

**LAWRENCE COUNTY
POTENTIAL WETLAND MITIGATION BANK**

ISGS #82

Sequence #14912

Lawrence County, near Lawrenceville, Illinois

Primary Project Manager: Steven E. Benton

Secondary Project Manager: Jessica Monson

SITE HISTORY

- January 2009: An Initial Site Evaluation report was submitted to IDOT on June 18, 2009.
- July 2009: The ISGS was tasked by IDOT to conduct a Level II hydrogeologic investigation of the site. A monitoring network was installed in October 2009.
- May 2010: The ISGS submitted a draft mitigation banking instrument to IDOT.

WETLAND HYDROLOGY CALCULATION FOR 2011

The estimated area that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the 2011 growing season is 23.4 ha (57.7 ac) out of a total area of 29.6 ha (73.1 ac), and the estimated area that satisfied wetland hydrology criteria for greater than 12.5% of the 2011 growing season is 15.8 ha (39.1 ac). Using the 2010 Midwest Region Supplement (U.S. Army Corps of Engineers 2010) to the 1987 Manual, we estimate that 20.0 ha (49.4 ac) also satisfied wetland hydrology criteria for 14 or more consecutive days during the growing season. These estimates are based on the following factors:

- The median date that the growing season begins at the Olney, Illinois, weather station is April 7, and the season lasts 209 days (MRCC 2011); 5% of the growing season is 10 days, and 12.5% of the growing season is 25 days, according to the 1987 Manual. According to methods outlined in the 2010 Midwest Region Supplement, we estimate that February 28 was the starting date of the 2011 growing season based on soil temperatures measured at the site.
- Total precipitation for the monitoring period as recorded at the Lawrenceville, Illinois, weather station was 109% of normal, and precipitation in Spring 2011 (March through May) was 139% of normal.
- In 2011, water levels measured in all of the soil-zone monitoring wells except 14S satisfied wetland hydrology criteria for greater than 5% of the growing season, and all wells except 11S, 14S, 16S, and 17S satisfied wetland hydrology criteria for greater than 12.5% of the growing season, according to the 1987 Manual. In addition, water levels measured in all of the soil-zone monitoring wells except 14S satisfied wetland hydrology criteria for 14 or more consecutive days during the growing season per the 2010 Midwest Region Supplement.
- Surface-water levels measured by the data logger in the agricultural field west of Beaver Pond Ditch show that inundation occurred on the site several times during the monitoring period. This was the result of flooding on the Embarras River causing water to back up Beaver Pond Ditch. In May, portions of the site at and below an elevation of 125.4 m (411.4 ft) were inundated for 11 days (May 4-May 14), long enough to satisfy

wetland hydrology criteria for more than 5% of the growing season, and portions of the site at and below 124.2 m (407.5 ft) were inundated for 25 days (April 24-May 18), long enough to satisfy wetland hydrology criteria for 12.5% of the growing season, according to the 1987 Manual. In addition, portions of the site at and below 125.2 m (410.8 ft) were inundated for 14 days (May 2-May 15), long enough to satisfy wetland hydrology criteria for 14 or more consecutive days during the growing season per the 2010 Midwest Region Supplement.

