

**EAST CAPE GIRARDEAU
WETLAND MITIGATION SITE**

ISGS #81

IL 146

FAP 312

Sequence #633A

Alexander County, near East Cape Girardeau, Illinois

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Secondary Project Manager: Jessica L. B. Monson

SITE HISTORY

- Fall 2009: Wetland construction was started.
- March 2010: ISGS submitted a Level II hydrogeologic characterization report to IDOT (ISGS Open-File Series 2010-3).
- August 2011: IDOT reported the site had been graded and drainage control structures were completed. ISGS was tasked by IDOT to monitor the site for performance criteria outlined in the wetland compensation plan, and post-construction water-level monitoring was initiated.
- September 2011: A levee was constructed along the north portion of the eastern edge of the site.
- October 2011: Trees and a cover crop were planted at the site.

WETLAND HYDROLOGY CALCULATION FOR 2012

The target compensation area for the East Cape Girardeau wetland mitigation site is 3.08 ha (7.60 ac). Using the 1987 Manual (Environmental Laboratory 1987), 2.55 ha (6.29 ac) of the total site area of 6.20 ha (15.20 ac) satisfied wetland hydrology criteria for greater than 5% of the 2012 growing season and 1.45 ha (3.58 ac) satisfied wetland hydrology criteria for greater than 12.5% of the growing season. Using the 2010 Midwest Region Supplement (USACE 2010) to the 1987 Manual, 3.95 ha (9.75 ac) 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 in nearby Cape Girardeau, Missouri, is March 26, and the season lasts 228 days (MRCC 2012). According to the 1987 Manual, 5% of the growing season is 11 days, and 12.5% of the growing season is 29 days. According to the 2010 Midwest Region Supplement (USACE 2010), February 15 was the starting date of the 2012 growing season based on soil temperatures measured at the site and at the nearby Tamms wetland mitigation site (ISGS site #71).
- Total precipitation for the monitoring period at the Cape Girardeau, Missouri, Regional Airport, weather station was 91% of normal. During Spring 2012 (March through May), precipitation was 36% of normal.

- In 2012, water levels measured in monitoring wells 12VS, 16VS, and 16S satisfied wetland hydrology criteria for greater than 5% of the growing season, while no wells satisfied wetland hydrology criteria for greater than 12.5% of the growing season, according to the 1987 Manual. According to the 2010 Midwest Region Supplement, water levels measured in monitoring wells 11VS, 12VS, 13VS, 16VS, 16S, 17VS, and 18VS satisfied the wetland hydrology criteria for 14 or more consecutive days of the growing season.
- Surface-water levels measured at Gauge E indicated inundation at or below 100.55 m (329.89 ft) for greater than 5% of the growing season, and inundation at or below 100.49 m (329.68 ft) for greater than 12.5% of the growing season, according to the 1987 Manual. Surface-water levels measured at Gauge B did not show inundation for greater than 5% of the growing season, according to the 1987 Manual. Per the 2010 Midwest Region Supplement, surface-water levels measured at Gauges B and E indicated inundation at or below 100.43 m and 100.60 m (329.50 ft and 330.06 ft), respectively, for 14 or more consecutive days of the growing season.

