



**BUCKHART
WETLAND COMPENSATION SITE**

ISGS #58

FAS 1637, TR 478

Sangamon County, near Buckhart, Illinois

Primary Project Manager: Eric T. Plankell

Secondary Project Manager: Keith W. Carr

SITE HISTORY

- 1996: Young Road was realigned and a new bridge was constructed over the Sangamon River. Construction of wetland mitigation areas was subsequently completed.
- April 2004: ISGS was tasked to conduct hydrologic monitoring at the site.
- May–August 2004: ISGS installed a number of instruments at the site.
- Spring 2006: Young Road was raised by 0.6 m (2 ft) immediately north of the site.

WETLAND HYDROLOGY CALCULATION FOR 2007

The estimated total area that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the 2007 growing season is 0.6 ha (1.6 ac) out of a total compensation area of 2.3 ha (5.8 ac). The area that satisfied wetland hydrology criteria for greater than 12.5% of the 2007 growing season is 0.4 ha (1.0 ac). These estimates are based on the following factors:

- According to the MRCC, the median date that the growing season begins in nearby Springfield, Illinois, is April 6 and the season lasts 205 days; 5% of the growing season is 10 days and 12.5% of the growing season is 26 days.
- Total precipitation at the nearby Abraham Lincoln Capital Airport weather station in Springfield, Illinois, was 93% of normal for the period from September 2006 through August 2007. Precipitation at this station was below normal in September 2006, and also in March, April, May, July, and August 2007. Precipitation amounts were near or above normal for the remaining months of the monitoring period.
- In 2007, water levels in wells 7S and 8S satisfied wetland hydrology criteria for greater than 5% of the growing season. In addition, water levels in well 8S satisfied wetland hydrology criteria for greater than 12.5% of the growing season.
- In 2007, surface-water data logger gauge A (In-Situ), located within a closed depression in Mitigation Area 2, recorded inundation to a depth of 163.9 m (537.7 ft) for greater than 5% of the growing season. Gauge A also recorded inundation to a depth of 163.5 m (536.4 ft) for greater than 12.5% of the growing season.
- The areas that met wetland hydrology criteria for the 2007 growing season did so as a result of an overbank flooding event from the Sangamon River, which peaked on April 6, the first day of the growing season. At least seven additional instances of overbank flooding from the Sangamon River were recorded at the site in December 2006 and in January, February, March, and May 2007.

