ANNUAL REPORT FOR ACTIVE IDOT WETLAND COMPENSATION AND HYDROLOGIC MONITORING SITES

September 1, 2006 to September 1, 2007

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Open File Series 2007–05

INTRODUCTION

This report was prepared by the Illinois State Geological Survey (ISGS) to provide the Illinois Department of Transportation (IDOT) with hydrogeologic data collected from wetland compensation sites and potential wetland compensation sites being monitored under contracts IDOT SW PESA WIP B FY07 and IDOT 2007-04065 ANTIC. Where appropriate, this report also includes a determination of areas meeting wetland hydrology criteria listed in the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual (Environmental Laboratory 1987) and its online updates (http://el.erdc.usace.army.mil/wetlands/pdfs/wlman87.pdf). Additional activities performed under this contract, such as water-quality monitoring, are not included in this report. Other site observations are included where appropriate.

Summaries of 21 sites are included in this report. Most summaries contain a location map, a site map showing field instruments and the extent of area satisfying wetland hydrology criteria, hydrographs for selected monitoring wells, and local precipitation data for the period. Site locations are shown on Figure 1, and a list of site names is presented in Table 1. All data included in this report are from September 1, 2006 to September 1, 2007 at IDOT's request, except where noted.

METHODS

The primary purpose of this report is to determine the area within each wetland compensation site that satisfies the wetland hydrology criteria listed in the U.S. Army Corps of Engineers Wetland Delineation Manual (Environmental Laboratory 1987) and its online updates (http://el.erdc.usace.army.mil/wetlands/pdfs/wlman87.pdf). However, to be a wetland, an area must also satisfy soils and vegetation criteria that are assessed by the Illinois Natural History Survey (INHS). INHS will combine the hydrologic data presented in this report with vegetation and soils data they collect, determine the total wetland area of each compensation site, and report it under separate cover. The total wetland area determined by INHS may differ from the areas that satisfy the wetland hydrology criteria shown in this report.

An area must be inundated or saturated for no less than 5% of the growing season in order to satisfy wetland hydrology criteria. These areas will be determined to be jurisdictional wetlands if vegetation and soils criteria mentioned above are also met. Areas that are inundated or saturated for greater than 12.5% of the growing season satisfy wetland hydrology criteria in a conclusive manner, and strongly indicate wetland conditions regardless of soils and vegetation, which may be inconclusive or may not respond as rapidly as wetland hydrology after site construction activities. To assist in proper characterization of wetland compensation sites where soils or vegetation data may be inconclusive, this report shows areas that are inundated or saturated for greater than 5% of the growing season as well as areas that are inundated or saturated for greater than 12.5% of the growing season. Inundation occurs when surface water is present at depths no greater than 2 meters (m) (6.6 feet) (ft). Saturation occurs when the water table is no deeper than 30 centimeters (cm) (1 ft) below land surface.

The Midwestern Regional Climate Center (MRCC) provides data regarding the length and beginning date of the growing season (Midwestern Regional Climate Center 2007). The growing season is defined as the time period between the last occurrence of 28°F (-2.2°C) air temperatures in spring to the first occurrence of 28°F (-2.2°C) air temperatures in the fall. The median beginning date and length of growing season are calculated by the MRCC for individual climate observation stations throughout the state. Data from the nearest observation station with an adequate period of record are used for each site.

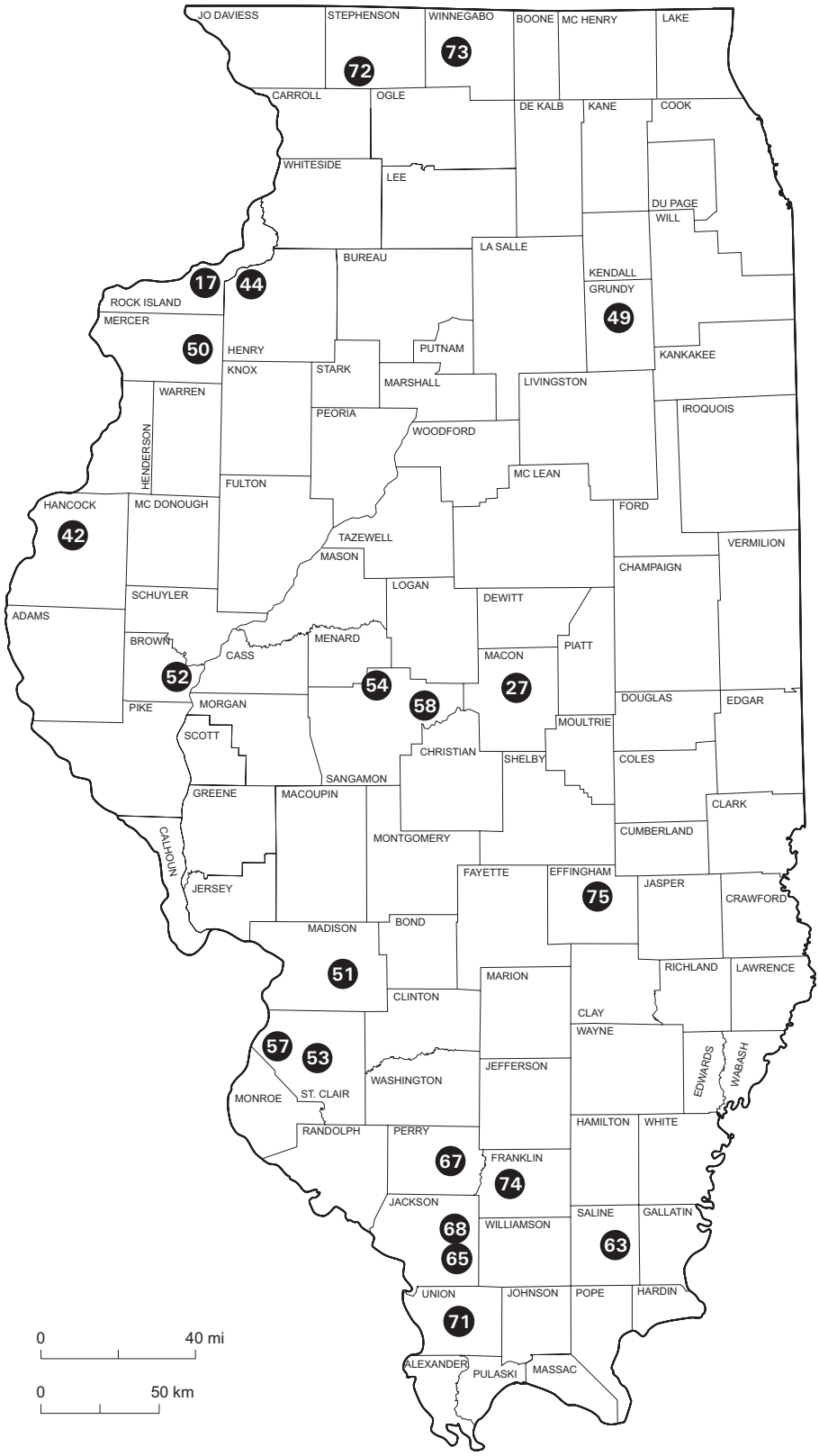


Figure 1 General locations of sites monitored by ISGS for IDOT between September 1, 2006 and September 1, 2007. Numbers indicate ISGS project numbers and are explained in Table 1.