ADDITIONAL INFORMATION

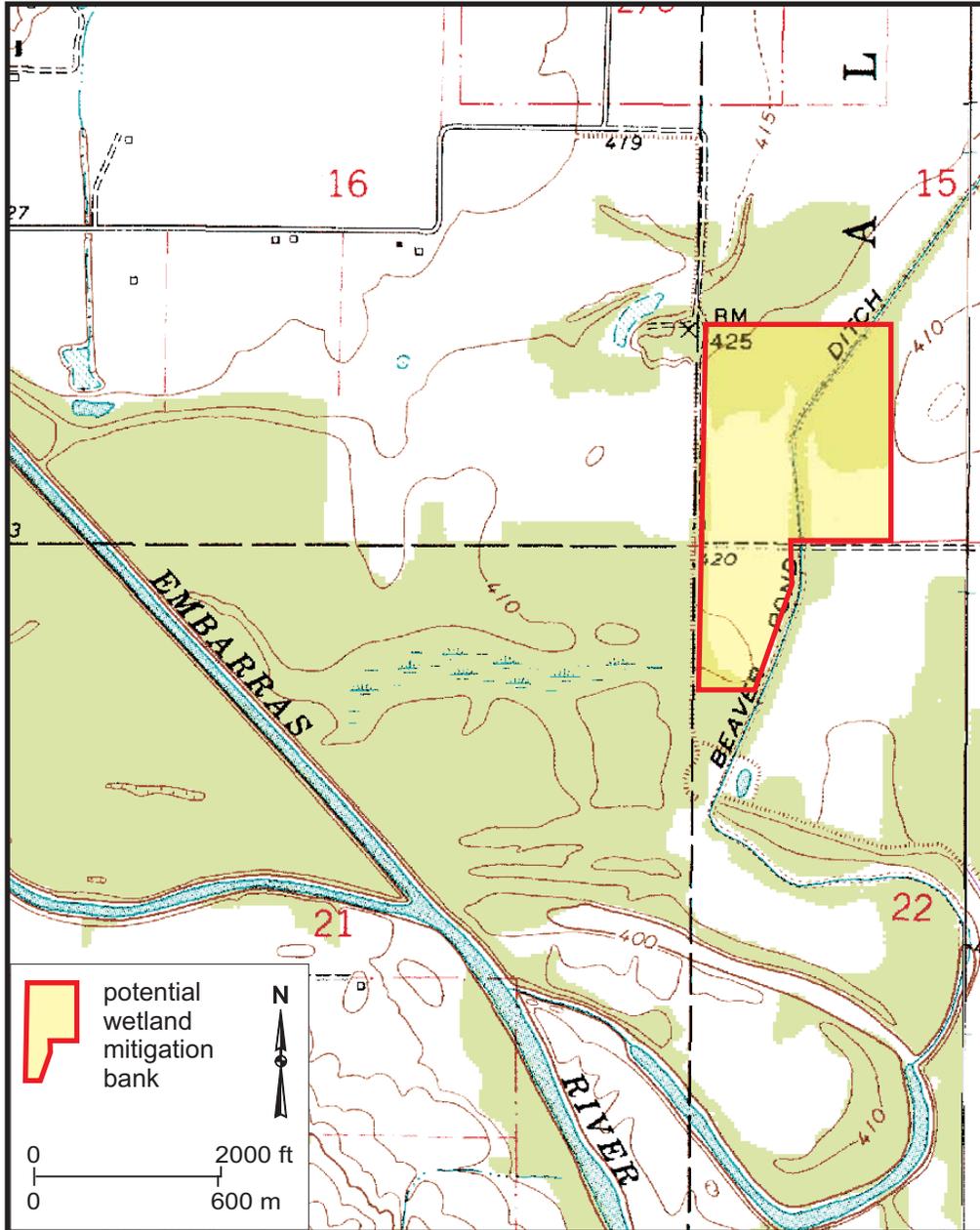
- On-site observations, and analysis of historic Embarras River stage data recorded at Lawrenceville, Illinois, reveal that water begins backing up Beaver Pond Ditch when the Embarras River at Lawrenceville reaches action stage (8.2 m [27.0 ft]), and the flapper gates on the gravity drains in the Russell-Allison levee close when the Embarras River reaches flood stage (9.1 m [30.0 ft]) at Lawrenceville.

PLANNED FUTURE ACTIVITIES

- Monitoring will continue at the site until no longer required by IDOT.

Lawrence County Potential Wetland Mitigation Bank General Study Area and Vicinity

from the USGS Topographic Series, Lawrence, IL, 7.5-minute Quadrangle (USGS 1977)
contour interval: 10 feet



Lawrence County
Potential Wetland Mitigation Bank
Estimated Areal Extent of 2011 Wetland Hydrology
 September 1, 2010 through August 31, 2011
 Map based on USGS digital orthophotographs,
 Lawrenceville SE and Vincennes SW
 quarter quadrangles (ISGS 2009)



