

**MILAN BELTWAY, GREEN ROCK
WETLAND COMPENSATION SITE**

ISGS #44

FAU 5822

Sequence #67

Henry County, near Green Rock, Illinois

Primary Project Manager: Steven E. Benton

Secondary Project Manager: Kathleen E. Bryant

SITE HISTORY

- December 2005: IDOT tasked the ISGS to conduct five-year performance monitoring of the Green Rock wetland mitigation site.
- March 2006: The monitoring network was installed on Phase I of the site.
- November 2007: The monitoring network was installed on Phase II of the site.

WETLAND HYDROLOGY CALCULATION FOR 2008

The site is divided into two portions, Phase I and Phase II. According to the as-built plans of the site, Phase I contains 16.7 ha (41.3 ac) and Phase II contains 4.3 ha (10.7 ac). In 2008, the entire mitigation areas of both Phase I and Phase II satisfied jurisdictional wetland hydrology criteria at both 5% and 12.5% of the growing season. 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.
- Total precipitation during the monitoring period was 88% of normal. Precipitation was at or above normal in December 2007 and in February, April, May, June, and July 2008. Total precipitation in the spring was 117% of normal.
- In 2008, water levels measured in all of the monitoring wells in the mitigation areas satisfied the criteria for jurisdictional wetland hydrology at both 5% and 12.5% of the growing season. Water levels measured in wells 13S, 14S, and 15S, outside the mitigation areas, satisfied jurisdictional wetland hydrology criteria at 5% of the growing season, and water levels measured in wells 13S and 14S satisfied jurisdictional wetland hydrology criteria at 12.5% of the growing season.
- The site was flooded seven times in 2008. Four of these occurred before the start of the growing season, on January 28, February 17, March 2, and March 14, one occurred at the start of the growing season, on April 10, and two occurred after the start of the growing season, on June 12 and July 11. In at least one of the floods, water depth on the site was as much as 0.9 m (3.0 ft) judging by the flood debris seen on top of the wire cages around the trees. As a result of the flooding, the site was inundated for at least 5 months and did not finally dry up until almost the end of August.

ADDITIONAL INFORMATION

- The site is < 0.8 km (0.5 mi) above the mouth of the Green River. Analysis of stage data recorded by the USACE gauges at Milan, Illinois, on the Rock River, and at Geneseo, Illinois, on the Green River, reveals that flooding of the site occurs when the Rock River is above flood stage (171.70 m [563.35 ft]) at Milan.
- On-site observations reveal that surface water on the site tends to flow westward. Three surface-water outlets were seen that convey water to the Green River: one that discharges into Mosquito Creek, one that discharges into the Green River, and one that discharges into an abandoned drainage ditch along the north side of the west field. After water has stopped flowing through the lowest outlet, about 20 cm (8 in.) to 30 cm (12 in.) of surface water remains on most of the site.