Active IDOT Water-Level Monitoring Sites
September 1, 2006 to September 1, 2007

ISGS #	Site Name Route # FAP # Sequence #
17	Milan Beltway, Airport Road FAU 5822 Sequence #67
27	Decatur US 51 FAP 322
42	Hancock County near Carthage US 136 FAP 315 & 10
44	Milan Beltway, Green Rock FAU 5822 Sequence #67
49	Morris, Illinois River Wetland Bank Sequence #1306
50	Edwards River, Mercer County US 67 FAP 310
51	Former Luehmann Property New River Crossing FAP 999
52	Former Wessel Property, La Grange Wetland Bank Sequence #9579
53	Fairmont City New River Crossing FAP 999
54	Springfield IL 29 FAP 658
57	Former Tiernan Property New River Crossing FAP 999 Sequence #33G
58	Buckhart TR 478 FAS 1637
63	Harrisburg US 45 FAP 332
65	Carbondale US 51 FAP 322 Sequence #9780
67	Pyatts Blacktop IL 13 & 127 FAP 42 Sequence #409
68	De Soto US 51 FAP 322 Sequence #264
71	Tamms IL 127 FAS 1907 Sequence #1026
72	Freeport Bypass West Site 6W US 20 FAP 301 Sequence #10487
73	Pecatonica River Forest Preserve Harrison Avenue Extension Sequence #3746
74	Sugar Camp Creek IL 3 FAP 312 Sequence #9282
75	Green Creek IL 32/33 Sequence #12505

Table 1 ISGS project numbers and active water-level sites monitored by ISGS for IDOT between September 1, 2006 and September 1, 2007.

Wells and stage gauges where water levels satisfied wetland hydrology criteria are listed in the text for each site. Interpolation between measuring points and/or extrapolation are used to locate the boundary of the area that satisfies wetland hydrology criteria. Best professional judgment is used to refine the location of this boundary, using small-scale topographic features, vegetation, soils, and other site features. To measure the size of an area satisfying wetland hydrology criteria, the boundaries were plotted on the best available base map, then measured with a Tamaya Super Planix B digital planimeter and listed in hectares (ha) and acres (ac). Alternatively, geographic information systems (GIS) combined with computer contouring programs were used at some sites to map and calculate the area satisfying wetland hydrology criteria.

The error of each area measurement will vary significantly depending on the quality of the underlying base map, the precision in locating monitoring devices, and the precision of the planimeter or GIS at the scale of the base map. The base maps used for these determinations include as-built surveys (done both by IDOT and ISGS), construction plans, U.S. Geological Survey (USGS) 7.5-minute topographic maps, unrectified aerial photographs, and USGS digital orthophotograph quarter-quadrangle (DOQQ) maps (Illinois State Geological Survey 2007). Given the many potential sources of error, estimates of the amount of error are difficult to calculate and are not included. However, area measurements for each site may differ in the number of significant digits, reflecting the expected accuracy in the base map and the methods.

Water-level data were collected monthly throughout the year, and biweekly during April and May, when highest water levels generally are observed in Illinois. Biweekly readings continued into June on a site-by-site basis. Weekly readings were made at some sites to improve or check accuracy.

At sites located in different parts of Illinois, 5% of the growing season ranges from about 9 to 11 days, and 12.5% of the growing season ranges from about 23 days to 28 days. Therefore, two consecutive biweekly measurements are required to satisfy wetland hydrology criteria at 5% of the growing season, and three readings are required at 12.5% of the growing season. If fewer readings suggest wetland hydrology, then interpolation of the water levels is performed to determine total number of days of inundation or saturation. Interpolation between two dates is not performed if a water level is not recorded for both dates. Flooding that prevents measurement of any specific instrument is considered sufficient evidence of inundation for that site visit. Manual water-level measurements are often supplemented with various automated data loggers that measure daily or more frequently. These data loggers are used to determine the timing of hydrologic events such as precipitation or flooding that occur between manual measurements. One manual measurement alone is generally considered insufficient to indicate inundation or saturation for a sufficient duration without the identification of a precipitation or flooding event that would have initiated the inundation or saturation. If conflicts occur between automatic and manually recorded data, best professional judgment is used to solve any conflicts in data, and a specific note may be added to the site summary in question.

Monitoring wells are given an alphanumeric designation based in part on their relative depths. Monitoring wells designated with an “S” or “VS” are shallow and are specifically constructed for measuring wetland hydrology in the soil zone. Monitoring wells designated with a “U” (upper) have varying depths but are deeper than “S” wells, and may be used to determine wetland hydrology depending on the depth of the well screen, as determined by the project manager. Other types of wells, including “M”, “L”, and “D”, are deeper wells used to collect other hydrogeologic data and cannot be used to determine wetland hydrology. They are included only to document ISGS activities at the site and are discussed in other ISGS contract reports to IDOT.

Graphs for each site show water-level elevations at wells and surface-water instruments, and depth-to-water below land surface at each well. Depths are shown as negative values when water levels are above land surface. Elevations at most sites are shown relative to the National Geodetic Vertical Datum (NGVD) of 1929; any variations from this are labeled. The water levels recorded during the year are shown in the charts accompanying each site summary. For small sites, all measurements are shown on the same chart. For sites with more instruments, similar types of instruments are grouped on individual charts, for example all "S" wells may be on a single chart. For the largest sites, there may be several charts for a single type of instrument. If no data are shown on the charts for any specific well, then the well was either dry or not read, or the data were removed for quality-control purposes. Charts lacking any well data were not included in this report.

Multiple data loggers were used to monitor water levels continuously at many sites. Several types of instruments are being used, each made by a different manufacturer. Each type of instrument has different operations and default values. We have removed or labeled any incorrect readings that result when the instrument is dry (e.g. "0" or other default values identified during installation). Other spurious readings that occurred due to data-logger malfunction or natural conditions that cause inaccuracies (e.g. vegetation growth or debris accumulation beneath the logger) were removed after interpretation by ISGS scientists.

On-site precipitation data were collected by ISGS using several types of tipping-bucket rain gauges. Due to inherent difficulties in maintaining rain gauges (e.g., clogging, equipment malfunction, timing of deployments), actual precipitation for each month may be greater than the recorded value. Because all ISGS gauges are nonheated and must be removed in the winter, monthly precipitation data are also shown from climate observation stations maintained year-round by the MRCC (Midwestern Regional Climate Center 2007). The closest weather station with an adequate period of record is used at each site, and additional stations may be used to supplement the record if data from the closest station are missing. Normal (i.e. mean, average) precipitation values, and the above- and below-normal range threshold values are calculated by the National Water and Climate Center (NWCC) (National Water and Climate Center 2007) and are all based on a 30-year period, between either 1961 and 1990 or 1971 and 2000 based on a 2-parameter gamma distribution over the 30-year period (National Water and Climate Center 1995). Precipitation is classified as "above 30% threshold", or above the normal range, when there is a 30% chance precipitation will be greater than or equal to the value shown. Precipitation is "below 30% threshold", or below the normal range, when there is a 30% chance that precipitation will be less than or equal to the value shown. Precipitation is considered to be within the normal range when neither above nor below the 30% thresholds. Precipitation may be described relative to "normal" (meaning average or mean) or the "normal range" as defined above.

This document is intended to be a summary of all hydrologic data collected under this contract during the reporting period. Therefore, some details have been omitted that may be necessary to interpret the data for other uses. The primary project manager listed for each site should be contacted for additional information.

REFERENCES

Environmental Laboratory, 1987, Corps of Engineers Wetlands Delineation Manual: U.S. Army Corps of Engineers Technical Report Y-87-1, Washington, D.C., 100 p. Available online at http://el.erdc.usace.army.mil/wetlands/pdfs/wlman87.pdf.

Illinois State Geological Survey, 2007, Illinois Natural Resources Geospatial Data Clearinghouse, Illinois Digital Orthophoto Quarter Quadrangle Data: Illinois State Geological Survey, Champaign, Illinois, available online at http://www.isgs.uiuc.edu/nsdihome/webdocs/doqs/.

Midwestern Regional Climate Center, 2007, Midwestern Climate Information System: Illinois State Water Survey, Champaign, Illinois, available online at http://MRCC.sws.uiuc.edu/.

National Water and Climate Center, Natural Resources Conservation Service, 2007, Climate Analysis for Wetlands by County, available online at http://www.wcc.nrcs.usda.gov/climate/wetlands.html.

National Water and Climate Center, Natural Resources Conservation Service, 1995, WETS Table Documentation, available online at http://www.wcc.nrcs.usda.gov/climate/wets_doc.html.

