

**EAST CAPE GIRARDEAU
WETLAND MITIGATION SITE**

ISGS #81

IL 146

FAP 312

Sequence #633A

Alexander County, near East Cape Girardeau, Illinois

Primary Project Manager: Eric T. Plankell

Secondary Project Manager: not assigned

SITE HISTORY

- December 2008: ISGS was tasked by IDOT to conduct a Level II hydrogeologic analysis of the site.
- Fall 2009: Wetland construction was started, and is on-going.
- February 2010: ISGS installed a preliminary post-construction monitoring network.
- March 2010: ISGS submitted a Level II hydrogeologic characterization report to IDOT (ISGS Open-File Series 2010-3).

WETLAND HYDROLOGY CALCULATION FOR 2010

The area that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the 2010 growing season is estimated to be 5.7 ha (14.2 ac) out of a total site area of approximately 5.8 ha (14.4 ac). The area that satisfied wetland hydrology criteria for greater than 12.5% of the 2010 growing season is also estimated to be 5.7 ha (14.2 ac). Using the 2010 Midwest Region supplement (U.S. Army Corps of Engineers 2010) to the 1987 Manual, it is estimated that 5.7 ha (14.2 ac) also satisfied wetland hydrology criteria for 14 or more consecutive days during the growing season. These estimates are based on the following factors:

- According to the MRCC, the median date that the growing season begins in nearby Cape Girardeau, Missouri, is March 26, and the season lasts 228 days; 5% of the growing season is 11 days, and 12.5% of the growing season is 29 days. According to methods outlined in the 2010 Midwest Region supplement, it is estimated that March 5 was the starting date of the 2010 growing season based on soil temperatures measured at the site.
- Regional precipitation for the monitoring period, as recorded at the Cape Girardeau Regional Airport in Missouri, was 98% of normal, and was 110% of normal for the period March through May 2010.
- In 2010, water levels measured in all monitoring wells satisfied wetland hydrology criteria for greater than 5% of the growing season and for greater than 12.5% of the growing season. According to the 2010 Midwest Region supplement, all monitoring wells satisfied the wetland hydrology criteria for 14 or more consecutive days of the growing season.
- Surface-water levels measured by the data loggers at gauges A and B indicated inundation at or above 101.31 m and 101.10 m (332.38 ft and 331.69 ft), respectively, for greater than 5% of the growing season, and inundation at or above 101.30 m and

101.08 m (332.35 ft and 331.63 ft), respectively, for greater than 12.5% of the growing season. Per the 2010 Midwest Region supplement, surface-water levels measured by the data loggers at gauges A and B indicated inundation at or above 101.31 m and 101.09 m (332.38 ft and 331.67 ft), respectively, for 14 or more consecutive days of the growing season.

ADDITIONAL INFORMATION

- Beginning in March 2010, elevated water levels on the Mississippi River at Thebes, Illinois, resulted in water backing up in the East Cape Main Ditch (ECMD), thereby resulting in flooding at the site that was sustained through the end of the monitoring period.
- A soil pile, left over from construction activities, covers approximately 0.1 ha (0.2 ac) in the center of the northern end of the site. This area was not included in the areas satisfying wetland hydrology criteria for the 2009-2010 monitoring period. Had this soil pile not been present, it is expected that this area would have satisfied all wetland hydrology criteria in the 1987 Manual and the 2010 Midwest Region supplement.

