

**HANCOCK COUNTY NEAR CARTHAGE  
WETLAND COMPENSATION SITE**

**ISGS #42**

FAP 315 & FAP 10

Sequence #235

Hancock County, near Carthage, Illinois

**Primary Project Manager: Steven E. Benton**

**Secondary Project Manager: Kathleen E. Bryant**

**SITE HISTORY**

- March 1997: IDOT tasked ISGS to monitor the site.
- August 2004: A Level II hydrogeologic characterization report was submitted to IDOT (ISGS Open-File Series 2004–13).
- July 2006: Wetland and highway construction began.
- July 2007: Tree planting was completed.

**WETLAND HYDROLOGY CALCULATION FOR 2009**

The area of the site that satisfied wetland hydrology criteria (Environmental Laboratory 1987) in 2009 for more than 5% of the growing season was estimated to be 14.9 ha (36.9 ac) out of an area of 17.9 ha (44.3 ac). The area of the site that satisfied wetland hydrology criteria for more than 12.5% of the growing season was also estimated to be 14.9 ha (36.9 ac). Using new guidance proposed by the U.S. Army Corps of Engineers (2008), we estimate that 14.9 ha (36.9 ac) 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 La Harpe, Illinois, is April 9 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 starting date of the 2009 growing season based on soil temperatures observed at the wetland compensation site.
- Total precipitation recorded at Bentley, Illinois during the monitoring period was 150% of normal. Precipitation was at or above normal in September and December 2008, from February to April 2009, and in June and August 2009. Precipitation in the Spring (April through June) was 162% of normal.
- All of the monitoring wells except 19SR, 20S, 21S, 30S, and 35S, satisfied the criteria for jurisdictional wetland hydrology at 5% of the growing season, for 14 or more consecutive days during the growing season, and 12.5% of the growing season.
- Surface-water elevations measured at RDS 1 were greater than or equal to 165.66 m (543.53 ft) for more than 5% of the growing season, greater than or equal to 165.65 m (543.50 ft) for 14 or more consecutive days, and greater than or equal to 165.61 m (543.37 ft) for more than 12.5% of the growing season. Surface-water elevations measured at RDS 3 were greater than or equal to 165.39 m (542.64 ft) for more than 5% of the growing season, greater than or equal to 165.34 m (542.48 ft) for 14 or more

consecutive days, and greater than or equal to 165.30 m (542.35 ft) for more than 12.5% of the growing season.

#### ADDITIONAL INFORMATION

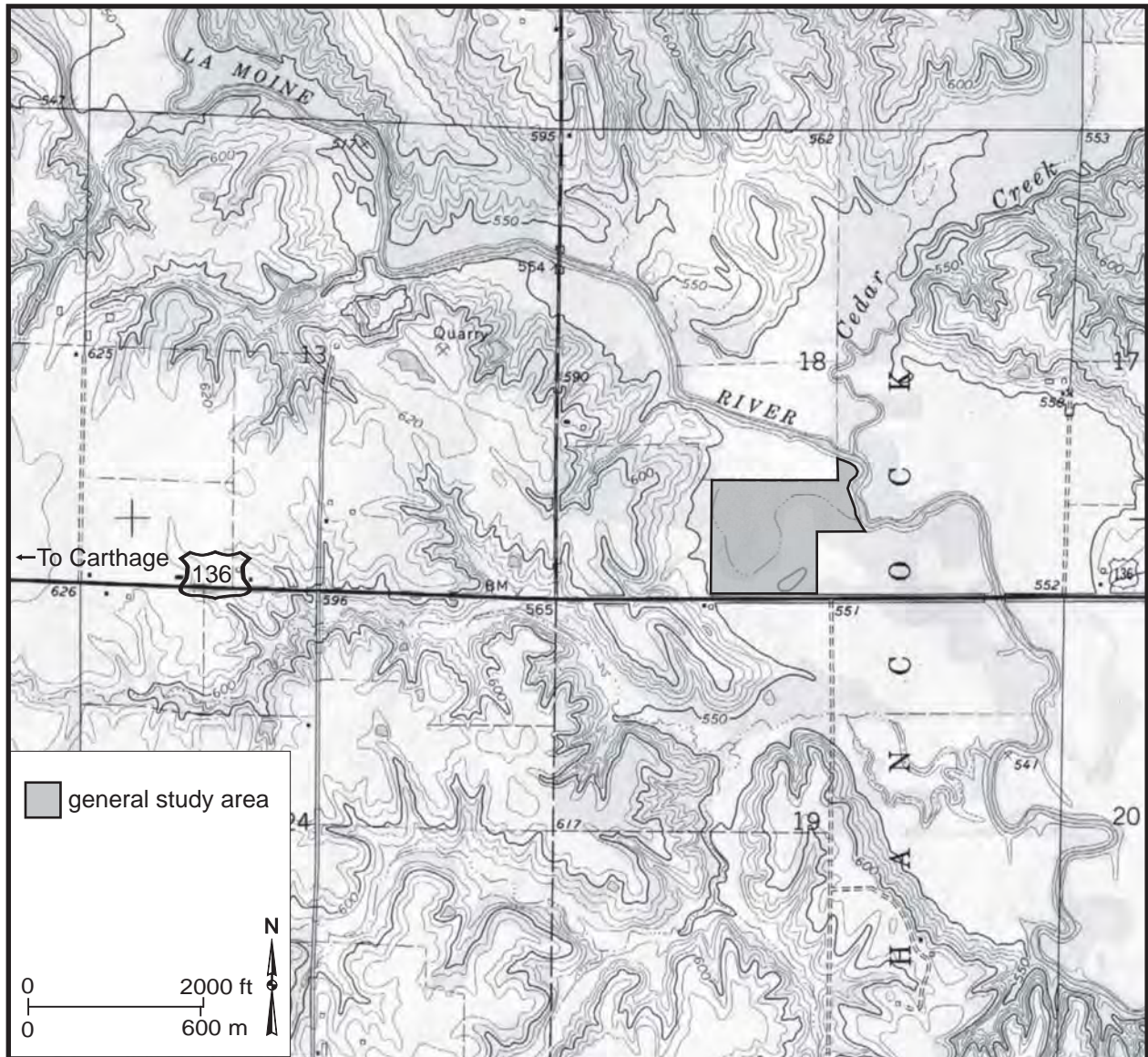
- The site was flooded at least three times during the monitoring period. At the U.S. Army Corps of Engineers, LaMoine River gauge in Colmar, Illinois, peak stage was 157.05 m (515.27 ft) on 3/10/09, which was 1.14 m (3.74 ft) above flood stage (155.91 m [511.53 ft]); on 3/11/09 it was observed that about 90% of the site was flooded. The other flood events occurred on or about 5/1/09 and 5/16/09. Peak stage for the first event was 156.76 m (514.32 ft) on 5/2 and for the second event it was 157.38 m (516.37 ft) on 5/17.

#### PLANNED FUTURE ACTIVITIES

- Monitoring of the site will continue until no longer required by IDOT.