MILAN BELTWAY, AIRPORT ROAD **ISGS #17**
WETLAND COMPENSATION SITE
FAU 5822
Sequence #67
Rock Island County, near Milan, Illinois
Primary Project Manager: Steven E. Benton
Secondary Project Manager: Keith W. Carr

SITE HISTORY

- Spring 1997: The sump pump on the east side of the site was turned off and later removed.

- August 1997: ISGS data collection was initiated with the installation of monitoring wells and staff gauges.

- August 2004: Construction of the Milan Bypass began. Wetland mitigation began with the excavation of the southern portion of the site. Tree planting began in Fall 2004 and was completed in Spring 2005.

- January 2005: A Level II hydrogeologic characterization report was submitted to IDOT (ISGS Open-File Series 2005–04).

- December 2005: The ISGS was tasked by IDOT to perform five-year performance monitoring.

WETLAND HYDROLOGY CALCULATION FOR 2007

The area of the site that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for more than 5% of the 2007 growing season was estimated to be 4.8 ha (11.8 ac) out of a total area of 8.9 ha (22.0 ac). The area that satisfied wetland hydrology criteria for more than 12.5% of the growing season was estimated to be 4.3 ha (10.7 ac). These estimates are based on the following factors:

- According to the MRCC, the median date that the growing season begins at the Quad City International Airport in nearby Moline, Illinois, is April 13 and the season lasts 196 days; 5% of the growing season is 10 days and 12.5% of the growing season is 25 days.

- Total precipitation during the monitoring period was 113% of normal. Precipitation was at or above normal in December 2006, and in March, June, July, and August 2007. Total precipitation in the spring (April, May, and June) was 81% of normal.

- In 2007, wetland hydrology occurred for more than 5% of the growing season at wells 1SR, 2SR, 5S, 6S, 7S, 8S, 17S, and 18S. Wetland hydrology also occurred for more than 12.5% of the growing season at wells 1SR, 2SR, 5S, 6S, 7S, and 17S.

- Surface-water gauges showed that inundation occurred at gauge H, gauge I, and RDS 4 during the growing season. At gauge H, gauge I, and RDS 4, inundation occurred at an elevation greater than 171.80 m (563.68 ft) for more than 5% of the growing season.

- Limitations of the wetland hydrology determination are as follows:
  - The area of wetland hydrology includes pre-existing wetland.

ADDITIONAL INFORMATION

- The area of the site that satisfied the wetland hydrology criteria at both 5% and 12.5% of the growing season was confined entirely to the northern portion of the site designated aquatic emergent wetland on the as-built plan.

- The excavated southern portion of the site, designated forested wetland on the as-built plan, did not satisfy wetland hydrology criteria at either 5% or 12.5% of the growing season. Ground-water levels recorded by the data logger in monitoring well 12S reveal that saturation occurred several times during the growing season, but the longest periods of saturation were only about 5 days, or 2.5% of the growing season.

- The absence of jurisdictional wetland hydrology in the forested wetland is due to insufficient excavation. Analysis of depth to ground-water data recorded by the logger in well 12S reveals that land surface would have to be lowered by at least 25 cm (10 in), and as much as 40 cm (16 in), in order to achieve jurisdictional wetland hydrology.

- The conceptual wetland design plan called for 15 cm (6 in) to 30 cm (12 in) of excavation. However, it appears, based on the change in ground-surface elevation at well 9S, that only about 7 cm (3 in) of soil was excavated at that location.

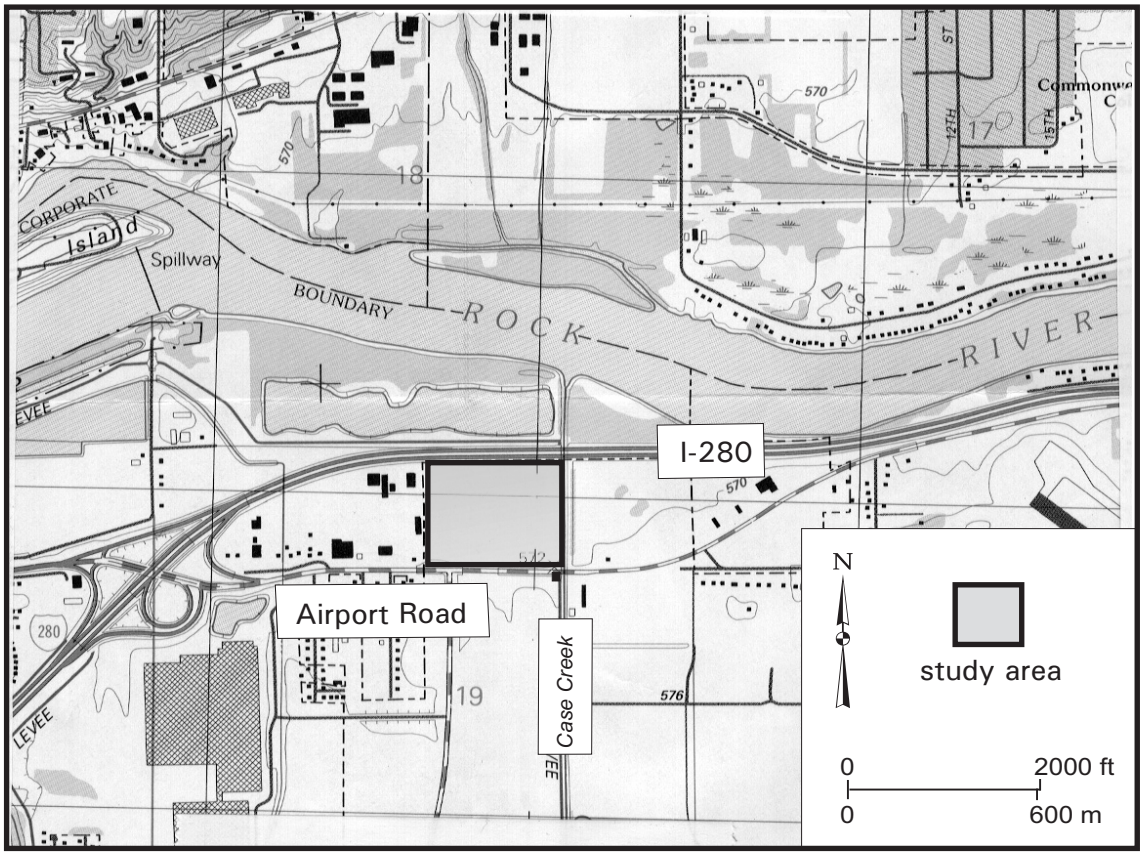
PLANNED FUTURE ACTIVITIES

- Monitoring of the site will continue until notified otherwise by IDOT.

Milan Beltway, Airport Road Wetland Compensation Site (FAU 5822)

General Study Area and Vicinity

from the USGS Topographic Series, Milan IL-IA 7.5-minute Quadrangle (USGS 1992)
contour interval is 10 feet