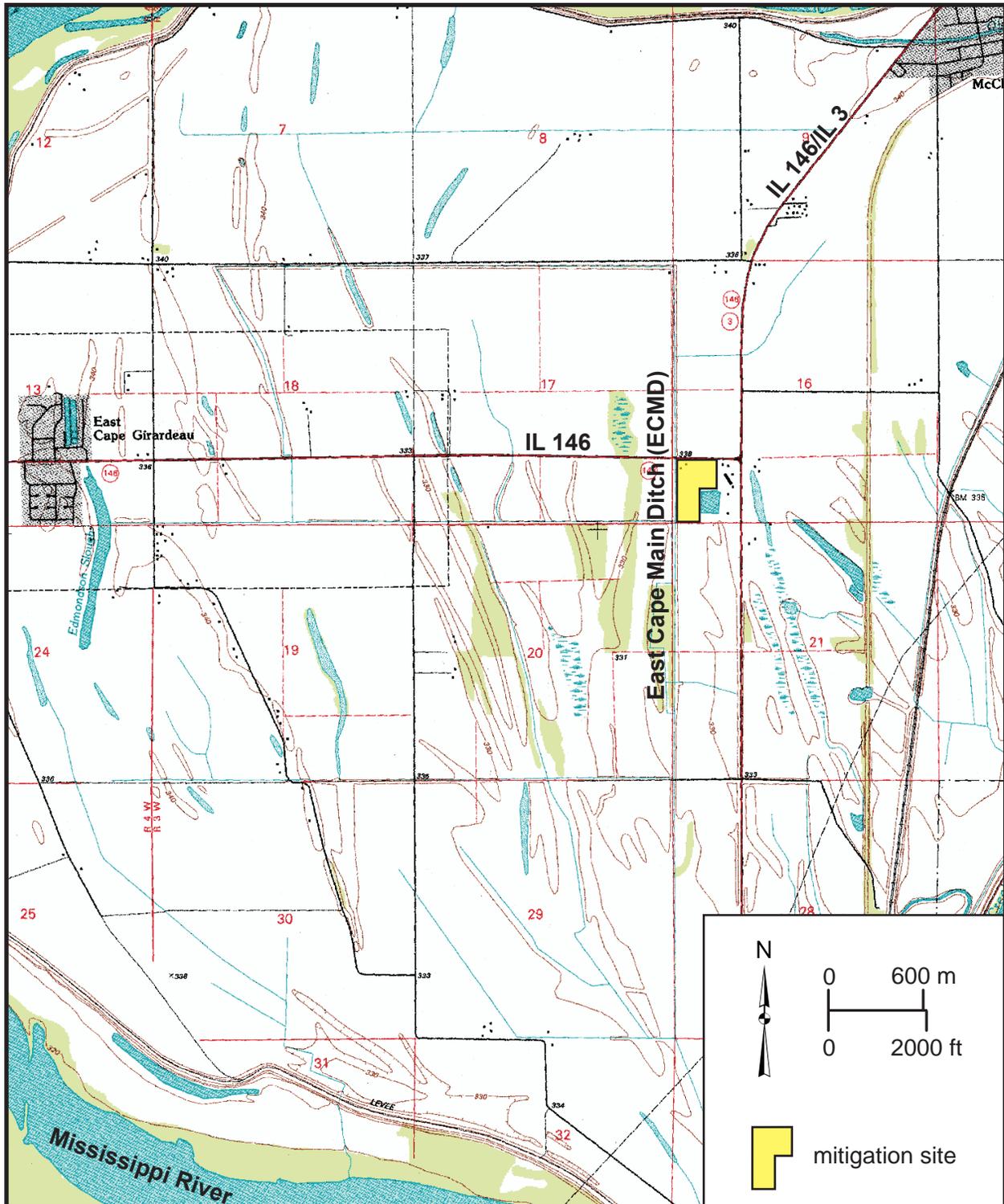
PLANNED FUTURE ACTIVITIES

- The ISGS plans to produce a post-construction topographic map of the site.
- Monitoring will continue at the site until no longer required by IDOT.

