



**BUCKHART
WETLAND COMPENSATION SITE**

ISGS #58

FAS 1637

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. The ISGS will monitor the site for any changes in hydrology that might result from the alteration of Young Road.

WETLAND HYDROLOGY CALCULATION FOR 2006

The estimated total area that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the 2006 growing season is 2.2 ha (5.4 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 2006 growing season is 0.6 ha (1.4 ac). These estimates are based on the following factors:

- According to the Midwestern Climate Center, 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 86% of normal for the period from September 2005 through August 2006. Precipitation at this station was below normal in December 2005, and also in February, May, June, July, and August 2006. Precipitation amounts were near or above normal for the remaining months of the monitoring period.
- In 2006, water levels in all wells (1SR, 1VS, 2SR, 3S, 4S, 5S, 6S, 7S, and 8S) satisfied wetland hydrology criteria for greater than 5% of the growing season. In addition, water levels in wells 7S and 8S satisfied wetland hydrology criteria for greater than 12.5% of the growing season.
- In 2006, surface-water data logger Gauge A (In-Situ), located within a closed depression in Mitigation Area 2, recorded inundation to a depth of 164.4 m (539.3 ft) for greater than 5% of the growing season. Gauge A also recorded inundation to a depth of 163.9 m (537.6 ft) for greater than 12.5% of the growing season. Inundation shown by Gauges B, C, and D is not included in this analysis, because they are located outside of the mitigation areas.

- Above-normal precipitation in April 2006 contributed to over-bank flooding from the Sangamon River which occurred at the site beginning on April 6. The areas that met wetland hydrology criteria for the 2006 growing season did so as a result of this flood event. Two additional instances of over-bank flooding from the Sangamon River were recorded at the site in March and July 2006.