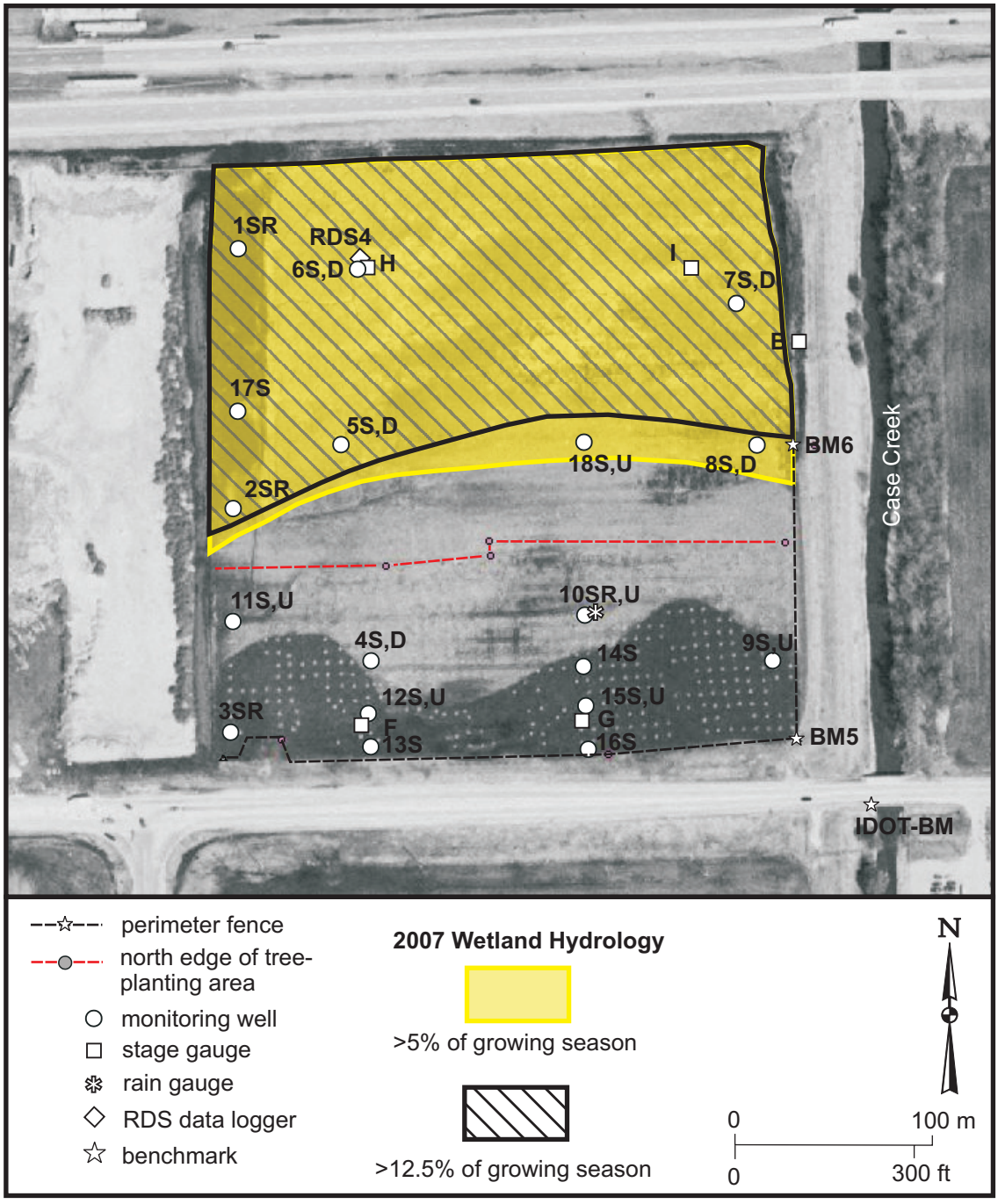


Milan Beltway, Airport Road Wetland Compensation Site (FAU 5822)

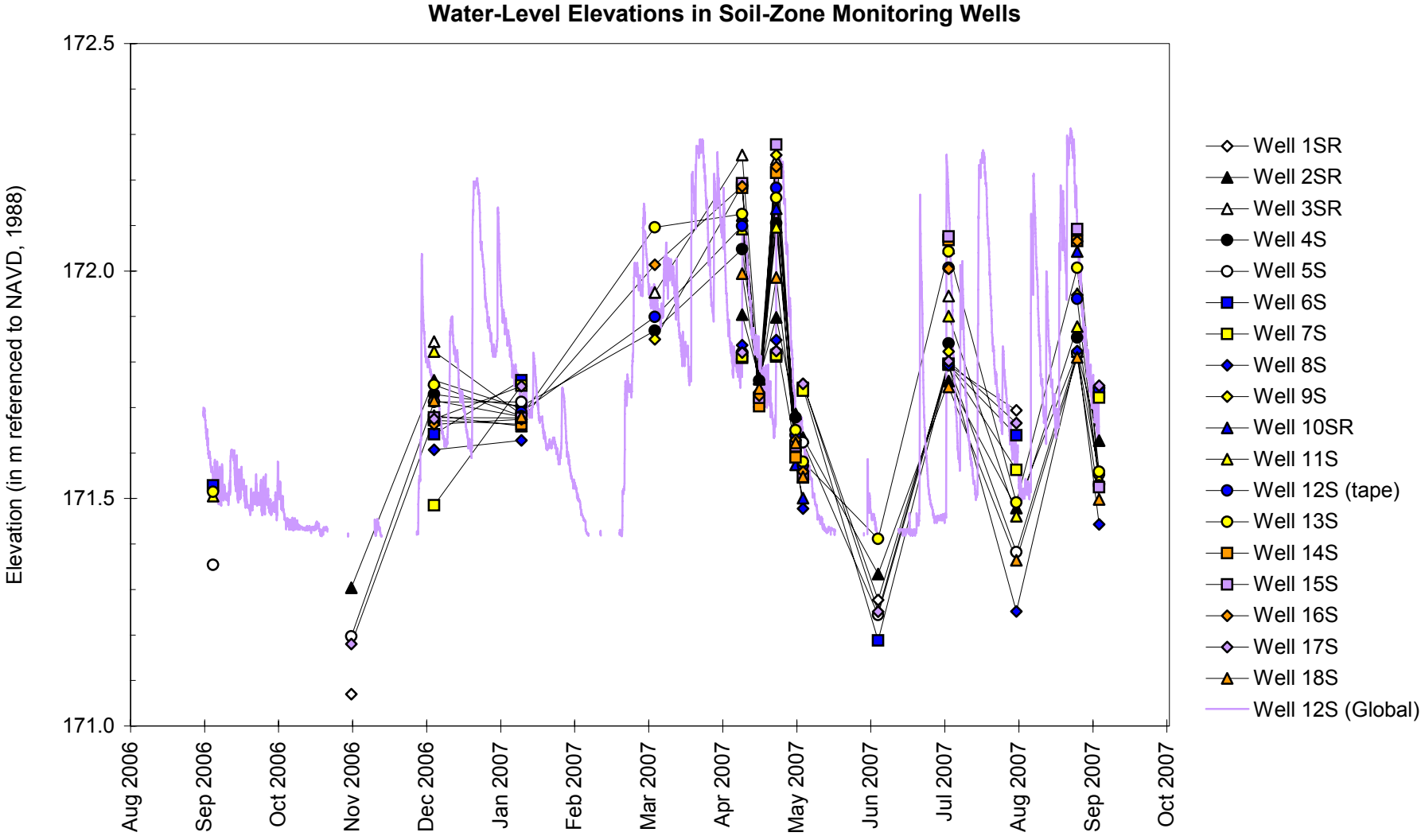
Estimated Areal Extent of 2007 Wetland Hydrology

