

**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.
- November 2007: Additional post-construction monitoring instruments were installed.

**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 2.0 ha (5.0 ac) out of a total site area of approximately 4.1 ha (10.0 ac), and the area that satisfied wetland hydrology criteria for greater than 12.5% of the 2011 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 2.0 ha (5.0 ac) also 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 nearby Effingham, Illinois, is April 6, and the season lasts 210 days (MRCC 2011). According to the 1987 Manual, 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 3 was the starting date of the 2011 growing season based on both vegetation growth and development observed and soil temperatures measured at the site.
- Total precipitation for the monitoring period, as recorded in Effingham, Illinois, was 120% of normal, and was 142% of normal for the period March through May 2011.
- In 2011, water levels measured in monitoring wells 1U, 3S, 4S, 8SR2, 11SR, 12SR, and 14S satisfied wetland hydrology criteria for greater than 5% of the growing season, and water levels measured in wells 3S, 4S, 11SR, and 12SR 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, wells 3S, 4S, 8SR2, 9SR, 11SR, 12SR, 13S, and 14S satisfied wetland hydrology criteria for 14 or more consecutive days of the growing season. Wells 9SR, 13S, and 14S were damaged during spring flooding at the site and thus could not be evaluated for the entire 2011 growing season.
- Water-level records for Gauge B indicated inundation west of the main ditch at or above 160.46 m (526.44 ft) for greater than 5% of the growing season, but not greater than

12.5% of the growing season, according to the 1987 Manual. Based on the 2010 Midwest Region Supplement, surface-water inundation west of the main ditch was recorded at Gauge B at or above 160.46 m (526.44 ft) for 14 or more consecutive days of the growing season. Additionally, water-level records for Gauge ER indicated inundation east of the main ditch at or above 160.80 m (527.56 ft) for 14 or more consecutive days of the growing season, according to the 2010 Midwest Region Supplement. Gauge ER was damaged during spring flooding at the site and thus could not be evaluated using the 1987 Manual.

- 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 2011 growing season. These events occurred on March 5, April 20, April 28, and June 19. The two floods occurring in April resulted in the areas west of the main ditch that satisfied wetland hydrology criteria for greater than 5% of the growing season, according to the 1987 Manual.

