

**MILAN BELTWAY, ROCK ISLAND
WETLAND MITIGATION SITE**

ISGS #76

FAU 5822

Sequence #67

Rock Island County, near Moline, Illinois

Primary Project Manager: Steven E. Benton

Secondary Project Manager: Jessica Ackerman

SITE HISTORY

- February 2008: The ISGS was tasked by IDOT to conduct 5-year monitoring.
- March 2008: A monitoring network was installed on the site by the ISGS.

WETLAND HYDROLOGY CALCULATION FOR 2011

The area of the site that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the 2011 growing season was estimated to be 2.9 ha (7.2 ac), and for greater than 12.5% of the growing season was estimated to be 2.1 ha (5.1 ac) out of a total area of 4.1 ha (10.2 ac). Using the 2010 Midwest Region Supplement (U.S. Army Corps of Engineers 2010) to the 1987 Manual, 2.8 ha (7.1 ac), out of a total area of 4.1 ha (10.2 ac), satisfied wetland hydrology criteria for 14 or more consecutive days during the growing season. See Additional Information below for individual wetland hydrology acreages in areas A, B, C, D, and E. These estimates are based on the following factors:

- The median date that the growing season begins at the nearby Quad City International Airport weather station in Moline, Illinois, is April 13 and the season lasts 196 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 March 15 was the start date of the 2011 growing season based on soil temperatures measured at the wetland mitigation site.
- Total precipitation during the monitoring period as recorded at the Quad City International Airport weather station in Moline, Illinois, was 90% of normal, and total precipitation in Spring 2011 (March through May) was 106% of normal.
- In 2011, wetland hydrology occurred for greater than 5% of the growing season at soil-zone monitoring wells 2S, 6S, 7S, 8S, 12S, 13S, 14S, 15S, 16S, 18S, 18VS, 19S, 20S, 21S, 21VS, 22S, 23S, and 24S, and for greater than 12.5% of the growing season at monitoring wells 12S, 13S, 14S, 15S, 16S, 18S, 18VS, 19S, 20S, 21S, 21VS, and 22S, according to the 1987 Manual. In addition, all of the monitoring wells except 1S, 2S, 3S, 4S, and 17S satisfied wetland hydrology criteria for 14 or more consecutive days during the growing season per the 2010 Midwest Region Supplement.
- Portions of Area D were inundated for the entire monitoring period. Surface-water elevations measured at Gauge C reveal that the portions of Area D at and below an elevation of 172.50 m (565.97 ft) were inundated for periods long enough to satisfy wetland hydrology criteria for greater than 5% of the growing season and for more than 12.5% of the growing season, according to the 1987 Manual. In addition, portions of Area D at and below an elevation of 172.50 m (565.97 ft) were inundated for 14 or more

consecutive days during the growing season per the 2010 Midwest Region Supplement. Surface-water elevations at data loggers Augustana 1 and Augustana 2 reveal that the Rock River flooded the ditches numerous times during the monitoring period. However, none of the resulting peaks resulted in inundation in any of the wetland areas on the site long enough to satisfy wetland hydrology criteria.

ADDITIONAL INFORMATION

- The following are acreages of jurisdictional wetland hydrology in each area of the site: <0.1 ha (0.2 ac) of Area A, <0.1 ha (0.2 ac) of Area B, 0.7 ha (1.9 ac) of Area C, 1.2 ha (3.0 ac) of Area D, and 0.8 ha (2.1 ac) of Area E satisfied wetland hydrology criteria for more than 5% of the growing season (Environmental Laboratory 1987); 0.0 ha (0.0 ac) of Area A, 0.0 ha (0.0 ac) of Area B, 0.7 ha (1.9 ac) of Area C, 1.2 ha (3.0 ac) of Area D, and 0.8 ha (2.1 ac) of Area E satisfied wetland hydrology criteria for more than 12.5% of the growing season (Environmental Laboratory 1987); <0.1 ha (0.2 ac) of Area A, 0.0 ha (0.0 ac) of Area B, 0.7 ha (1.9 ac) of Area C, 1.2 ha (3.0 ac) of Area D, and 0.8 ha (2.1 ac) of Area E satisfied wetland hydrology criteria for 14 or more consecutive days during the growing season per the 2010 Midwest Region Supplement.
- The construction of the bicycle/walking path has created an opportunity to alter the hydrology of the site and increase the duration of jurisdictional wetland hydrology in areas A and B. The path crosses the west ditch via a culvert and is raised above the surrounding landscape. A water-control structure across the ditch, upstream of the culvert, would inundate areas adjacent to the ditch by retaining runoff. The height of the structure would have to be determined by an elevation survey of the site in order to maximize the area of inundation/saturation without inundating the path.

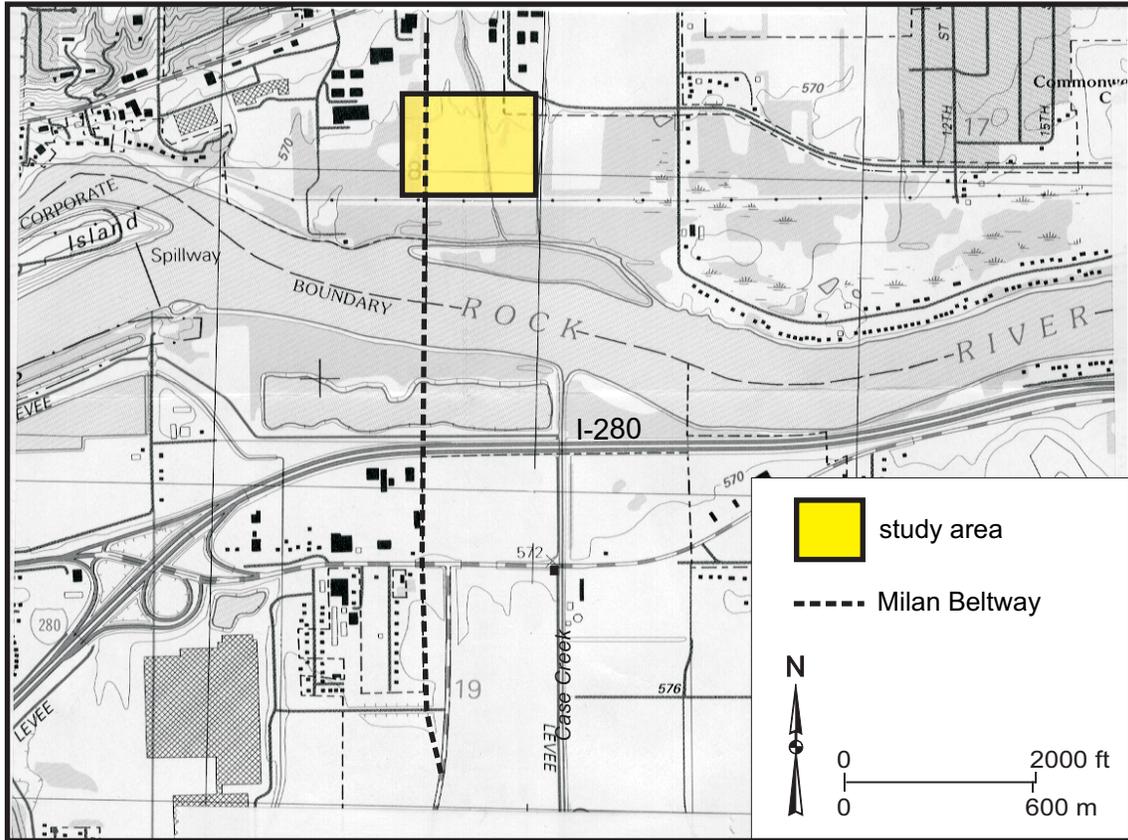
PLANNED FUTURE ACTIVITIES

- Monitoring activities will continue until no longer required by IDOT.