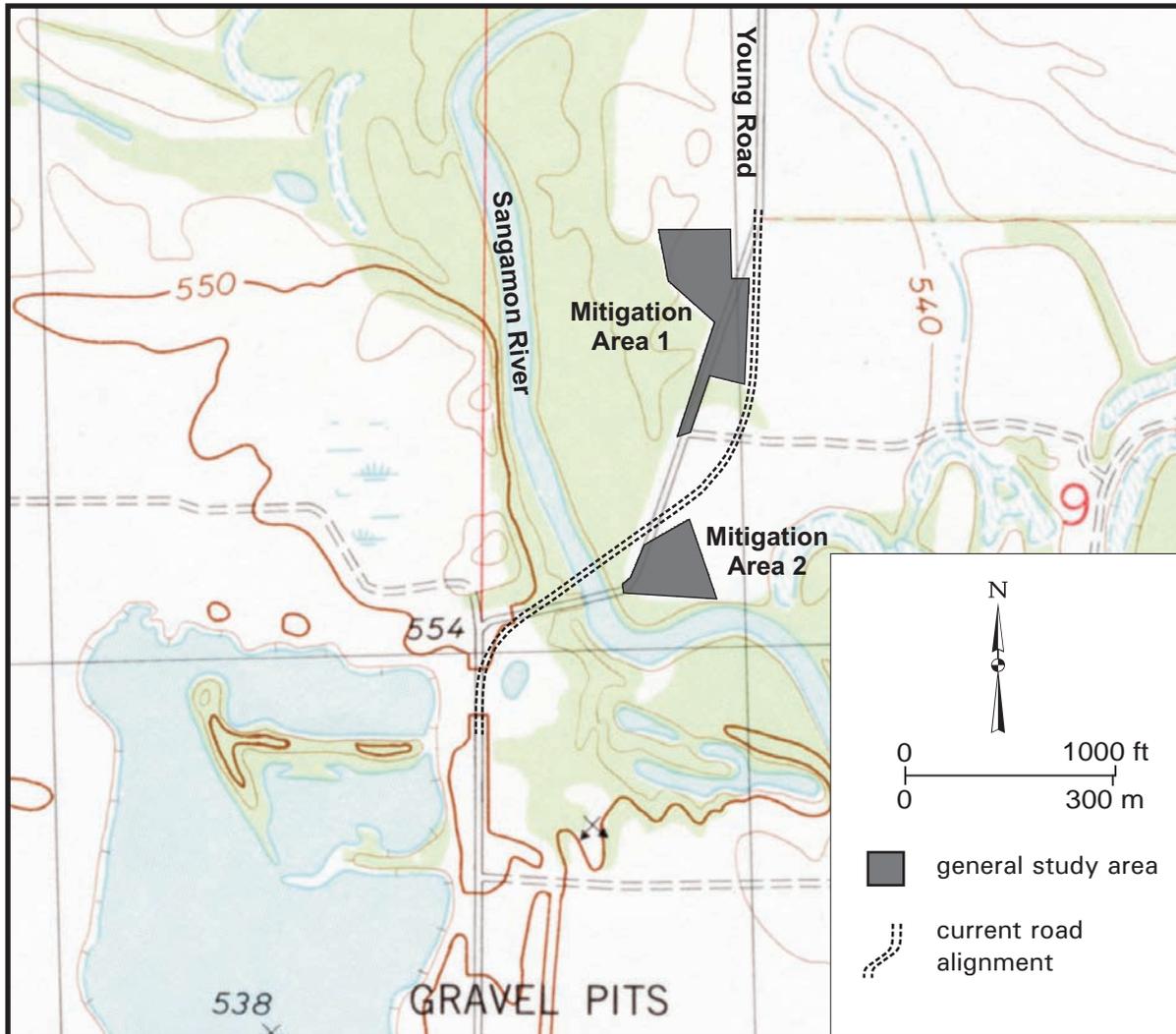
PLANNED FUTURE ACTIVITIES

- 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



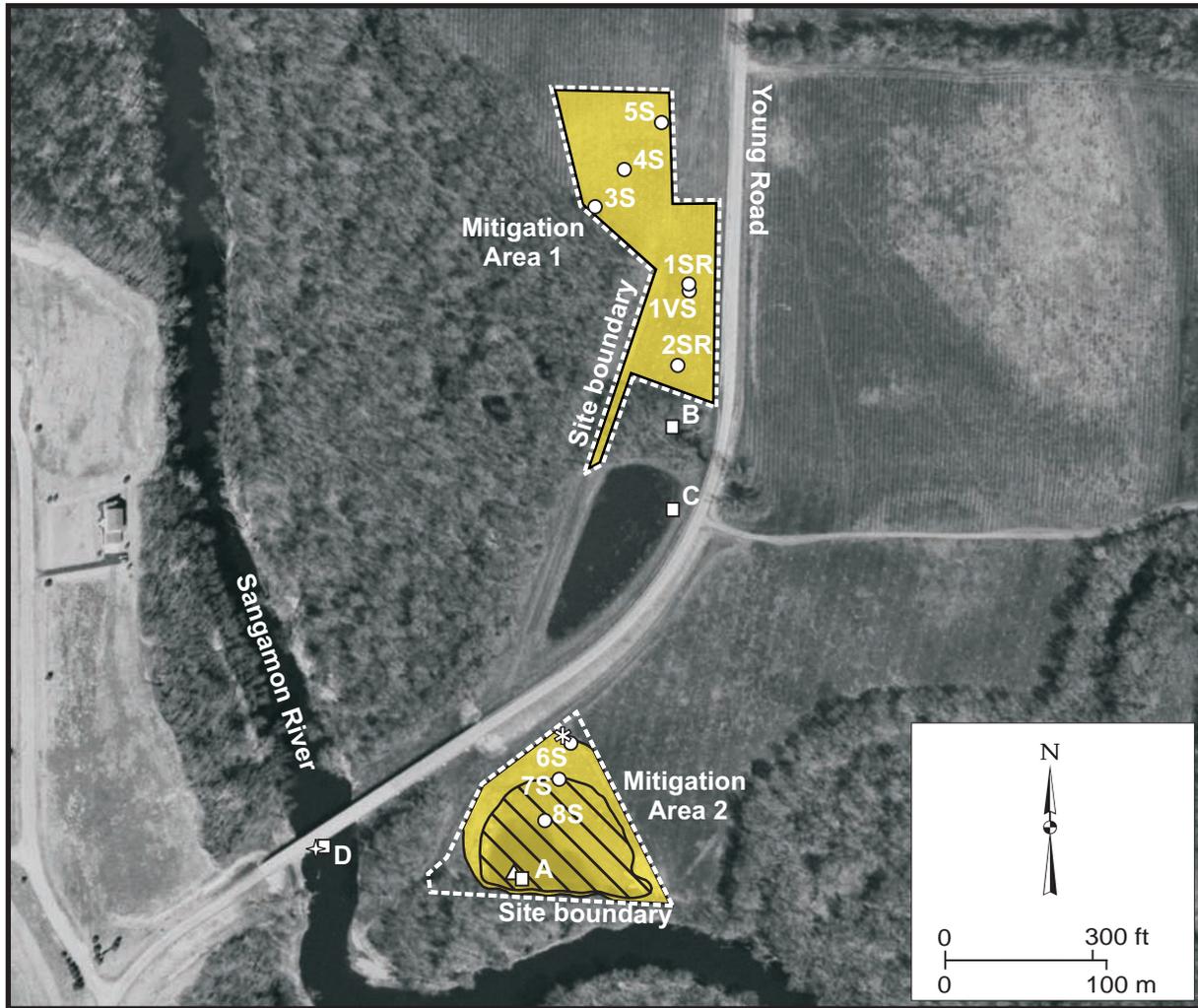
Buckhart Wetland Compensation Site

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Estimated Areal Extent of 2006 Wetland Hydrology

