

**MILAN BELTWAY, AUGUSTANA/ROCK ISLAND
WETLAND COMPENSATION SITE**

ISGS #76

FAU 5822

Sequence #67

Rock Island County, near Moline, Illinois

Primary Project Manager: Steven E. Benton

Secondary Project Manager: Kathleen E. Bryant

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.

WETLAND HYDROLOGY CALCULATION FOR 2009

The total area of the site that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for more than 5% of the 2009 growing season was estimated to be 2.92 ha (7.22 ac) out of a total area of 4.13 ha (10.22 ac). This included, in the areas shown on the attached figure, 0.12 ha (0.30 ac) of area A, 0.08 ha (0.20 ac) of area B, 0.71 ha (1.75 ac) of area C, 1.18 ha (2.92 ac) of area D, and 0.83 ha (2.05 ac) of area E. The total area that satisfied wetland hydrology criteria for more than 12.5% of the 2009 growing season was estimated to be 2.08 ha (5.14 ac), and included 0.07 ha (0.17 ac) of area C, 1.18 ha (2.92 ac) of area D, and 0.83 ha (2.05 ac) of area E. Using new guidance proposed by the U. S. Army Corps of Engineers (2008), we estimate that 2.92 ha (7.22 ac) satisfied wetland hydrology criteria for 14 or more consecutive days during the growing season. This included 0.12 ha (0.30 ac) of area A, 0.08 ha (0.20 ac) of area B, 0.71 ha (1.75 ac) of area C, 1.18 ha (2.92 ac) of area D, and 0.83 ha (2.05 ac) of area E. These estimates are based on the following factors:

- According to the MRCC, the median date that the growing season begins at the Quad City International Airport in nearby Moline, Illinois, is April 13 and the season lasts 196 days; 5% of the growing season is 10 days and 12.5% of the growing season is 25 days. According to methods outlined in the Midwest Regional Supplement (U.S. Army Corps of Engineers 2008), we estimate that March 18 was the start date of the 2009 growing season based on soil temperatures observed at the wetland compensation site.
- Total precipitation during the monitoring period was 154% of normal. Precipitation was at or above normal in September and December 2008, and from February 2009 through August 2009. Total precipitation in the spring (April through June) was 109% of normal.
- In 2009, wetland hydrology occurred for 5% of the growing season and for 14 or more consecutive days at monitoring wells 3S, 6S, 7S, 8S, 12S, 13S, 14S, 15S, 16S, 18VS, 18S, 19S, 20S, 21VS, 21S, 22S, 23S, and 24S. In addition, wetland hydrology occurred for more than 12.5% of the growing season at monitoring wells 8S, 12S, 13S, 14S, 15S, 16S, 18VS, 18S, 19S, 20S, 21VS, 21S, and 22S.
- During the growing season, inundation was observed mostly in area D. 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 5%, for 14 or more consecutive days, and for 12.5% of the growing season. Analysis of the data recorded by RDS1 and RDS2 reveals that surface water was high enough to inundate portions of areas A and C numerous times during the growing season, but that the duration of inundation was not long enough to satisfy any of the wetland hydrology criteria.

ADDITIONAL INFORMATION

- Analysis of surface-water elevations recorded by RDS1 and RDS2 reveals two sources of water. One source is flooding from the Rock River. The graphs show that the broadest peaks recorded by RDS1 and RDS2 generally corresponded to the highest stages recorded by the U.S. Army Corps of Engineers gauge at Moline, Illinois. These peaks tend to have the longest duration, lasting from about 1 to 2 weeks. The other source of water is runoff in the watershed of the site, which generally results in peaks that last a few hours to less than 1 day.

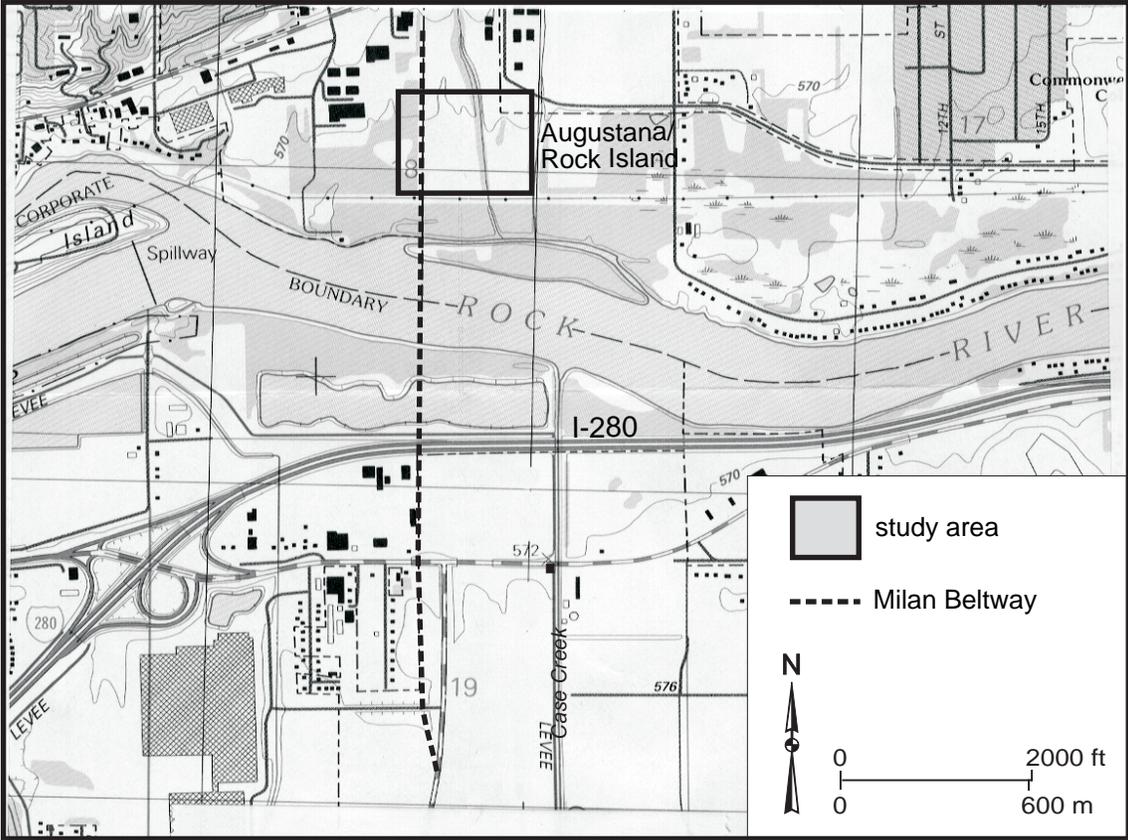
PLANNED FUTURE ACTIVITIES

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

Milan Beltway, Augustana/Rock Island Wetland Compensation Site (FAU 5822)

