

**MORRIS, ILLINOIS RIVER  
WETLAND BANK SITE**

**ISGS #49**

Sequence #1306

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.
- April and December 2003: Drainage tile removal was undertaken in the east field, also called the “spider” field. This concluded tile removal work at the bank site. In Spring 2004, trees were planted in wetland restoration areas on site.
- March 2007: A Level II hydrogeologic characterization report was submitted to IDOT (ISGS Open-File Series 2007–03).
- September 2008: A record flood stage occurred that exceeded the former record set in 1957. The flood peaked at 153.4 m (503.3 ft) on September 16 and inundated the entire site, including overtopping Pine Bluff Road south of the site. As in previous floods, the site drained rapidly and the duration of water levels greater than bankfull was only six days.

**WETLAND HYDROLOGY CALCULATION FOR 2008**

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 2008 was 15.6 ha (38.5 ac) out of a total site area of 342 ha (844 ac). Further, 6.3 ha (15.6 ac) also satisfied wetland hydrology criteria for greater than 12.5% of the growing season. Areas west of IL 47 are not included in these totals. These estimates are based on the following factors:

- According to the MRCC, 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 103% of normal. During the four-month period from December 2007 to March 2008, precipitation was 101% of normal, resulting in normal conditions entering the growing season. In the April to August period of the growing season, however, precipitation dropped off to only 75% of normal. Extreme September 2008 precipitation totals (400% of normal) caused a large overbank flood at the site.
- In 2008, of the 46 active soil-zone wells on site, 19 satisfied wetland hydrology criteria for greater than 5% of the growing season, including 11SR, 12S, 16S, 18SR, 21SR, 35SR2, 40S, 42S, 43S, 43VS, 44S, 44VS, 46SR2, 48SR2, 51SR, 54SR, 56SR, 57S, and 61S. Further, nine of these wells satisfied wetland hydrology criteria for greater than 12.5% of the growing season, including 16S, 21SR, 42S, 43S, 43VS, 44S, 44VS, 56SR, and 57S.

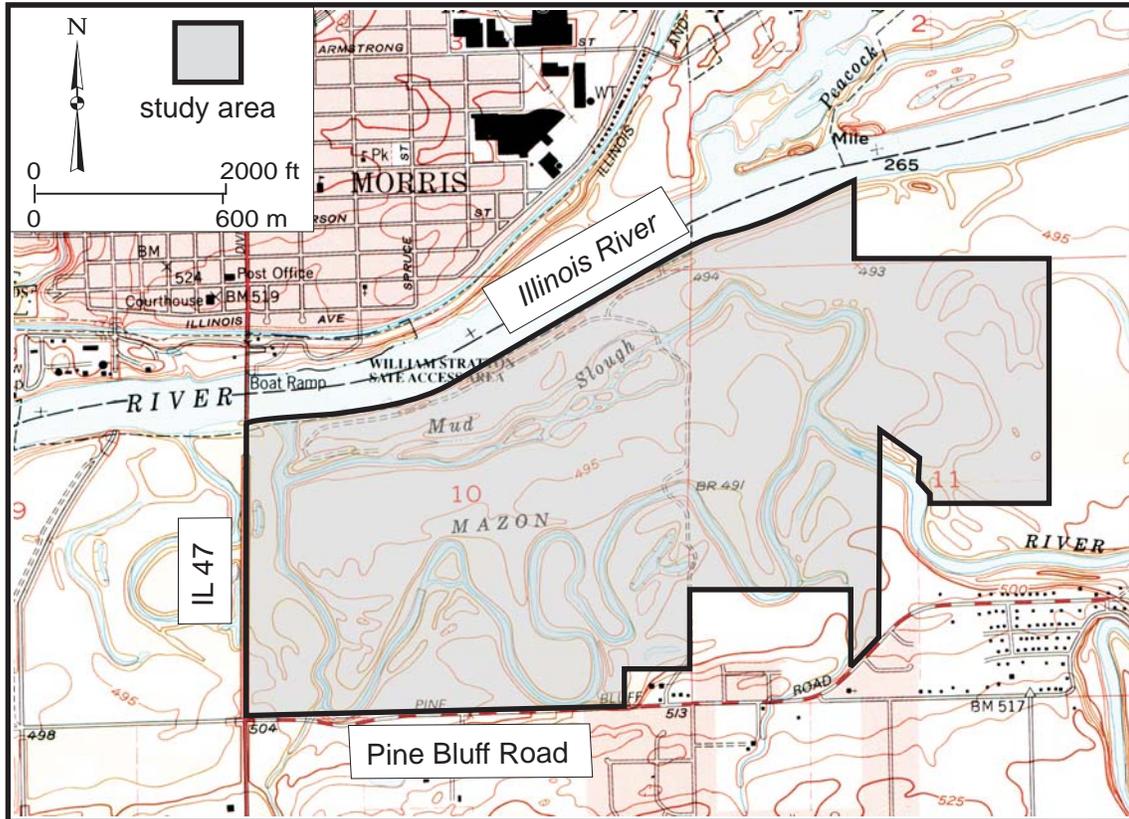
- Staff gauges or data loggers in closed depressions at SW5, SW7, SW7L, SW8, SW9, SW10, SW11, and SW12 indicated inundation for a period greater than 5% of the growing season. Of these gauges, SW5, SW7L, SW9, SW10, and SW11 also showed inundation for a period greater than 12.5% of the growing season.
- In the 2007–2008 season, an on-site data logger at SW2 and the nearby USACE gauge showed that two small flood events during the first half of the growing season barely exceeded the bankfull elevation of the Mazon River and Mud Slough, roughly 149.4 m (490 ft). These floods were of short duration and did not flood significant areas of the site. In mid-September, a record flood affected the site. The unprecedented stage of 153.4 m (503.3 ft) deeply inundated the entire site. This flood, which peaked on September 16, was also of short duration (six days over bankfull). As in previous years, the flood duration itself was not sufficient to meet wetland hydrology criteria, nor did widespread areas of the site retain water for sufficient periods after the flood to do so.
- 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.

