



**FORMER ECKMANN AND BISCHOFF PROPERTIES  
POTENTIAL WETLAND COMPENSATION SITE**

**ISGS #43**

FAP 14

Madison County, near Collinsville, Illinois

**Primary Project Manager: Bonnie J. Robinson**

**Secondary Project Manager: not assigned**

**SITE HISTORY**

- November 1994: The ISGS submitted an Initial Site Evaluation Report to IDOT.
- February and March 1997: A hydrogeologic characterization of the site was initiated with the installation of monitoring wells and staff gauges.
- October 1998: A draft interim Level II hydrogeologic characterization report was submitted to IDOT.
- March, April, and July 2000: Four soil-zone monitoring wells were installed in the Eckmann property and nine soil-zone monitoring wells were installed in the former Bischoff property.
- September 2003: In conjunction with the INHS, a letter was submitted to IDOT identifying the 42.6 ac (17.2 ha) of the site that met the criteria for wetland following 6 years of monitoring.
- August 2004: IDOT suspended site monitoring.

**WETLAND HYDROLOGY CALCULATION FOR 2004**

The area that satisfied the criteria for wetland hydrology for greater than 5% of the growing season was estimated to be 58.0 ac (23.5 ha), whereas the area that satisfied wetland hydrology criteria for greater than 12.5% of the growing season in 2004 was estimated to be 55.8 ac (22.6 ha). The estimates for 2004 are based on the following factors.

- According to the Midwestern Climate Center, the median length of the growing season, as measured at the Belleville Weather Station, is 203 days (April 5 to October 25). Therefore, 5% of the growing season is 10 days and 12.5% of the growing season is 25 days.
- Precipitation during the monitoring period was 125% of normal. Despite above normal precipitation in September, dry conditions persisted onsite until above normal precipitation occurred in November 2003. Low evapotranspiration rates kept water levels reasonably stable throughout the winter despite precipitation values alternating between above and below normal. Below normal precipitation in April 2004 (34% of normal) caused a drop in water levels onsite. Abnormally high precipitation in May 2004 (210% of normal) resulted in water levels rebounding, then gradually falling with below average precipitation in June. High summer evapotranspiration rates meant that the heavy rains in July only resulted in short-lived increases in water levels.
- In 2004, water levels measured in all wells, with the exception of 17S and 18S along the eastern flank of the levee, satisfied the criteria for wetland hydrology for greater than 5% of the growing season. Water levels in 16S were within 30 cm (1 ft) of land surface for a

