FORMER WESSEL PROPERTY **ISGS #52**
LA GRANGE WETLAND BANK SITE
Sequence #9579
Brown County, near La Grange, Illinois
Primary Project Manager: Keith W. Carr
Secondary Project Manager: Geoffrey E. Pociask

SITE HISTORY

- February 2000: ISGS was tasked by IDOT to conduct a Level II hydrogeologic assessment of the site, and began on-site activities in the Spring of 2000.

- January 2003: ISGS submitted a wetland banking instrument to IDOT.

- January 2005: A Level II report was submitted to IDOT (ISGS Open-File Series 2005–02).

- Fall 2005 and 2006: Extensive earthworks were undertaken by IDOT, including filling and plugging of several ditches, reshaping of the east levee, construction of a raised access road, and the excavation of a large basin in the north-central area of the site. Two large drainage tiles were located and removed by IDOT. A partial repair of the south levee breach was also completed by an adjacent landowner. In Fall of 2006, 2,849 trees were planted in Fields 4 and 7.

- Winter and Spring 2009: Similar to 2008, winter flooding and ice action caused damage to wells and planted trees. A total of 7 soil-zone wells were installed in March as replacements for damaged wells. A long-duration flood affected the site in 2009, inundating most of the property from mid-March to late May.

WETLAND HYDROLOGY CALCULATION FOR 2009

We estimate that the total area of the site that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the growing season in 2009 was 582 ha (1438 ac) out of a total site area of 666 ha (1645 ac). Further, 578 ha (1429 ac) also satisfied wetland hydrology criteria for greater than 12.5% of the growing season. Using new guidance proposed by the U.S. Army Corps of Engineers (2008), we estimate that 580 ha (1434 ac) satisfied wetland hydrology criteria for 14 or more consecutive days during the growing season. These estimates are based on the following factors:

- According to the MRCC, the median date that the growing season begins in nearby Rushville, Illinois is April 6 and the season lasts 208 days; 5% of the growing season is 10 days and 12.5% of the growing season is 26 days. According to methods outlined in the Midwest Regional Supplement (U.S. Army Corps of Engineers 2008), we estimate that February 27 was the starting date of the 2009 growing season based on vegetation growth and development observed at the wetland compensation site.

- Total precipitation for the monitoring period was 150% of normal. During the late-winter to spring period from February through June 2009, precipitation was 156% of normal, resulting in atypically moist conditions in the early part of the growing season. Only November 2008 and January 2009 had below normal precipitation; all other months

were within the normal range or above normal. Large, up-basin precipitation totals also triggered multiple flood peaks that kept the site mostly inundated during the spring of 2009.

- Due to long-duration flooding at the site, the U.S. Army Corps of Engineers gauge at the nearby lock and dam was the primary source of water-level elevation data. Only two nests of monitoring wells were accessible above the flood line for reading or surveying for most of the spring. Neither of the two soil-zone wells at these nests (2S or 14SR) satisfied wetland hydrology criteria.

- Water levels recorded at the U.S. Army Corps of Engineers stream gauging station showed surface-water inundation for a period sufficient to satisfy wetland hydrology criteria at an elevation of at least 134.75 m (442.09 ft) for greater than 5% of the growing season, an elevation of at least 134.50 m (441.27 ft) for 14 or more days of the growing season, and at an elevation of at least 134.25 m (440.45 ft) for greater than 12.5% of the growing season. There is good agreement between this gauge and on-site monitoring instruments in this year and in previous years.