# 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



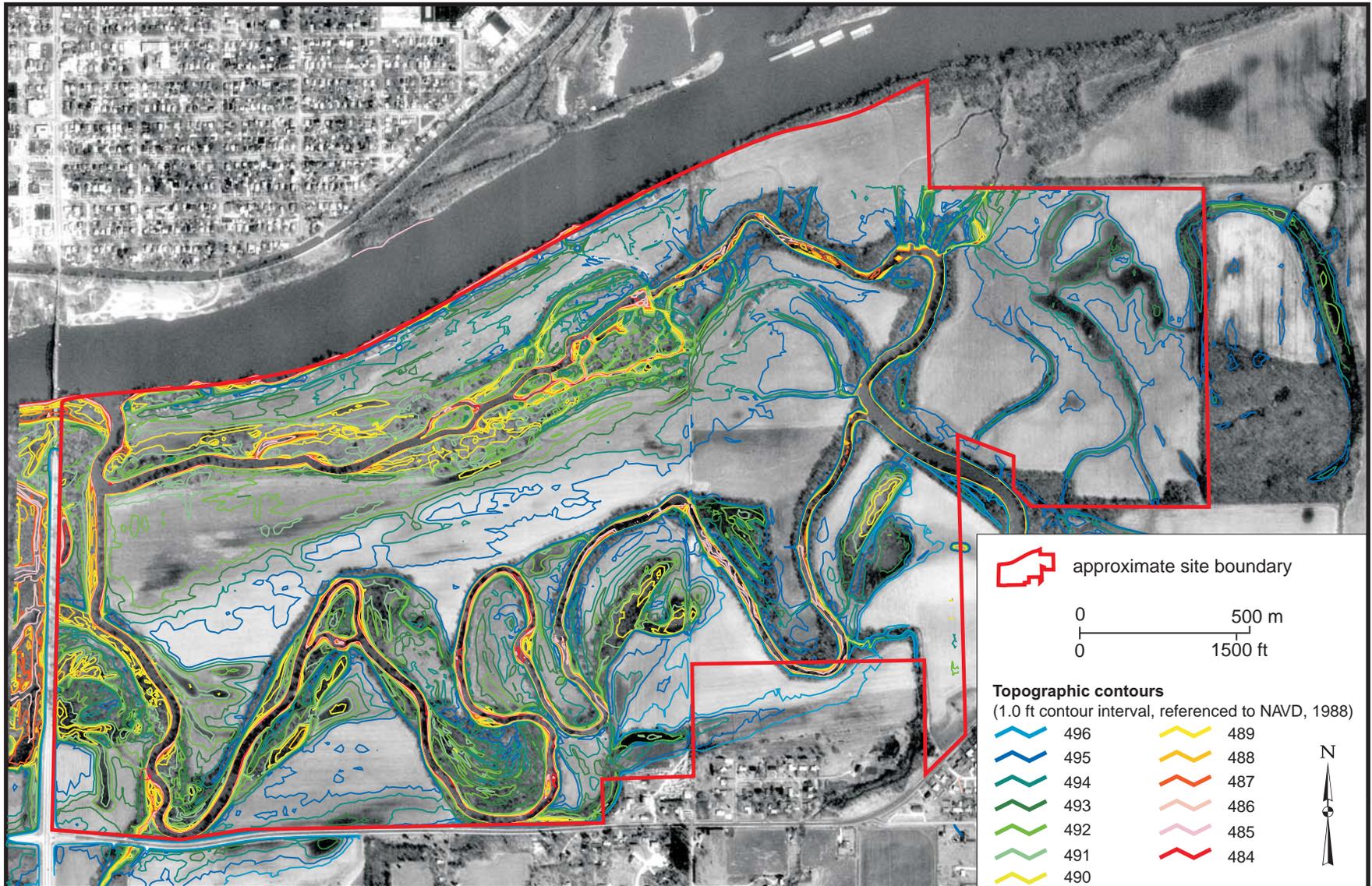
# Morris, Illinois River Wetland Bank Site

## Site Topographic Map (IDOT / INHS)

contours prepared by Illinois Natural History Survey in May 2000, using IDOT survey data

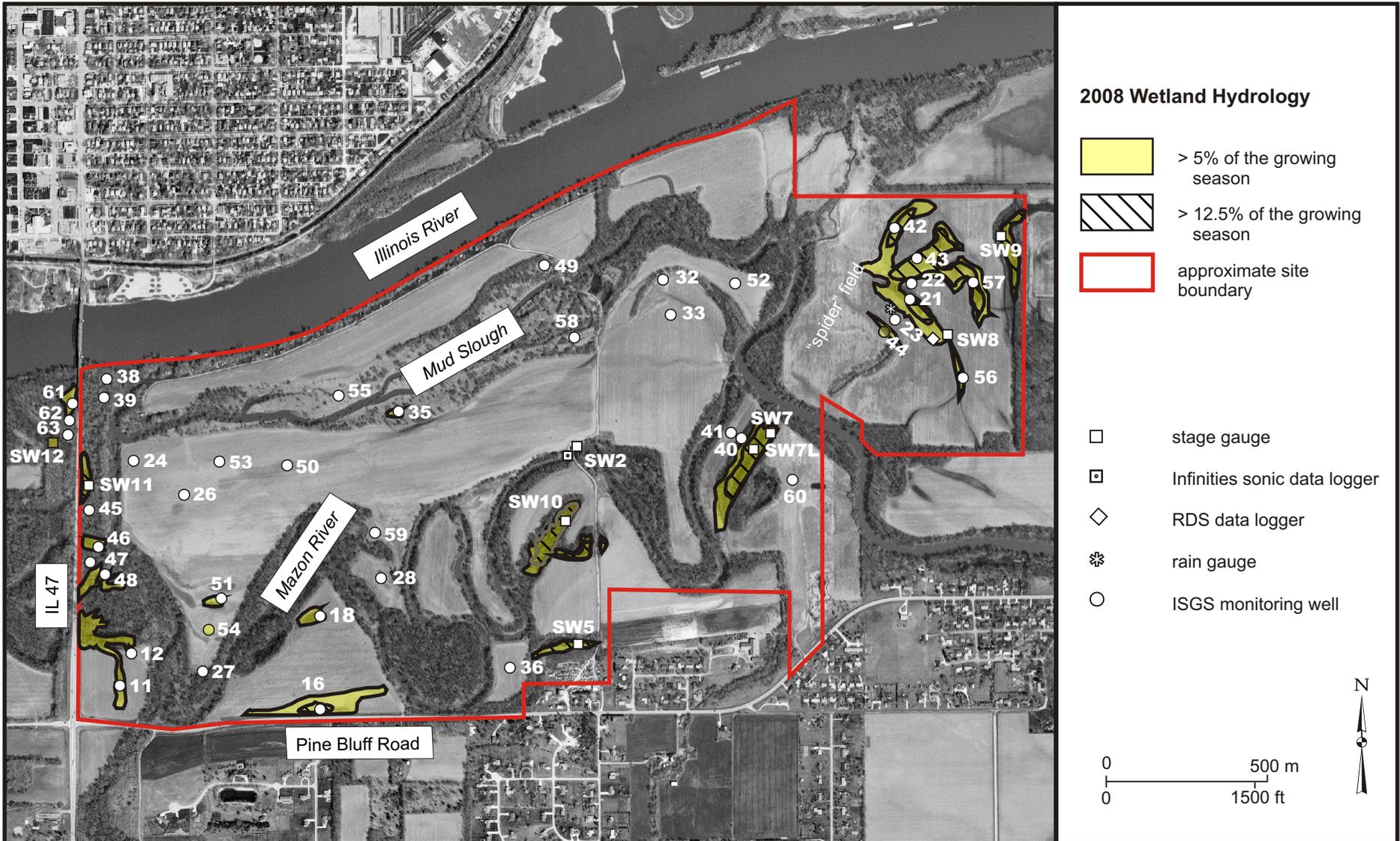
Map based on USGS digital orthophotograph, Morris NE quarter quadrangle  
from 4/5/1998 aerial photography (ISGS 2001)