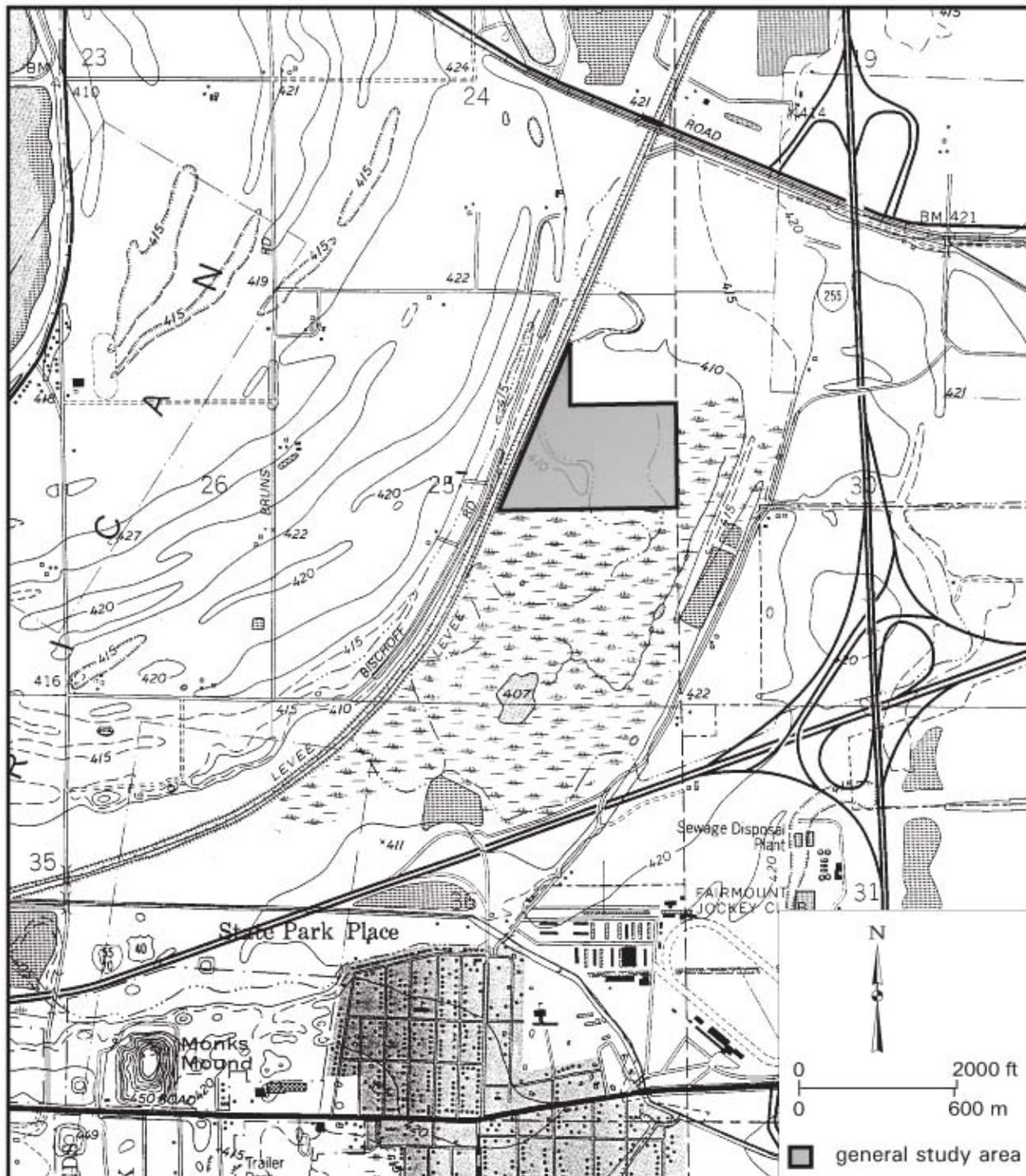
period greater than 5%, but less than 12.5% of the growing season while all the other wells also met the criteria for wetland hydrology for greater than 12.5% of the growing season.

- Limitations of the wetland hydrology determination are as follows:
  - The area meeting wetland hydrology criteria on the former Bischoff property was derived from a mathematical interpolation of the shallow ground-water surface derived from water level readings at the monitoring wells.

**Former Eckmann and Bischoff Properties  
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**Study Area and Vicinity**