Milan Beltway, Rock Island Wetland Mitigation Site (FAU 5822)

General Study Area and Vicinity

from the USGS Topographic Series, Milan IL-IA, 7.5-minute Quadrangle (USGS 1992)
contour interval is 10 feet

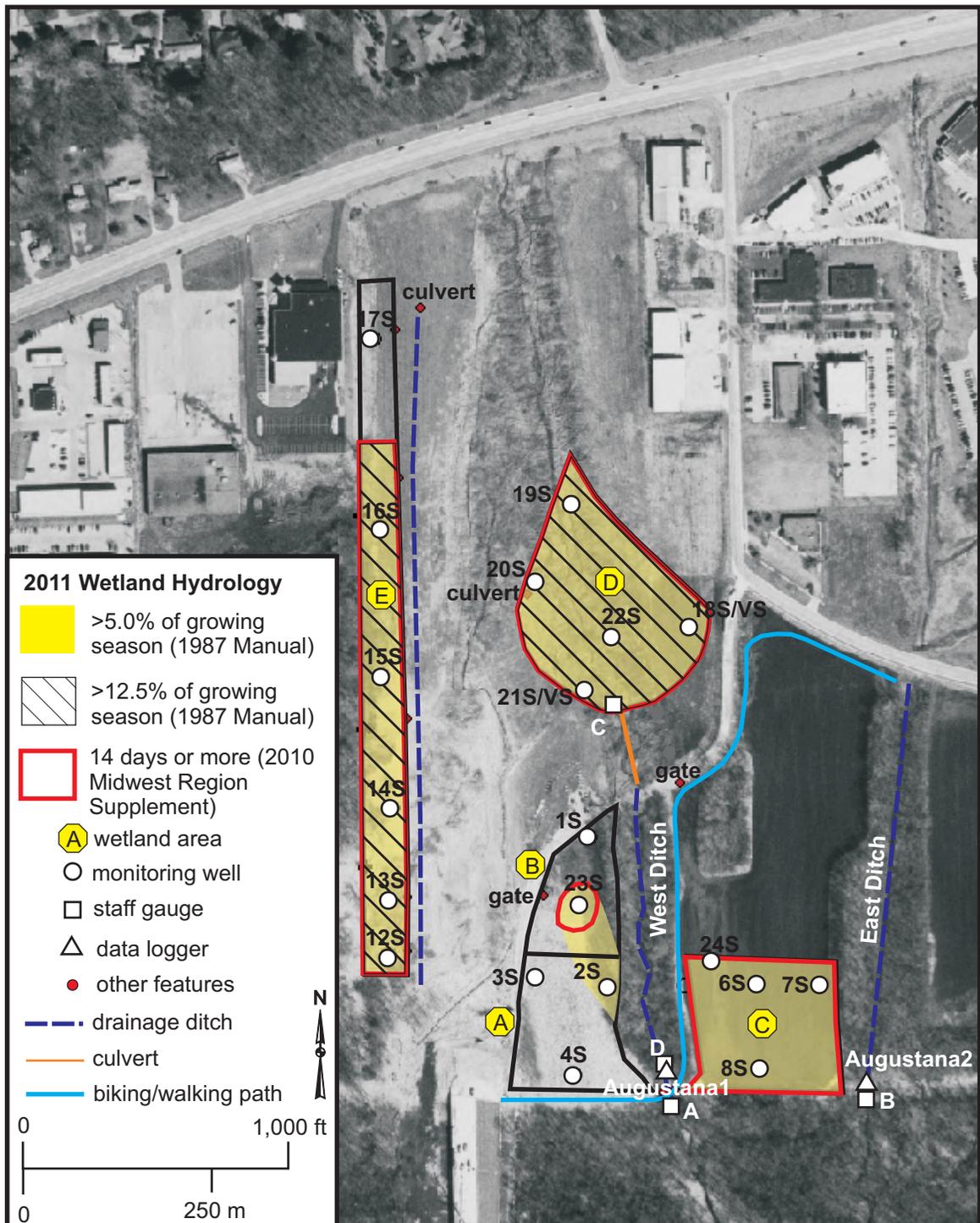


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Estimated Areal Extent of 2011 Wetland Hydrology

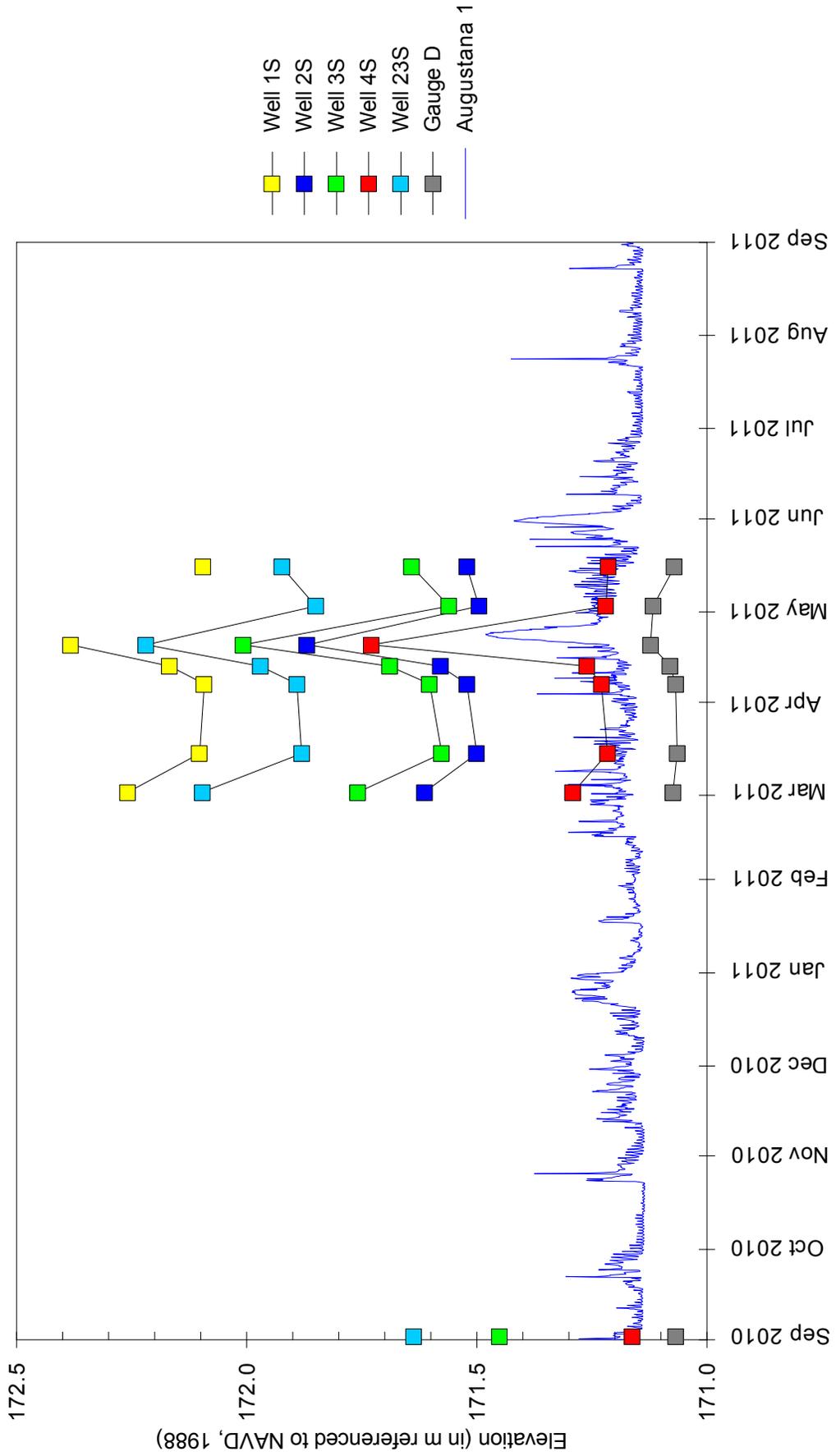
September 1, 2010 through August 31, 2011