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

General Study Area and Vicinity

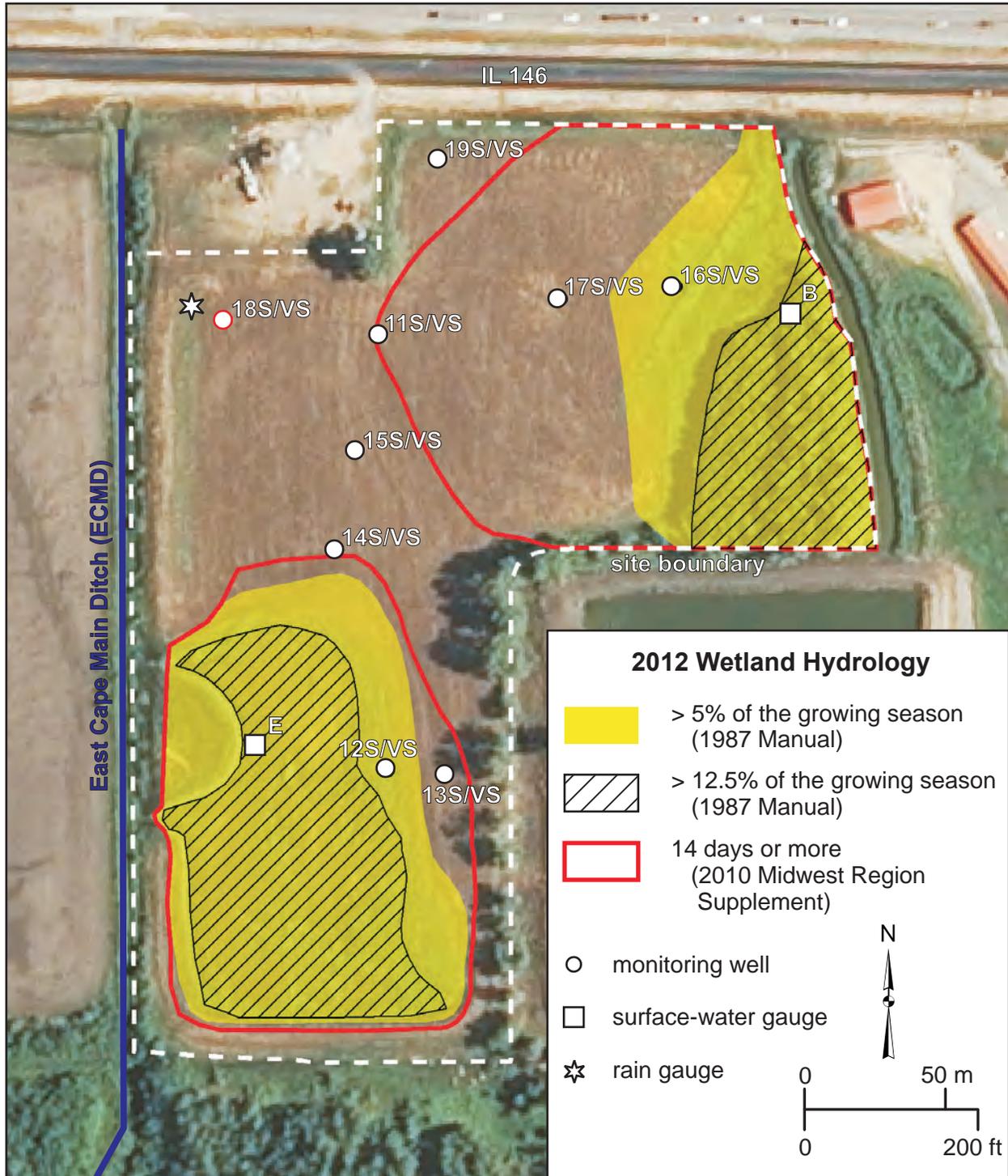
from the USGS Topographic Series, McClure, IL-MO, 7.5-minute Quadrangle (USGS 1993)
contour interval is 20 feet, with supplementary contour interval of 10 feet



