

**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 2011

The area that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the 2011 growing season is estimated to be 3.2 ha (8.0 ac) out of a total site area of 9.6 ha (23.6 ac), and the area that satisfied wetland hydrology criteria for greater than 12.5% of the 2011 growing season is estimated to be 2.7 ha (6.7 ac). Using the 2010 Midwest Region Supplement (U.S. Army Corps of Engineers 2010) to the 1987 Manual, it is estimated that 3.3 ha (8.2 ac) satisfied wetland hydrology criteria for 14 or more consecutive days during the growing season. These estimates are based on the following factors:

- The median date that the growing season begins in Freeport, Illinois, is April 13, and the season lasts 183 days (MRCC 2011). According to the 1987 Manual, 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 2011 growing season based on soil temperatures measured at the mitigation site.
- Total precipitation for the monitoring period, as recorded at the Wastewater Treatment Plant weather station in Freeport, Illinois, was 121% of normal, and was 142% of normal for the period March through May 2011. Nearly 10.5 inches of precipitation were recorded on site from July 21-31. The subsequent late-season flood on the Pecatonica River peaked on July 28 and resulted in the highest water levels recorded on the site during the 2011 growing season. However, these water levels were not sustained long enough to increase the areas that satisfied wetland hydrology criteria in Spring 2011.
- In 2011, water levels measured in monitoring wells 2S, 7S, 10S, 15S, and 17S satisfied wetland hydrology criteria for greater than 5% of the growing season, and water levels measured in wells 2S, 7S, and 10S satisfied wetland hydrology criteria for greater than 12.5% of the growing season, according to the 1987 Manual. According to the 2010 Midwest Region Supplement, water levels measured in wells 2S, 3S, 7S, 10S, 14S, 15S, and 16S satisfied wetland hydrology criteria for 14 or more consecutive days of the growing season.

- Water levels recorded by the data logger at Gauge C indicated on-site inundation at or above 230.82 m (757.28 ft) for greater than 5% of the growing season, and inundation at or above 230.75 m (757.05 ft) for greater than 12.5% of the growing season, according to the 1987 Manual. Based on the 2010 Midwest Region Supplement, water levels recorded by the data logger at Gauge C indicated inundation at or above 230.83 m (757.32 ft) for 14 or more consecutive days of the growing season.