Map base is USGS digital orthophotography, Milan NE quarter quadrangle (ISGS 2009)



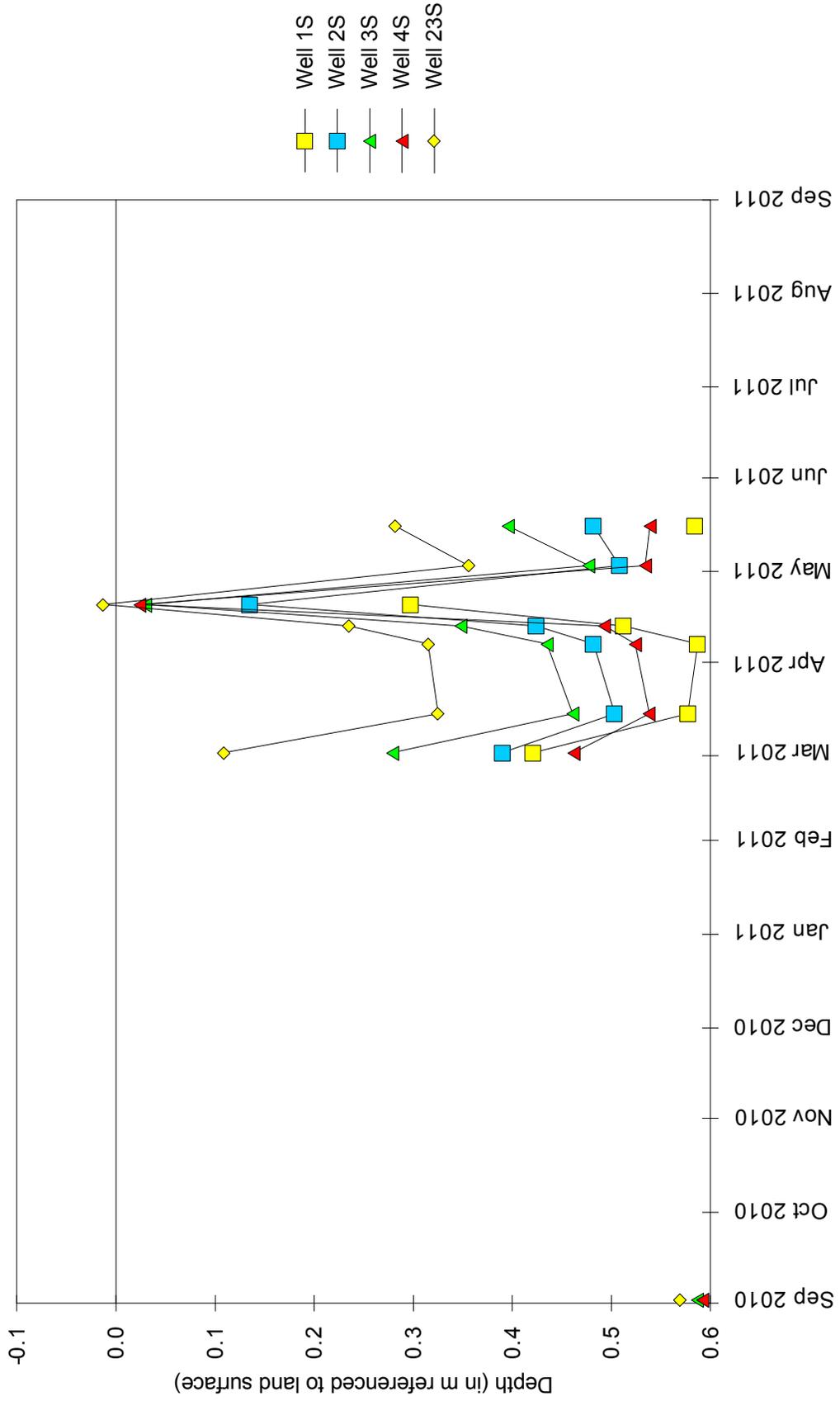
Milan Beltway, Rock Island Wetland Mitigation Site September 1, 2010 through August 31, 2011

Water-Level Elevations in Monitoring Wells and at Surface-Water Gauges Areas A and B



