



**GREEN CREEK  
WETLAND COMPENSATION SITE**

**ISGS #75**

FAP 774

Sequence #12505

Effingham County, near Effingham, Illinois

**Primary Project Manager: Bonnie J. R. Sperling**

**Secondary Project Manager: Eric T. Plankell**

**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).
- March 2007: ISGS increased the existing monitoring network, including a surface-water gauge in Green Creek.
- June 2007: Construction at the wetland compensation site was completed.

**WETLAND HYDROLOGY CALCULATION FOR 2007**

The area of the site that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the 2007 growing season was estimated to be 1.5 ha (3.7 ac) out of a total site area of 4.1 ha (10.0 ac). The area was also identical to that which satisfied the criteria for greater than 12.5% of the growing season. 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 90% of normal. Above-normal precipitation in October and December 2006 through February 2007 resulted in an increase in water levels that was sustained through the spring, despite the below-normal precipitation from March to May 2007. Water levels dropped at the beginning of June 2007 as a result of on-site construction in late May. Above-normal precipitation in June 2007 resulted in a short-lived rebound in water levels, after which they fell again in response to below-normal precipitation and higher summer evapotranspiration rates.
- In 2007, ground-water levels measured in wells 3S, 4S, 7S, 11S and 12S satisfied the wetland hydrology criteria for both 5% and 12.5% 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. According to the surface-water gauge in Green Creek, water levels in Green Creek reached an elevation sufficient to exceed its banks and flood the site between July 17 and 19, 2007, a period insufficient to achieve wetland hydrology.