PLANNED FUTURE ACTIVITIES

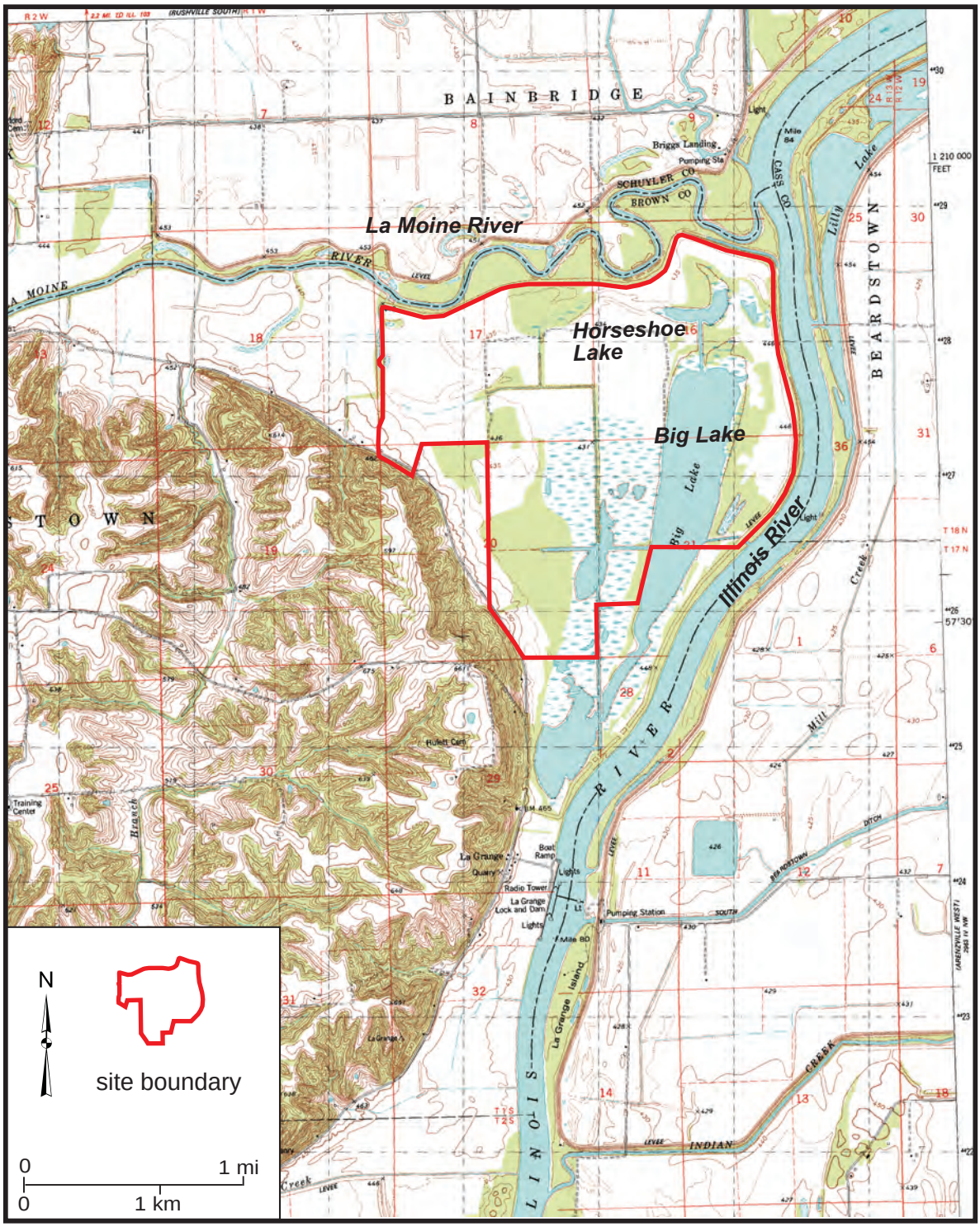
- Three flood-resistant data loggers will be added to the site in the Fall of 2009. Soil-zone wells damaged in the 2009 flooding will also be replaced prior to the start of the growing season. In addition, three water-quality dataloggers will be installed to help quantify site functions.

- Monitoring of hydrology will continue until no longer required by IDOT.

Former Wessel Property, La Grange Wetland Bank Site

General Study Area and Vicinity

from the USGS Topographic Series, Cooperstown, IL 7.5-minute Quadrangle (USGS 1980)
contour interval is 10 feet

