



**SUGAR CAMP CREEK
WETLAND COMPENSATION SITE**

ISGS #74

FAP 312

Sequence #9282

Franklin County, Northern Township, Illinois

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Secondary Project Manager: Geoffrey E. Pociask

SITE HISTORY

- December 2004: ISGS submitted an Initial Site Evaluation Report to IDOT.
- March–April 2005: IDOT issued a task order for a Level II hydrogeologic characterization of the site, and ISGS data collection was initiated with installation of wells, stage gauges, and data loggers.
- May 2005: IDOT constructed an earthen dam, approximately 30 m (100 ft) southeast of RDS 2, in the north/south ditch within Area A.
- July 2005: IDOT issued a separate task order for hydrologic monitoring of a 7.9-ha (19.5-ac) wetland mitigation area in the southeast portion of the site, called Area A in this report. Area A is considered to be in post-construction monitoring.

WETLAND HYDROLOGY CALCULATION FOR 2005

We estimate that 4.4 ha (10.9 ac) of the total site area of 50.6 ha (125 ac), including Area A, satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the growing season in 2005, whereas 1.3 ha (3.1 ac) satisfied wetland hydrology criteria for greater than 12.5% of the growing season. Within Area A, 1.1 ha (2.8 ac) satisfied wetland hydrology criteria for greater than 5% of the growing season, of which 0.9 ha (2.2 ac) satisfied wetland hydrology criteria for greater than 12.5% of the growing season. This estimate is based on the following factors:

- According to the Midwestern Climate Center, the median date that the growing season begins in nearby Du Quoin, Illinois, is April 5 and the season lasts 207 days; 5% of the growing season is 10 days, and 12.5% of the growing season is 26 days.
- Precipitation was 87% of normal for the monitoring period. January to March precipitation ranged from above normal to normal, but the early growing season was dry due to unusually low precipitation from April through June, when it was 47% of normal. Precipitation during late August to mid September produced more extensive wetland hydrology within Area A, but not elsewhere on the site.
- Wells 2S, 4S, 8S, 9S, 12S, 14S, and 19S satisfied wetland hydrology criteria for greater than 5% of the growing season. Wells 4S, 12S, 14S, and 19S satisfied wetland hydrology criteria for greater than 12.5% of the growing season.
- In Sugar Camp Creek, logger data from Gauge A showed a maximum stage of 123.6 m (405.7 ft), which was not sufficient to inundate any portion of the site.

- In the northern part of Area A, RDS 2 recorded surface-water levels at or above 123.28 m elevation (404.46 ft) for greater than 5% of the growing season, and at or above 123.23 m (404.30 ft) elevation for greater than 12.5% of the growing season.
- Active drainage ditches in the southeastern and western parts of the site promoted drainage of those areas, likely restricting the extent of wetland hydrology in the vicinity of the ditches, including Area A. An exception is in the northwestern part of Area A, where surface water was retained in low areas north of the earthen dam after construction in May 2005.
- Areas satisfying wetland hydrology criteria were calculated using GIS methods, and wetland hydrology polygons were drawn on an IDOT topographic map (0.1-m contour interval). Instrument locations were determined using GPS.