based on data collected between September 1, 2006 and September 5, 2007

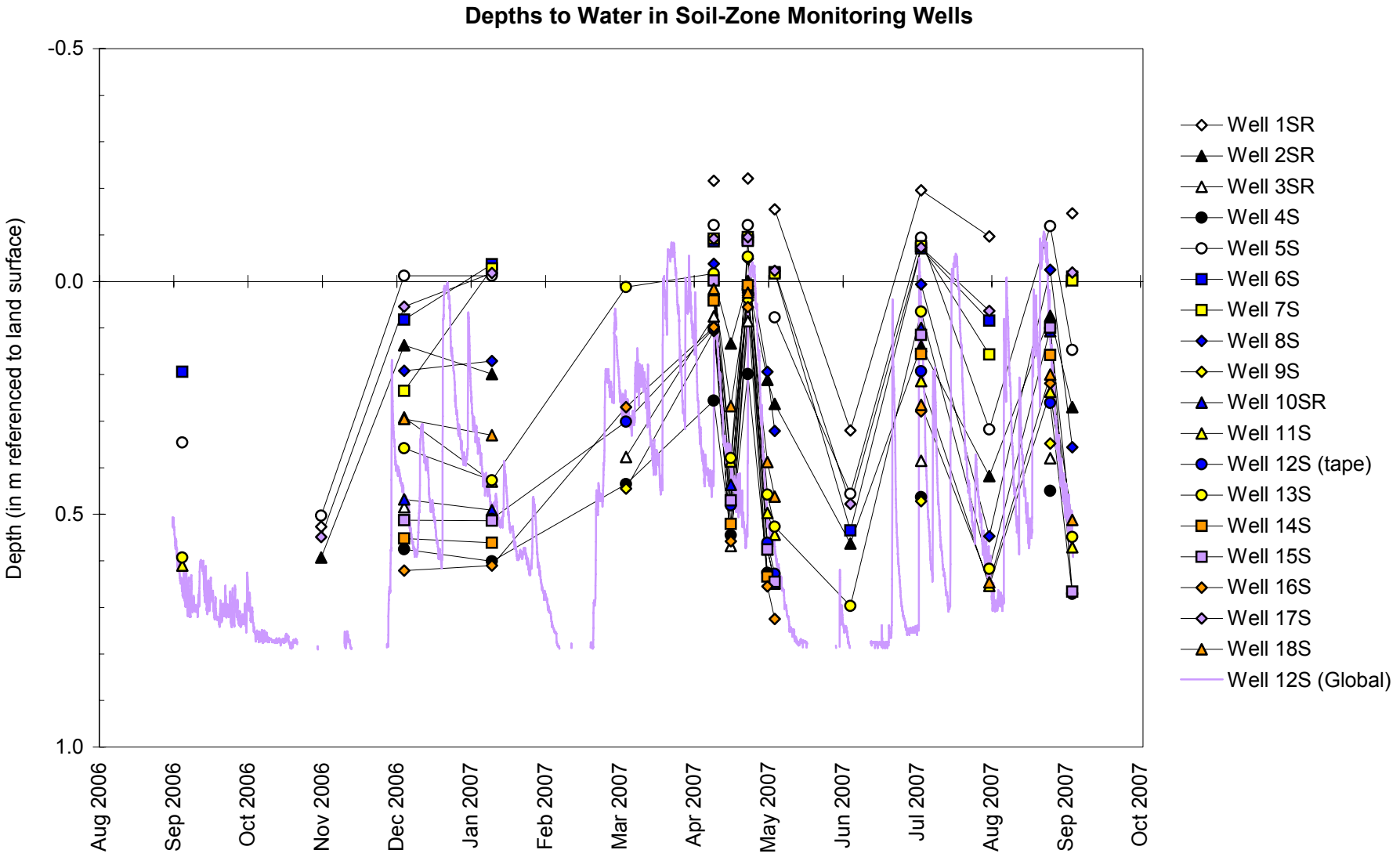
Map based on USGS digital orthophotograph, Milan SW quarter quadrangle
from 03/30/2000 aerial photography (ISGS 2005)



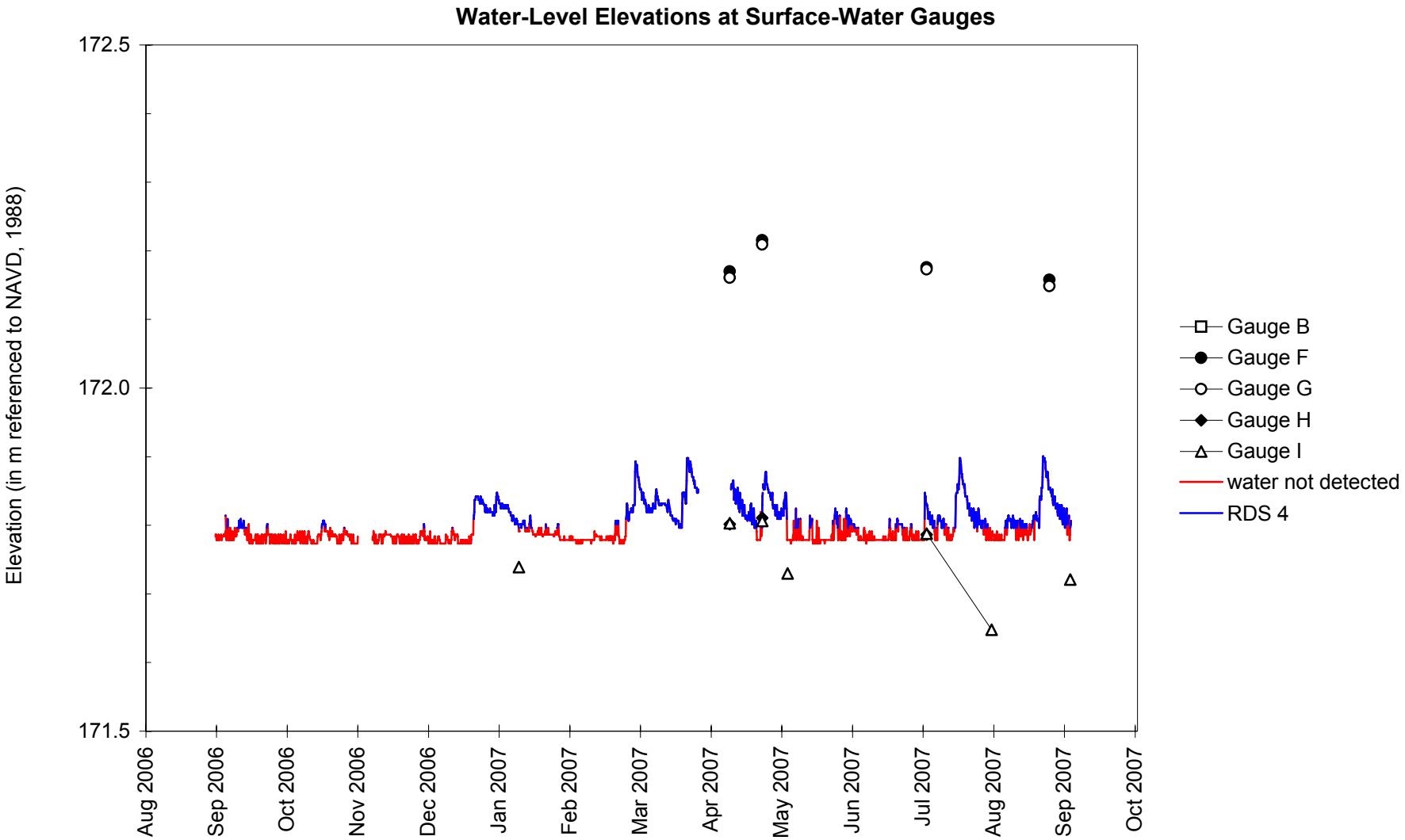
Milan Beltway, Airport Road Wetland Compensation Site
September 1, 2006 to September 5, 2007