51



**Morris, Illinois River Wetland Bank Site**  
**Estimated Areal Extent of 2008 Wetland Hydrology**  
 based on data collected between September 1, 2007 and October 8, 2008  
 Map based on USGS digital orthophotograph, Morris NE quarter quadrangle  
 from 4/5/1998 aerial photography (ISGS 2001)

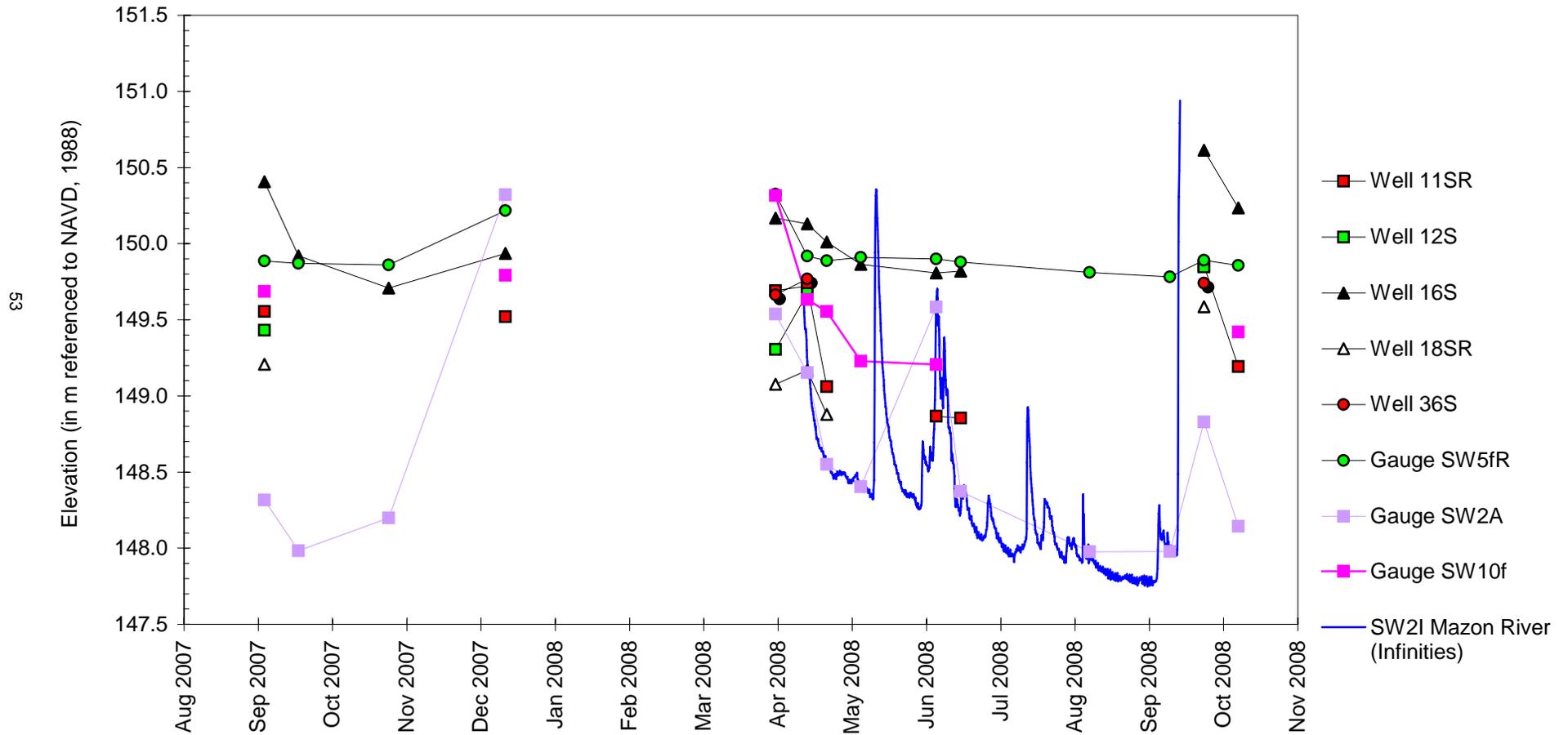
52



# Morris, Illinois River Wetland Bank Site

## September 1, 2007 to November 1, 2008

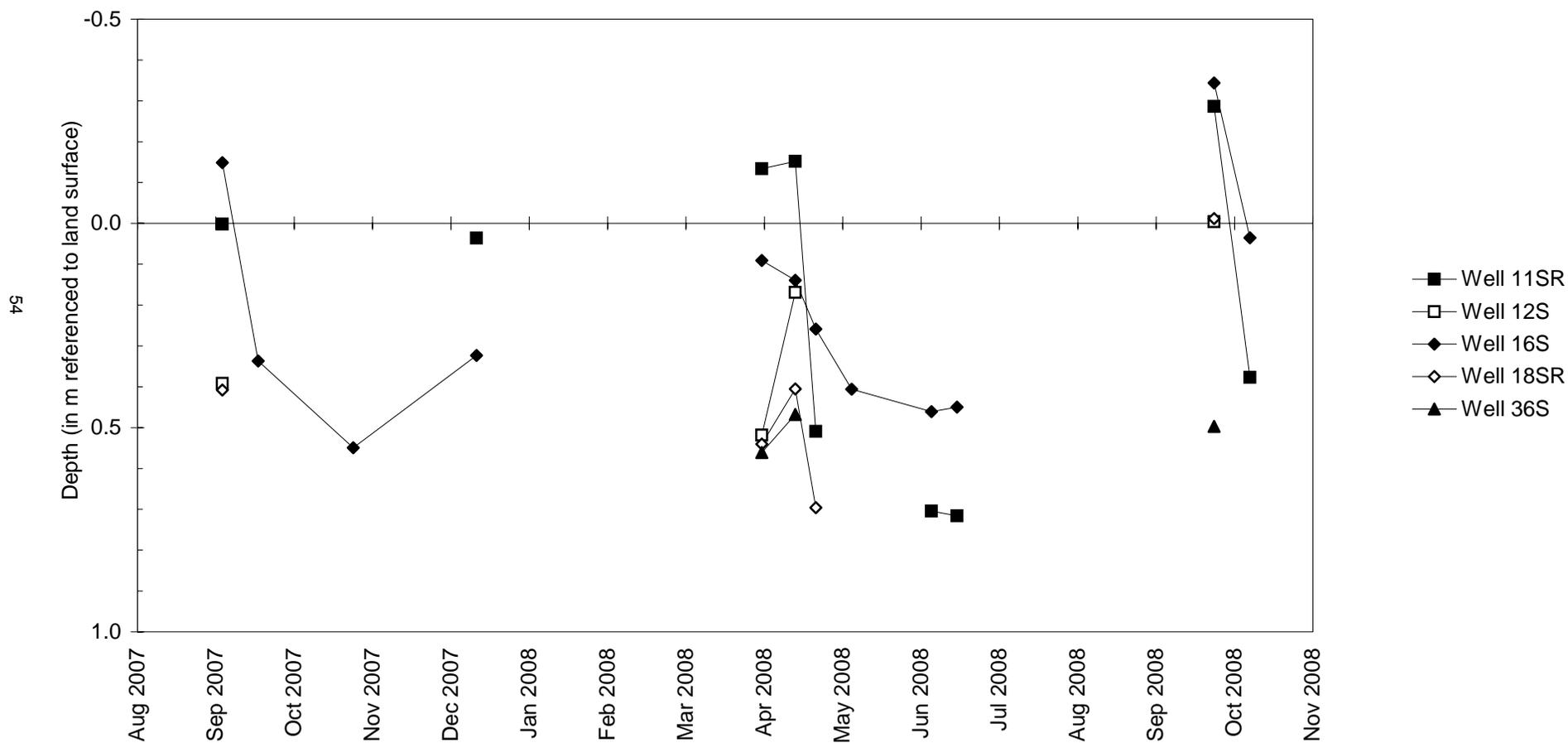
### Water-Level Elevations in Soil-Zone Monitoring Wells, Data Loggers, and Stage Gauges South of the Mazon River