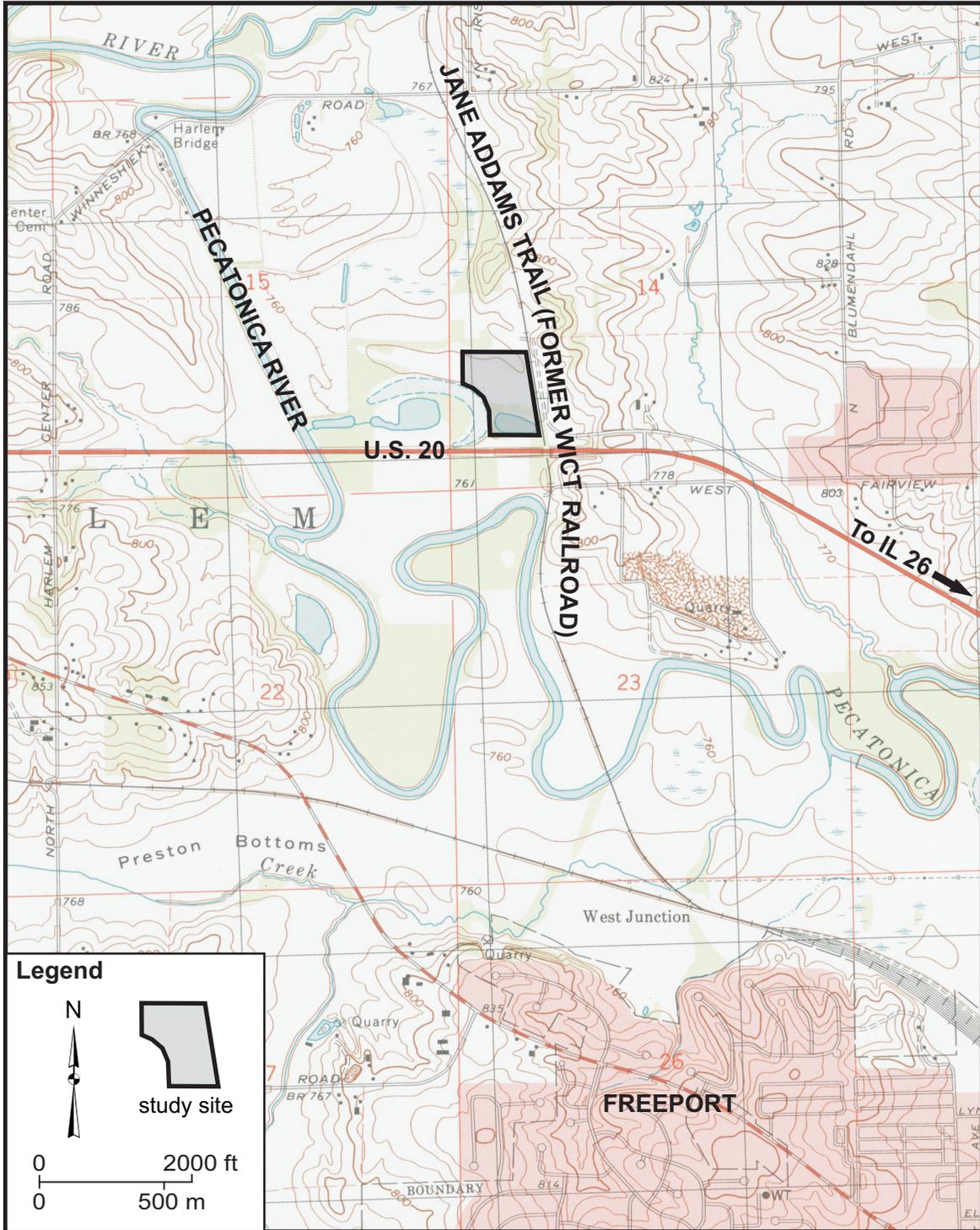
PLANNED FUTURE ACTIVITIES

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

**Freeport Bypass West
Wetland Mitigation Site 6W
(US 20, FAP 301)**

General Study Area and Vicinity

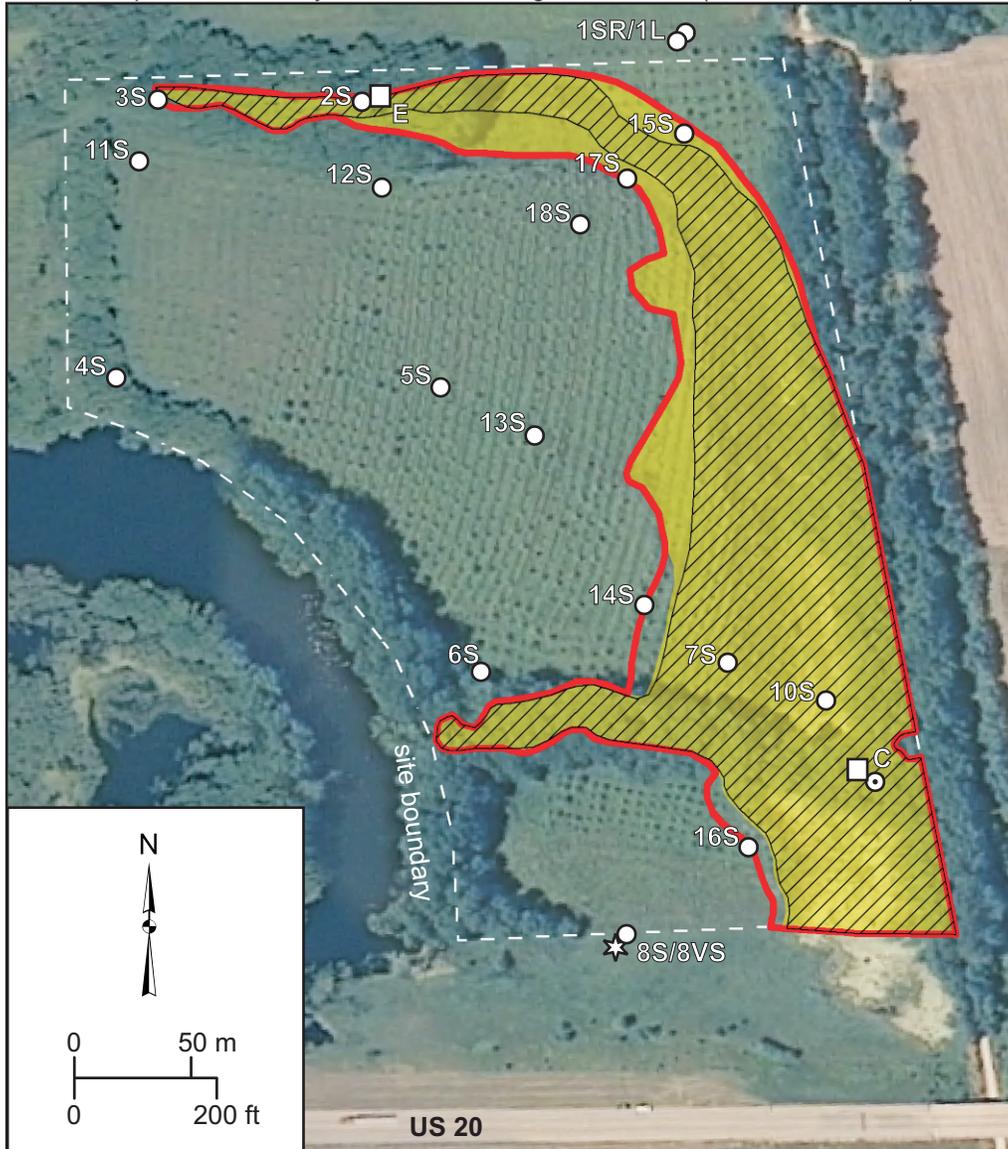
from the USGS Topographic Series, Freeport West, IL, 7.5-minute Quadrangle (USGS 1998)
contour interval is 10 feet