General Study Area and Vicinity

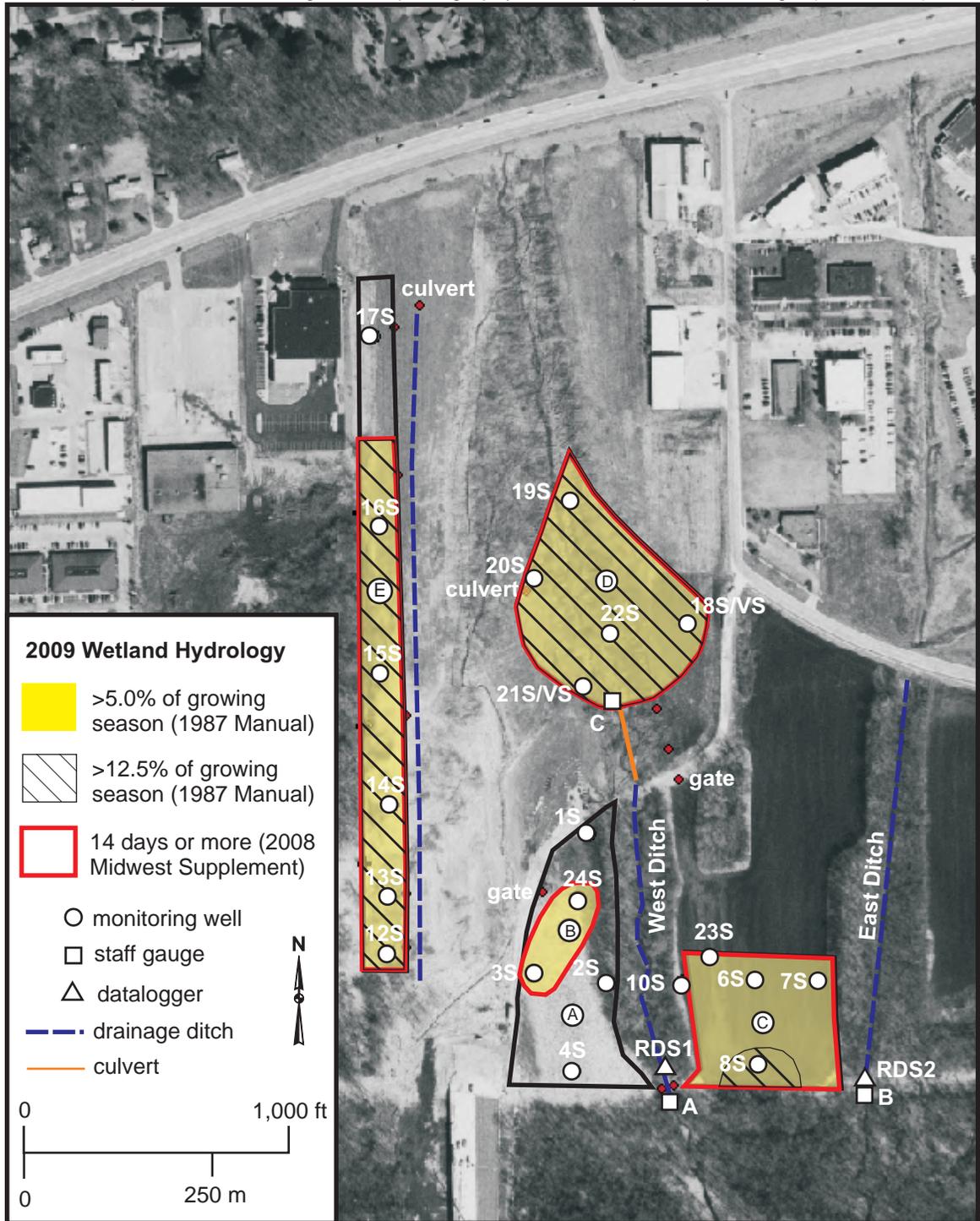
from the USGS Topographic Series, Milan IL-IA 7.5-minute Quadrangle (USGS 1992)
contour interval is 10 feet



Milan Beltway, Augustana/Rock Island Wetland Compensation Site (FAU 5822)

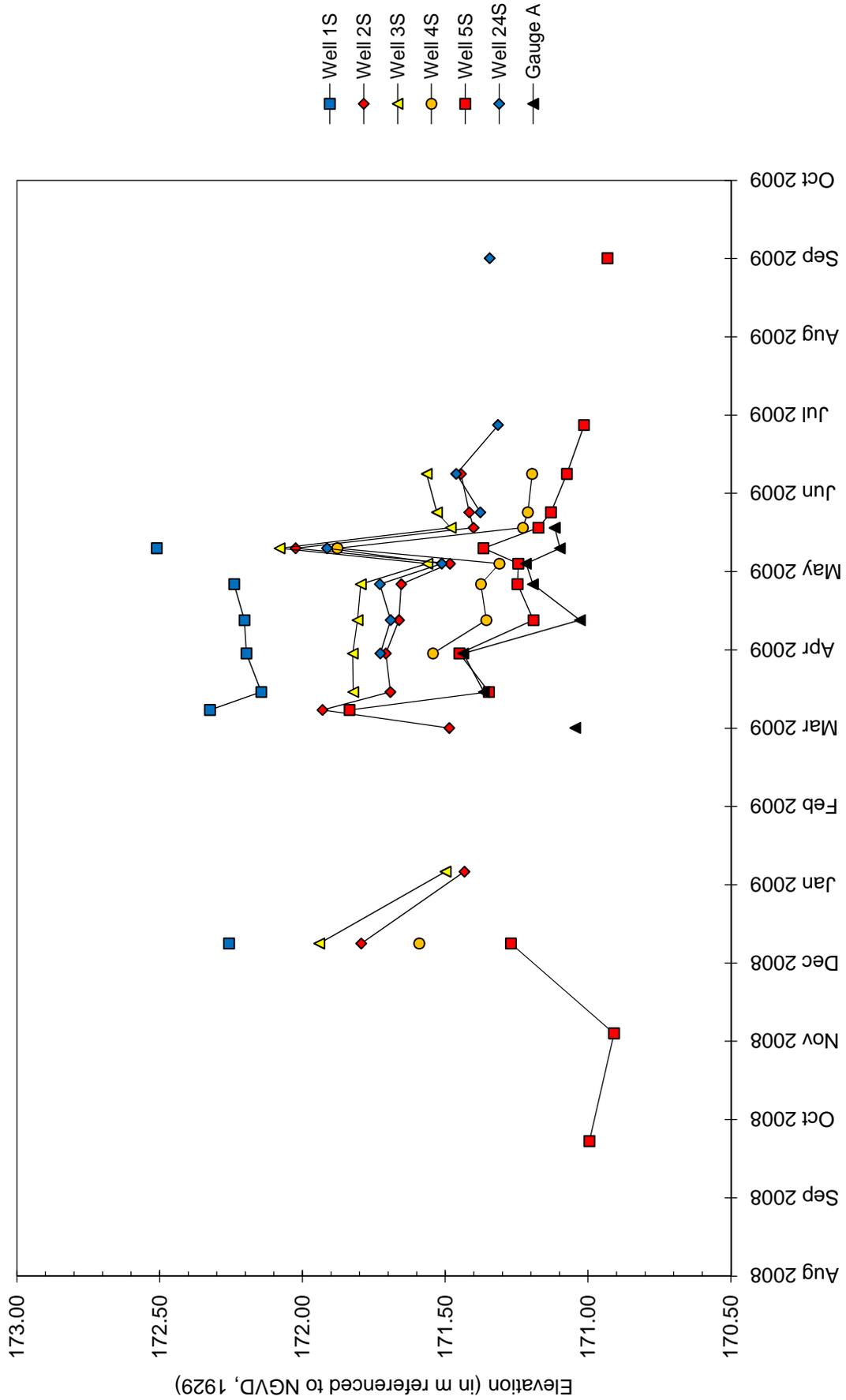
Estimated Areal Extent of 2009 Wetland Hydrology
September 1, 2008 through August 31, 2009

