



**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.
- July 2000: ISGS was tasked to conduct hydrologic monitoring for the presence and extent of wetland hydrology. Prior to the installation of any monitoring instruments at the site, monitoring was halted by IDOT.
- April 2004: ISGS was again tasked to conduct hydrologic monitoring at the site.
- May–August 2004: ISGS installed a number of instruments at the site. All instrument locations were then determined using a Trimble XR Pro GPS unit. In addition, a topographic survey of the site was completed using a Leica TC 702 Total Station.

WETLAND HYDROLOGY CALCULATION FOR 2005

We estimate that the total area of created wetland that satisfied the wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the 2005 growing season is 0.2 ha (0.5 ac) out of a total area of 2.3 ha (5.8 ac). The area that satisfied wetland hydrology criteria for greater than 12.5% of the 2005 growing season is 0.1 ha (0.3 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 87% of normal for the period from September 2004 through August 2005. Precipitation at this station was below normal in September and December 2004 and also in the period from February through August 2005, when it was 60% of normal. Precipitation amounts were above normal for the remaining months of the monitoring period.
- In 2005, water levels in well 8S satisfied the wetland hydrology criteria for greater than 5% of the growing season. No wells at the site satisfied the wetland hydrology criteria for a period exceeding 12.5% of the growing season.

- In 2005, surface-water Gauge A, located within a closed depression in Mitigation Area 2, recorded inundation to a depth of 163.3 m (535.8 ft) for greater than 5% of the growing season. Gauge A also recorded inundation to a depth of 163.2 m (535.4 ft) for greater than 12.5% of the growing season.
- No over-bank flooding from the Sangamon River is known to have occurred at the site during the 2005 growing season. However, over-bank flooding from the Sangamon River did occur in December 2004, January 2005, and February 2005. The areas that met wetland hydrology criteria for the 2005 growing season did so primarily as a result of the water retained in Mitigation Area 2 after these flood events.