Freeport Bypass West Wetland Mitigation Site 6W (US 20, FAP 301)

Estimated Areal Extent of 2011 Wetland Hydrology September 1, 2010 through August 31, 2011

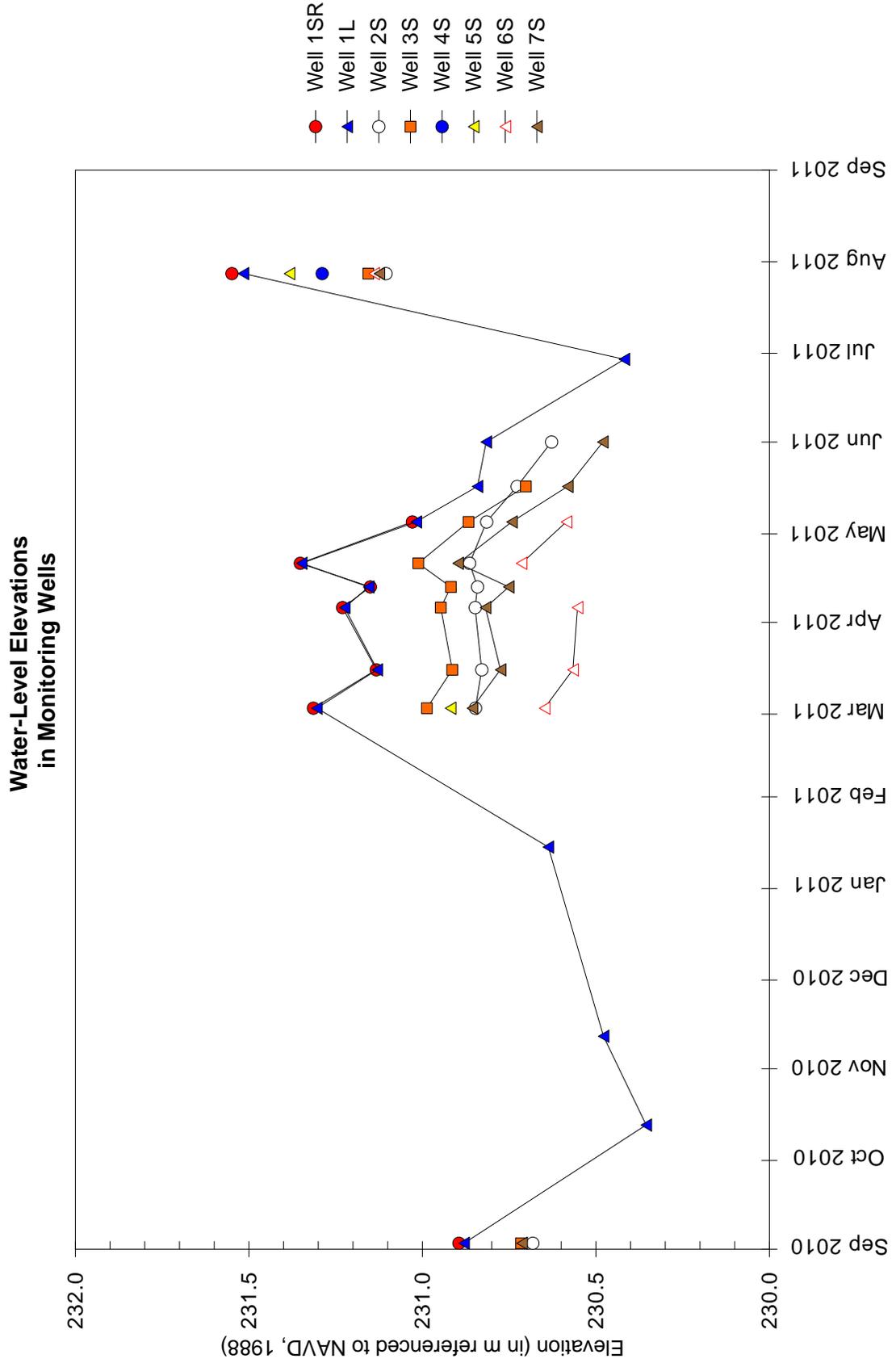
Map based on National Agricultural Imagery Program (NAIP) digital orthophotograph,
Stephenson County, Illinois, taken August 12, 2010 (USDA-FSA 2010)