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



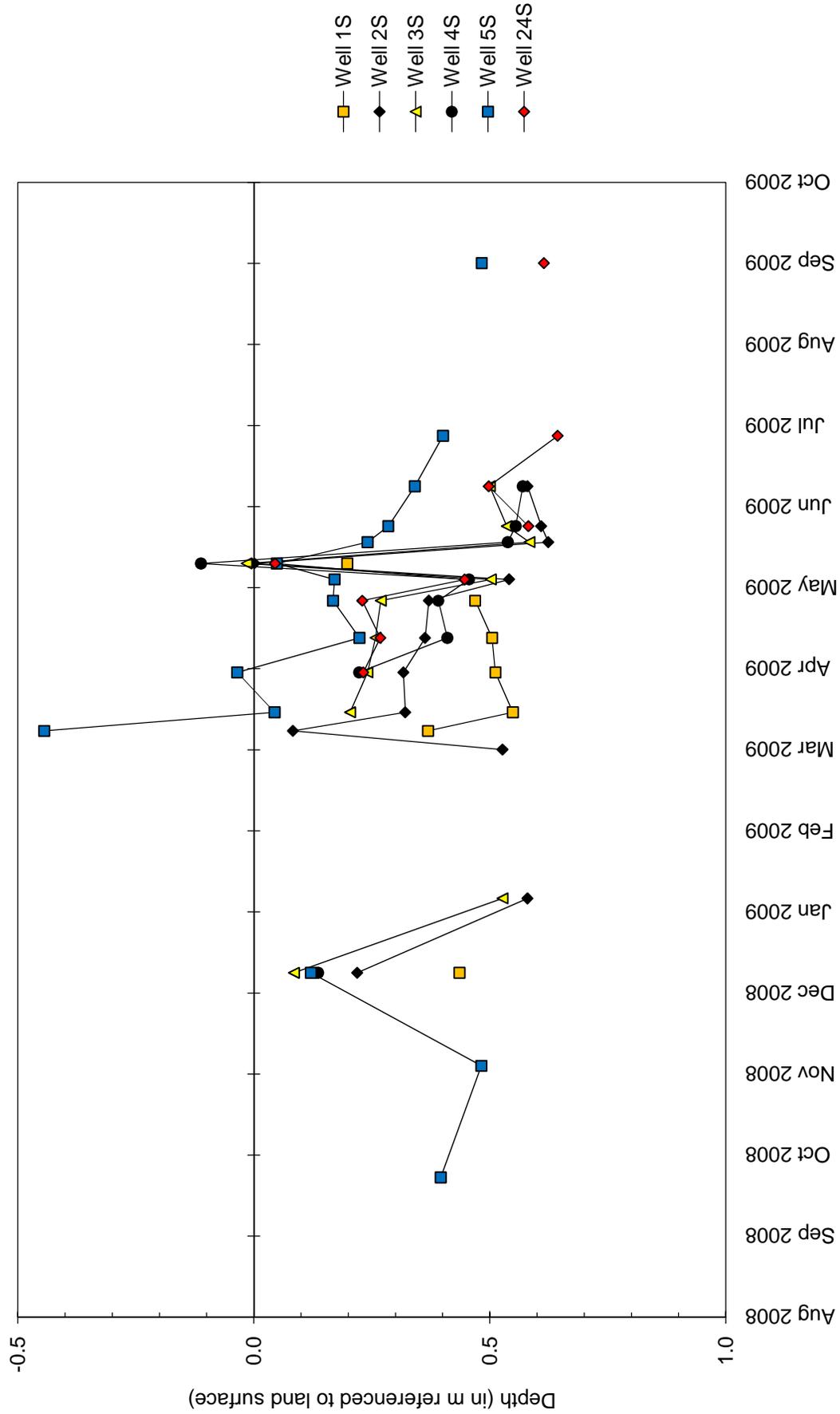
Milan Beltway, Augustana/Rock Island Wetland Compensation Site September 1, 2008 through August 31, 2009

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



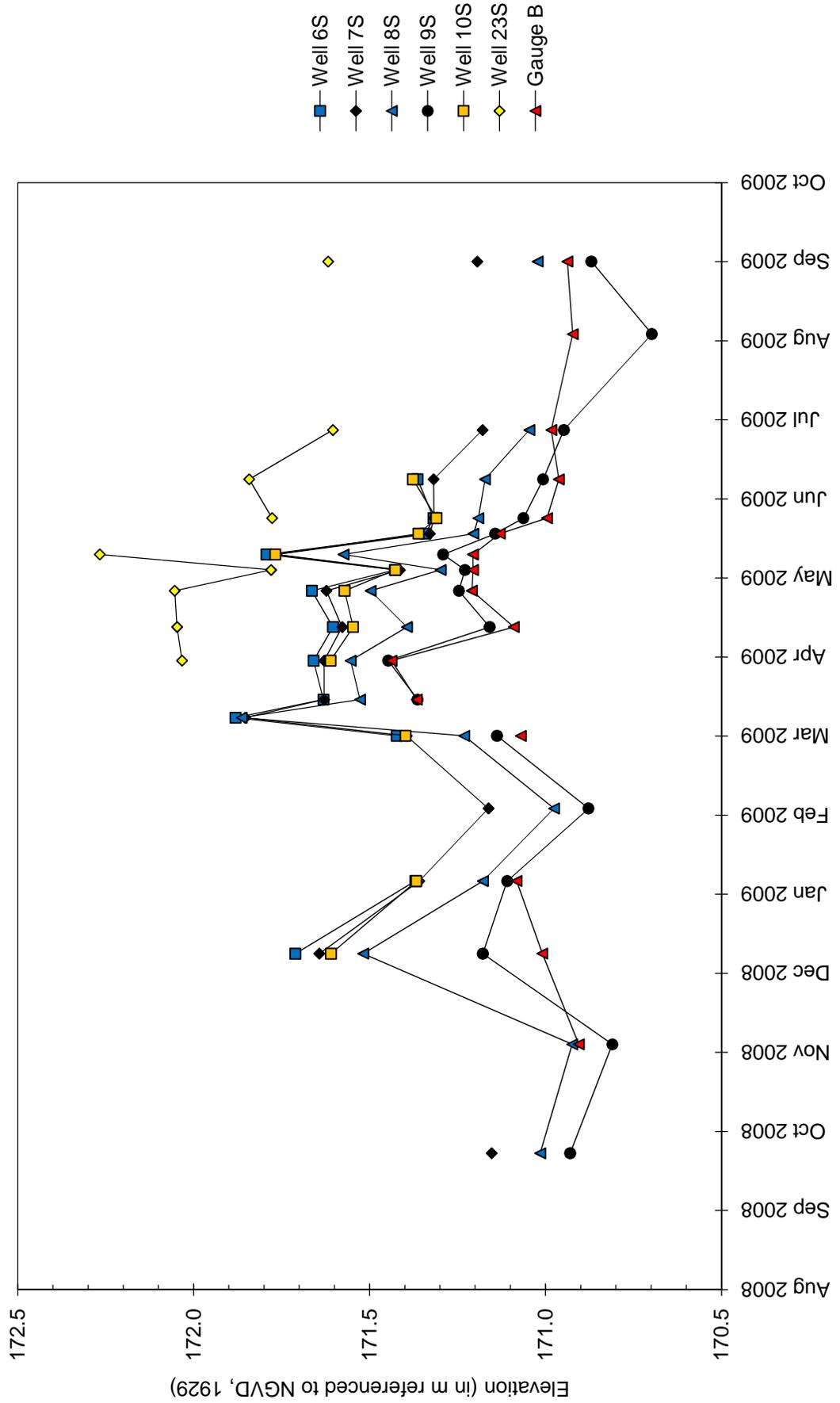
Milan Beltway, Augustana/Rock Island Wetland Compensation Site September 1, 2008 through August 31, 2009

