MORRIS **ISGS #49**
WETLAND MITIGATION BANK
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.

- March 2007: A Level II hydrogeologic characterization report was submitted to IDOT (ISGS Open-File Series 2007–03).

- February 2009: IDOT specified that monitoring of surface-water inundation and floodwater storage functions would be limited to an off-site USACE river gauge and two on-site data loggers.

WETLAND HYDROLOGY CALCULATION FOR 2011

We estimate that the total area of the site that satisfied wetland hydrology criteria for greater than 5% of the growing season in 2011 was 57.6 ha (142.4 ac) out of a total site area of 342 ha (844 ac), and 6.2 ha (15.3 ac) satisfied wetland hydrology criteria for greater than 12.5% of the growing season, according to the 1987 Manual. Using the 2010 Midwest Region Supplement (U.S. Army Corps of Engineers 2010) to the 1987 Manual, we estimate that 6.2 ha (15.3 ac) satisfied wetland hydrology criteria for 14 or more consecutive days during the growing season. In 2011, a much larger portion of the site satisfied wetland hydrology criteria than in previous years as a result of an unusual flood event. The close timing of three rainfall events in the Mazon River watershed resulted in a broad peak that flooded the lower lying areas of the site for long enough to satisfy wetland hydrology criteria. These estimates are based on the following factors:

- The median date that the growing season begins in Morris, Illinois, is April 13 and the season lasts 187 days (MRCC 2011); 5% of the growing season is 9 days and 12.5% of the growing season is 23 days, according to the 1987 Manual. According to methods outlined in the 2010 Midwest Region Supplement, we estimate that March 16 was the starting date of the 2011 growing season based upon measurements from an on-site soil-temperature data logger.

- Total precipitation for the monitoring period at the nearby Morris weather station was 120% of normal. During March through May 2011, precipitation was 134% of normal, leading to wetter on-site conditions early in the growing season than are typical. Sustained above-normal precipitation in June resulted in additional short-duration flooding events at the bank site.

- The SW8 data logger, located in a closed depression in the “spider field”, indicated inundation for a period greater than 5% of the growing season at an elevation of 150.64 m (494.22 ft), and for greater than 12.5% of the growing season at an elevation of 150.46 m (493.63 ft), according to the 1987 Manual. According to the 2010 Midwest Region Supplement, the SW8 data logger also showed inundation satisfying wetland

hydrology criteria for 14 or more consecutive days during the growing season at an elevation of 150.57 m (493.99 ft). The SW2I data logger in the Mazon River also showed inundation for a period greater than 5% of the growing season at an elevation of 150.0 m (492.12 ft), according to the 1987 Manual. As in previous years, the areas of the stream channels on site were excluded from wetland hydrology calculations. These excluded areas generally lie below an elevation of 149.35 m (490 ft).

- In 2010-2011, the site continued in its role of 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, four short-duration (<5 day) floods and one longer-duration flood (9 days) affected the site area during the monitoring period. As in previous years, sediment deposition was observed in some closed depressions on site, as well as on flat surfaces and on leafy vegetation.