# Morris, Illinois River Wetland Bank Site

September 1, 2007 to November 1, 2008

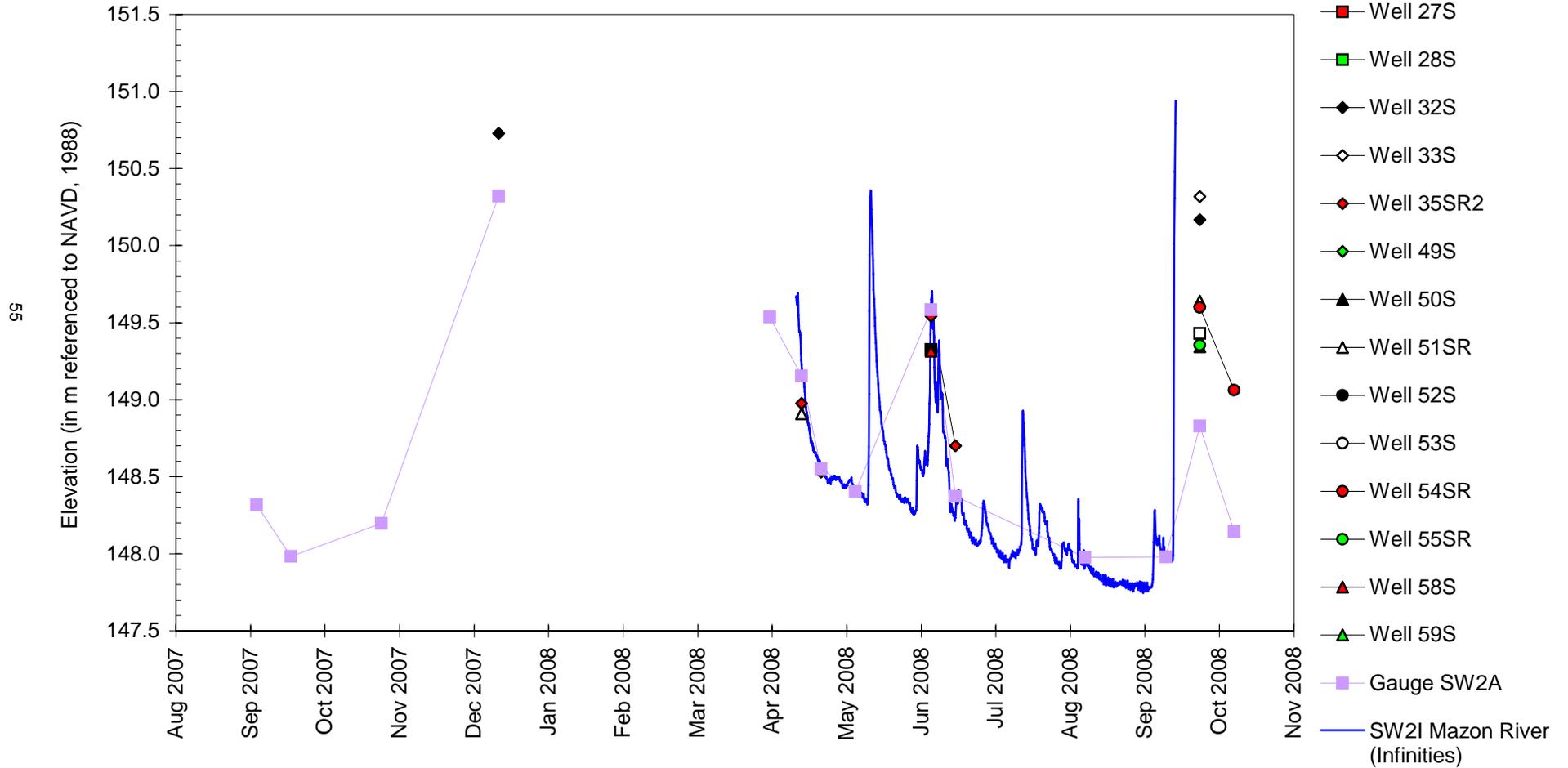
## Depth to Water in Soil-Zone Monitoring Wells South of the Mazon River