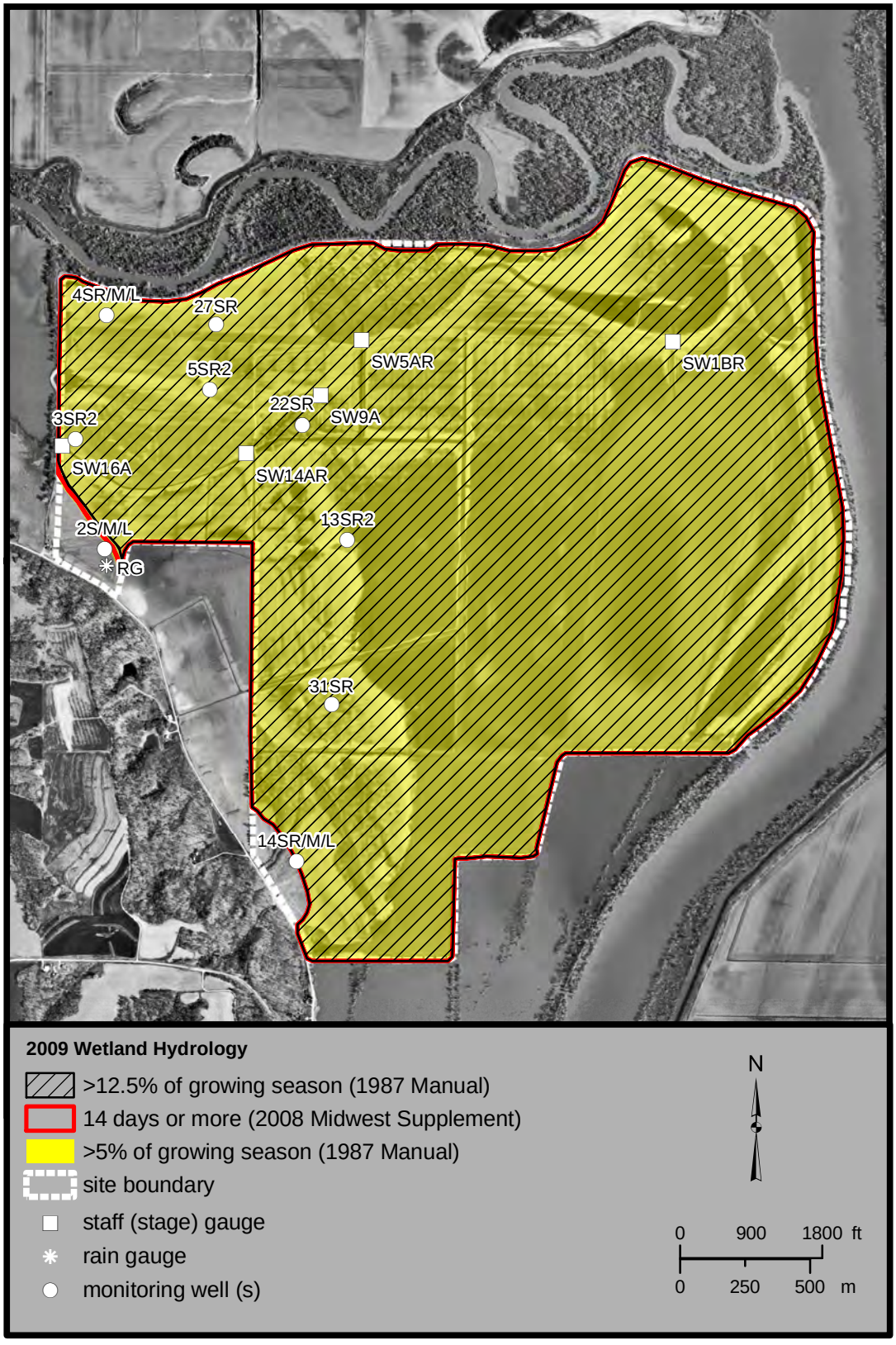


Former Wessel Property, La Grange Wetland Bank Site

Estimated Areal Extent of 2009 Wetland Hydrology

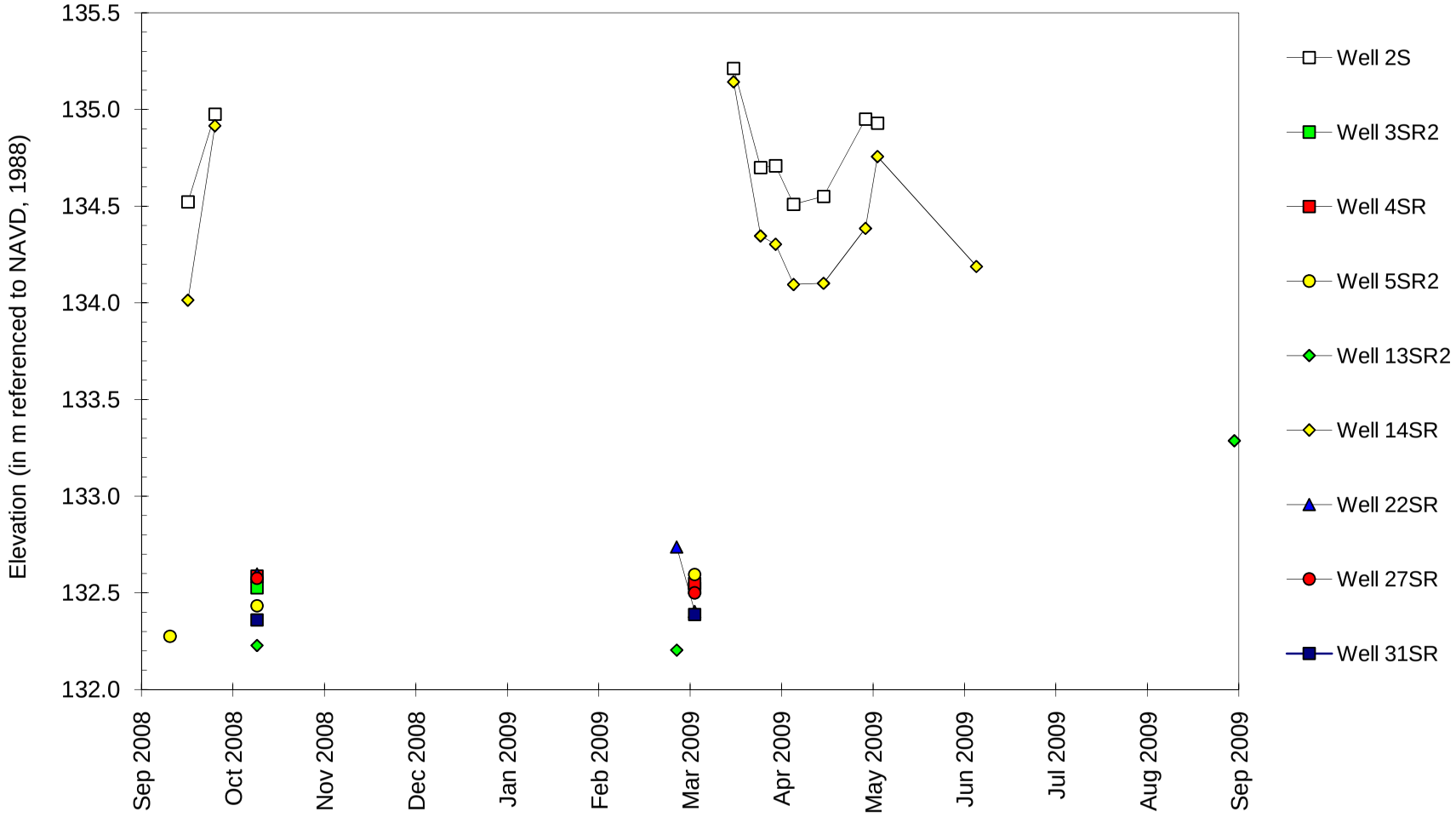
September 1, 2008 through August 31, 2009