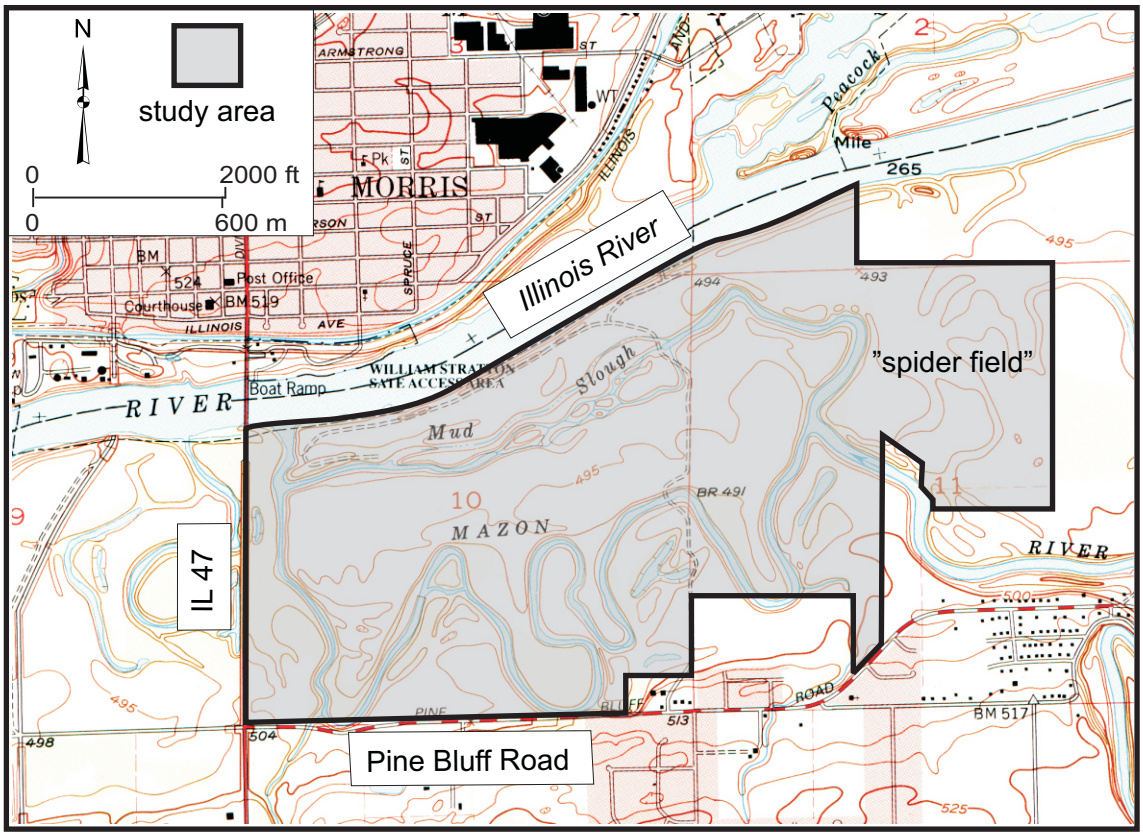
PLANNED FUTURE ACTIVITIES

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

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

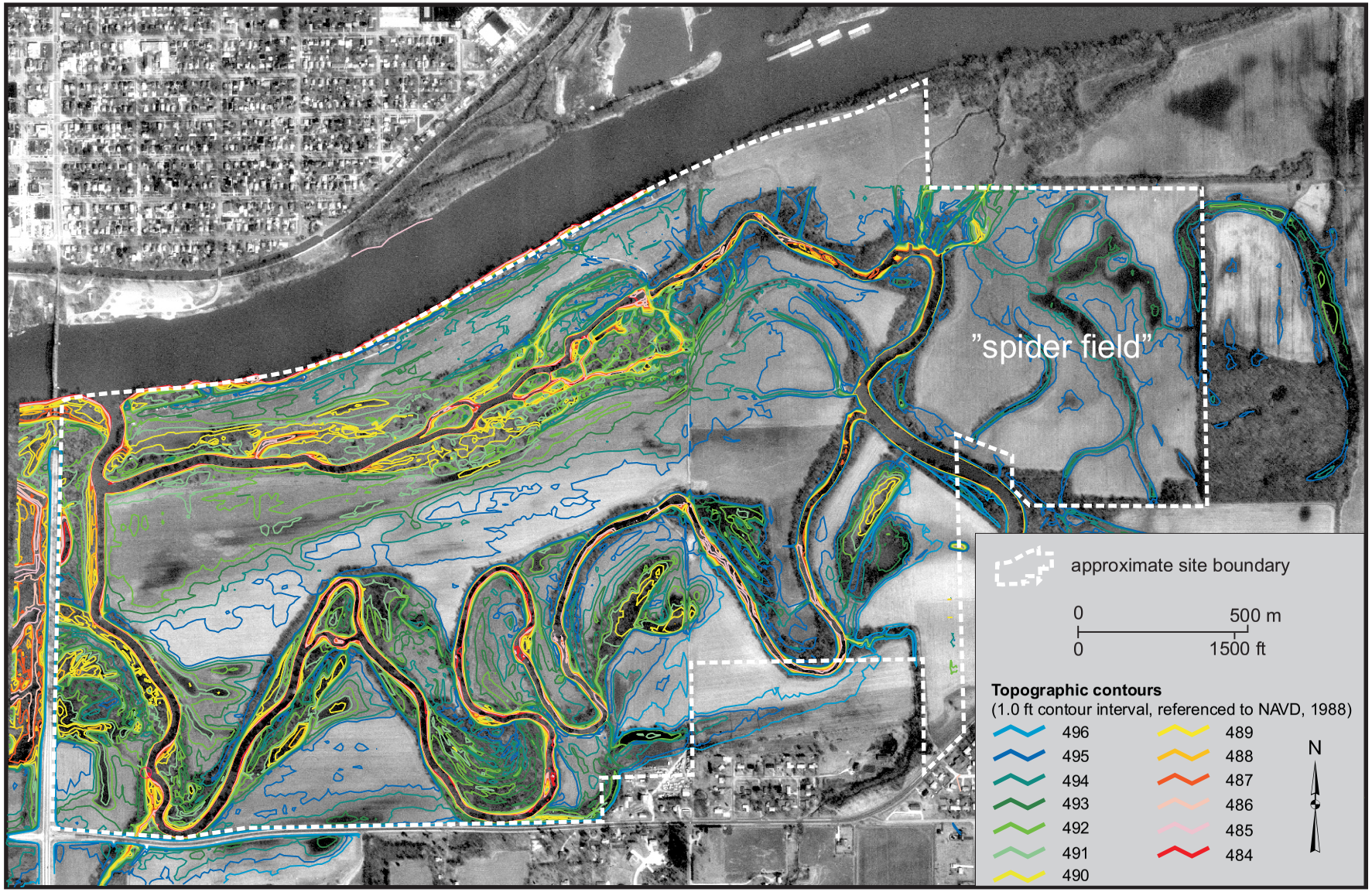


Morris Wetland Mitigation Bank

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)