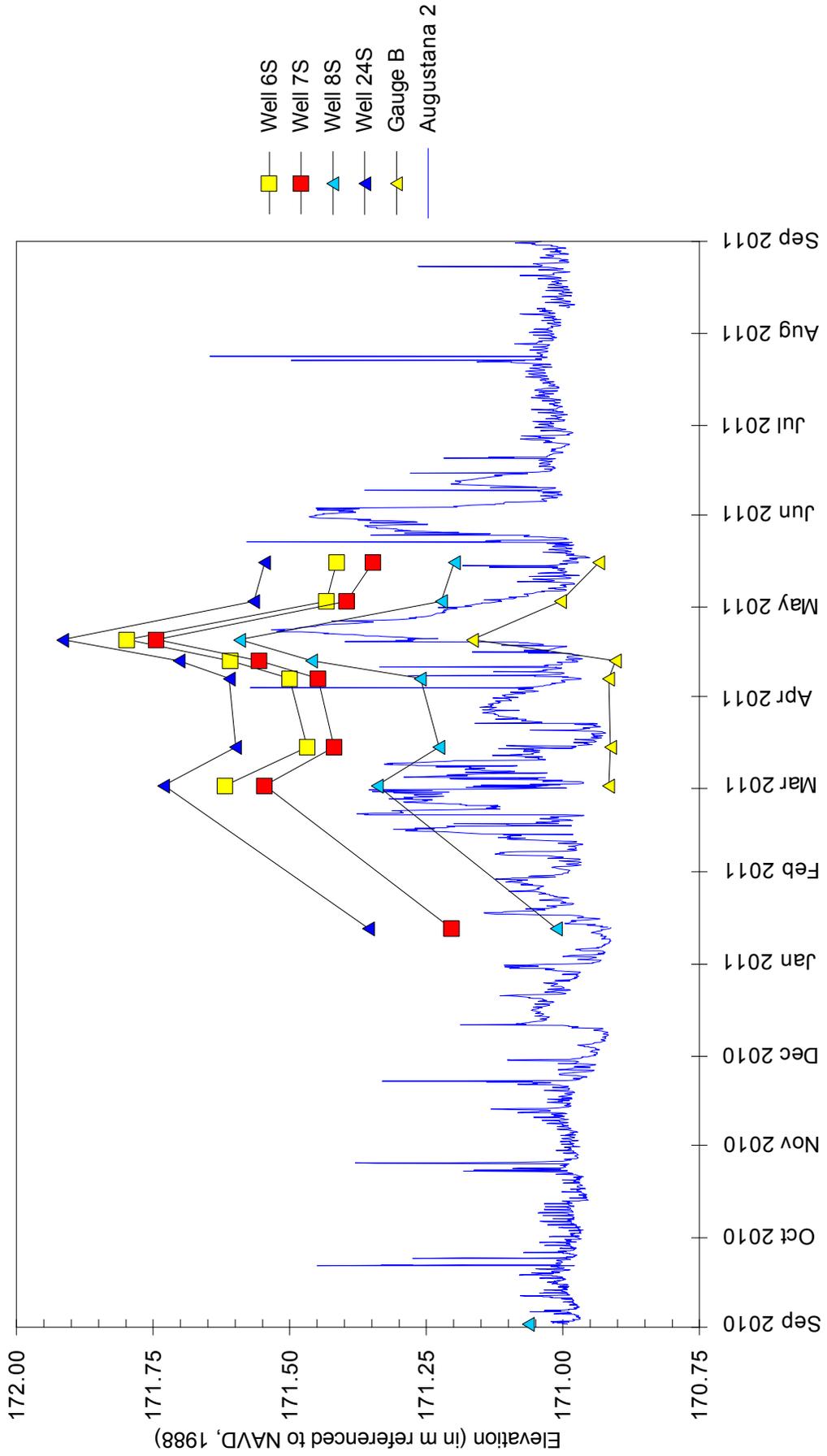
Milan Beltway, Rock Island Wetland Mitigation Site
September 1, 2010 through August 31, 2011

Depth to Groundwater in Monitoring Wells
Areas A and B



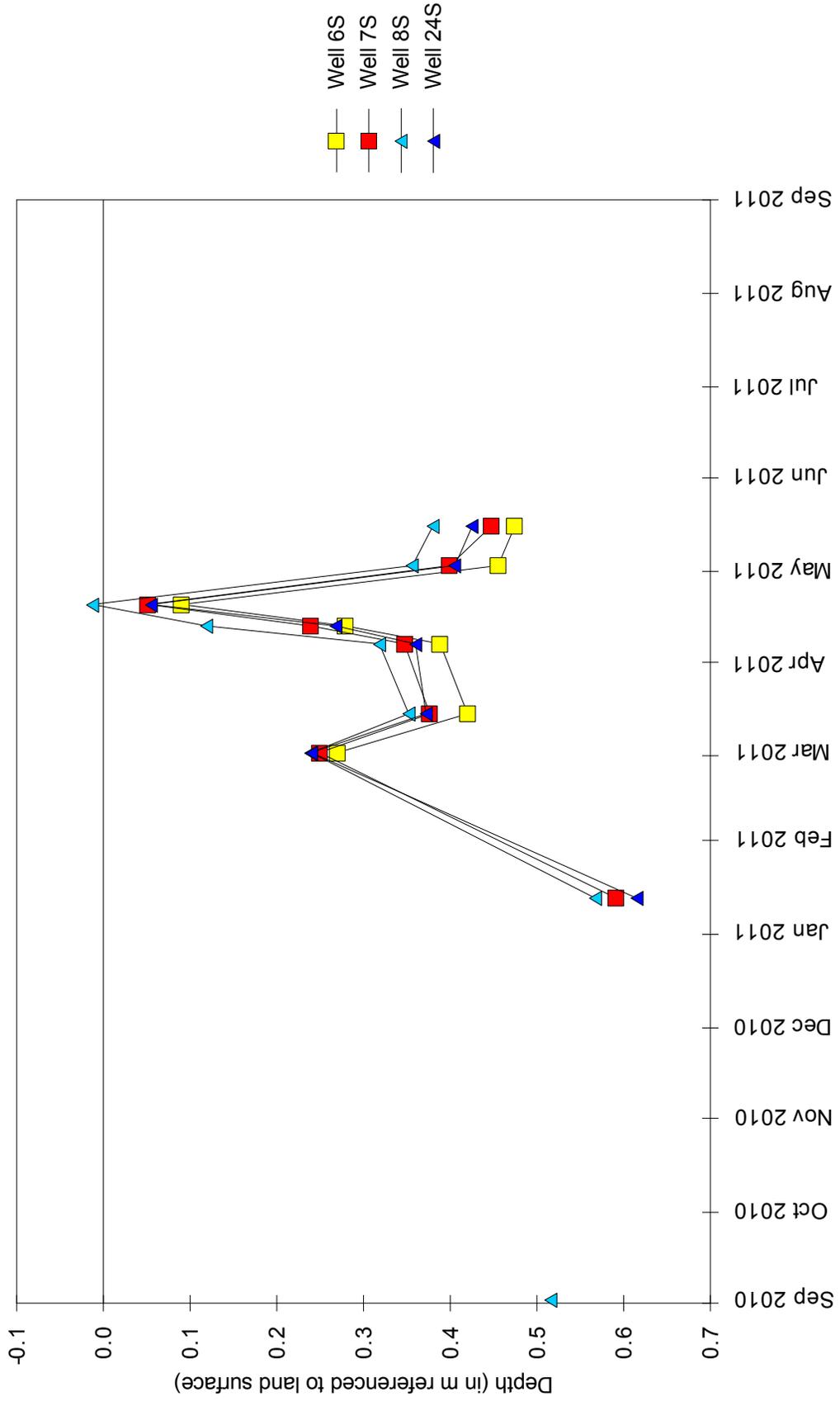
Milan Beltway, Rock Island Wetland Mitigation Site September 1, 2010 through August 31, 2011

