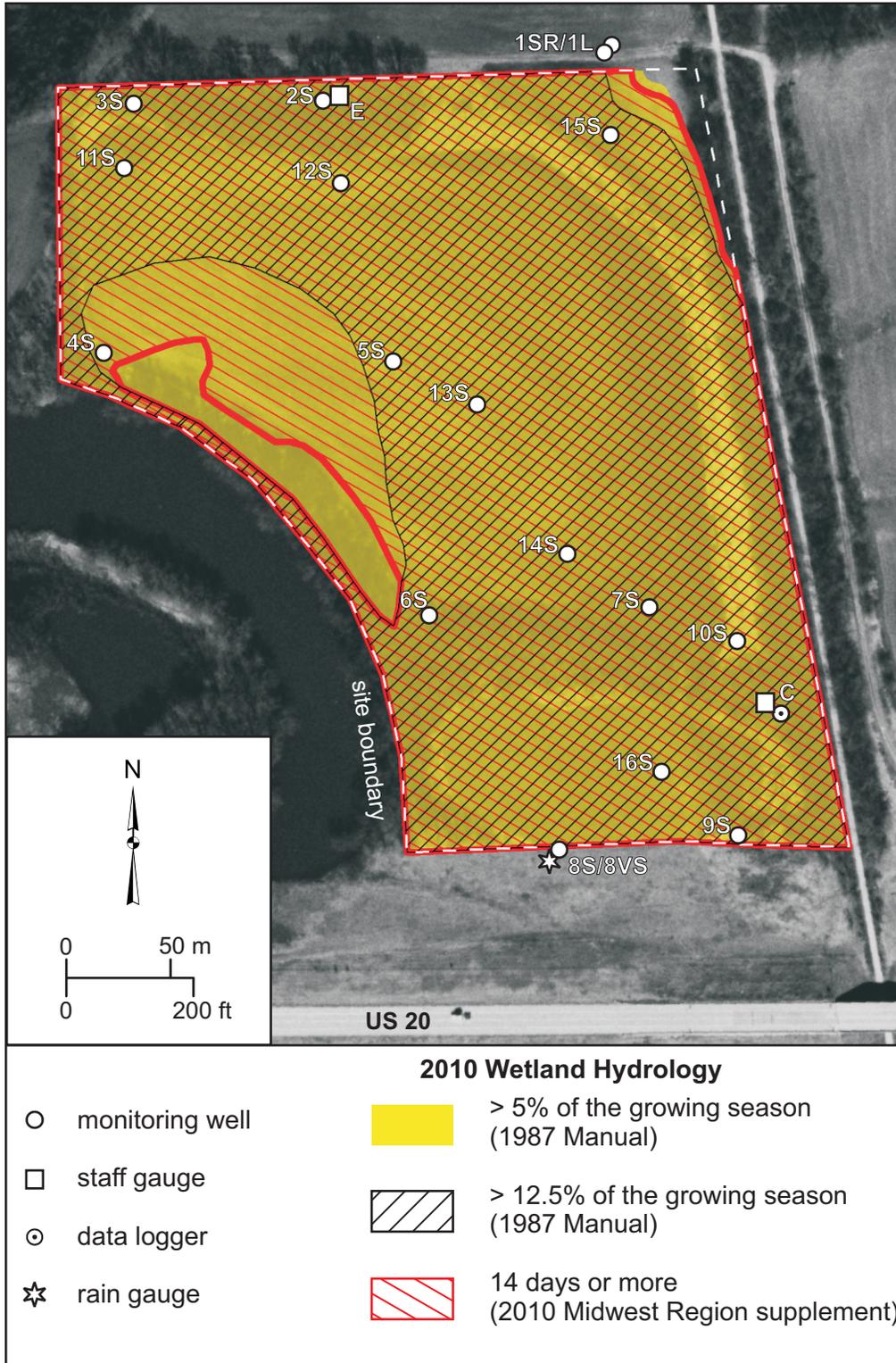
from the USGS Topographic Series, Freeport West, IL, 7.5-minute Quadrangle (USGS 1998)  
contour interval is 10 feet