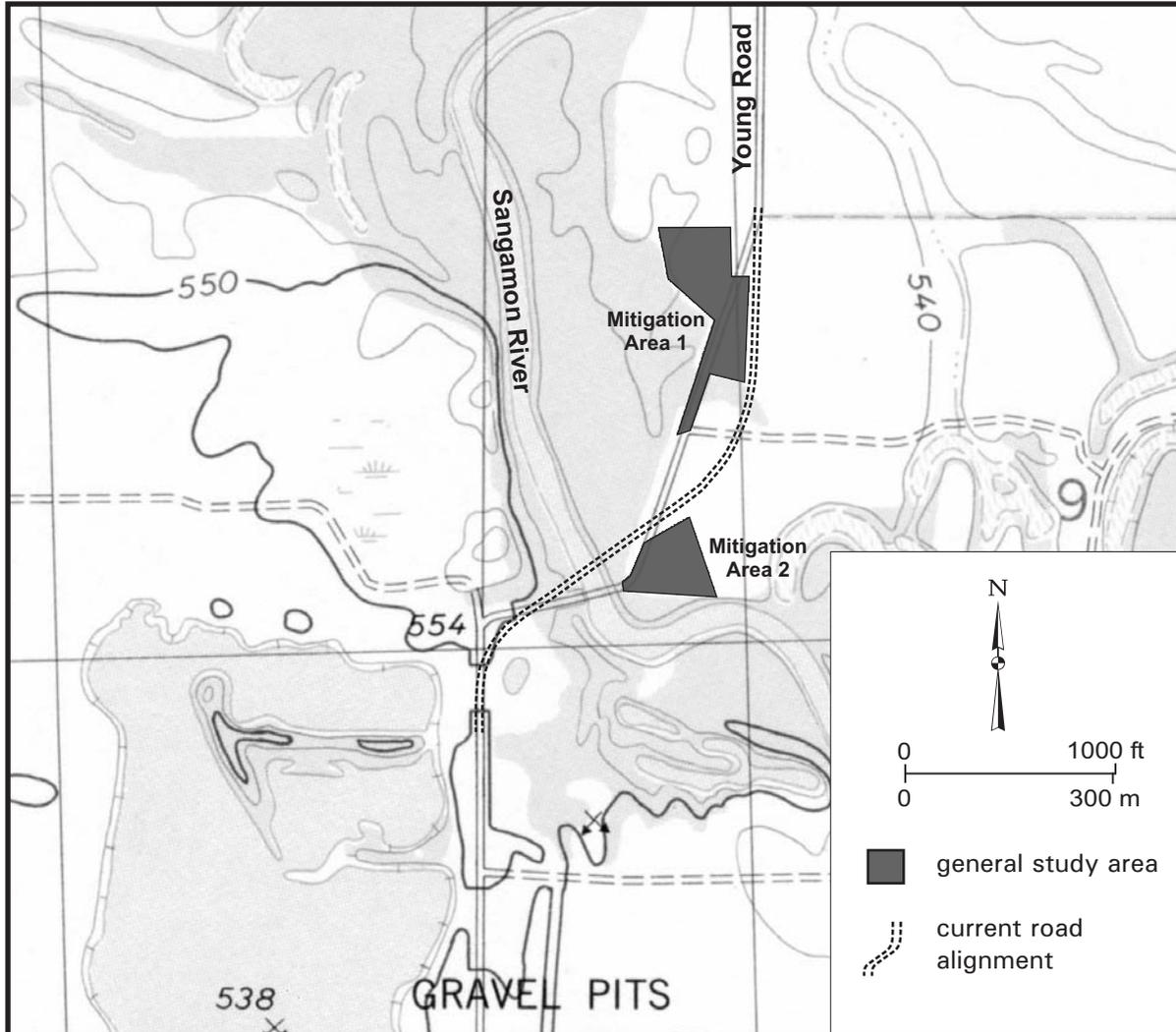
PLANNED FUTURE ACTIVITIES

- 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



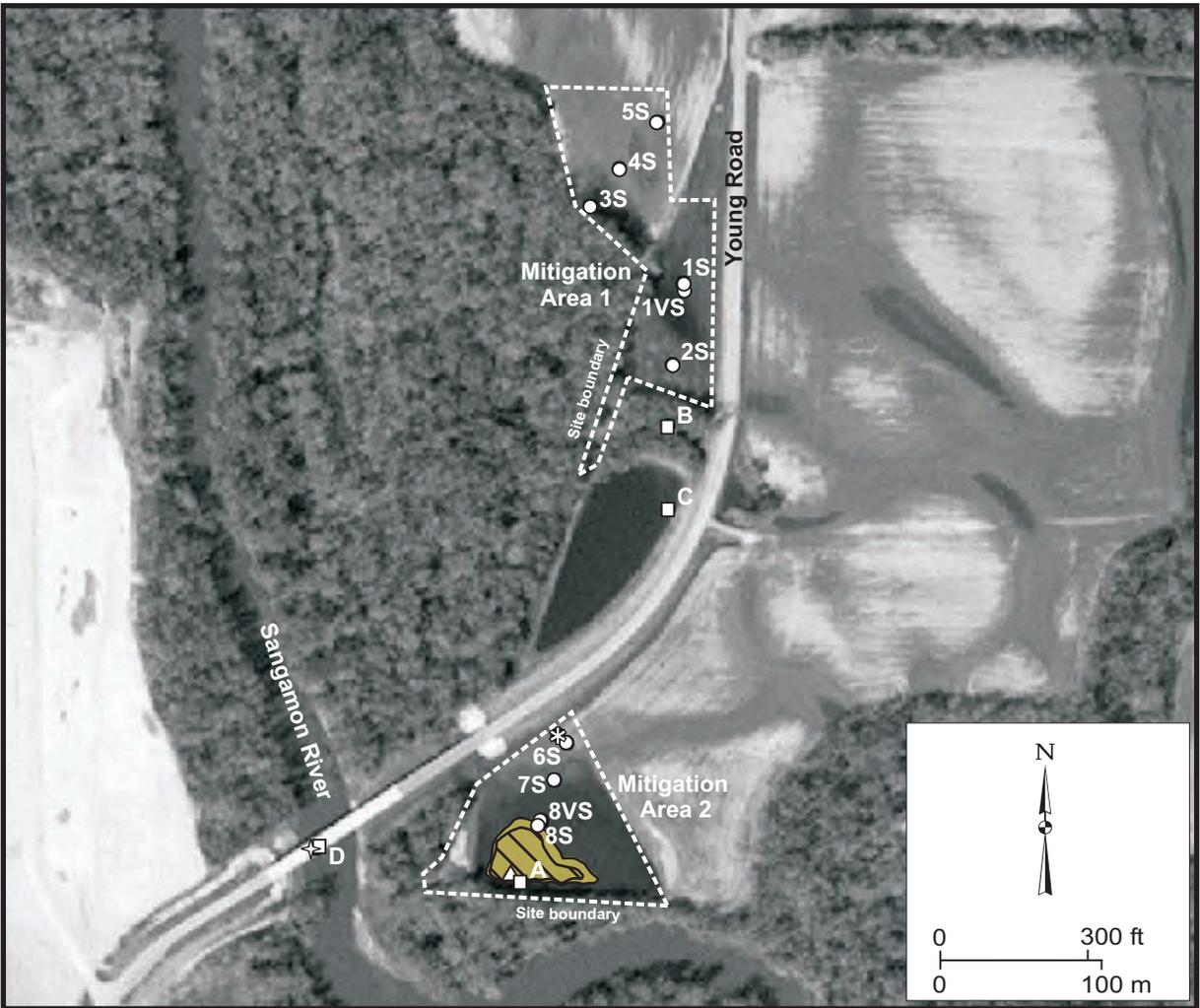
Buckhart Wetland Compensation Site

[FAS 1637 (TR 478)]

Estimated Areal Extent of 2005 Wetland Hydrology

based on data collected between September 1, 2004 and September 1, 2005

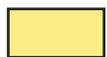
Map based on USGS digital orthophotographs, Mechanicsburg, SE and SW quarter quadrangles produced from 4/12/98 aerial photography (ISGS 2004)



