

**GREEN CREEK
WETLAND MITIGATION SITE**

ISGS #75

IL 32/33

FAP 774

Sequence #12505

Effingham County, near Effingham, Illinois

Primary Project Manager: Eric T. Plankell

Secondary Project Manager: not assigned

SITE HISTORY

- September 2006: ISGS submitted a Level II hydrogeologic characterization report to IDOT (ISGS Open-File Series 2006–03).
- June 2007: Construction at the wetland mitigation site was completed.
- May 2010: Well 9S was replaced and well 15S was added.

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 2.4 ha (6.0 ac) out of a total site area of approximately 4.1 ha (10.0 ac). The area that satisfied wetland hydrology criteria for greater than 12.5% of the 2010 growing season is estimated to be 1.5 ha (3.8 ac). Using the 2010 Midwest Region supplement (U.S. Army Corps of Engineers 2010) to the 1987 Manual, it is estimated that 1.5 ha (3.8 ac) also 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 nearby Effingham, Illinois, is April 6, and the season lasts 210 days; 5% of the growing season is 11 days, and 12.5% of the growing season is 26 days. According to methods outlined in the 2010 Midwest Region supplement, it is estimated that March 15 was the starting date of the 2010 growing season based on vegetation growth and development observed at the site.
- Regional precipitation for the monitoring period, as recorded in Effingham, Illinois, was 127% of normal, and was 94% of normal for the period March through May 2010.
- In 2010, water levels measured in all monitoring wells satisfied wetland hydrology criteria for greater than 5% of the growing season. Water levels measured in wells 3S, 4S, 11SR, 12SR, 13S, and 14S satisfied wetland hydrology criteria for greater than 12.5% of the growing season. According to the 2010 Midwest Region supplement, wells 3S, 4S, 11SR, 12SR, 13S, and 14S satisfied wetland hydrology criteria for 14 or more consecutive days of the growing season.
- Surface-water inundation was observed for greater than 5% of the growing season on both sides of the main north–south ditch. Water-level records for gauge B indicated inundation west of the main ditch at or above 160.53 m (526.67 ft) for greater than 5% of the growing season, while water-level records for gauge E indicated inundation east of the main ditch at or above 160.92 m (527.95 ft) for greater than 5% of the growing season. No surface-water inundation was observed west of the main ditch for greater

than 12.5% of the growing season, while water-level records for gauge E indicated inundation east of the main ditch at or above 160.76 m (527.43 ft) for greater than 12.5% of the growing season. Based on the 2010 Midwest Region supplement, surface-water inundation west of the main ditch was not recorded for 14 or more consecutive days of the growing season. However, water-level records for gauge E indicated inundation east of the main ditch at or above 160.77 m (527.46 ft) for 14 or more consecutive days of the growing season.

- According to the data logger at gauge C, water levels in Green Creek reached an elevation sufficient to flood all or most of the site four times during the 2010 growing season. These events occurred on May 16, June 15, June 25, and July 13. However, the duration of these floods was not sufficient to satisfy any wetland hydrology criteria.

