



**MORRIS, ILLINOIS RIVER
WETLAND BANK SITE**

ISGS #49

Grundy County, near Morris, Illinois

Primary Project Manager: Keith W. Carr

Secondary Project Manager: Geoffrey E. Pociask

SITE HISTORY

- March 1999: ISGS was tasked by IDOT to perform a Level II hydrogeologic assessment of the potential banking site.
- August 1999: ISGS began monitoring ground- and surface-water levels at the site.
- March 2001: ISGS reviewed a wetland mitigation plan proposed by IDOT and provided general information regarding site hydrological conditions.
- April 2003: During this month, drainage tile removal activities began in the east field, an area also known as the "spider" field. A second segment of tile was removed from this field during December of 2003. This concluded tile removal work at the bank site.
- Spring 2004: Trees were planted over large areas of the site. These areas, generally within soil units mapped by the NRCS and INHS as hydric, are fields slated for wetland restoration in the IDOT banking instrument.

WETLAND HYDROLOGY CALCULATION FOR 2005

We estimate that the total area of the site that satisfied the wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the growing season in 2005 was 1.75 ha (4.32 ac). Also in 2005, 1.13 ha (2.78 ac) satisfied wetland hydrology criteria for greater than 12.5% of the growing season. These estimates are based on the following factors:

- According to the Midwestern Climate Center, the median date that the growing season begins in Morris, Illinois, is April 13 and the season lasts 187 days; 5% of the growing season is 9 days and 12.5% of the growing season is 23 days.
- Total precipitation for the monitoring period was 83% of normal. Further, in the critical April to June period, precipitation dropped off sharply to only 51% of normal.
- In 2005, water levels measured in 3 of the 49 soil-zone monitoring wells (21S, 43S, and 43VS) satisfied wetland hydrology criteria for a period greater than 5% of the growing season, yielding a total acreage of 0.62 ha (1.54 ac) which satisfied wetland hydrology criteria in the "spider" field (also known as the "east" field). No wells satisfied wetland hydrology criteria for a period greater than 12.5% of the growing season. This portion of the site is a designated area of wetland restoration in the banking instrument.
- In the 2004–2005 season, two flood events from the Illinois and Mazon Rivers reached a peak stage value sufficient to inundate areas at or below 150.27 m (493 ft), an elevation encompassing the most extensive of the areas of the site undergoing wetland restoration. These two floods, however, occurred in December 2004 and January 2005 and were

therefore outside of the growing season. Thus, the major source of water delivery to the site, overland flooding, was entirely absent during the growing season.

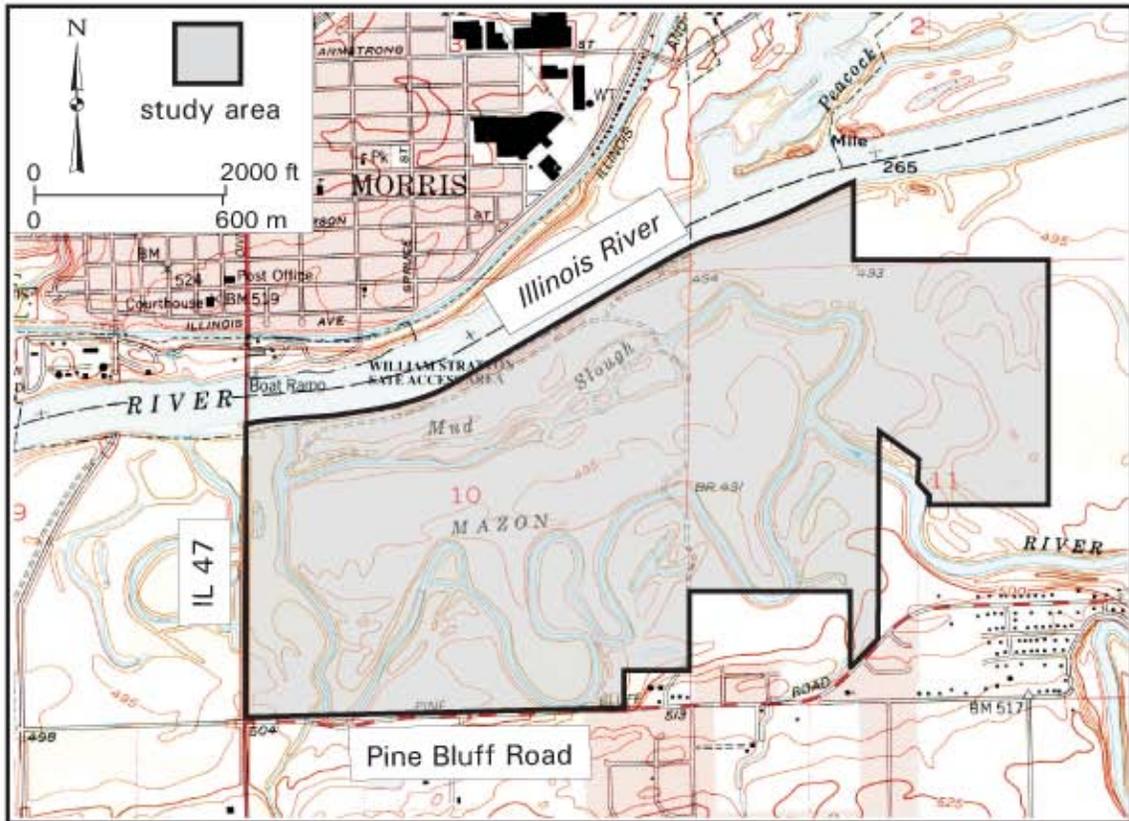
- According to staff gauge data, a closed depression at SW5 with an area of 0.33 ha (0.82 ac) was inundated for a period greater than 5% of the growing season to a level of 150.42 m (493.51 ft). The same acreage of 0.33 ha (0.82 ac) was also inundated for a period greater than 12.5% of the growing season to a level of 150.40 m (493.43 ft). Also, a second closed depression near SW7 with an area of 0.79 ha (1.96 ac) was inundated for a period greater than 5% of the growing season to a level of 149.84 m (491.60 ft). The same acreage of 0.79 ha (1.96 ac) was inundated for a period greater than 12.5% of the growing season to a level of 149.74 m (491.27 ft). Both of these locations are designated areas of wetland preservation in the banking instrument.
- As in previous years, perennial water bodies such as the creek channels were not included in areas having met wetland hydrology criteria.