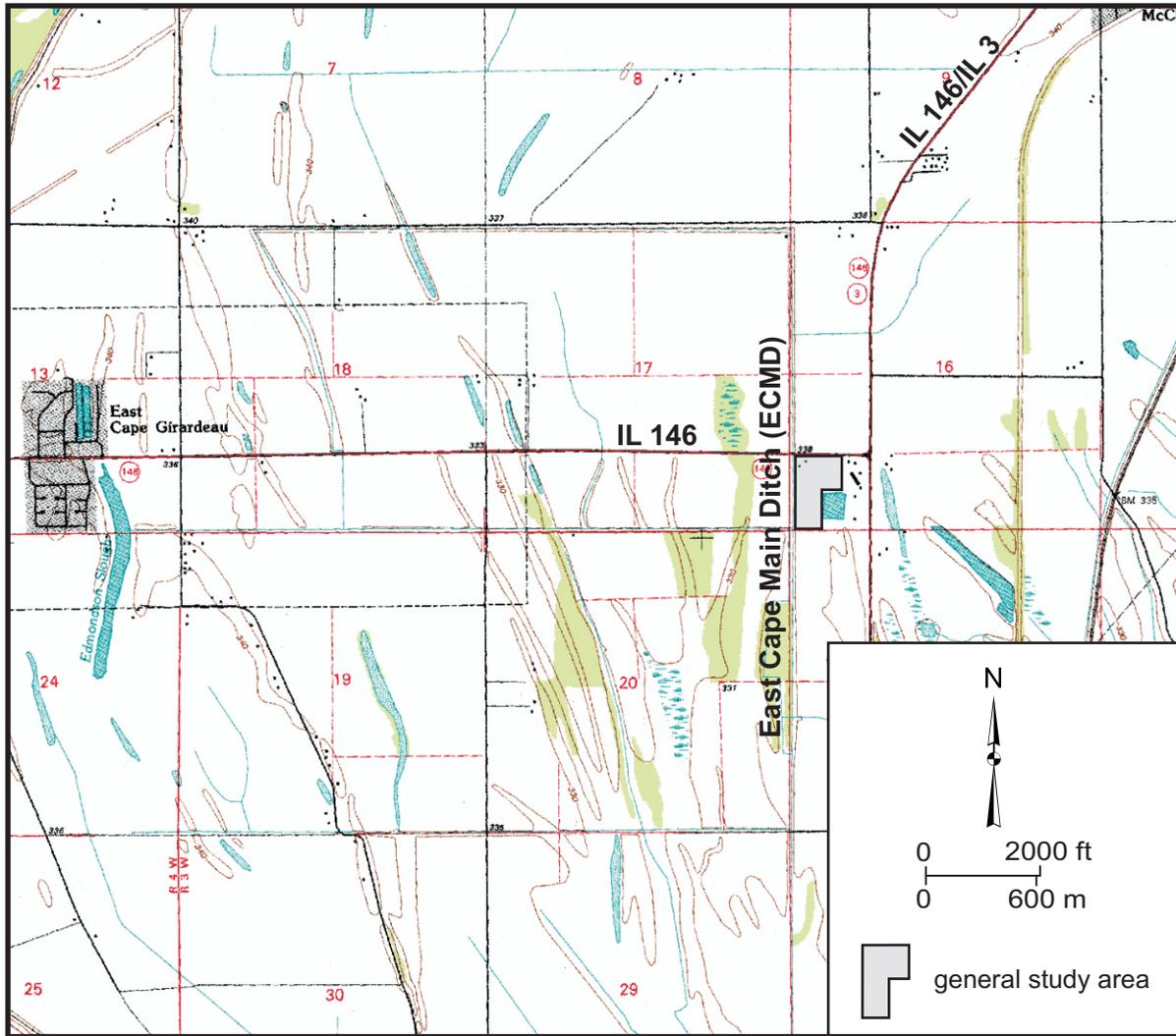
PLANNED FUTURE ACTIVITIES

- The ISGS will likely modify the current monitoring network at the site once wetland construction and planting activities are completed and post-construction monitoring has been tasked.
- The ISGS plans to produce a post-construction topographic map of the site once construction activities are completed.
- Monitoring will continue at the site until no longer required by IDOT.