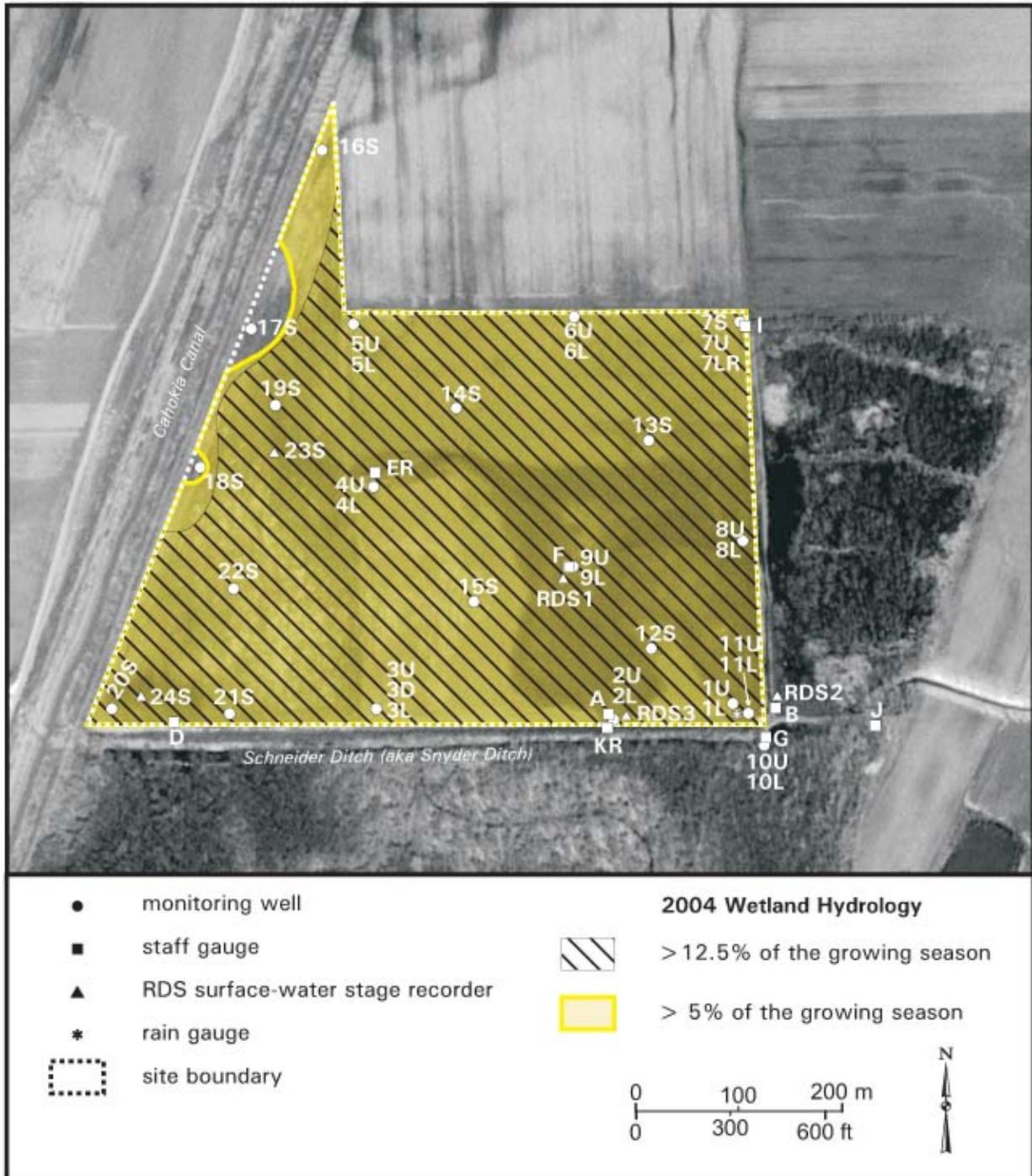
from the USGS Topographic Series, Monks Mound IL 7.5-minute Quadrangle (USGS 1954, revised 1993)  
contour interval is 10 feet



