

**BUCKHART
WETLAND COMPENSATION SITE**

ISGS #58

FAS 1637

Sequence #10531

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 2008

The estimated total area that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the 2008 growing season is 2.3 ha (5.8 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 2008 growing season is 0.8 ha (1.9 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 127% of normal for the period from September 2007 through September 2008. Precipitation amounts were normal or above normal for October and December 2007, and for January, February, April, May, June, July, and September 2008. Precipitation amounts were below normal for the remaining months of the 2007–2008 monitoring period.
- In 2008, water levels in wells 1SR2, 2SR, 3S, 3SR, 4S, 5S, 6S, 7S, 7SR, and 8SR2 satisfied wetland hydrology criteria for greater than 5% of the growing season. In addition, water levels in wells 7SR and 8SR2 satisfied wetland hydrology criteria for greater than 12.5% of the growing season.
- In 2008, surface-water data logger gauge D (Sonic), located on the Young Road bridge over the Sangamon River, recorded a water level of 165.37 m (542.55 ft) that was sustained for greater than 5% of the growing season. At this water-level elevation, the Sangamon River floods both mitigation areas 1 and 2. Data from gauge D were insufficient to calculate the area of inundation that affected the site for greater than 12.5% of the growing season, and the other logger (Gauge A) typically used for this purpose was damaged and could not be replaced during the monitoring period.

- The areas that met wetland hydrology criteria for the 2008 growing season did so as a result of overbank-flooding events from the Sangamon River. The primary event peaked on June 9 and inundated the entire site for greater than 5% of the growing season. At least ten additional instances of overbank flooding from the Sangamon River were recorded at the site from January through October 2008.

