

**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

- 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.
- Summer 2009: Additional trees were planted at the site.

WETLAND HYDROLOGY CALCULATION FOR 2009

The area of the site that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the 2009 growing season was estimated to be 1.8 ha (4.4 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 2009 growing season was estimated to be 1.7 ha (4.2 ac). Using new guidance proposed by the U.S. Army Corps of Engineers (2008), we estimate that 1.8 ha (4.5 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 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 Midwest Regional Supplement (U.S. Army Corps of Engineers 2008), we estimate that March 10 was the starting date of the 2009 growing season based on vegetation growth and development observed at the wetland compensation site.
- Total precipitation during the monitoring period was 121% of normal. Above-normal precipitation in April and May 2009 helped sustain elevated water levels on the eastern half of the site into June.
- In 2009, water levels measured in all soil-zone (S) monitoring wells satisfied the wetland hydrology criteria for greater than 12.5% of the growing season.
- Surface-water inundation was observed for greater than 12.5% of the growing season on both sides of the main north–south ditch. Water-level records for staff gauge B indicated inundation in the western half of the site at or below approximately 160.30 m (525.92 ft) for greater than 5% of the growing season and for 14 or more consecutive days of the growing season; inundation at or below approximately 160.13 m (525.35 ft) was measured for greater than 12.5% of the growing season. Water-level records for staff gauge ER indicated inundation in the eastern half of the site at or below approximately 160.79 m (527.53 ft) for greater than 5% of the growing season and at or below approximately 160.64 m (527.50 ft) for 14 or more consecutive days of the

growing season; inundation at or below approximately 160.78 m (527.50 ft) was measured for greater than 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 entire site twice in 2009: once on February 11, and once on April 30.