PLANNED FUTURE ACTIVITIES

- Monitoring will continue until no longer required by IDOT.
- Site instrumentation will be altered in the spring of 2006. A number of soil zone wells will be removed in areas not slated for wetland preservation, enhancement, or restoration.
- A Level II hydrogeological characterization report is under preparation for submission to IDOT.

Morris, Illinois River Wetland Bank Site General Study Area and Vicinity

from the USGS Topographic Series, Morris, IL 7.5-minute Quadrangle (USGS 1993)
contour interval is 5 feet



Morris, Illinois River Wetland Bank Site
Estimated Areal Extent of 2005 Wetland Hydrology
 based on data collected between September 1, 2004 and September 1, 2005

Map based on USGS digital orthophotograph, Morris NE quarter quadrangle
 from 4/5/1998 aerial photography (ISGS 2001)

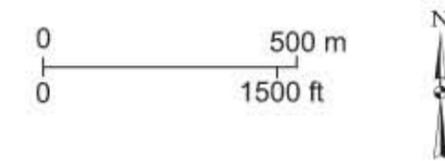


LEGEND

2005 WETLAND HYDROLOGY

- > 5% of the growing season
- > 12.5% of the growing season
- approximate site boundary

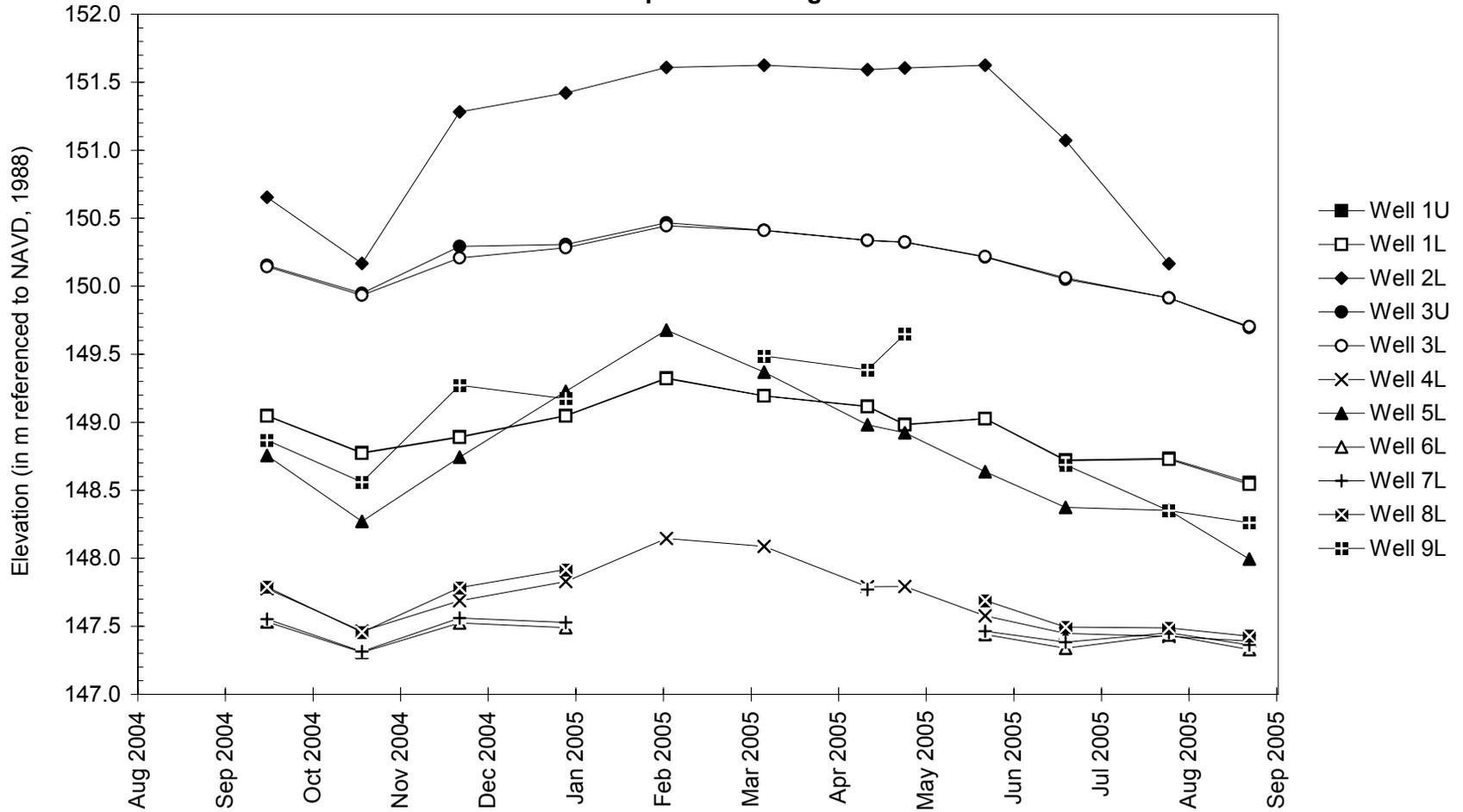
- soil-moisture probe
- stage gauge
- Infinities sonic data logger
- RDS data logger
- rain gauge
- ISGS monitoring well
- Global data logger