2005 Wetland Hydrology



>12.5% of the growing season



>5% of the growing season

○ monitoring well

□ stage gauge

△ RDS data logger/In-Situ data logger

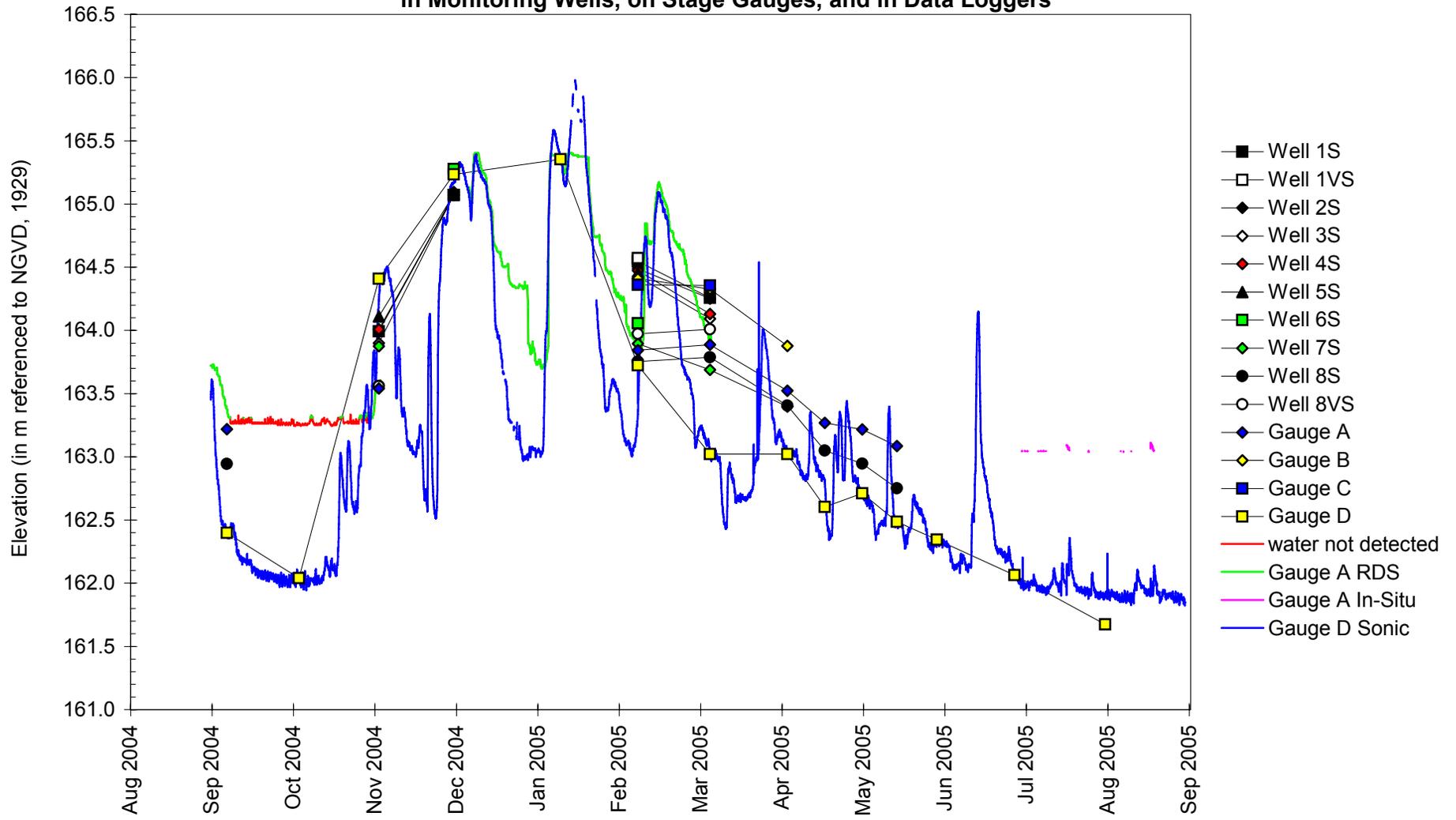
* rain gauge

☆ Sonic data logger

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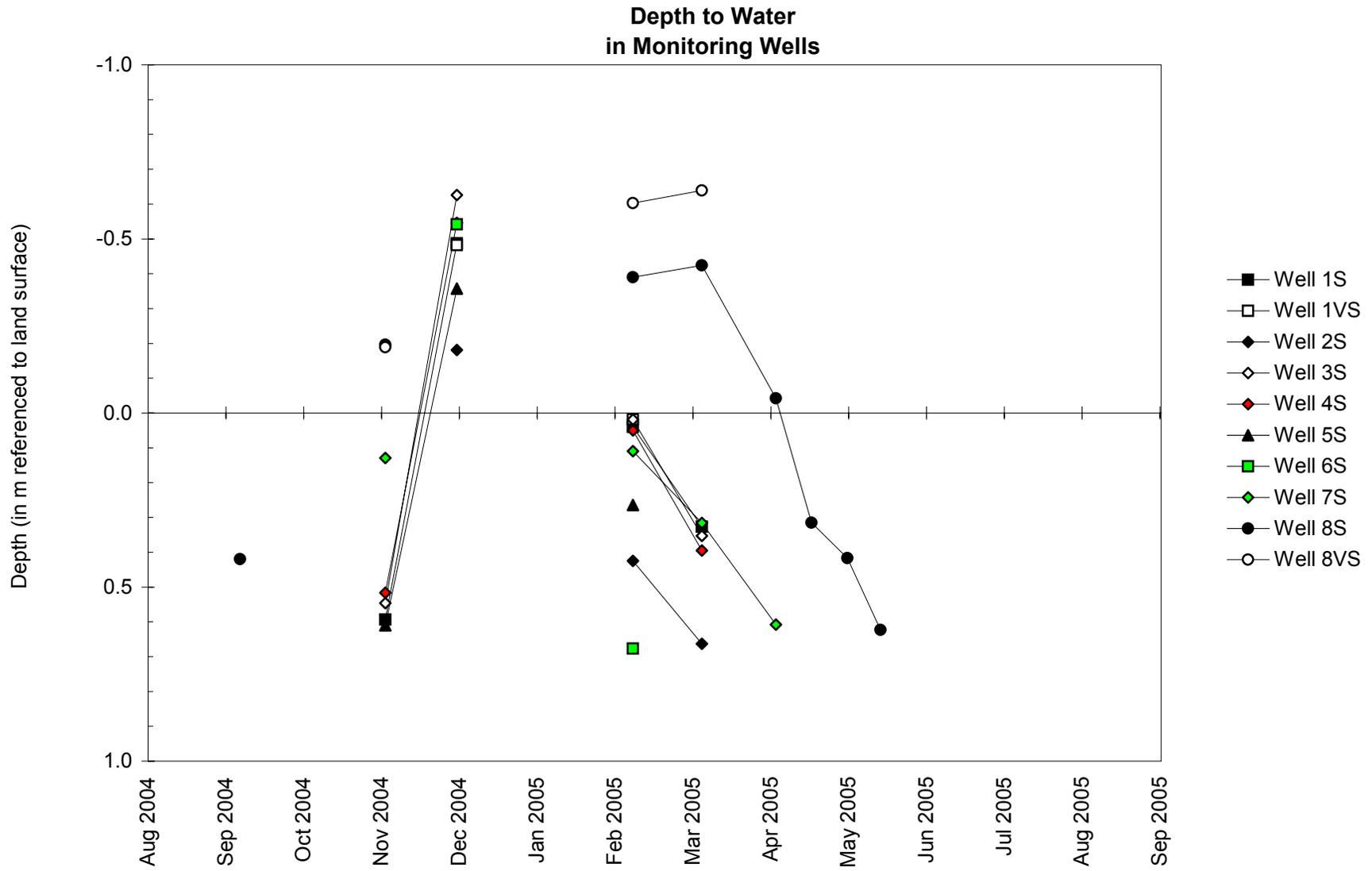
September 1, 2004 to September 1, 2005