map based upon USGS digital orthophotograph, Cooperstown NE quarter quadrangle, produced from 4/14/98 aerial photography (ISGS 2002)



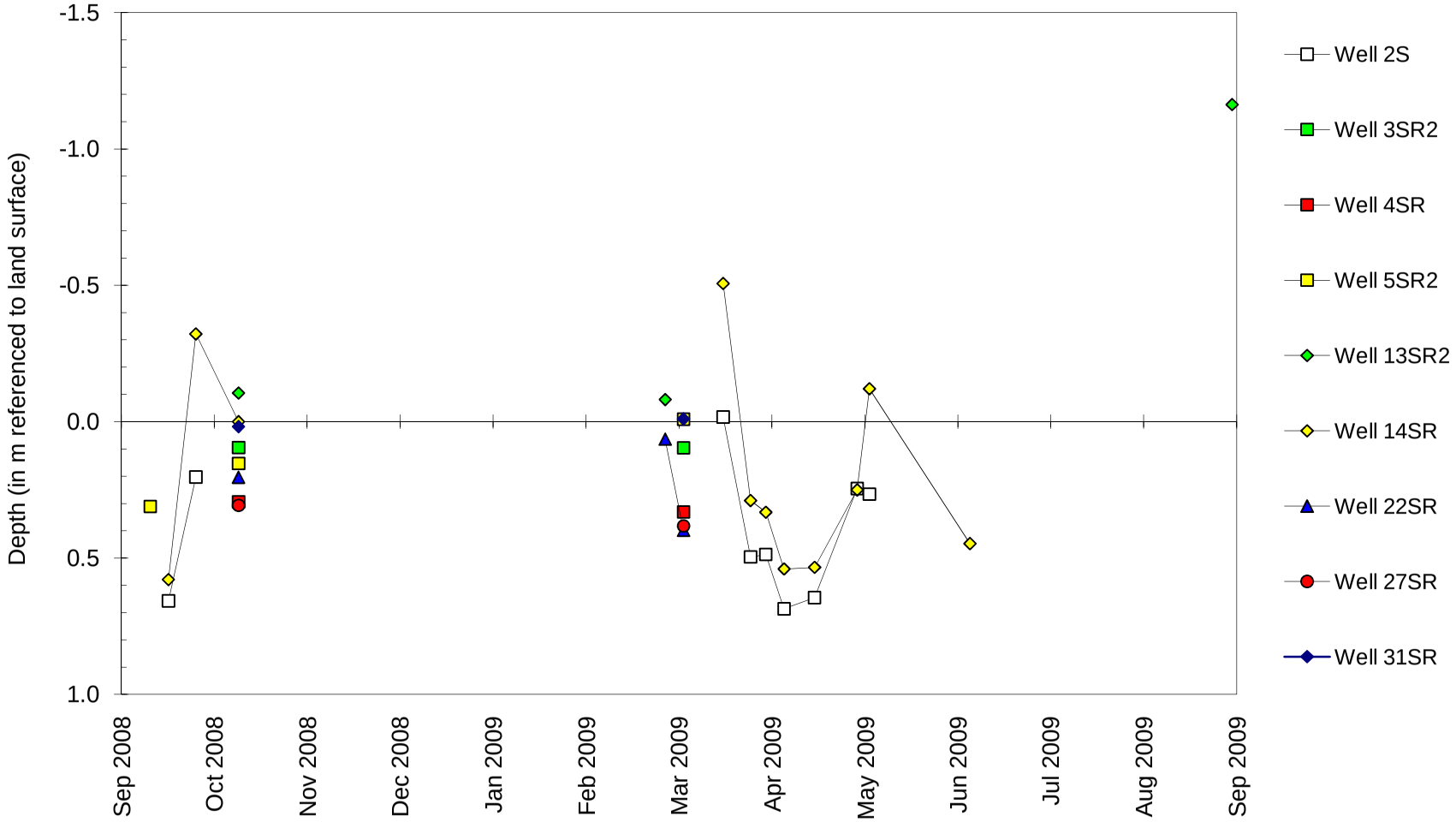
Former Wessel Property, La Grange Wetland Bank Site
September 1, 2008 through August 31, 2009

