

**GREEN CREEK
WETLAND COMPENSATION SITE**

ISGS #75

FAP 774

Sequence #12505

Effingham County, near Effingham, Illinois

Primary Project Manager: Eric T. Plankell

Secondary Project Manager: not assigned

SITE HISTORY

- August 2005: ISGS submitted an initial site evaluation report to IDOT.
- March 2006: ISGS submitted a conceptual design plan to IDOT.
- September 2006: A Level II hydrogeological characterization report was submitted to IDOT (ISGS Open-File Series 2006–03).
- June 2007: Construction at the wetland compensation site was completed.

WETLAND HYDROLOGY CALCULATION FOR 2008

The area of the site that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the 2008 growing season was estimated to be 1.6 ha (3.9 ac) out of a total site area of 4.1 ha (10.0 ac). The area that satisfied wetland hydrology criteria for greater than 12.5% of the 2008 growing season was estimated to be 1.4 ha (3.4 ac). These estimates were 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.
- Total precipitation during the monitoring period was 108% of normal. Above-normal precipitation from February through July helped sustain elevated water levels at the site throughout nearly the entire growing season to date.
- In 2008, ground-water levels measured in wells 3S, 4S, 10SR, 10VS, 11SR, 12SR, 13S, and 14S satisfied the wetland hydrology criteria for both 5% and 12.5% of the growing season. In addition, wells 8SR and 9S satisfied the wetland hydrology criteria for 5% of the growing season.
- Areas of inundation were observed for greater than 5% of the growing season on both sides of the main north–south ditch, while much of the eastern half of the site remained inundated for greater than 12.5% of the growing season. Water-level records for staff gauge B indicated inundation in the area west of the north–south ditch below approximately 160.41 m (526.28 ft) for greater than 5% of the growing season. Water-level records for staff gauge ER indicated inundation in the area east of the north–south ditch below approximately 160.73 m (527.33 ft) for greater than both 5% and 12.5% of the growing season. According to the surface-water gauge in Green Creek, water levels in Green Creek reached an elevation sufficient to flood the site at least six separate times in 2008: three times preceding the growing season, and three times during the growing season.