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



Buckhart Wetland Compensation Site

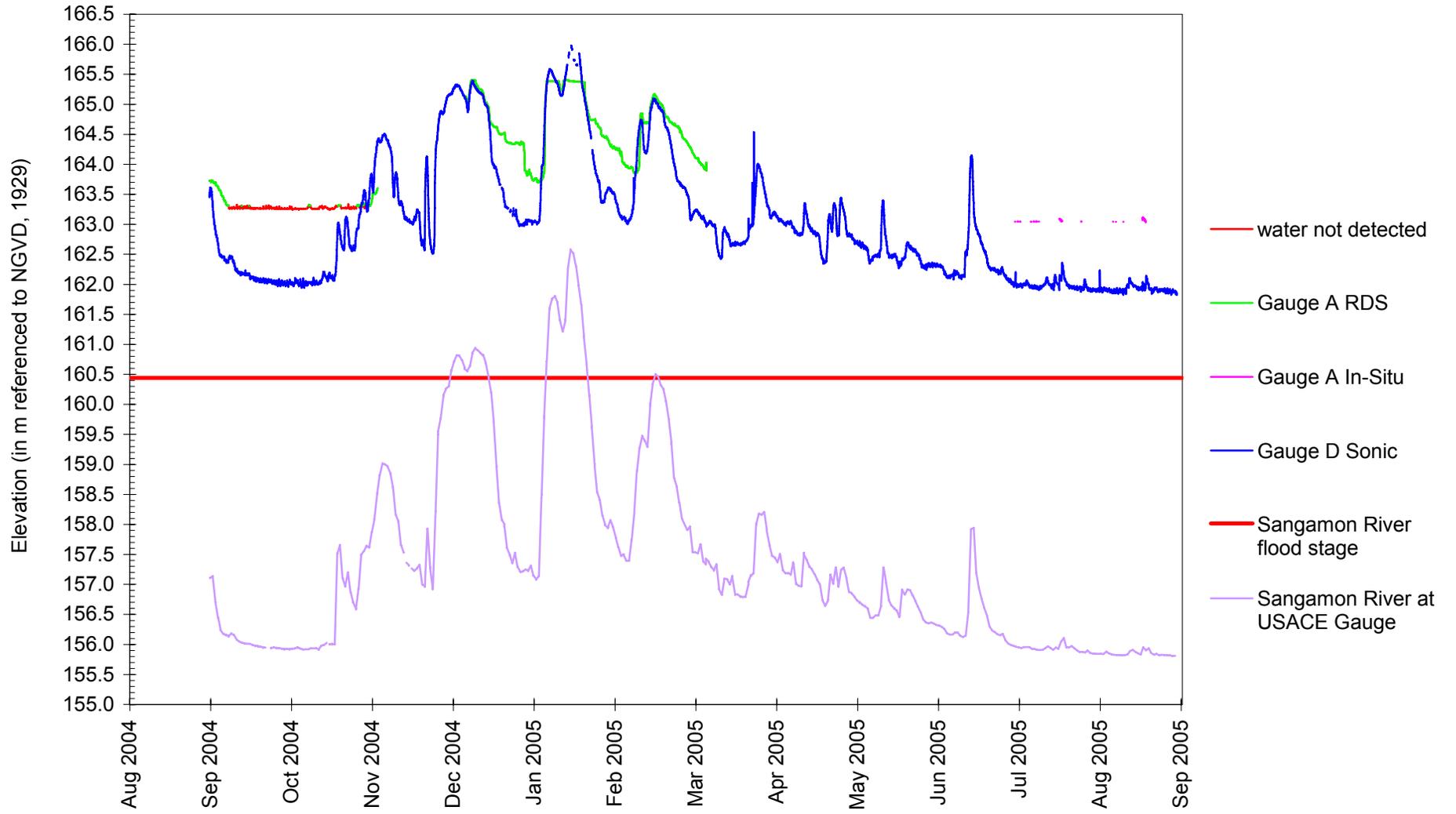
September 1, 2004 to September 1, 2005



Buckhart Wetland Compensation Site

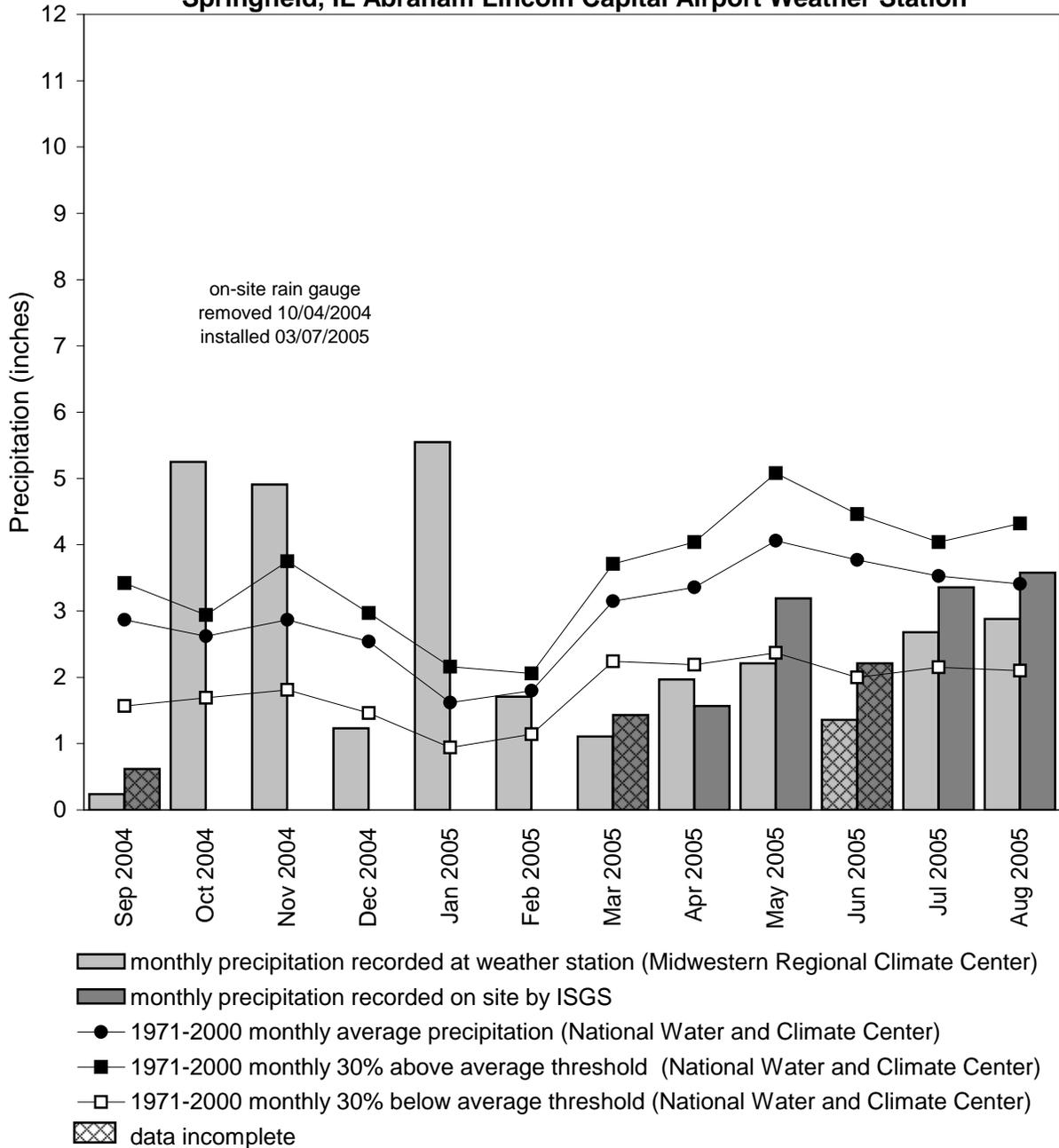
September 1, 2004 to September 1, 2005

Water-Level Elevations



Buckhart Wetland Compensation Site September 2004 through August 2005

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



Graph last updated October 24, 2005