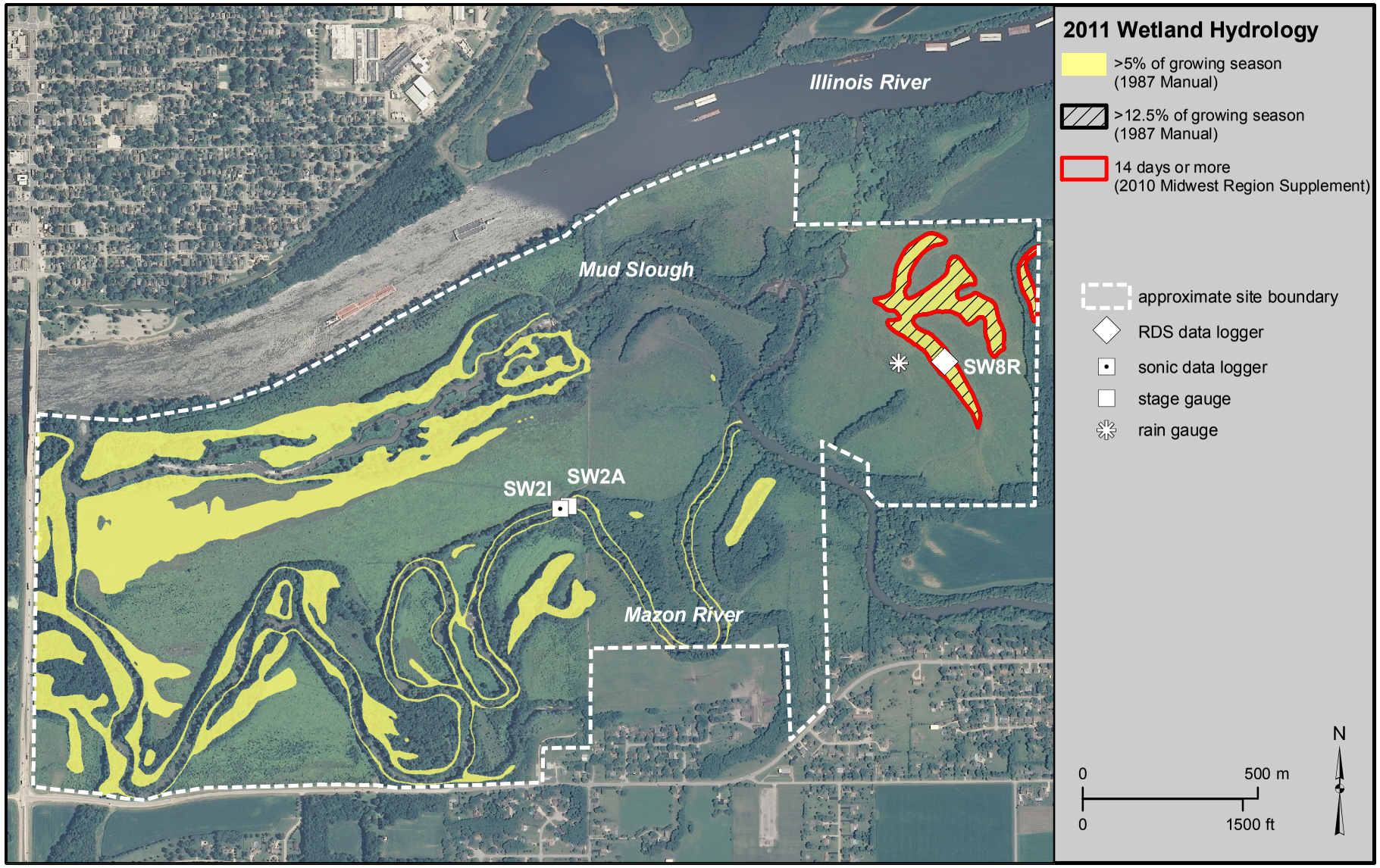


Morris Wetland Mitigation Bank