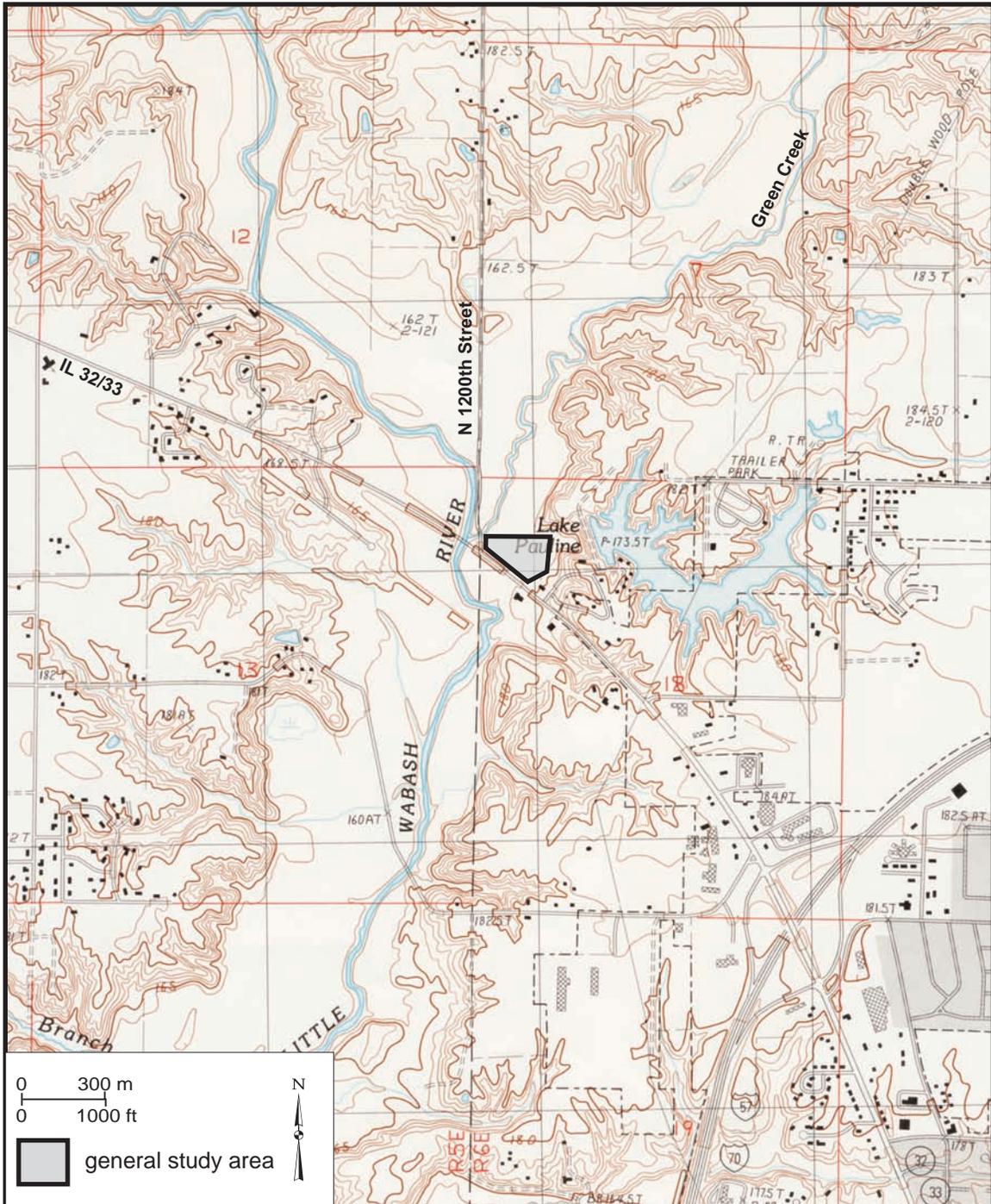
PLANNED FUTURE ACTIVITIES

- The ISGS will continue to monitor the Green Creek Wetland Compensation Site until no longer required by IDOT.

Green Creek Wetland Compensation Site (FAP 774, IL 32/33, Sequence #12505)

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)

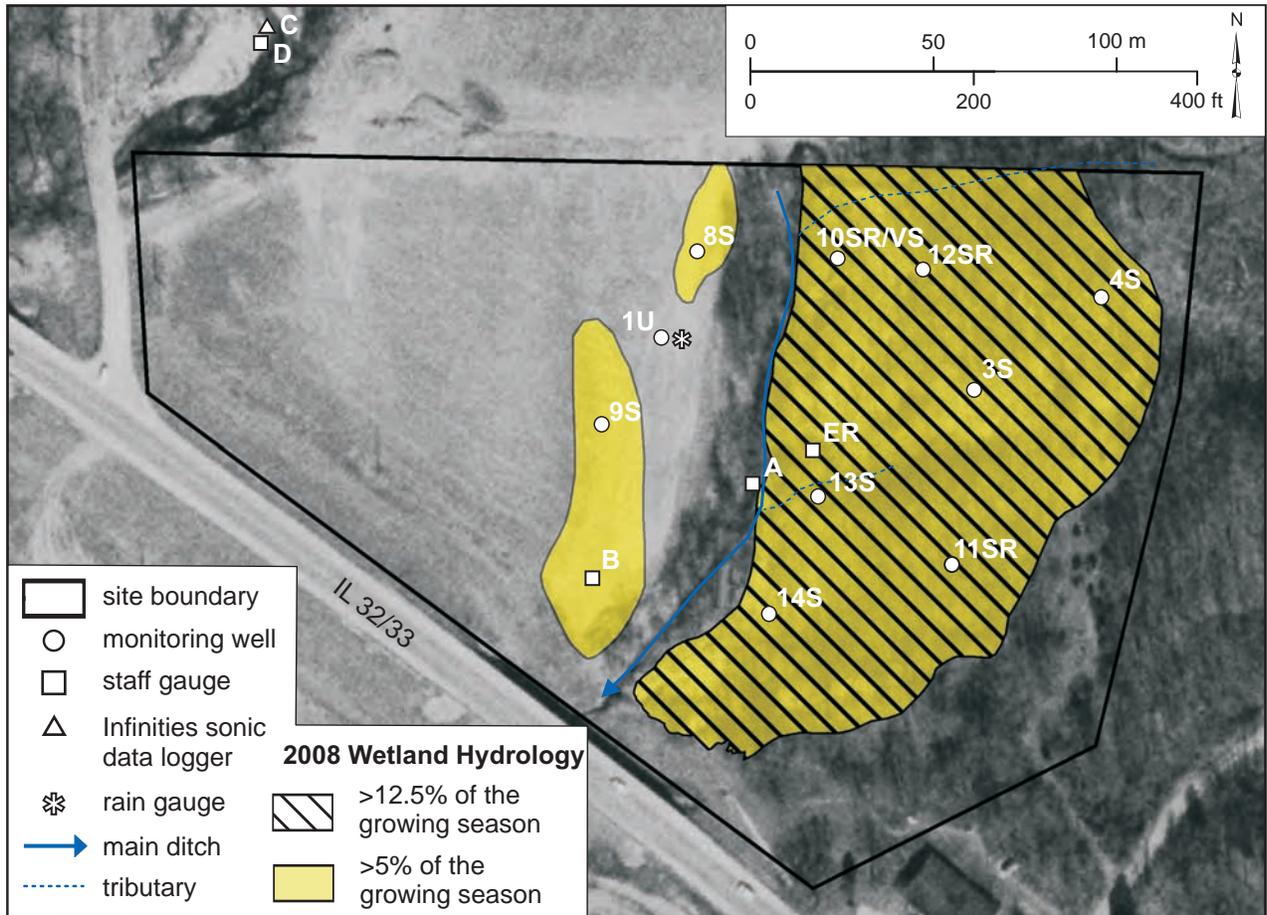


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Estimated Areal Extent of 2008 Wetland Hydrology