Depth to Water in Monitoring Wells in
Areas A and B



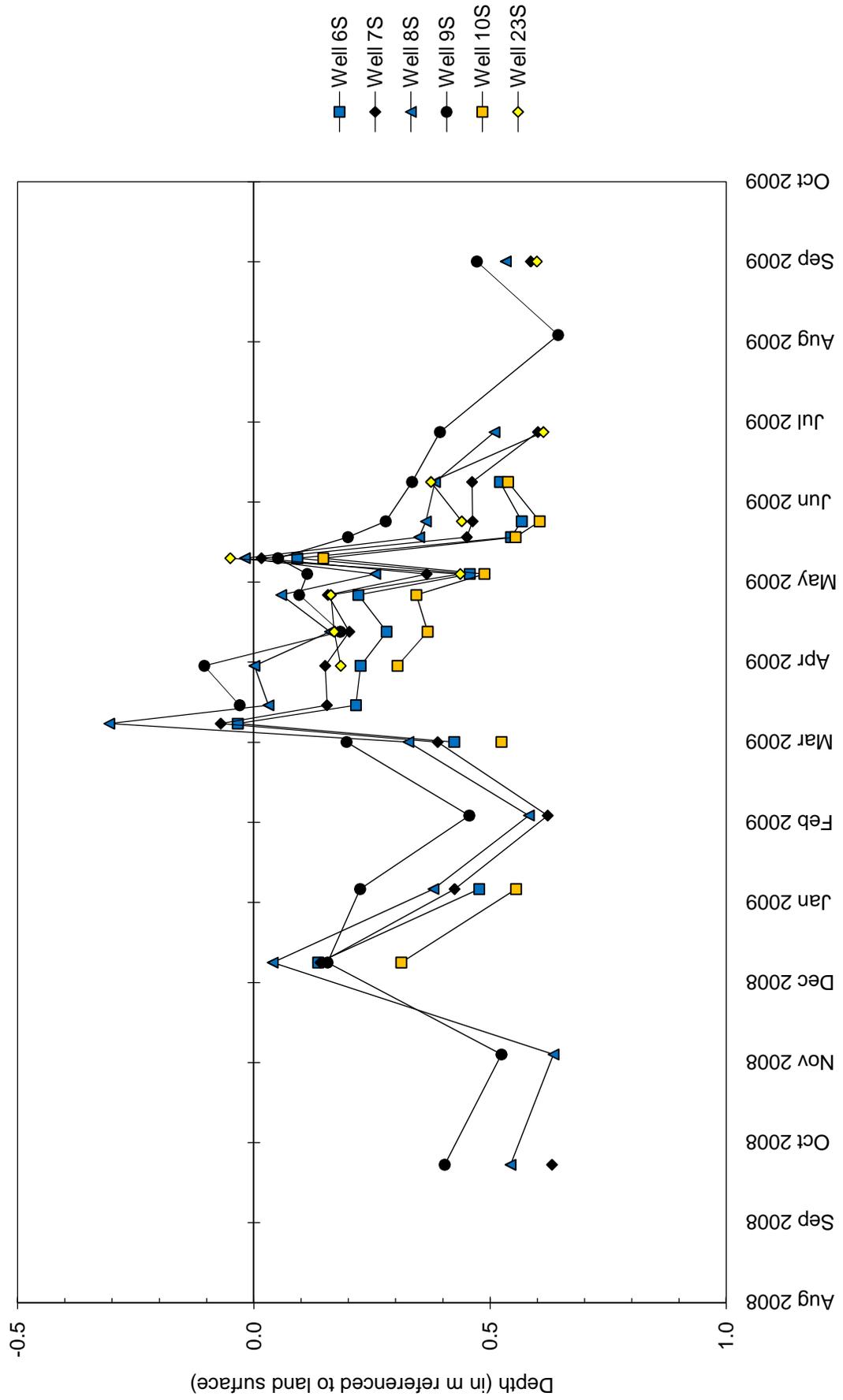
Milan Beltway, Augustana/Rock Island Wetland Compensation Site September 1, 2008 through August 31, 2009

Water Level Elevations in Monitoring Wells and at Staff Gauges in Area C



Milan Beltway, Augustana/Rock Island Wetland Compensation Site September 1, 2008 through August 31, 2009