# Morris, Illinois River Wetland Bank Site

## September 1, 2007 to November 1, 2008

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



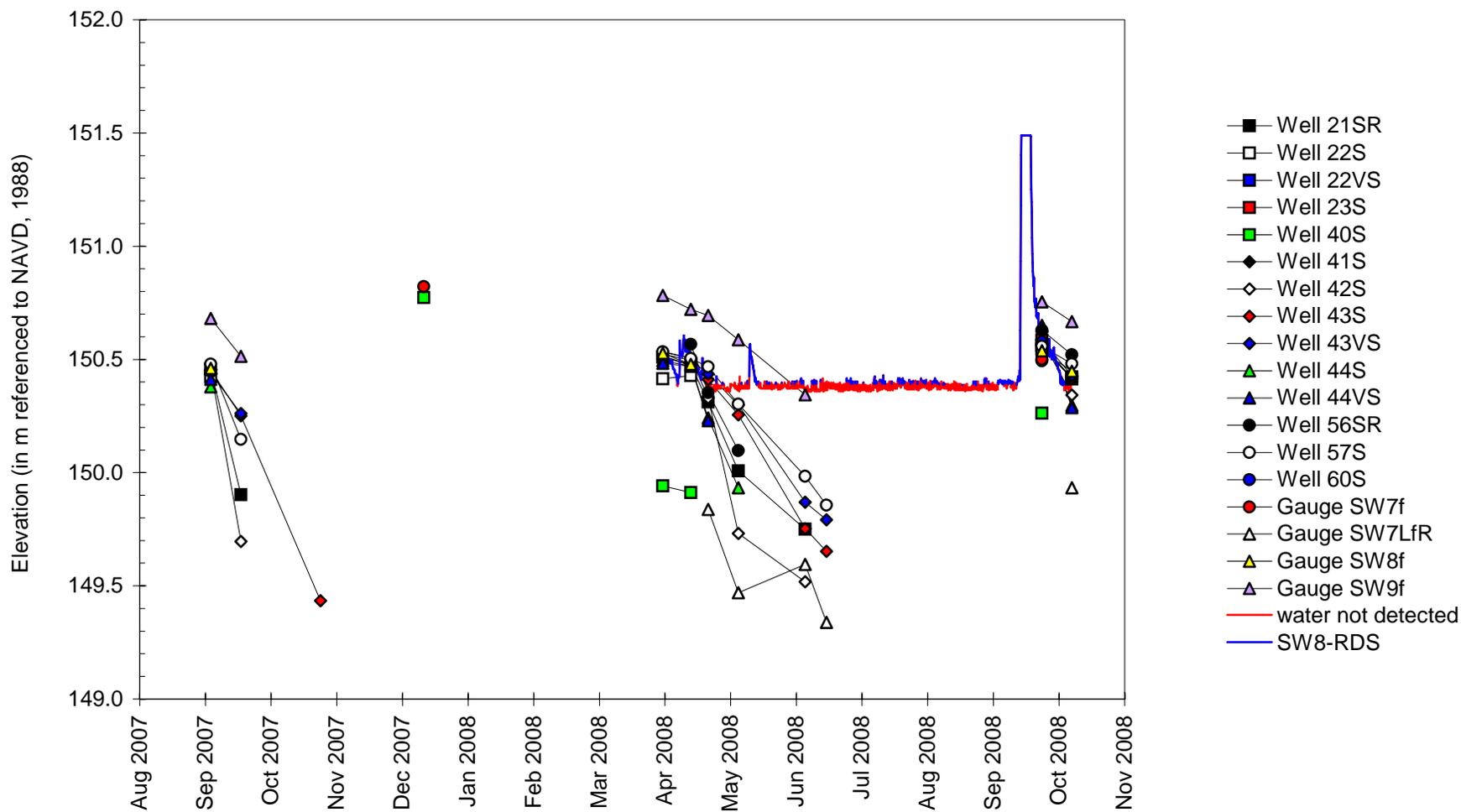


# Morris, Illinois River Wetland Bank Site

## September 1, 2007 to November 1, 2008

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

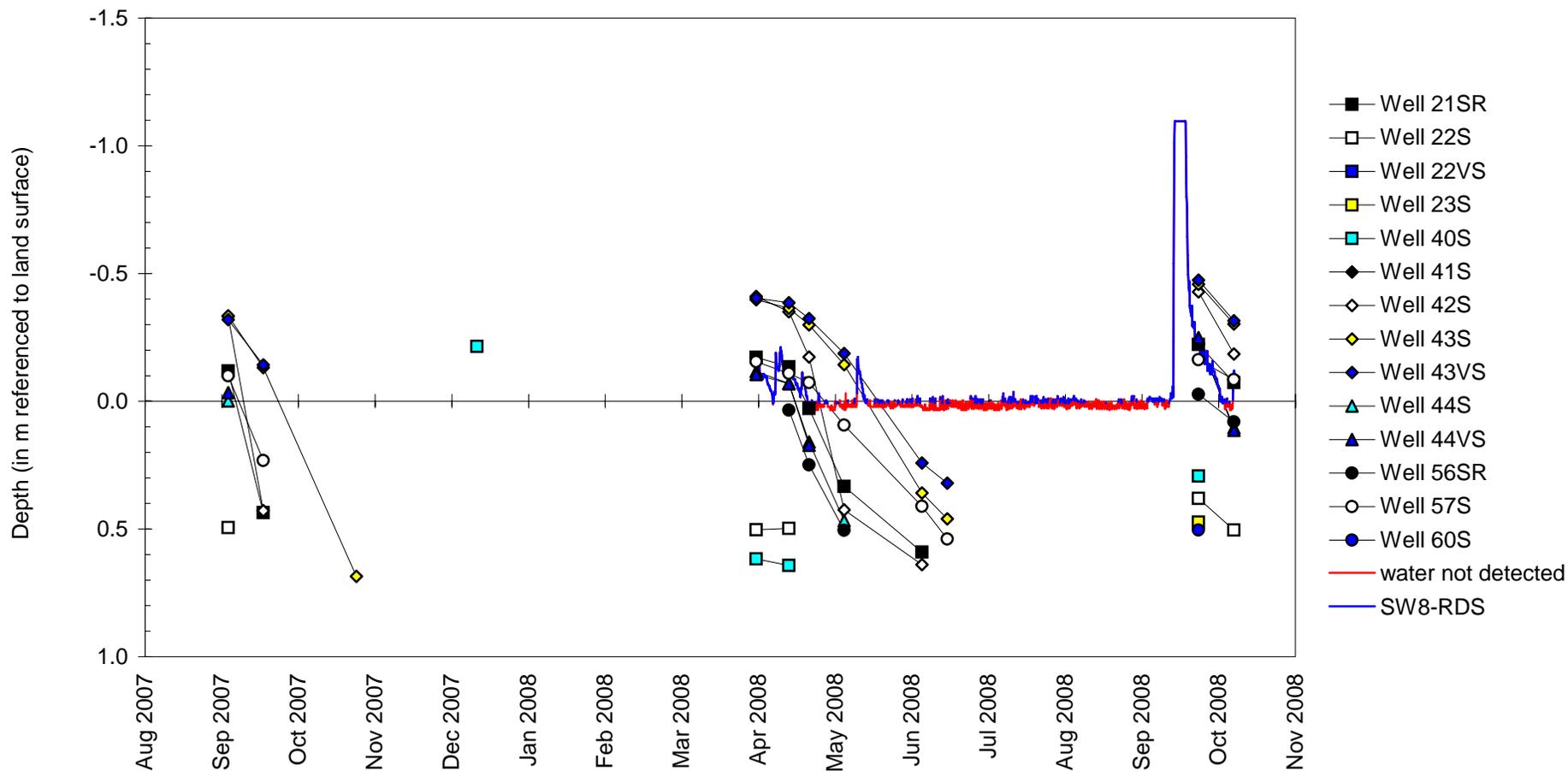
57