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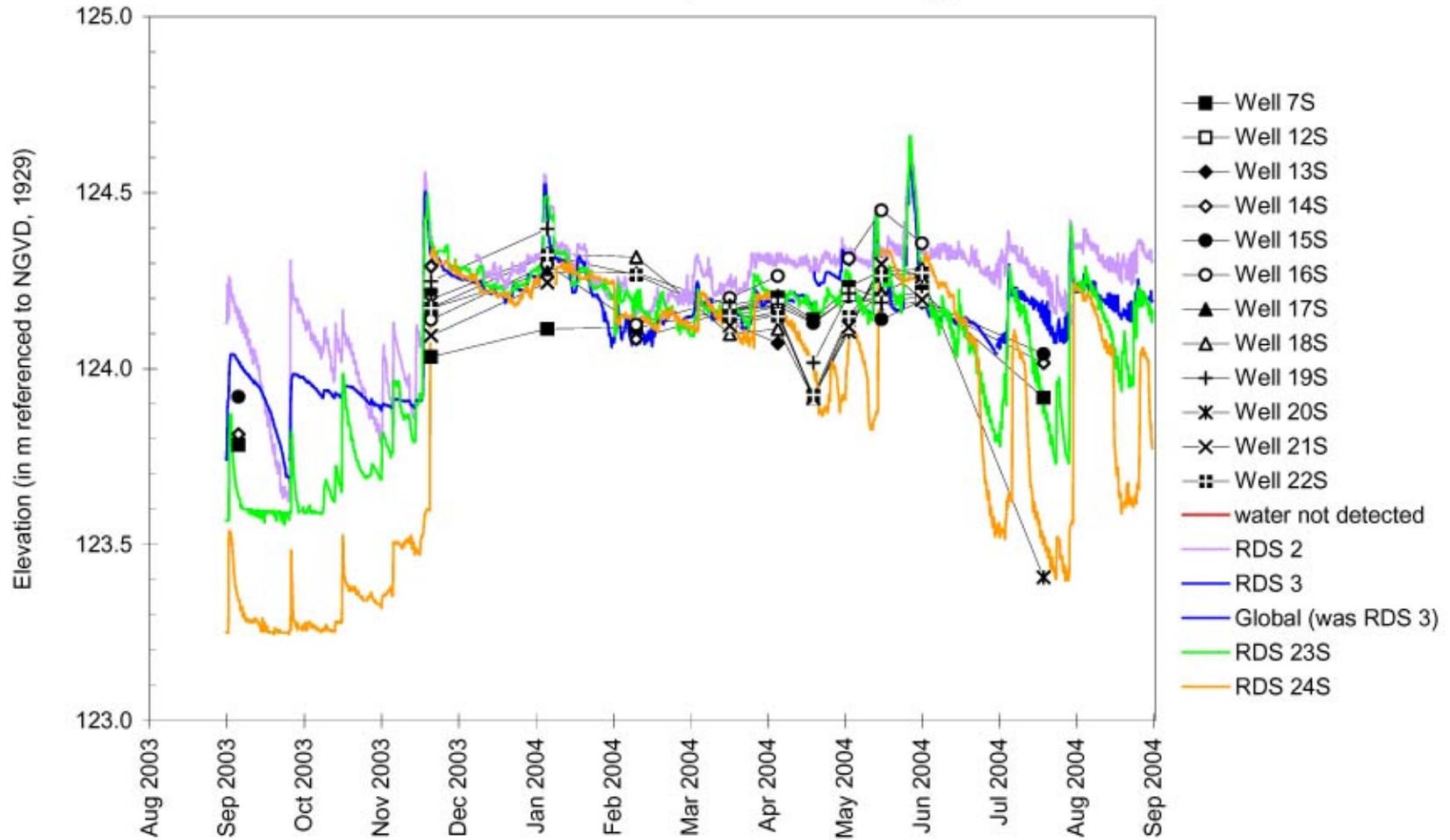
**Estimated Areal Extent of 2004 Wetland Hydrology  
based on data collected between September 1, 2003 and September 1, 2004**

map based on USGS digital orthophotograph, Monk's Mound, SE quarter quadrangle  
produced from 4/2/98 aerial photography (ISGS 2000)