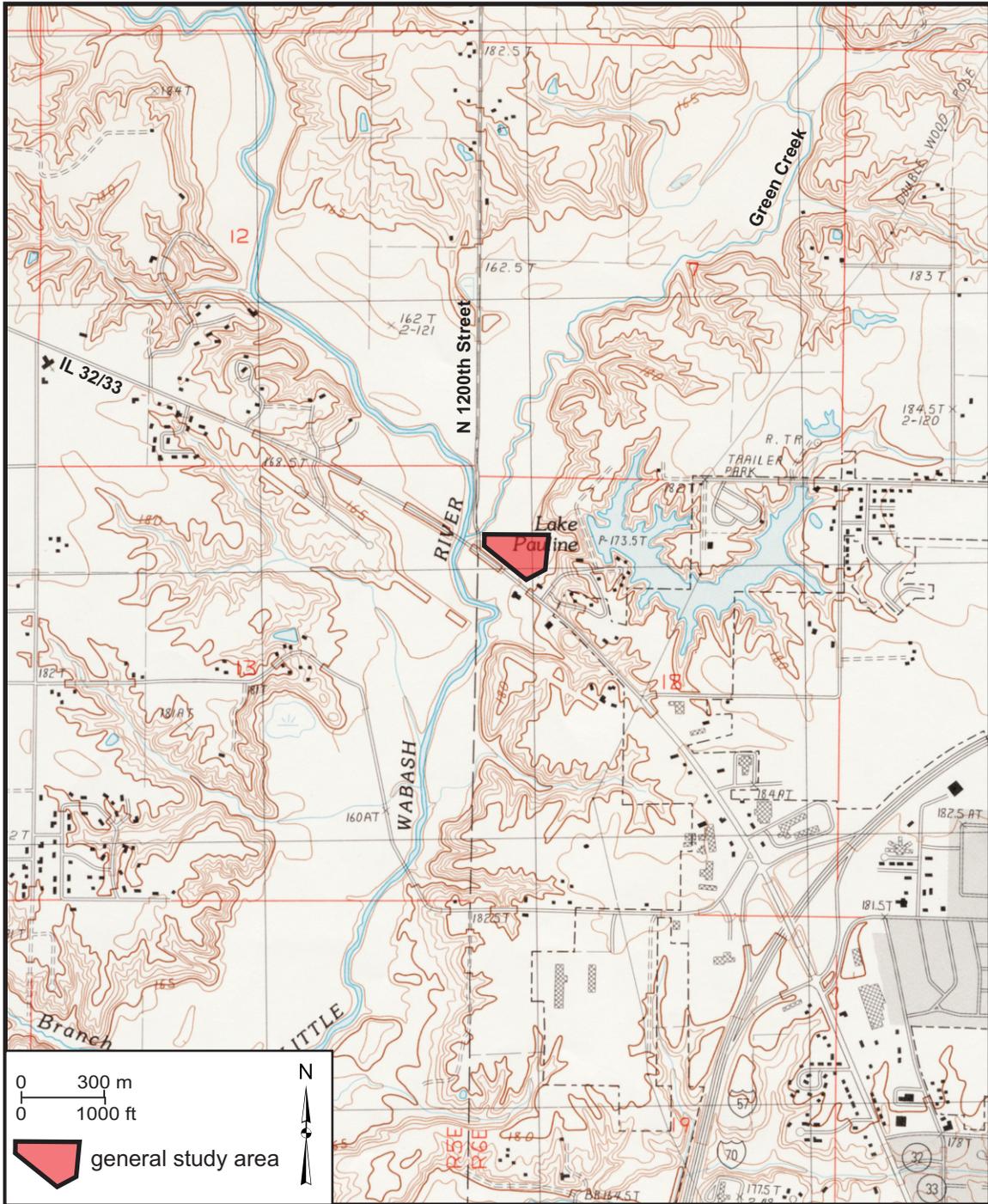
#### PLANNED FUTURE ACTIVITIES

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

# Green Creek Wetland Mitigation Site (IL 32/33, FAP 774)

## General Study Area and Vicinity

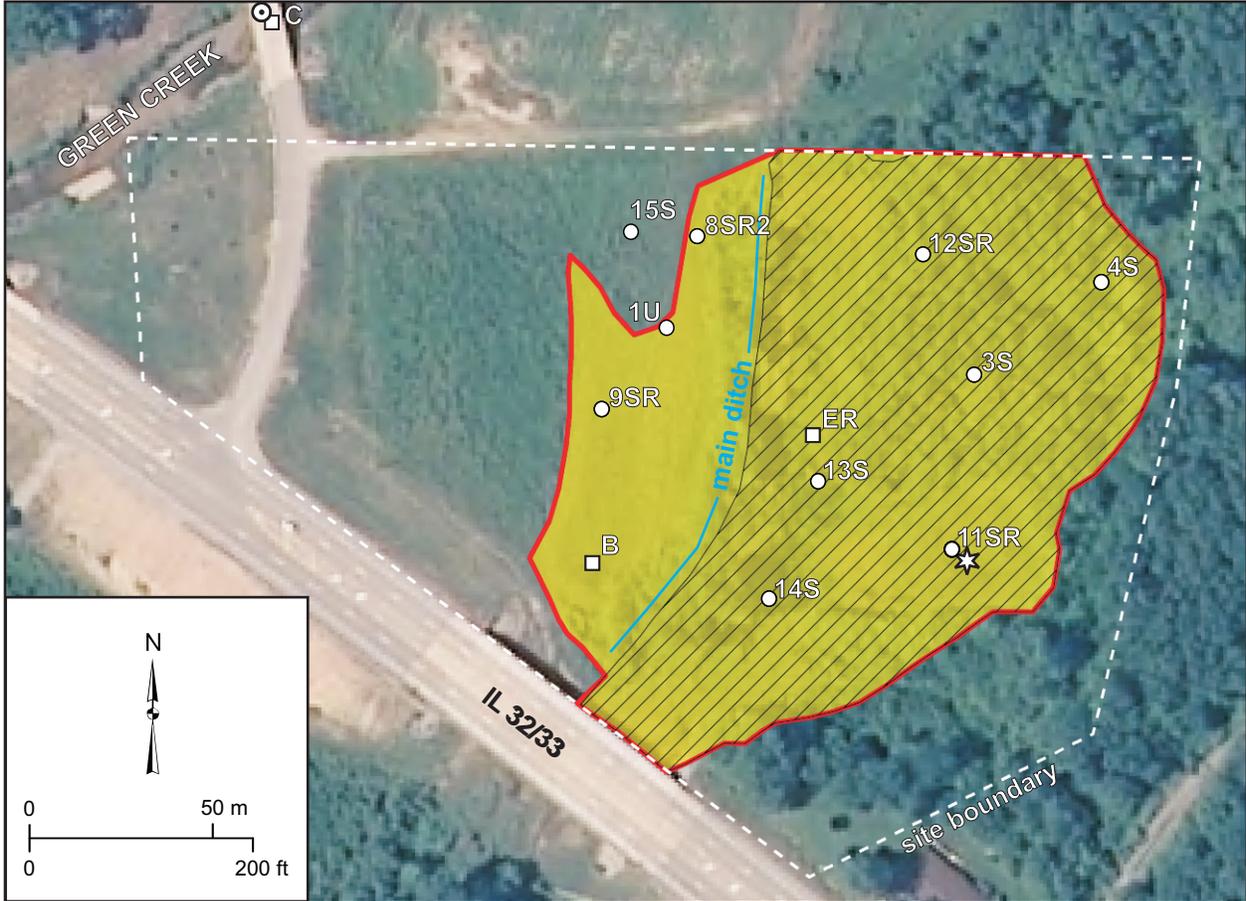
from the USGS Topographic Series, Effingham North, IL, 7.5-minute Quadrangle (USGS 1985)  
contour interval is 3 m (10 ft)