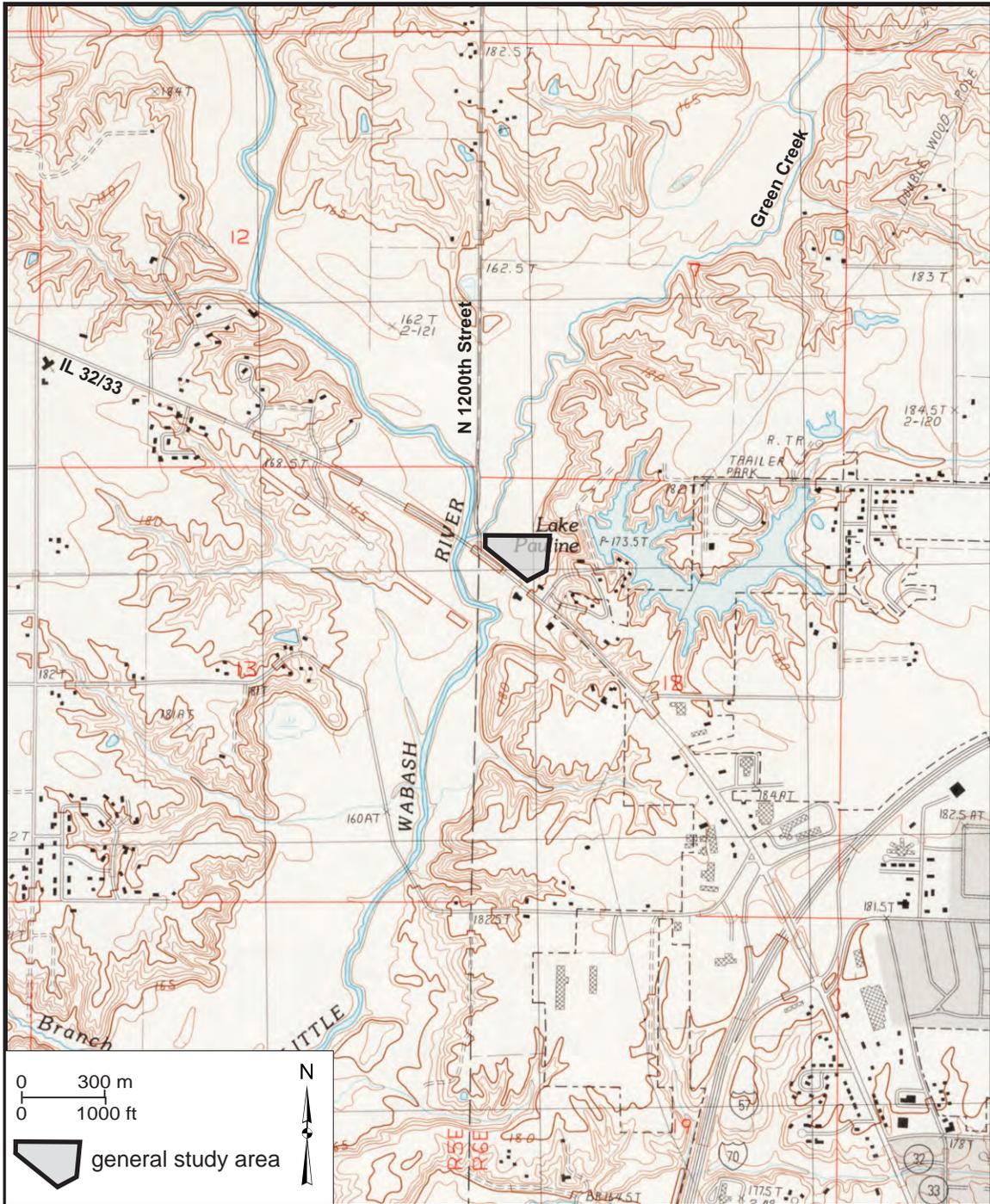
PLANNED FUTURE ACTIVITIES

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

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

General Study Area and Vicinity

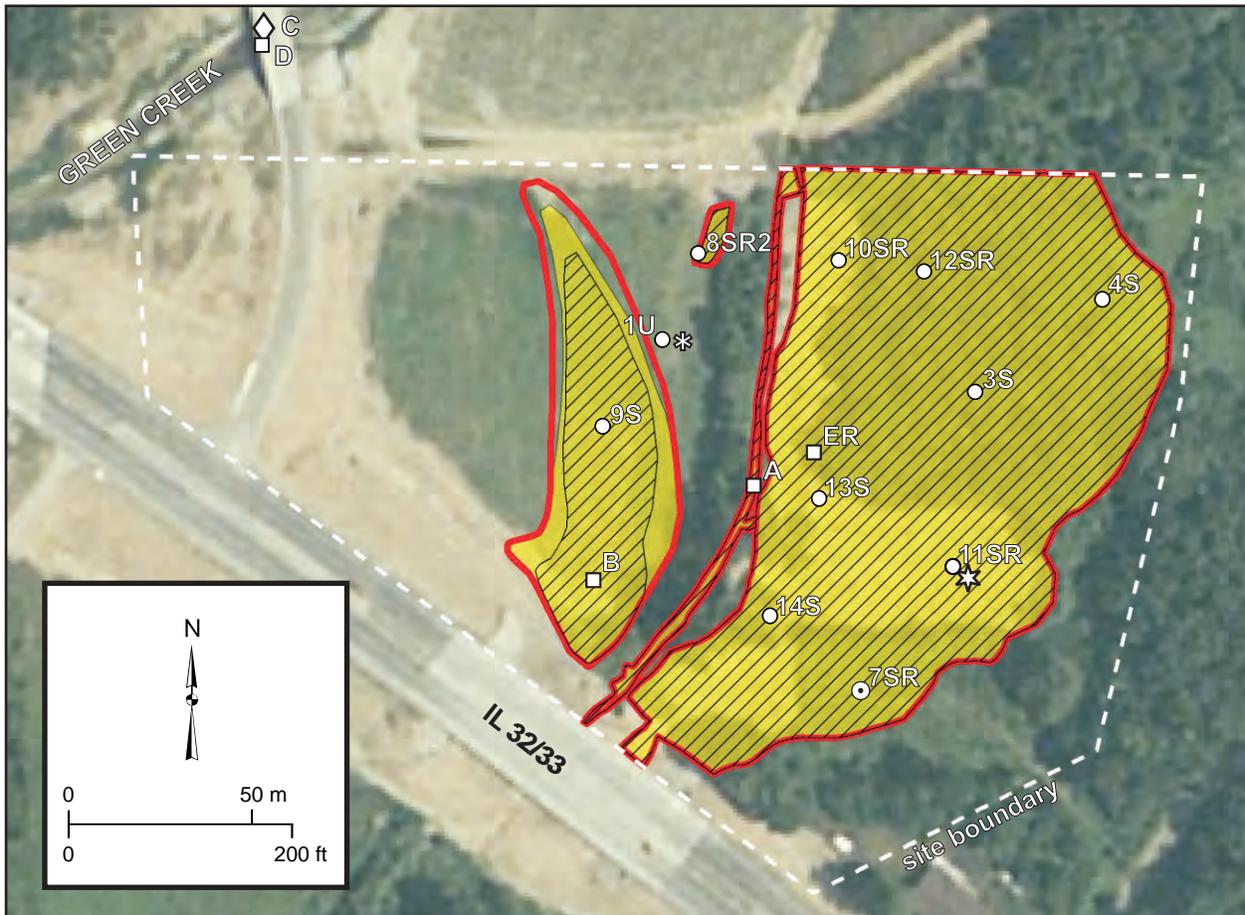
from the USGS Topographic Series, Effingham North, IL 7.5-minute Quadrangle (USGS 1985)
contour interval is 3 m (10 ft)