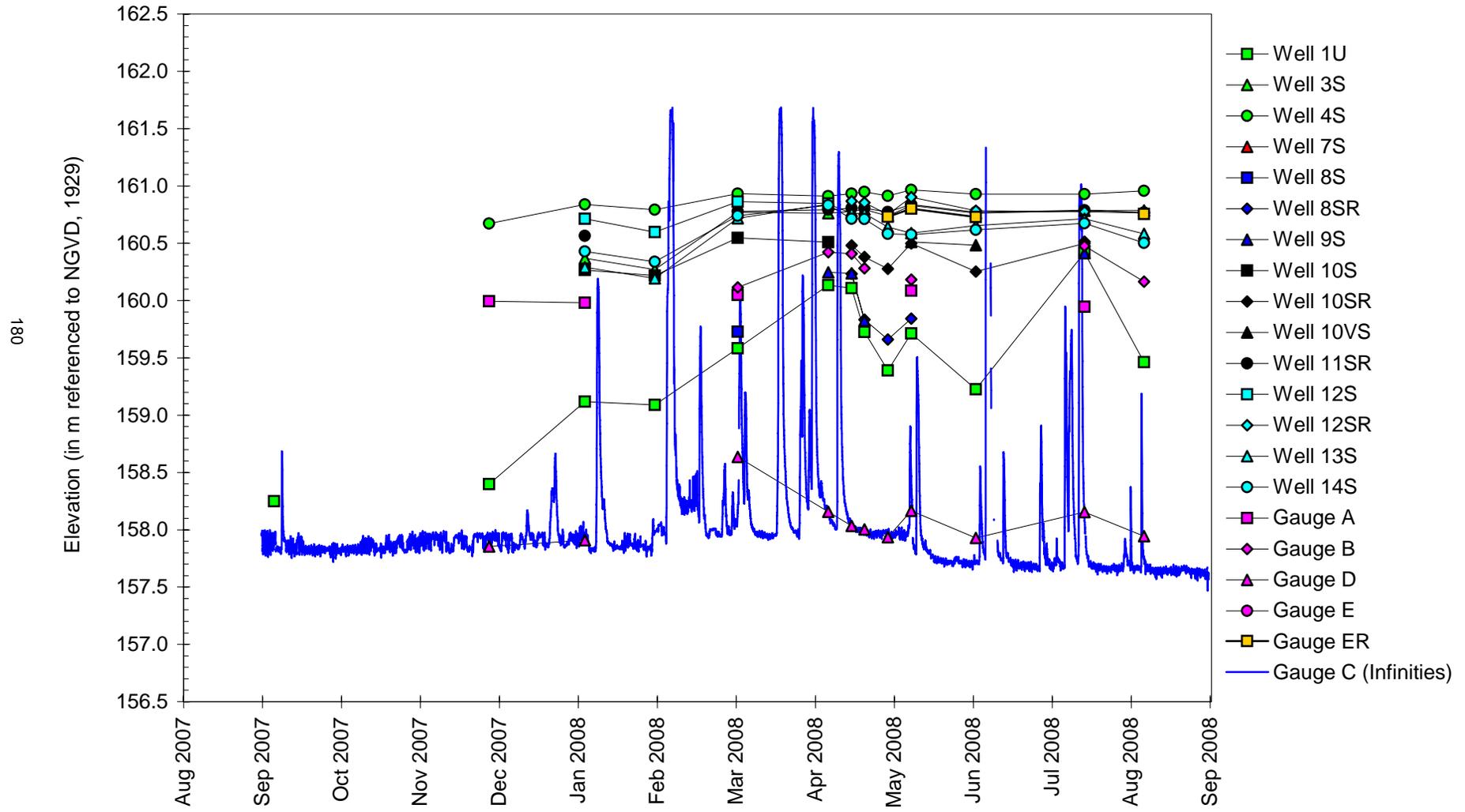
based on data collected between September 1, 2007 and September 1, 2008

Map based on USGS digital orthophotograph, Effingham North SW quarter quadrangle
produced from 2005 aerial photography (ISGS 2006)