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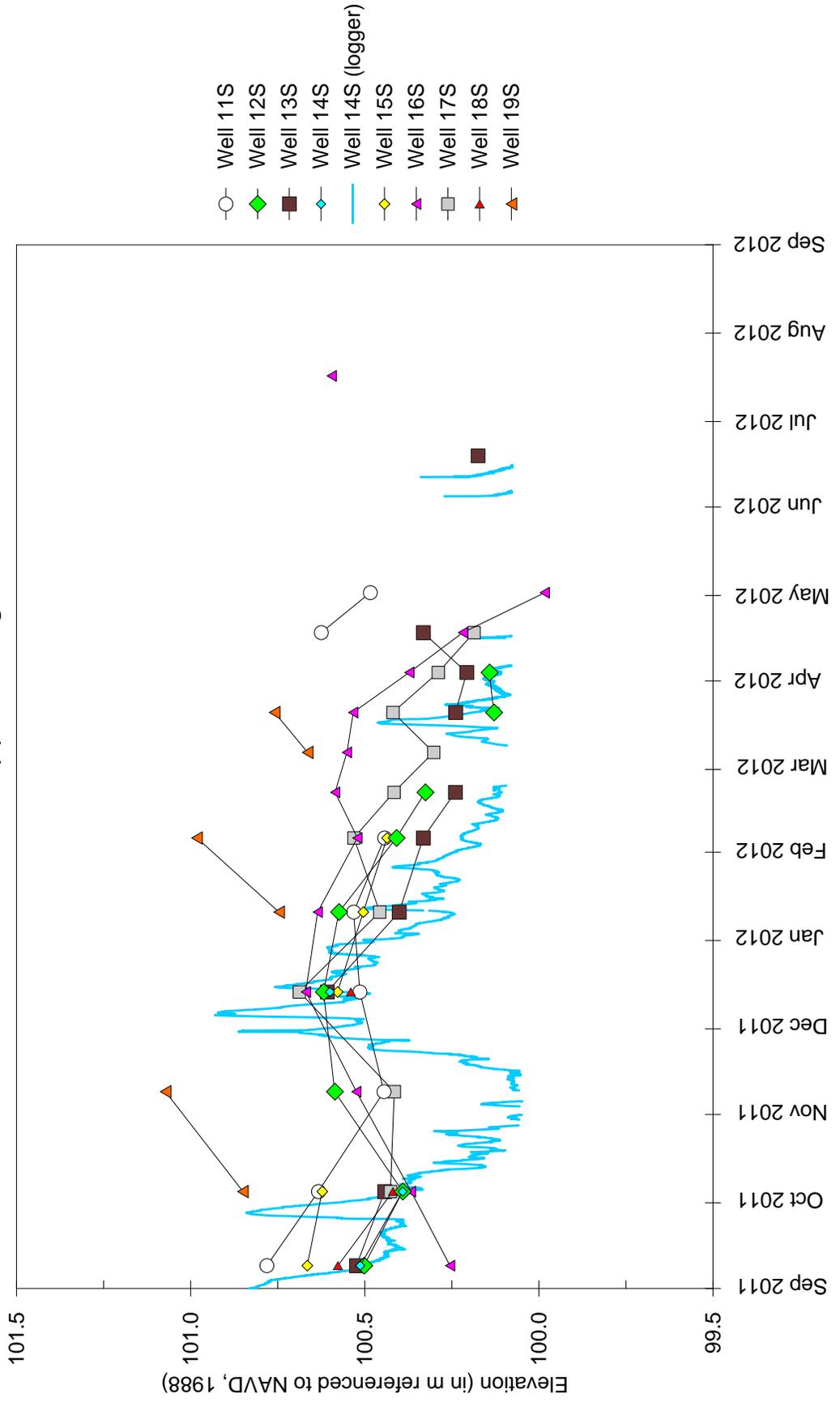
**Estimated Areal Extent of 2012 Wetland Hydrology
September 1, 2011 through August 31, 2012**

Map based on 2012 Farm Service Agency digital orthophotography, Alexander County, Illinois
(USDA-FSA 2012)