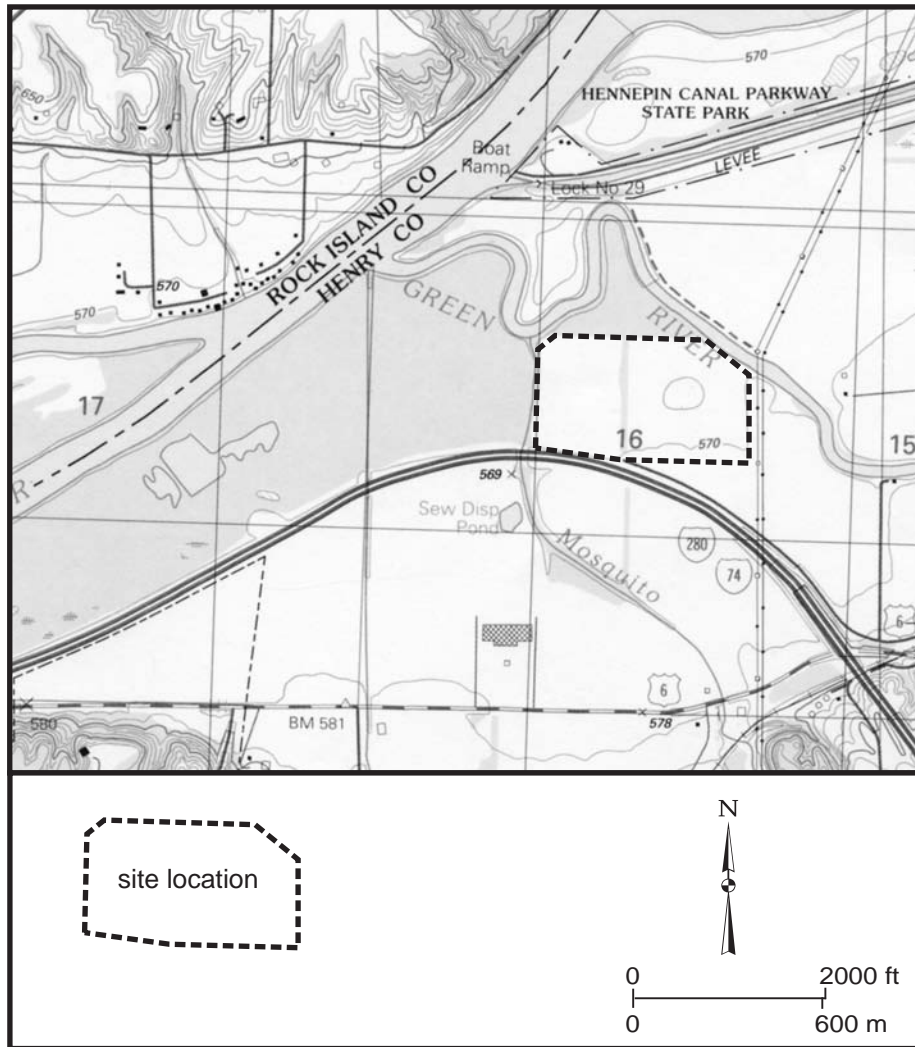
PLANNED FUTURE ACTIVITIES

- Monitoring of the site will continue until notified otherwise by IDOT.
- Elevations of the surface-water outlets will be determined by optical survey. Several monitoring wells will be replaced. They have been pulled partially out of the ground by ice heave in the winter and the force of surface water flowing across the site. Another data logger for measuring the stage of the Green River will be installed. Both of the previous loggers failed prior to the start of the growing season.

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General Study Area and Vicinity

from the USGS Topographic Series, Coal Valley, IL (W) (USGS 1991) and
Green Rock, IL (E) (USGS 1992) 7.5-minute Quadrangles
contour interval is 10 feet



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Estimated Areal Extent of 2008 Wetland Hydrology