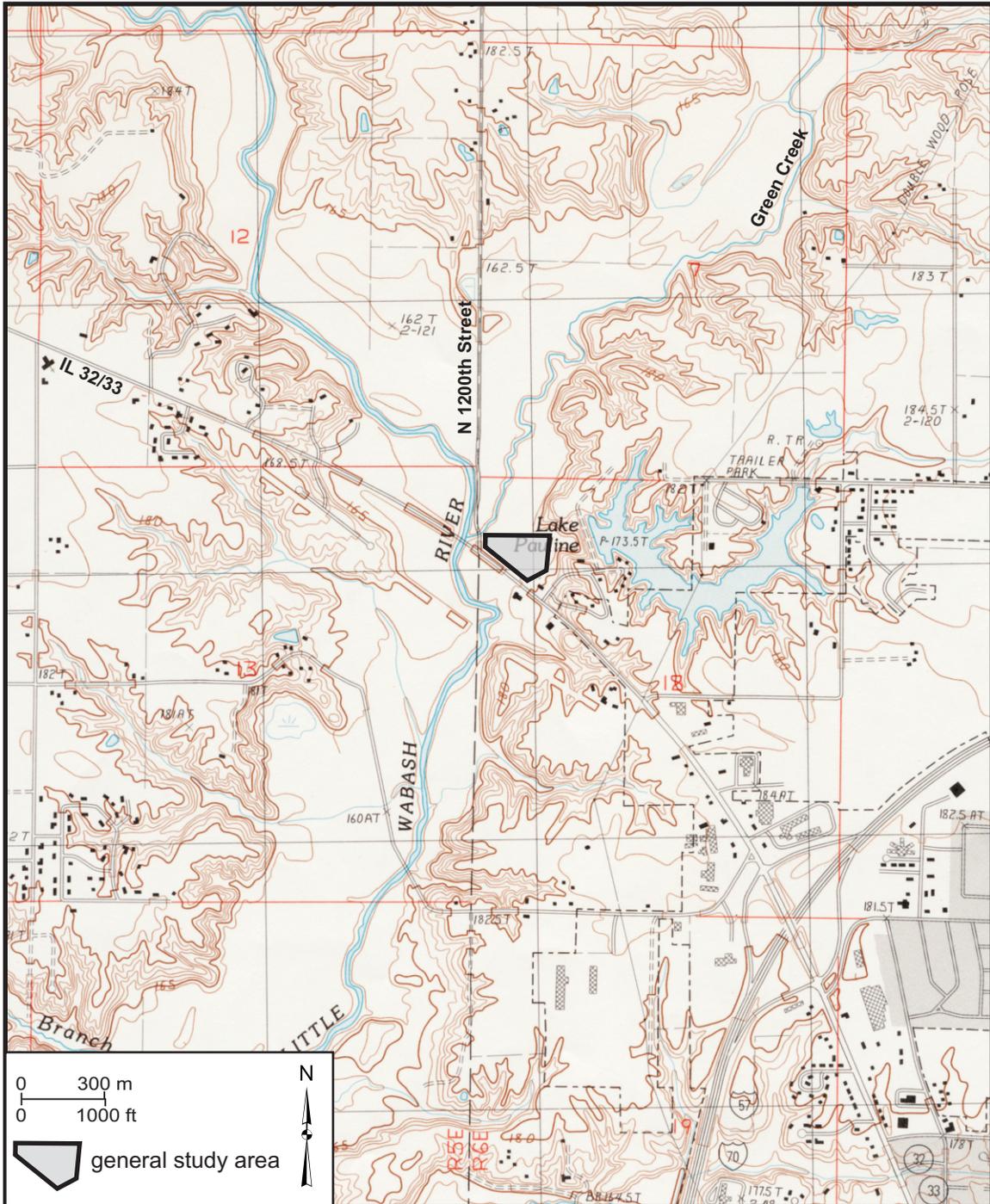
PLANNED FUTURE ACTIVITIES

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

Green Creek Wetland Mitigation Site (FAP 774 [IL 32/33])

General Study Area and Vicinity

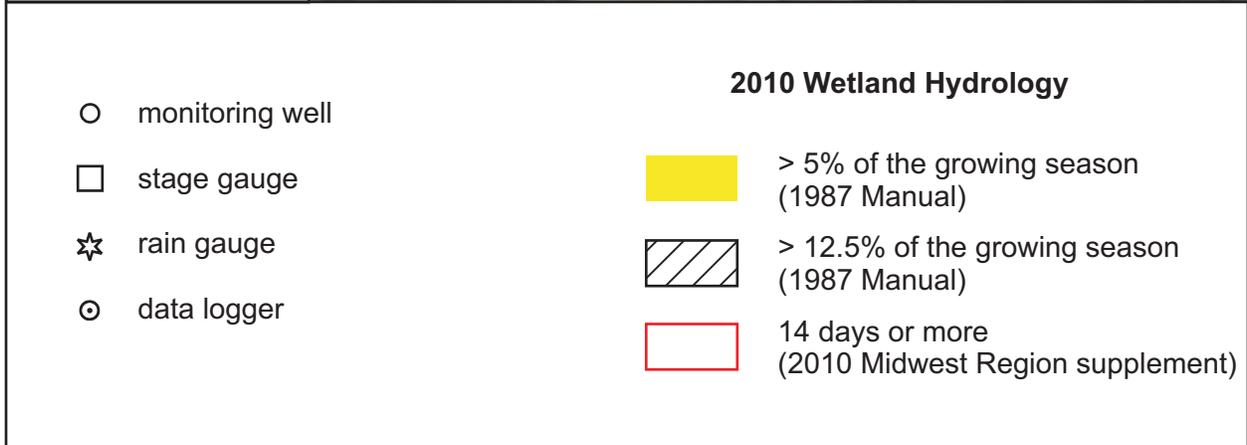
from the USGS Topographic Series, Effingham North, IL, 7.5-minute Quadrangle (USGS 1985)
contour interval is 3 m (10 ft)