East Cape Girardeau Wetland Mitigation Site [FAP 312 (IL 146)]

General Study Area and Vicinity

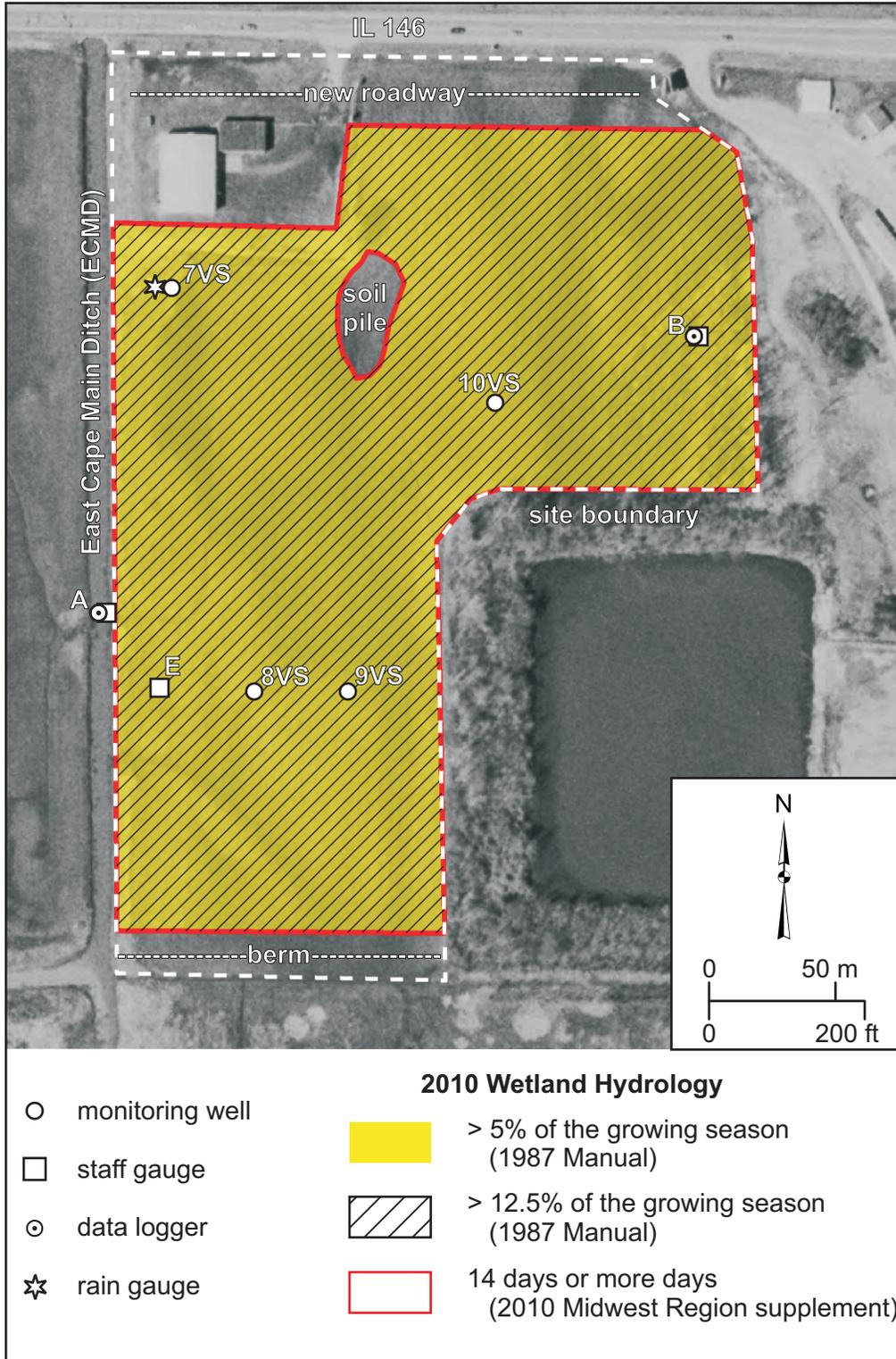
from the USGS Topographic Series, McClure, IL-MO, 7.5-minute Quadrangle (USGS 1993)
contour interval is 20 feet, with supplementary contour interval of 10 feet