Water-Level Elevations in Monitoring Wells and at Surface-Water Gauges Area C



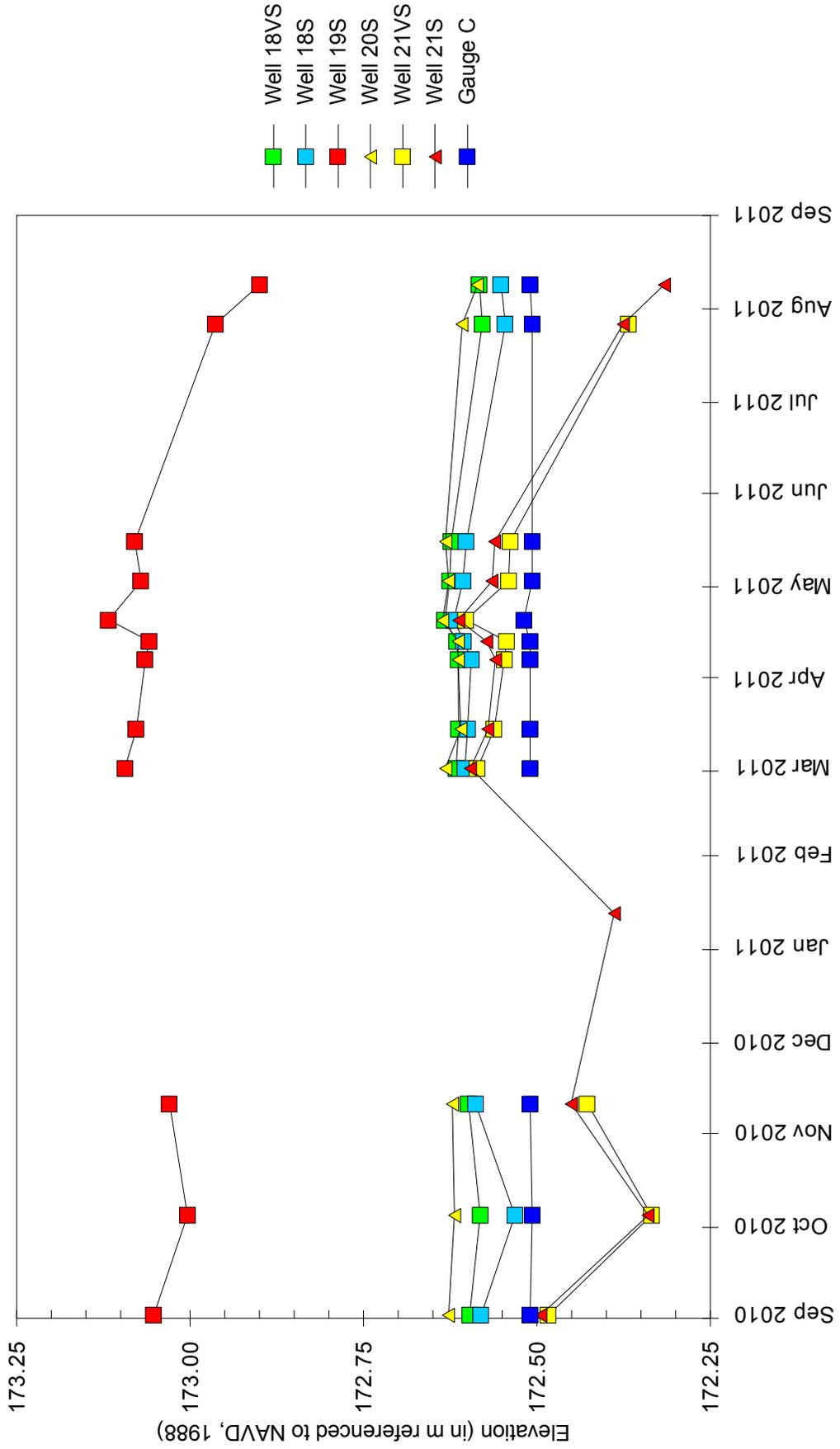
Milan Beltway, Rock Island Wetland Mitigation Site
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Depth to Groundwater in Monitoring Wells
Area C

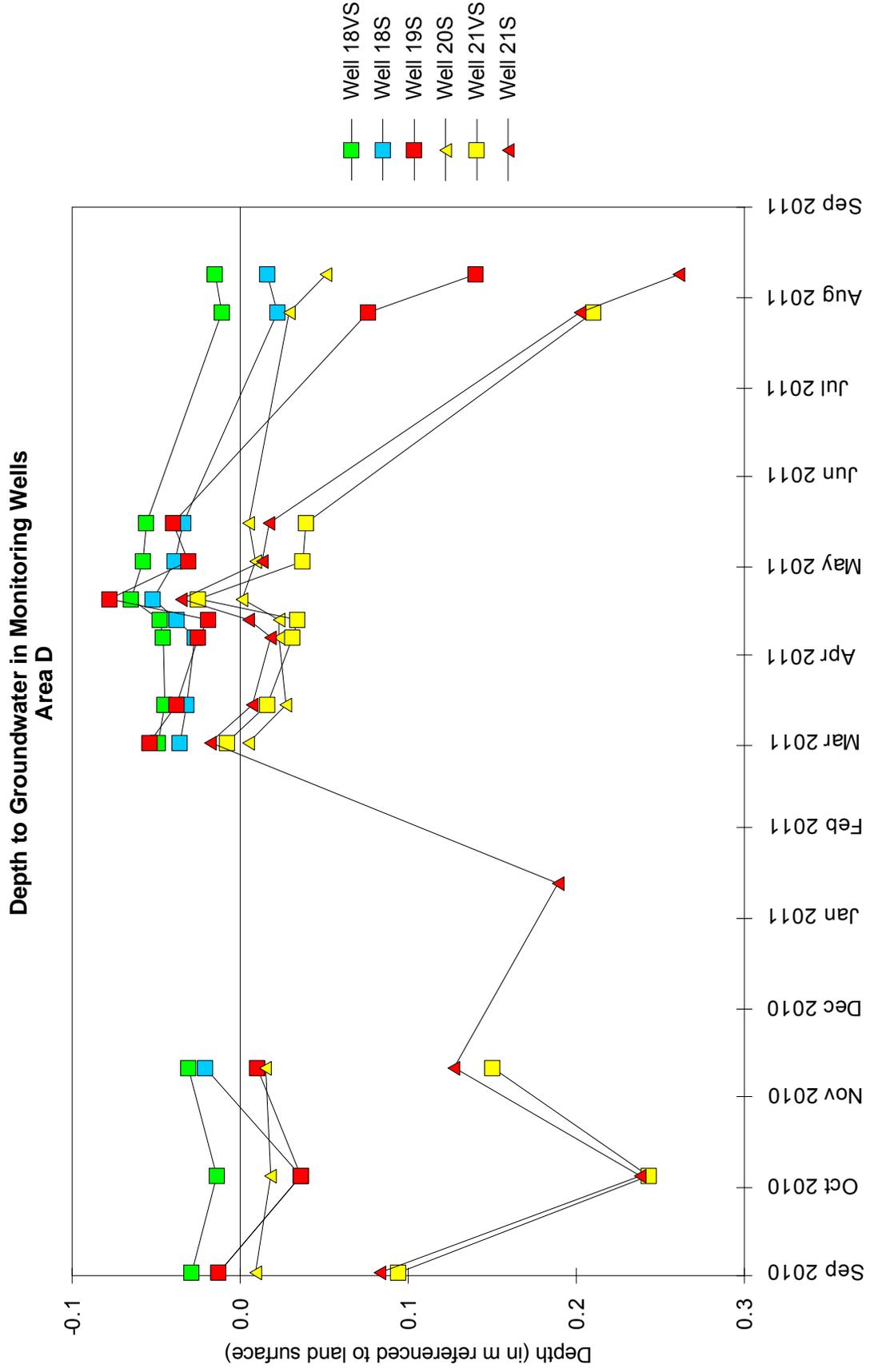


Milan Beltway, Rock Island Wetland Mitigation Site September 1, 2010 through August 31, 2011