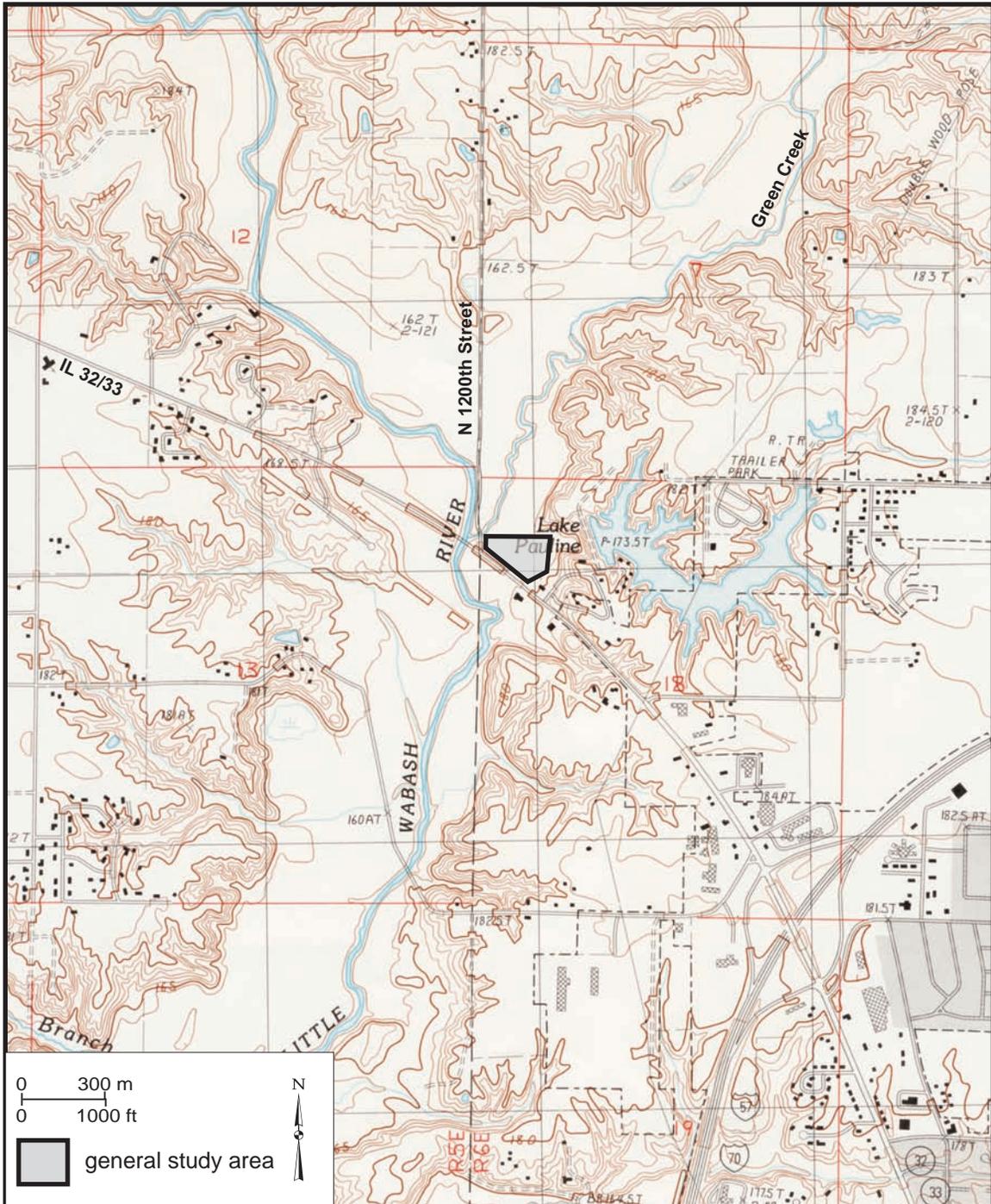
## PLANNED FUTURE ACTIVITIES

- Additional shallow wells will be installed on the eastern portion of the site.

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

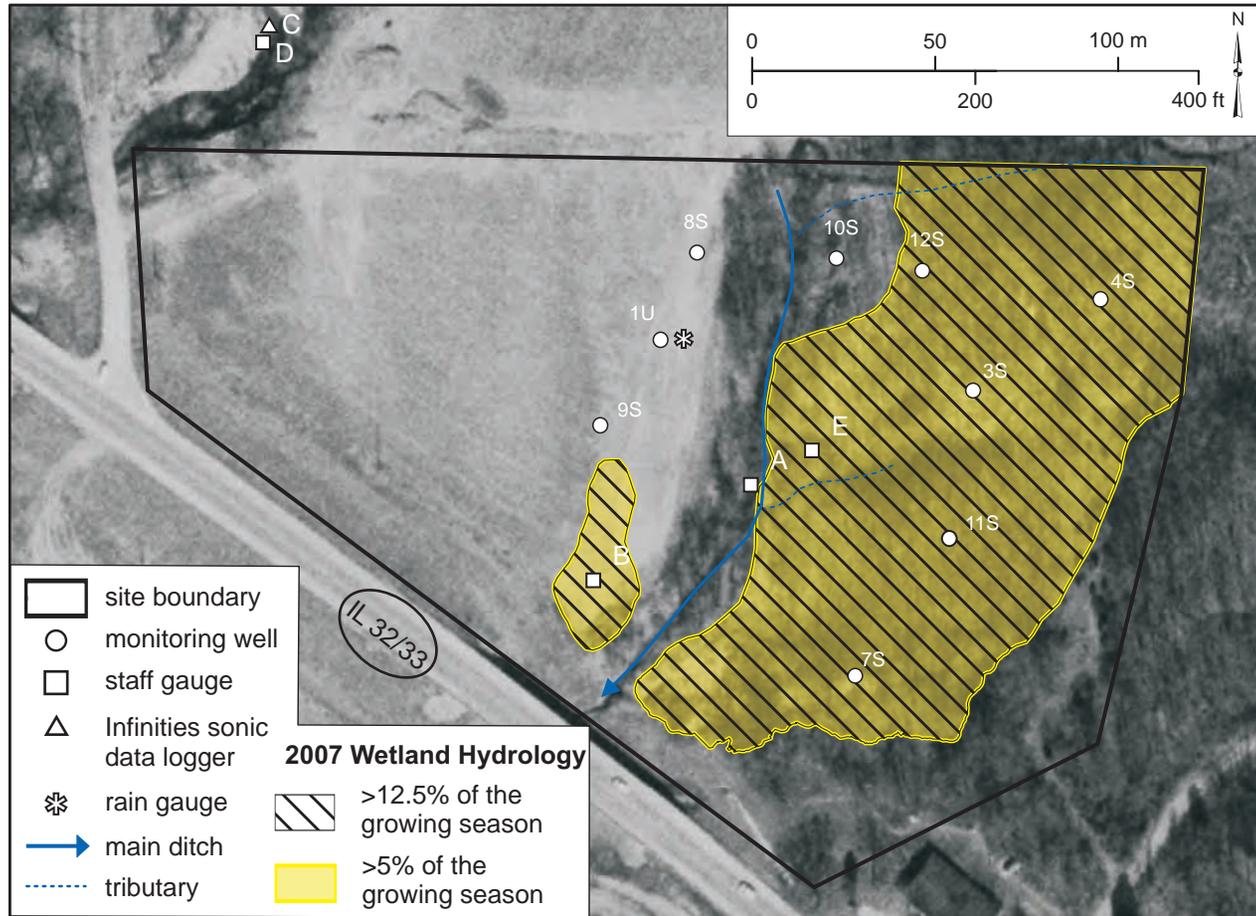
## General Study Area and Vicinity

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



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

**Estimated Areal Extent of 2007 Wetland Hydrology**  
 based on data collected between September 1, 2006 and September 1, 2007  
 Map based on USGS digital orthophotograph, Effingham North SW quarter quadrangle  
 produced from 2005 aerial photography (ISGS 2006)