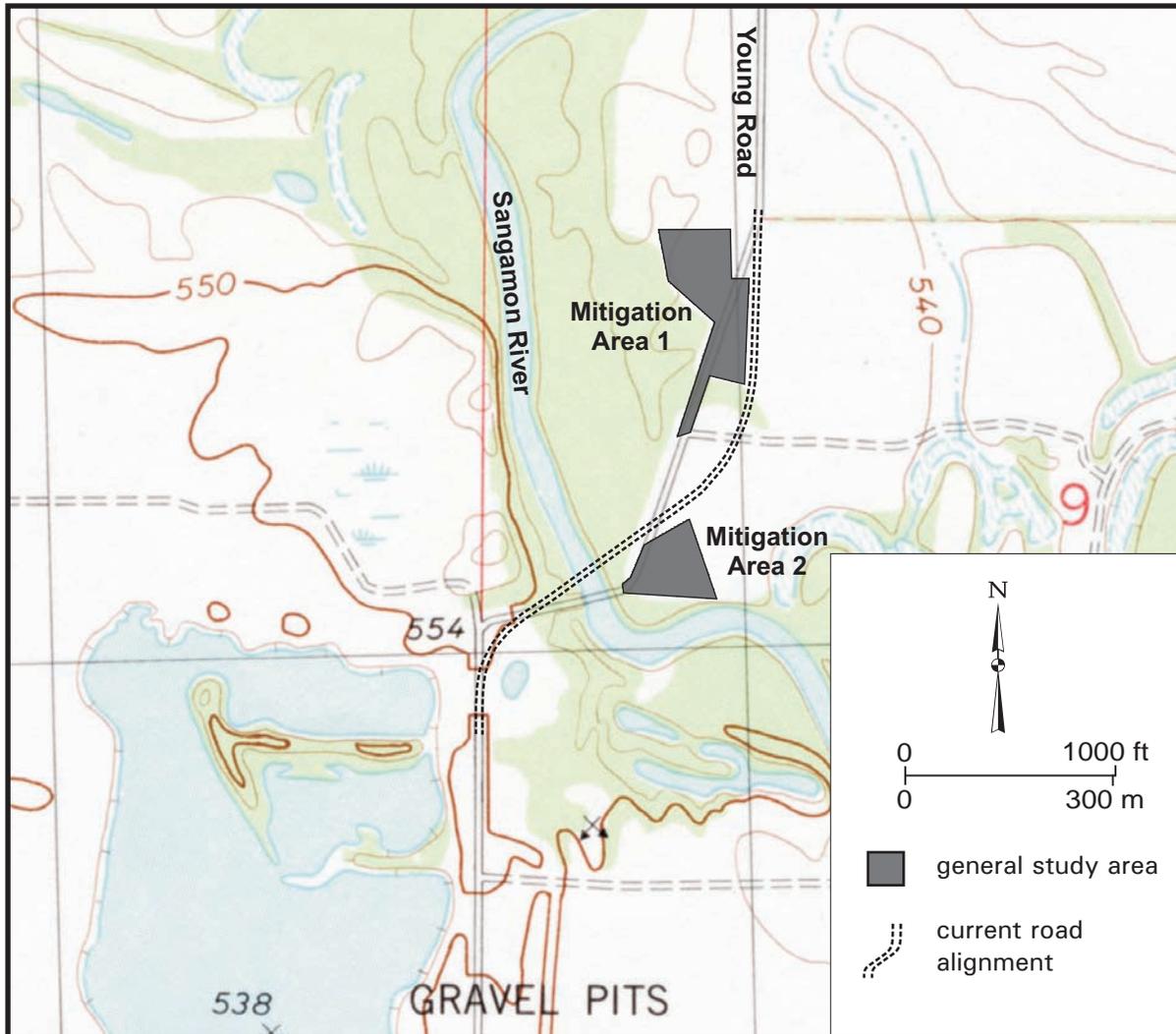
PLANNED FUTURE ACTIVITIES

- Monitoring will continue until no longer required by IDOT.

Buckhart Wetland Compensation Site (FAS 1637, TR 478)