Green Creek Wetland Compensation Site September 1, 2007 to September 1, 2008

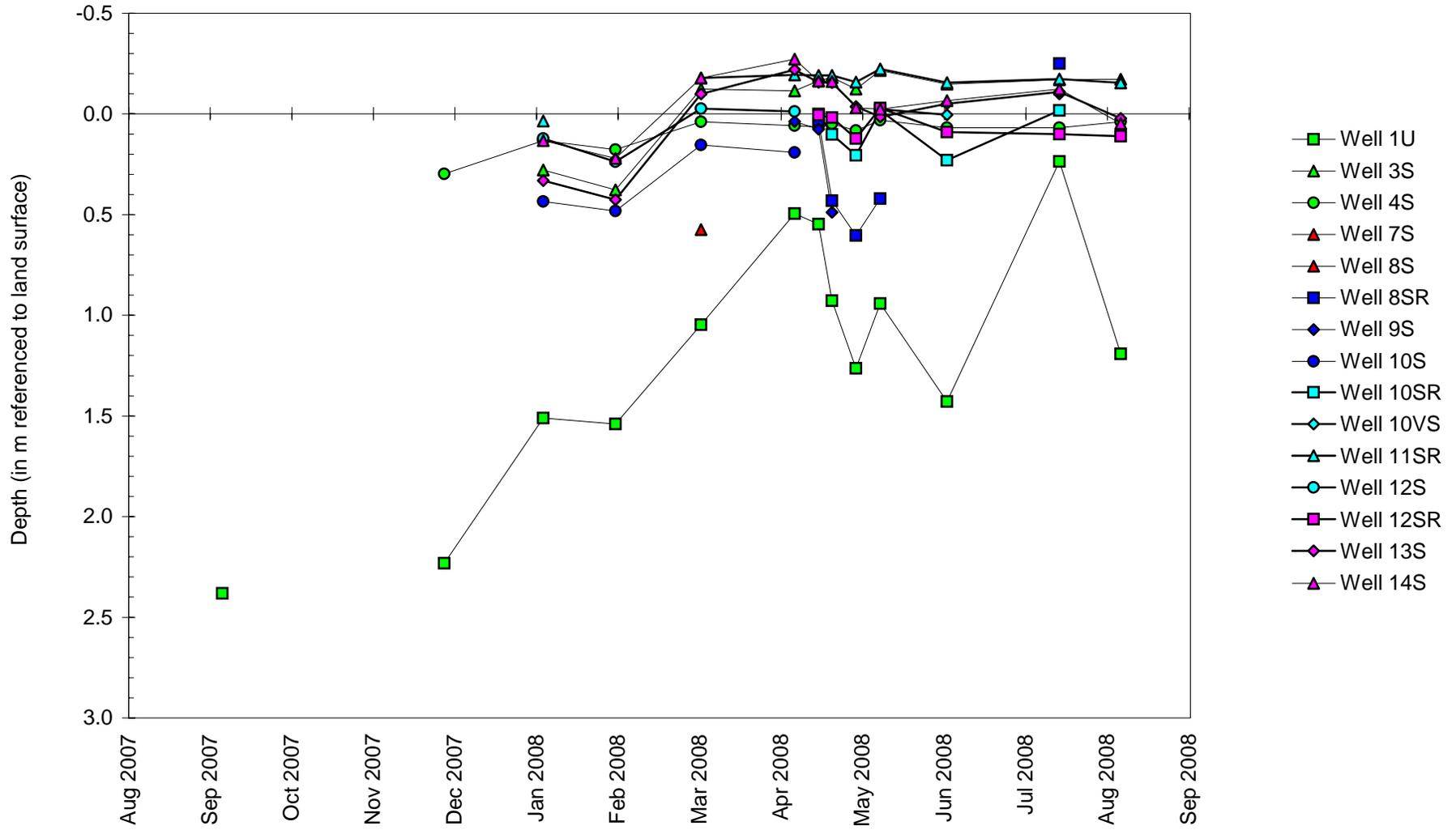
Water-Level Elevations



Green Creek Wetland Compensation Site

September 1, 2007 to September 1, 2008