Morris, Illinois River Potential Wetland Banking Site

September 1, 2004 to September 1, 2005

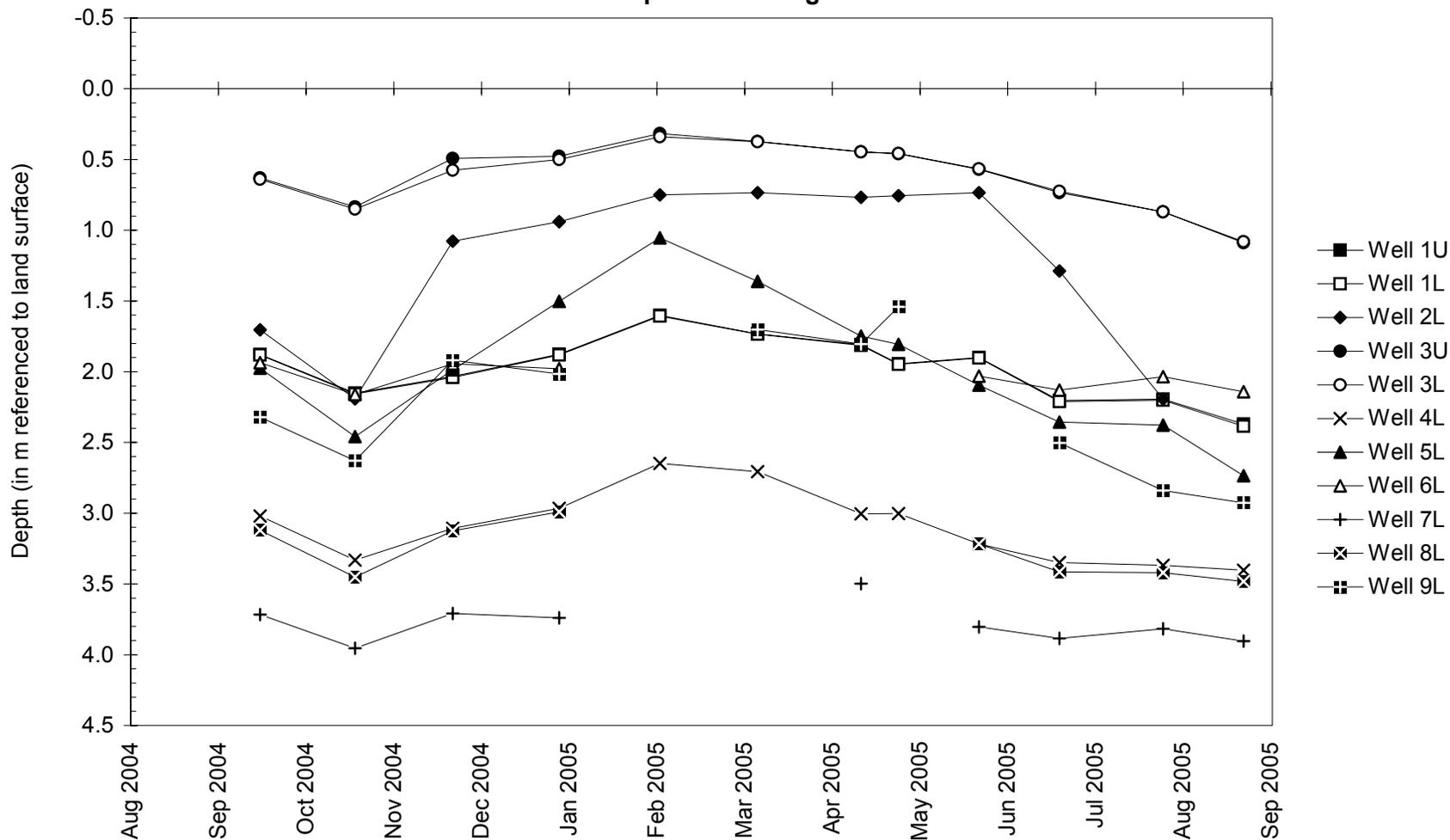
Water-Level Elevations in Deeper Monitoring Wells



Morris, Illinois River Potential Wetland Banking Site

September 1, 2004 to September 1, 2005

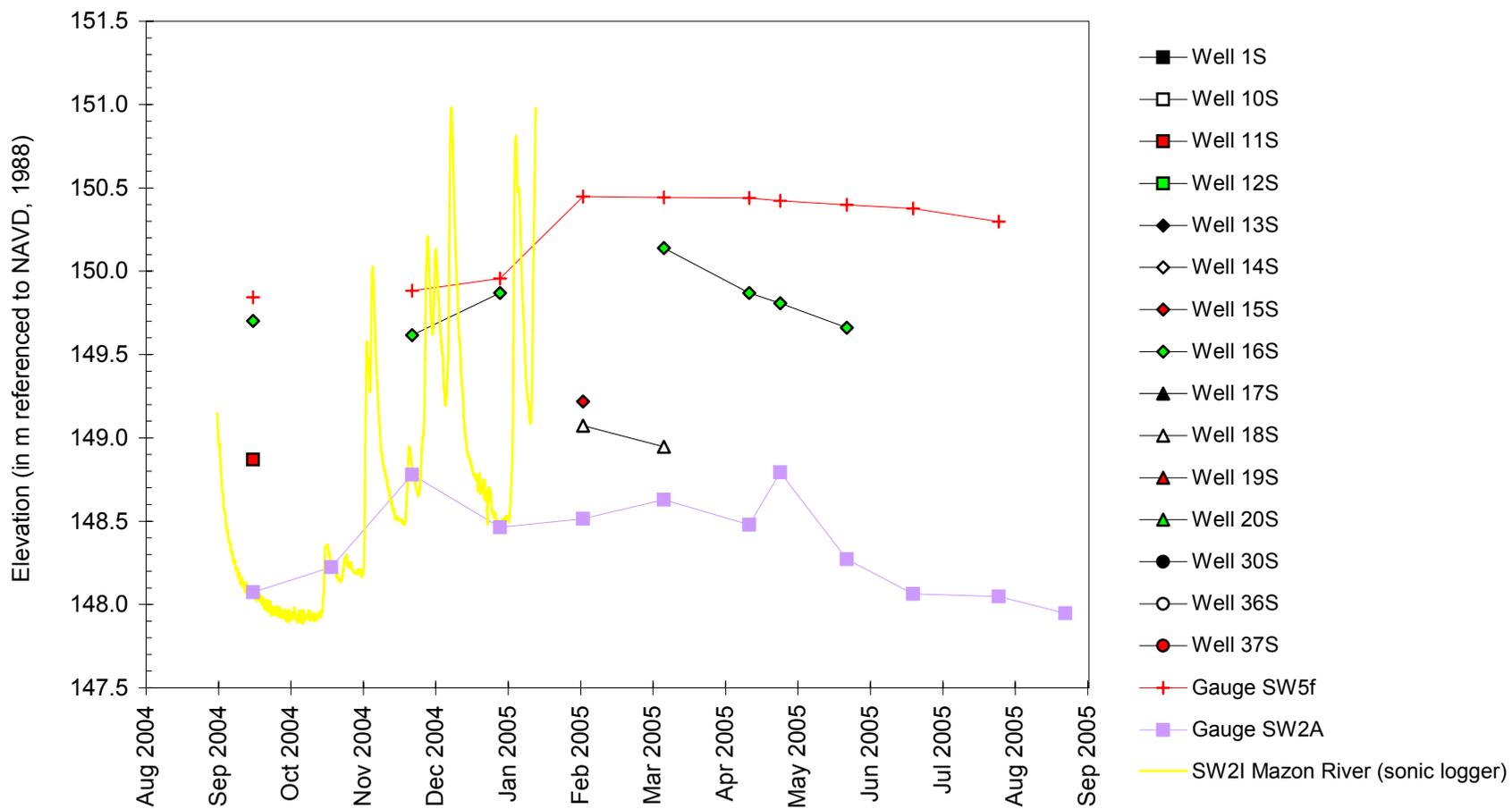
Depth to Water in Deeper Monitoring Wells