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**Estimated Areal Extent of 2009 Wetland Hydrology
September 1, 2008 through August 31, 2009**

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



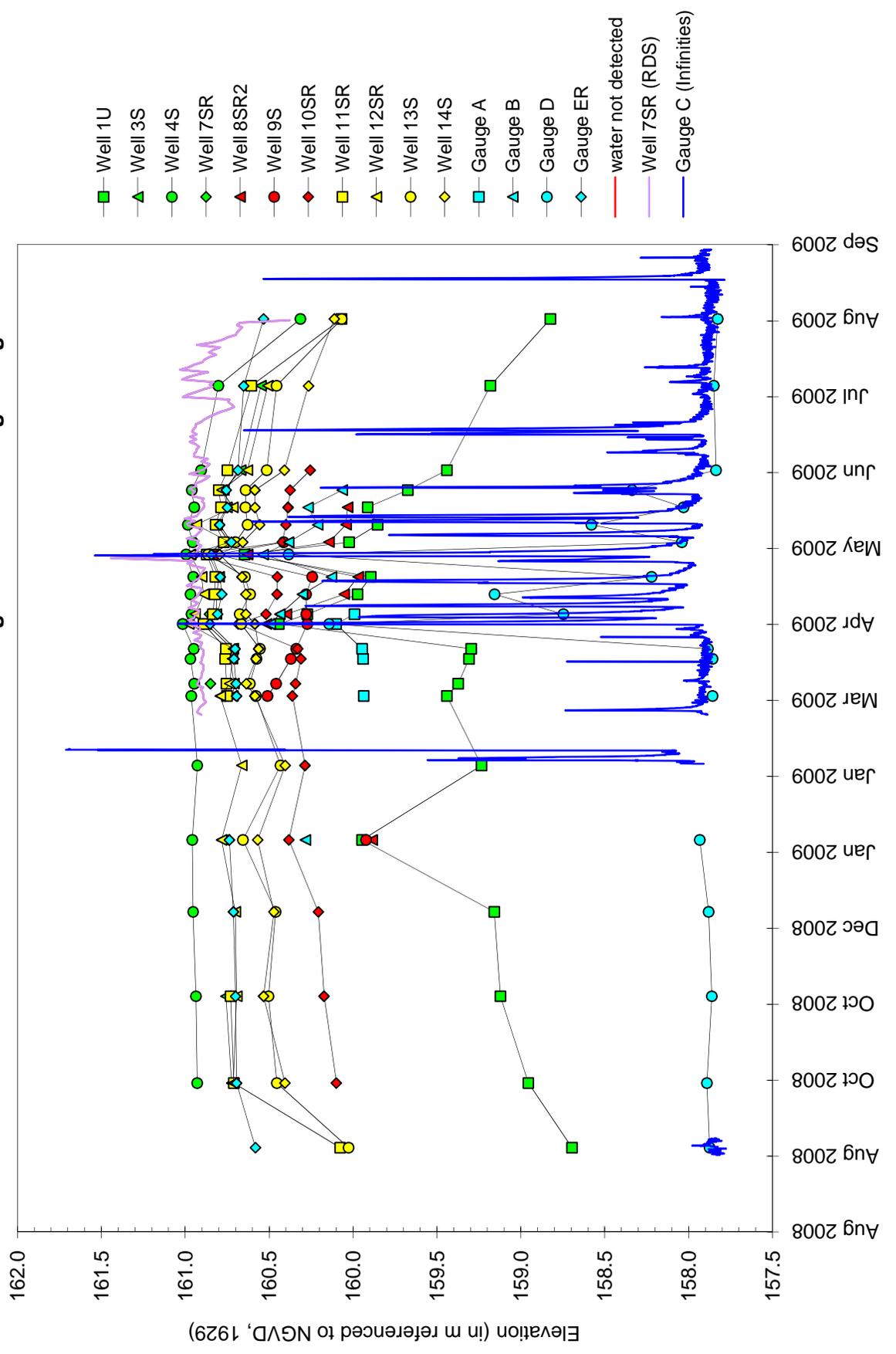
- ISGS monitoring well
- Staff gauge (4.0 ft)
- ⊙ RDS water-level data logger
- ★ Rain gauge
- ◇ Infinities sonic data logger