Water-Level Elevations in Monitoring Wells and at Surface-Water Gauges Area D

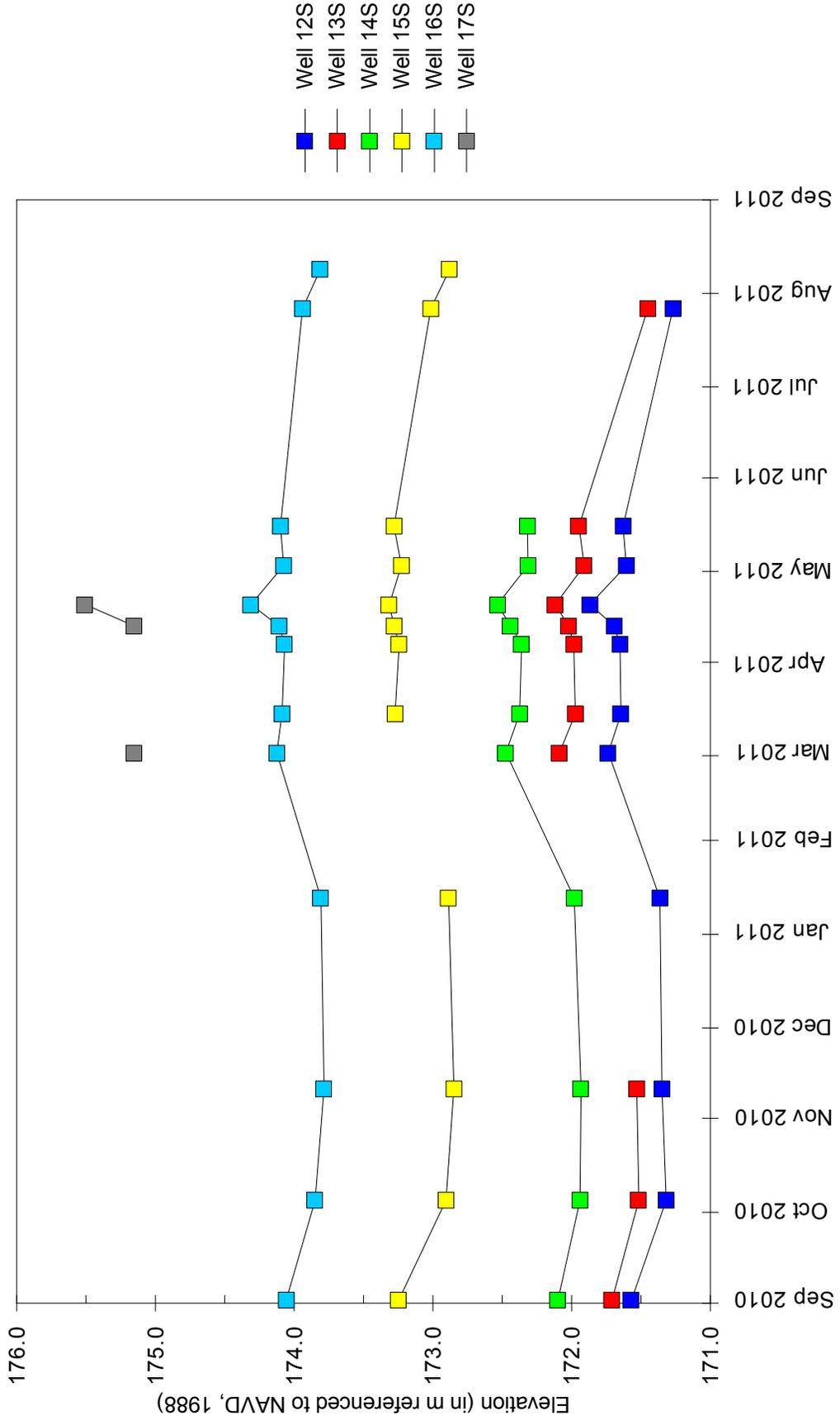


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September 1, 2010 through August 31, 2011