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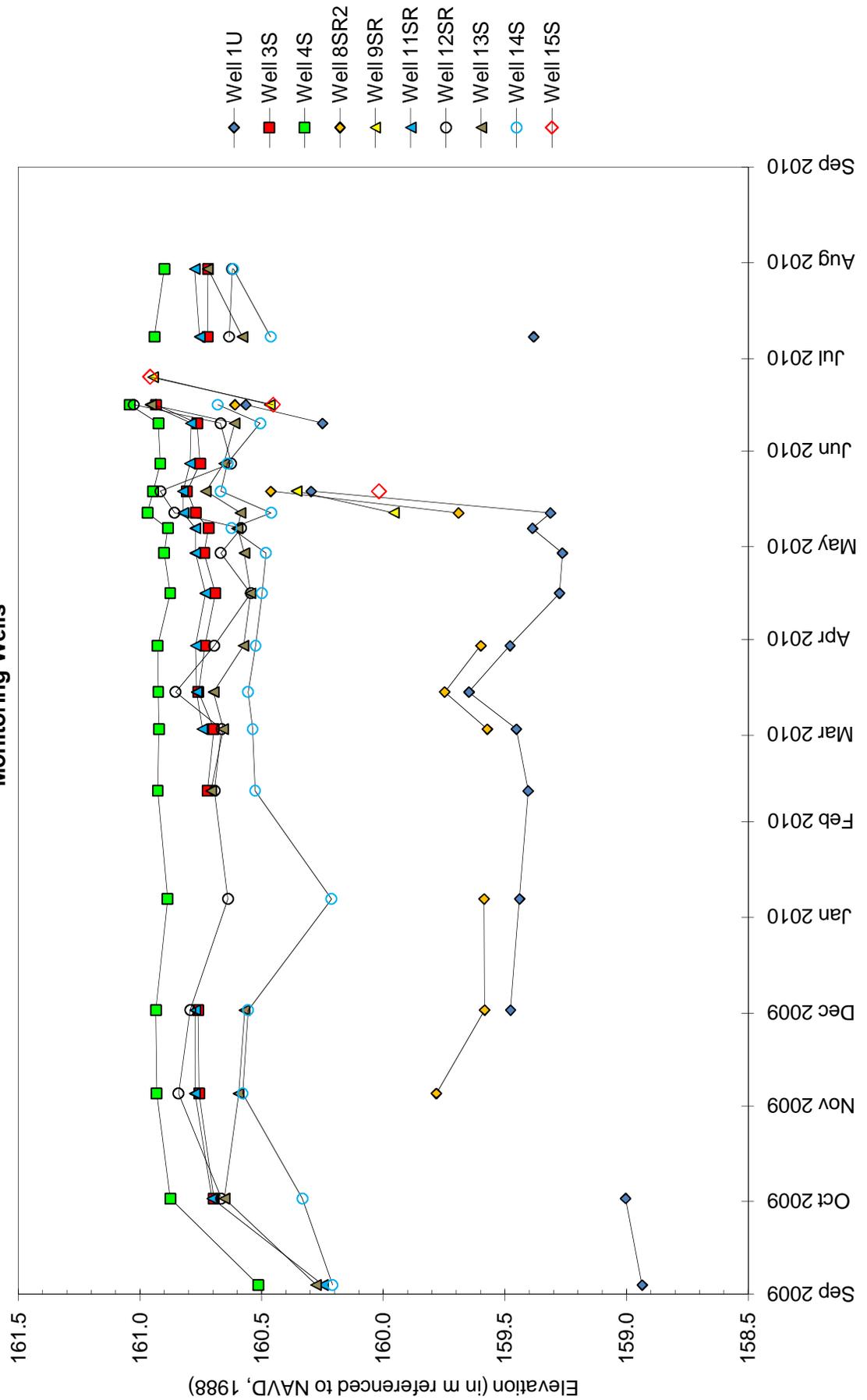
Estimated Areal Extent of 2010 Wetland Hydrology September 1, 2009 through August 31, 2010