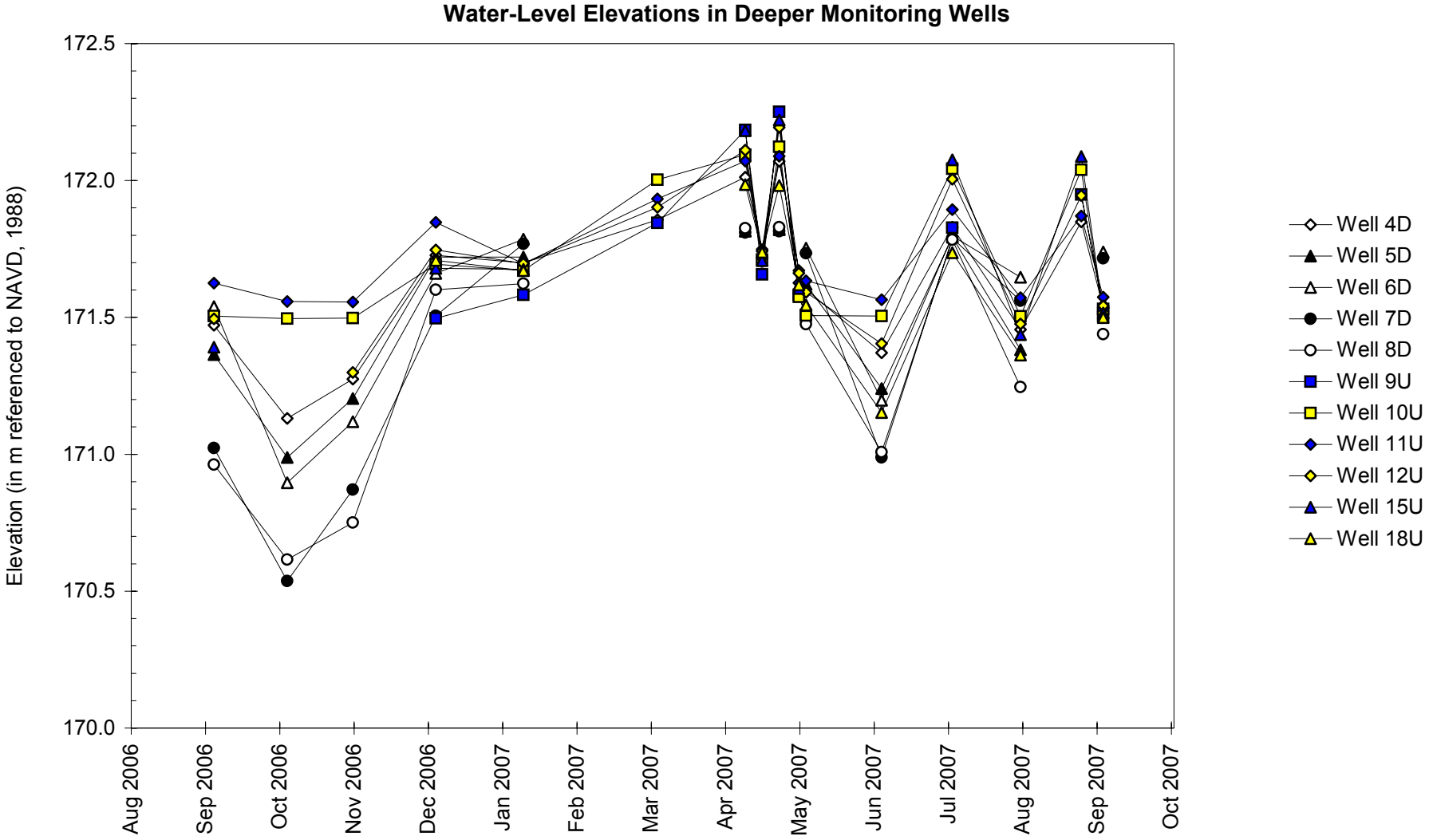
Milan Beltway, Airport Road Wetland Compensation Site
September 1, 2006 to September 5, 2007



Milan Beltway, Airport Road Wetland Compensation Site
September 1, 2006 to September 5, 2007

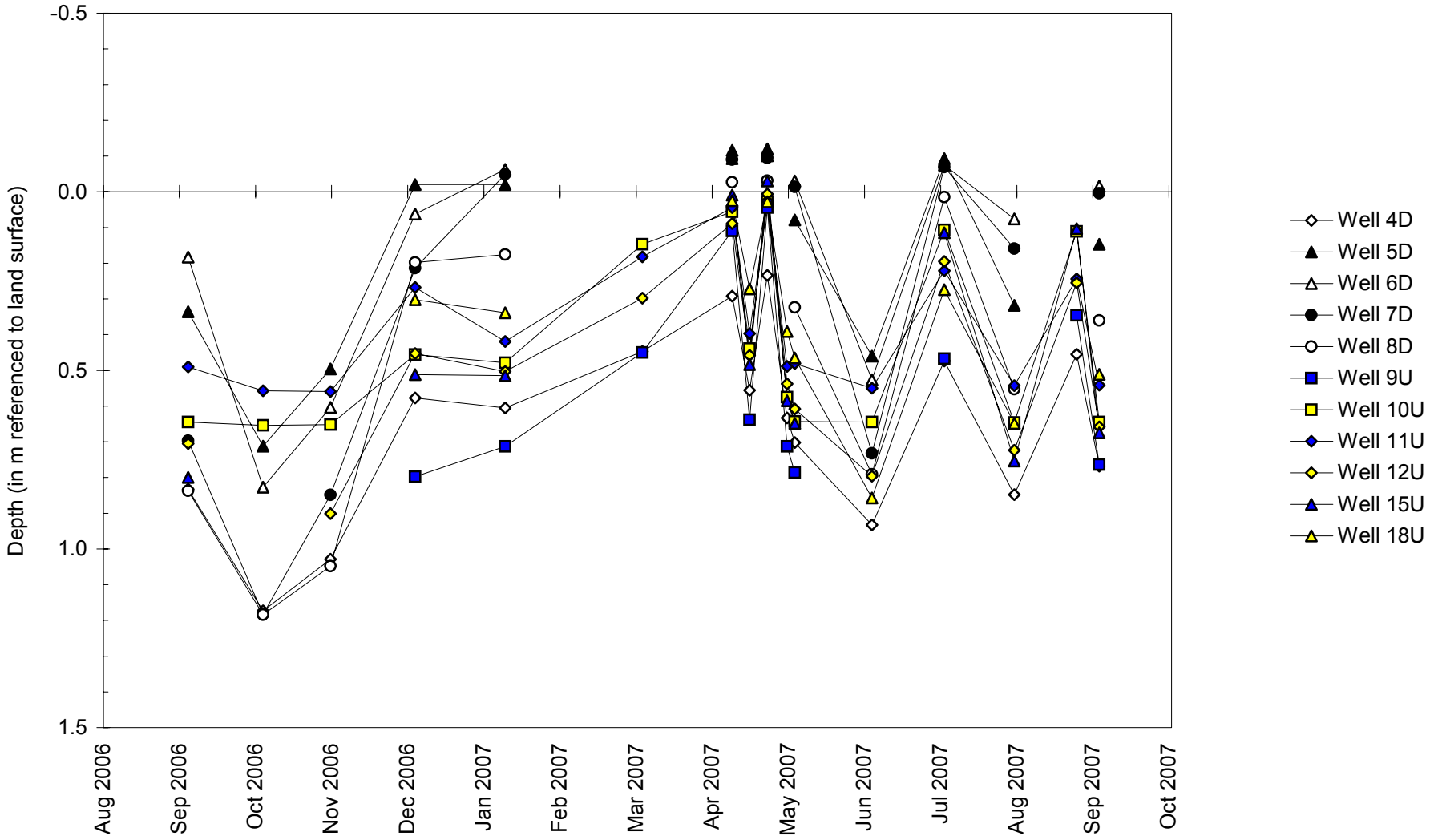


Milan Beltway, Airport Road Wetland Compensation Site
September 1, 2006 to September 5, 2007