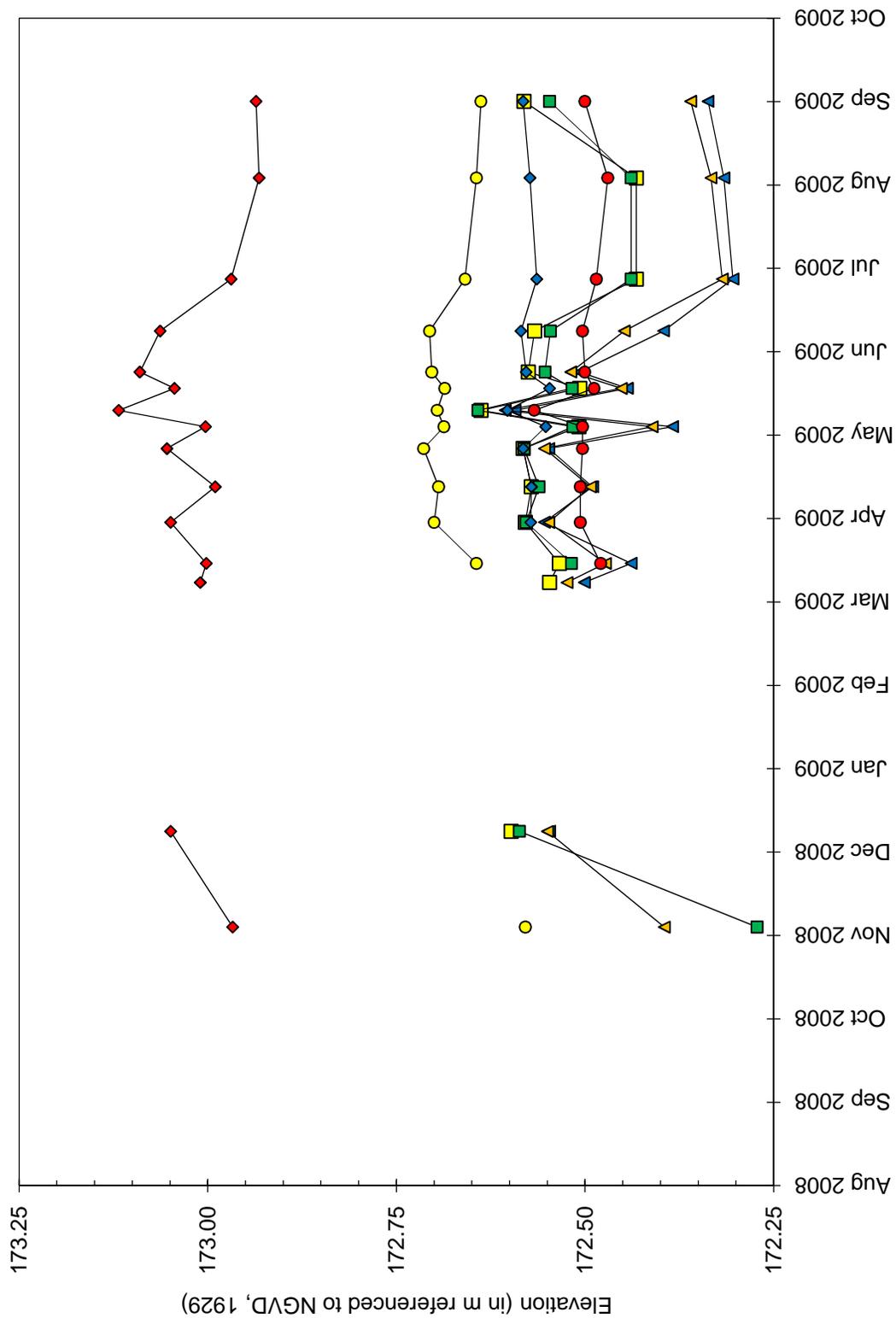
Depth to Water in Monitoring Wells in Area C



Milan Beltway, Augustana/Rock Island Wetland Compensation Site

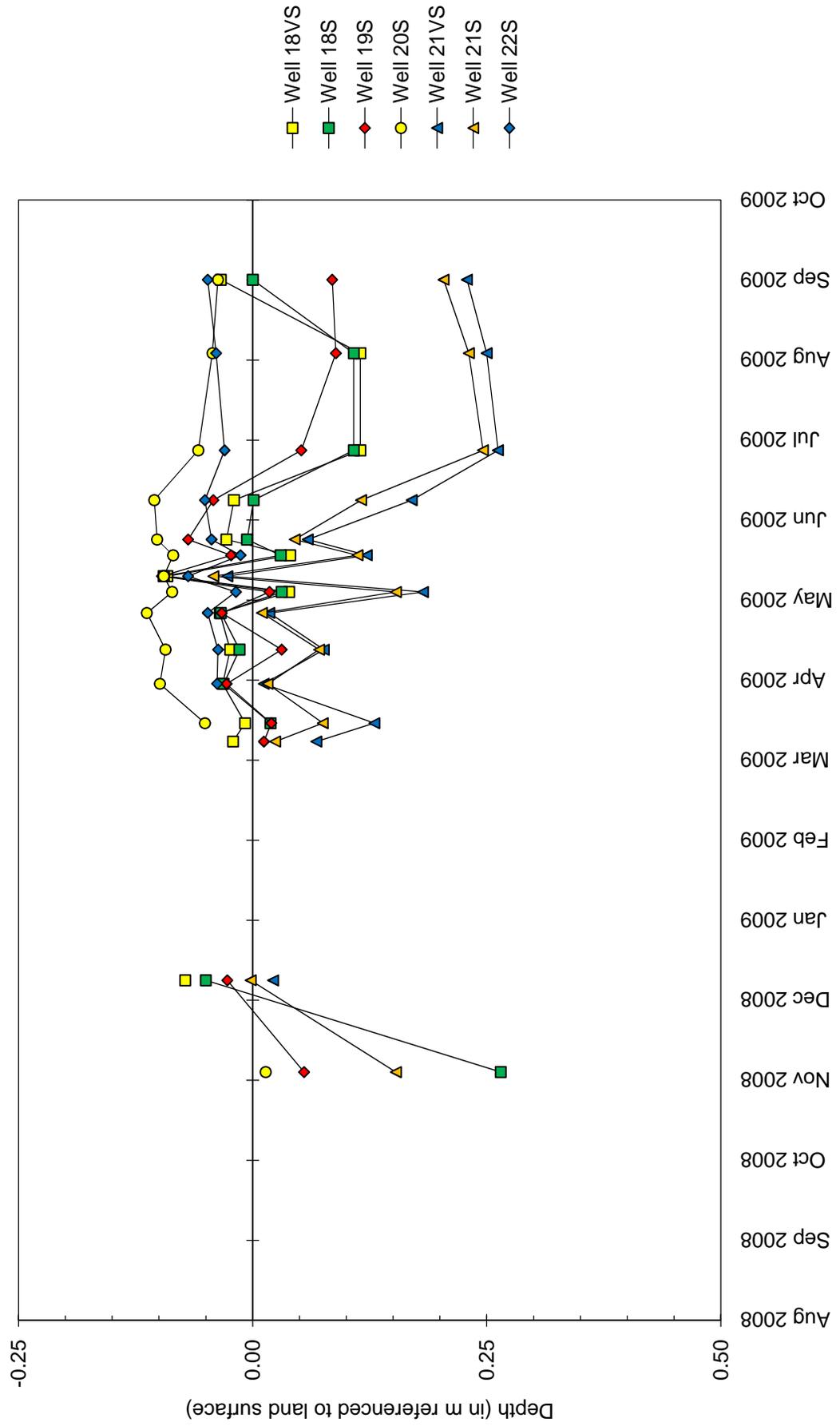
September 1, 2008 through August 31, 2009