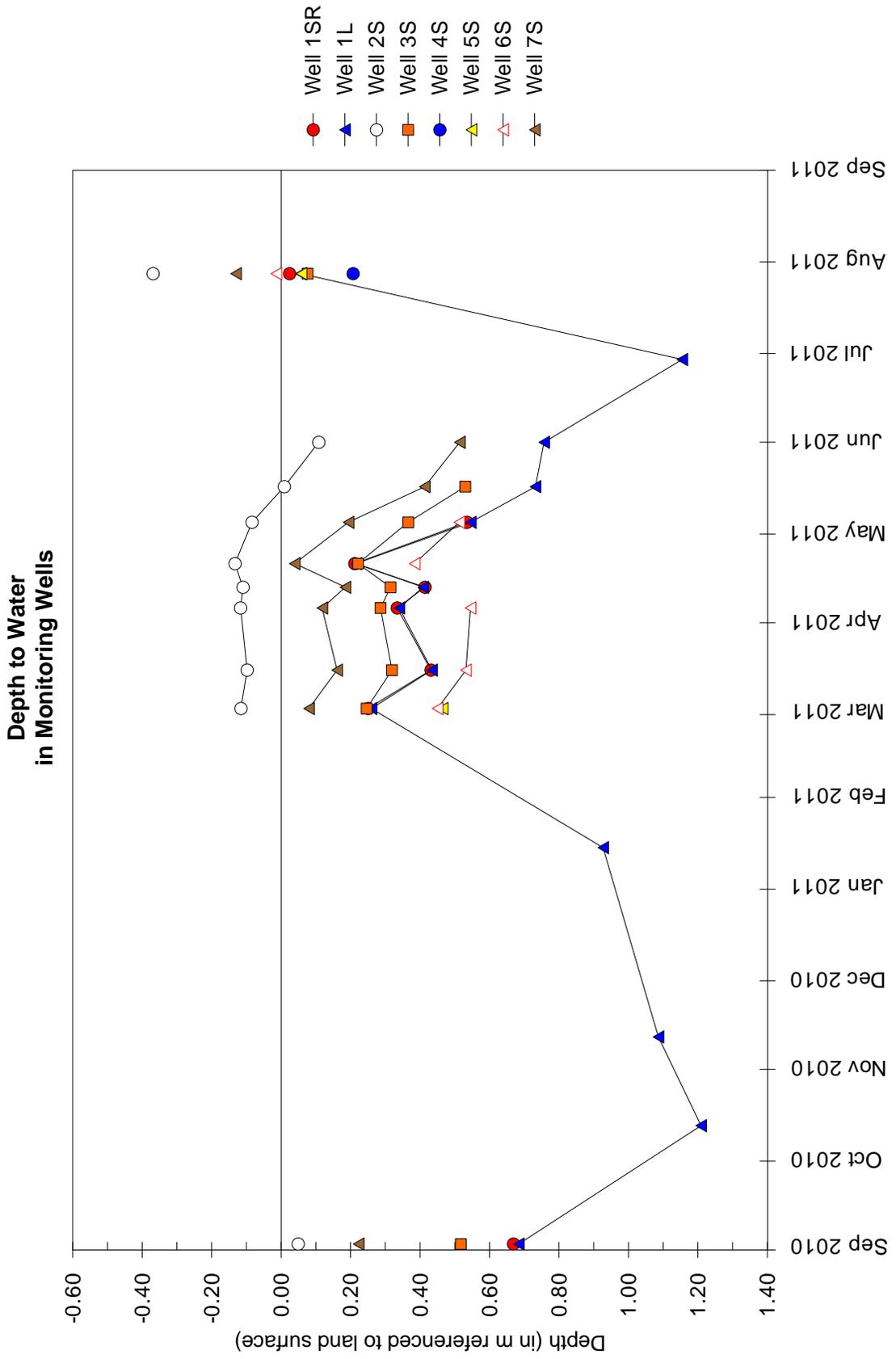
2011 Wetland Hydrology

- | | |
|-------------------|---|
| ○ monitoring well | > 5% of the growing season
(1987 Manual) |
| □ staff gauge | > 12.5% of the growing season
(1987 Manual) |