Water-Level Elevations in Shallow Monitoring Wells in the Terrace and Fan



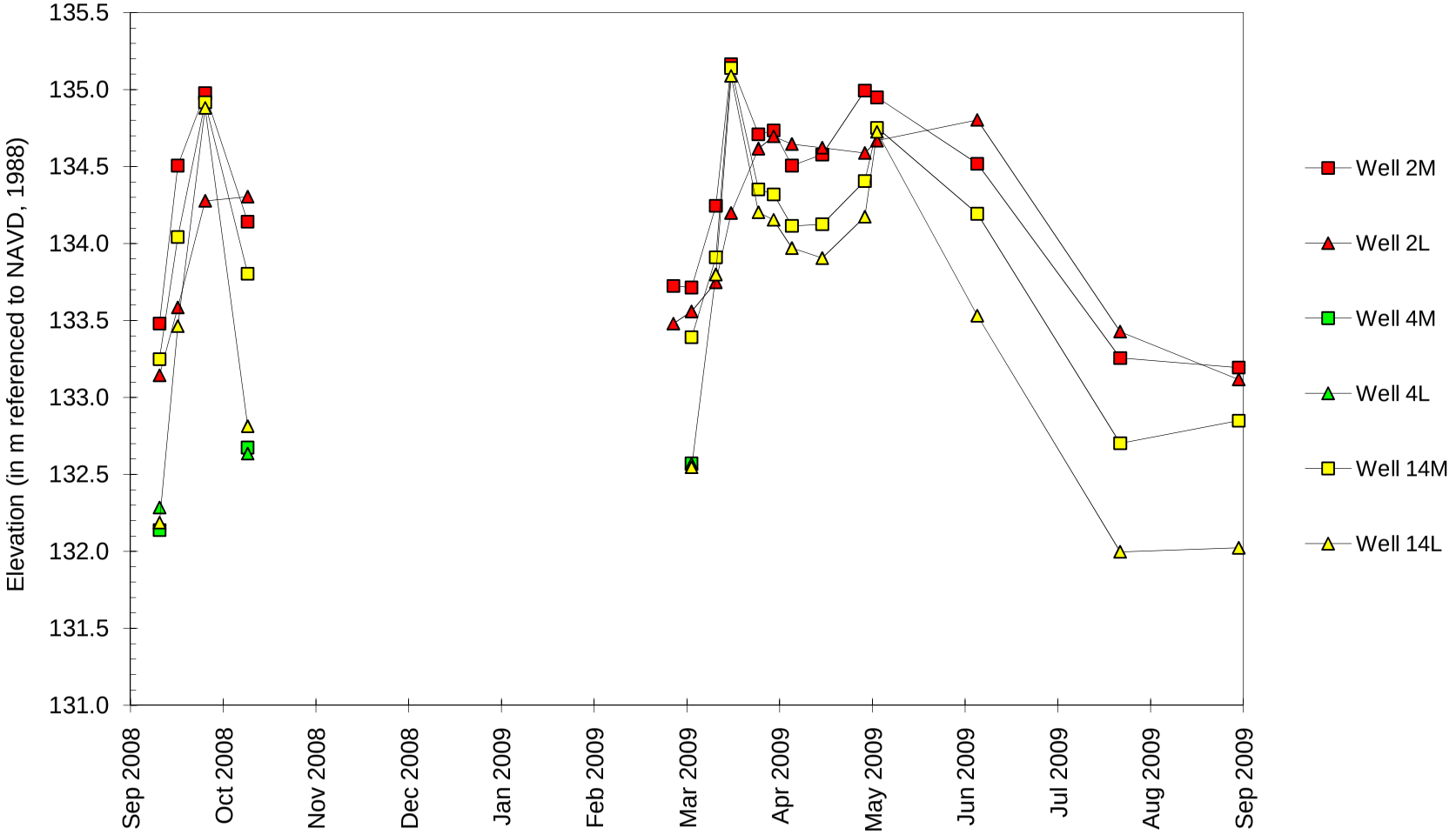
Former Wessel Property, La Grange Wetland Bank Site
September 1, 2008 through August 31, 2009