# Morris, Illinois River Wetland Bank Site

## September 1, 2007 to November 1, 2008

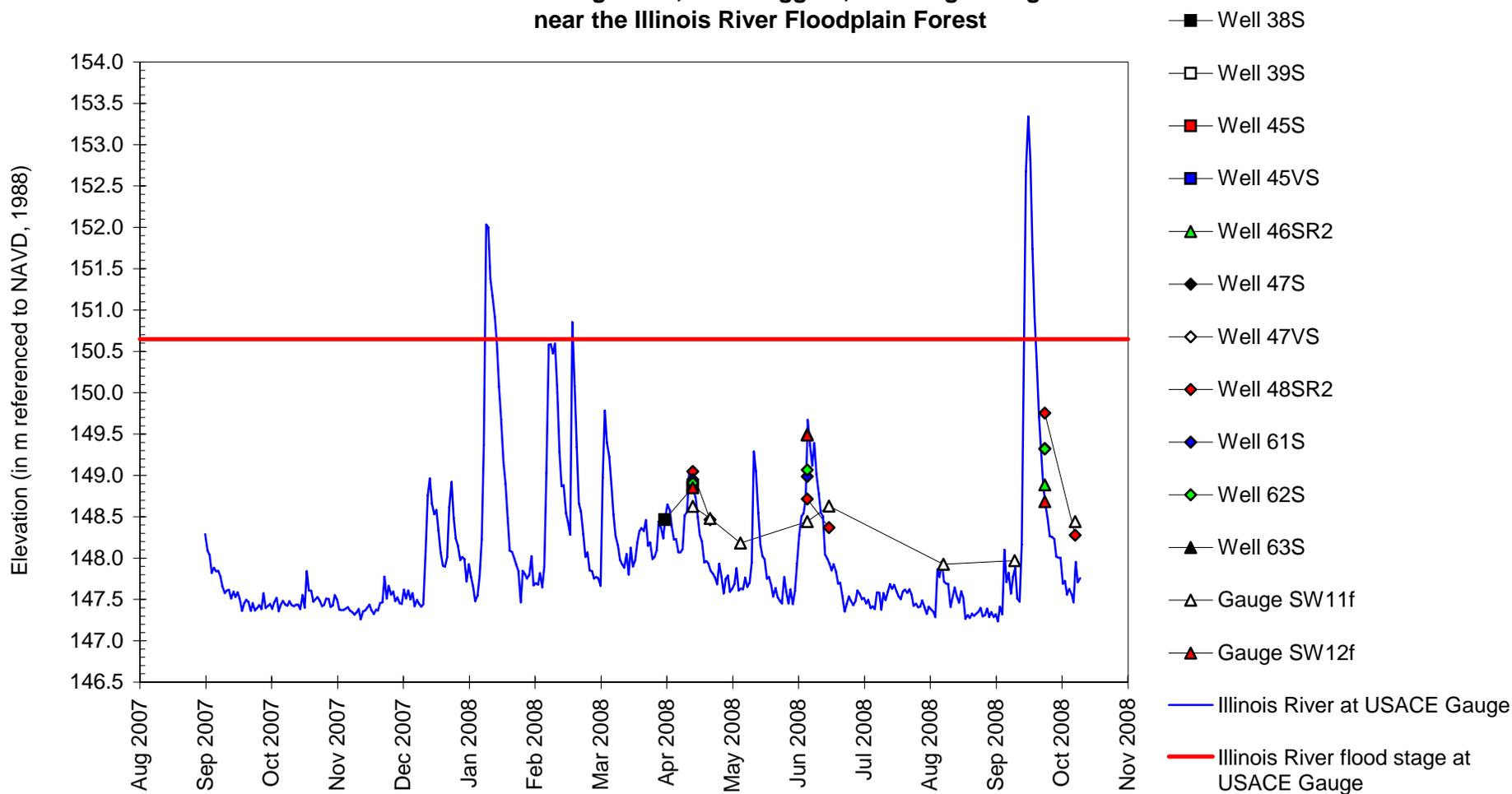
### Depth to Water in Soil-Zone Monitoring Wells and Data Loggers in the East Field and near the Natural Slough



# Morris, Illinois River Wetland Bank Site

## September 1, 2007 to November 1, 2008

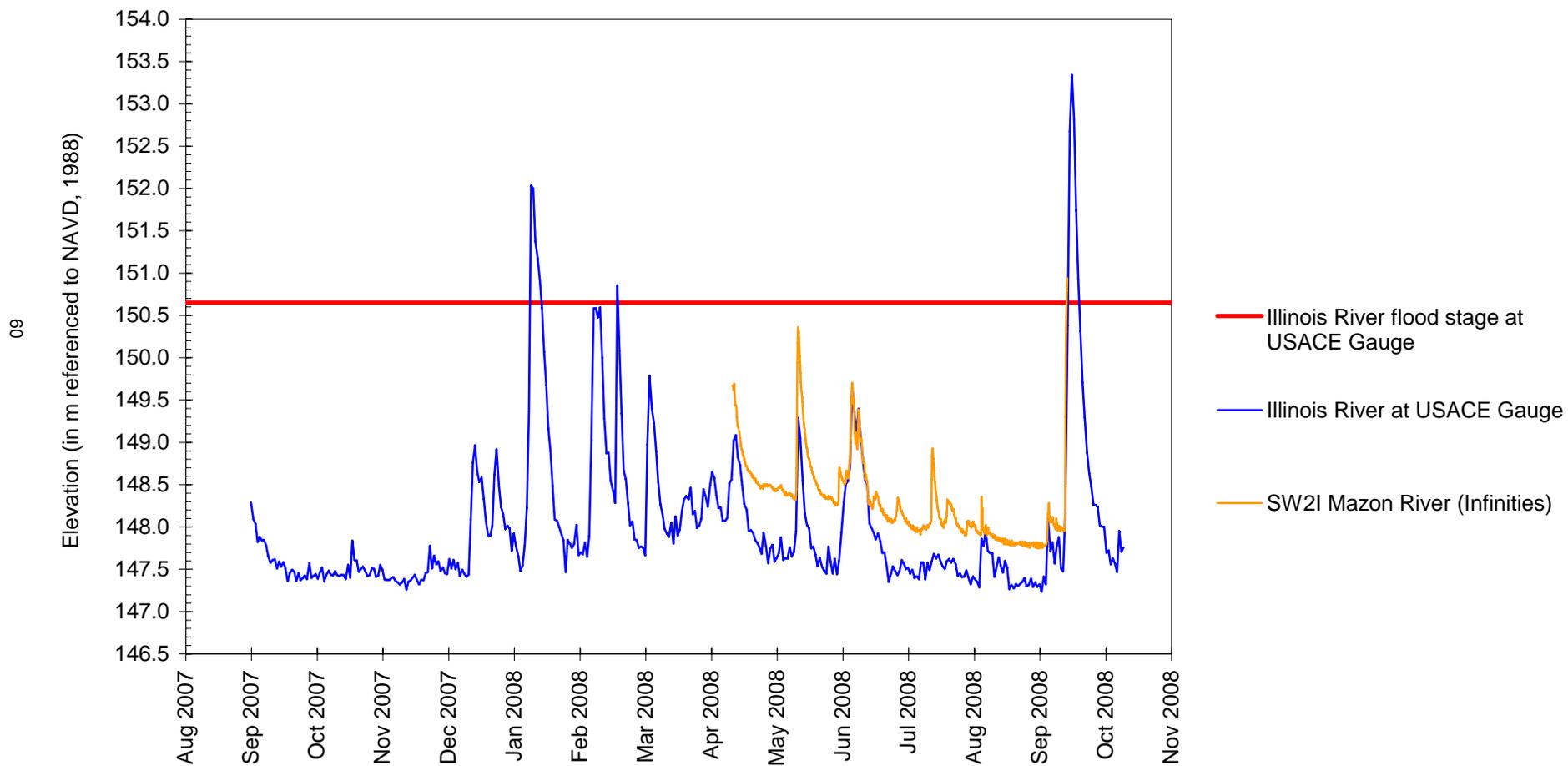
### Water-Level Elevations in Monitoring Wells, Data Loggers, and Stage Gauges near the Illinois River Floodplain Forest