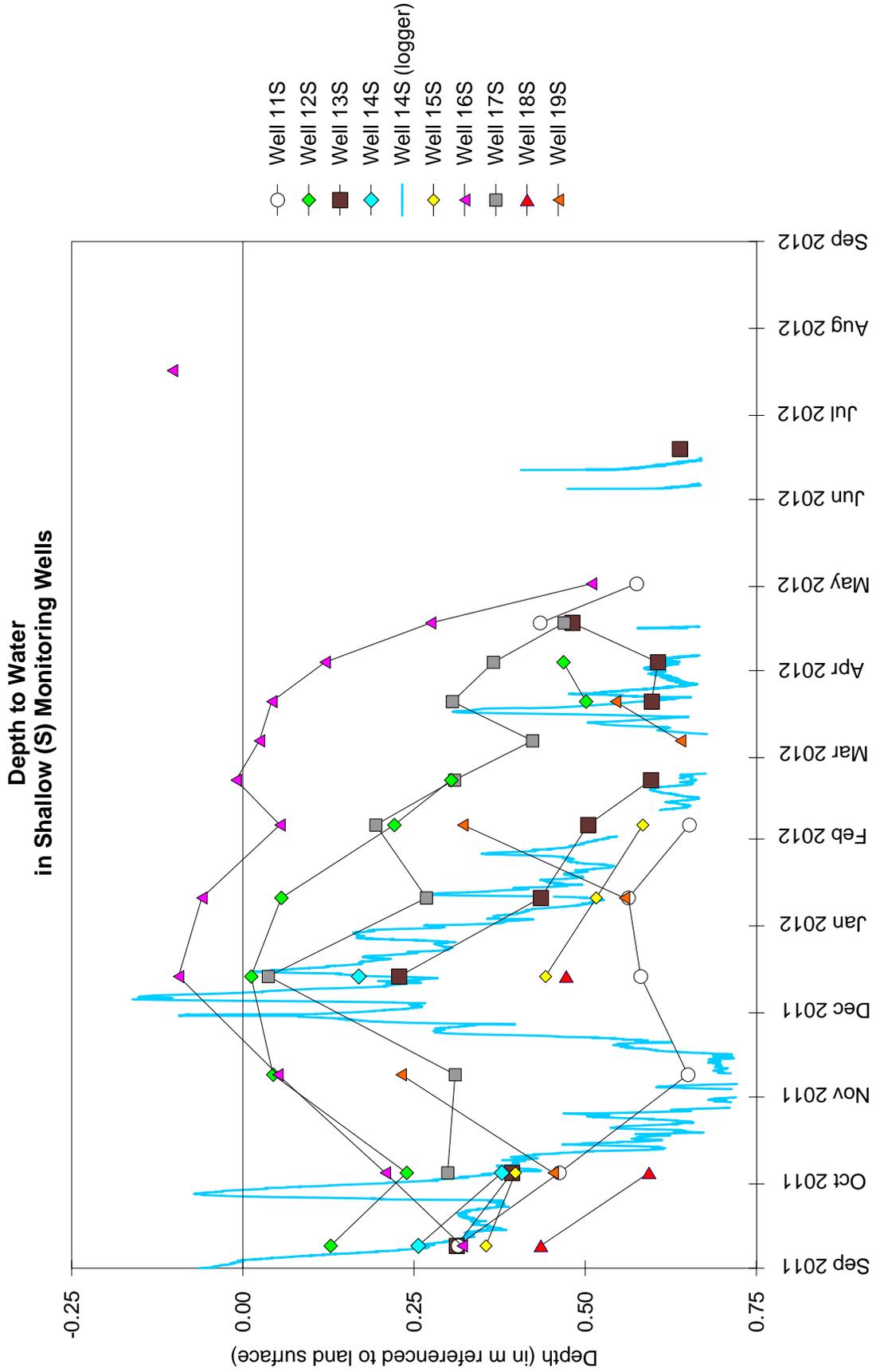


East Cape Girardeau Wetland Mitigation Site September 1, 2011 through August 31, 2012