**Hancock County near Carthage  
Wetland Compensation Site  
(FAP 315 and FAP 10)  
General Study Area and Vicinity**

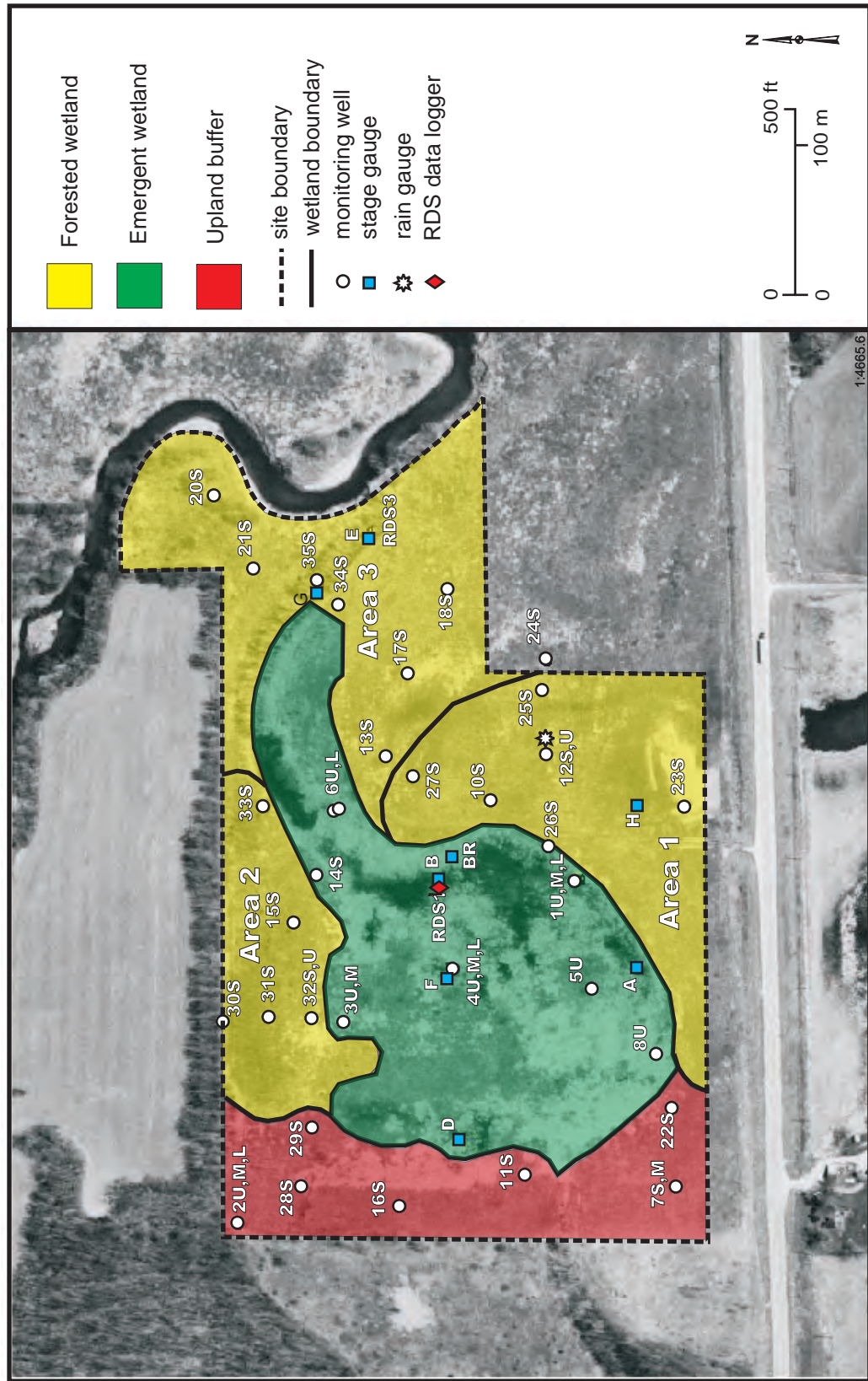
from the USGS Topographic Series, Carthage East, IL 7.5-minute Quadrangle (USGS 1974)  
contour interval is 10 feet



# Hancock County near Carthage Wetland Compensation Site (FAP 315 and FAP 10)

## Wetland and Nonwetland Site Areas based on IDOT as-built plans

Map based on USGS digital orthophotograph, Carthage East SE quarter quadrangle  
produced from 2005 aerial photography (ISGS 2005)