<ul style="list-style-type: none"> ○ monitoring wells □ staff gauges △ surface-water logger 	<p>2011 Wetland Hydrology</p> <ul style="list-style-type: none"> >5% of growing season (1987 Manual) >12.5% of growing season (1987 Manual) 14 days or more (2010 Midwest Region Supplement)
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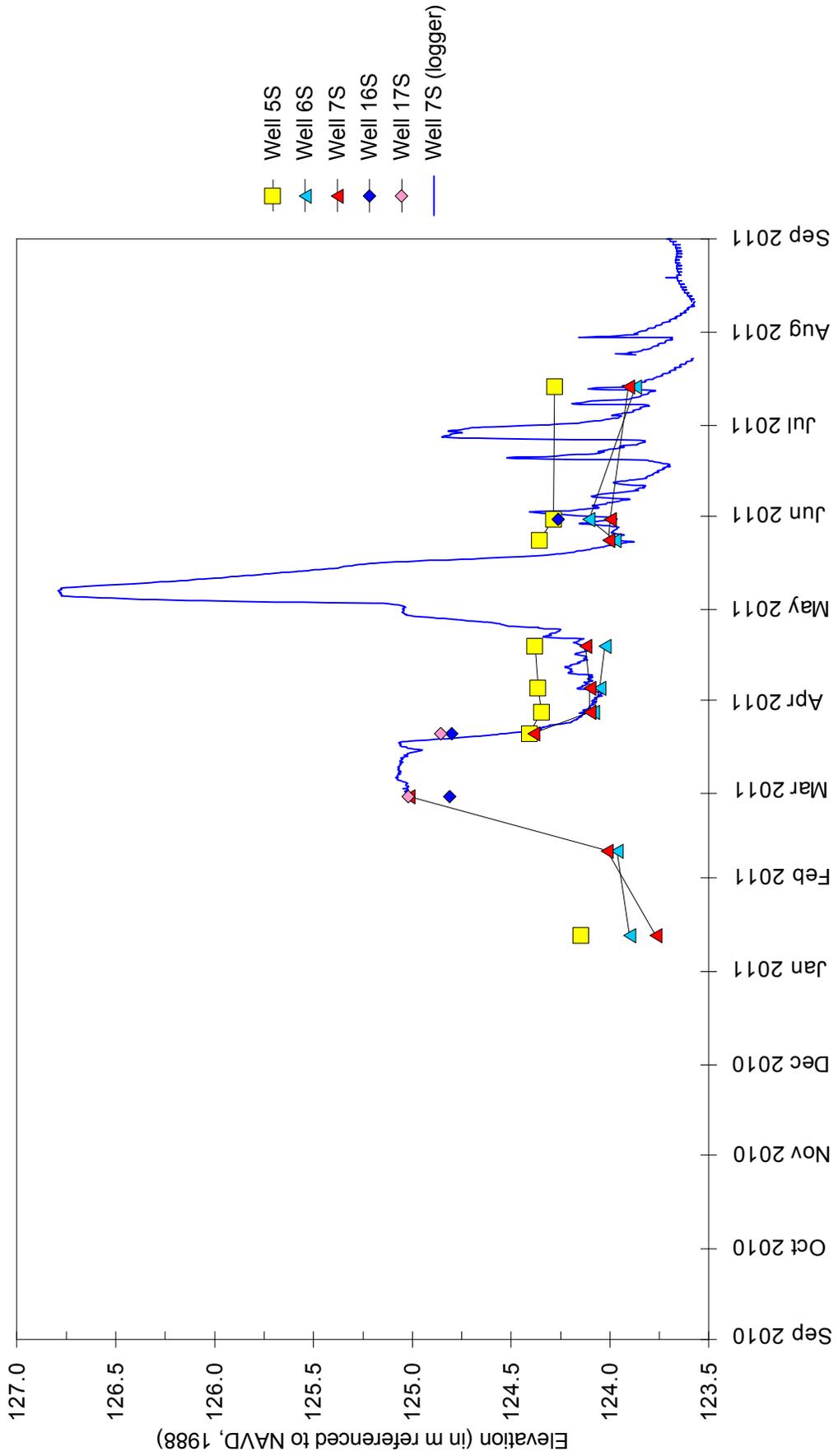
0 200 m