based on data collected between September 1, 2007 and September 1, 2008

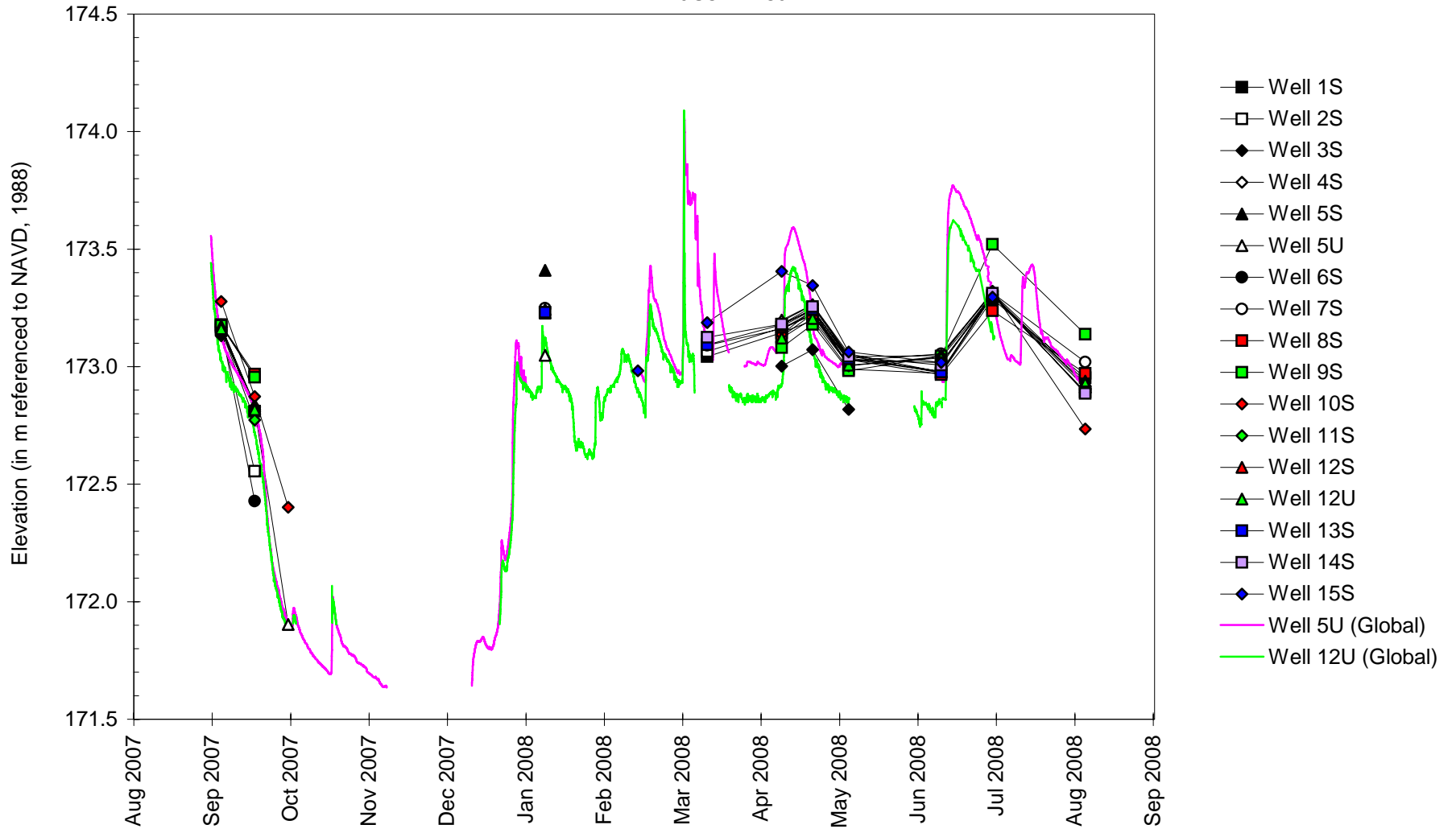
Map based on USGS digital orthophotograph, Coal Valley NE quarter quadrangle
produced from 4/14/98 aerial photography (ISGS 2006)