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

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

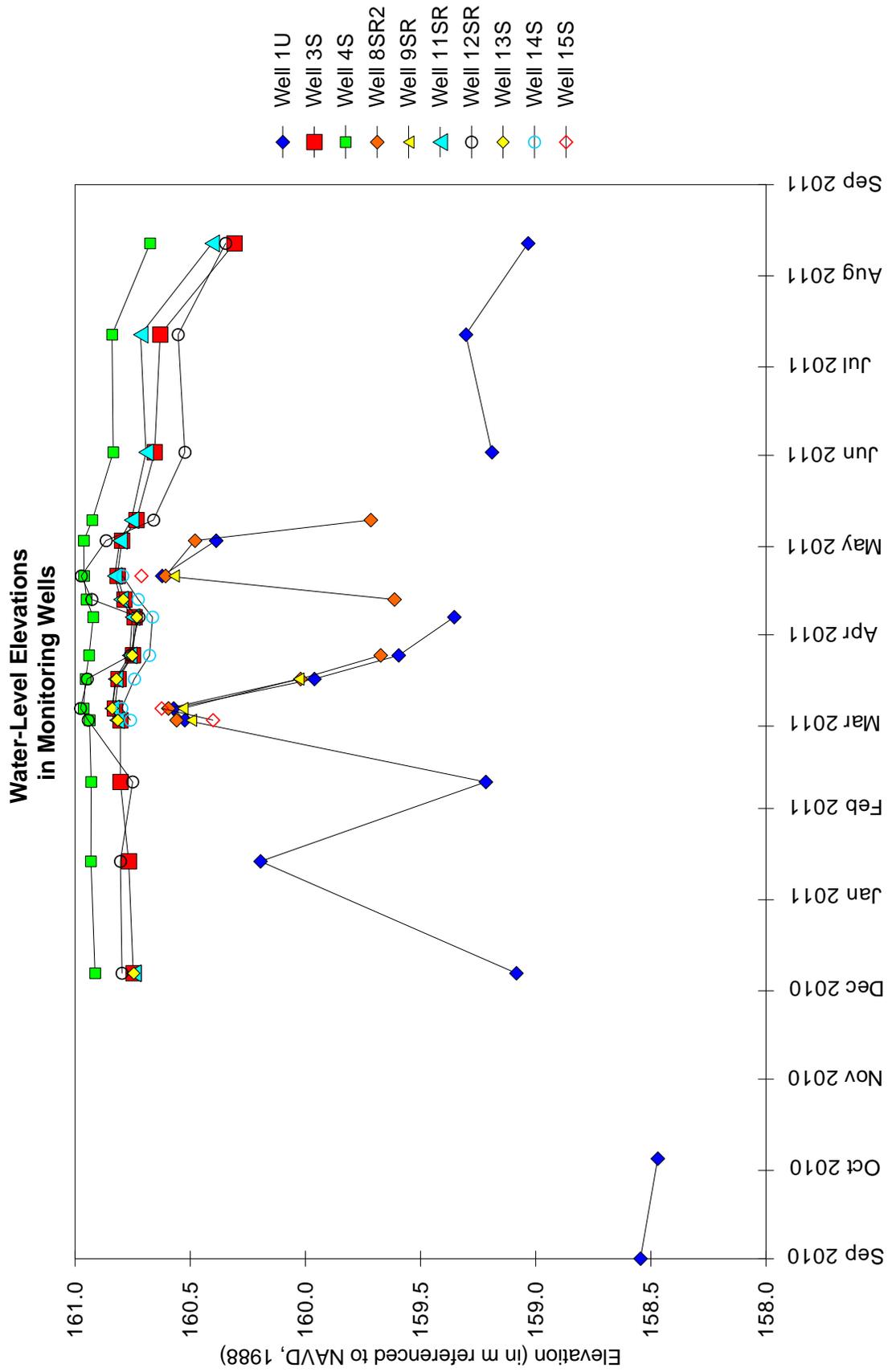