General Study Area and Vicinity

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

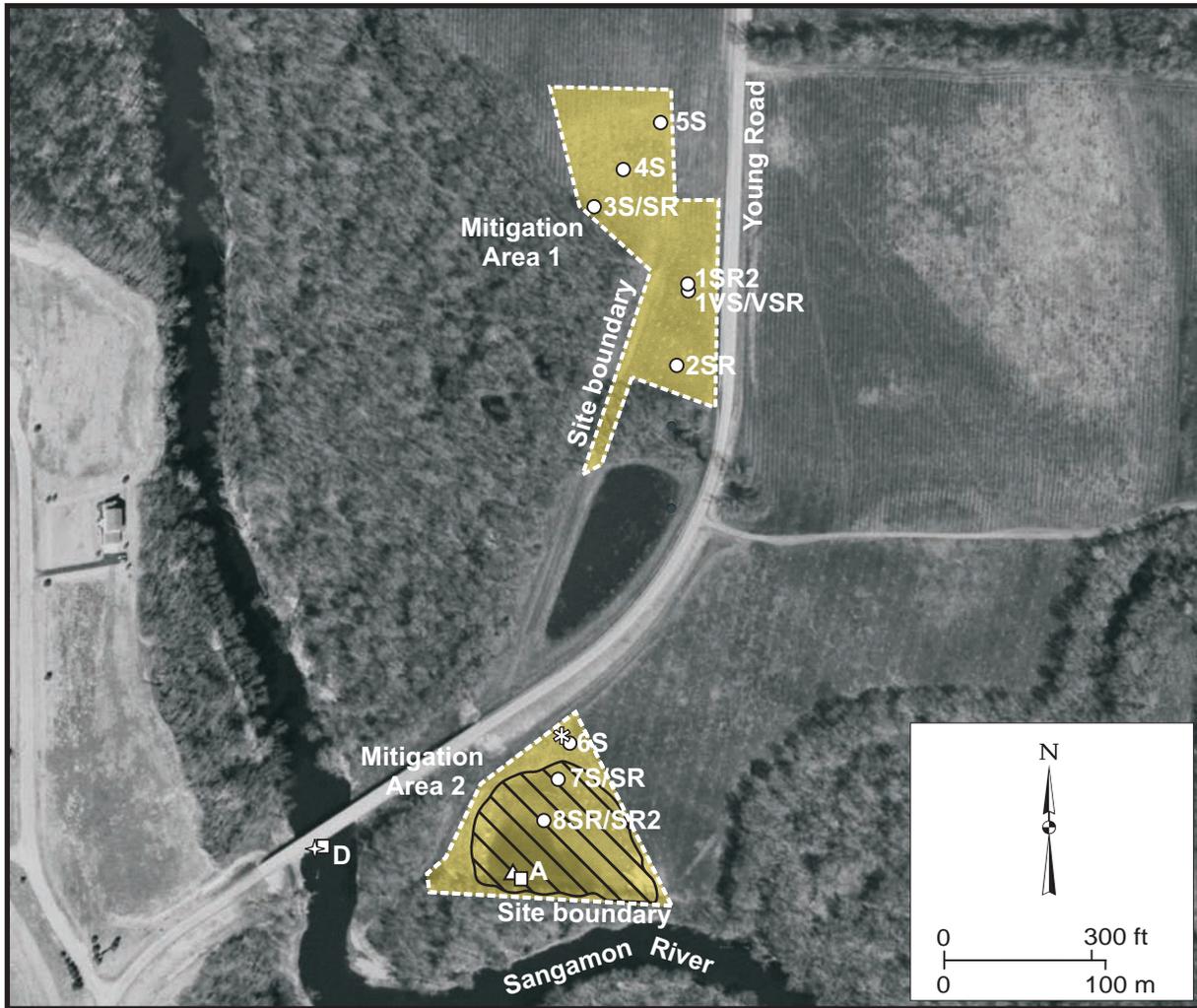


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Estimated Areal Extent of 2008 Wetland Hydrology

Based on data collected between September 1, 2007 and September 23, 2008

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



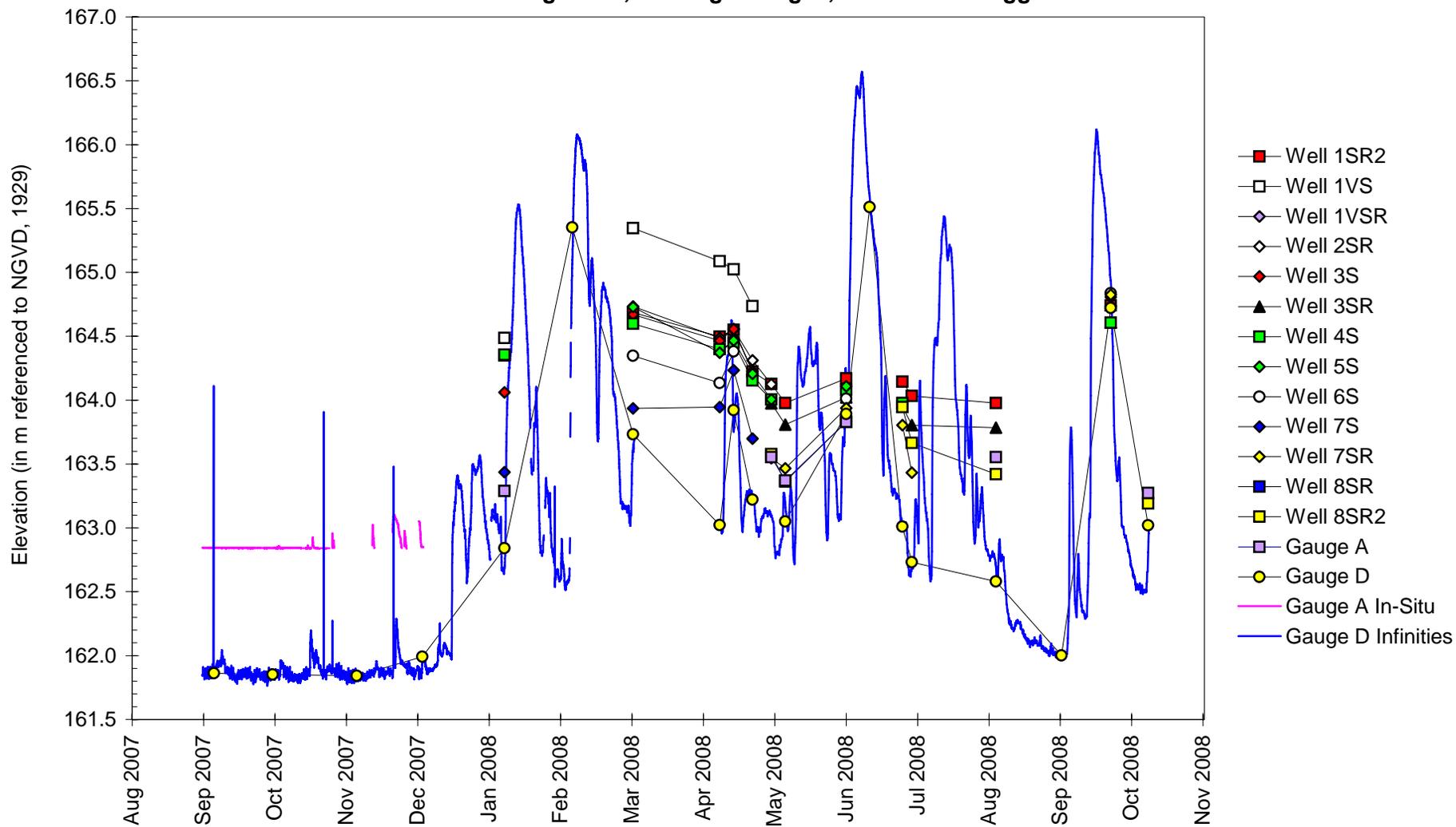
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|---|-------------------------------|--------------------------|
| 2008 Wetland Hydrology | | ○ monitoring well |
|  | > 12.5% of the growing season | □ staff gauge |
|  | > 5% of the growing season | △ In-Situ data logger |
| | | * rain gauge |
| | | ✦ Infinities data logger |

