

**MORRIS
WETLAND MITIGATION BANK**

ISGS #49

Sequence #1306

Grundy County, near Morris, Illinois

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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.
- March 2007: A Level II hydrogeologic characterization report was submitted to IDOT (ISGS Open-File Series 2007–03).
- February 2009: IDOT specified that 2009 was to be the last year for widespread monitoring of shallow groundwater at the site. Monitoring of surface-water inundation and floodwater storage functions via an off-site USACE river gauge and two on-site data loggers would continue until no longer required by IDOT. The aim is to watch only for significant changes in wetland hydrology extent using these methods.

WETLAND HYDROLOGY CALCULATION FOR 2010

In 2010, only a small portion of the total site area of 342 ha (844 ac) was targeted for monitoring. To this end, two data loggers were deployed in the “spider field” at the east end of the site to look for gross changes in the acreage of wetland hydrology, as this area consistently shows the largest acreage of wetlands on site in average or wetter-than-average years. Further, this field can be used as an analog for the other limited wetland areas on site as characterized in previous years.

We estimate that the total area of the “spider field” that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the growing season in 2010 was 2.4 ha (5.9 ac). Further, 0.6 ha (1.4 ac) also satisfied wetland hydrology criteria for greater than 12.5% of the growing season. Using the 2010 Midwest Region supplement (U.S. Army Corps of Engineers 2010) to the 1987 Manual, we estimate that 5.5 ha (13.7 ac) satisfied wetland hydrology criteria for 14 or more consecutive days during the growing season.

The wetland acreages noted above are roughly comparable to the acreages determined for the “spider field” in 2007, 2008, and 2009. The site continued its role in the 2009-2010 monitoring period as a floodplain providing off-line floodwater storage as well as sediment removal from the Illinois River. According to an off-site USACE gauge and on-site ISGS data loggers, five short-duration (<6 day) floods of significant stage height flooded 90-100% of the site area during the monitoring period. As in previous years, sediment deposition was observed in some closed depressions visited on site during 2010, as well as on flat surfaces and on leafy vegetation. These observations indicate that the site continues to perform floodwater storage and sediment removal functions. Wetland hydrology estimates stated above 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. According to methods outlined in the 2010

Midwest Region supplement, we estimate that March 10 was the starting date of the 2010 growing season based upon a soil-temperature logger as well as vegetation growth and development observed at the wetland bank site.

- Total precipitation for the monitoring period at the Dresden Island weather station in Channahon, IL, was 102% of normal. During the March through May period of 2010, precipitation was 93% of normal, but was 197% of normal in June.
- In 2010, one active soil-zone well was equipped with a data logger. This monitoring well (43S) satisfied wetland hydrology criteria for greater than 5% of the growing season and for greater than 12.5% of the growing season. According to the 2010 Midwest Region supplement, well 43S also satisfied wetland hydrology criteria for 14 or more consecutive days during the growing season
- A data logger in a closed depression at SW8 indicated inundation for a period greater than 5% of the growing season at an elevation of 150.48 m (493.69 ft). According to the 2010 Midwest Region supplement, the SW8 data logger also satisfied wetland hydrology criteria for 14 or more consecutive days during the growing season at an elevation of 150.57 m (493.99 ft).