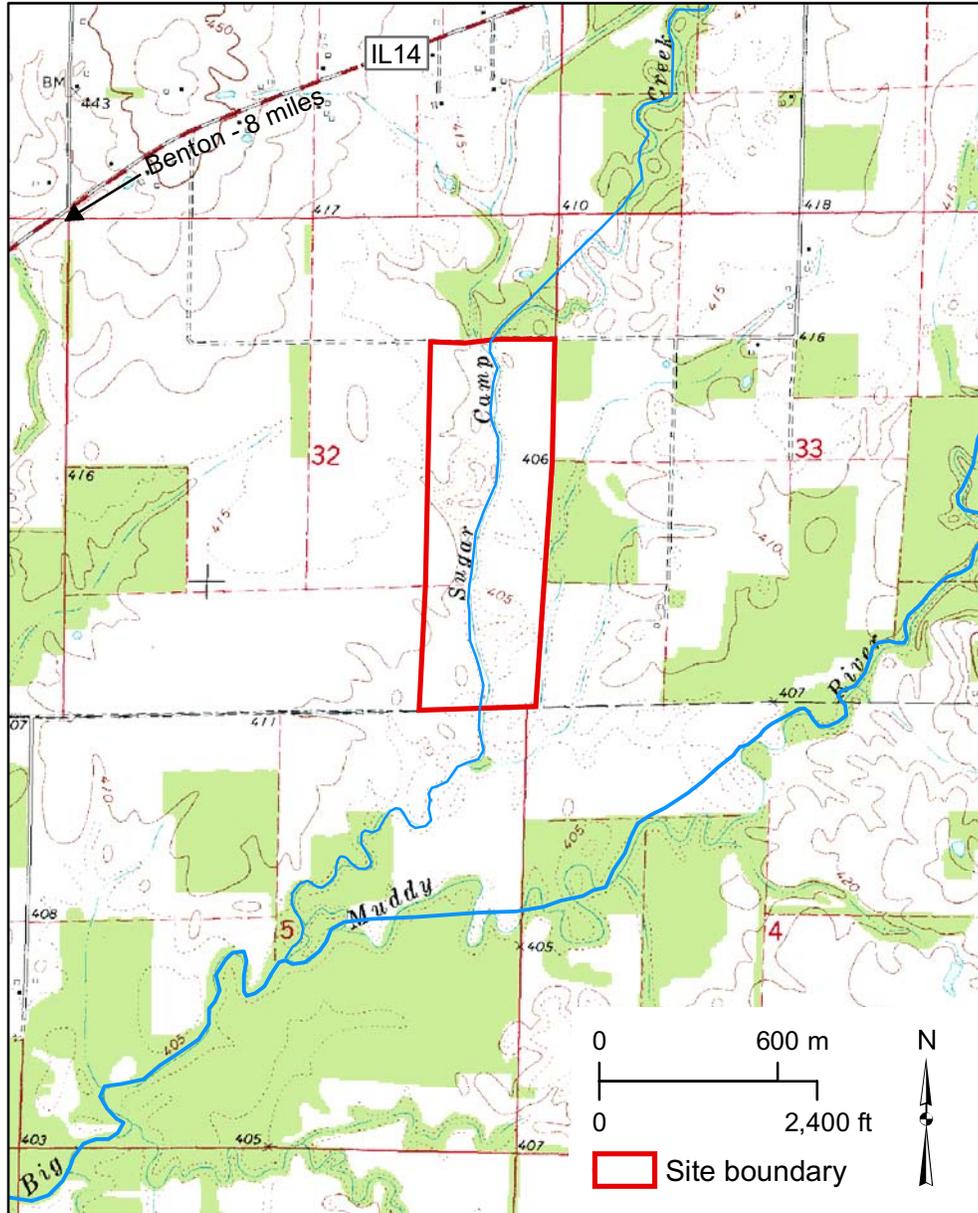
PLANNED FUTURE ACTIVITIES

- Additional monitoring instruments will be deployed within Area A, and at other locations on the site.
- A Level II hydrogeologic characterization report is in preparation.

Sugar Camp Creek Wetland Compensation Site (FAP 312)