Map based on USDA digital orthophotograph of Effingham County, Illinois,
produced for the National Agricultural Imagery Program (NAIP) (USDA 2007)

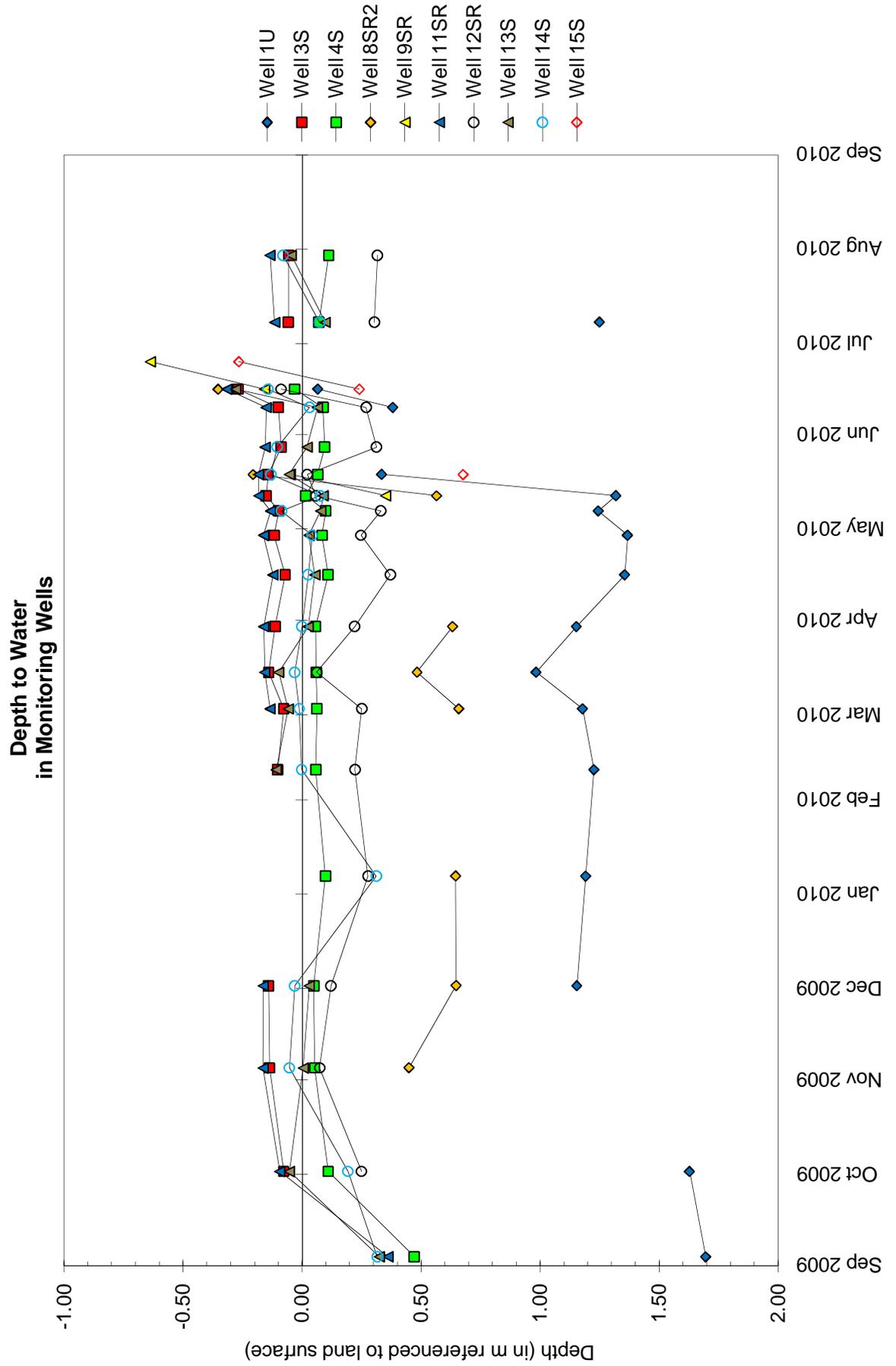