Morris, Illinois River Potential Wetland Banking Site

September 1, 2004 to September 1, 2005

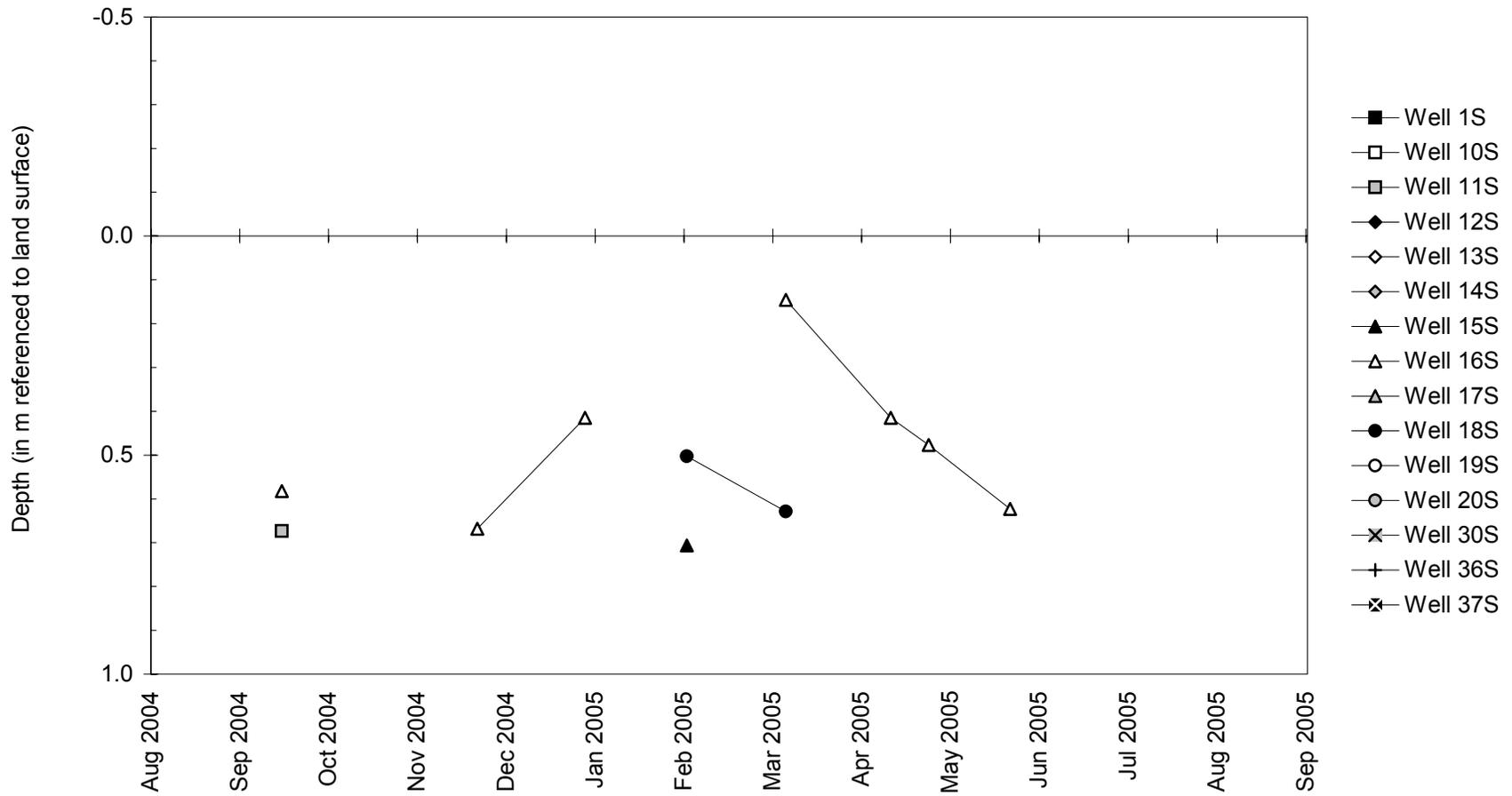
Water-Level Elevations in Soil-Zone Monitoring Wells, Data Loggers, and Stage Gauges South of the Mazon River