General Study Area and Vicinity

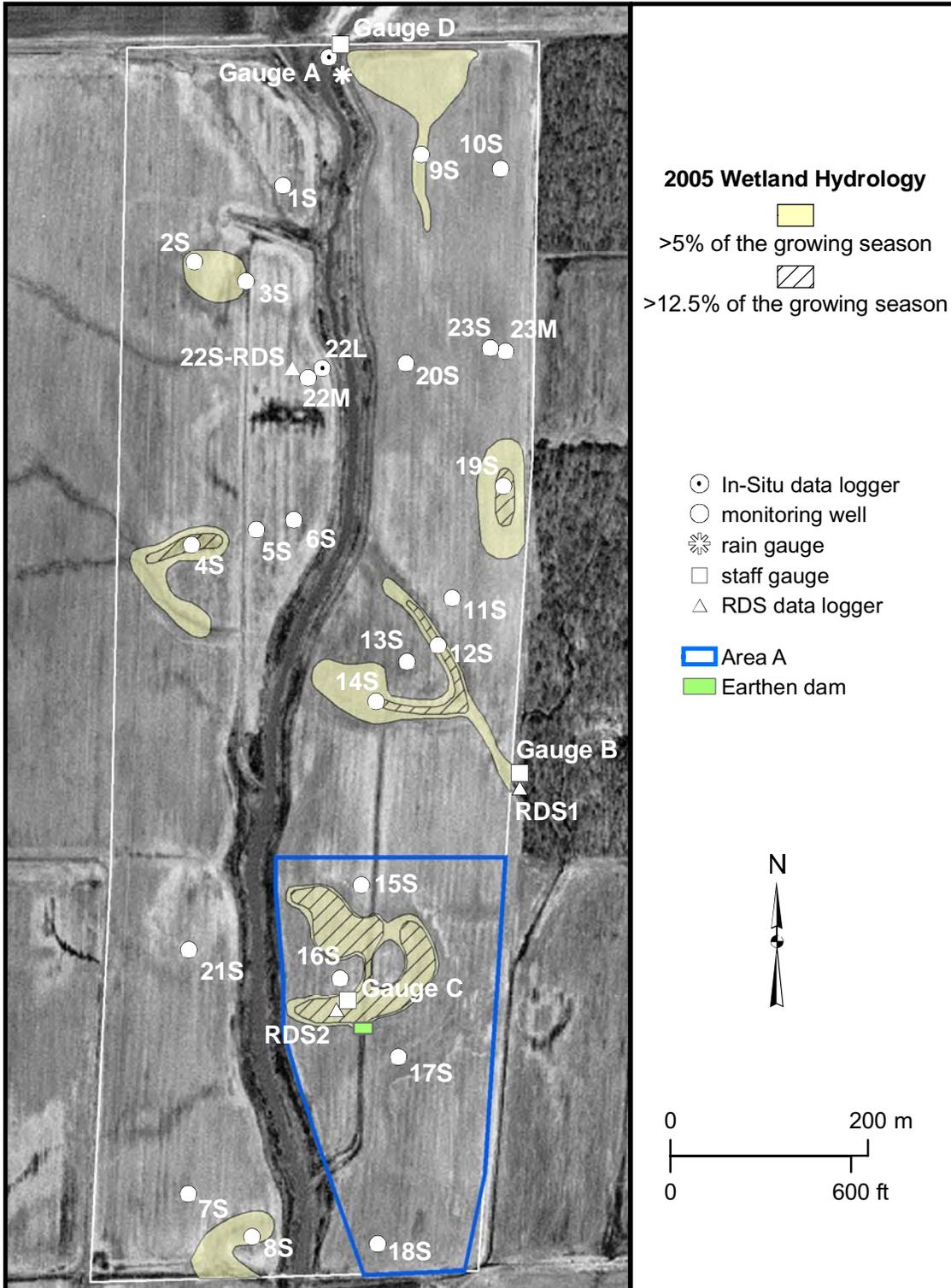
from the USGS Topographic Series, Ewing, IL 7.5-minute Quadrangle (USGS 1974)
contour interval is 10 feet



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Estimated Areal Extent of 2005 Wetland Hydrology
based on data collected between March 30, 2005 and September 20, 2005