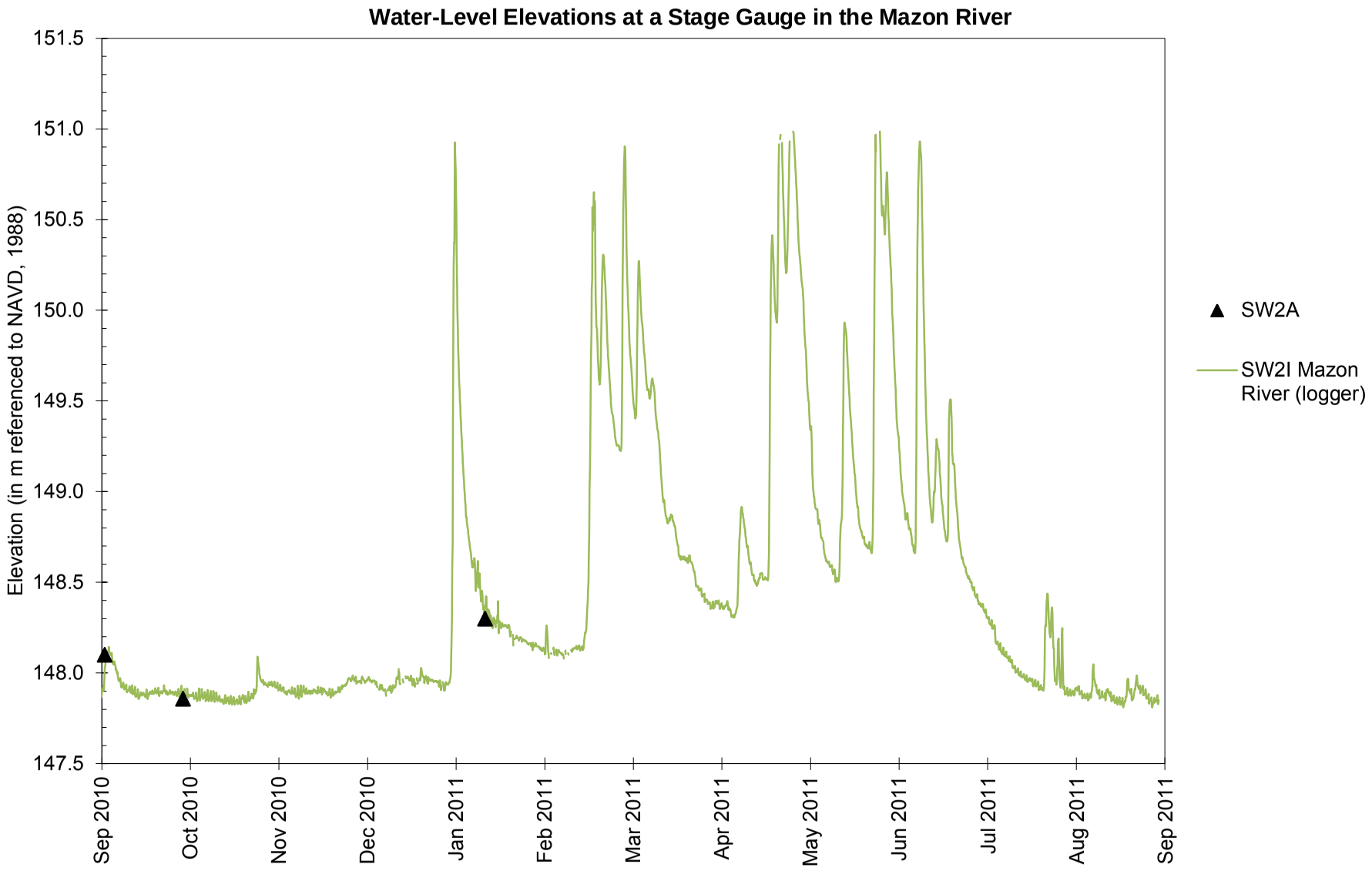
Estimated Areal Extent of 2011 Wetland Hydrology