Morris, Illinois River Potential Wetland Banking Site

September 1, 2004 to September 1, 2005

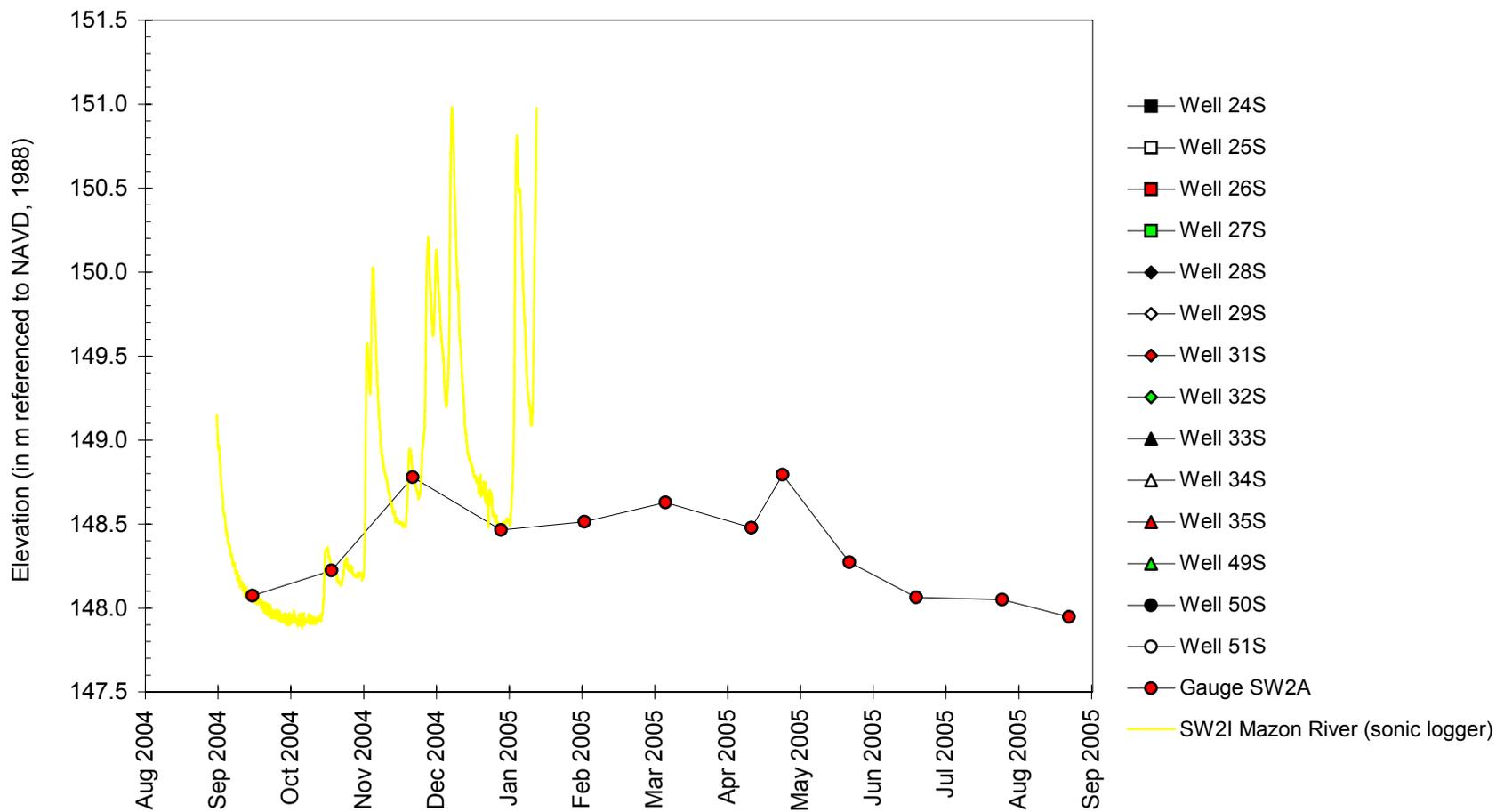
Depth to Water in Soil-Zone Monitoring Wells South of the Mazon River



Morris, Illinois River Potential Wetland Banking Site

September 1, 2004 to September 1, 2005

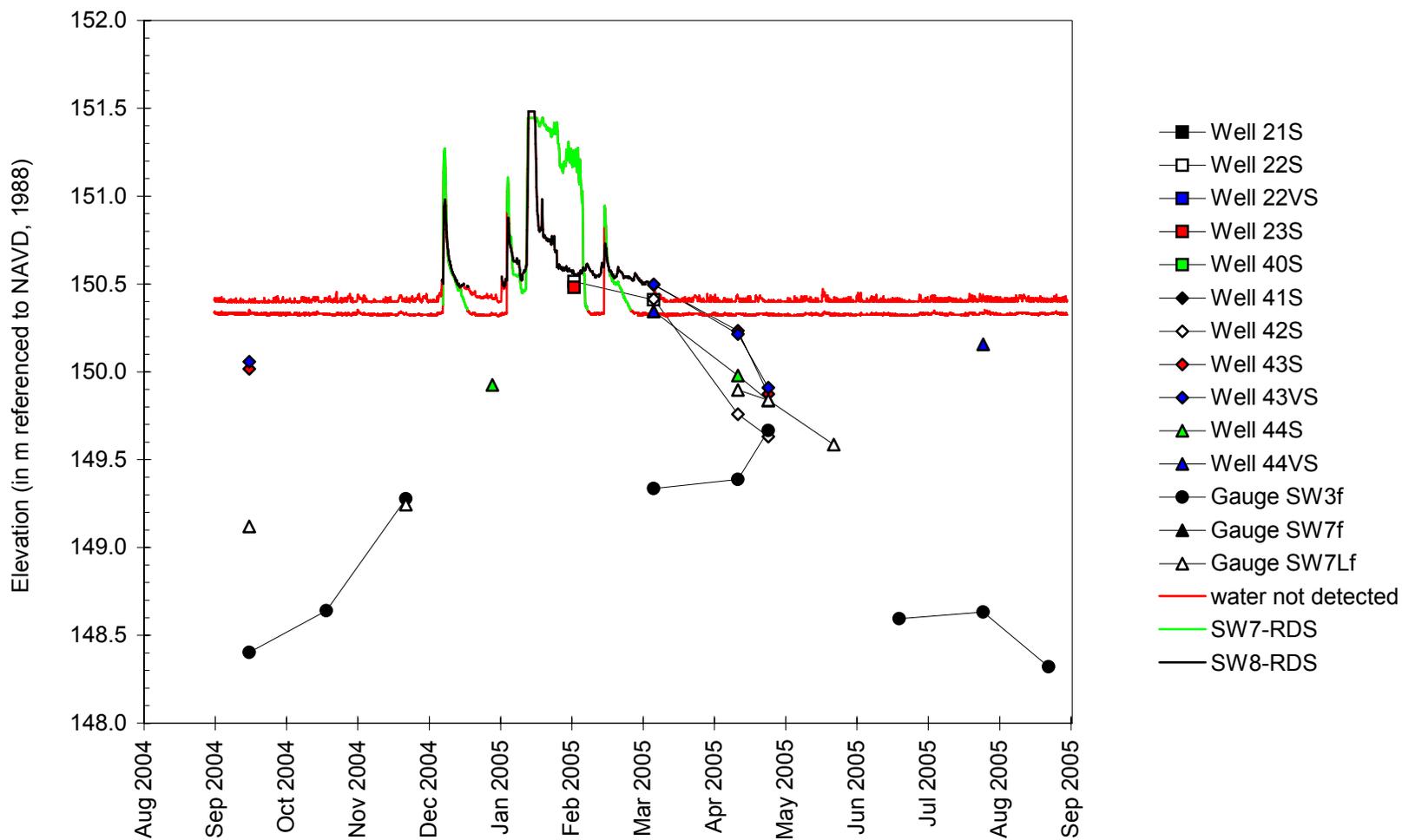
Water-Level Elevations in Soil-Zone Monitoring Wells, Data Loggers, and Stage Gauges North of the Mazon River