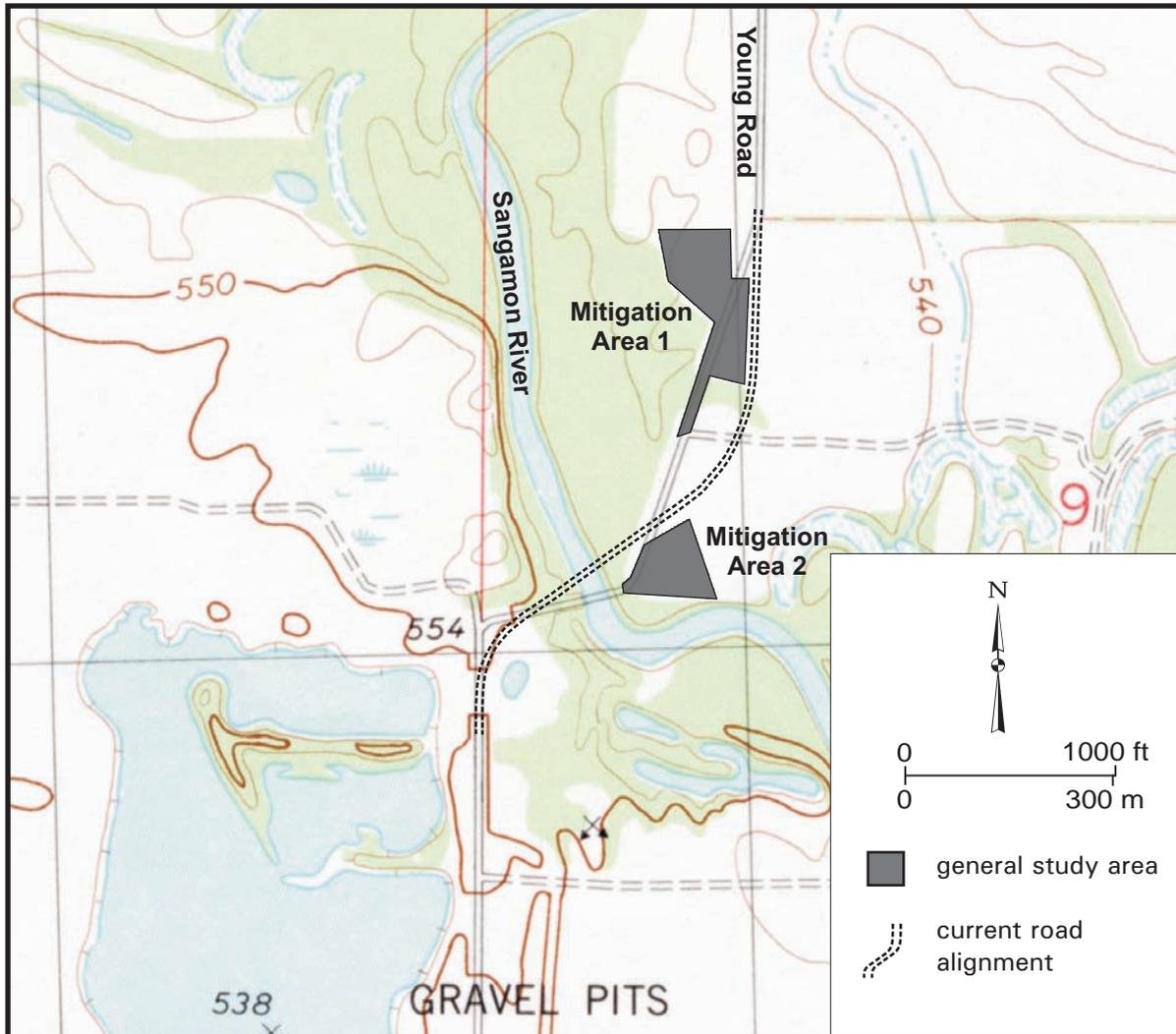
PLANNED FUTURE ACTIVITIES

- Monitoring will continue until no longer required by IDOT.

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General Study Area and Vicinity

from the USGS Topographic Series, Mechanicsburg, IL 7.5-minute Quadrangle (USGS 1982)
contour interval is 10 feet