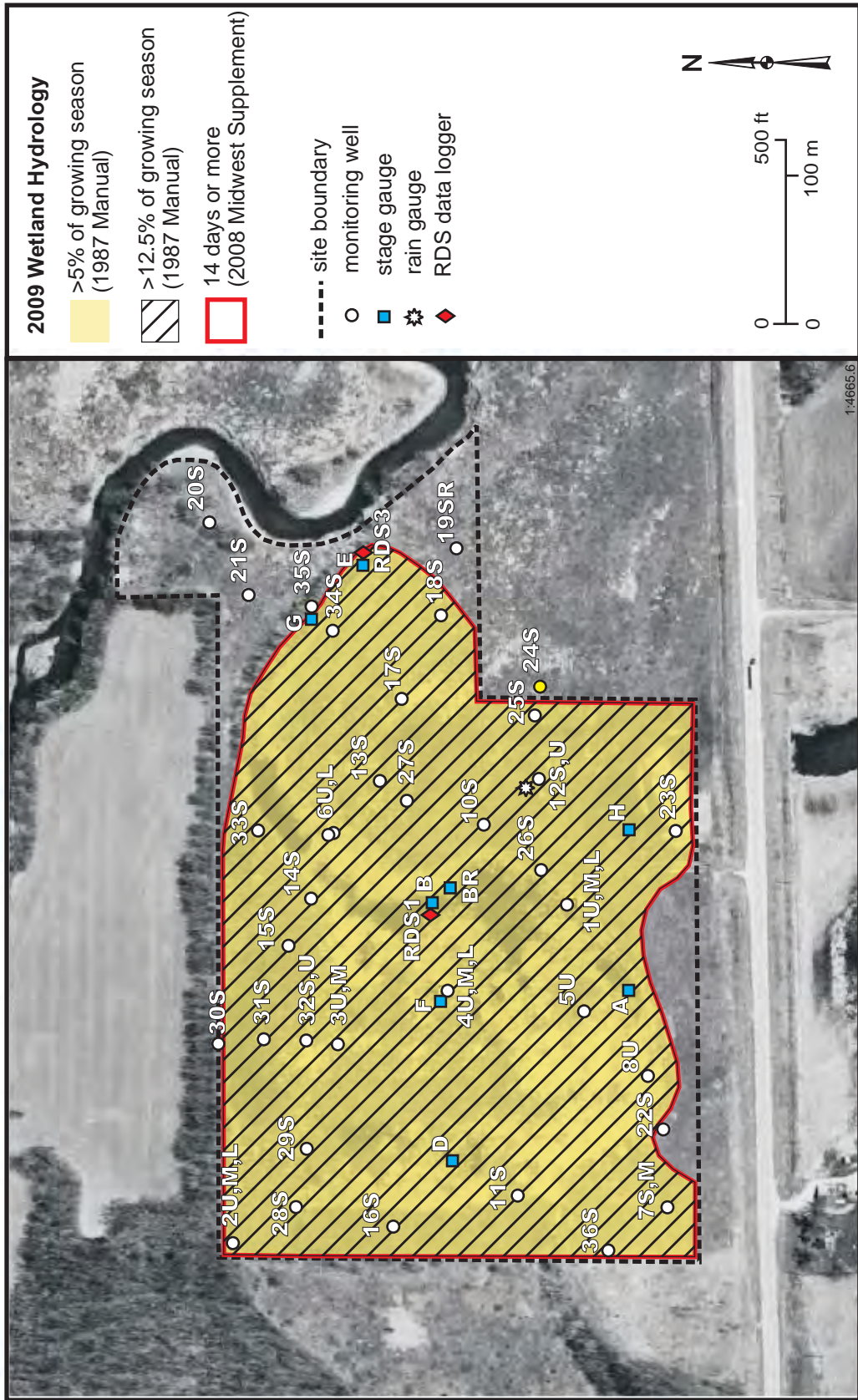


# Hancock County near Carthage Wetland Compensation Site (FAP 315 and FAP 10)

## Estimated Areal Extent of 2009 Wetland Hydrology

September 1, 2008 through August 31, 2009

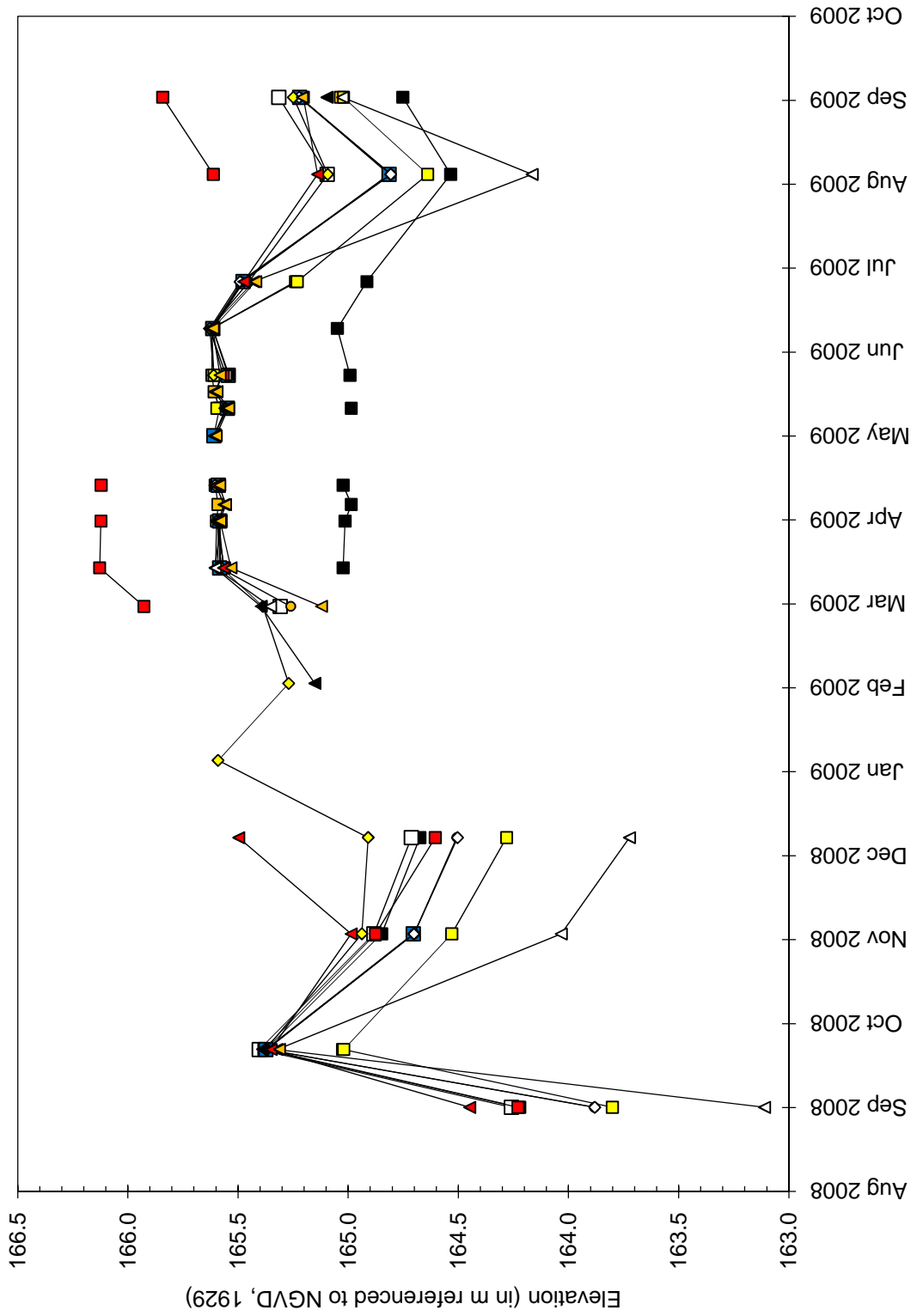
Map based on USGS digital orthophotograph, Carthage East SE quarter quadrangle  
produced from 2005 aerial photography (ISGS 2005)



# Hancock County near Carthage Wetland Compensation Site

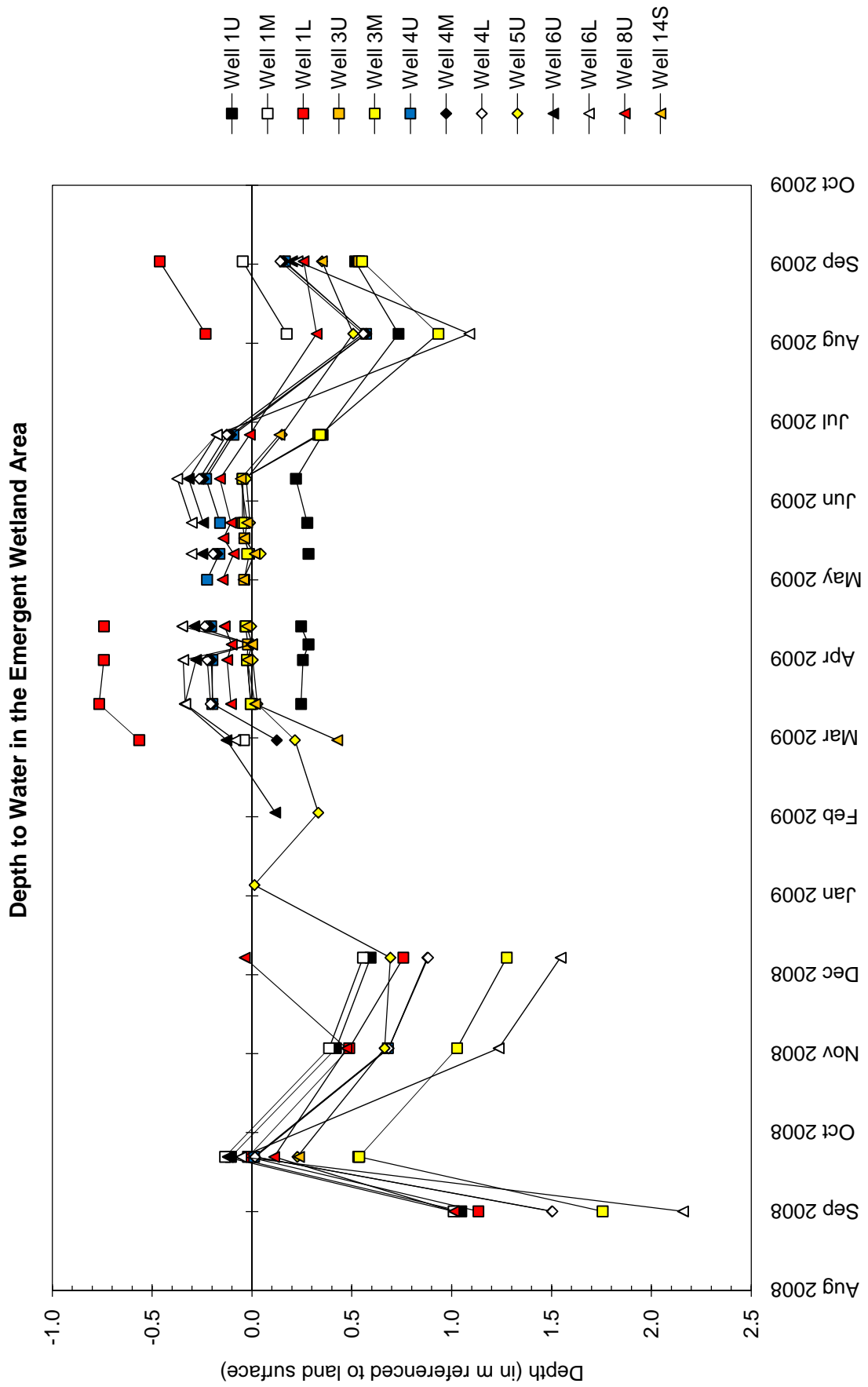
## September 1, 2008 through August 31, 2009