Based on data collected between September 1, 2005 and September 1, 2006

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

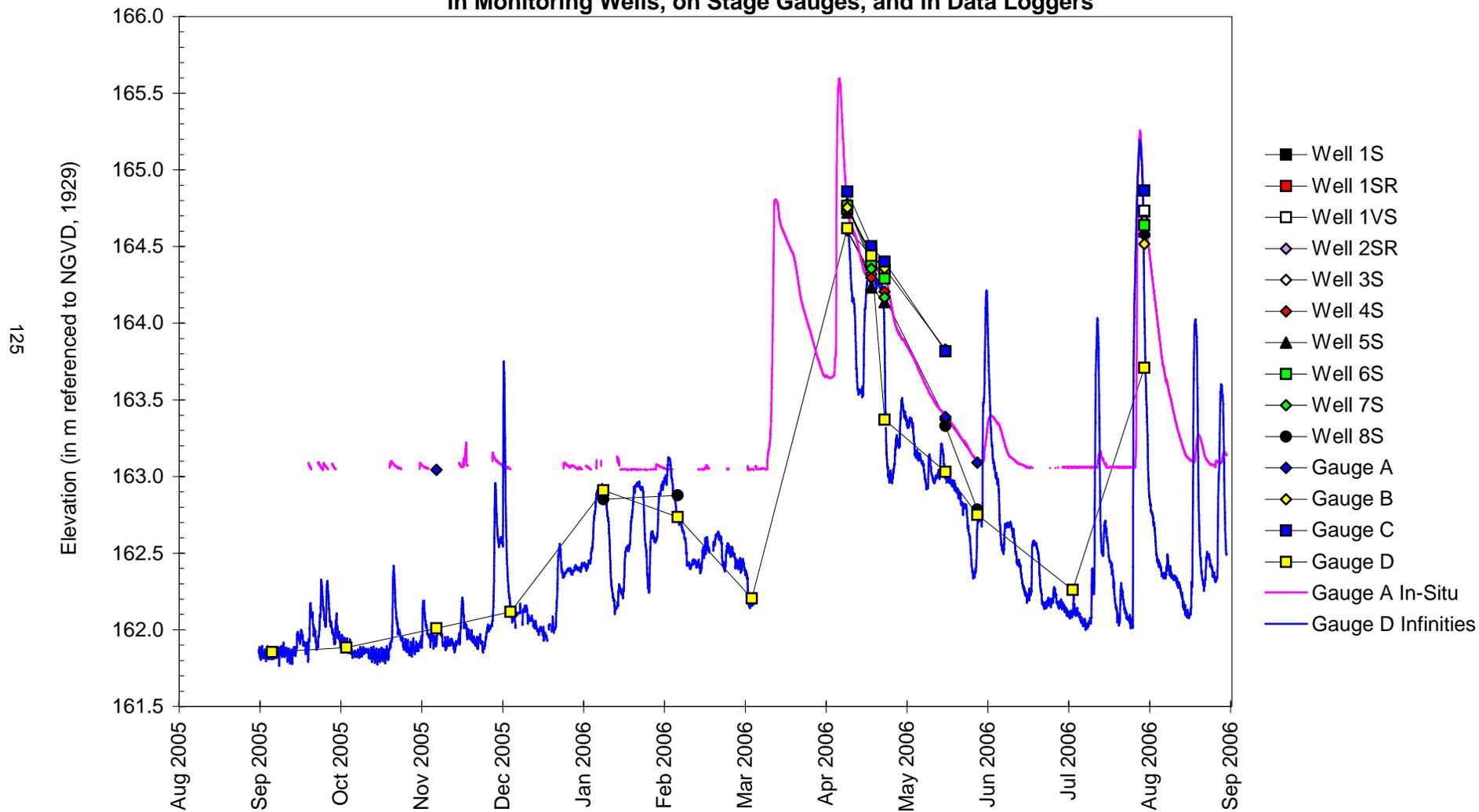


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|---|-------------------------------|-----------------------|
| 2006 Wetland Hydrology | | ○ monitoring well |