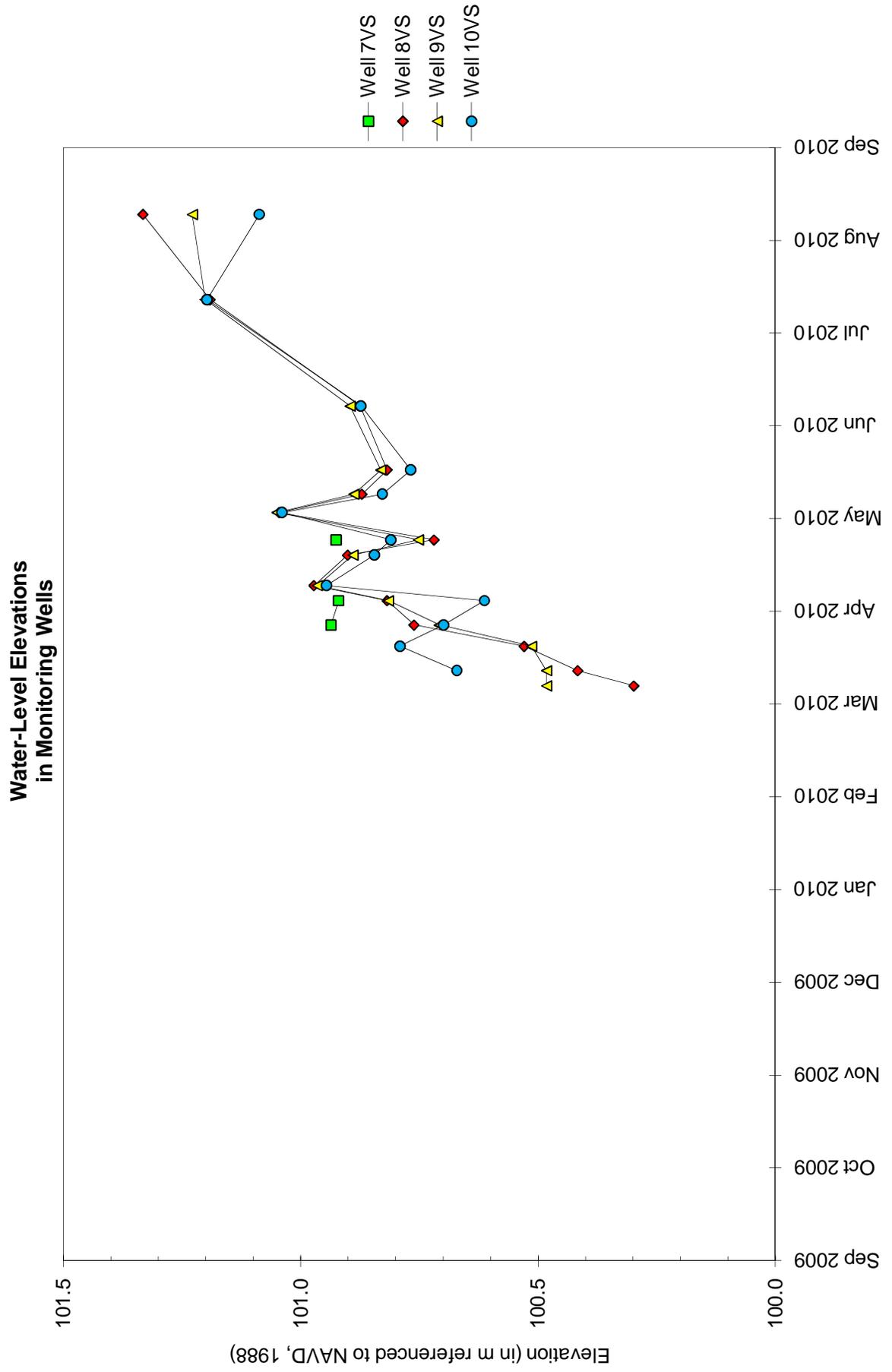
East Cape Girardeau Wetland Mitigation Site (FAP 312 [IL 146])

Estimated Areal Extent of 2010 Wetland Hydrology
September 1, 2009 through August 31, 2010