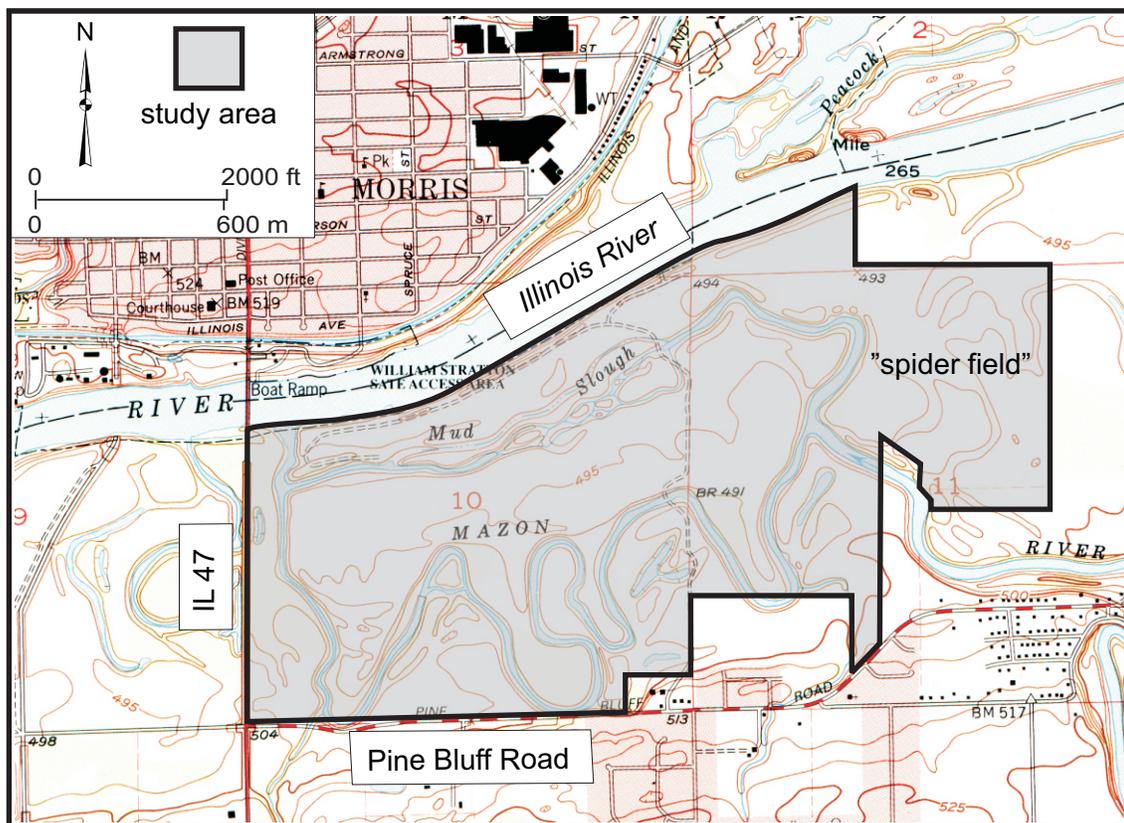
PLANNED FUTURE ACTIVITIES

- Monitoring of surface water via stage gauges, two data loggers, and an off-site USACE river gauge will continue in 2010-11 or until no longer required by IDOT. The continued aim will be to watch for significant changes in the on-site wetland hydrology acreage or function.

Morris Wetland Mitigation Bank

General Study Area and Vicinity

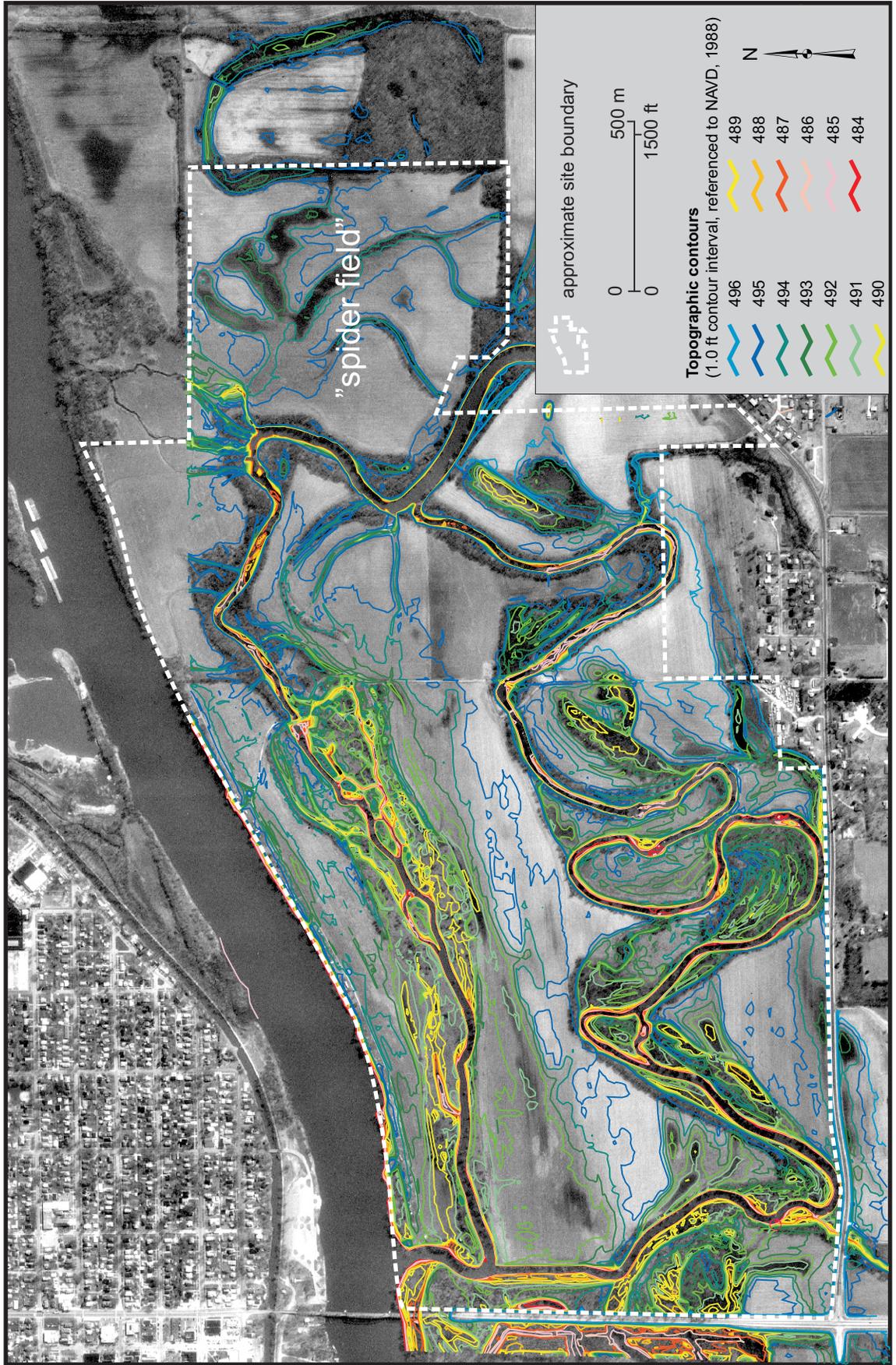
from the USGS Topographic Series, Morris, IL, 7.5-minute Quadrangle (USGS 1993)
contour interval is 5 feet