Morris, Illinois River Potential Wetland Banking Site

September 1, 2004 to September 1, 2005

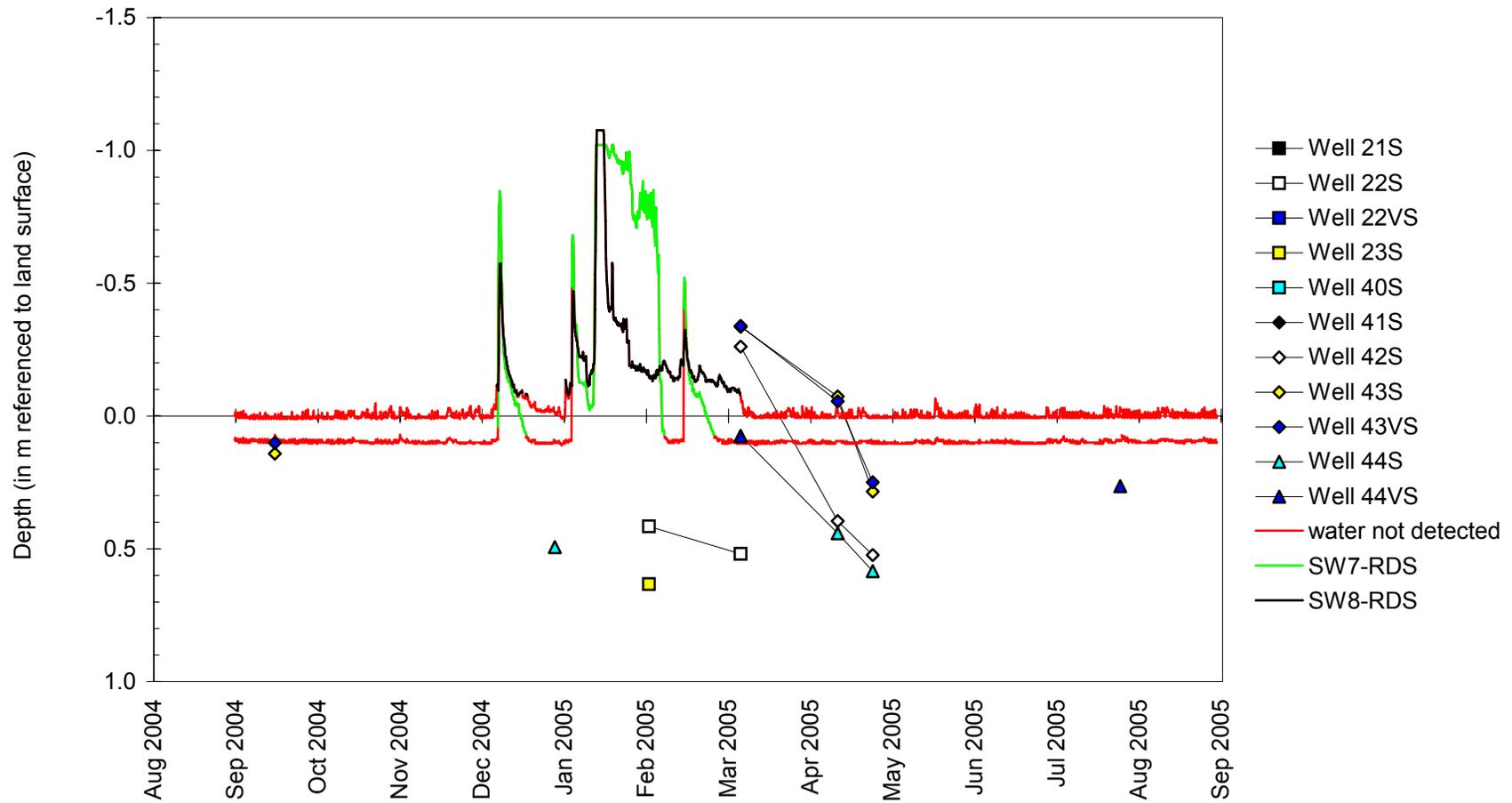
Water-Level Elevations in Soil-Zone Monitoring Wells, Data Loggers, and Stage Gauges in the East Field and near the Natural Slough