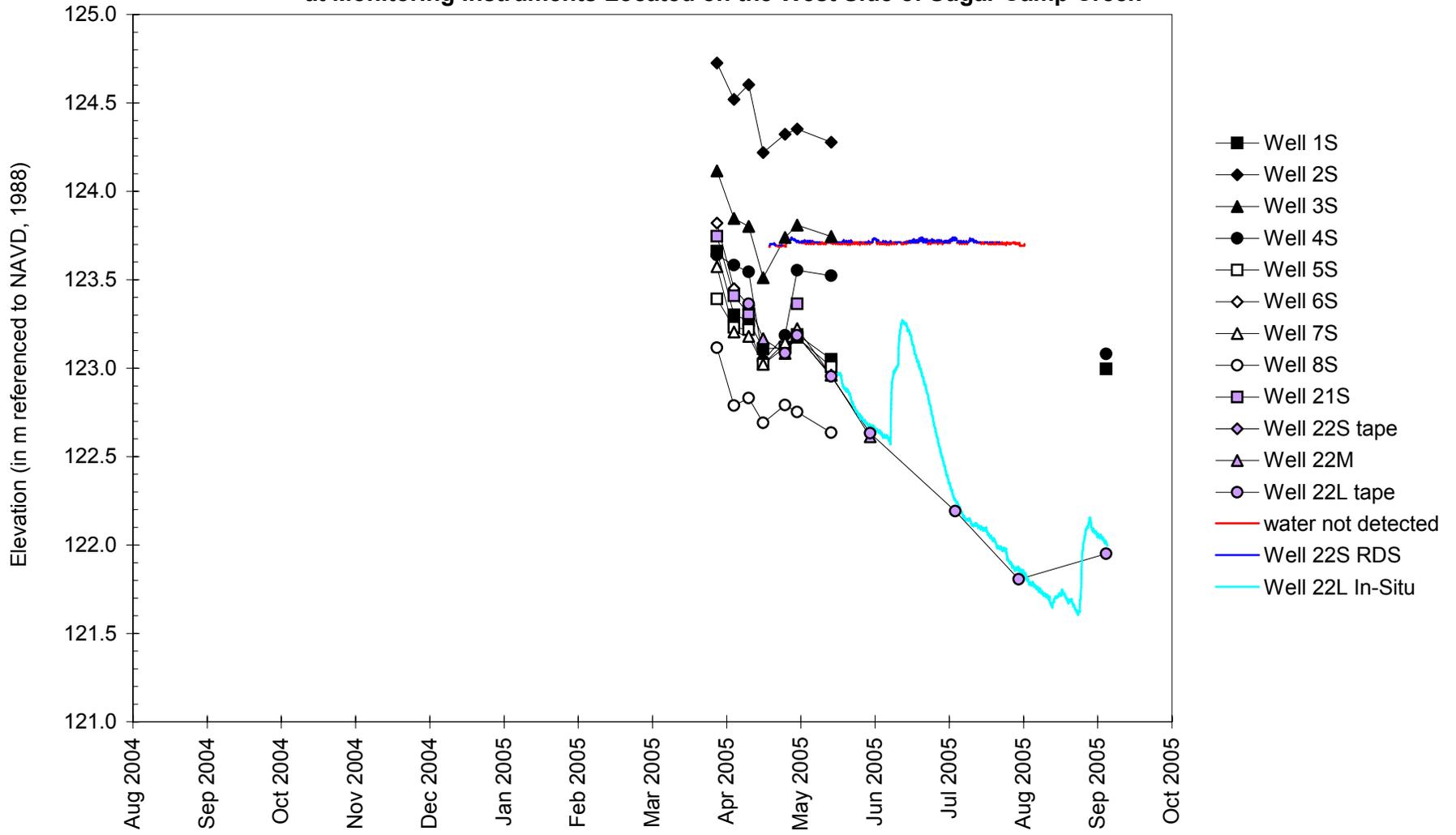
Map based on USGS digital orthophotograph, Ewing SE quarter quadrangle,
aerial photography from April 1988 (ISGS 2000)