Green Creek Wetland Mitigation Site September 1, 2009 through August 31, 2010

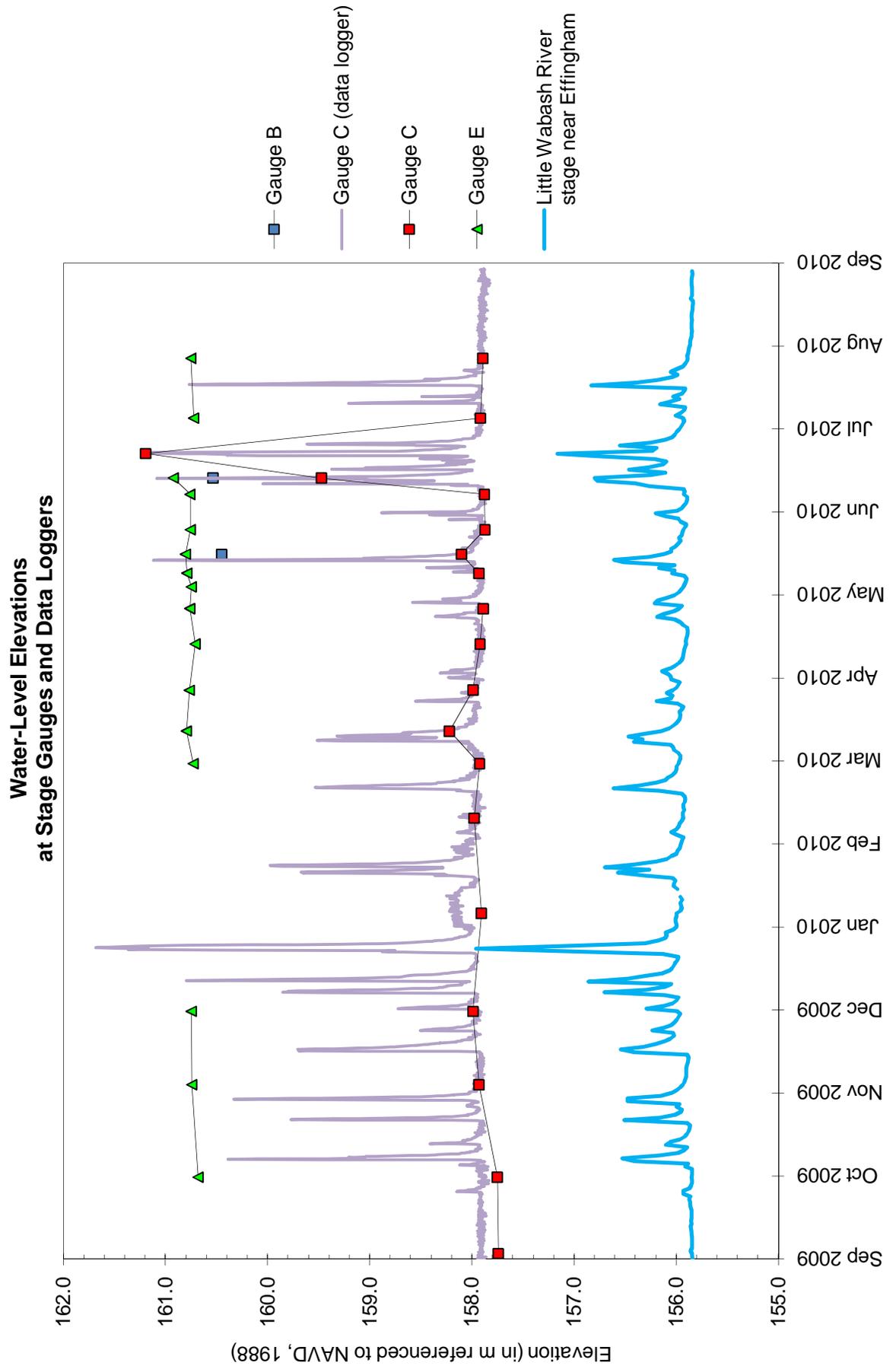
Water-Level Elevations in
Monitoring Wells