| ⊙ data logger | 14 days or more
(2010 Midwest Region Supplement) |
| ☆ rain gauge | |

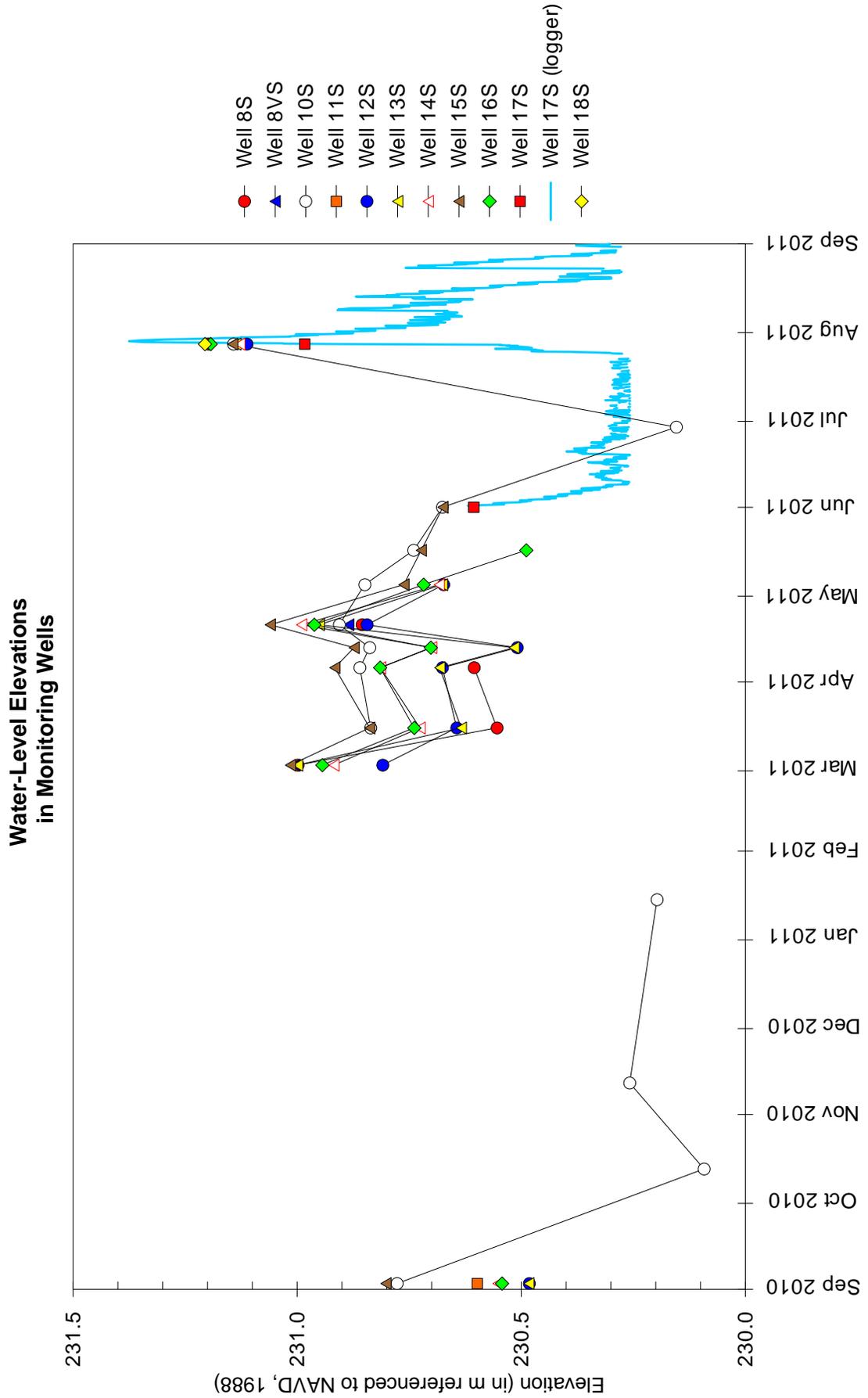
Freepoint Bypass West Wetland Mitigation Site 6W September 1, 2010 through August 31, 2011