Milan Beltway, Green Rock Wetland Compensation Site

September 1, 2007 to September 1, 2008

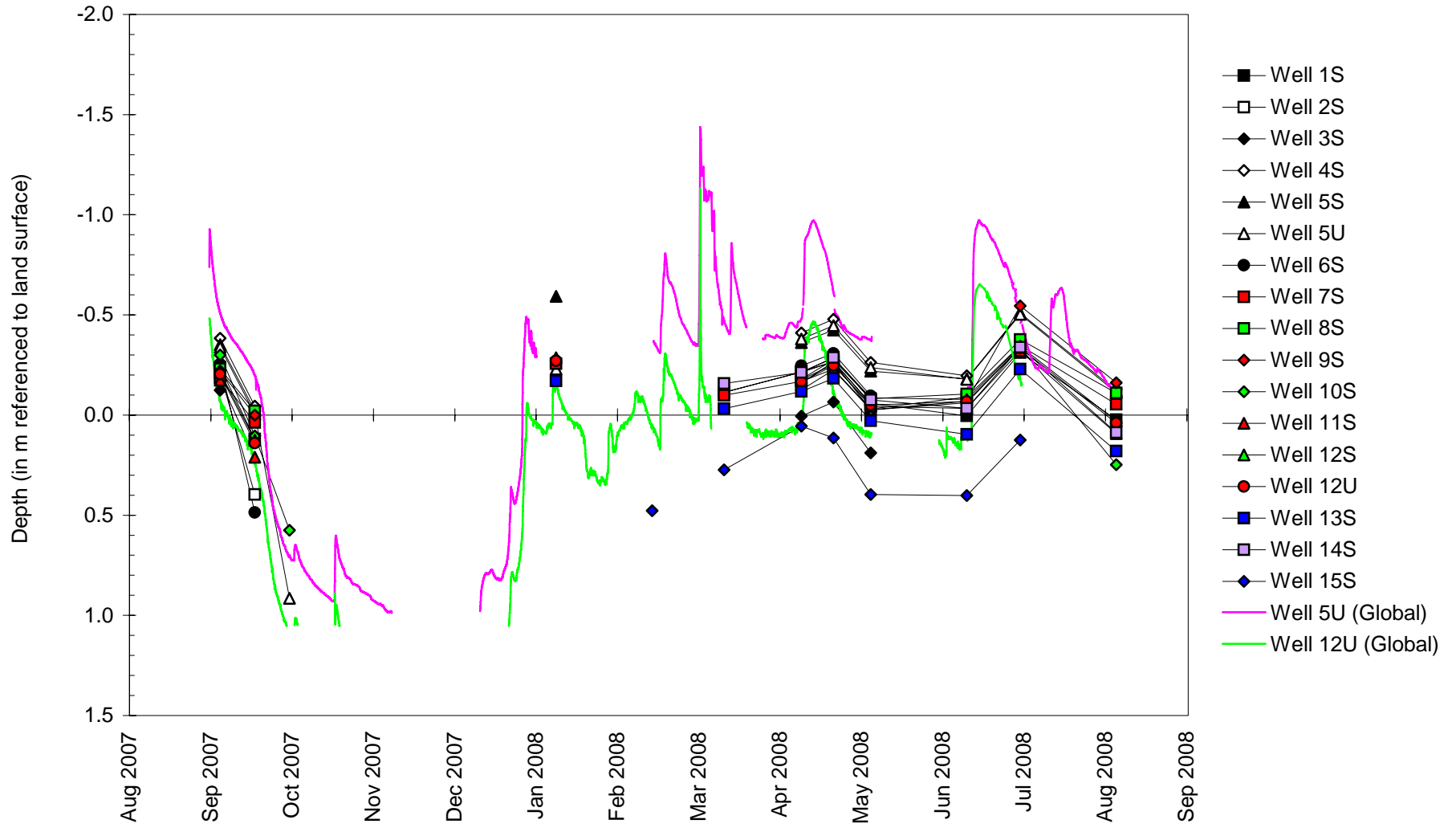
Water-Level Elevations Phase I Area



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September 1, 2007 to September 1, 2008