**2011 Wetland Hydrology**

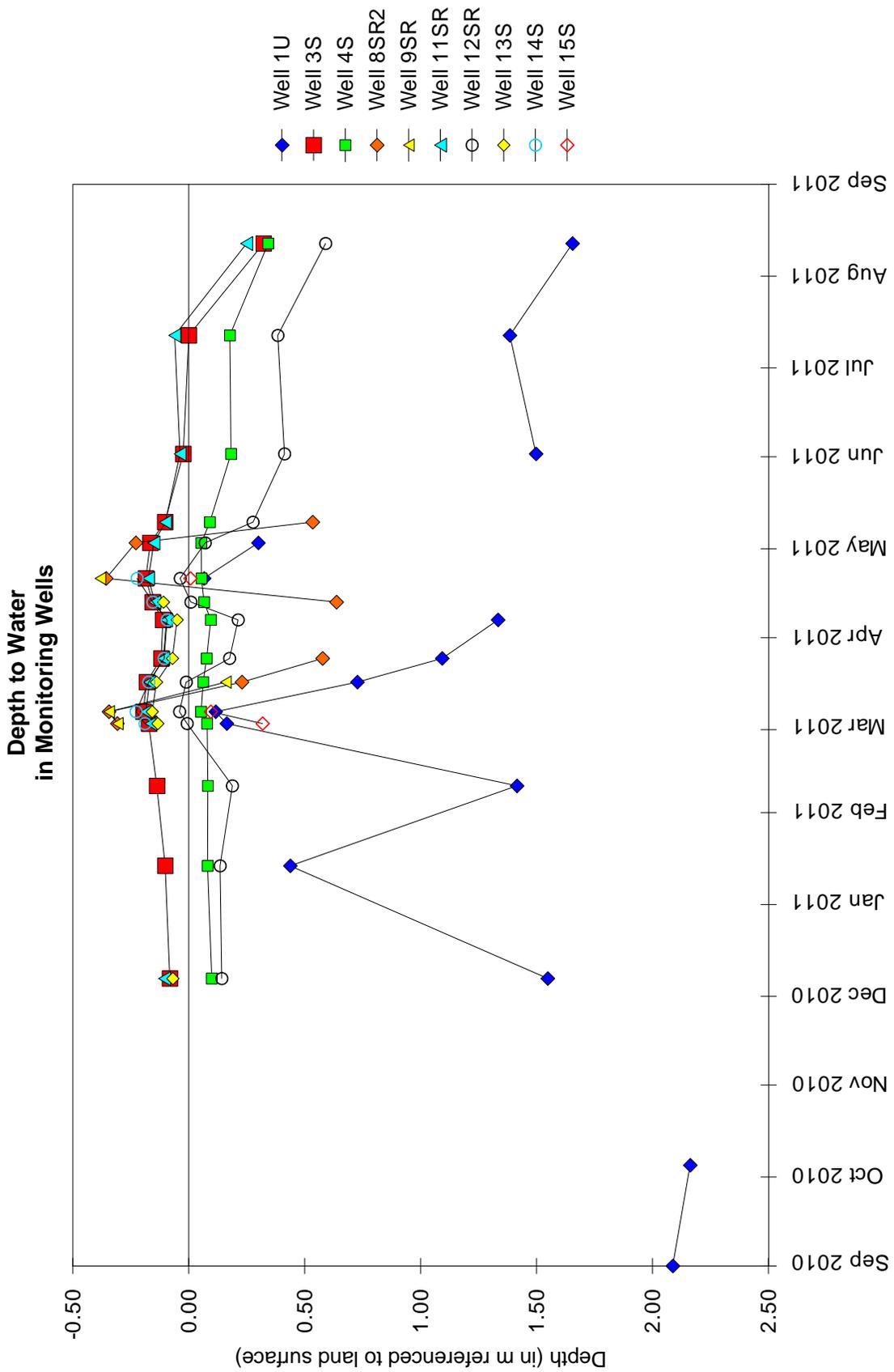
- monitoring well
- stage gauge
- ☆ rain gauge
- ⊙ data logger