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



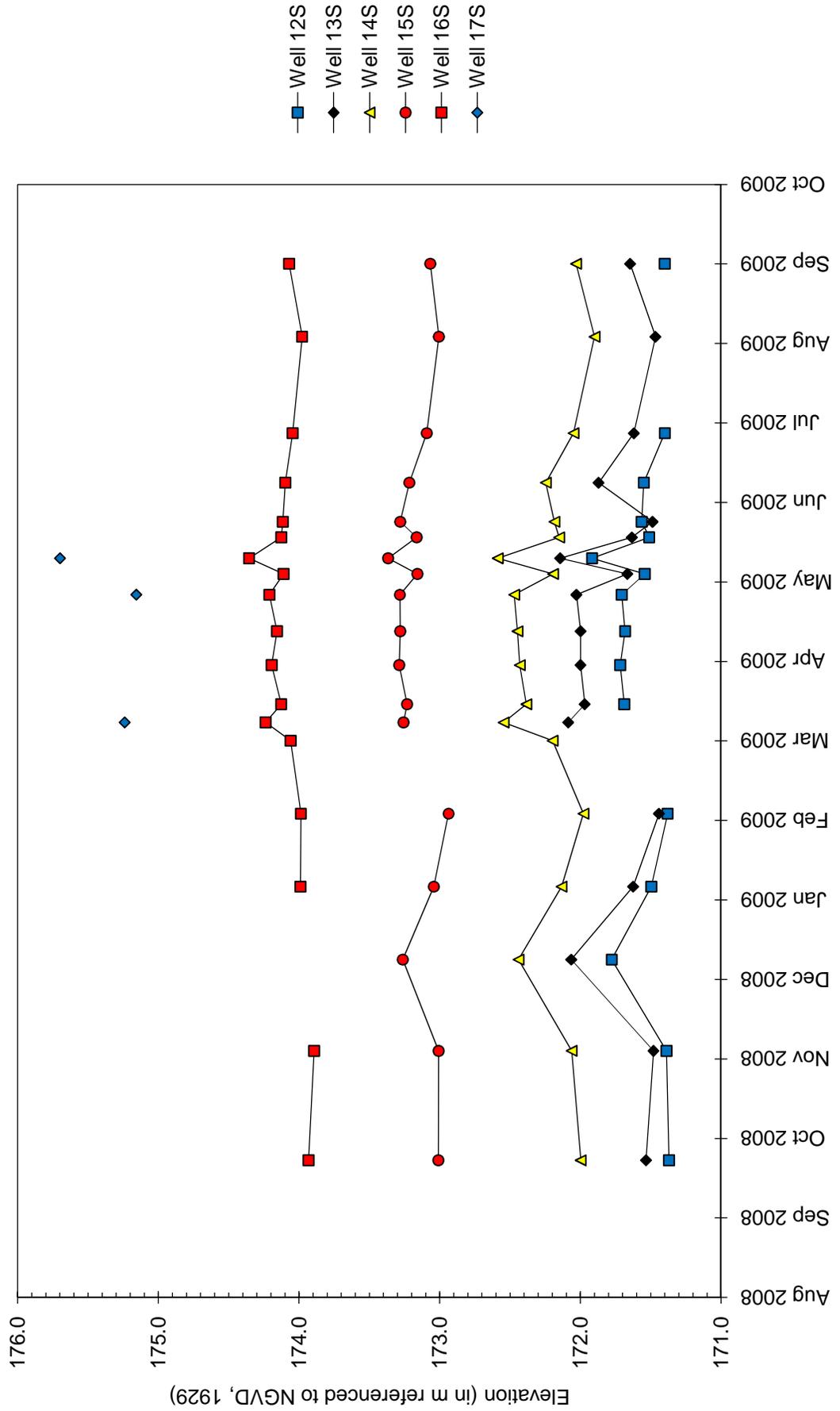
Milan Beltway, Augustana/Rock Island Wetland Compensation Site September 1, 2008 through August 31, 2009

Depth to Water in Monitoring Wells in Area D



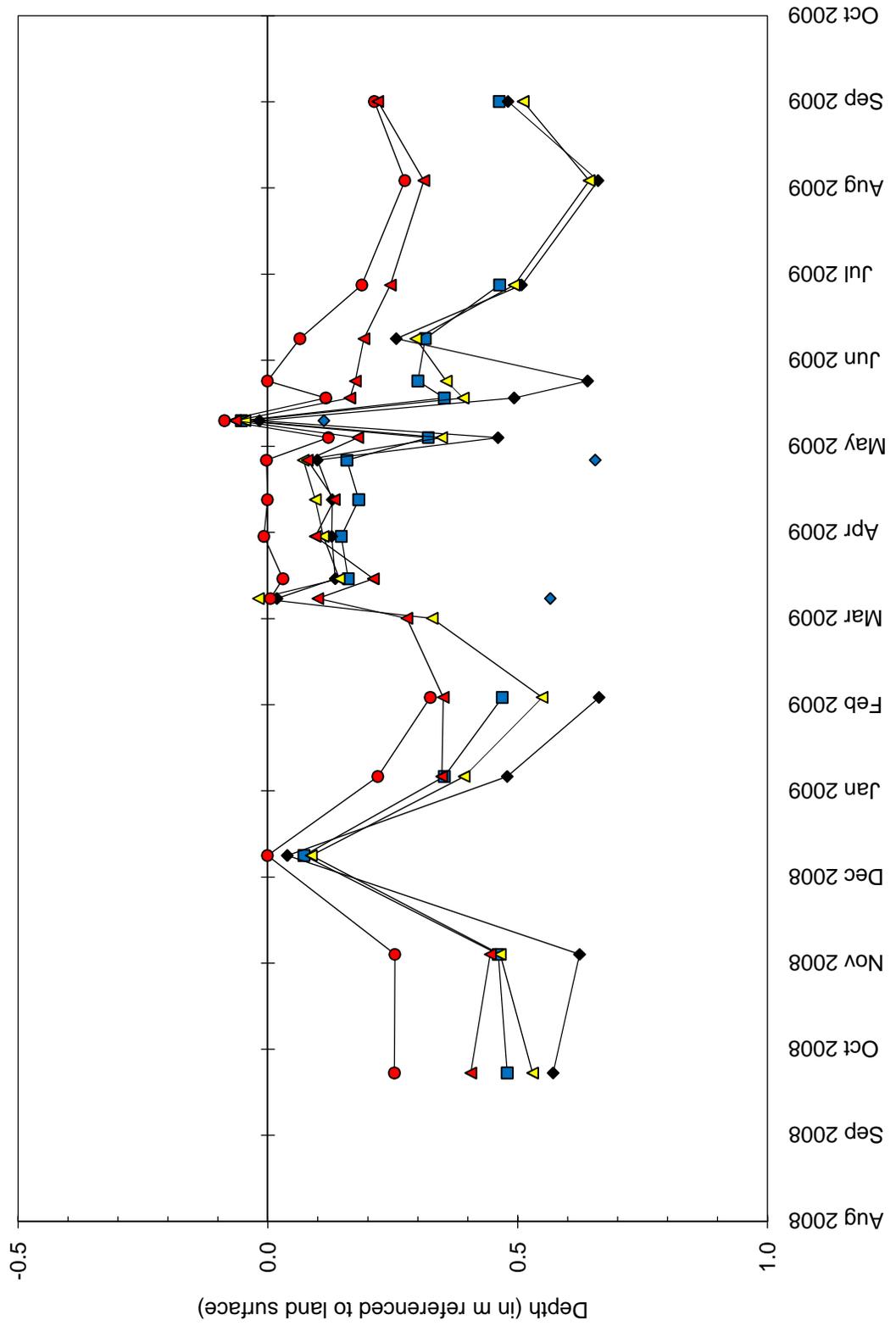
Milan Beltway, Augustana/Rock Island Wetland Compensation Site September 1, 2008 through August 31, 2009