0 500 ft

N

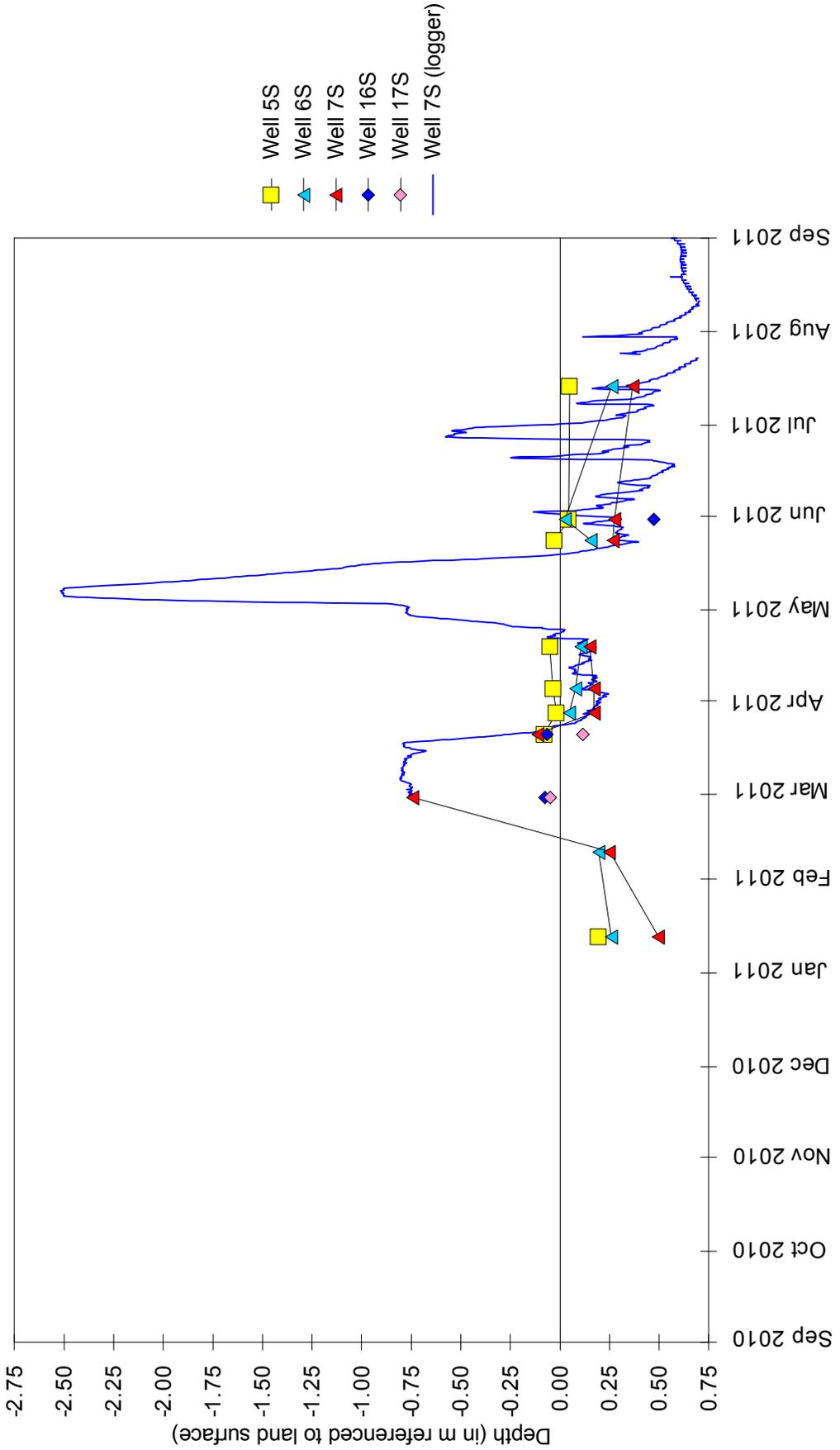
Lawrence County Potential Wetland Mitigation Bank September 1, 2010 through August 31, 2011