September 1, 2010 through August 31, 2011

Map based on National Agricultural Imagery Program (NAIP) digital orthophotograph, Morris NE quarter-quadrangle, taken 7/1/2010 (USDA-FSA 2010).

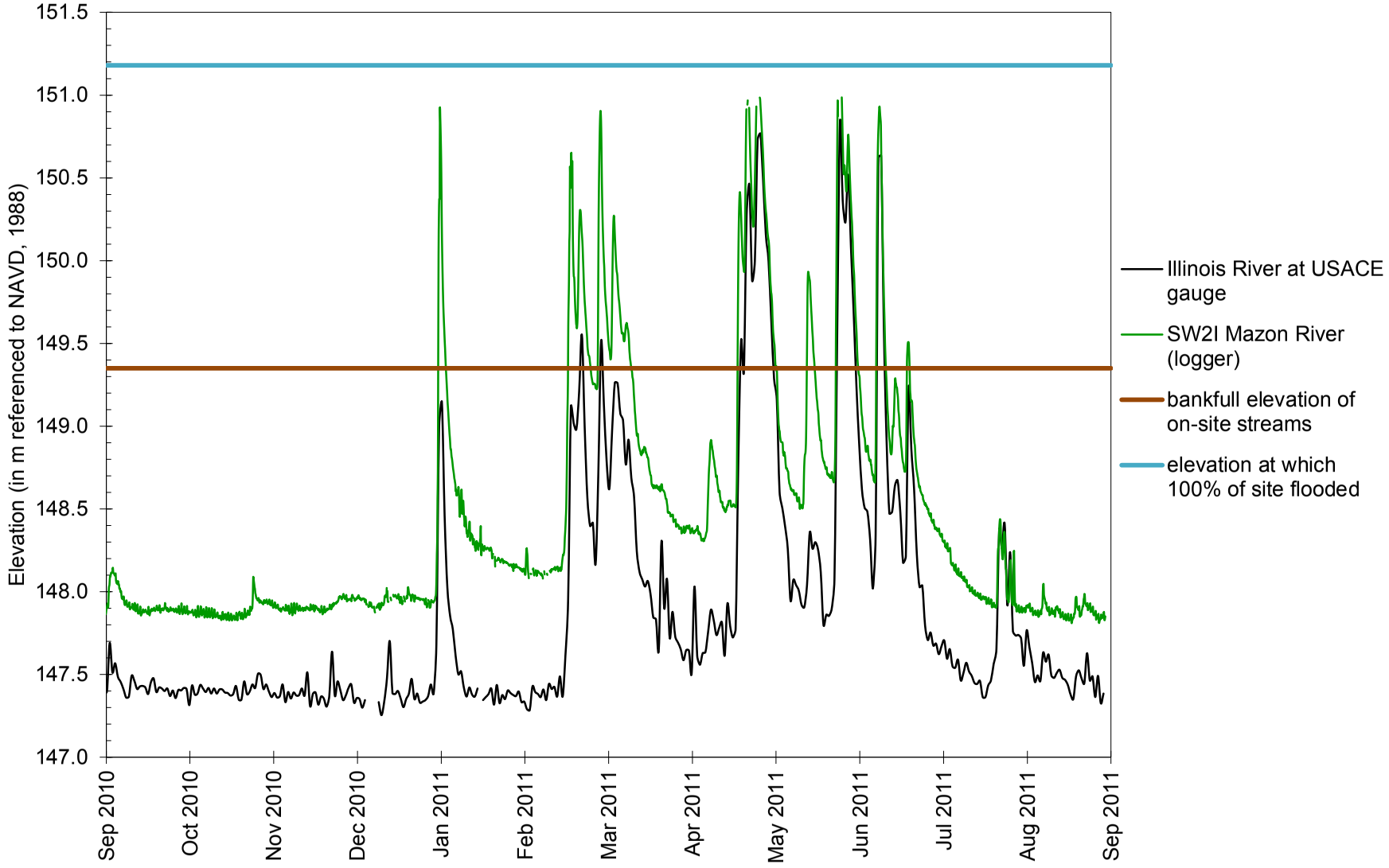