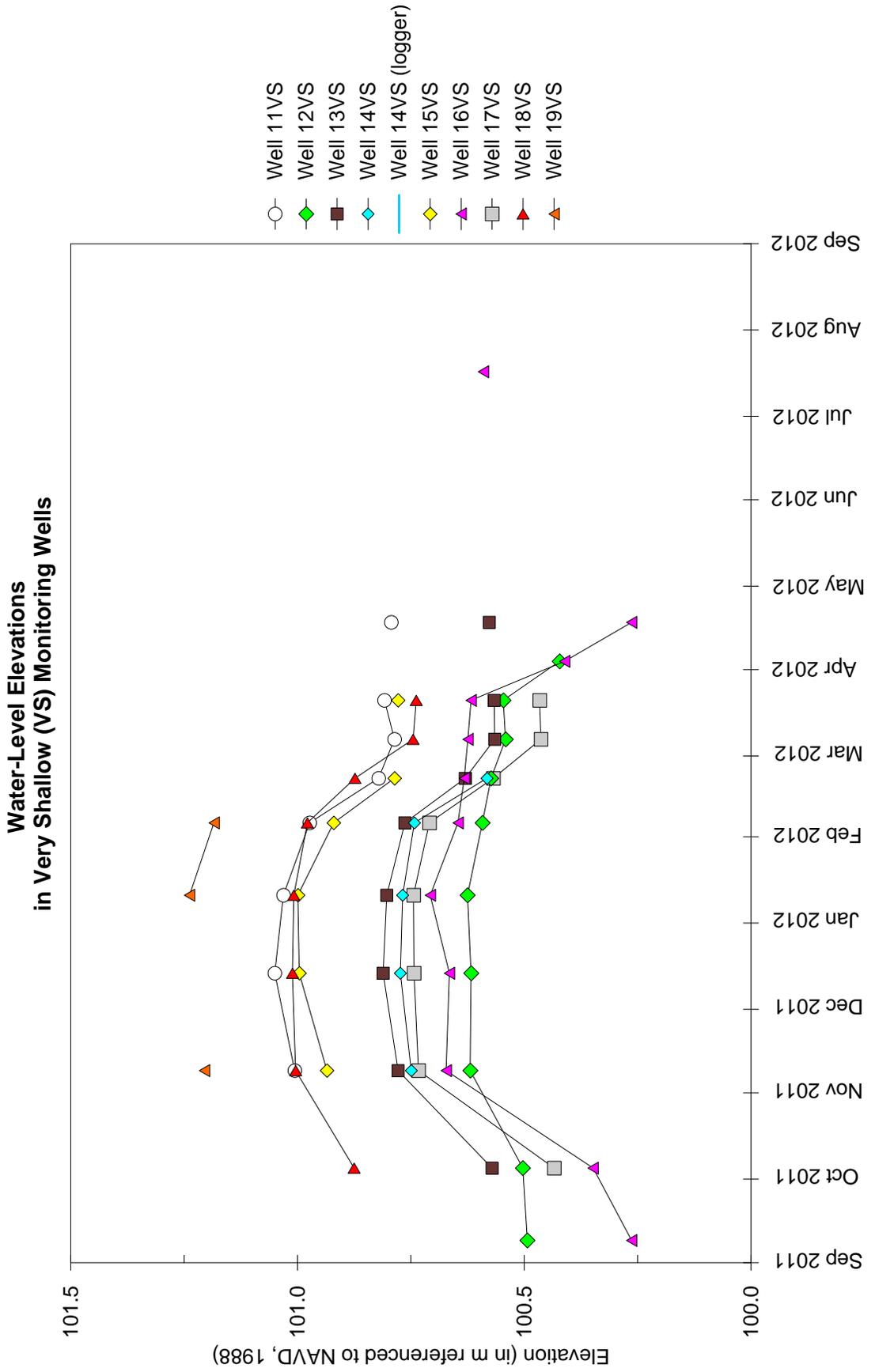
Water-Level Elevations
in Shallow (S) Monitoring Wells