Water-Level Elevations in Monitoring Wells East of Beaver Pond Ditch



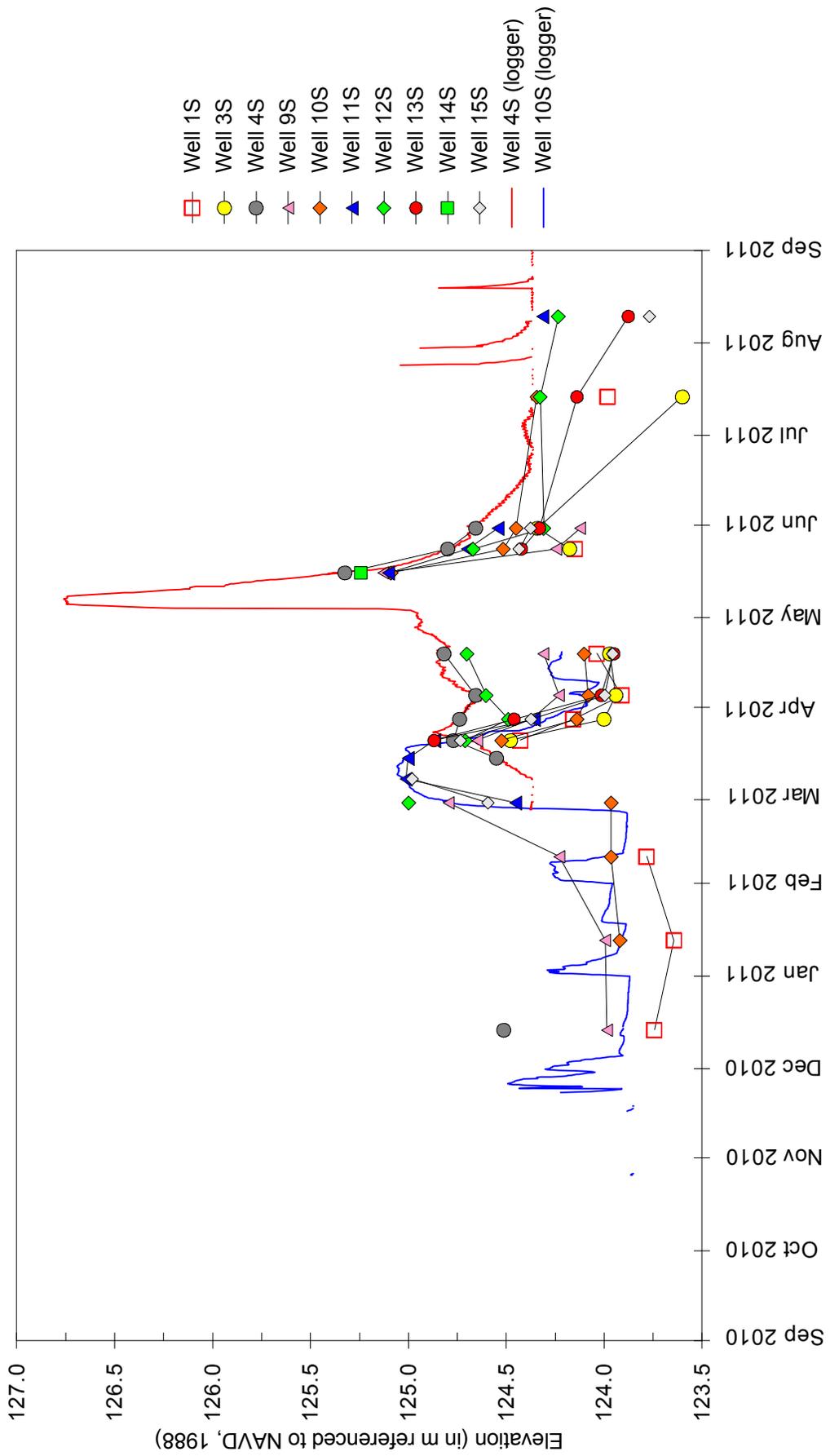
Lawrence County Potential Wetland Mitigation Bank September 1, 2010 through August 31, 2011