Morris, Illinois River Potential Wetland Banking Site

September 1, 2004 to September 1, 2005

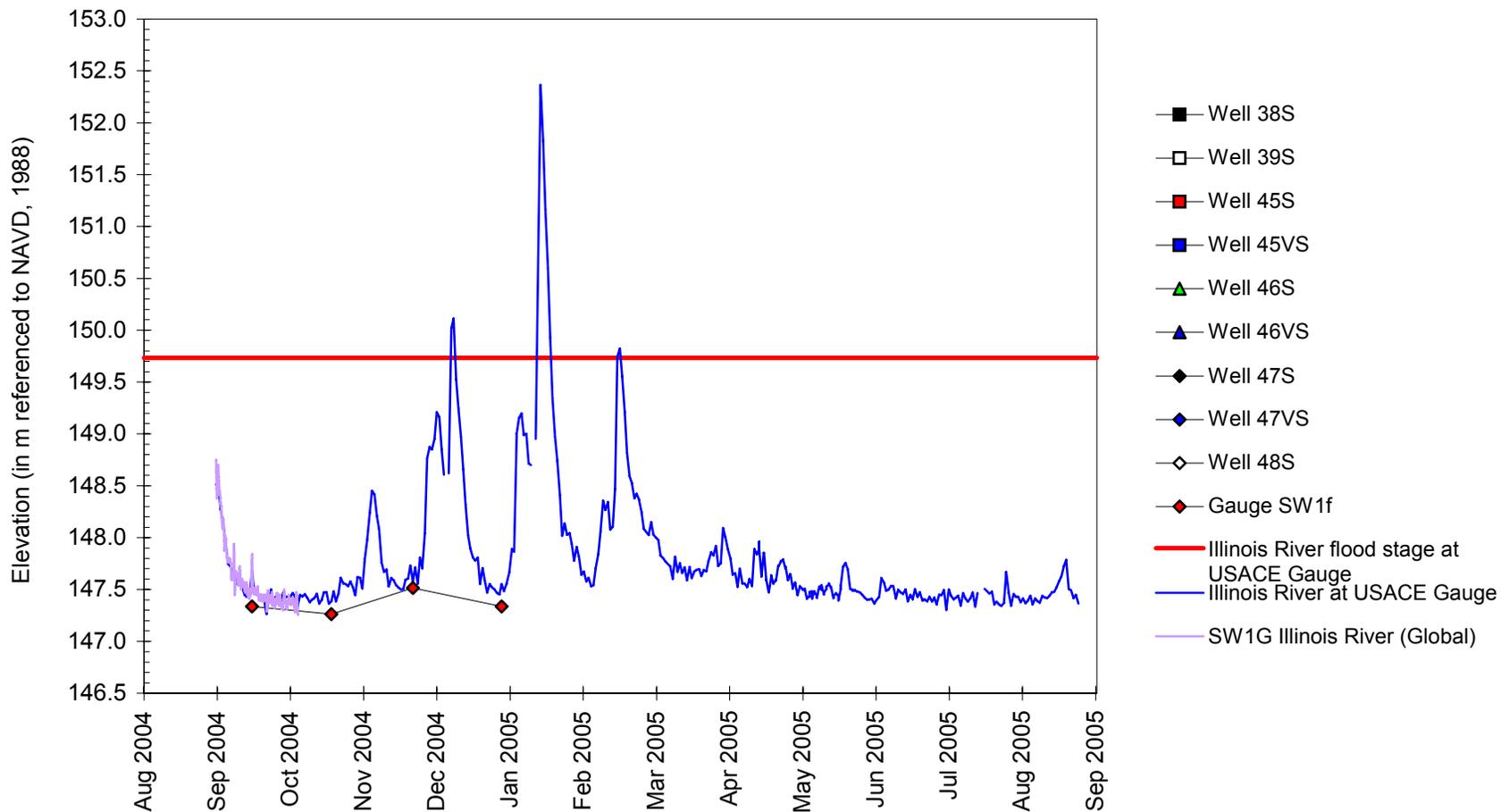
Depth to Water in Soil-Zone Monitoring Wells and Data Loggers in the East Field and near the Natural Slough



Morris, Illinois River Potential Wetland Banking Site

September 1, 2004 to September 1, 2005

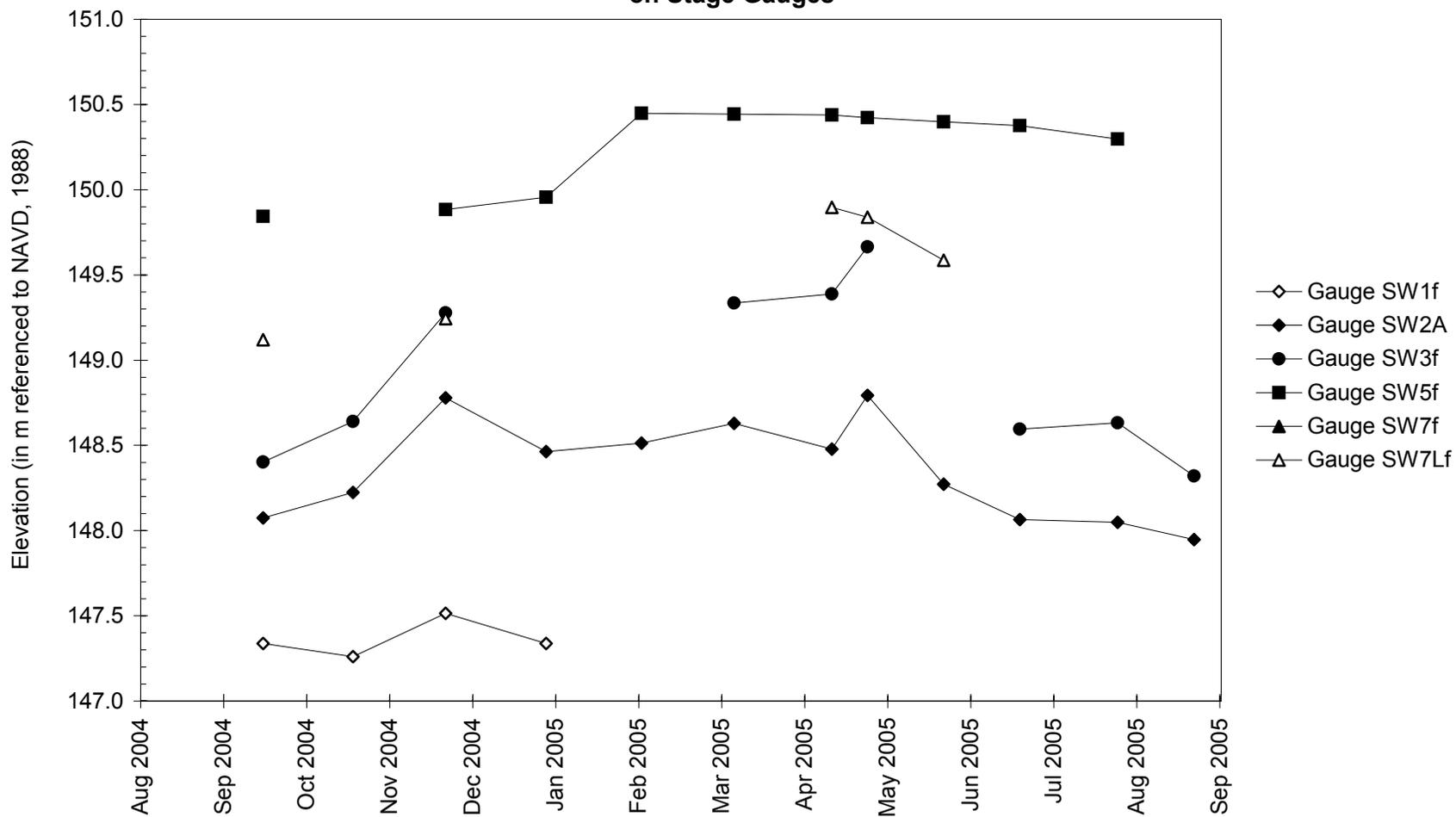
Water-Level Elevations in Monitoring Wells, Data Loggers, and Stage Gauges near the Illinois River Floodplain Forest