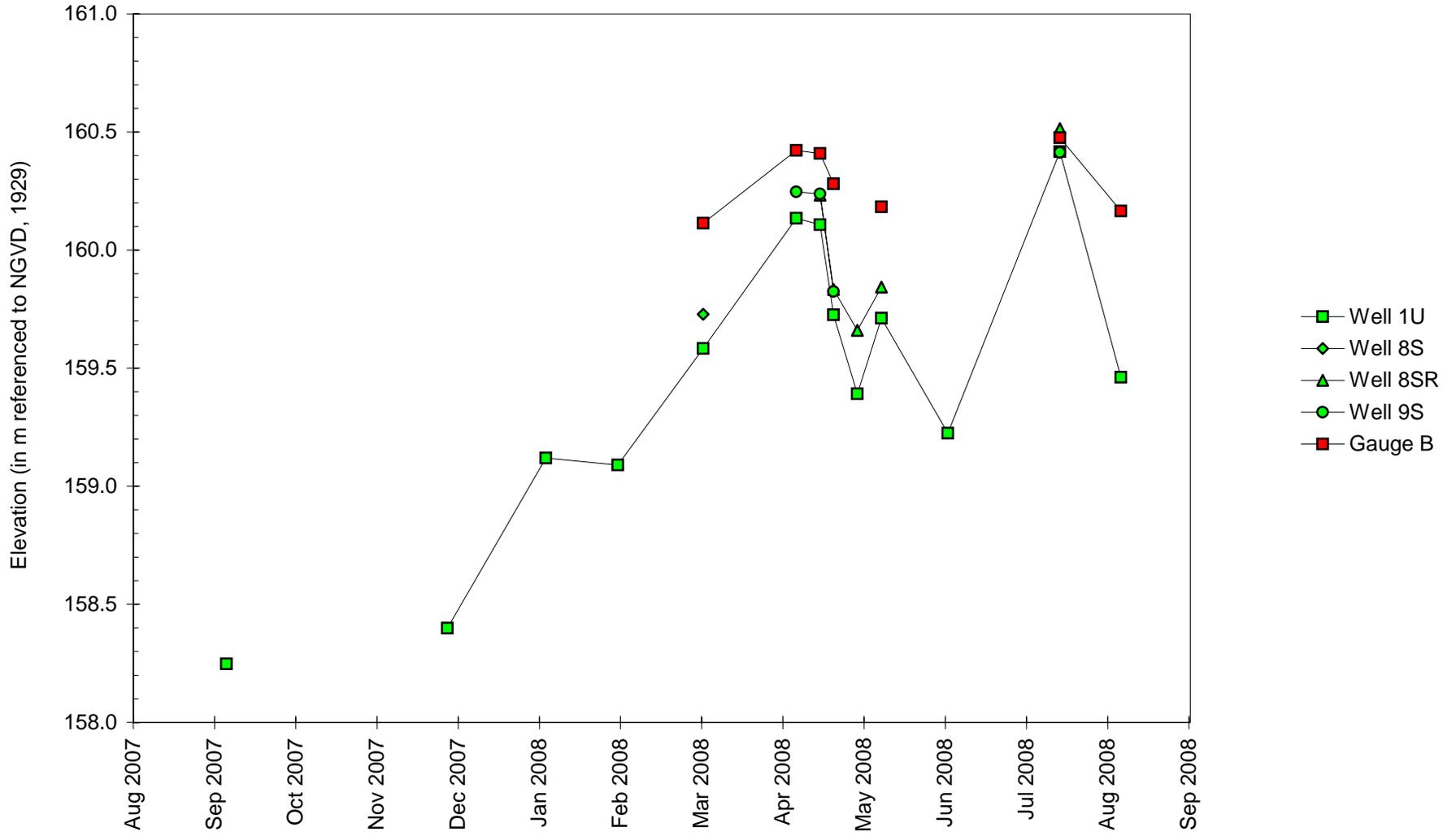
Depth to Water



Green Creek Wetland Compensation Site

September 1, 2007 to September 1, 2008

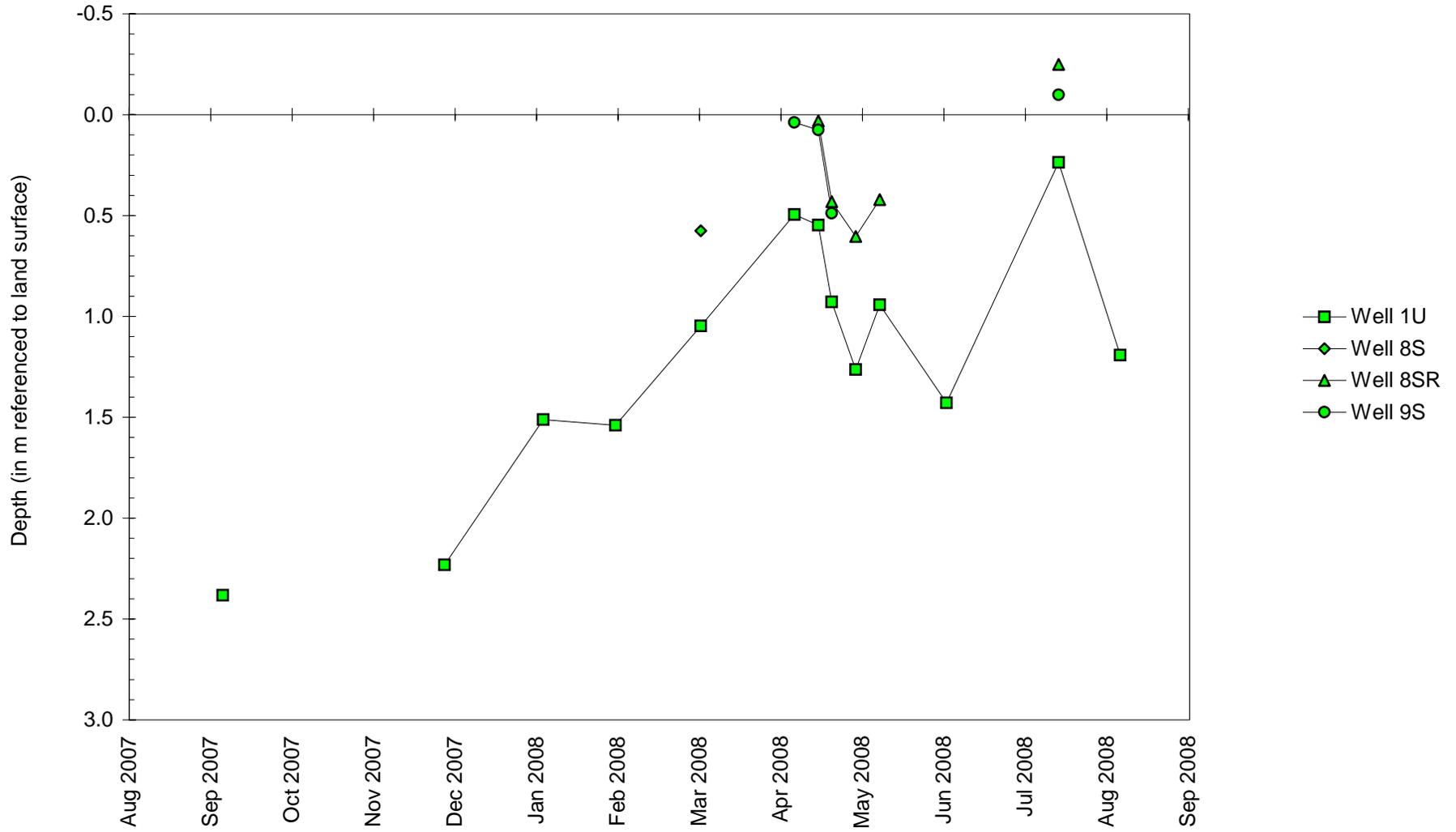