Buckhart Wetland Compensation Site

September 1, 2007 to November 1, 2008

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

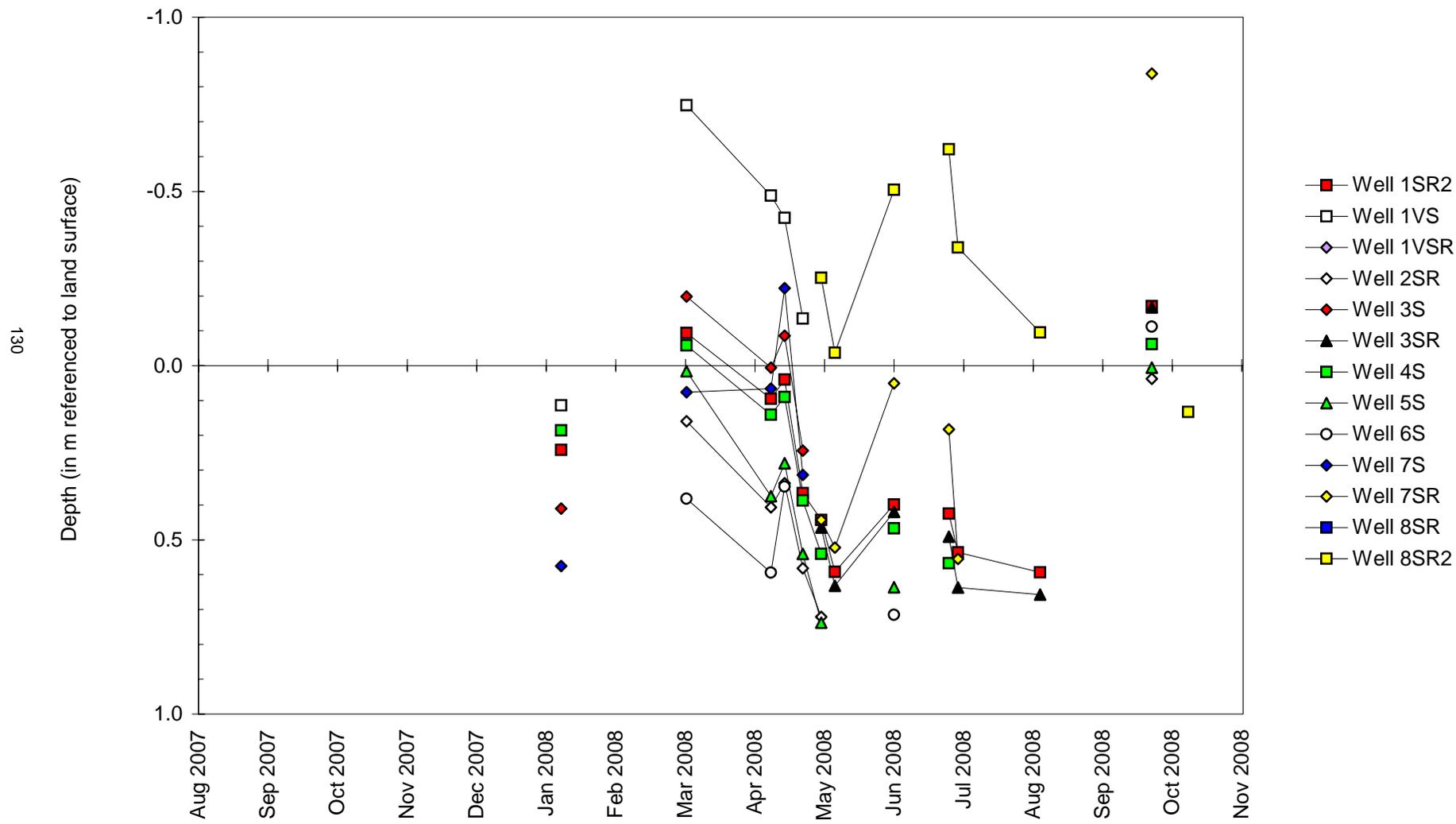
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Buckhart Wetland Compensation Site