**Morris Wetland Mitigation Bank
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)

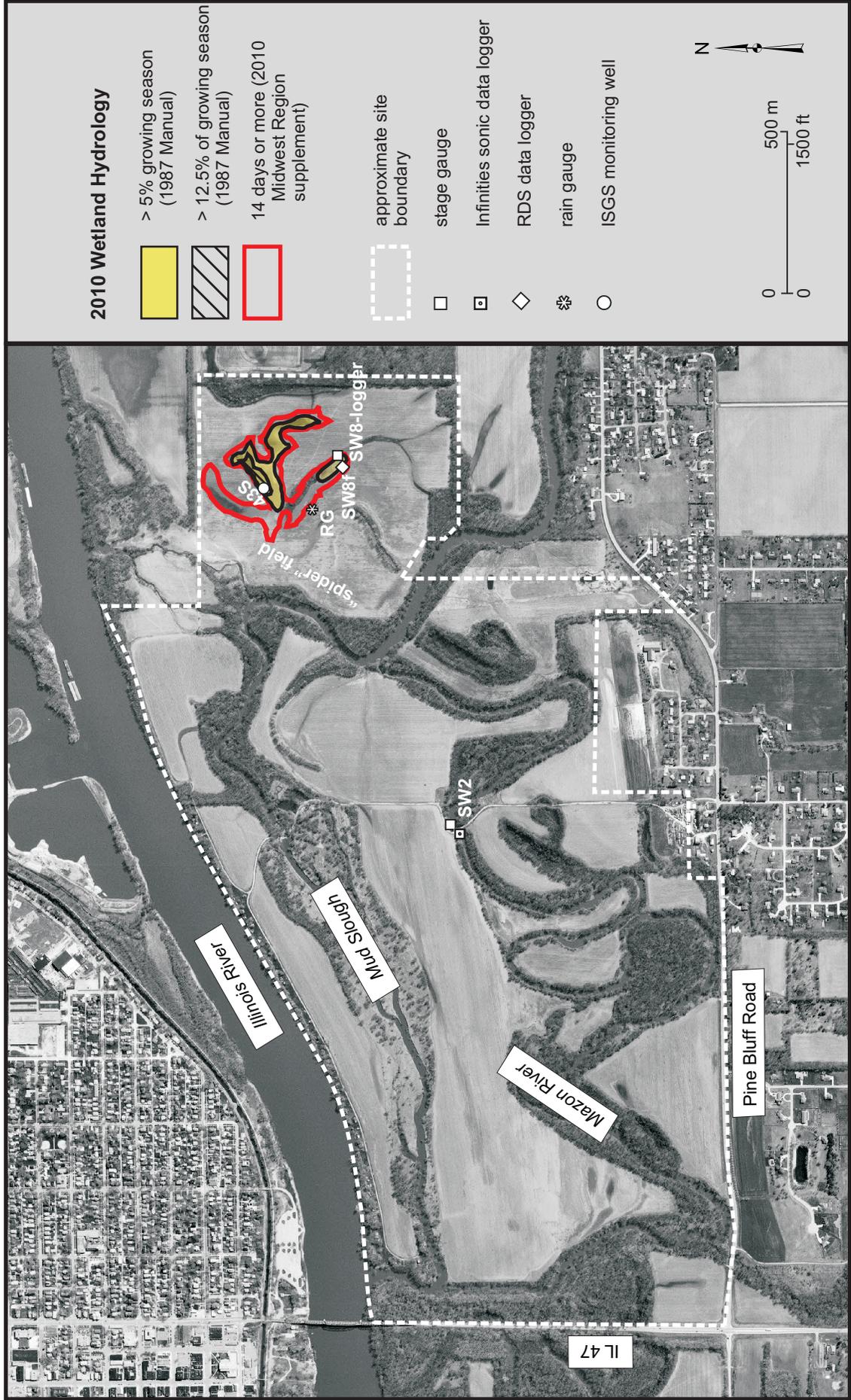