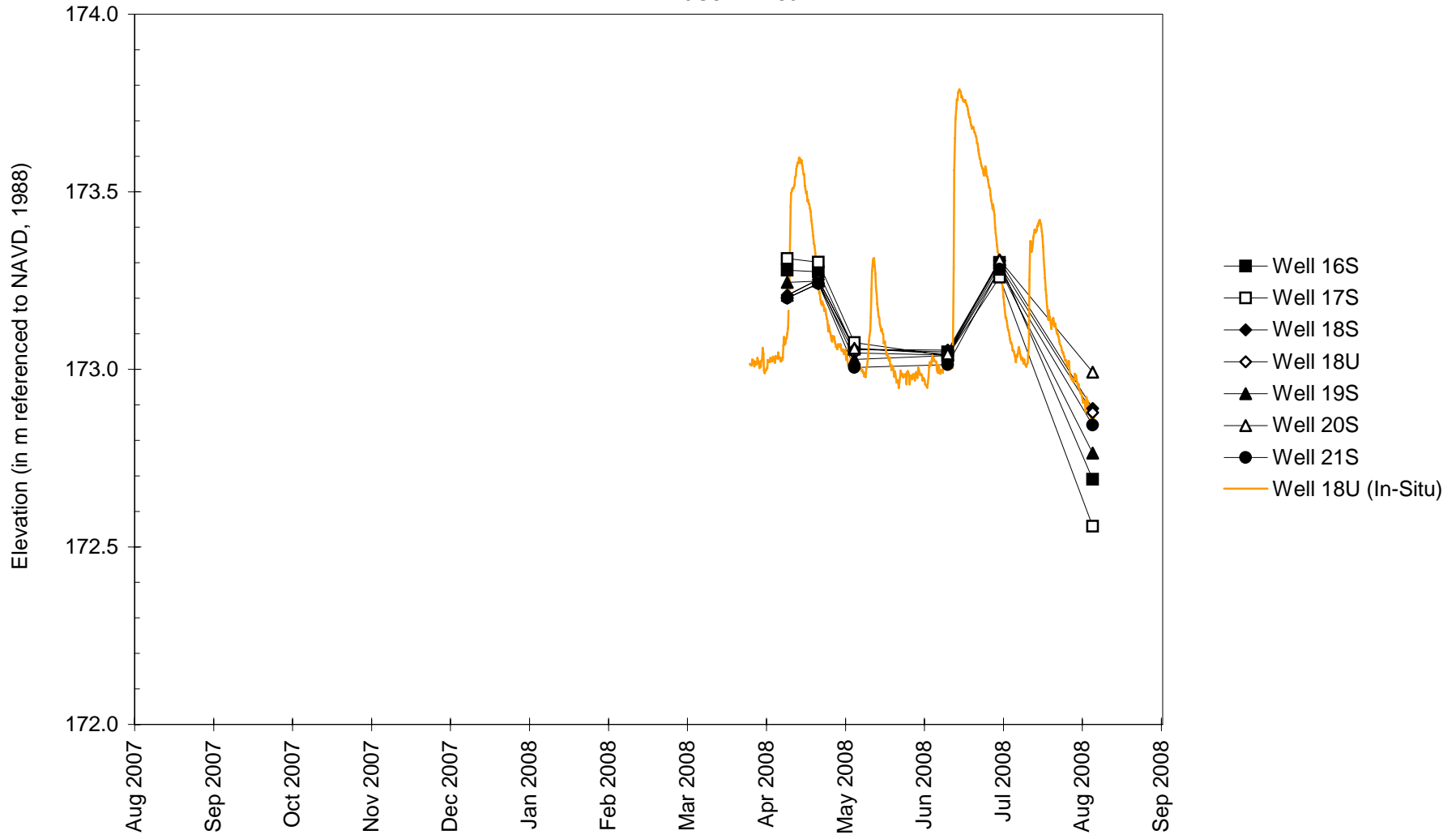
Depth to Water Phase I Area



Milan Beltway, Green Rock Wetland Compensation Site

September 1, 2007 to September 1, 2008

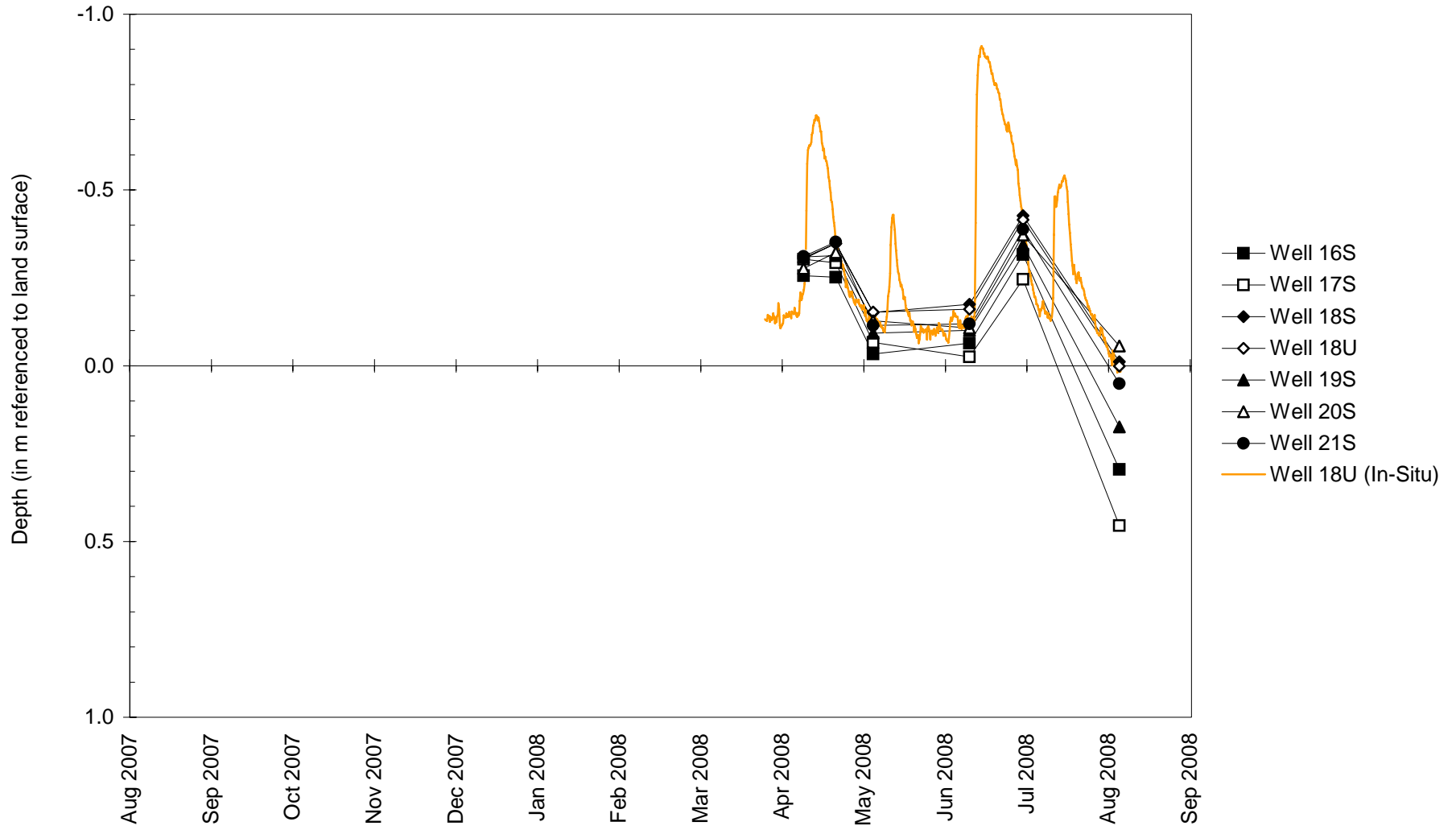