- > 5% of the growing season  
(1987 Manual)
- > 12.5% of the growing season  
(1987 Manual)
- 14 days or more  
(2010 Midwest Region Supplement)

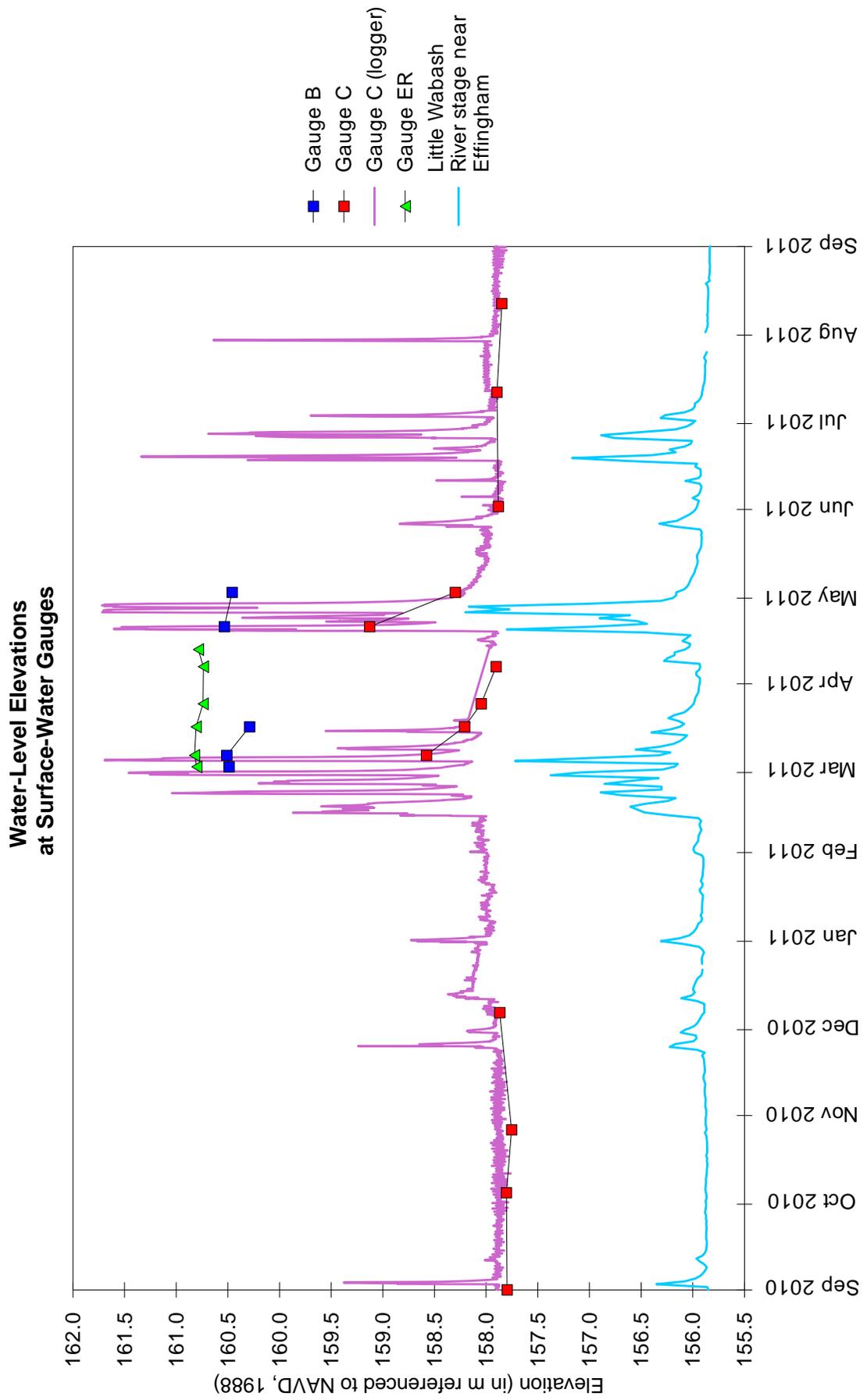
# Green Creek Wetland Mitigation Site September 1, 2010 through August 31, 2011