|  | > 12.5% of the growing season | □ staff gauge |
|  | > 5% of the growing season | △ In-Situ data logger |
| | | * rain gauge |
| | | ✦ Sonic data logger |

Buckhart Wetland Compensation Site

September 1, 2005 to September 1, 2006

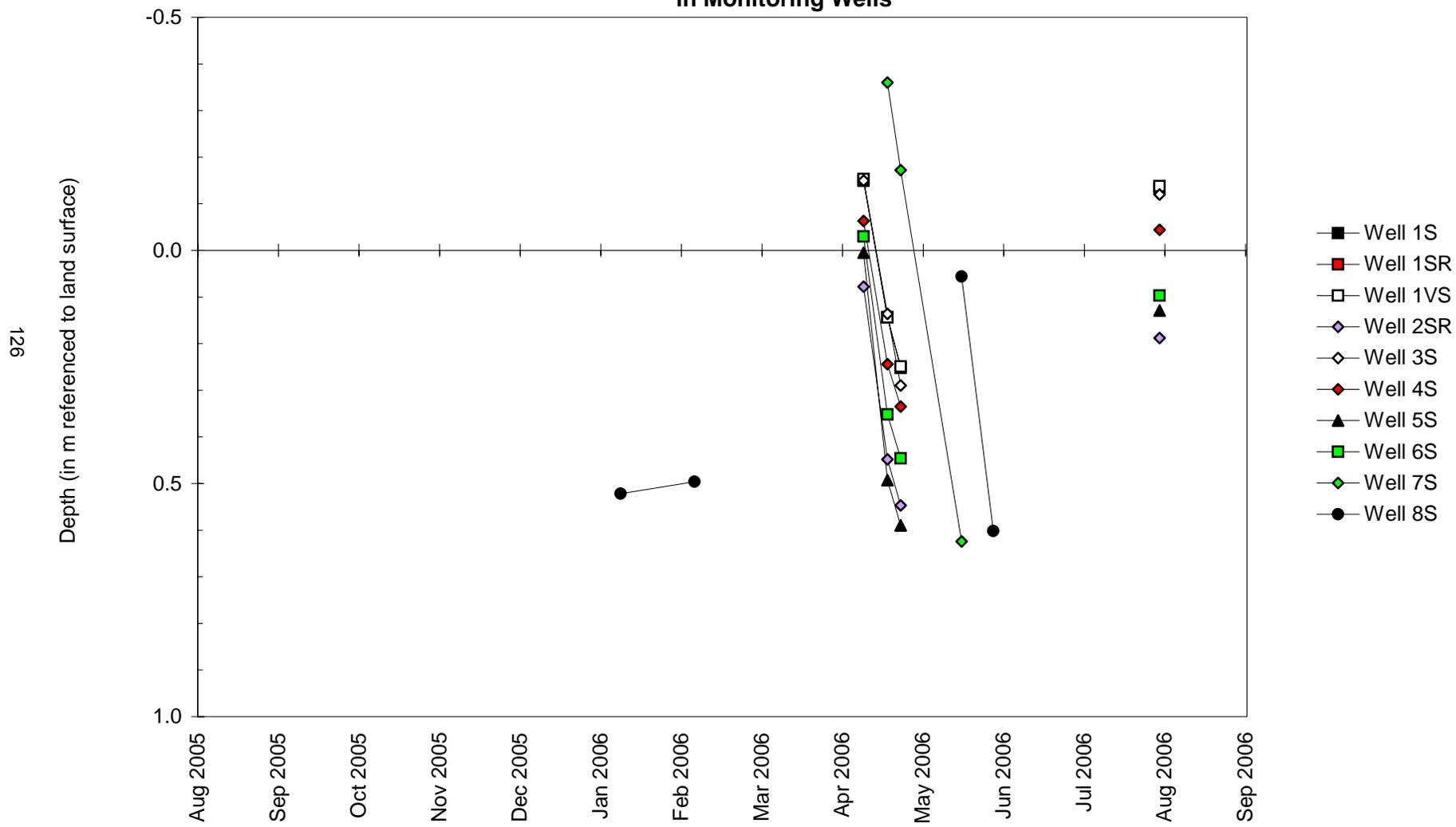
Water-Level Elevations in Monitoring Wells, on Stage Gauges, and in Data Loggers