Water-Level Elevations Phase II Area



Milan Beltway, Green Rock Wetland Compensation Site

September 1, 2007 to September 1, 2008

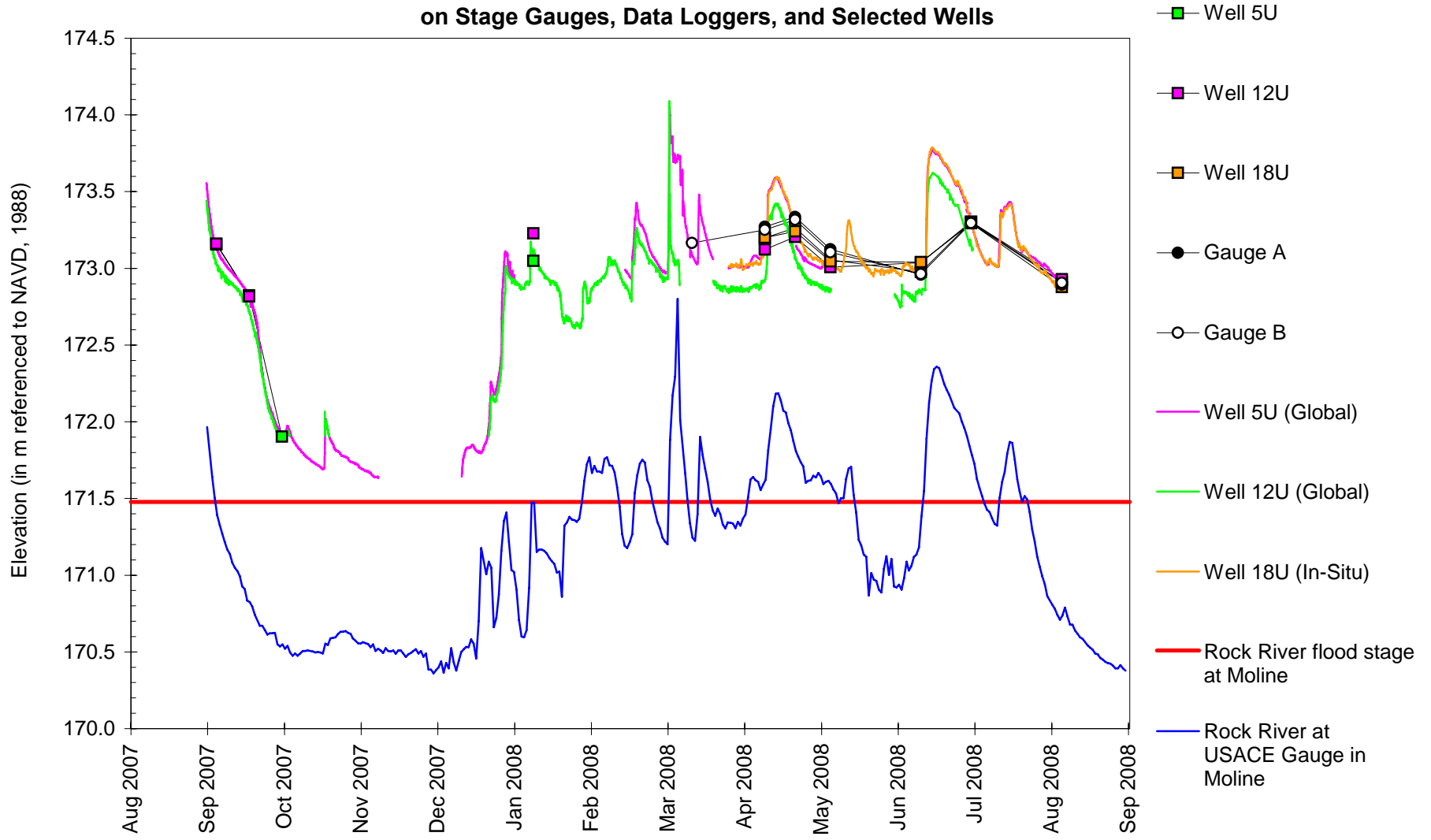
Depth to Water Phase II Area