Morris Wetland Mitigation Bank

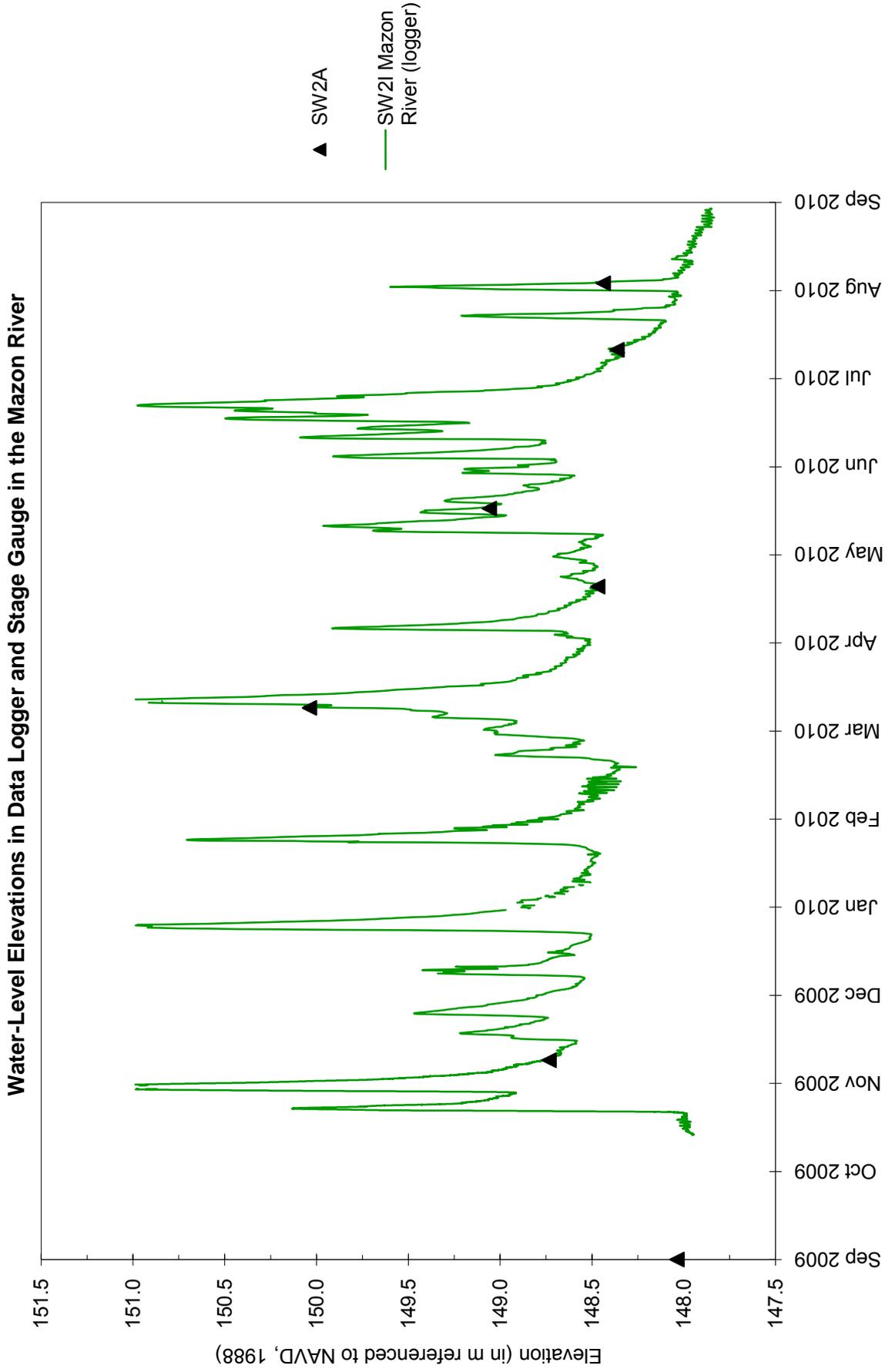
Estimated Areal Extent of 2010 Wetland Hydrology