# Green Creek Wetland Mitigation Site September 1, 2010 through August 31, 2011

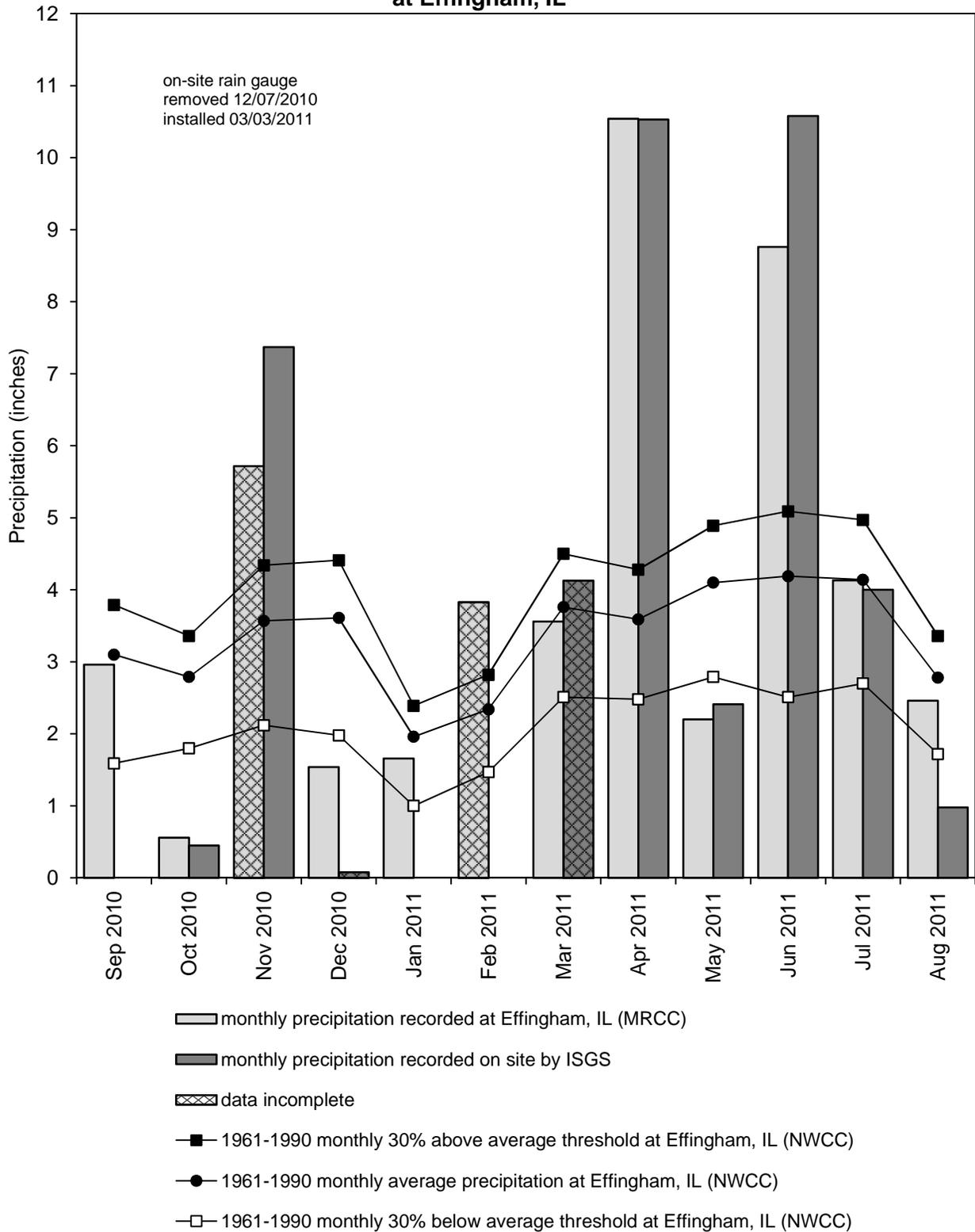


# Green Creek Wetland Mitigation Site September 1, 2010 through August 31, 2011



# Green Creek Wetland Mitigation Site September 2010 through August 2011

## Total Monthly Precipitation Recorded on Site and at Effingham, IL



Graph last updated 10/31/2011