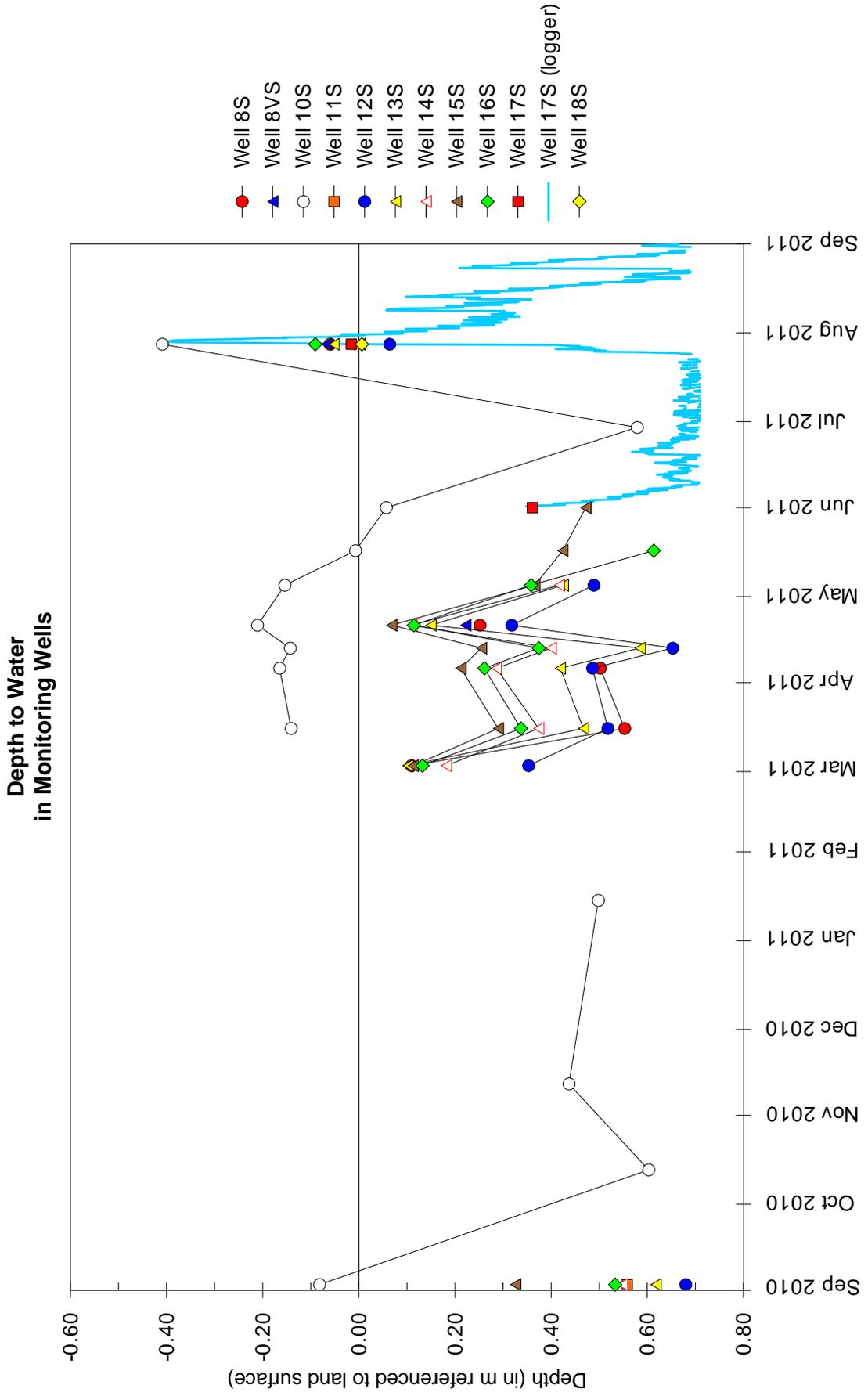
Freeport Bypass West Wetland Mitigation Site 6W September 1, 2010 through August 31, 2011