2009 Wetland Hydrology

- > 5% of the growing season (1987 Manual)
- > 12.5% of the growing season (1987 Manual)
- > 14 days (2008 Midwest Supplement)

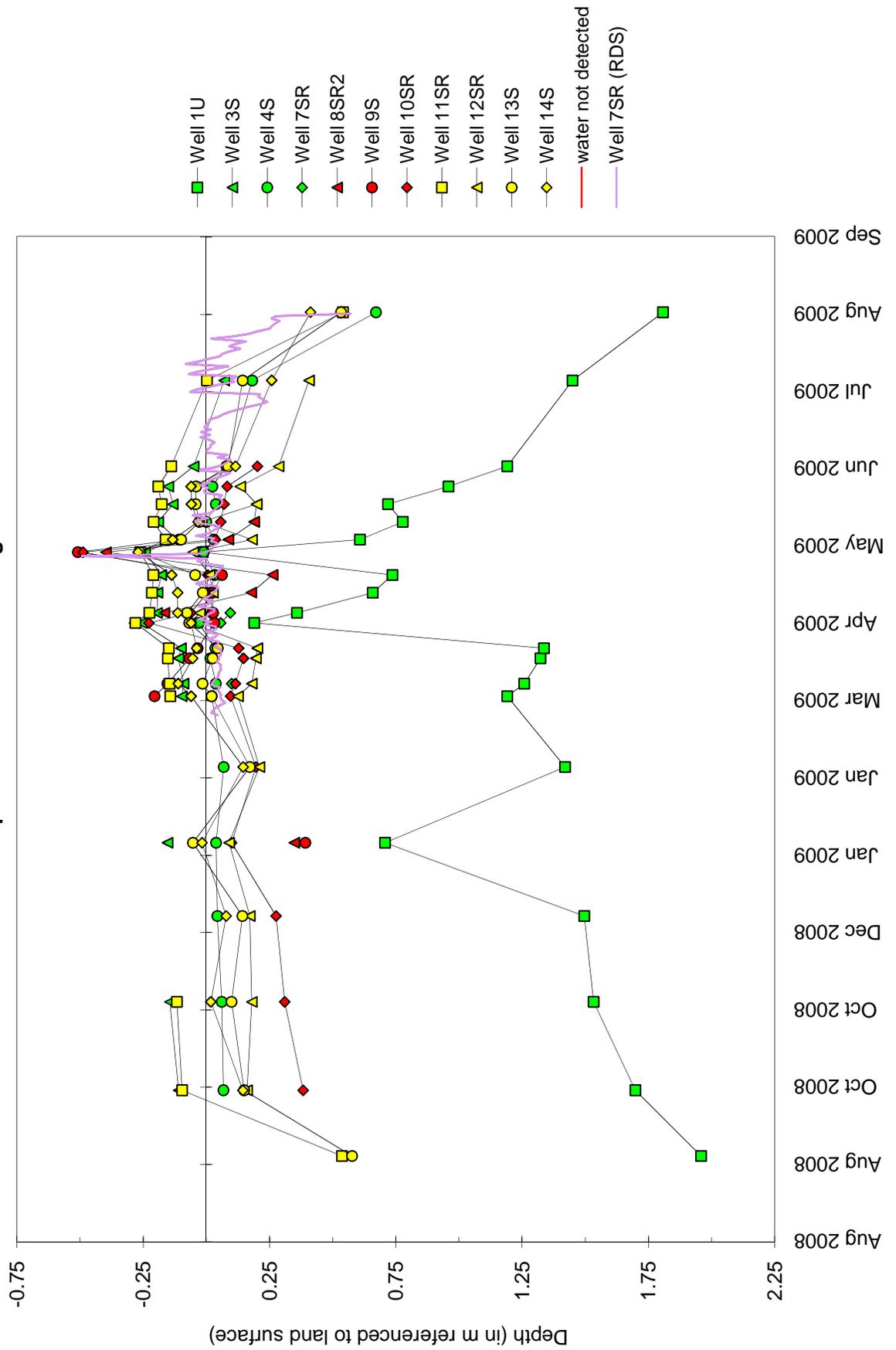
Green Creek Wetland Compensation Site September 1, 2008 through August 31, 2009