Morris, Illinois River Potential Wetland Banking Site

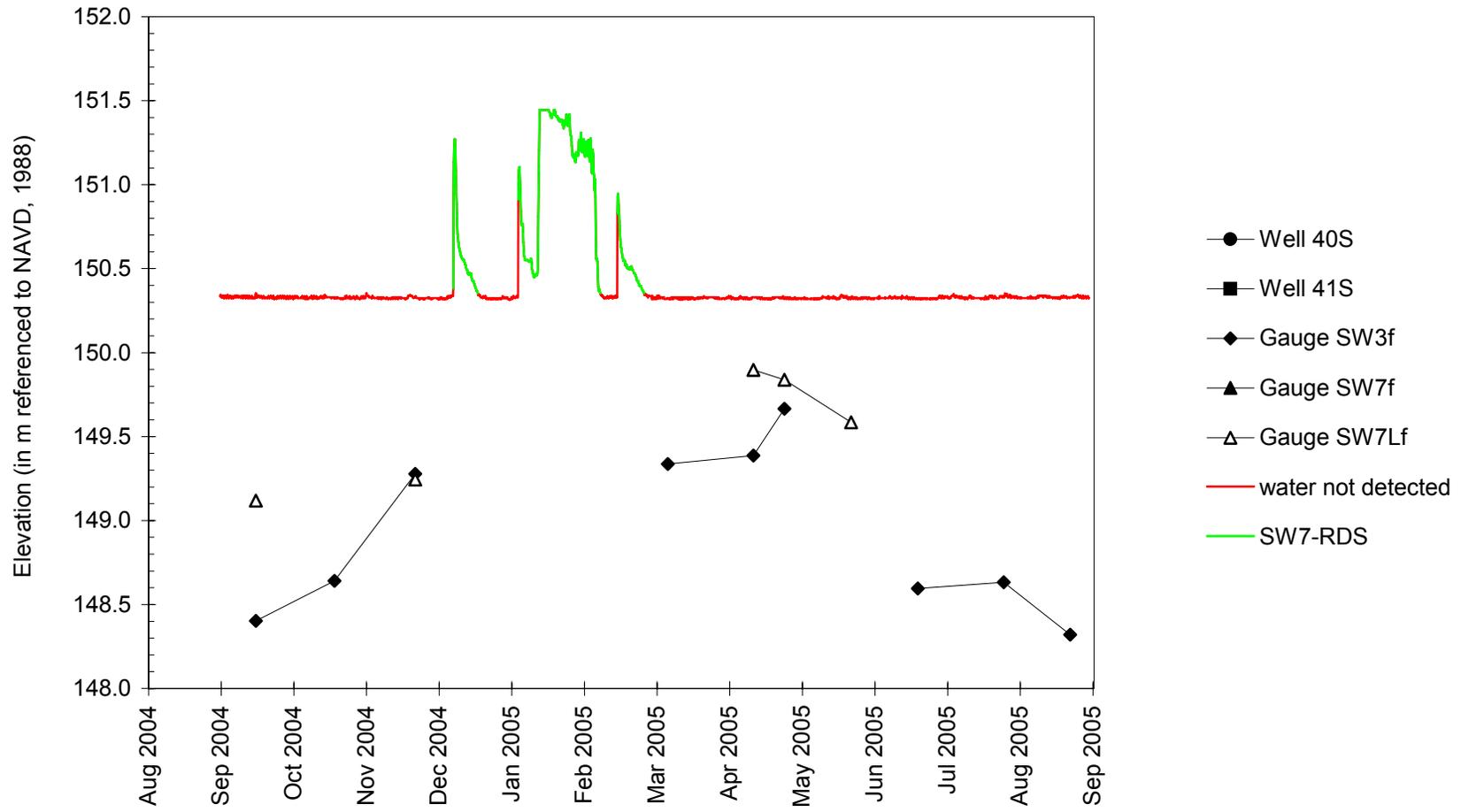
September 1, 2004 to September 1, 2005

Water-Level Elevations on Stage Gauges



Morris, Illinois River Potential Wetland Banking Site September 1, 2004 to September 1, 2005

Water-Level Elevations in Soil-Zone Monitoring Wells, Data Loggers, and Stage Gauges near the Natural Slough



**Morris, Illinois River
Potential Wetland Banking Site
September 2004 through August 2005
Total Monthly Precipitation Recorded On Site and at the
Channahon, IL and Morris, IL Weather Stations**