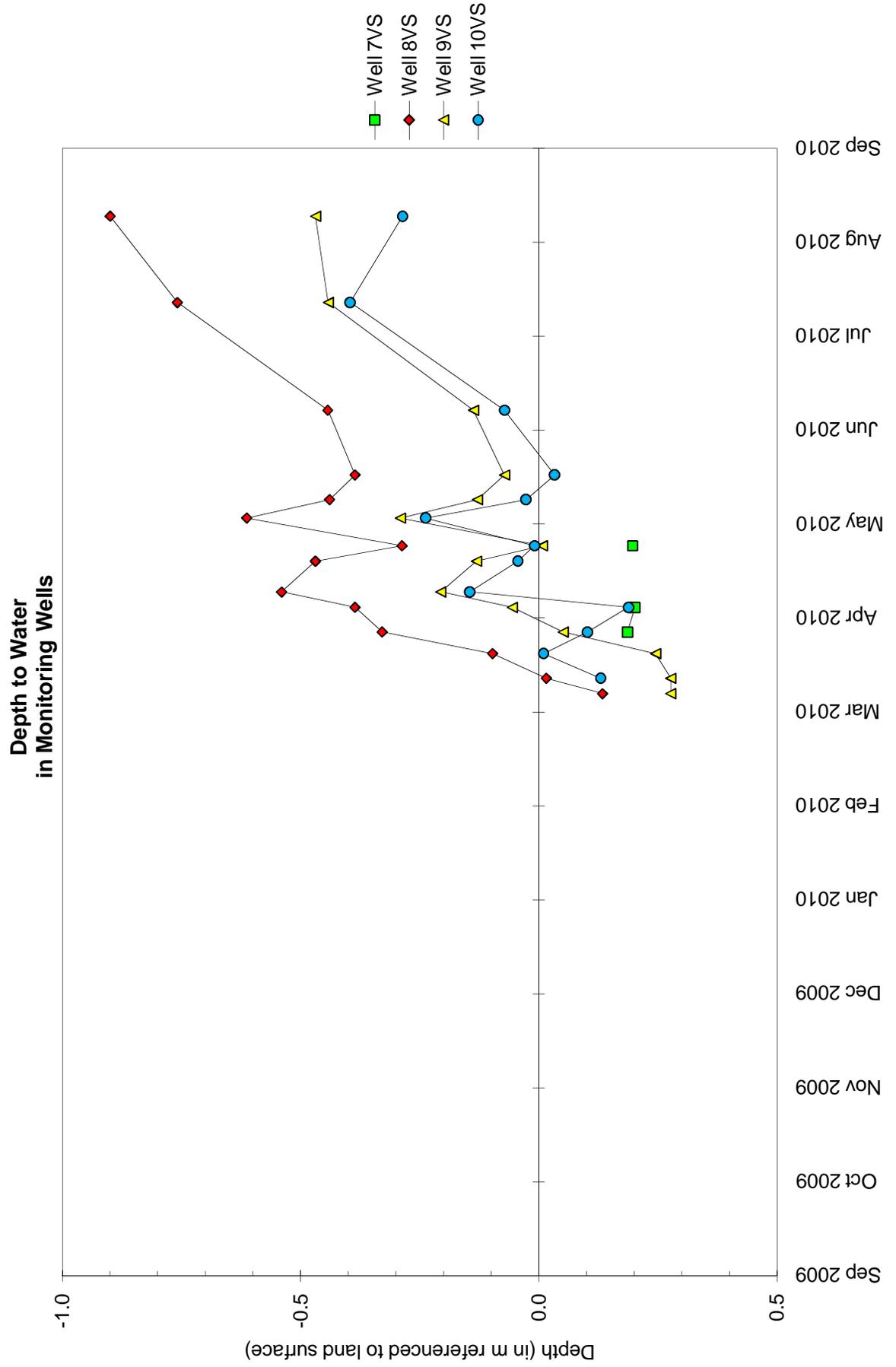
Map based on USGS digital orthophotograph, McClure, SW quarter-quadrangle (ISGS 2005)



East Cape Girardeau Wetland Mitigation Site September 1, 2009 through August 31, 2010