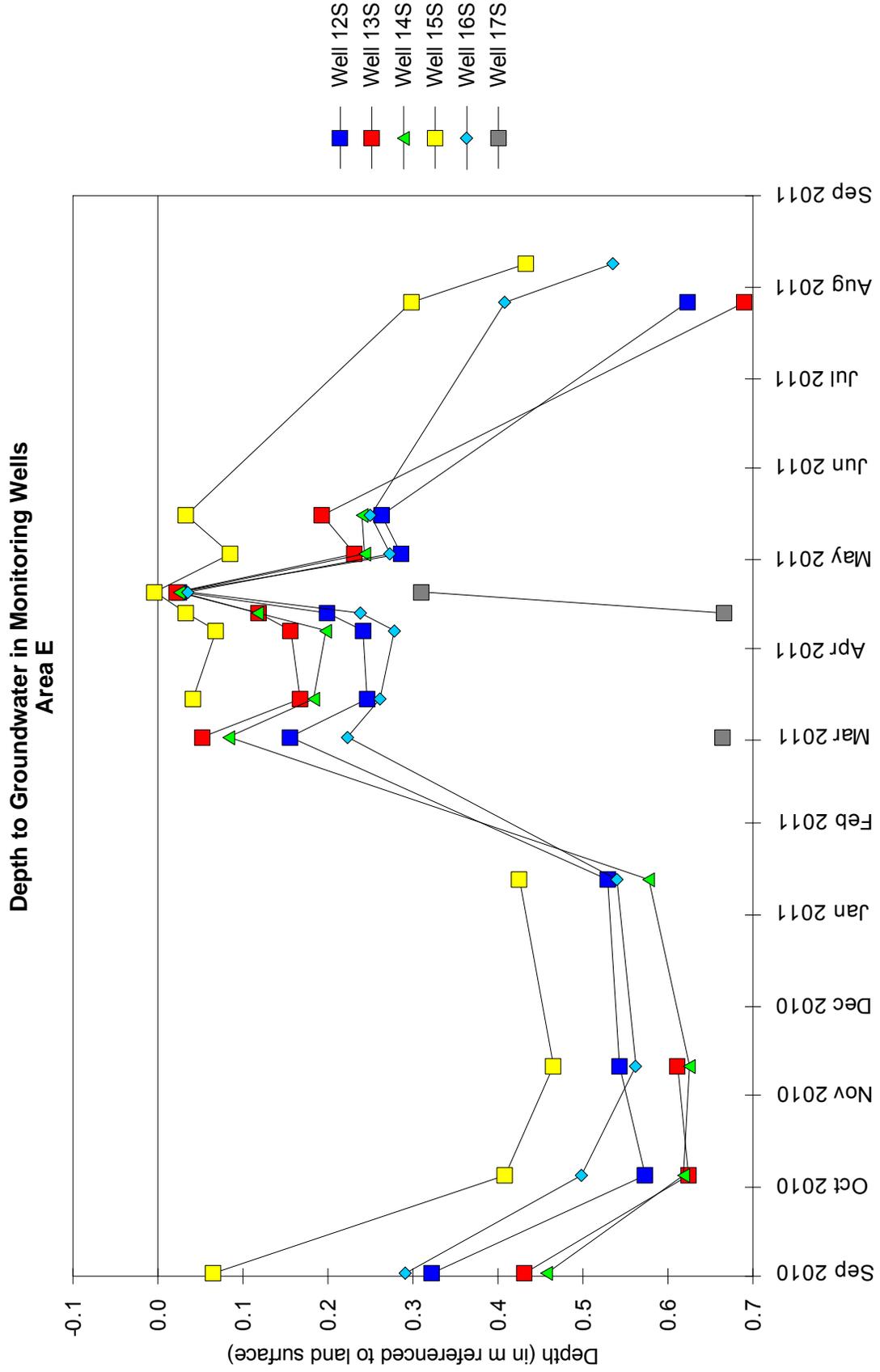


Milan Beltway, Rock Island Wetland Mitigation Site September 1, 2010 through August 31, 2011

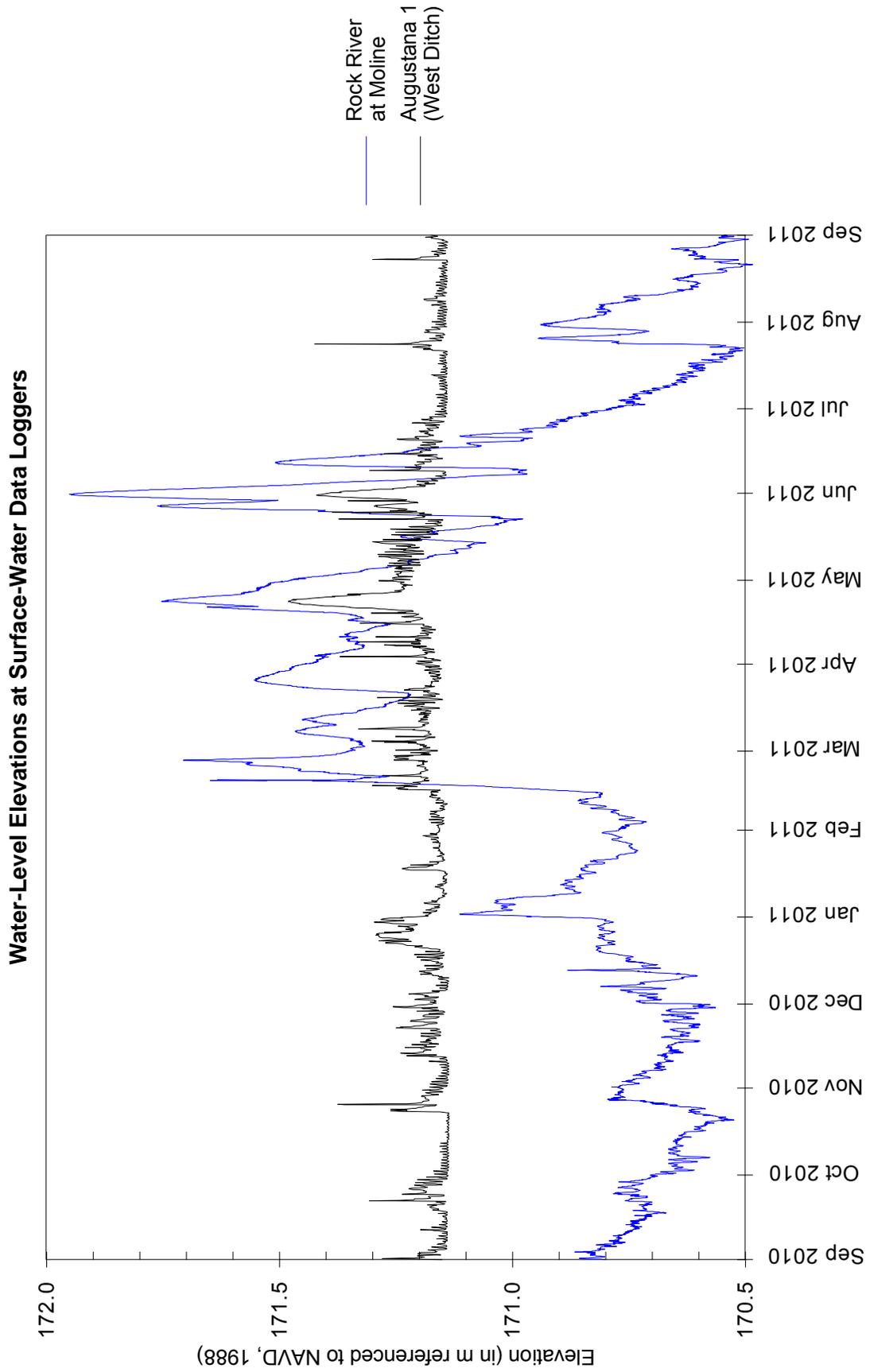
Water-Level Elevations in Monitoring Wells Area E