Sugar Camp Creek Wetland Compensation Site

September 1, 2004 to September 6, 2005

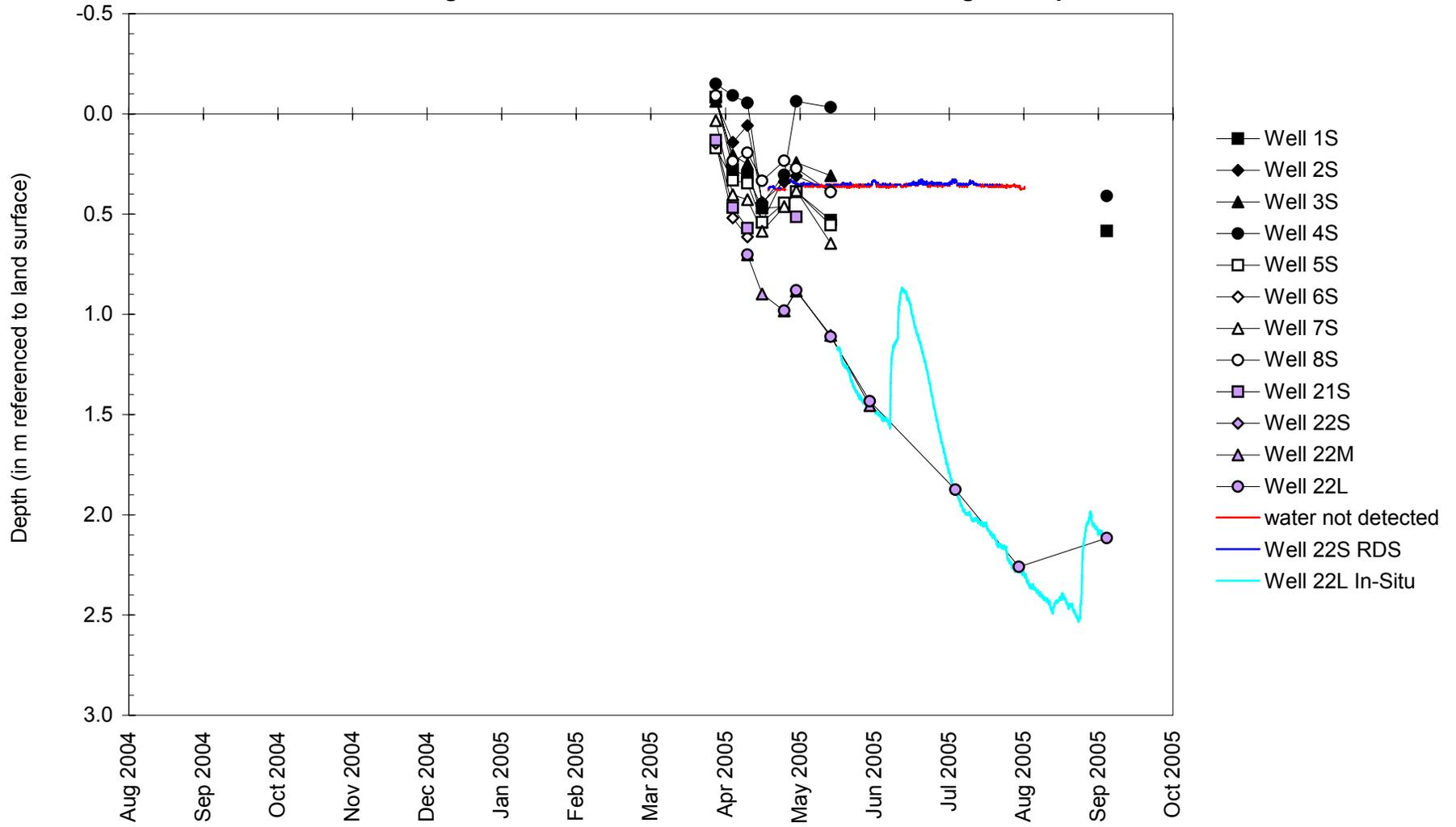
Water-Level Elevations at Monitoring Instruments Located on the West Side of Sugar Camp Creek