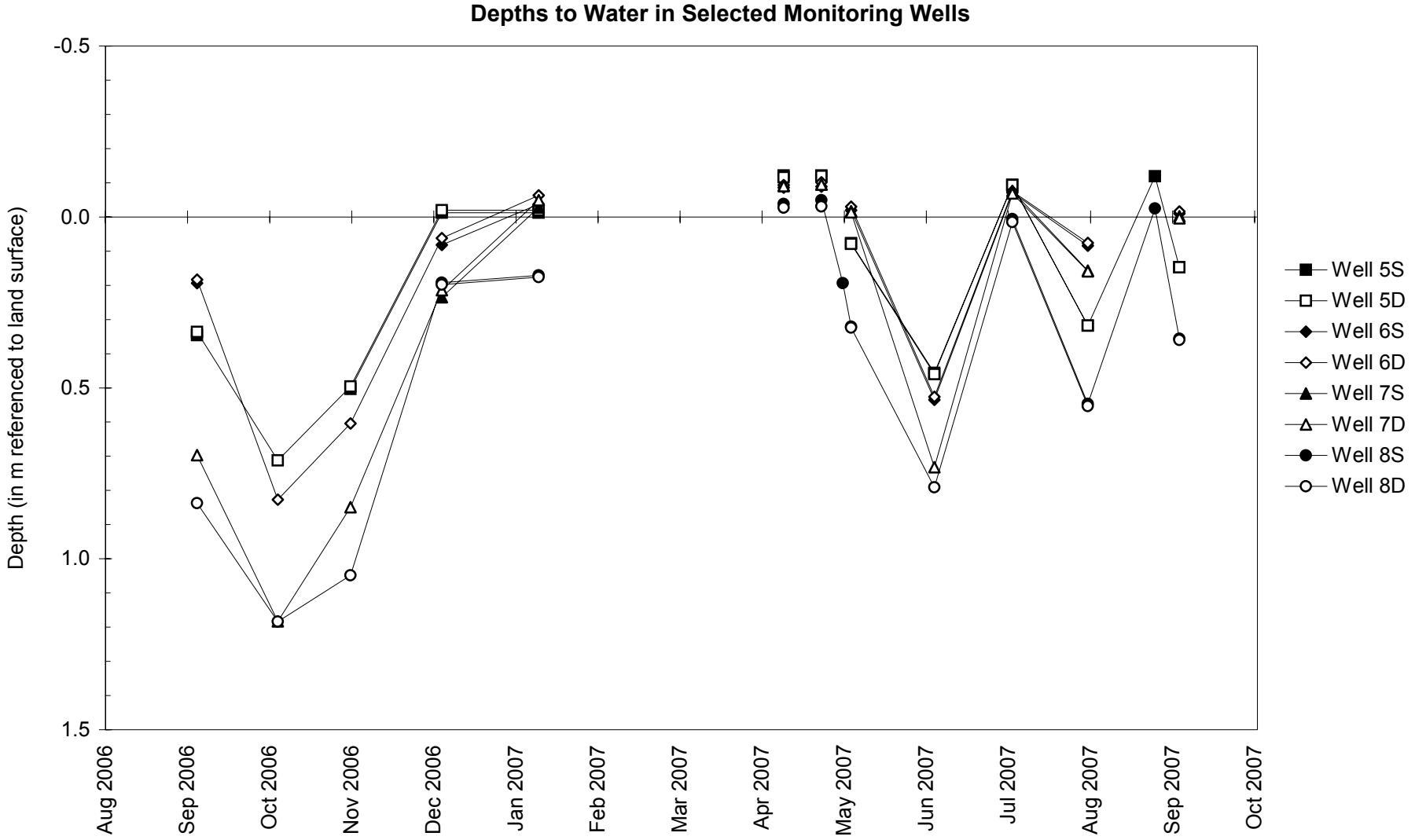


Milan Beltway, Airport Road Wetland Compensation Site
September 1, 2006 to September 5, 2007

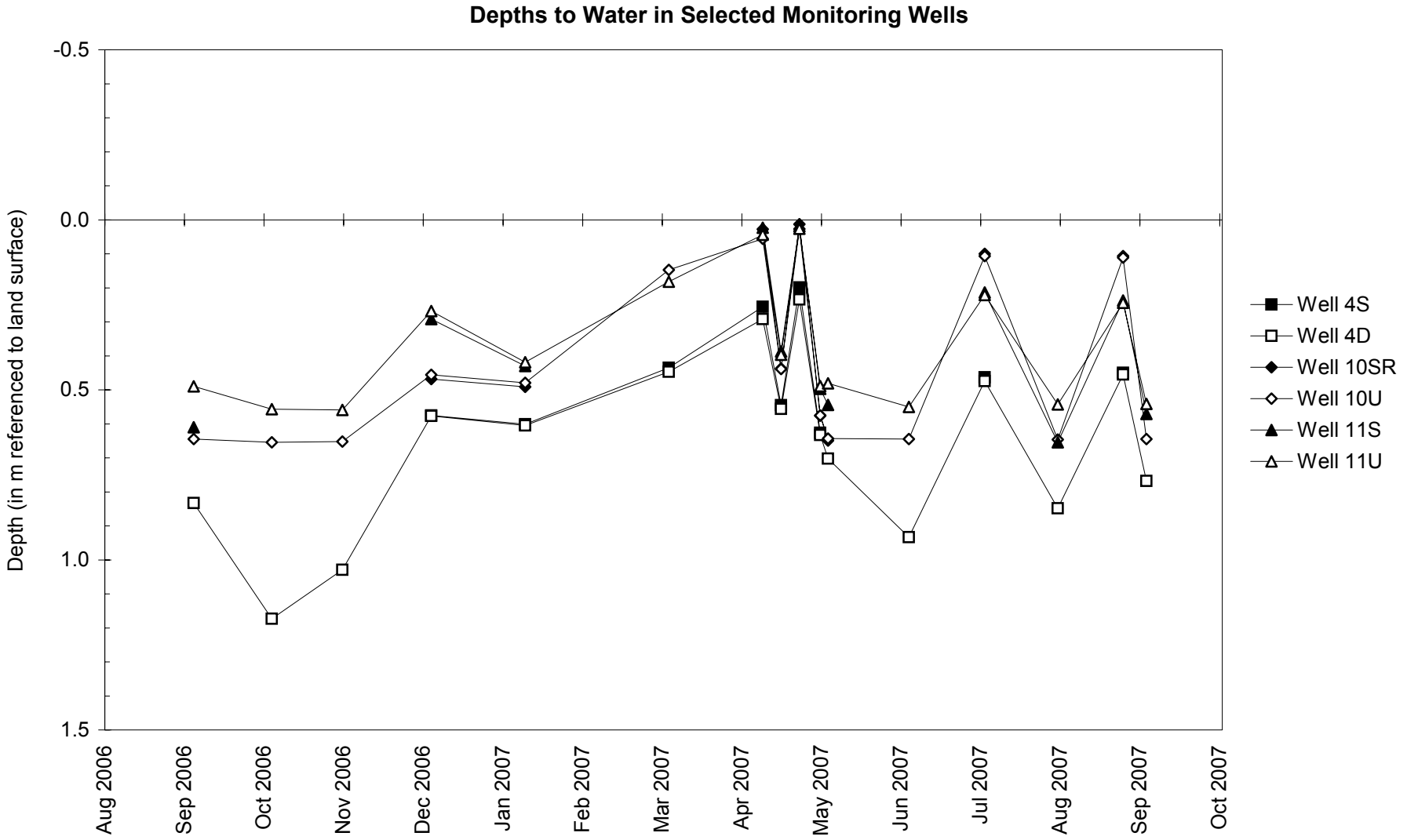
Depths to Water in Deeper Monitoring Wells