Morris Wetland Mitigation Bank
September 1, 2010 through August 31, 2011



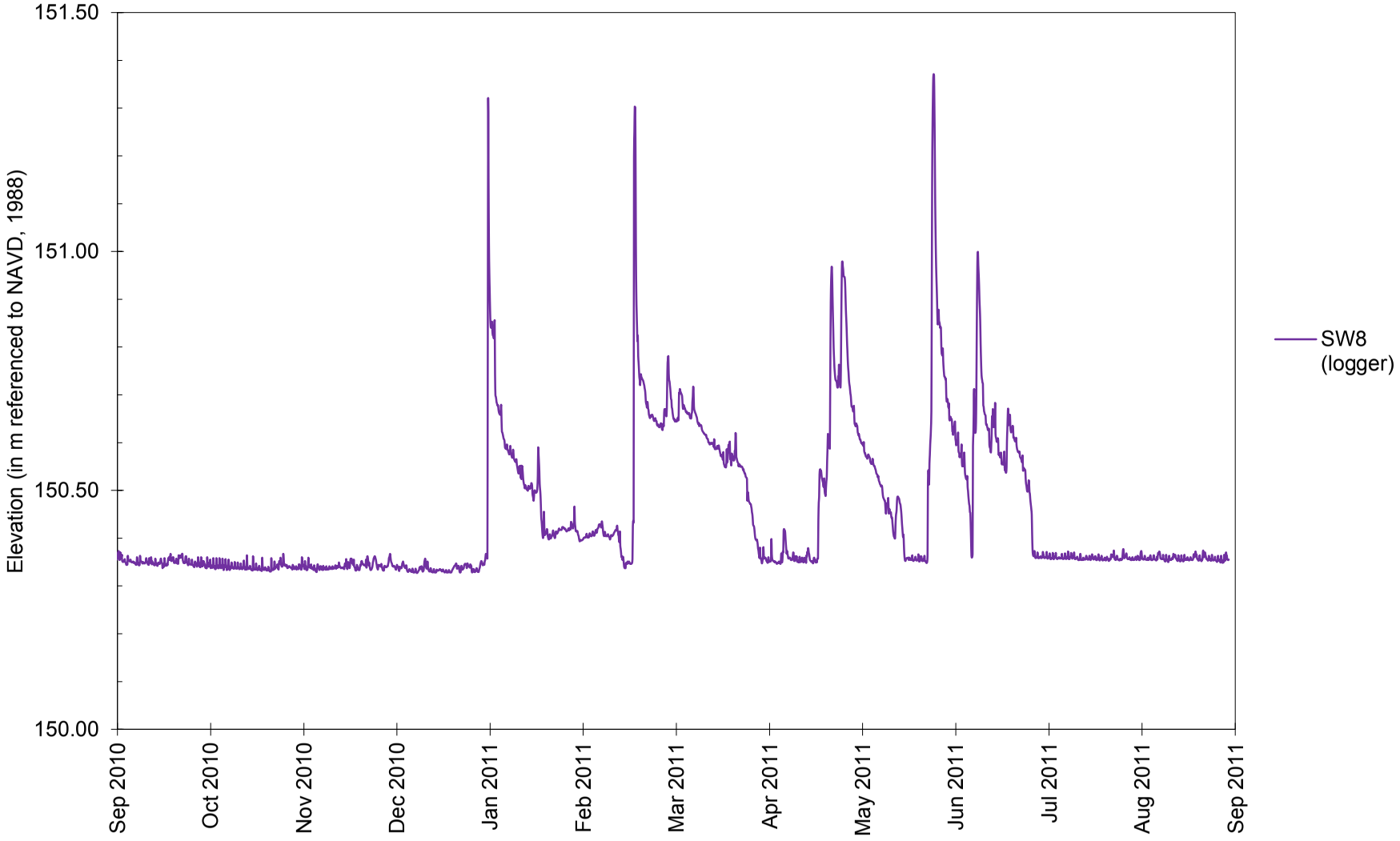
Morris Wetland Mitigation Bank
September 1, 2010 through August 31, 2011