Freepoint Bypass West Wetland Mitigation Site 6W September 1, 2010 through August 31, 2011

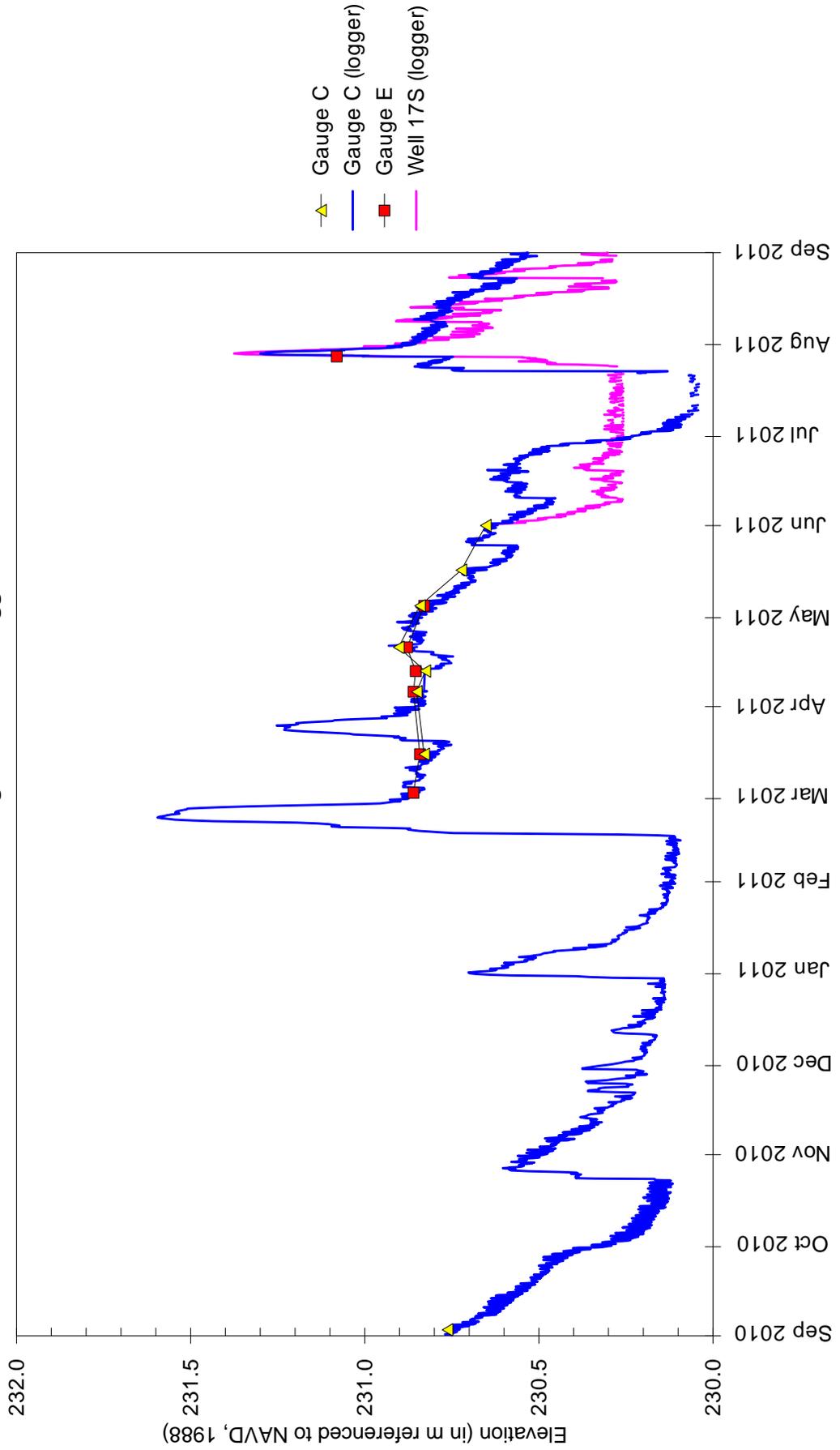


Freeport Bypass West Wetland Mitigation Site 6W
September 1, 2010 through August 31, 2011