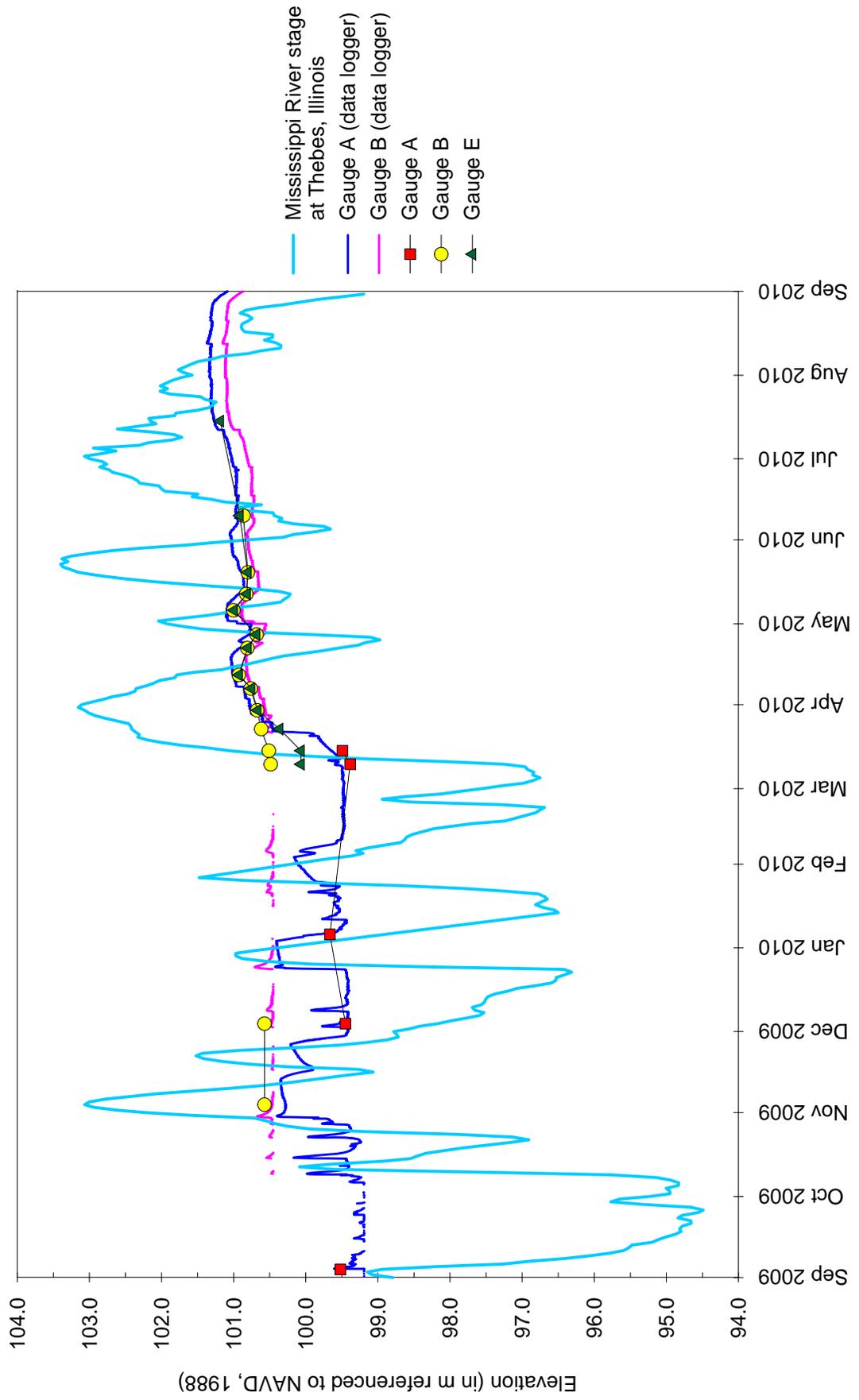


East Cape Girardeau Wetland Mitigation Site September 1, 2009 through August 31, 2010