# Morris, Illinois River Wetland Bank Site

## September 1, 2007 to November 1, 2008

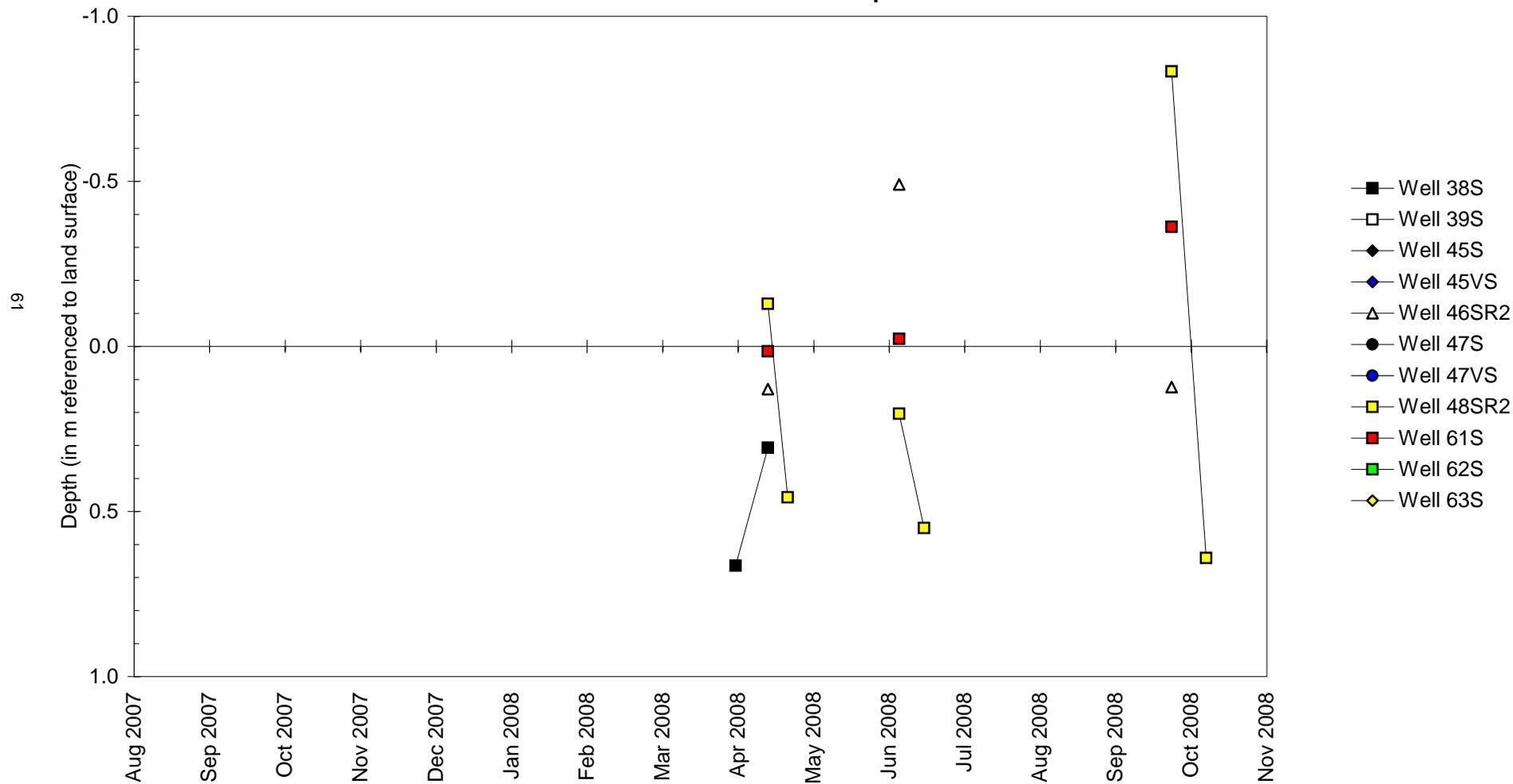
### Water-Level Elevations in Selected Data Loggers