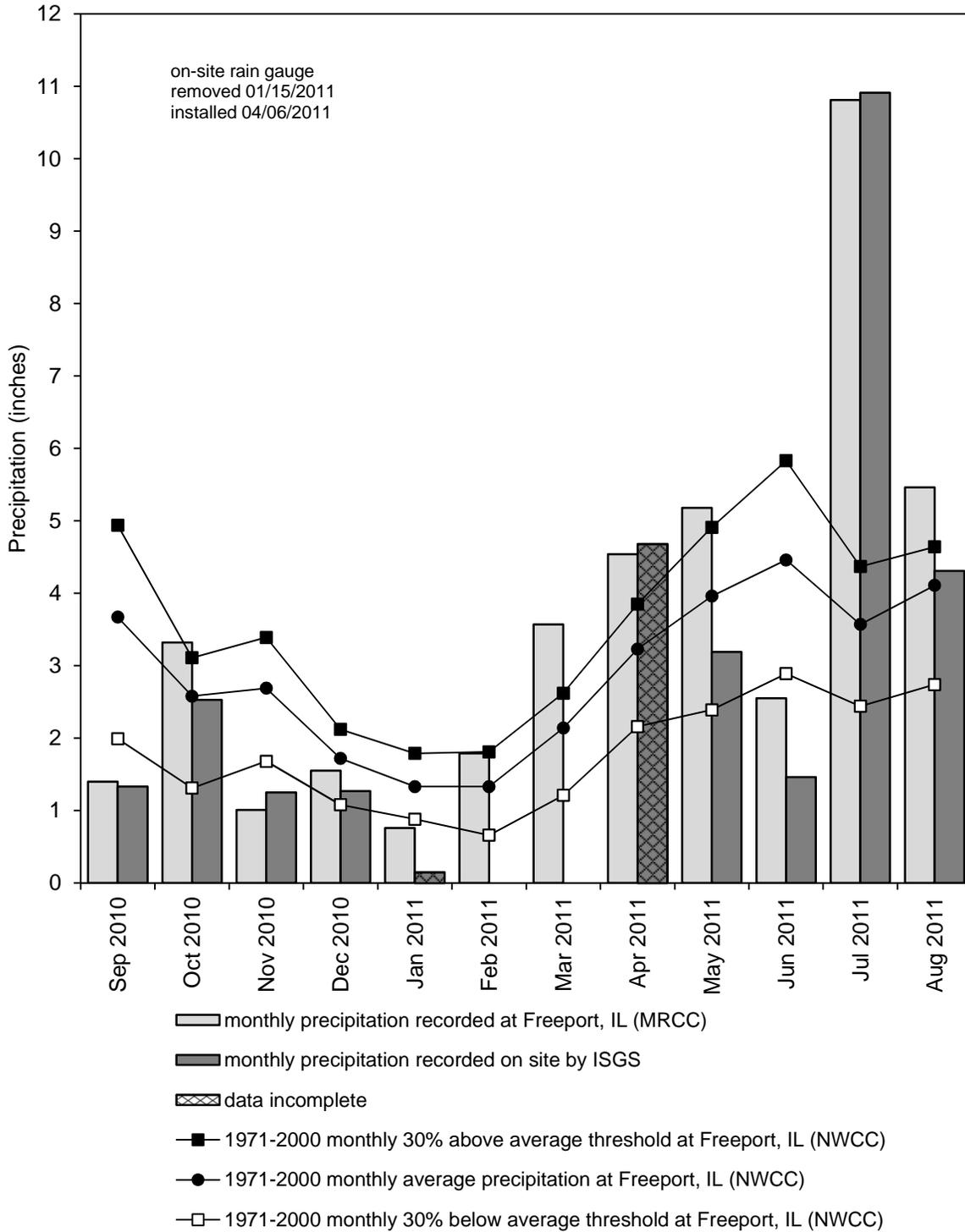
Freepoint Bypass West Wetland Mitigation Site 6W September 1, 2010 through August 31, 2011

Water-Level Elevations at Staff Gauges and Data Loggers



Freeport Bypass West Wetland Mitigation Site 6W September 2010 through August 2011

**Total Monthly Precipitation Recorded on Site and at
the Freeport Wastewater Plant, IL**



Graph last updated 10/31/2011