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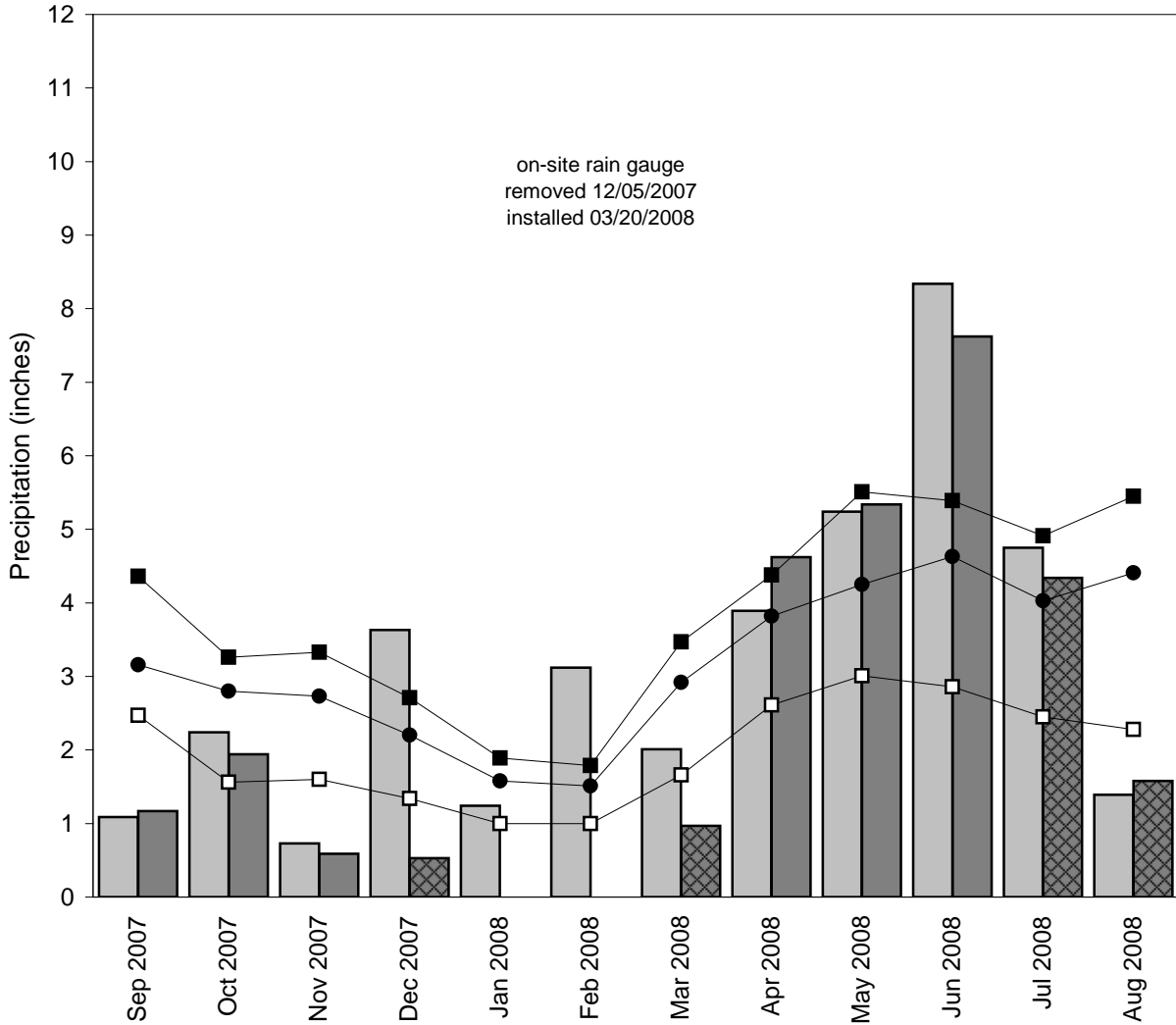
September 1, 2007 to September 1, 2008

Water-Level Elevations on Stage Gauges, Data Loggers, and Selected Wells



Milan Beltway, Green Rock Wetland Compensation Site September 2007 through August 2008

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 ISGS
- 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)
- data incomplete

Graph last updated October 7, 2008