Water-Level Elevations in the Emergent Wetland Area



# Hancock County near Carthage Wetland Compensation Site

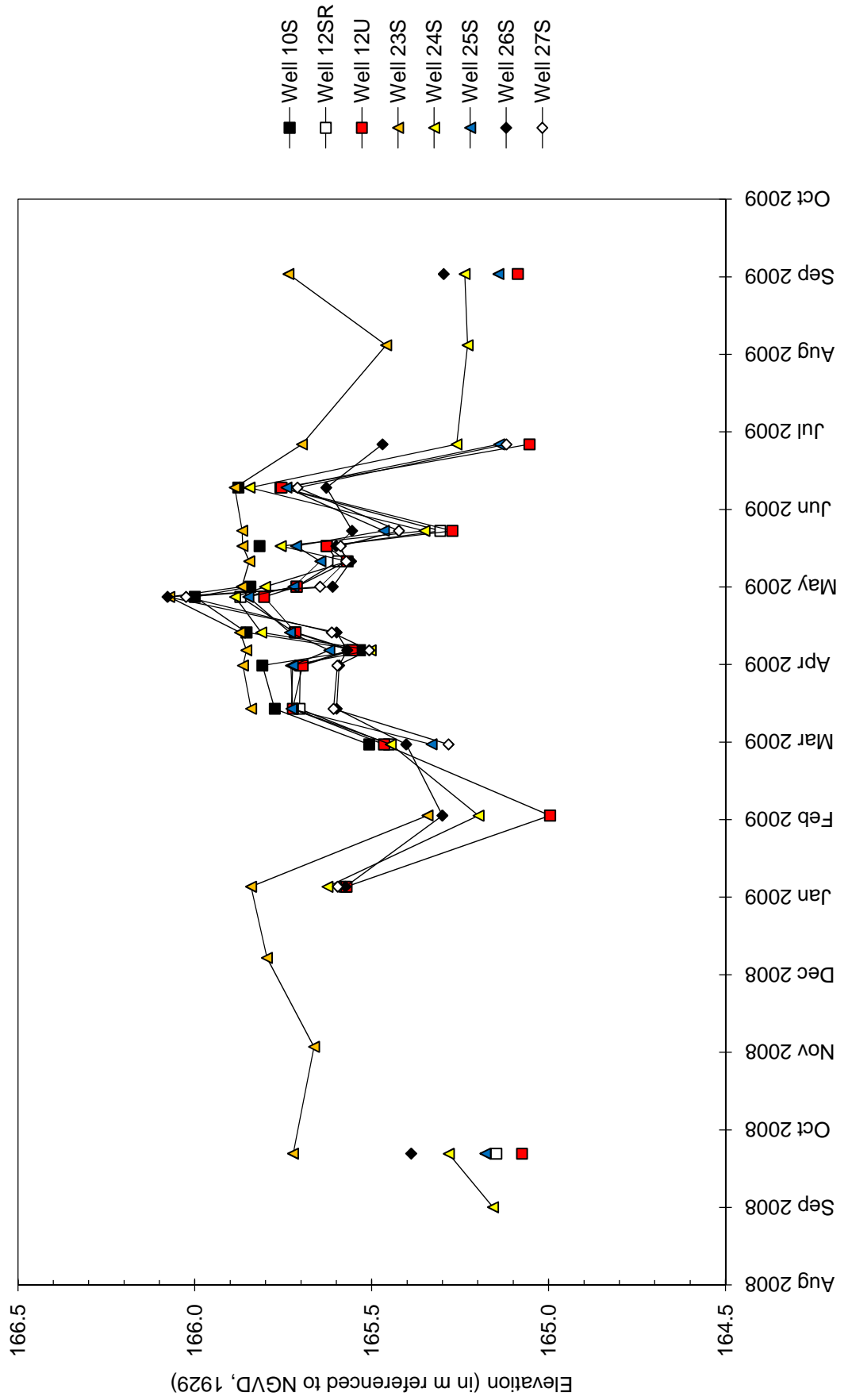
## September 1, 2008 through August 31, 2009



# Hancock County near Carthage Wetland Compensation Site

September 1, 2008 through August 31, 2009

Water-Level Elevations in Forested Wetland Area 1

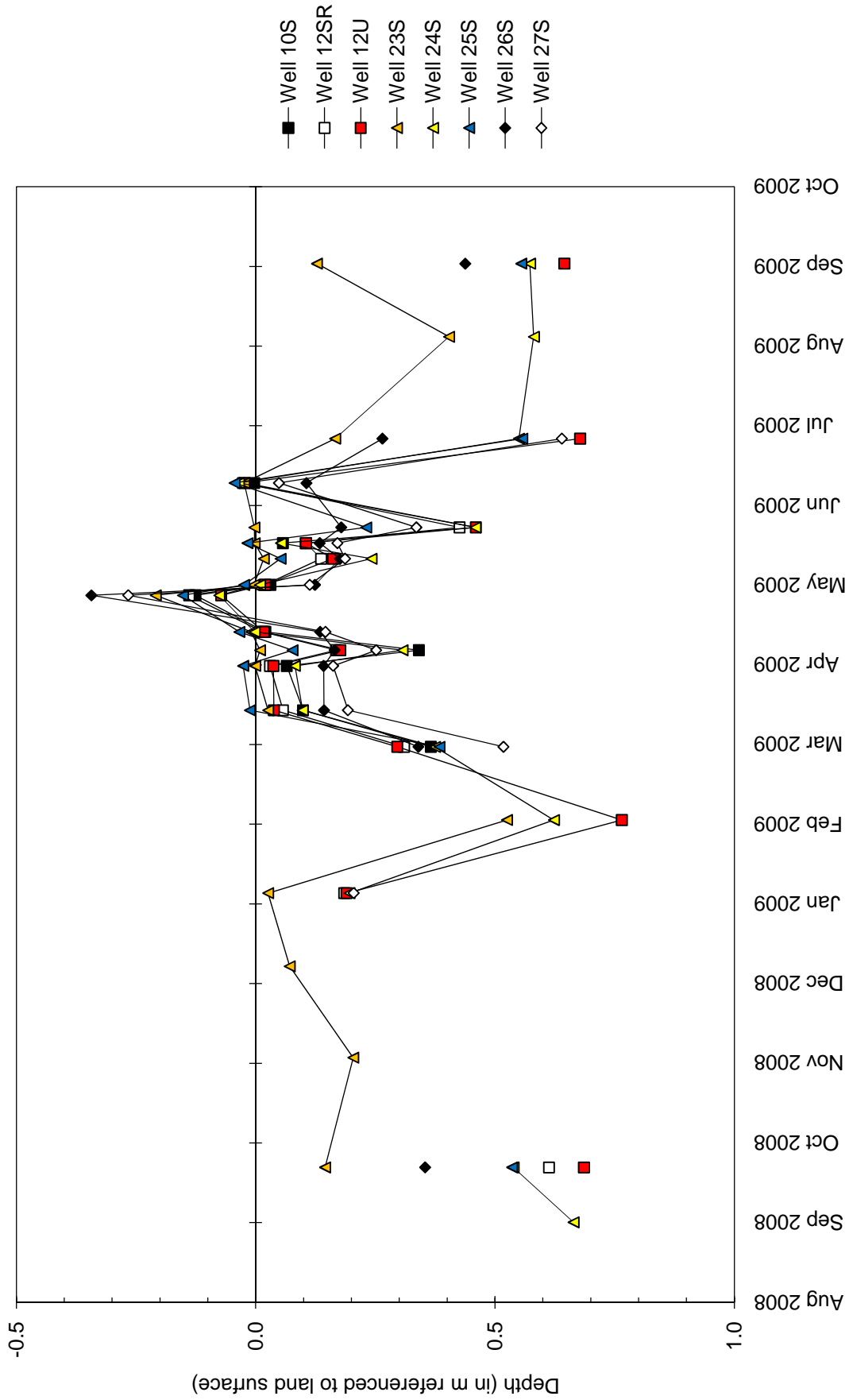




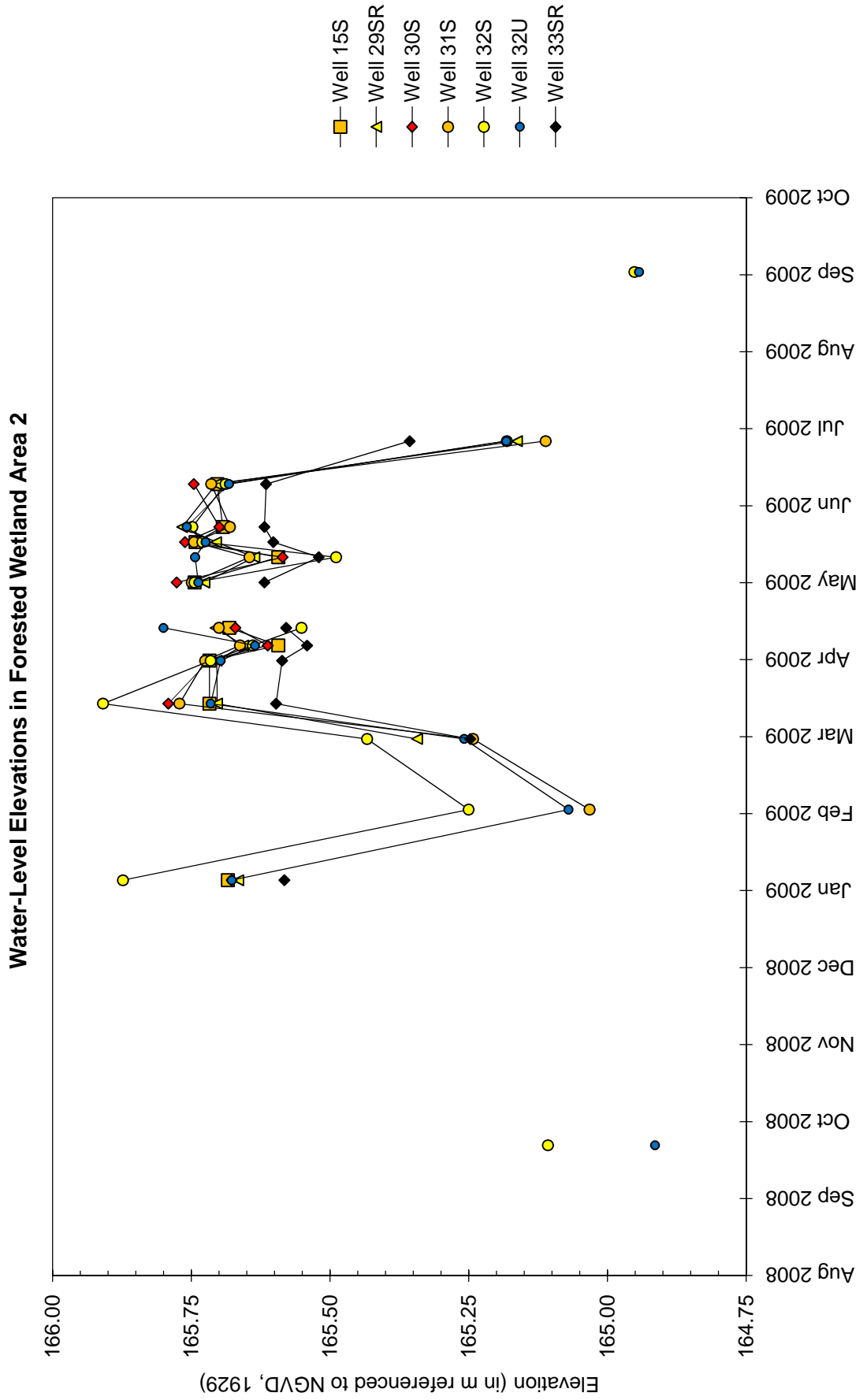
# Hancock County near Carthage Wetland Compensation Site