Water-Level Elevations on the West Side of the Site



Green Creek Wetland Compensation Site

September 1, 2007 to September 1, 2008

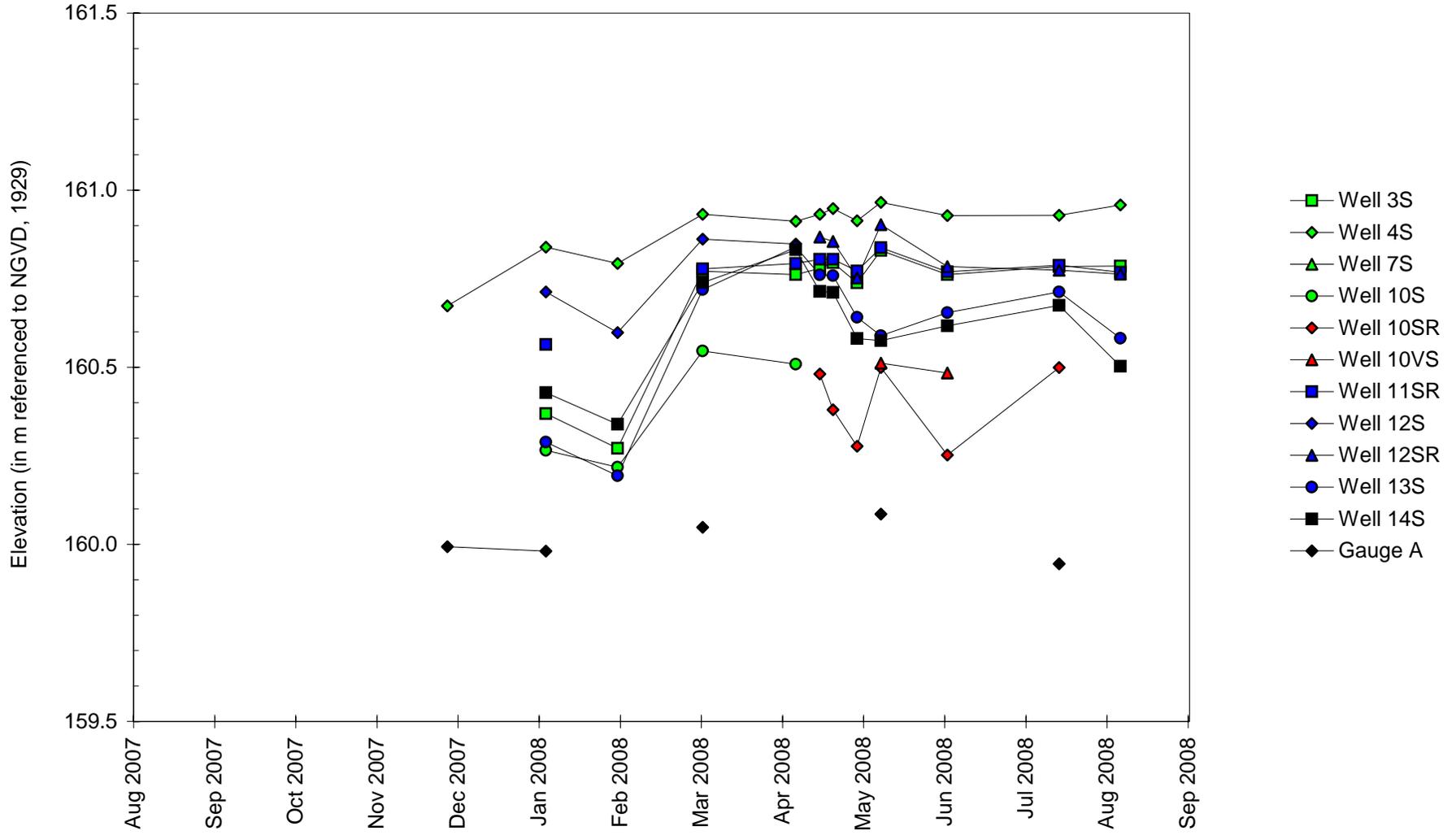
Depth to Water on the West Side of the Site