Depth to Water
in Shallow Monitoring Wells
in the Terrace and Fan



Former Wessel Property, La Grange Wetland Bank Site
September 1, 2008 through August 31, 2009

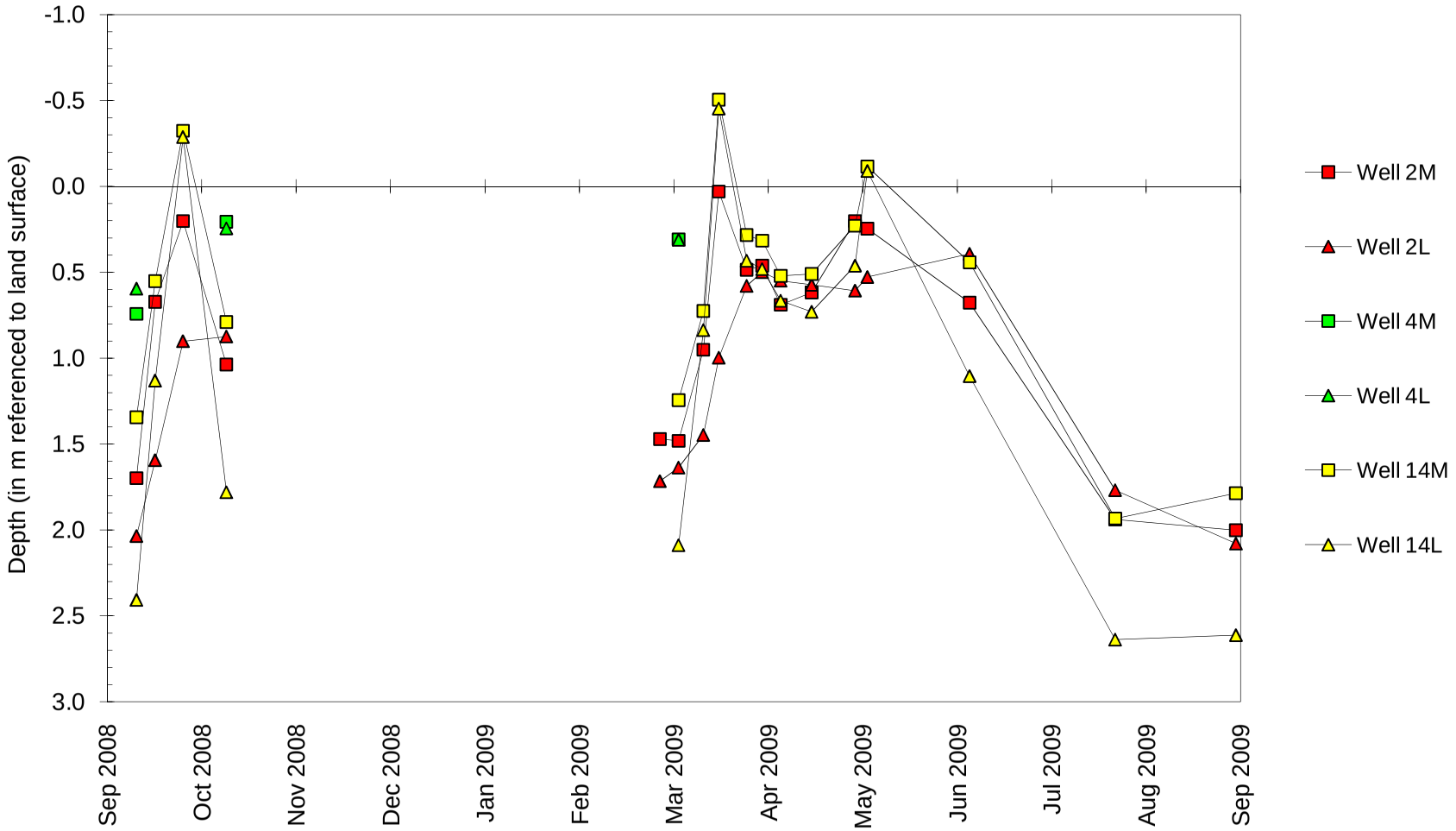
Water-Level Elevations in Deeper Monitoring Wells in the Terrace and Fan