## September 1, 2008 through August 31, 2009

Depth to Water in Forested Wetland Area 1

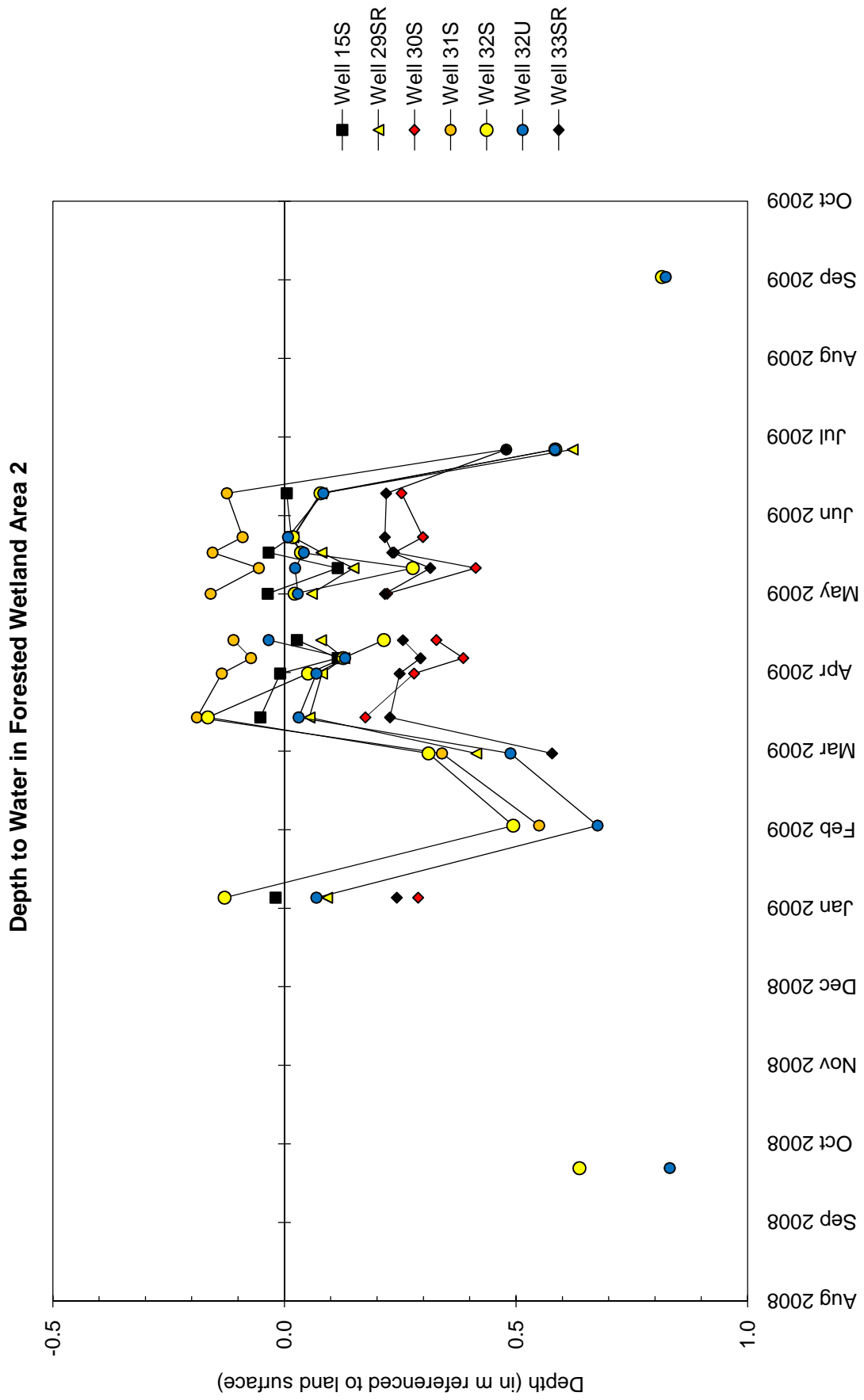


# Hancock County near Carthage Wetland Compensation Site September 1, 2008 through August 31, 2009



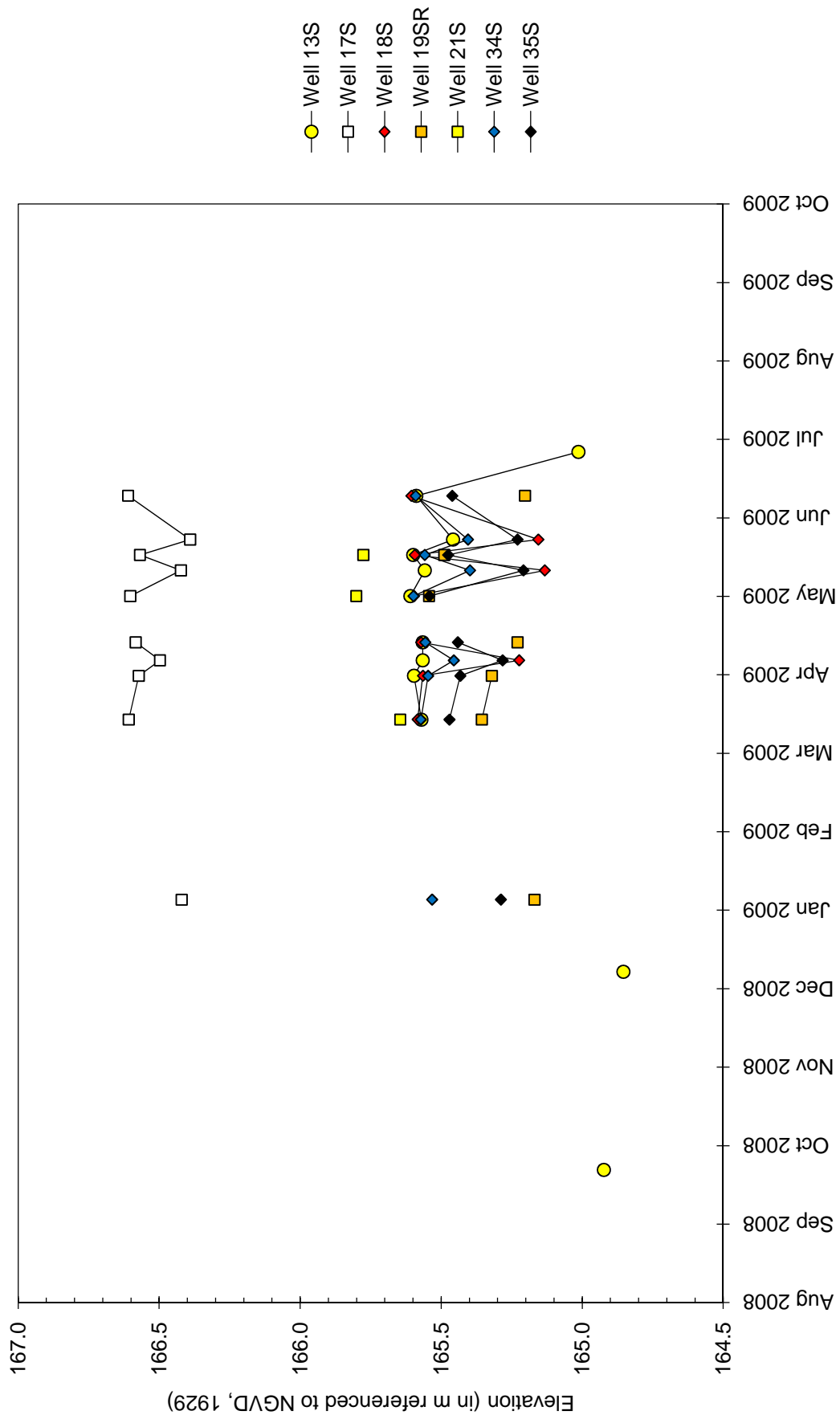
# Hancock County near Carthage Wetland Compensation Site