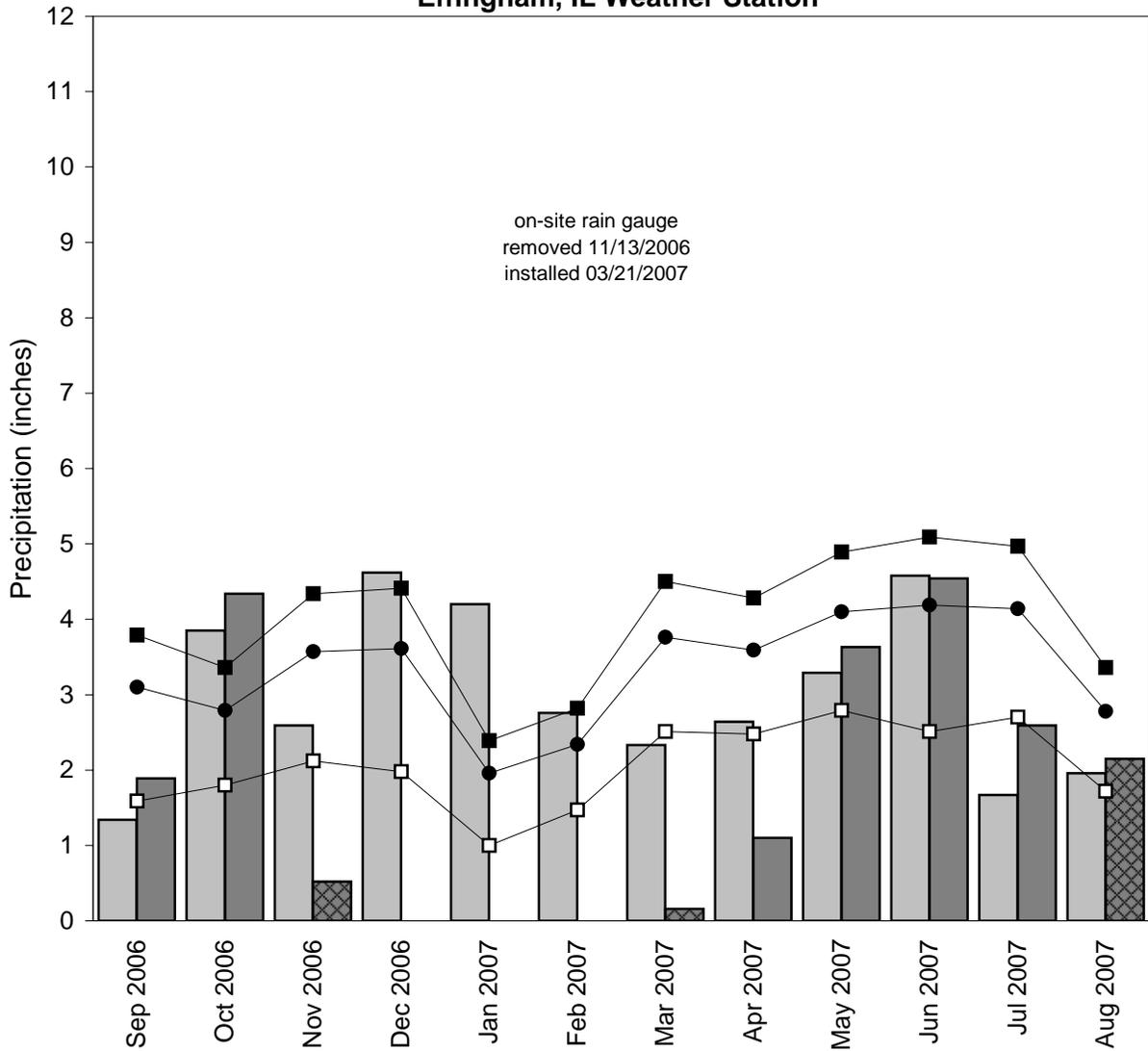






## Green Creek Wetland Compensation Site September 2006 through August 2007

### 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)
- 1961-1990 monthly average precipitation (National Water and Climate Center)
- 1961-1990 monthly 30% below average threshold (National Water and Climate Center)
- data incomplete