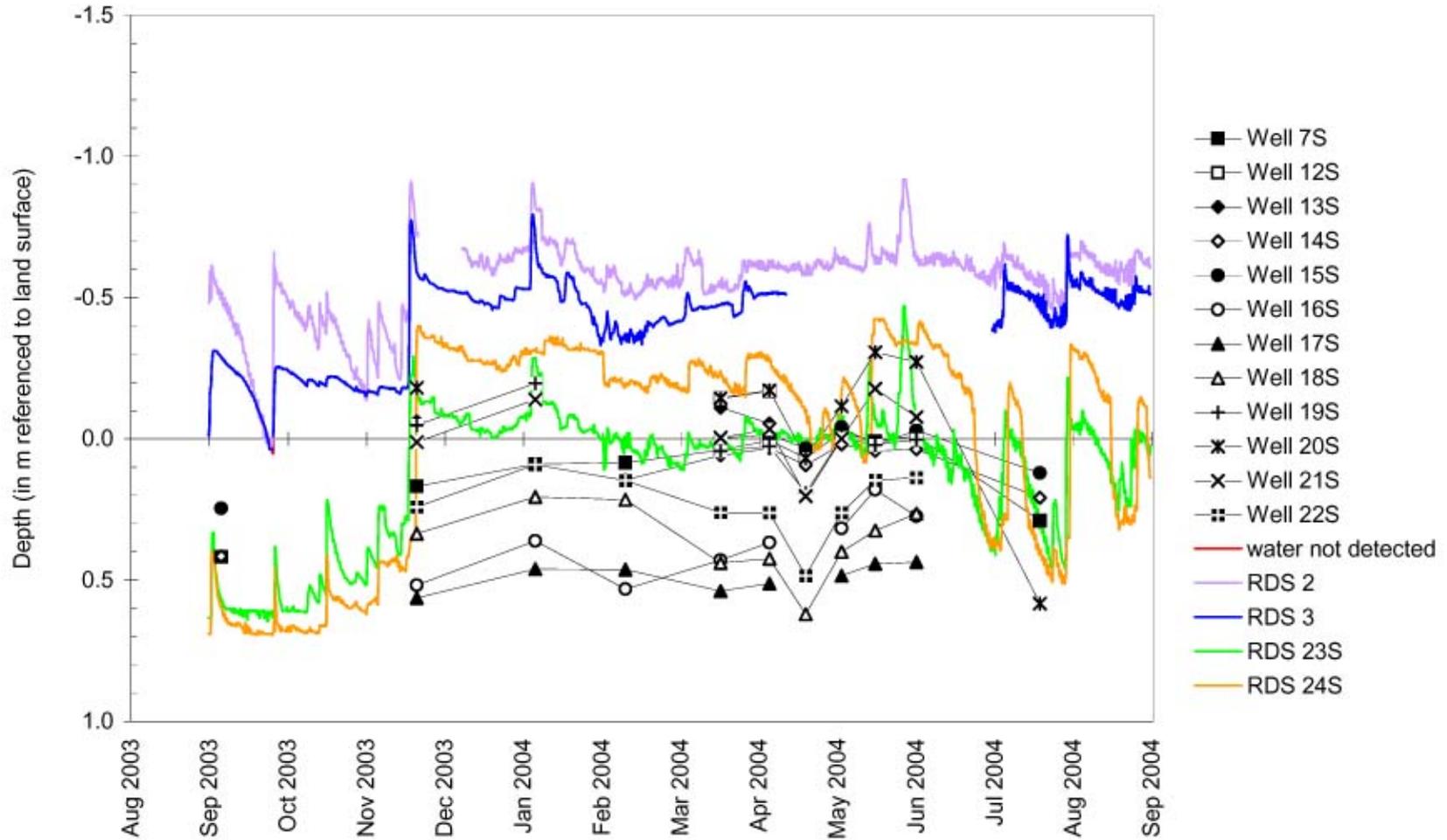
**Former Eckmann and Bischoff Properties Potential Wetland Compensation Site  
September 1, 2003 to September 1, 2004**