# Morris, Illinois River Wetland Bank Site

## September 1, 2007 to November 1, 2008

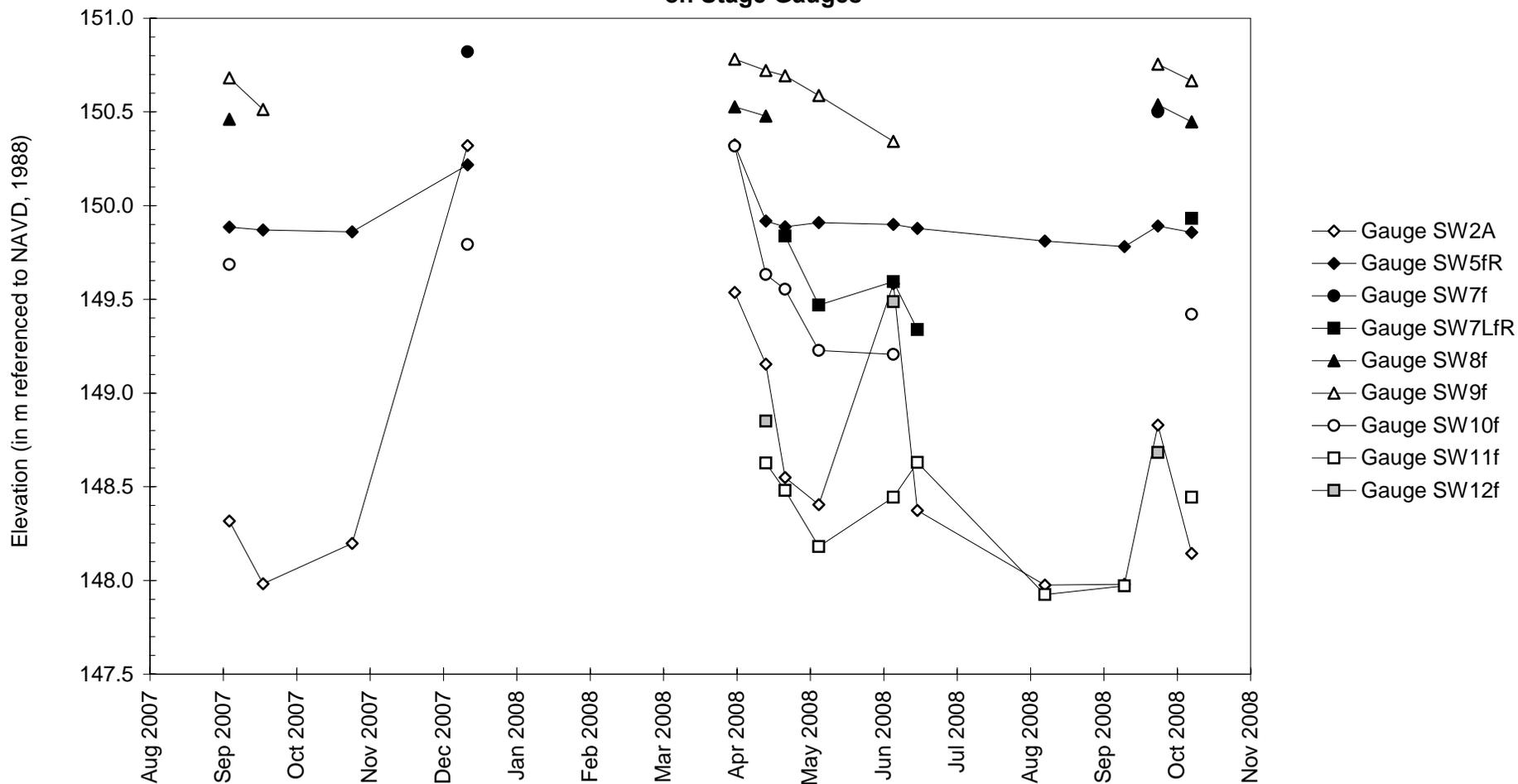
### Depth to Water in Monitoring Wells near the Illinois River Floodplain Forest



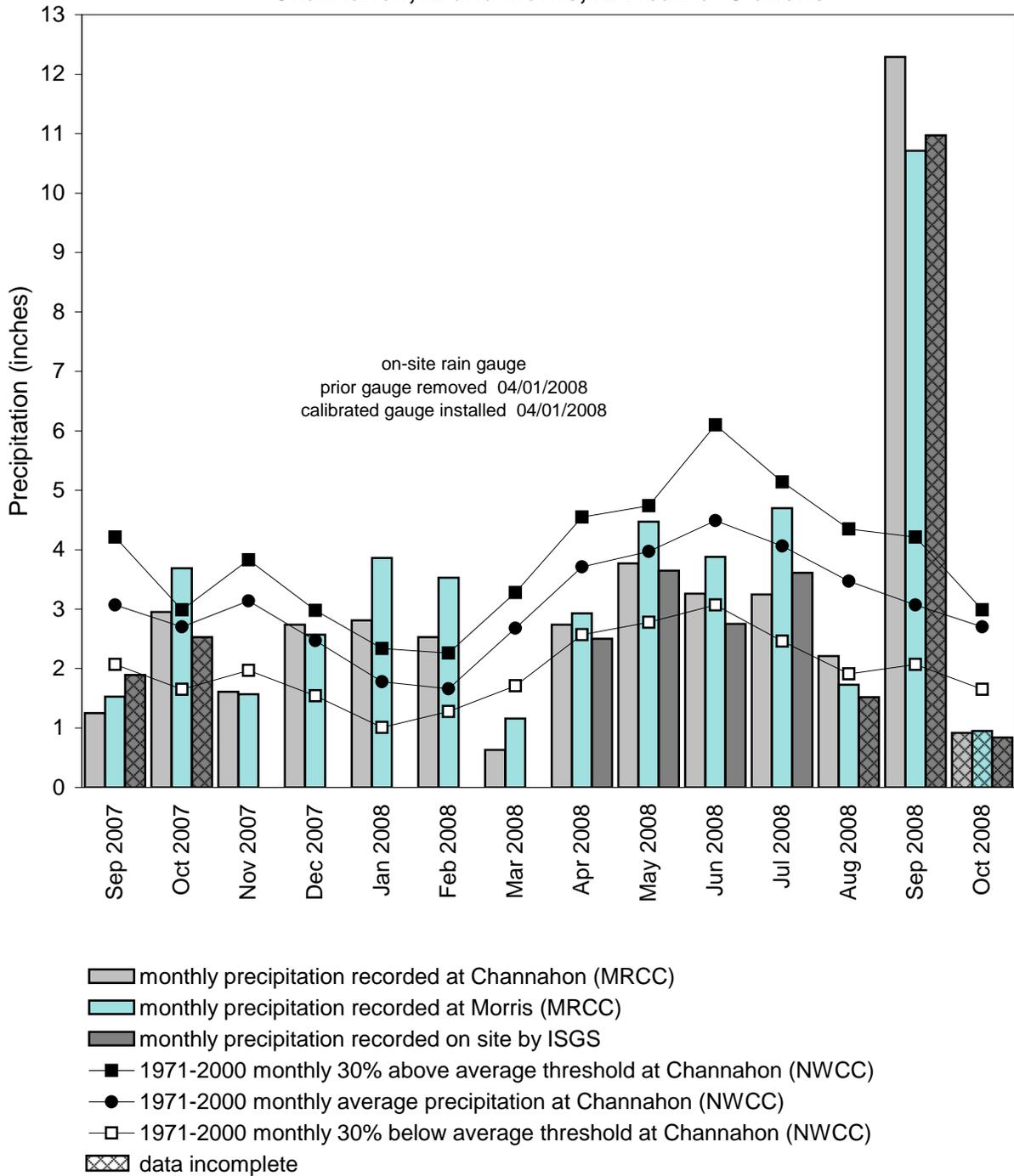
# Morris, Illinois River Wetland Bank Site

## September 1, 2007 to November 1, 2008

### Water-Level Elevations on Stage Gauges



**Morris, Illinois River Wetland Bank Site**  
**September 1, 2007 through October 8, 2008**  
**Total Monthly Precipitation Recorded On Site and at the**  
**Channahon, IL and Morris, IL Weather Stations**



Graph last updated October 8, 2008