Depth to Groundwater in Monitoring Wells East of Beaver Pond Ditch



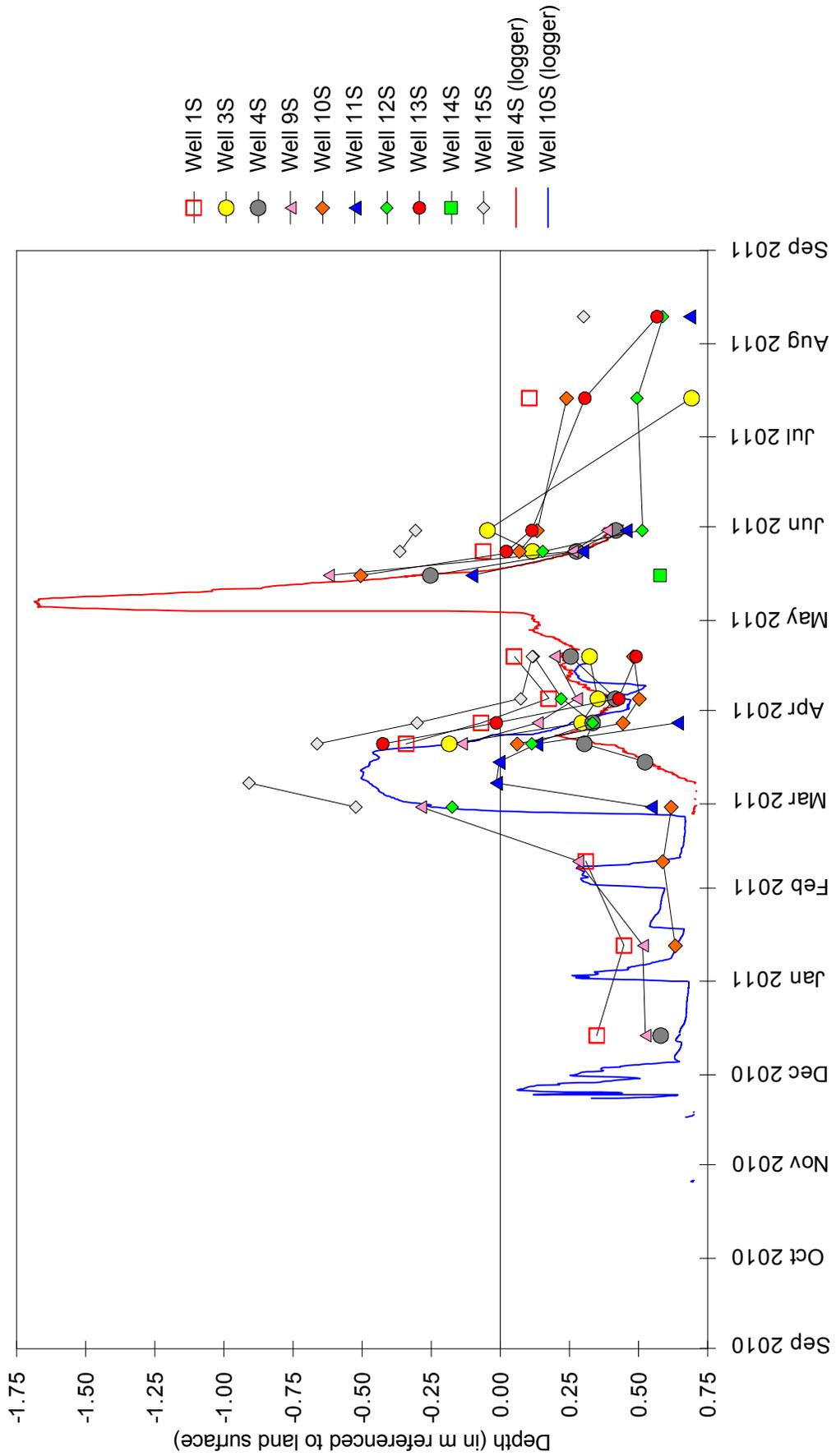
Lawrence County Potential Wetland Mitigation Bank September 1, 2010 through August 31, 2011