Green Creek Wetland Compensation Site

September 1, 2007 to September 1, 2008

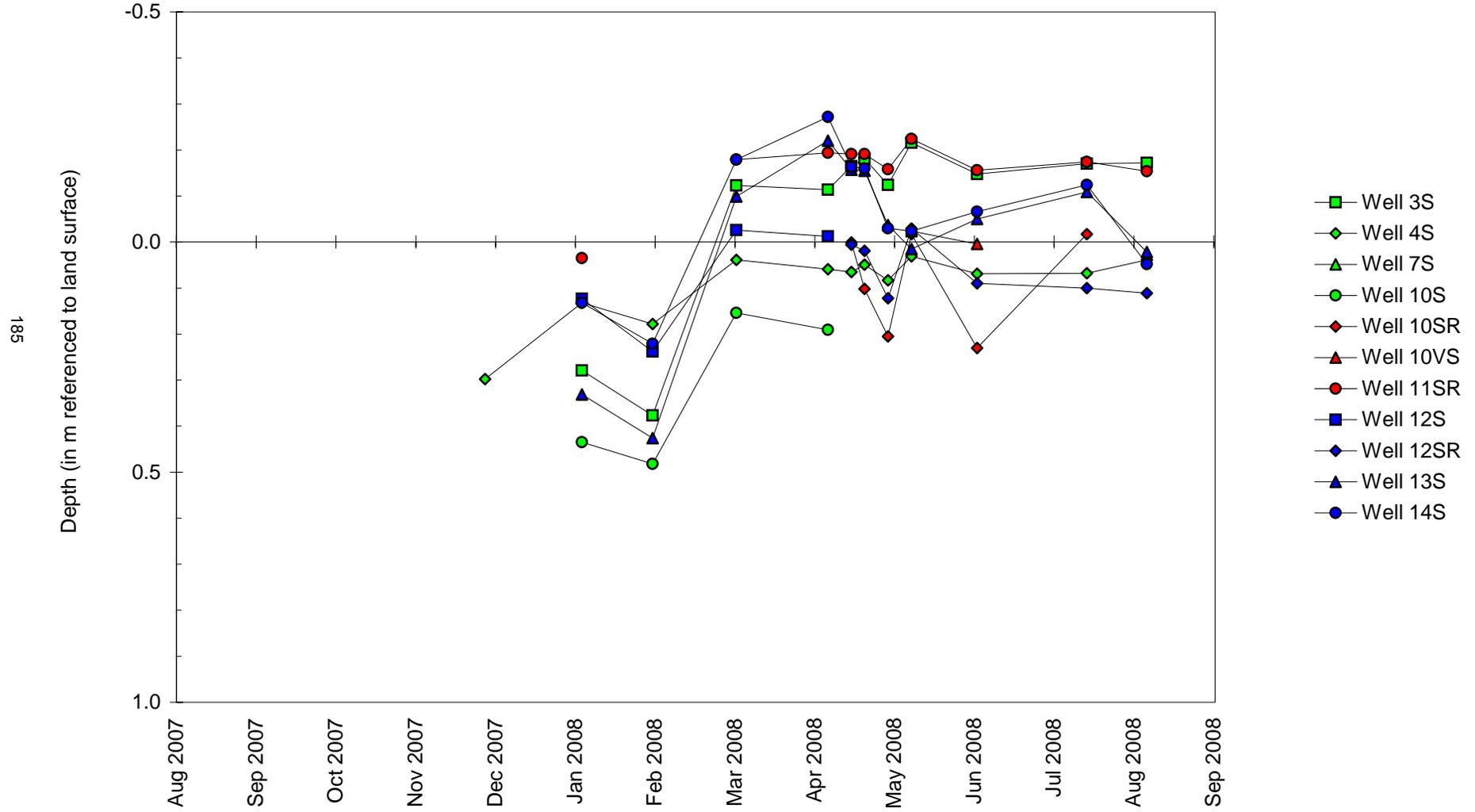
Water-Level Elevations on the East Side of the Site