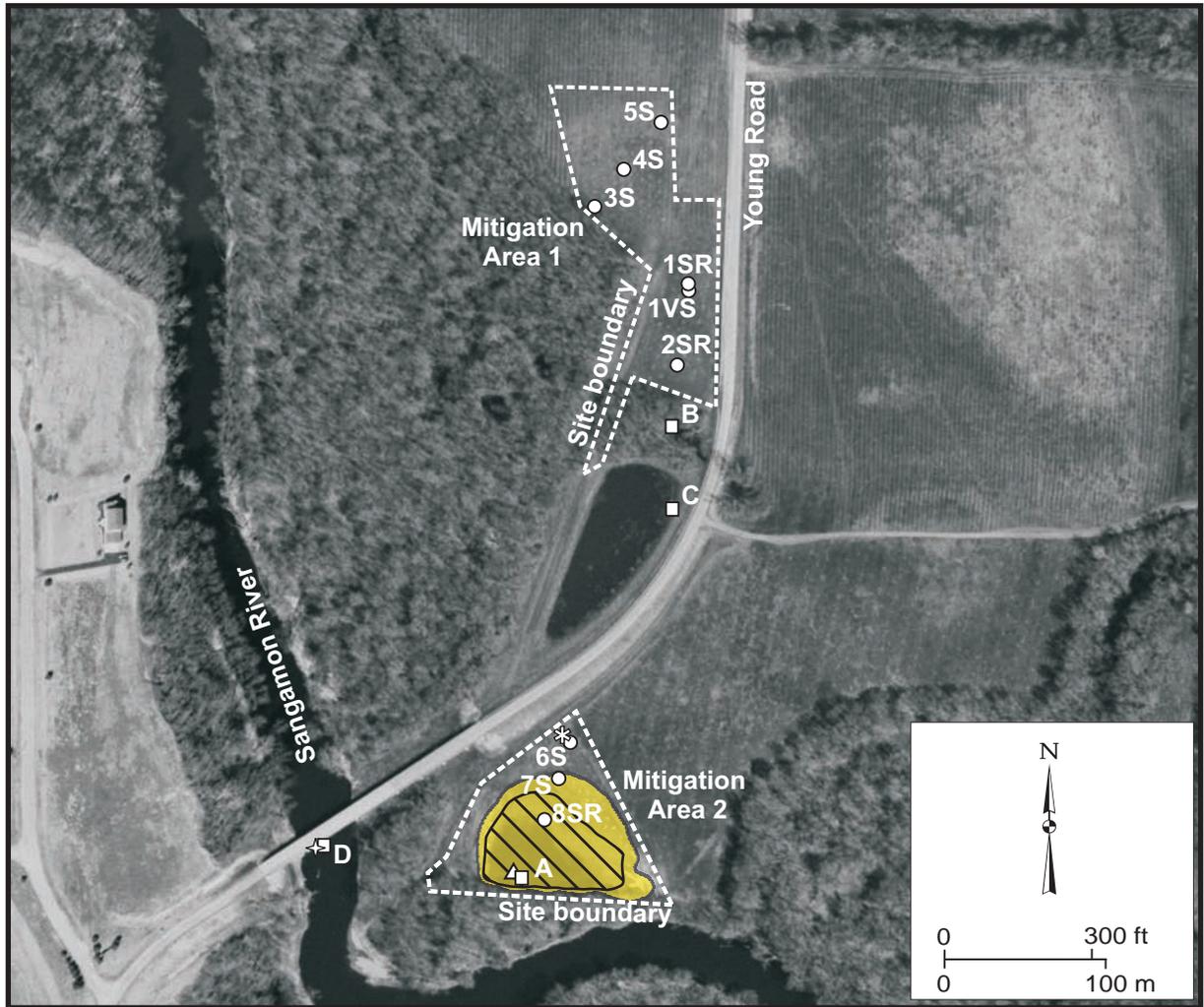


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Estimated Areal Extent of 2007 Wetland Hydrology

Based on data collected between September 1, 2006 and September 1, 2007

Map based on USGS digital orthophotographs, Mechanicsburg, SE and SW quarter quadrangles (ISGS 2005)