## September 1, 2008 through August 31, 2009



# Hancock County near Carthage Wetland Compensation Site September 1, 2008 through August 31, 2009

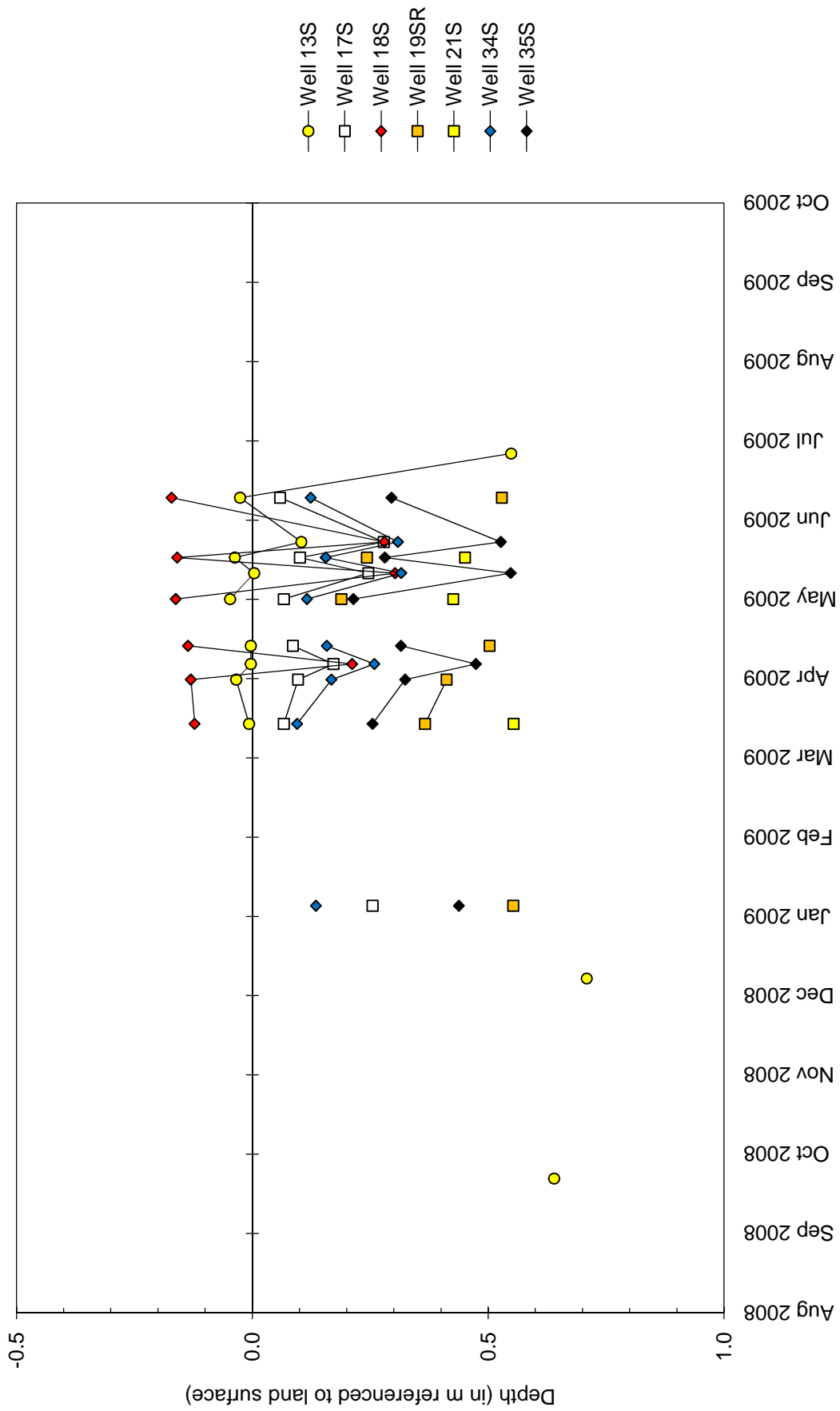
Water-Level Elevations in Forested Wetland Area 3



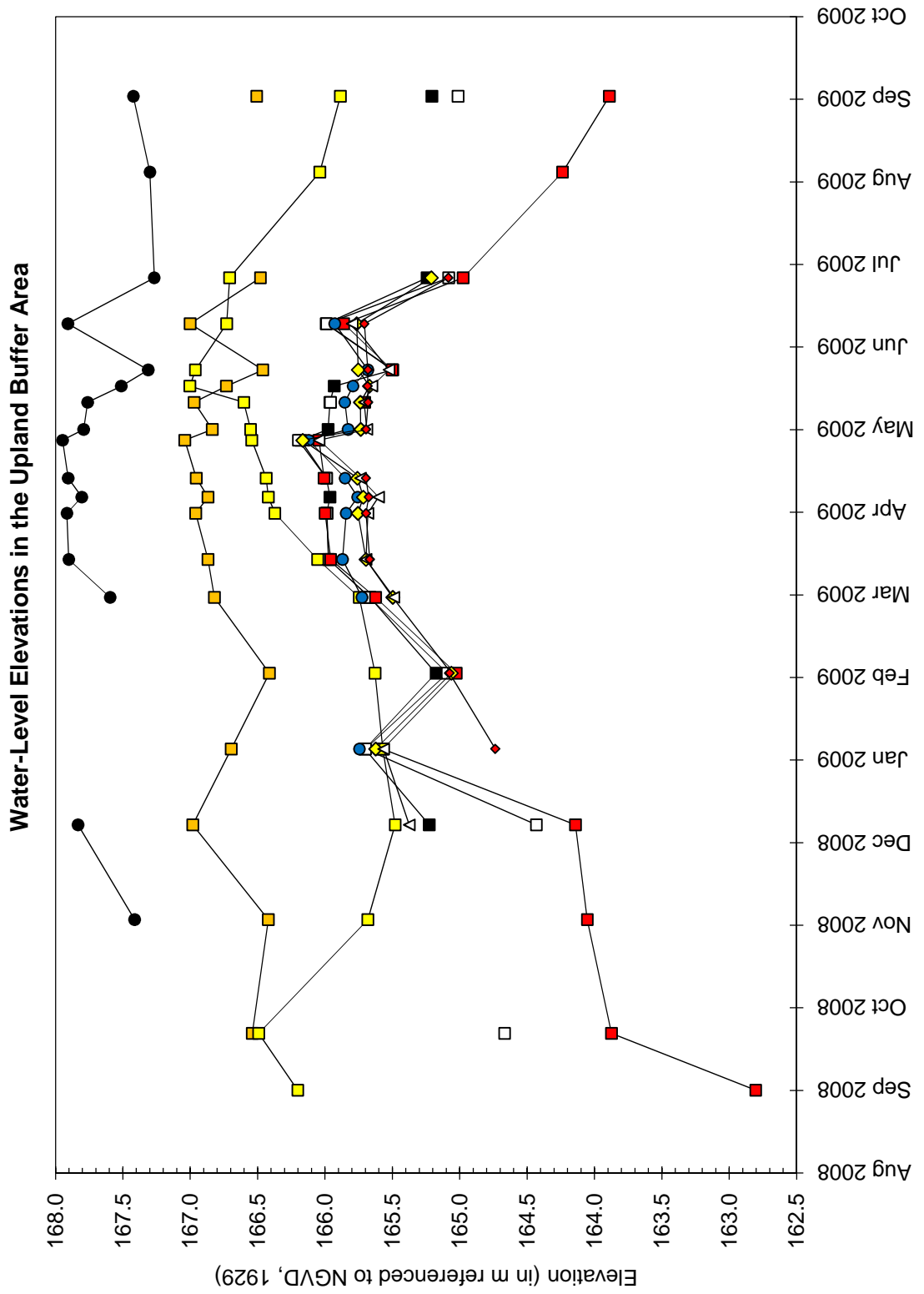
# Hancock County near Carthage Wetland Compensation Site