**Water-Level Elevations  
in Soil-Zone Monitoring Wells and Data Loggers**



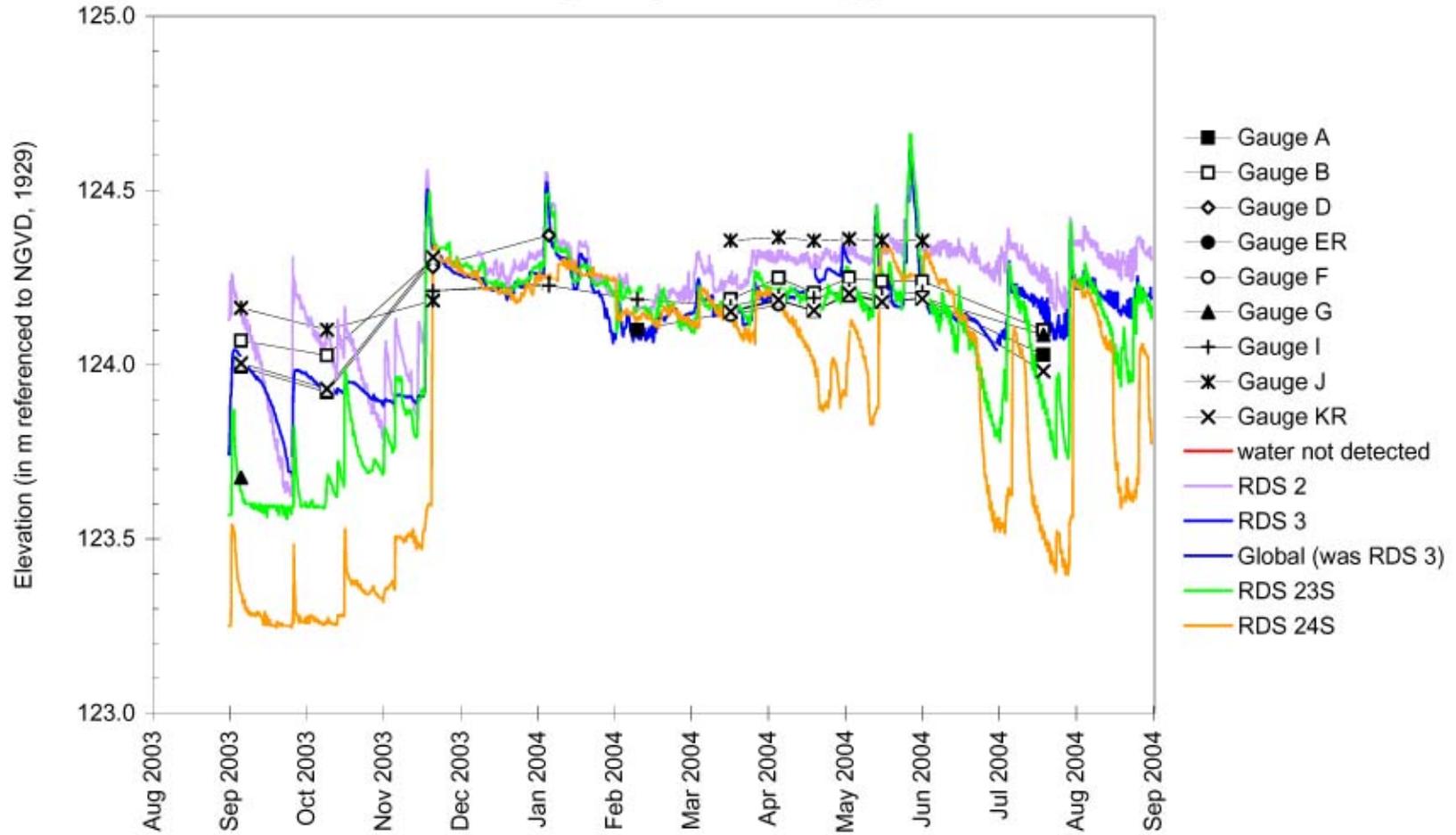
**Former Eckmann and Bischoff Properties Potential Wetland Compensation Site  
September 1, 2003 to September 1, 2004**