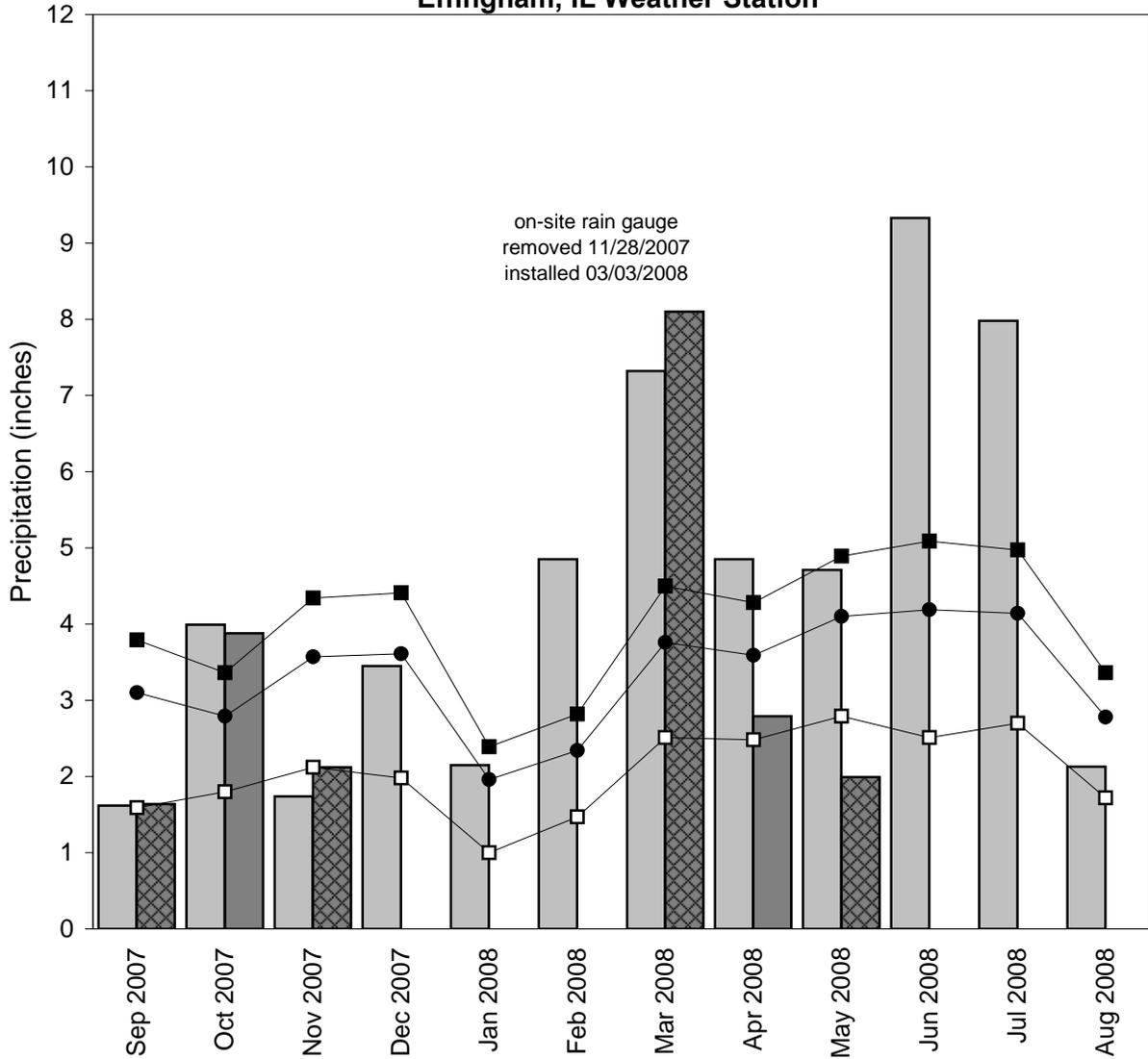
Green Creek Wetland Compensation Site

September 1, 2007 to September 1, 2008

Depth to Water on the East Side of the Site



**Green Creek Wetland Compensation Site
 September 2007 through August 2008
 Total Monthly Precipitation Recorded On Site and at the
 Effingham, IL Weather Station**



- monthly precipitation recorded at weather station (Midwestern Regional Climate Center)
- monthly precipitation recorded on site by ISGS
- 1961-1990 monthly 30% above average threshold (National Water and Climate Center)
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- 1961-1990 monthly 30% below average threshold (National Water and Climate Center)
- ▨ data incomplete

Graph last updated October 7, 2008