Buckhart Wetland Compensation Site

September 1, 2005 to September 1, 2006

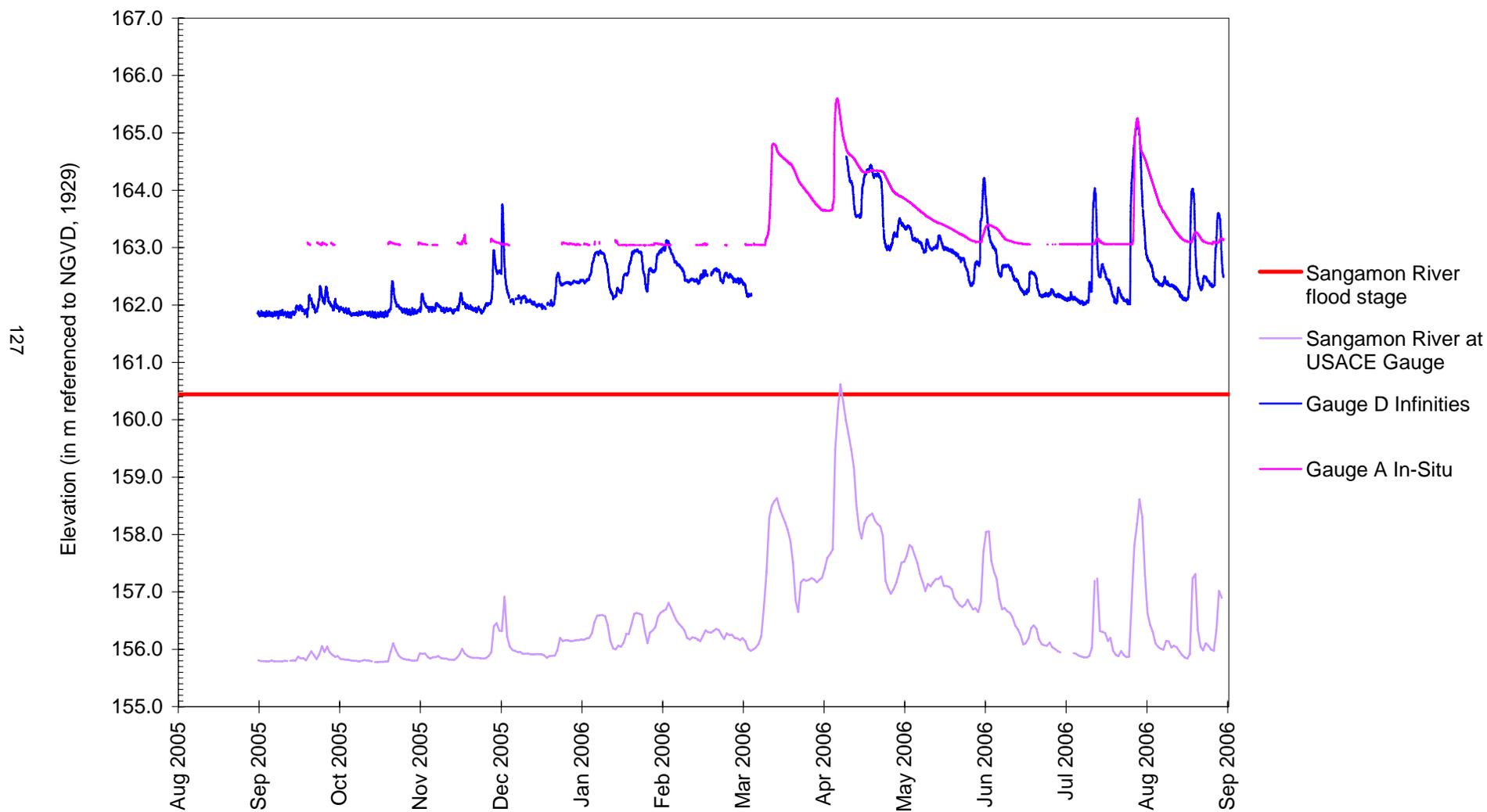
Depth to Water in Monitoring Wells



Buckhart Wetland Compensation Site

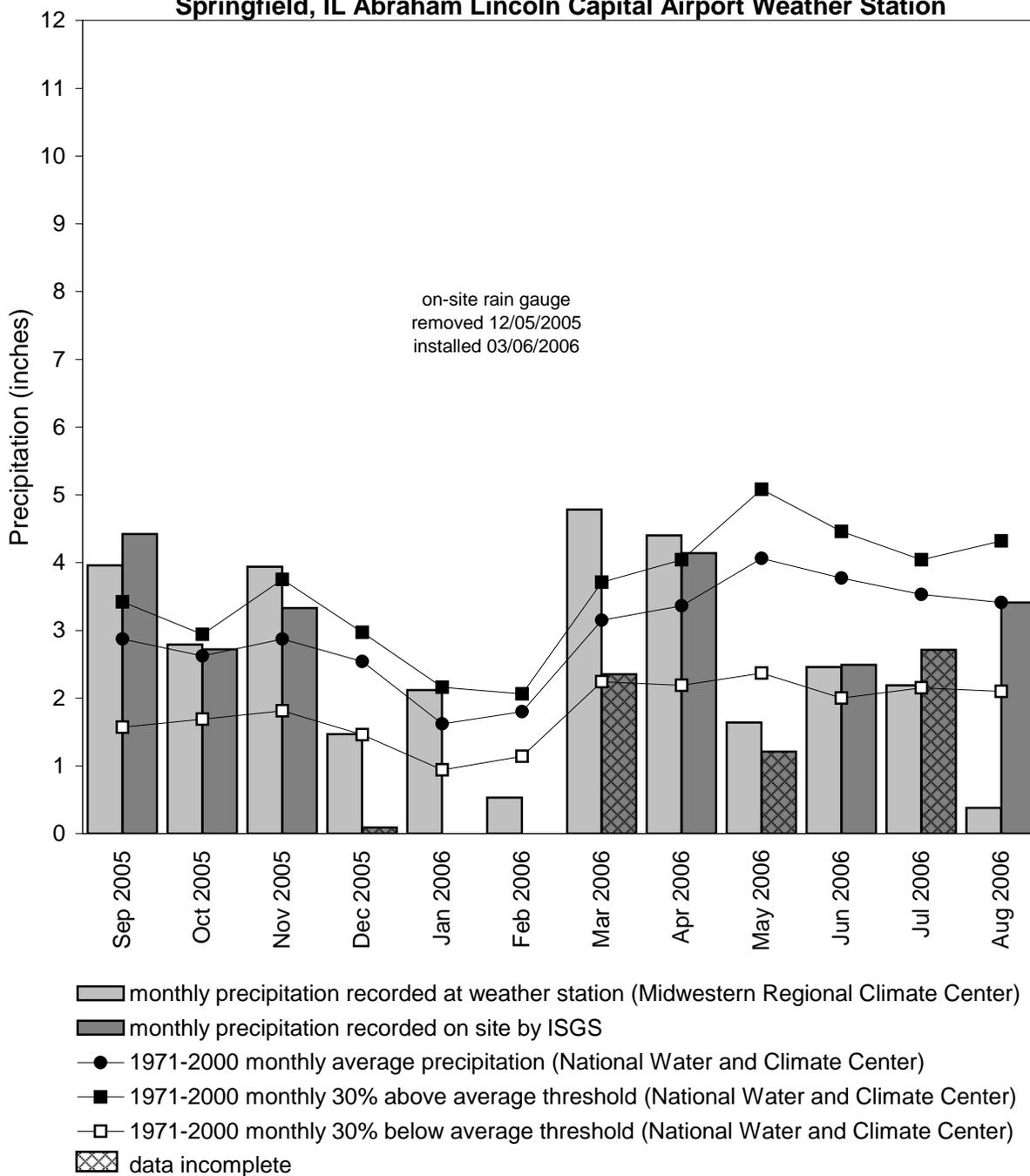
September 1, 2005 to September 1, 2006

Water-Level Elevations



Buckhart Wetland Compensation Site September 2005 through August 2006

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



Graph last updated October 13, 2006