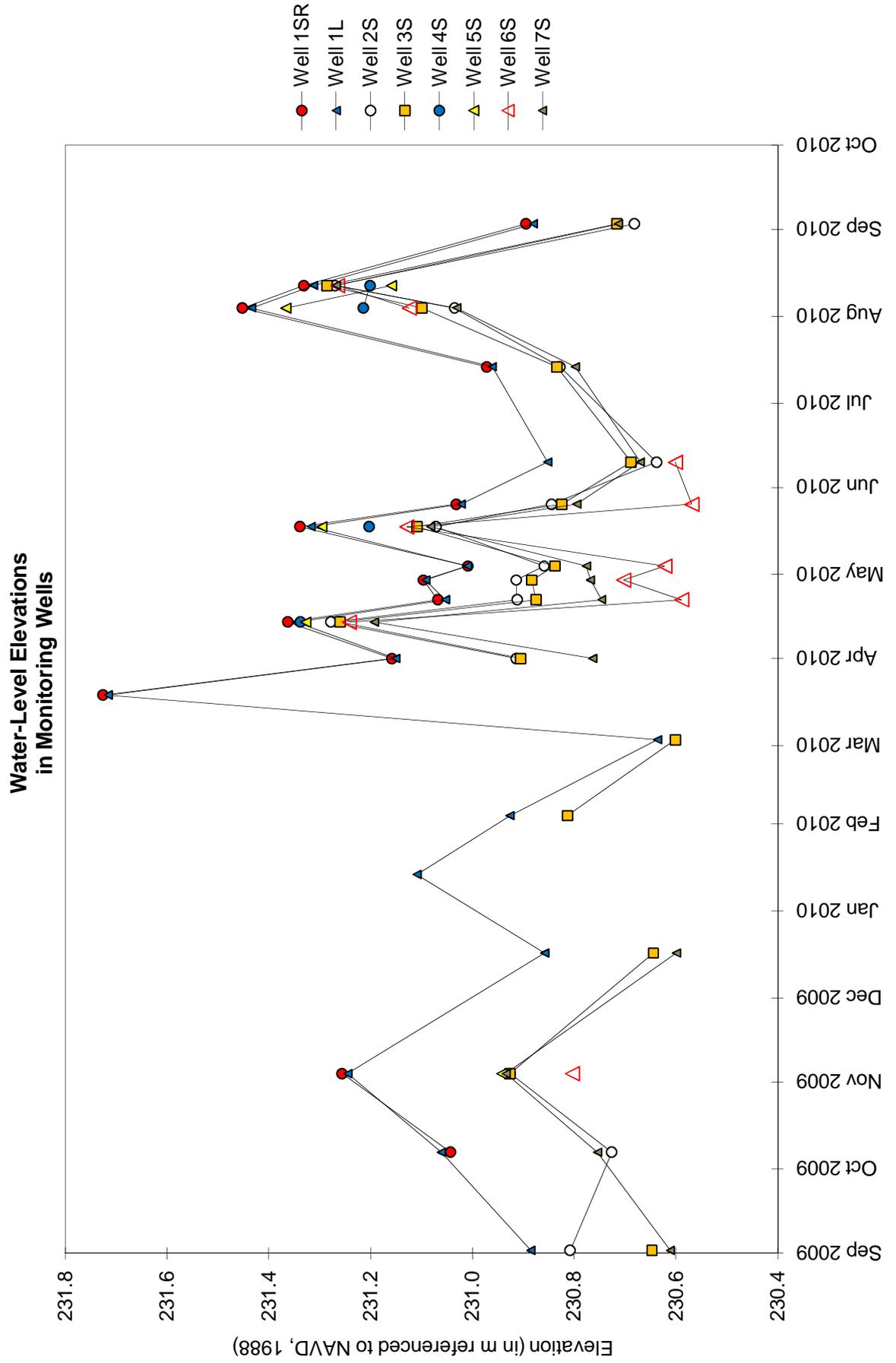
# Freeport Bypass West Wetland Mitigation Site 6W (FAP 301 [US 20])