**Depth to Water  
in Soil-Zone Monitoring Wells and Data Loggers**



**Former Eckmann and Bischoff Properties Potential Wetland Compensation Site  
September 1, 2003 to September 1, 2004**

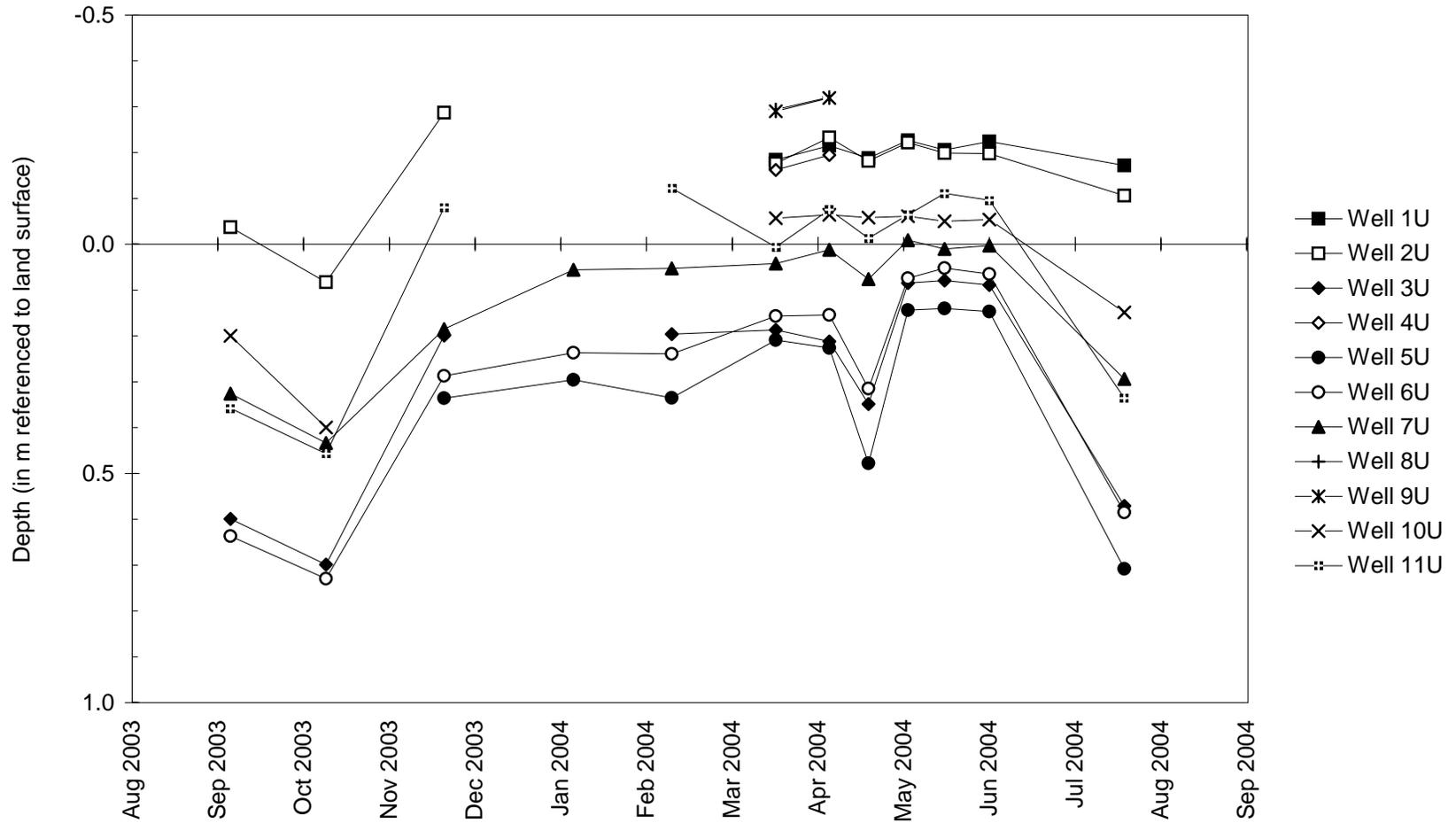
**Water-Level Elevations  
on Stage Gauges and Data Loggers**