Water-Level Elevations at Selected Data Loggers



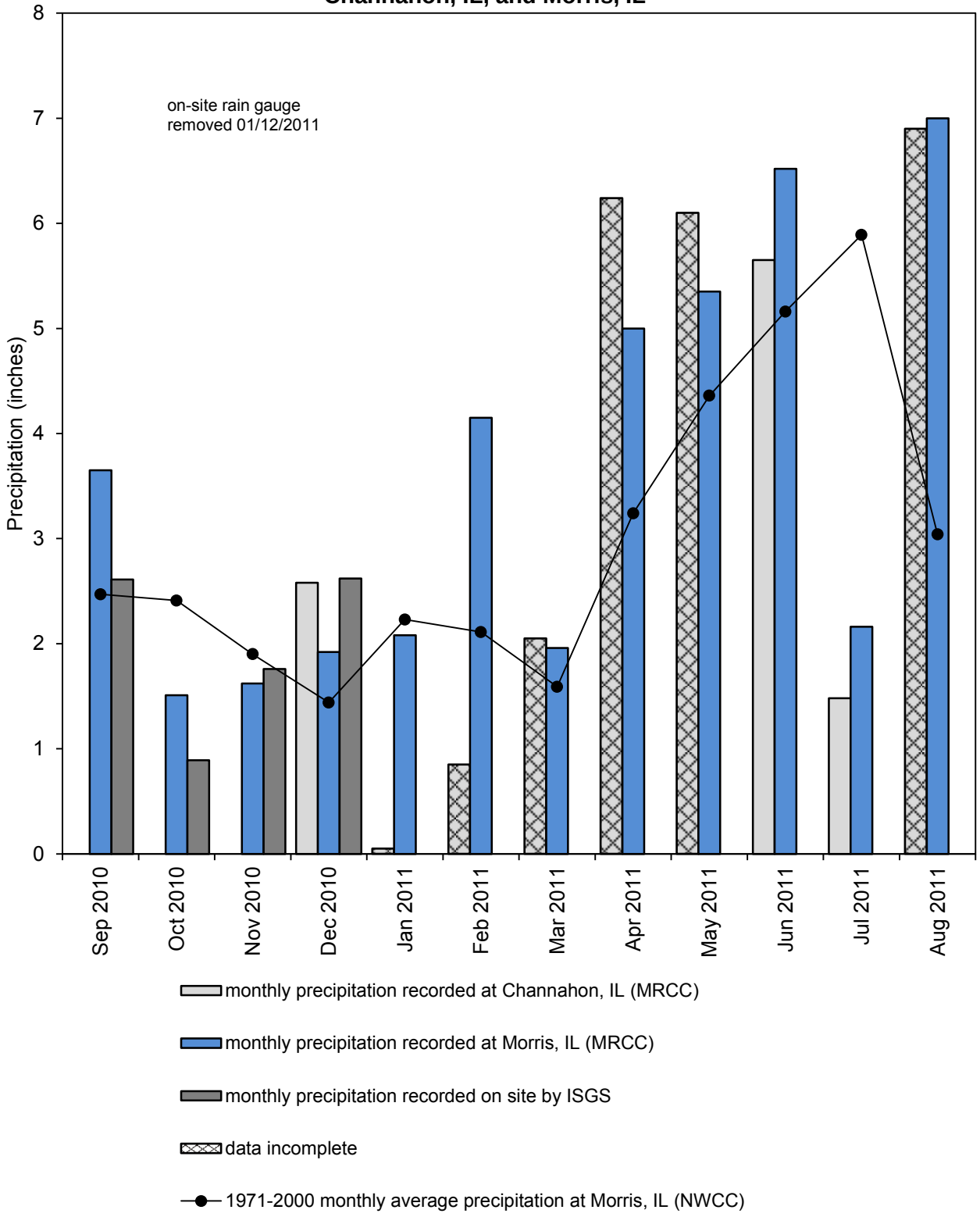
Morris Wetland Mitigation Bank
September 1, 2010 through August 31, 2011

Water-Level Elevations at a Surface-Water Data Logger in the "Spider Field"



Morris Wetland Mitigation Bank
September 2010 through August 2011

Total Monthly Precipitation Recorded on Site and at Channahon, IL, and Morris, IL



Graph last updated 10/31/2011