**Estimated Areal Extent of 2010 Wetland Hydrology  
September 1, 2009 through October 1, 2010**

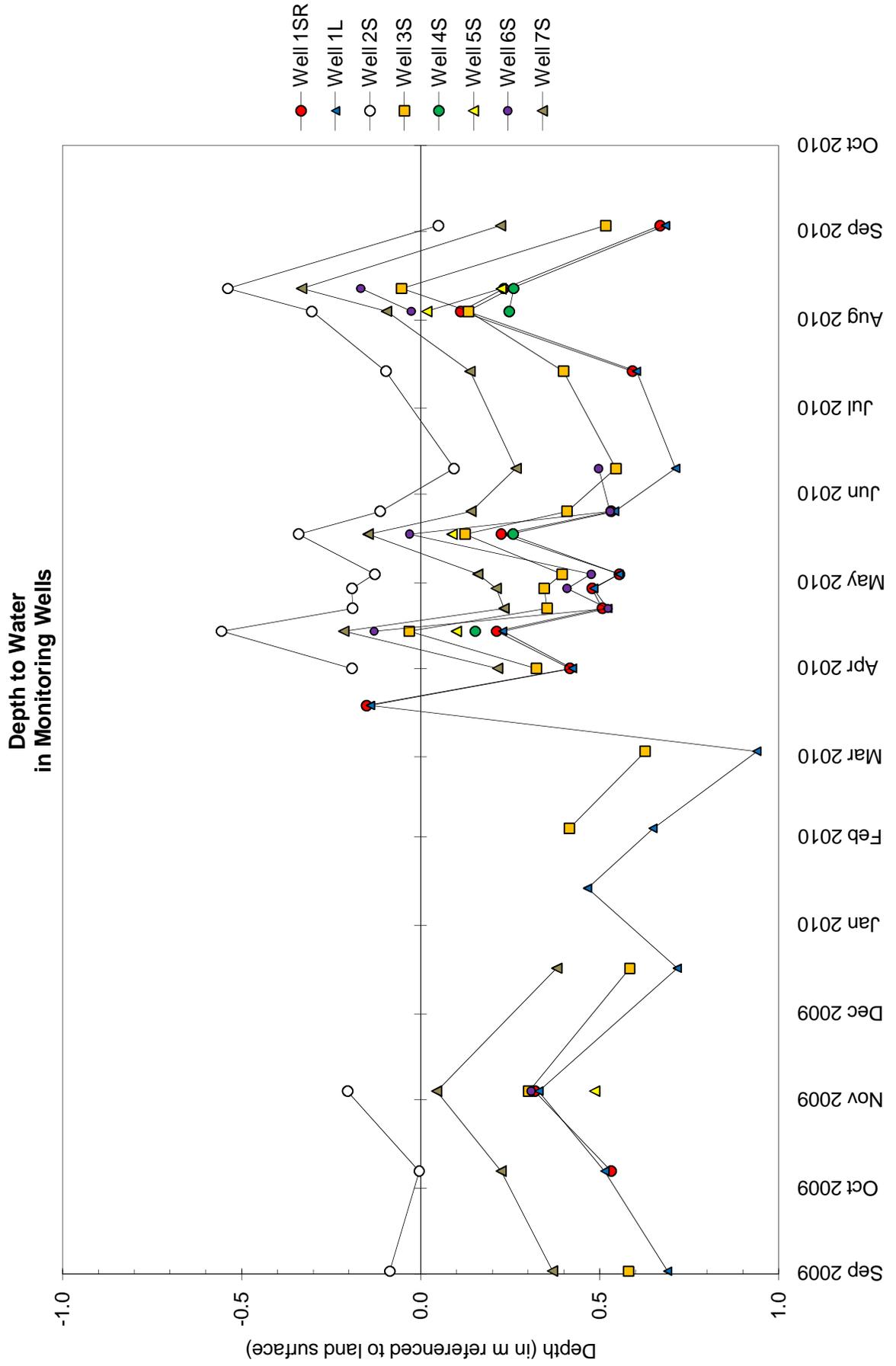
Map based on USGS digital orthophotograph, Freeport West, NE quarter-quadrangle (ISGS 2005)