Former Wessel Property, La Grange Wetland Bank Site

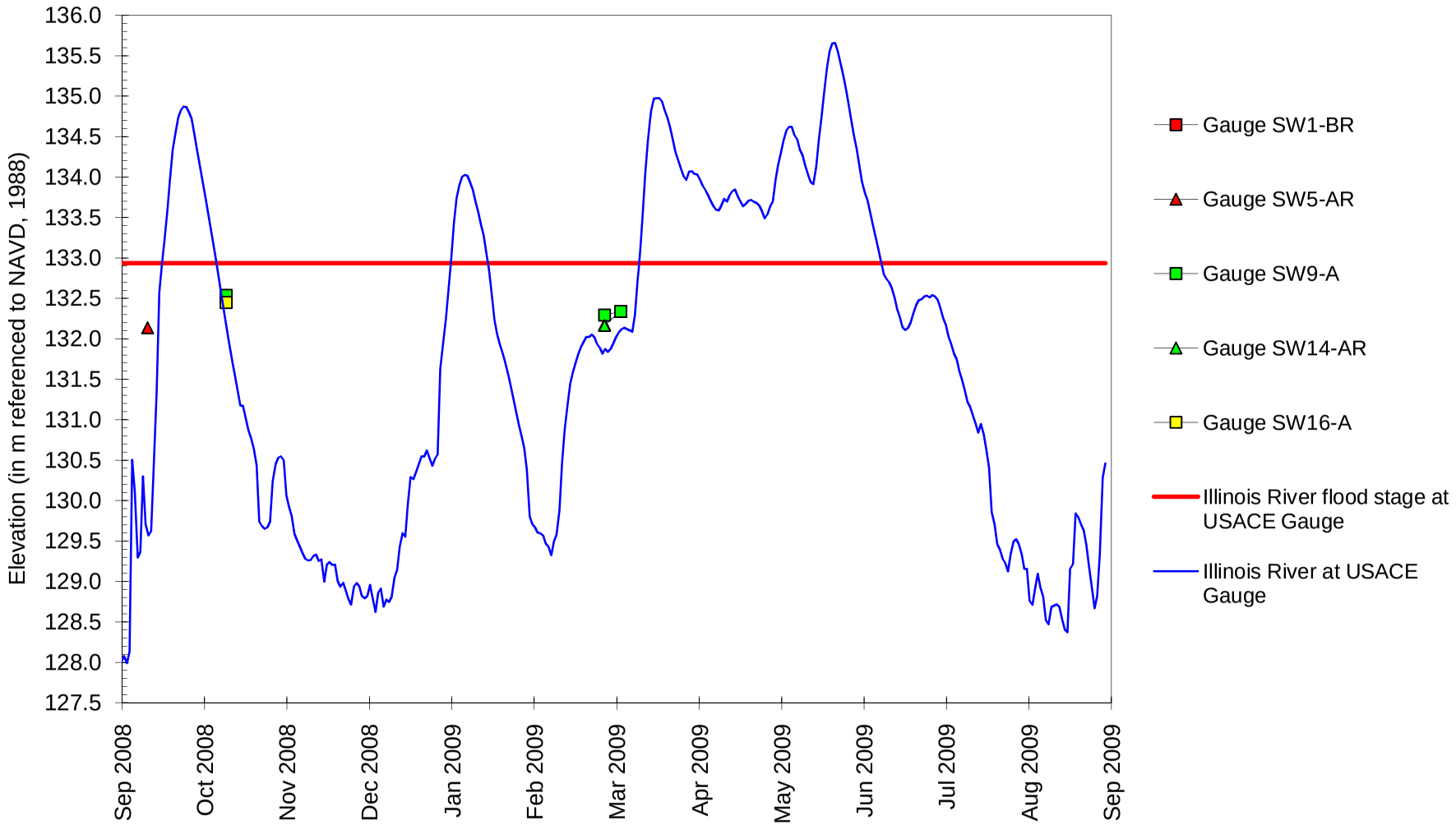
September 1, 2008 through August 31, 2009