Water-Level Elevations in Monitoring Wells in Area E



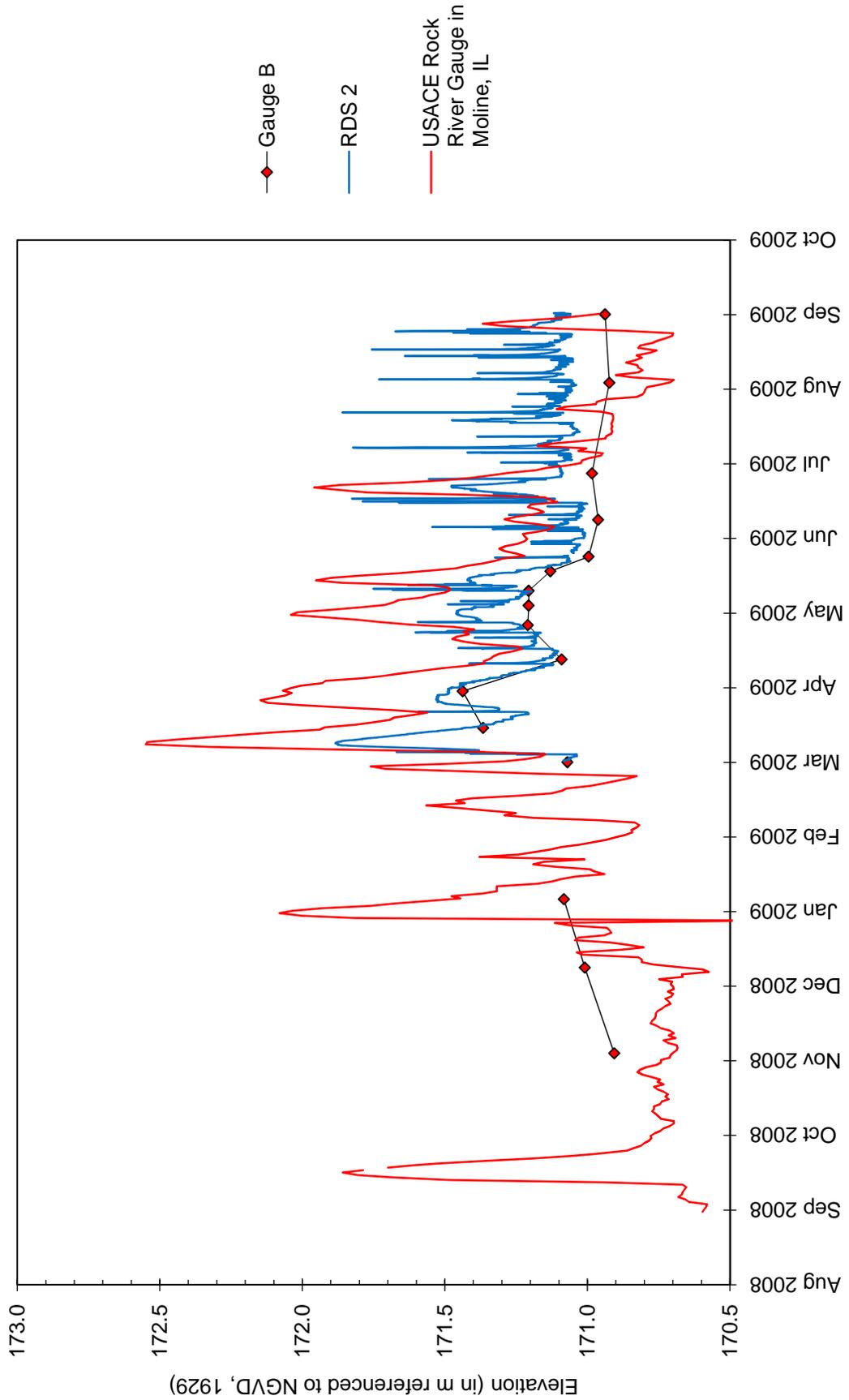
Milan Beltway, Augustana/Rock Island Wetland Compensation Site
September 1, 2008 through August 31, 2009