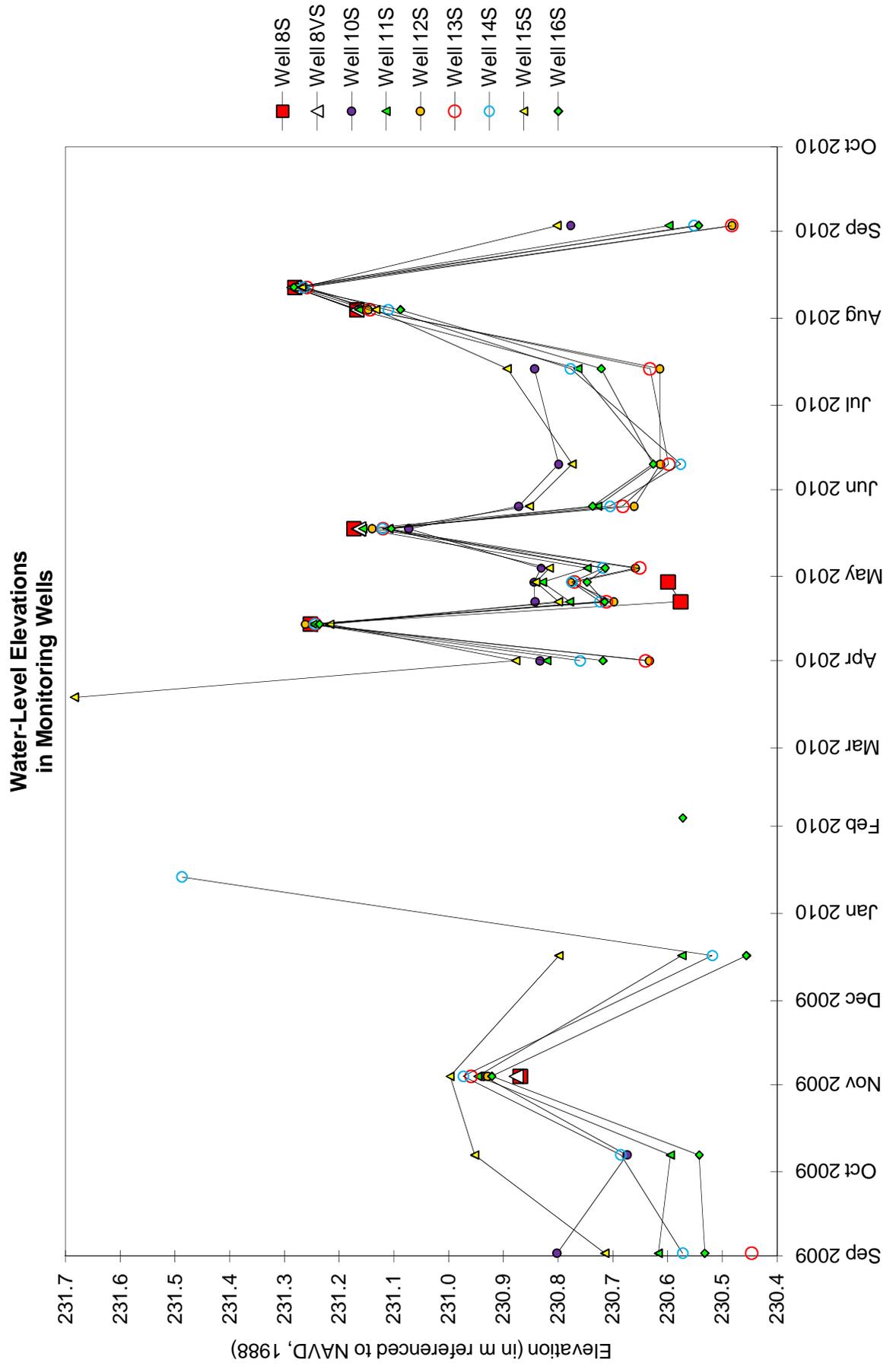
# Freeport Bypass West, Wetland Mitigation Site 6W September 1, 2009 through October 1, 2010