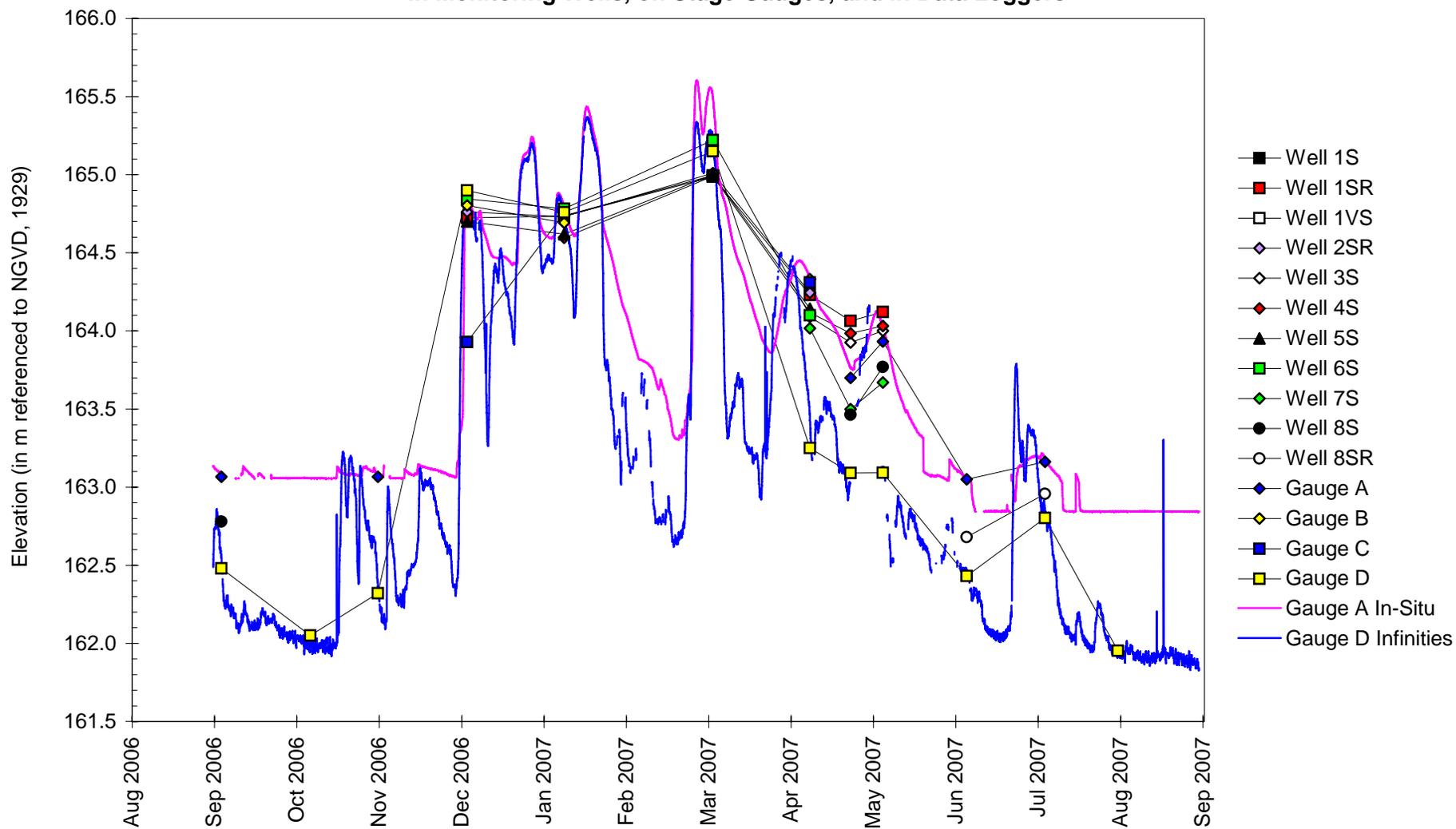


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|---|-------------------------------|-----------------------|
| 2007 Wetland Hydrology | | ○ monitoring well |
|  | > 12.5% of the growing season | □ staff gauge |
|  | > 5% of the growing season | △ In-Situ data logger |
| | | * rain gauge |
| | | ✦ Sonic data logger |