Sugar Camp Creek Wetland Compensation Site

September 1, 2004 to September 6, 2005

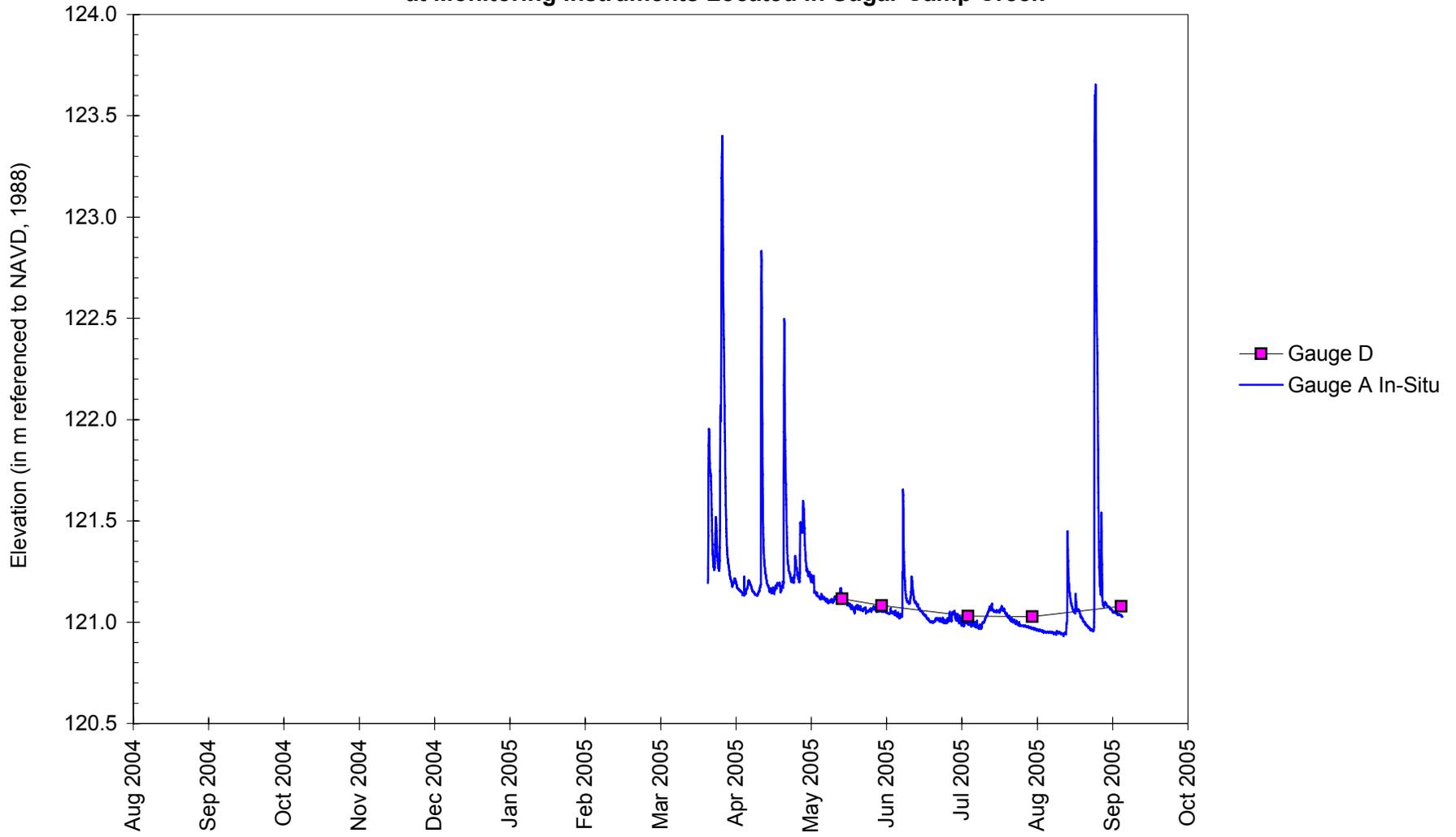
Depth to Water
at Monitoring Instruments Located on the West Side of Sugar Camp Creek