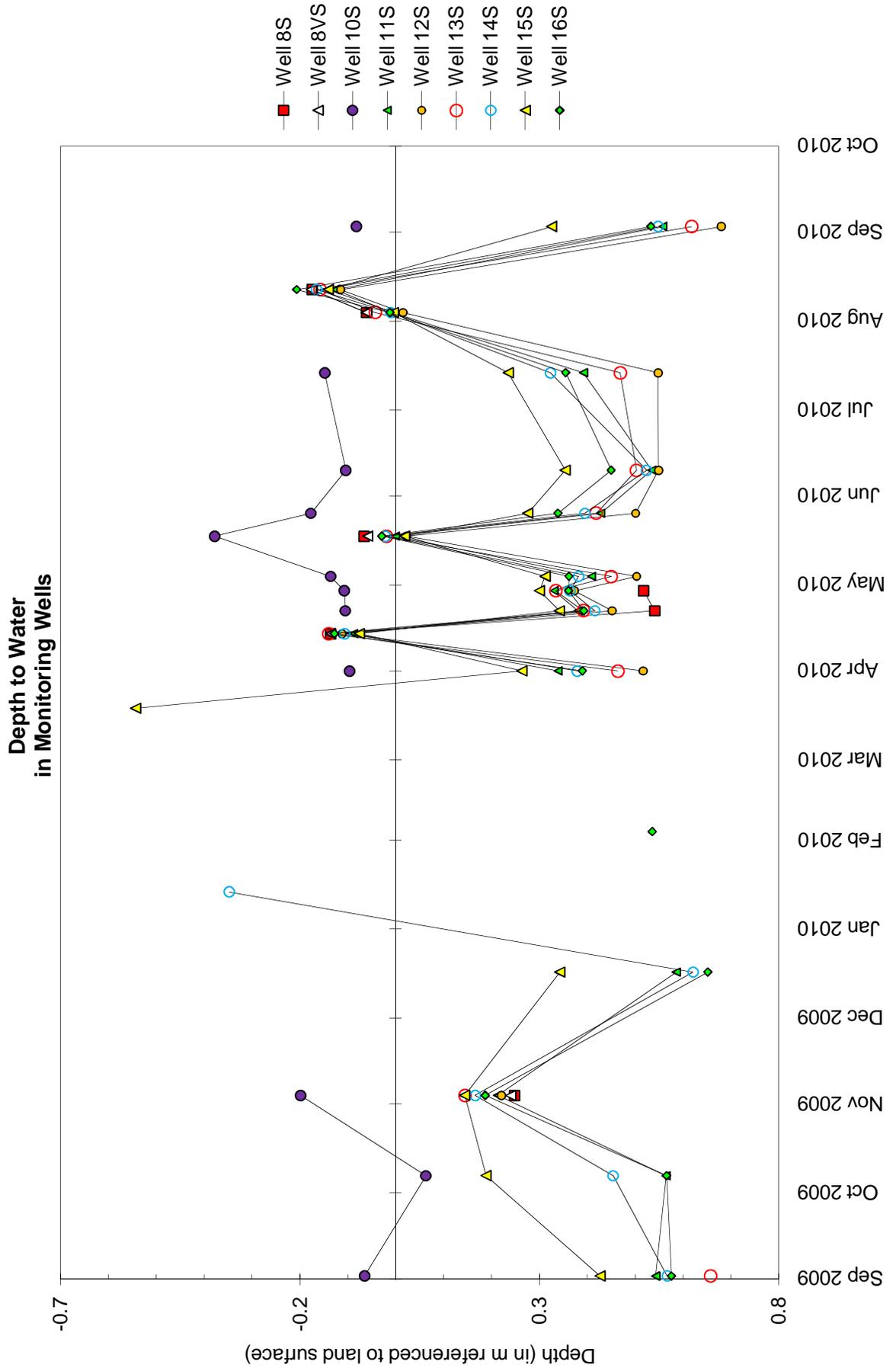
# Freepoint Bypass West, Wetland Mitigation Site 6W September 1, 2009 through October 1, 2010