Buckhart Wetland Compensation Site

September 1, 2006 to September 1, 2007

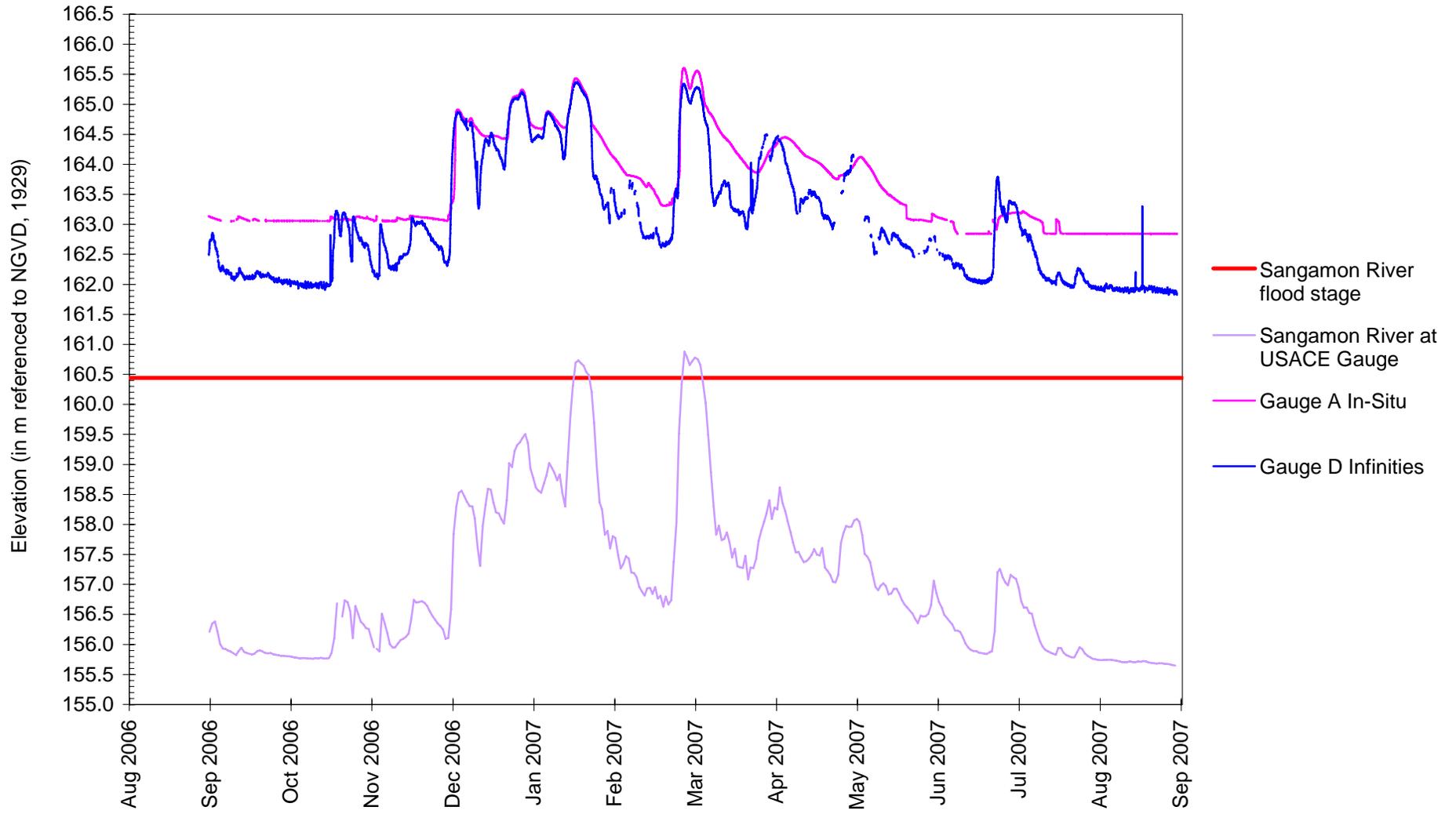
Water-Level Elevations in Monitoring Wells, on Stage Gauges, and in Data Loggers



Buckhart Wetland Compensation Site

September 1, 2006 to September 1, 2007

Water-Level Elevations



Buckhart Wetland Compensation Site September 2006 through August 2007

Total Monthly Precipitation Recorded On Site and at the Springfield, IL Abraham Lincoln Capital Airport Weather Station