Water-Level Elevations in Monitoring Wells West of Beaver Pond Ditch



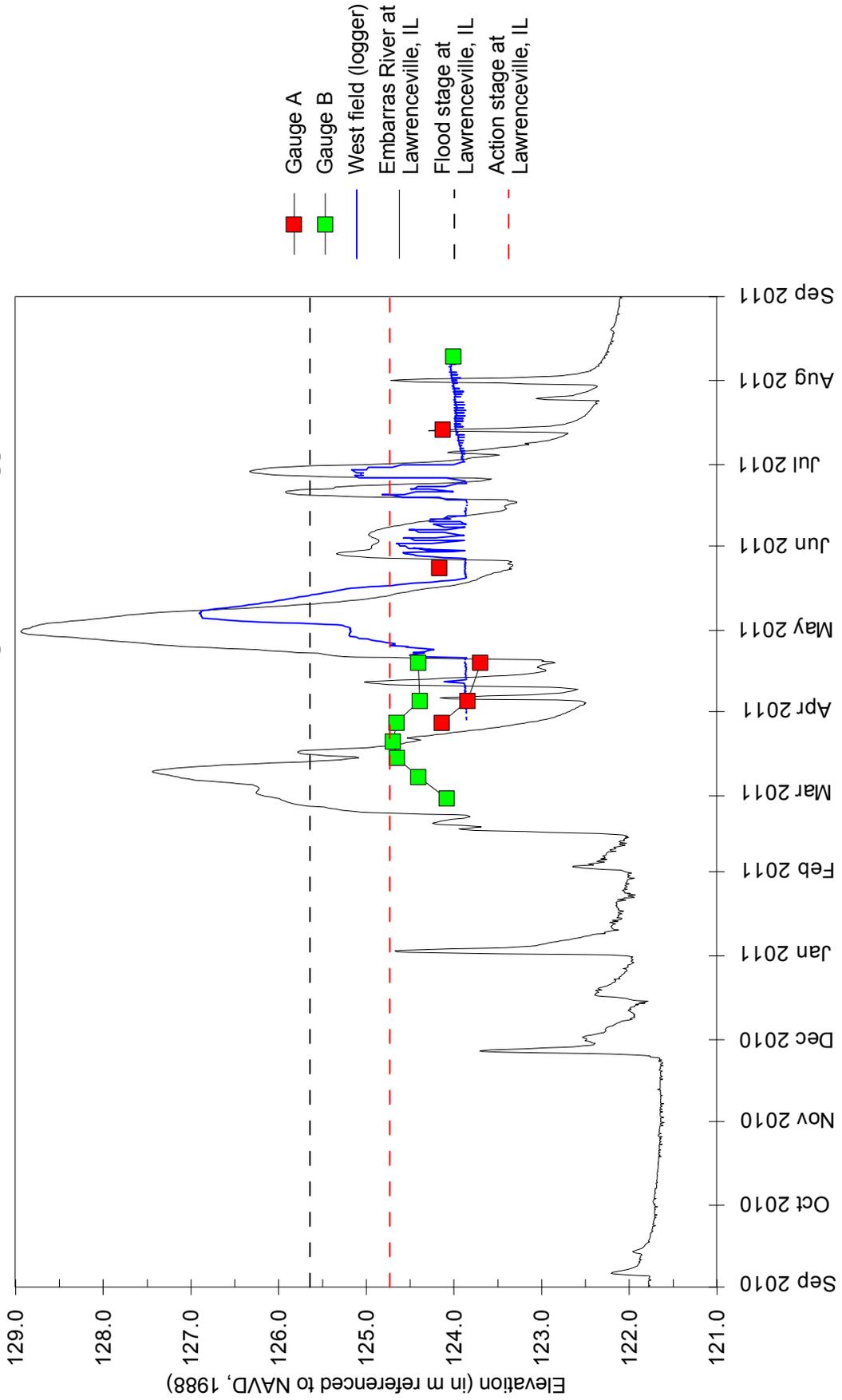
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Depth to Groundwater in Monitoring Wells West of Beaver Pond Ditch