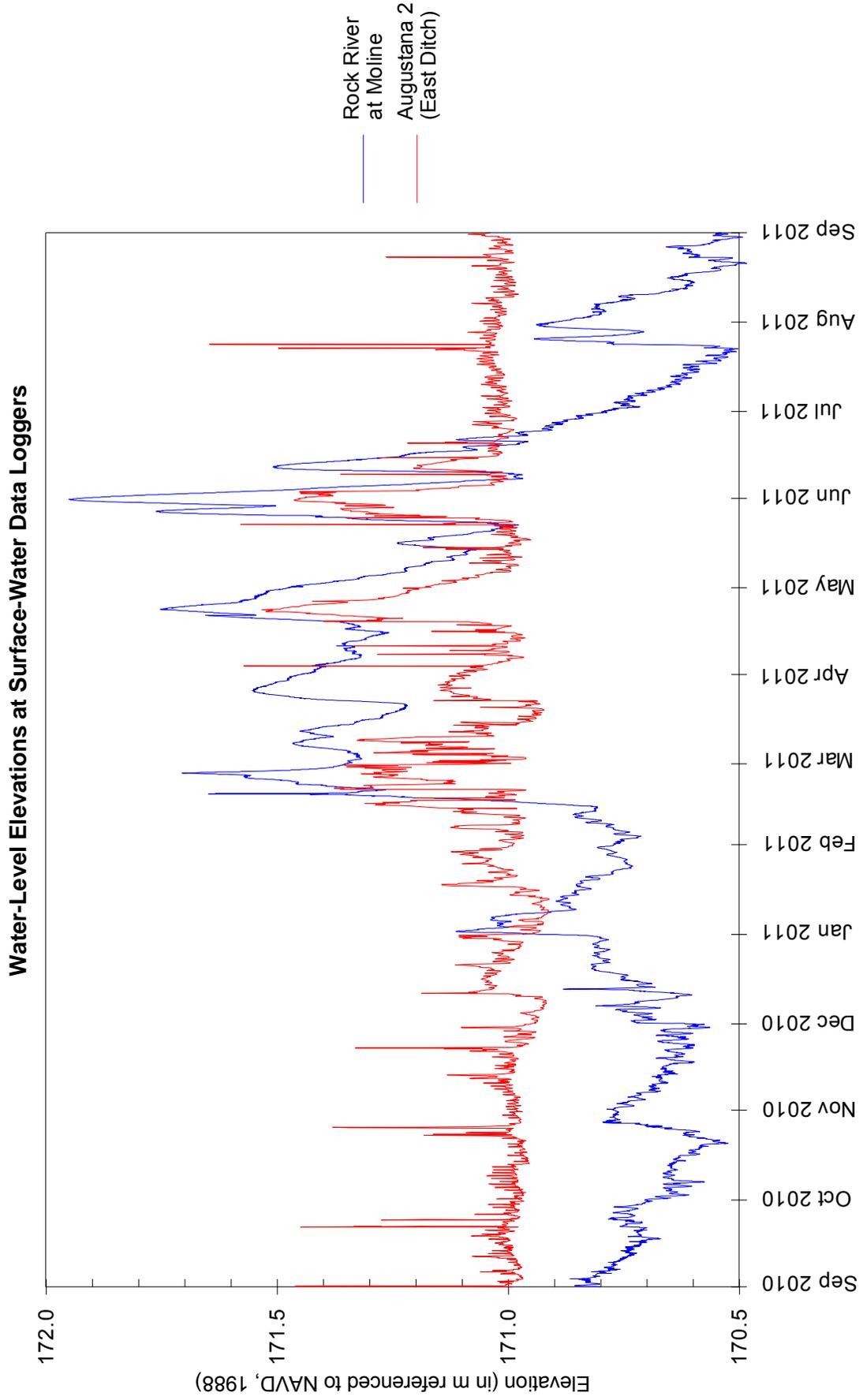
Milan Beltway, Rock Island Wetland Mitigation Site
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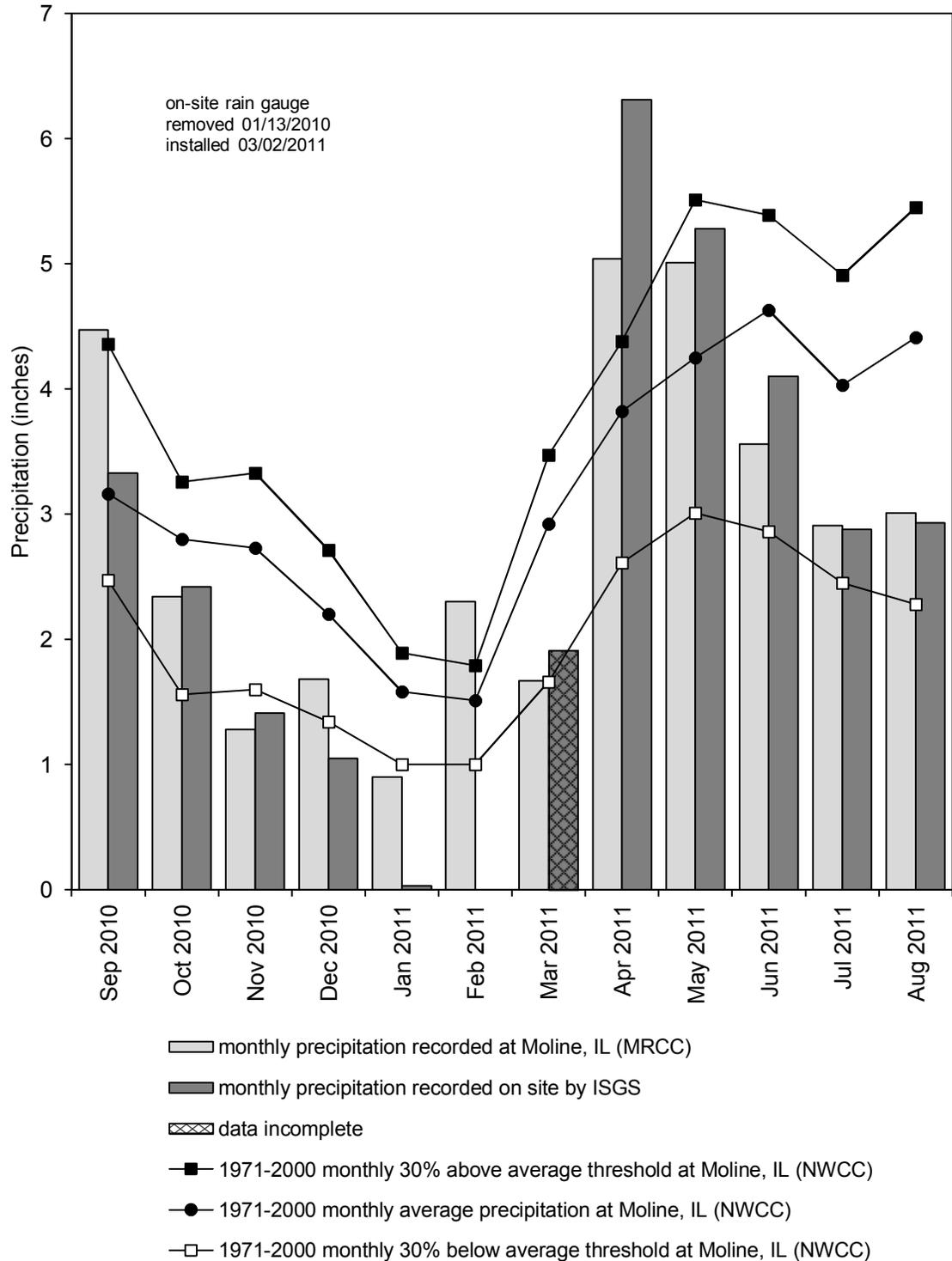


Milan Beltway, Rock Island Wetland Mitigation Site September 1, 2010 through August 31, 2011



Milan Beltway, Rock Island Wetland Mitigation Site September 2010 through August 2011

Total Monthly Precipitation Recorded on Site and at the Quad City International Airport, Moline, IL



Graph last updated 10/31/2011