September 1, 2009 through August 31, 2010

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

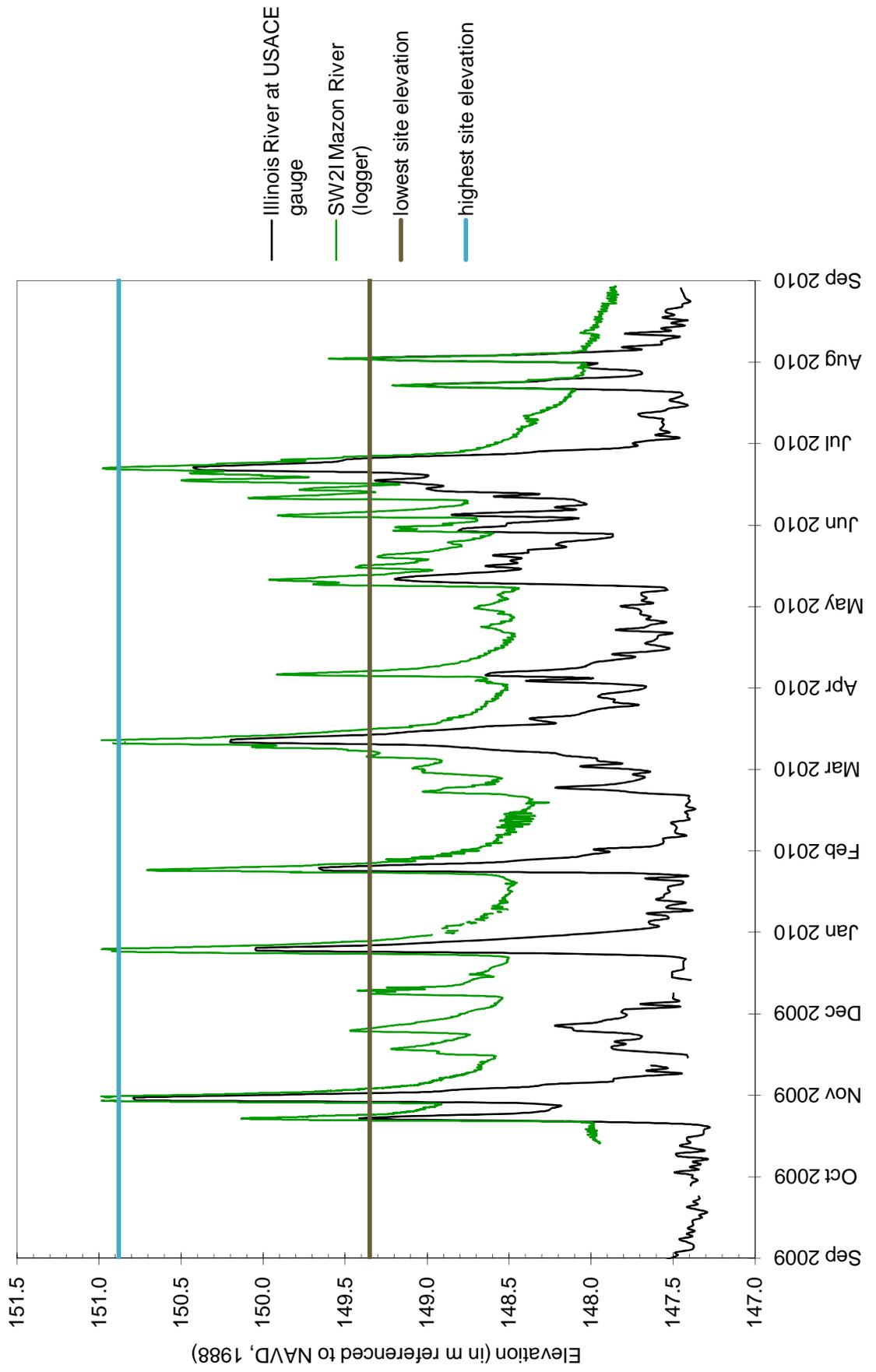


Morris Wetland Mitigation Bank
September 1, 2009 through August 31, 2010



Morris Wetland Mitigation Bank September 1, 2009 through August 31, 2010

Water-Level Elevations in Selected Data Loggers



Morris Wetland Mitigation Bank

September 1, 2009 through August 31, 2010

Water-Level Elevations in Soil-Zone Monitoring Wells and Data Loggers in the "Spider Field"