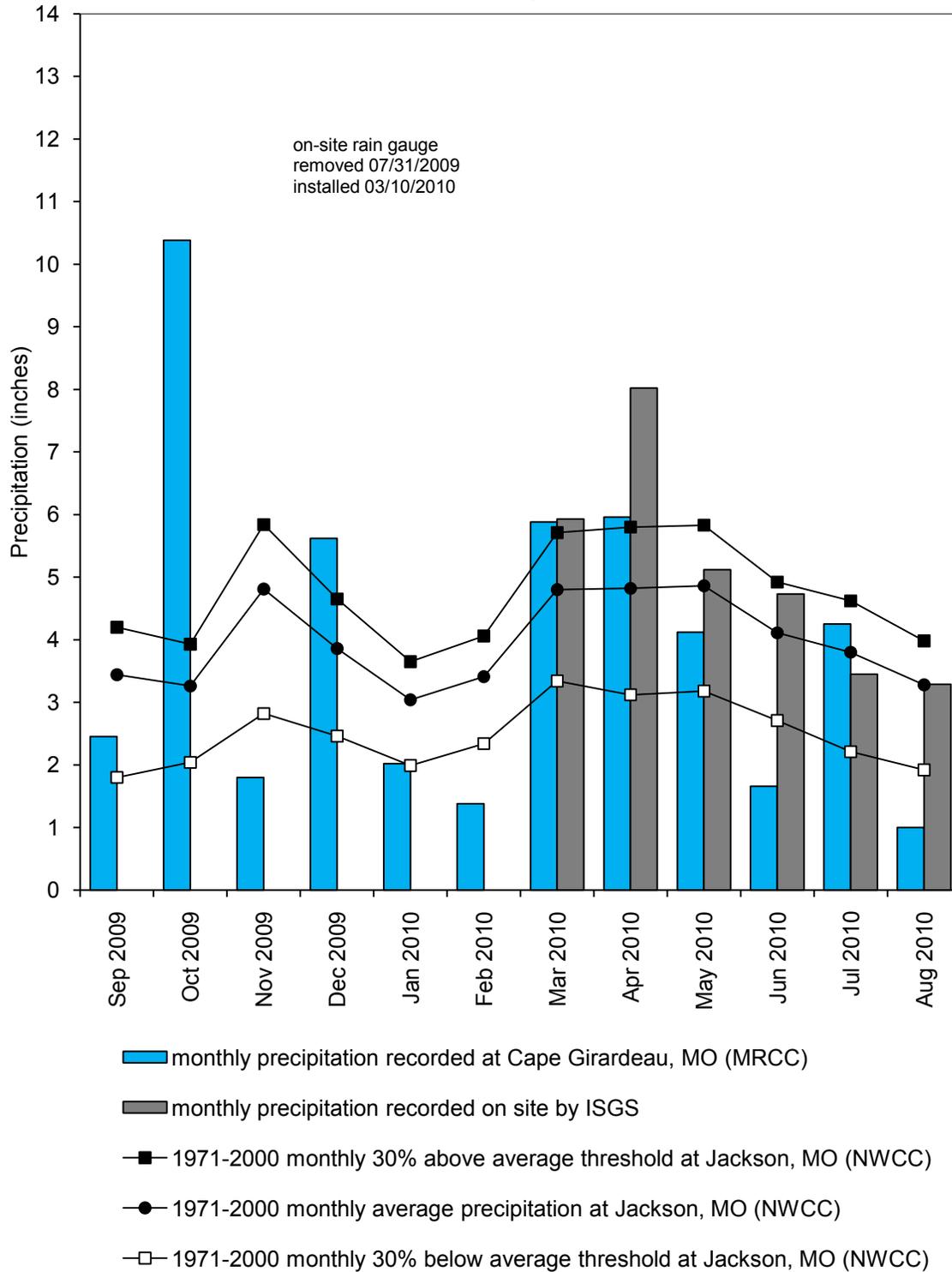
East Cape Girardeau Wetland Mitigation Site September 1, 2009 through August 31, 2010

Water-Level Elevations at Surface-Water Gauges



East Cape Girardeau Wetland Mitigation Site September 2009 through August 2010

Total Monthly Precipitation Recorded on Site and at the
Cape Girardeau Regional Airport, MO



Graph last updated September 29, 2010