# Freepoint Bypass West, Wetland Mitigation Site 6W September 1, 2009 through October 1, 2010

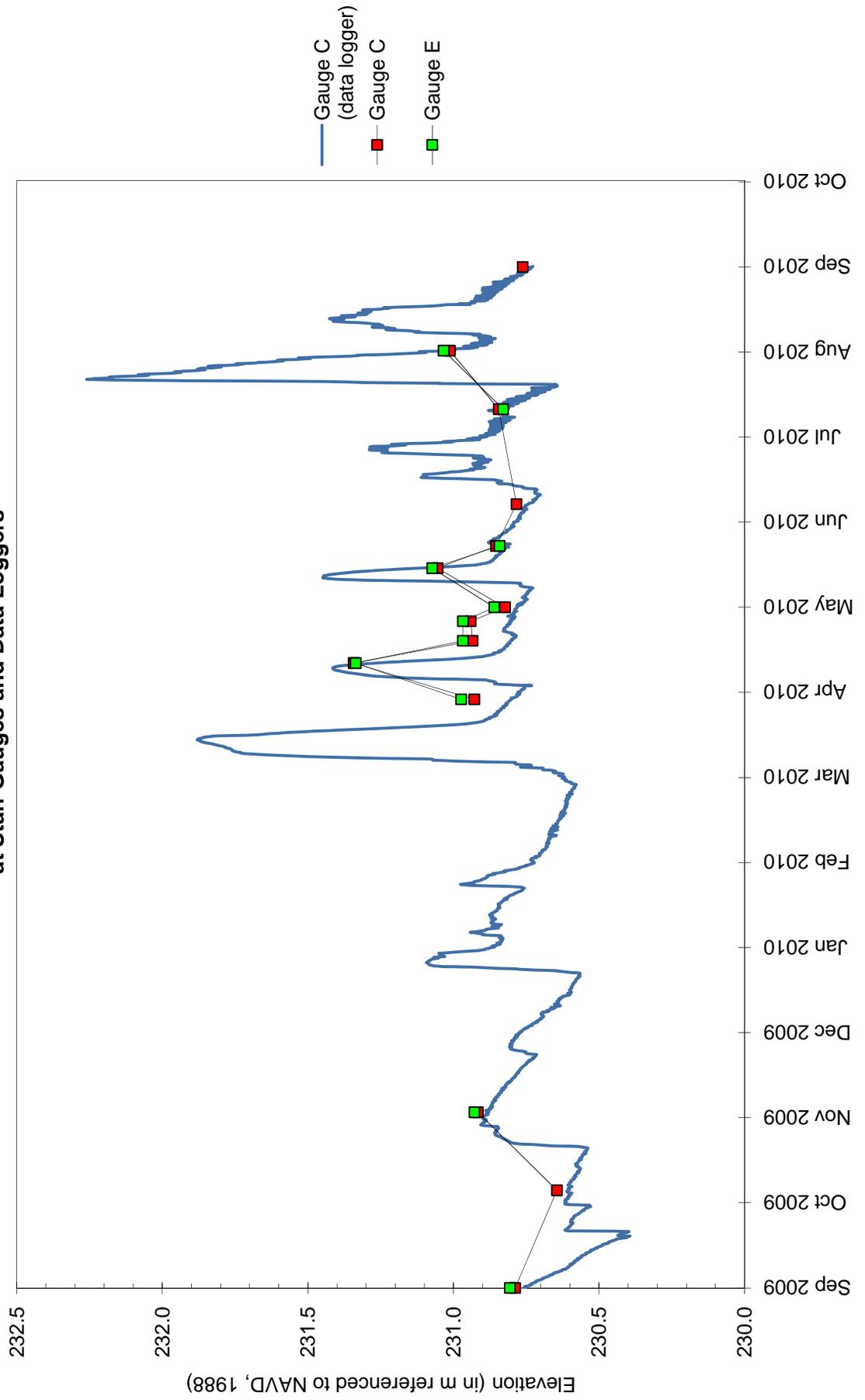


# Freeport Bypass West, Wetland Mitigation Site 6W September 1, 2009 through October 1, 2010

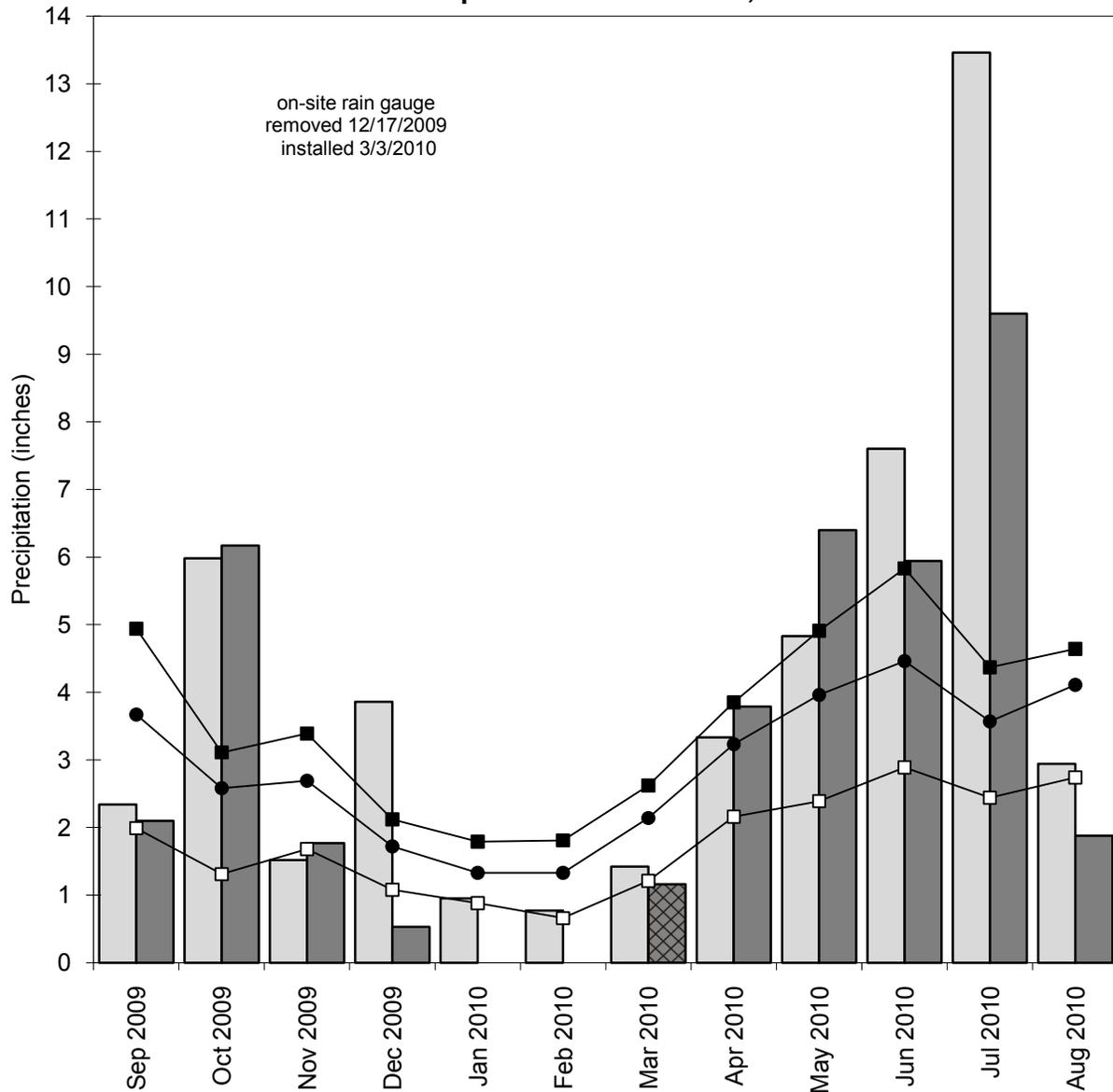


# Freeport Bypass West, Wetland Mitigation Site 6W September 1, 2009 through October 1, 2010

Water-Level Elevations  
at Staff Gauges and Data Loggers



**Freeport Bypass West  
Wetland Mitigation Site 6W  
September 2009 through August 2010  
Total Monthly Precipitation Recorded on Site and at  
the Freeport Wastewater Plant, IL**



- monthly precipitation recorded at Freeport, IL (MRCC)
- monthly precipitation recorded on site by ISGS
- ▨ data incomplete
- 1971-2000 monthly 30% above average threshold at Freeport, IL (NWCC)
- 1971-2000 monthly average precipitation at Freeport, IL (NWCC)
- 1971-2000 monthly 30% below average threshold at Freeport, IL (NWCC)

Graph last updated September 29, 2010