September 1, 2007 to November 1, 2008

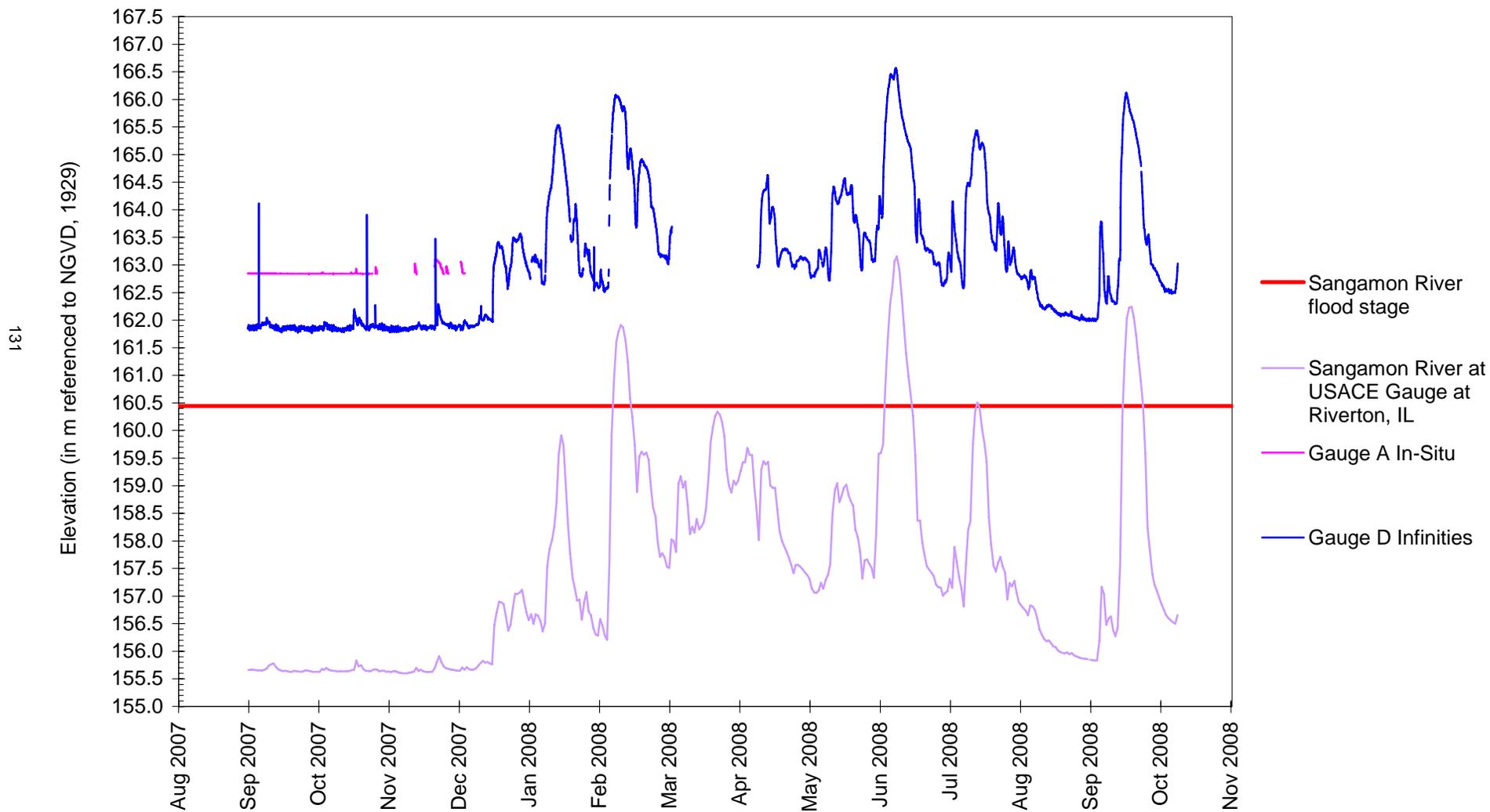
Depth to Water in Monitoring Wells



Buckhart Wetland Compensation Site

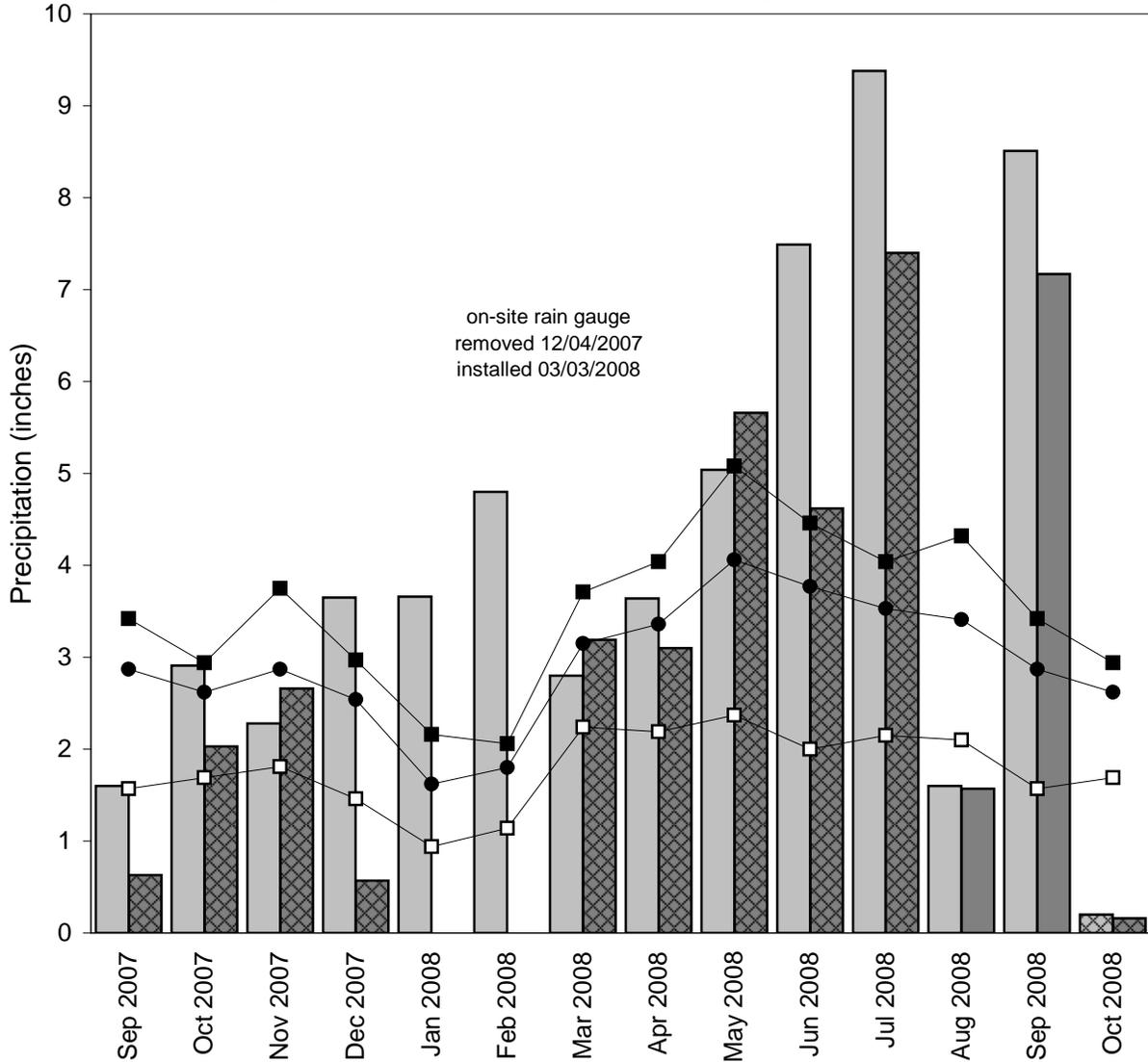
September 1, 2007 to November 1, 2008

Water-Level Elevations



Buckhart Wetland Compensation Site September 1, 2007 through October 9, 2008

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



- monthly precipitation recorded at weather station (Midwestern Regional Climate Center)
- monthly precipitation recorded on site by ISGS
- 1971-2000 monthly 30% above average threshold (National Water and Climate Center)
- 1971-2000 monthly average precipitation (National Water and Climate Center)
- 1971-2000 monthly 30% below average threshold (National Water and Climate Center)
- data incomplete

Graph last updated October 9, 2008