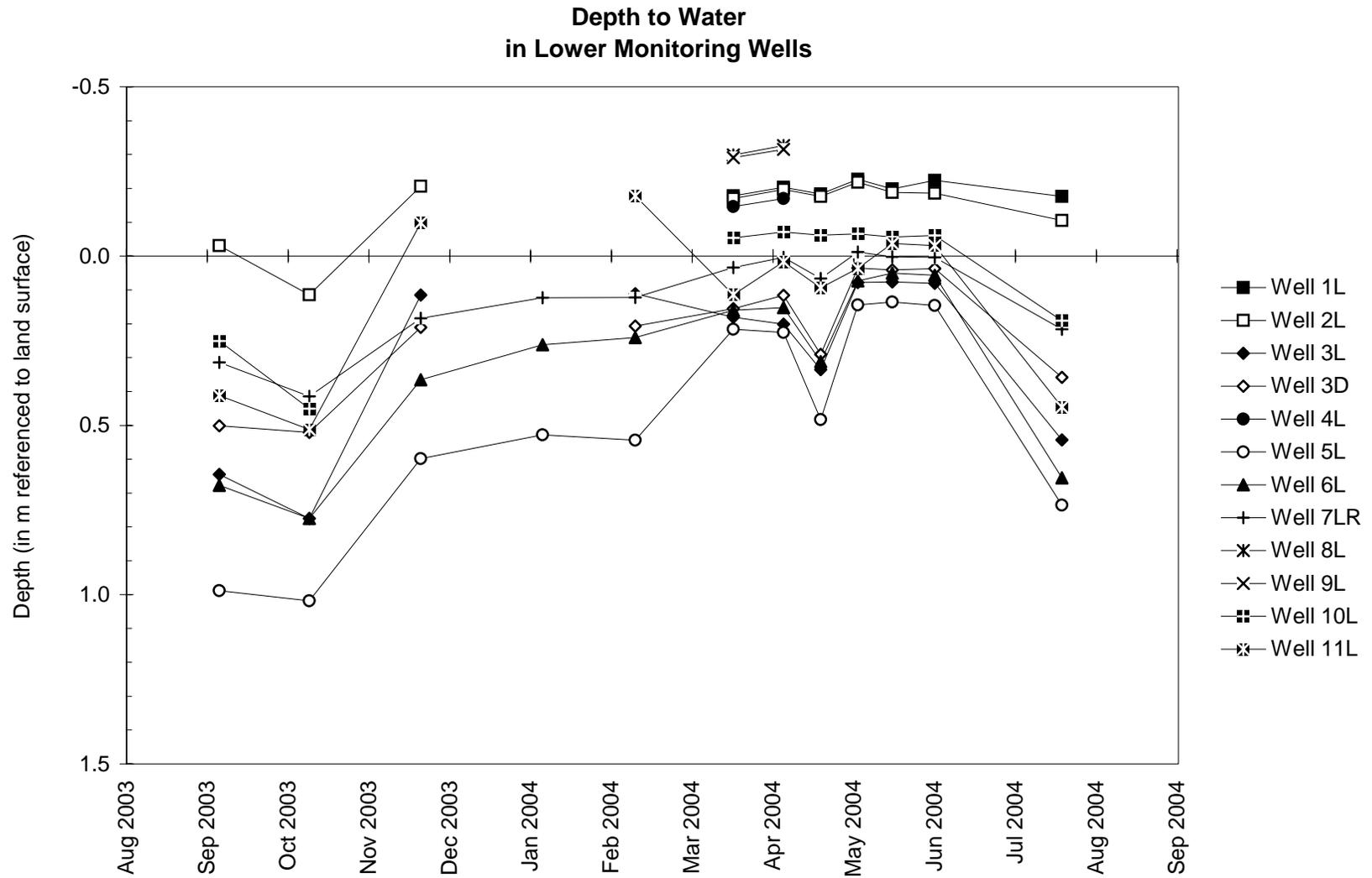
**Former Eckmann and Bischoff Properties Potential Wetland Compensation Site**  
**September 1, 2003 to September 1, 2004**

**Depth to Water  
in Upper Monitoring Wells**





**Former Eckmann and Bischoff Properties Potential Wetland Compensation Site  
September 1, 2003 to September 1, 2004**



## Former Eckmann and Bischoff Properties Potential Wetland Compensation Site September 2003 through August 2004

**Total Monthly Precipitation Recorded On Site and at the  
Belleville, IL SIU Research Center Weather Station**