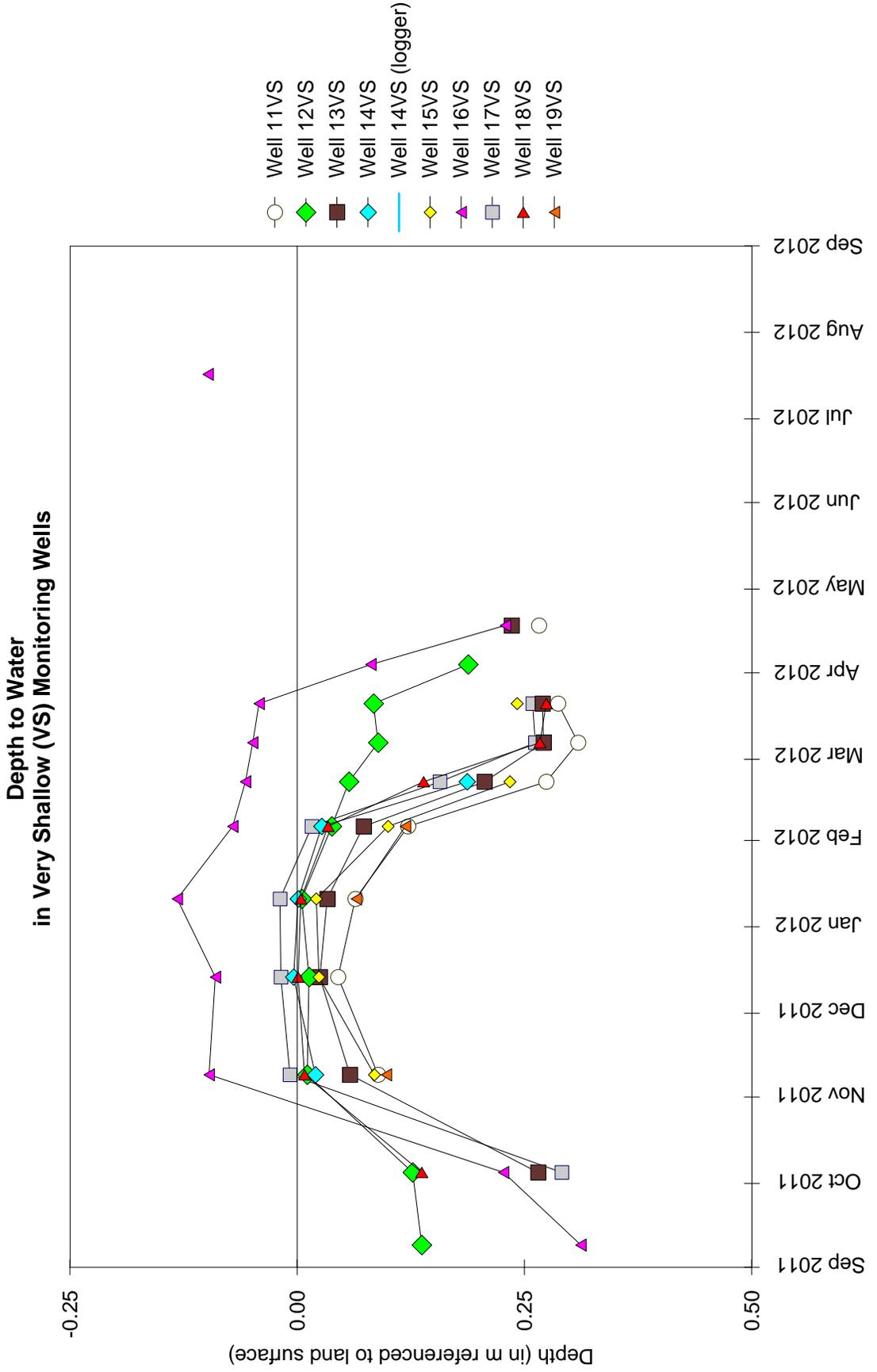
East Cape Girardeau Wetland Mitigation Site September 1, 2011 through August 31, 2012



East Cape Girardeau Wetland Mitigation Site September 1, 2011 through August 31, 2012