Depth to Water in Monitoring Wells in Area E



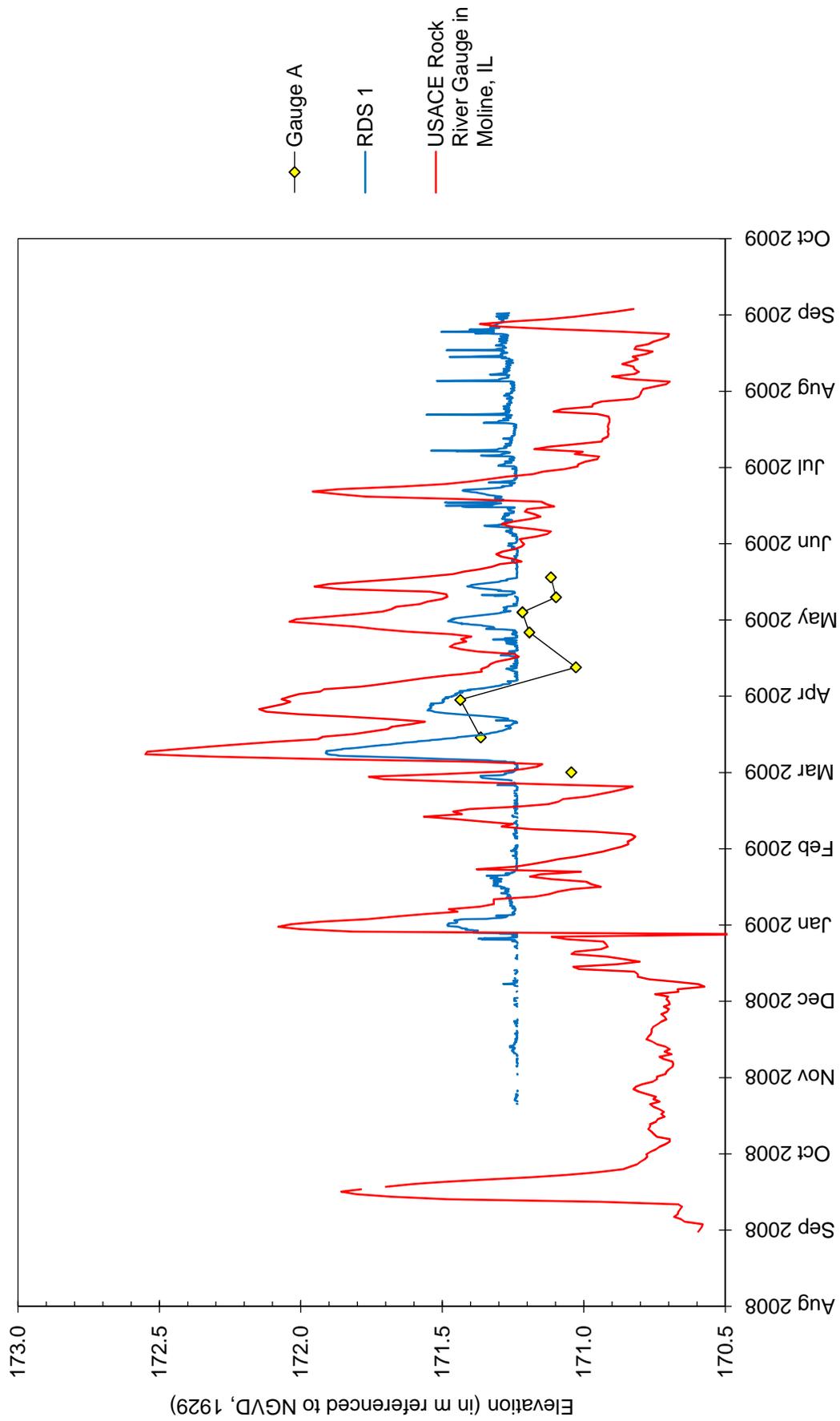
Milan Beltway, Augustana/Rock Island Wetland Compensation Site
September 1, 2008 through August 31, 2009

Water-Level Elevations at Staff Gauges in East Ditch and at the USACE, Rock River Gauge in Moline, Illinois



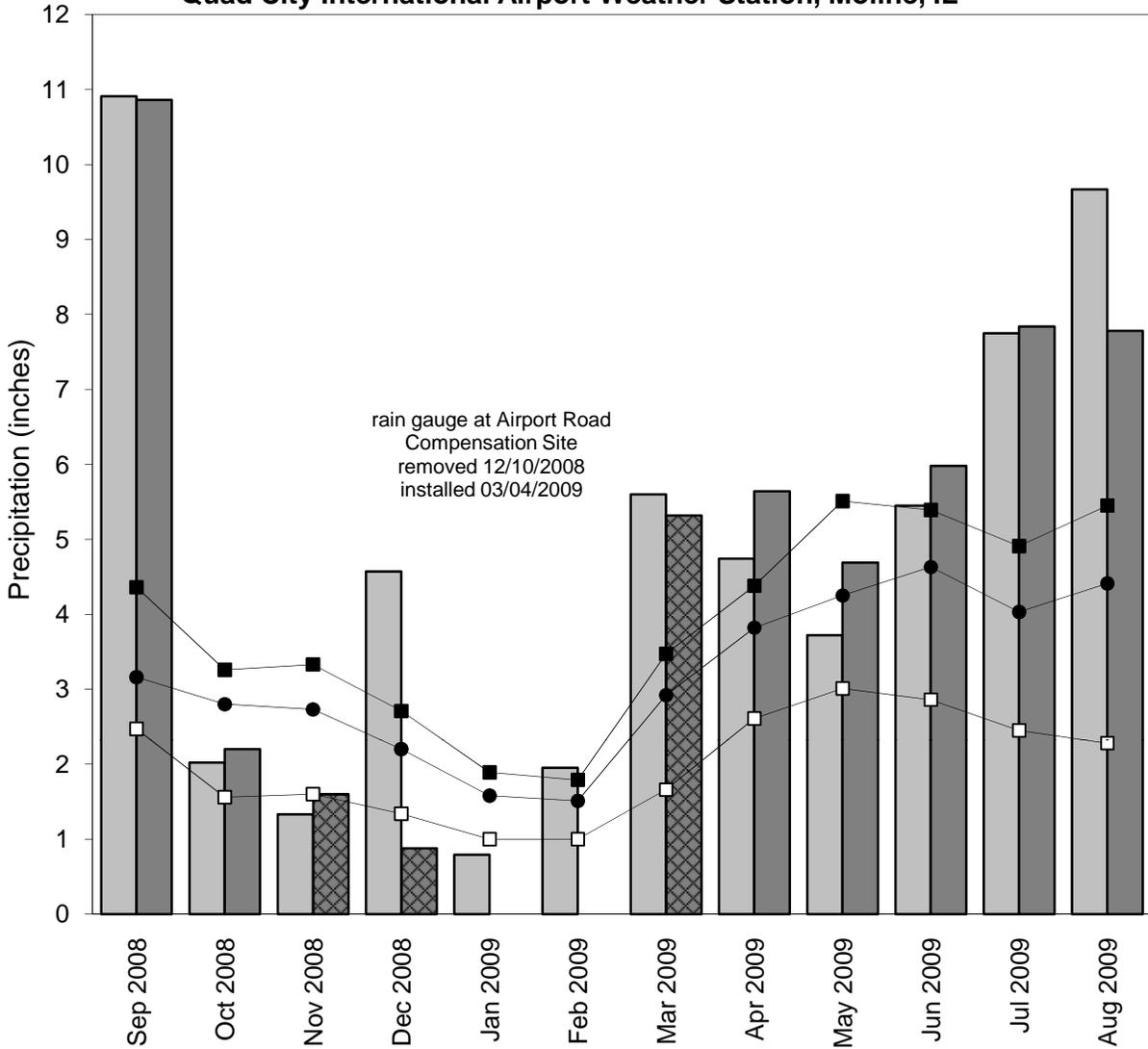
Milan Beltway, Augustana/Rock Island Wetland Compensation Site September 1, 2008 through August 31, 2009

Water-Level Elevations at Staff Gauges in West Ditch and at the USACE, Rock River Gauge in Moline, Illinois



**Milan Beltway, Augustana/Rock Island
Wetland Compensation Site
September 2008 through August 2009**

**Total Monthly Precipitation Recorded On Site and at the
Quad City International Airport Weather Station, Moline, IL**



- ▒ monthly precipitation recorded at weather station (Midwestern Regional Climate Center)
- monthly precipitation recorded on site by IGS
- ▨ data incomplete
- 1971-2000 monthly 30% above average threshold (National Water and Climate Center)
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- 1971-2000 monthly 30% below average threshold (National Water and Climate Center)

Graph last updated September 11, 2009