## September 1, 2008 through August 31, 2009

Depth to Water in Forested Wetland Area 3

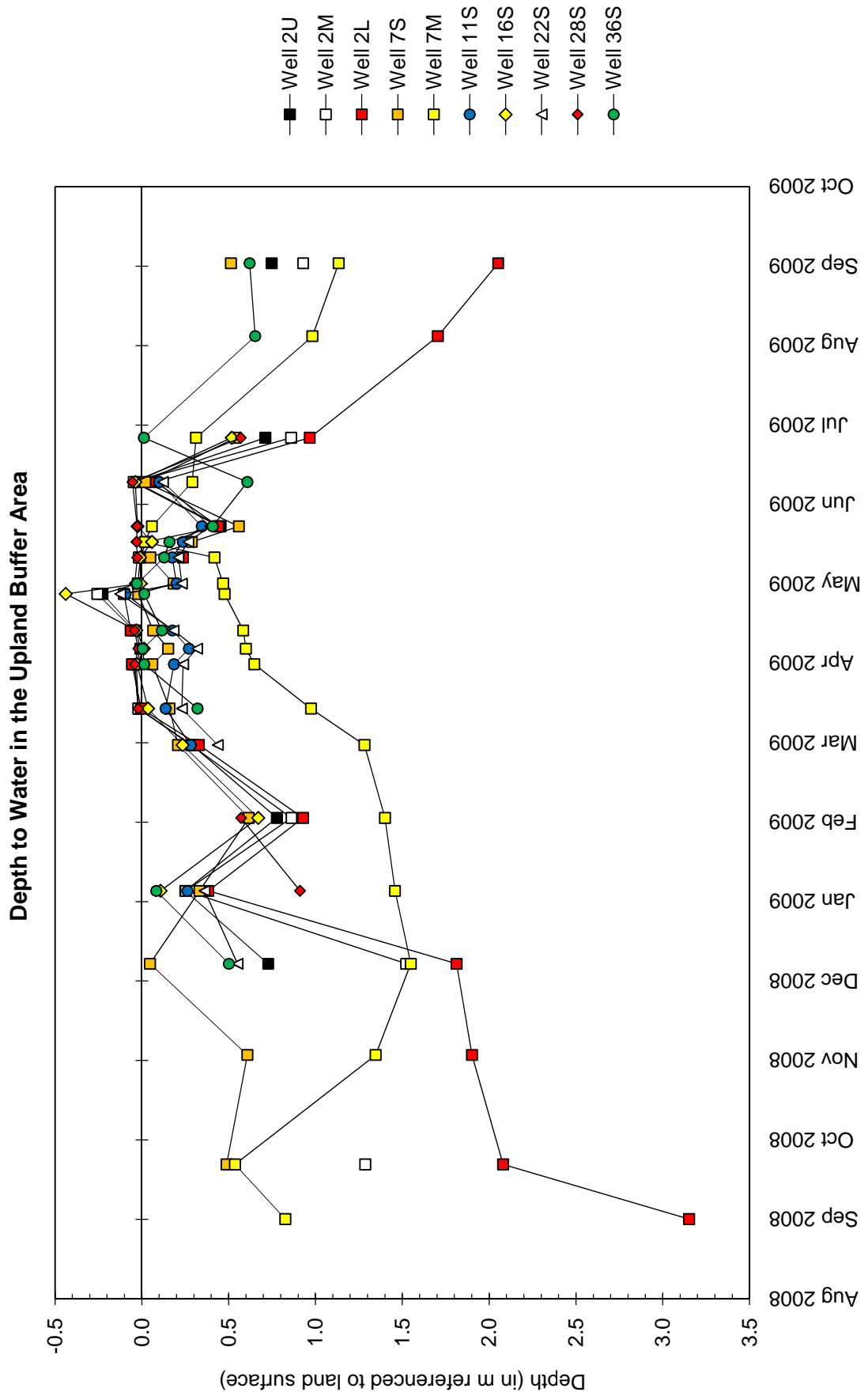


# Hancock County near Carthage Wetland Compensation Site September 1, 2008 through August 31, 2009



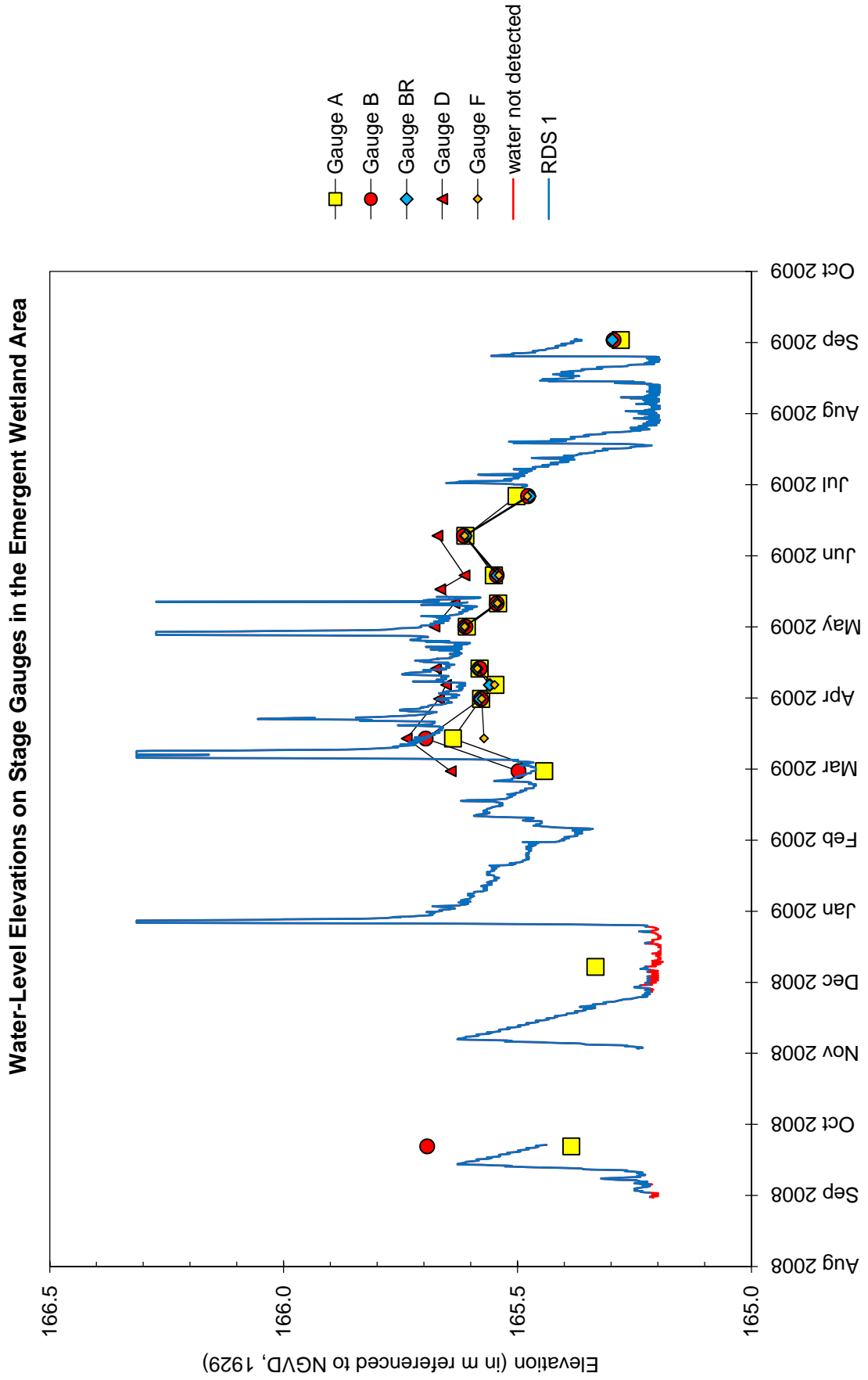
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## September 1, 2008 through August 31, 2009