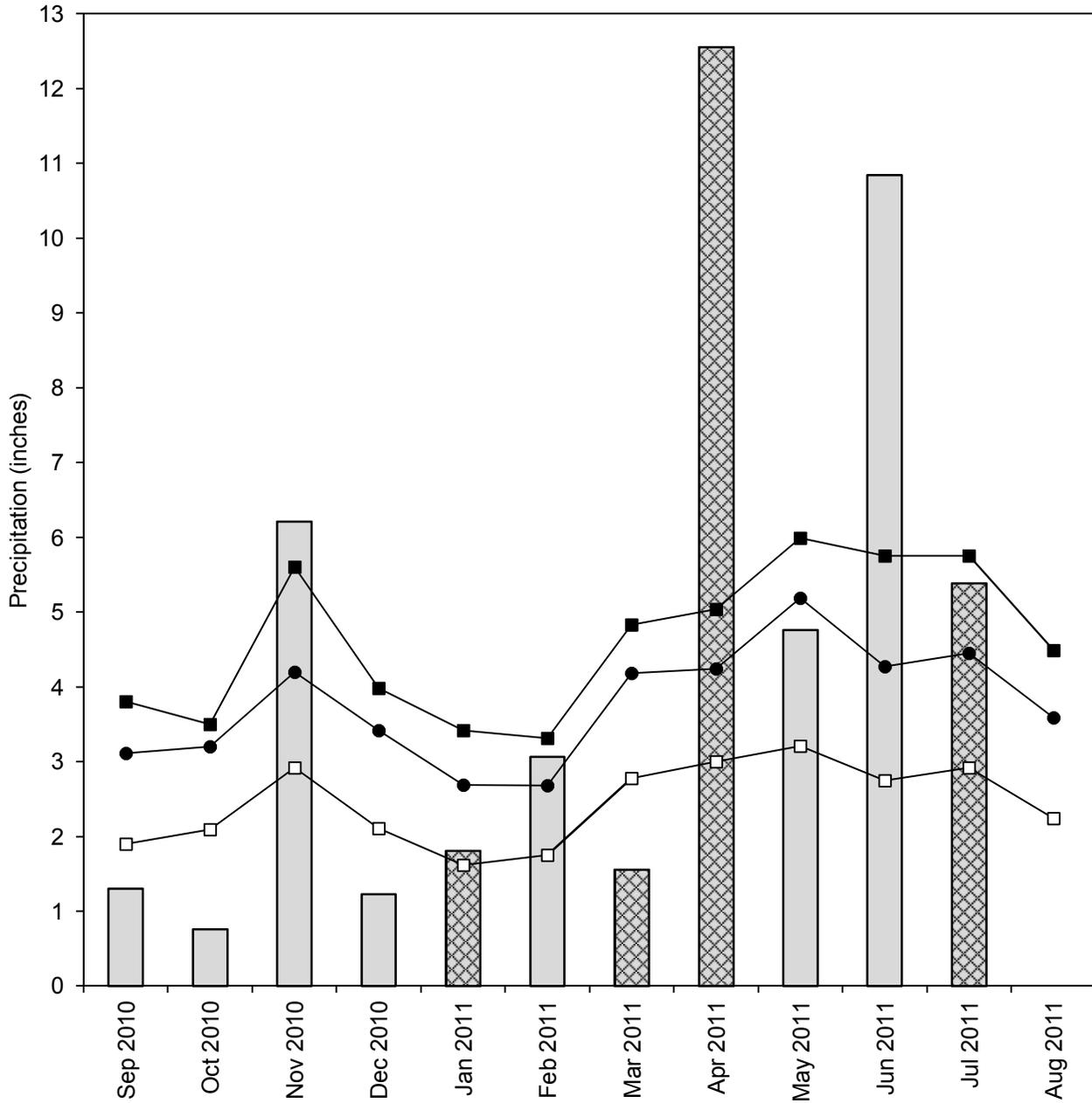
Lawrence County Potential Wetland Mitigation Bank September 1, 2010 through August 31, 2011

Surface-Water Elevations at Staff Gauges and Data Loggers



Lawrence County Potential Wetland Mitigation Bank September 2010 through August 2011

Total Monthly Precipitation Recorded at Lawrenceville, IL



— monthly precipitation recorded at Lawrenceville, IL (MRCC)

— data incomplete

— 1971-2000 monthly 30% above average threshold at Lawrenceville, IL (NWCC)

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Graph last updated 11/2/2011