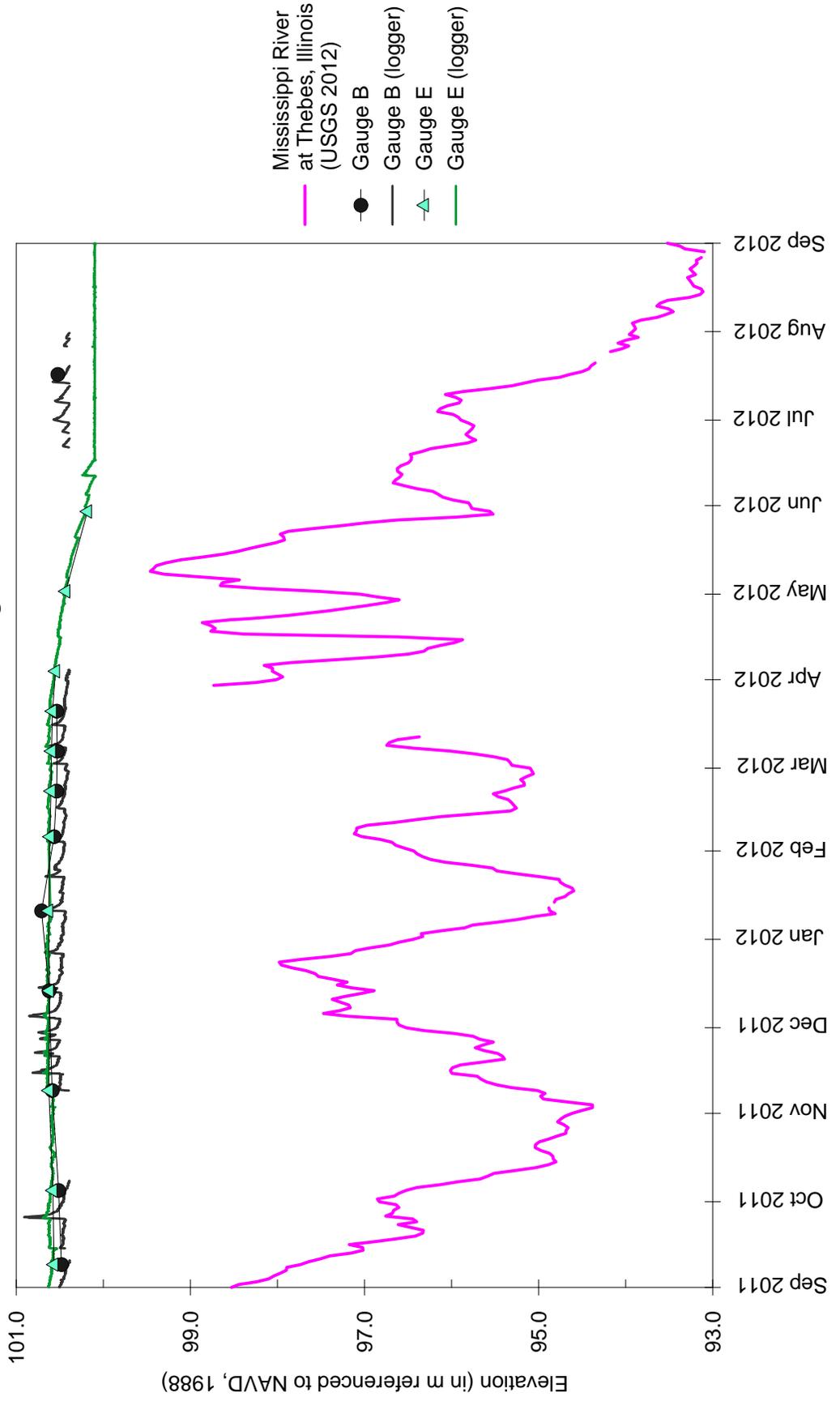


East Cape Girardeau Wetland Mitigation Site September 1, 2011 through August 31, 2012



East Cape Girardeau Wetland Mitigation Site September 1, 2011 through August 31, 2012

Water-Level Elevations
at Surface-Water Gauges



East Cape Girardeau Wetland Mitigation Site September 2011 through August 2012

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