Water-Level Elevations in Monitoring Wells and on Stage Gauges



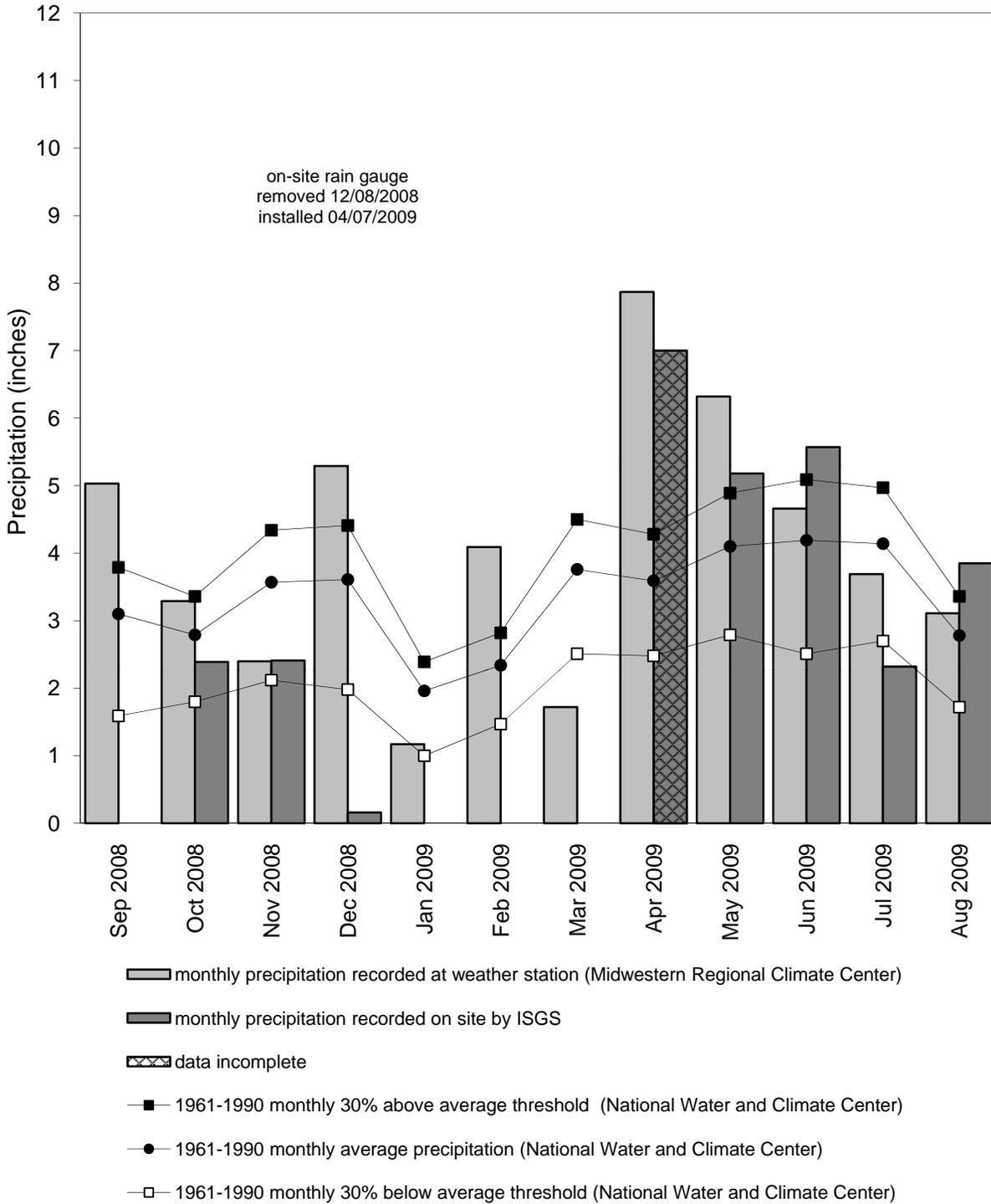
Green Creek Wetland Compensation Site September 1, 2008 through August 31, 2009

Depth to Water in Monitoring Wells



Green Creek Wetland Compensation Site September 2008 through August 2009

Total Monthly Precipitation Recorded On Site and at the Effingham, IL Weather Station



Graph last updated October 19, 2009