Depth to Water
in Deeper Monitoring Wells
in the Terrace and Fan



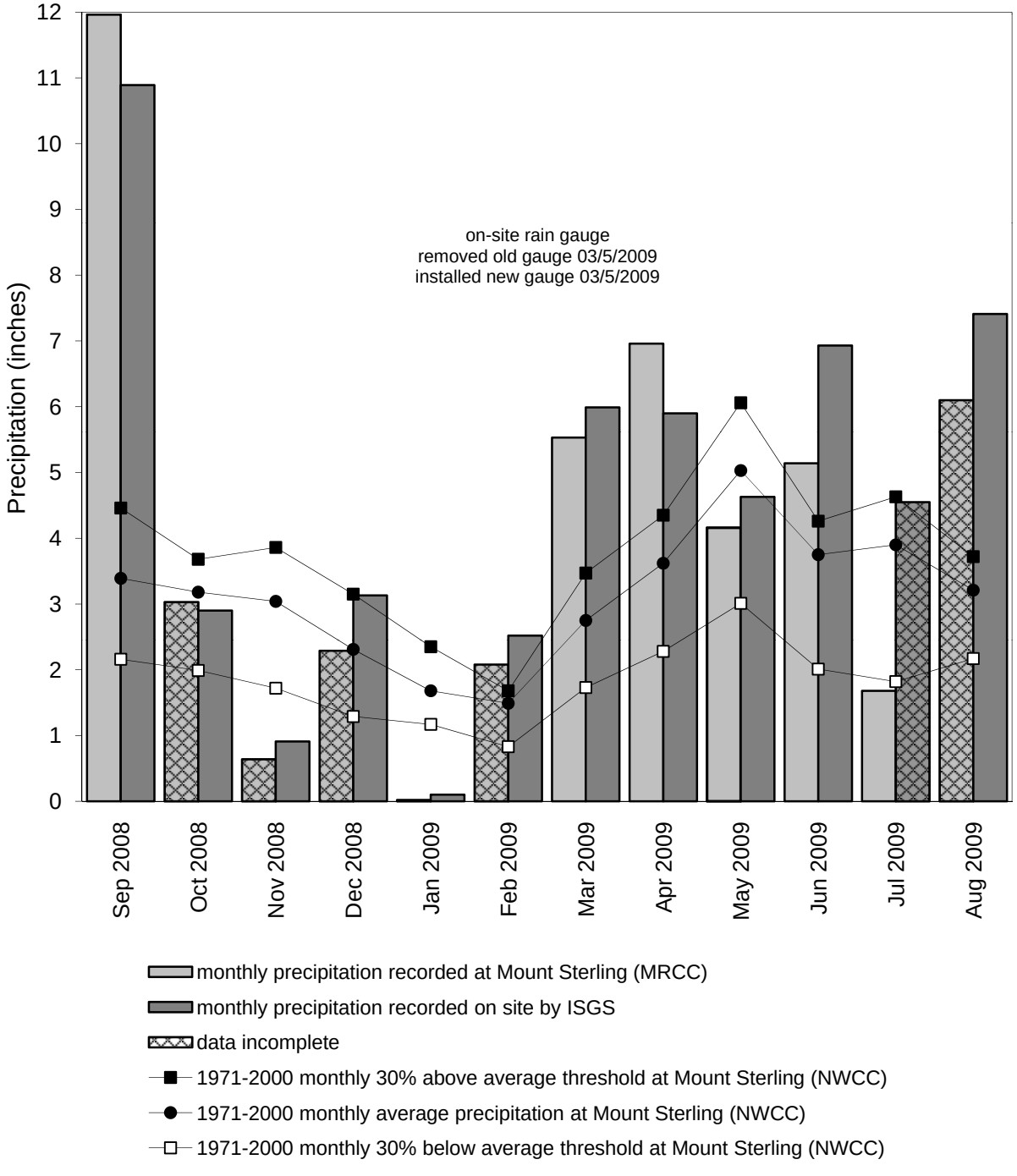
Former Wessel Property, La Grange Wetland Bank Site
September 1, 2008 through August 31, 2009

Water-Level Elevations on Surface Water Gauges



Former Wessel Property,
La Grange Wetland Bank
September 2008 through August 2009

Total Monthly Precipitation Recorded On Site and at the Mount Sterling, IL Weather Station



Graph last updated October 15, 2009