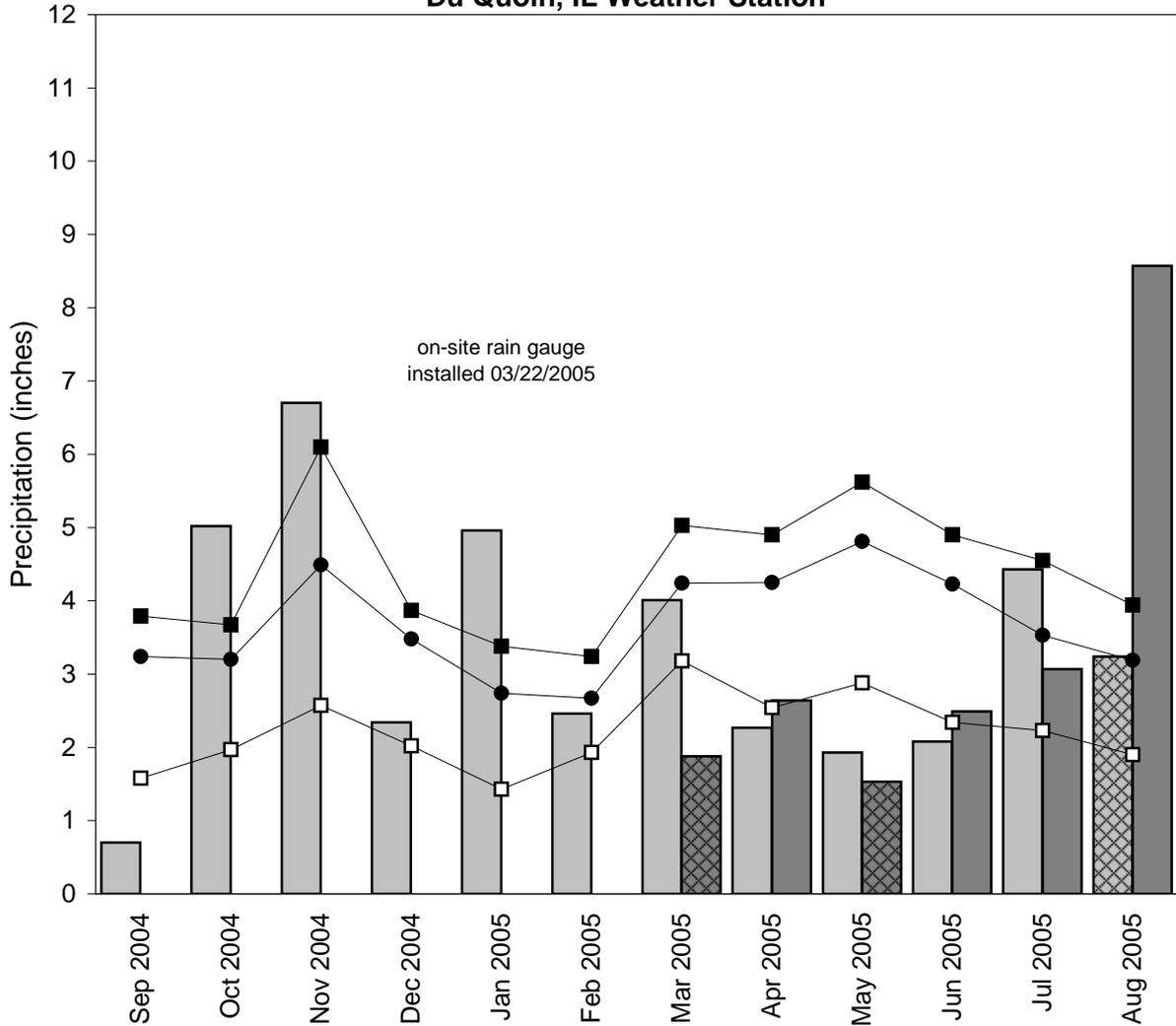
Sugar Camp Creek Wetland Compensation Site

September 1, 2004 to September 6, 2005

Water-Level Elevations at Monitoring Instruments Located in Sugar Camp Creek



**Sugar Camp Creek
Wetland Compensation Site
September 2004 through August 2005
Total Monthly Precipitation Recorded On Site and at the
Du Quoin, IL Weather Station**



- monthly precipitation recorded at weather station (Midwestern Regional Climate Center)
- monthly precipitation recorded on site by ISGS
- 1971-2000 monthly average precipitation (National Water and Climate Center)
- 1971-2000 monthly 30% above average threshold (National Water and Climate Center)
- 1971-2000 monthly 30% below average threshold (National Water and Climate Center)
- ▨ data incomplete