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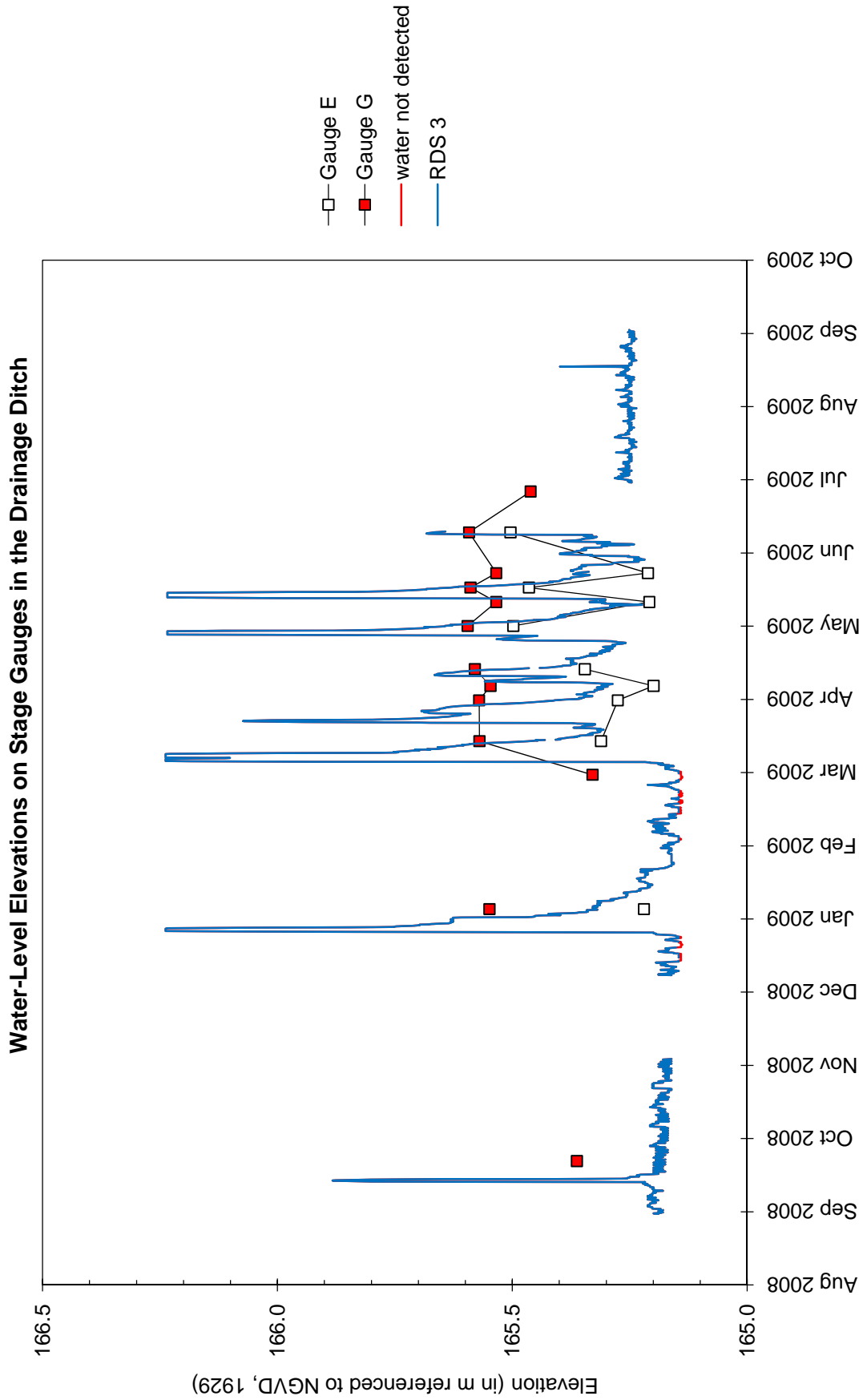
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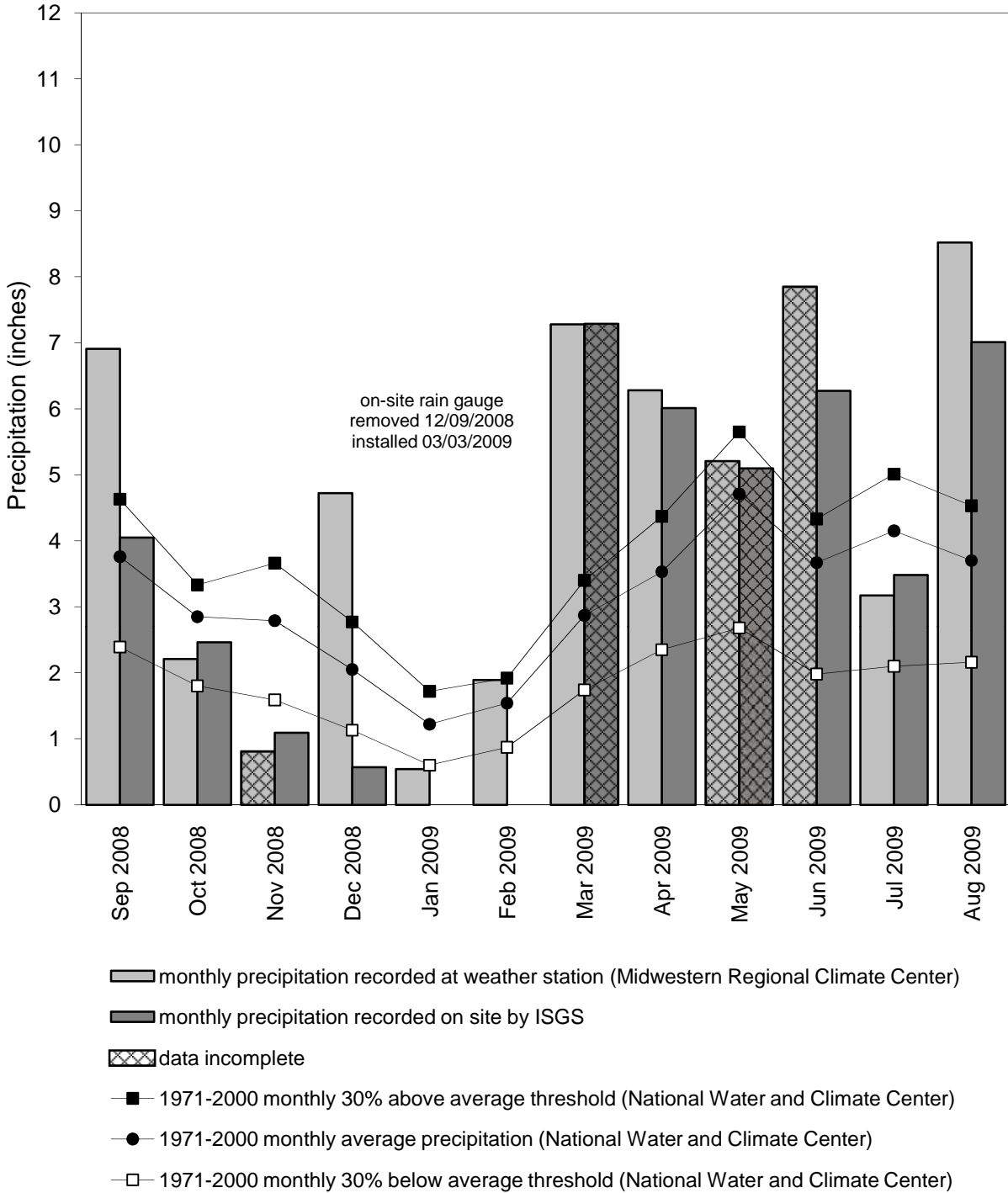
# Hancock County near Carthage Wetland Compensation Site

## September 1, 2008 through August 31, 2009



## Hancock County near Carthage Wetland Compensation Site September 2008 through August 2009

### Total Monthly Precipitation Recorded On Site and at the Bentley, IL Weather Station



Graph last updated September 14, 2009