Green Creek Wetland Mitigation Site September 1, 2009 through August 31, 2010

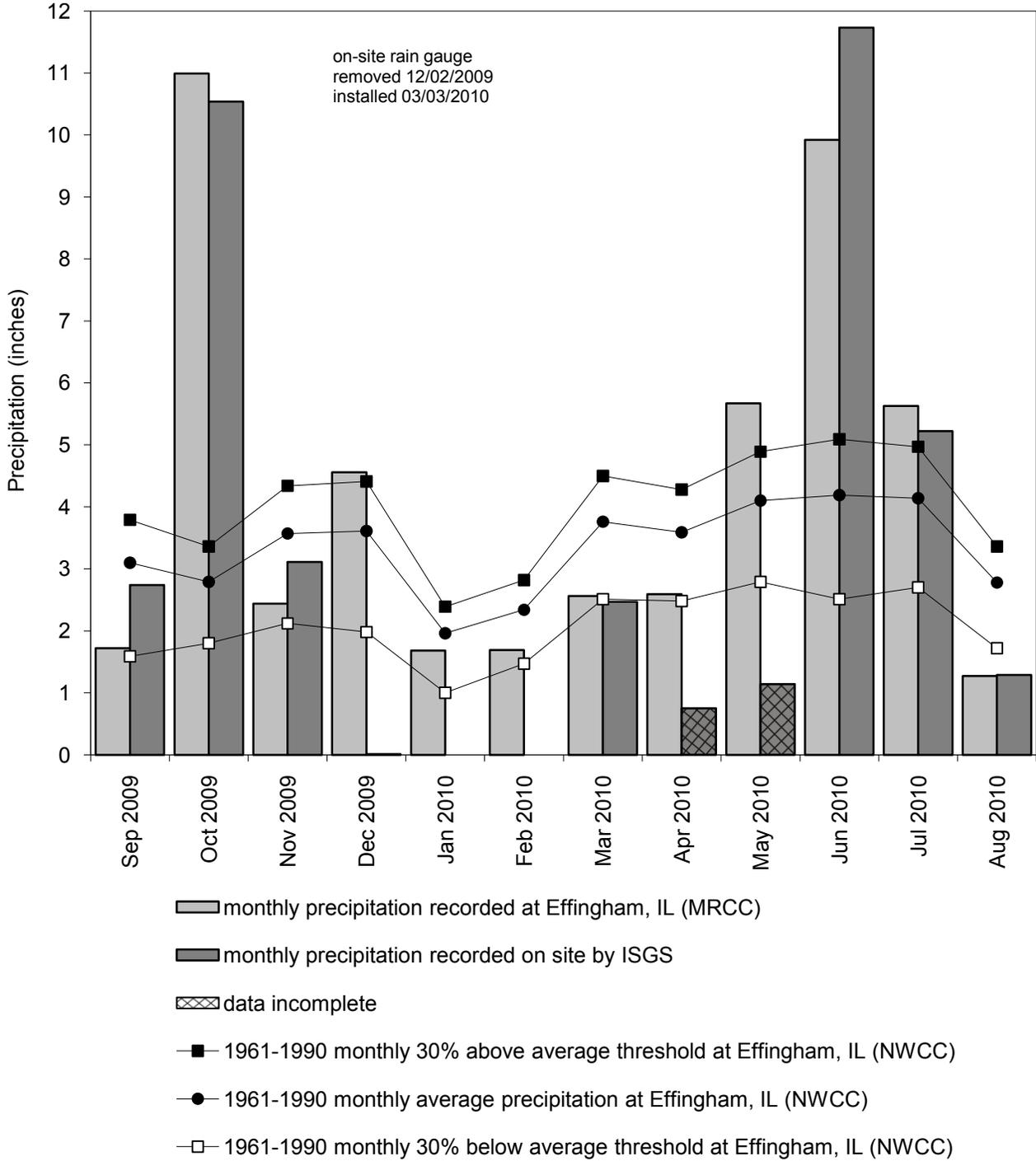


Green Creek Wetland Mitigation Site September 1, 2009 through August 31, 2010



Green Creek Wetland Mitigation Site September 2009 through August 2010

Total Monthly Precipitation Recorded on Site and at Effingham, IL



Graph last updated September 29, 2010