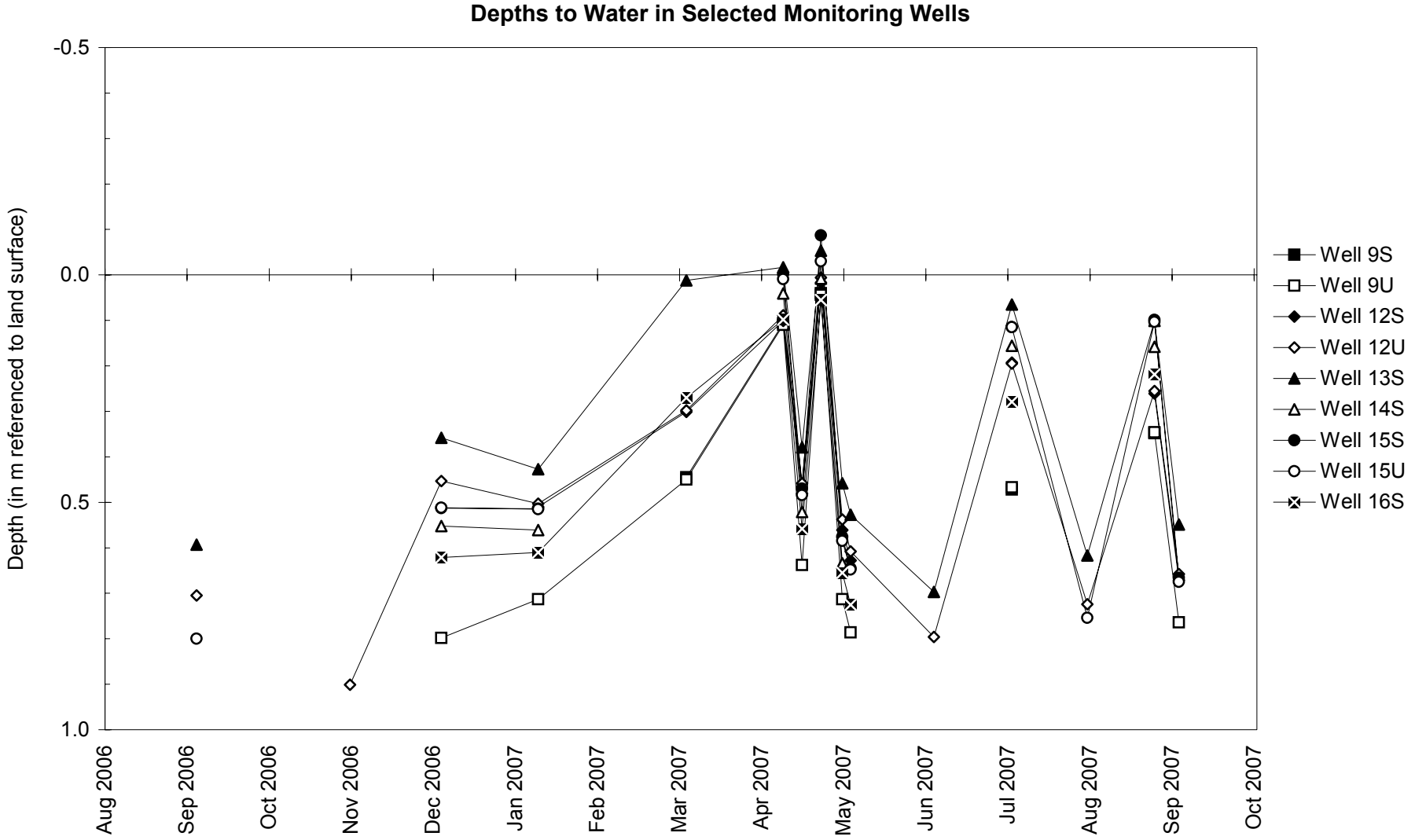
Milan Beltway, Airport Road Wetland Compensation Site
September 1, 2006 to September 5, 2007



Milan Beltway, Airport Road Wetland Compensation Site
September 1, 2006 to September 5, 2007

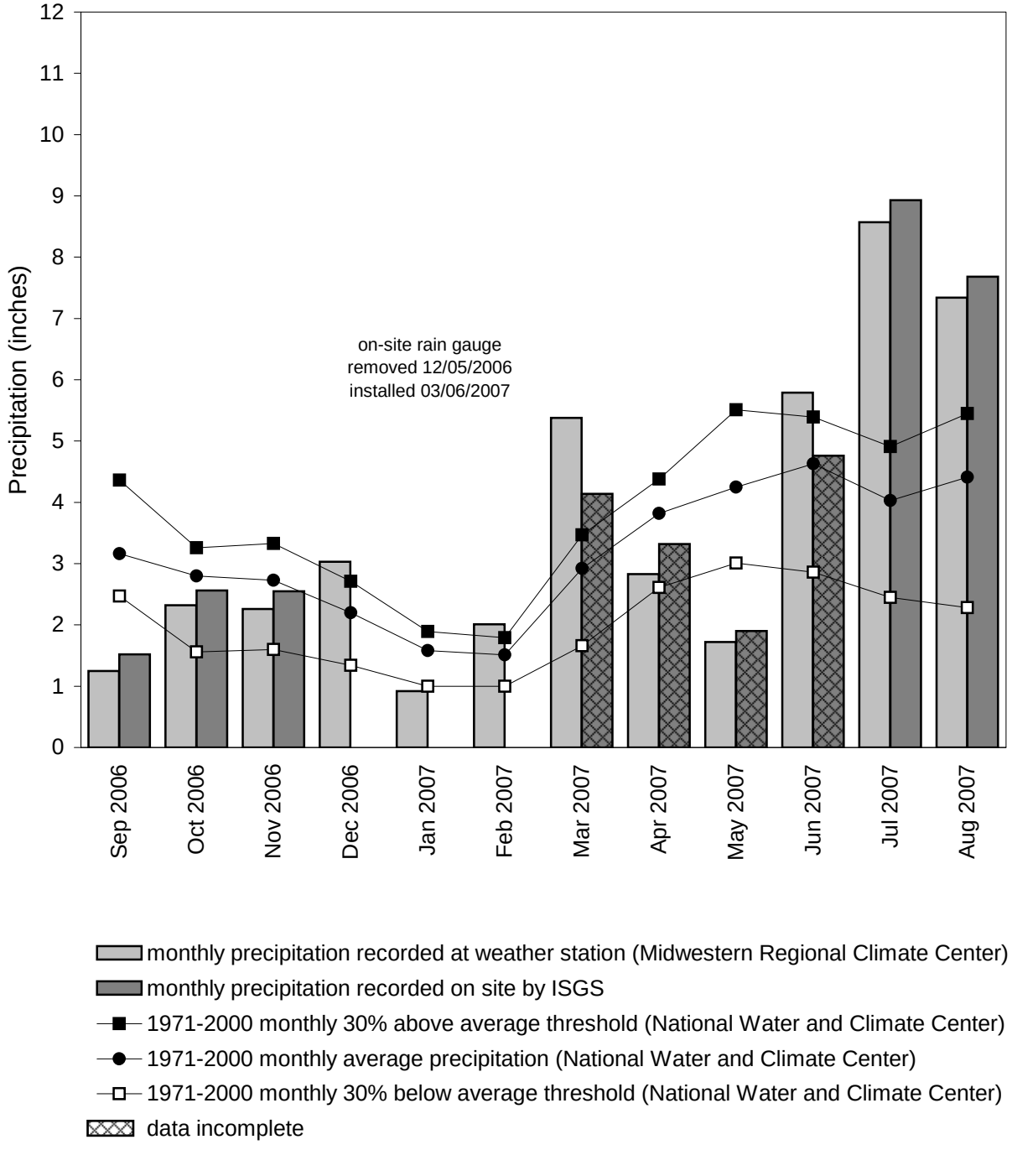


Milan Beltway, Airport Road Wetland Compensation Site
September 1, 2006 to September 5, 2007



Milan Beltway, Airport Road
Wetland Compensation Site
September 2006 through August 2007

Total Monthly Precipitation Recorded On Site and at the Quad City International Airport Weather Station, Moline, IL



Graph last updated October 9, 2007

DECATUR, U.S. ROUTE 51 **ISGS #27**
WETLAND COMPENSATION SITE
FAP 322
Macon County, near Elwin, Illinois
Primary Project Manager: Eric T. Plankell
Secondary Project Manager: Geoffrey E. Pociask

SITE HISTORY

- May 1999: ISGS was tasked to conduct hydrologic monitoring.
- March and May 2000: ISGS installed a surface-water data logger (RDS 1) and a rain gauge, then later completed several shallow soil borings to investigate the presence and condition of a shallow confined aquifer across the site.
- June 2001: Construction of the wetland was completed.
- December 2001: ISGS installed additional monitoring instruments at the site.
- February 2007: Monitoring was discontinued, per IDOT's request.
- April 2007: All data loggers were removed from the site.

WETLAND HYDROLOGY CALCULATION FOR 2007

No wetland hydrology calculation was completed for this site due to IDOT discontinuing the monitoring in February 2007.

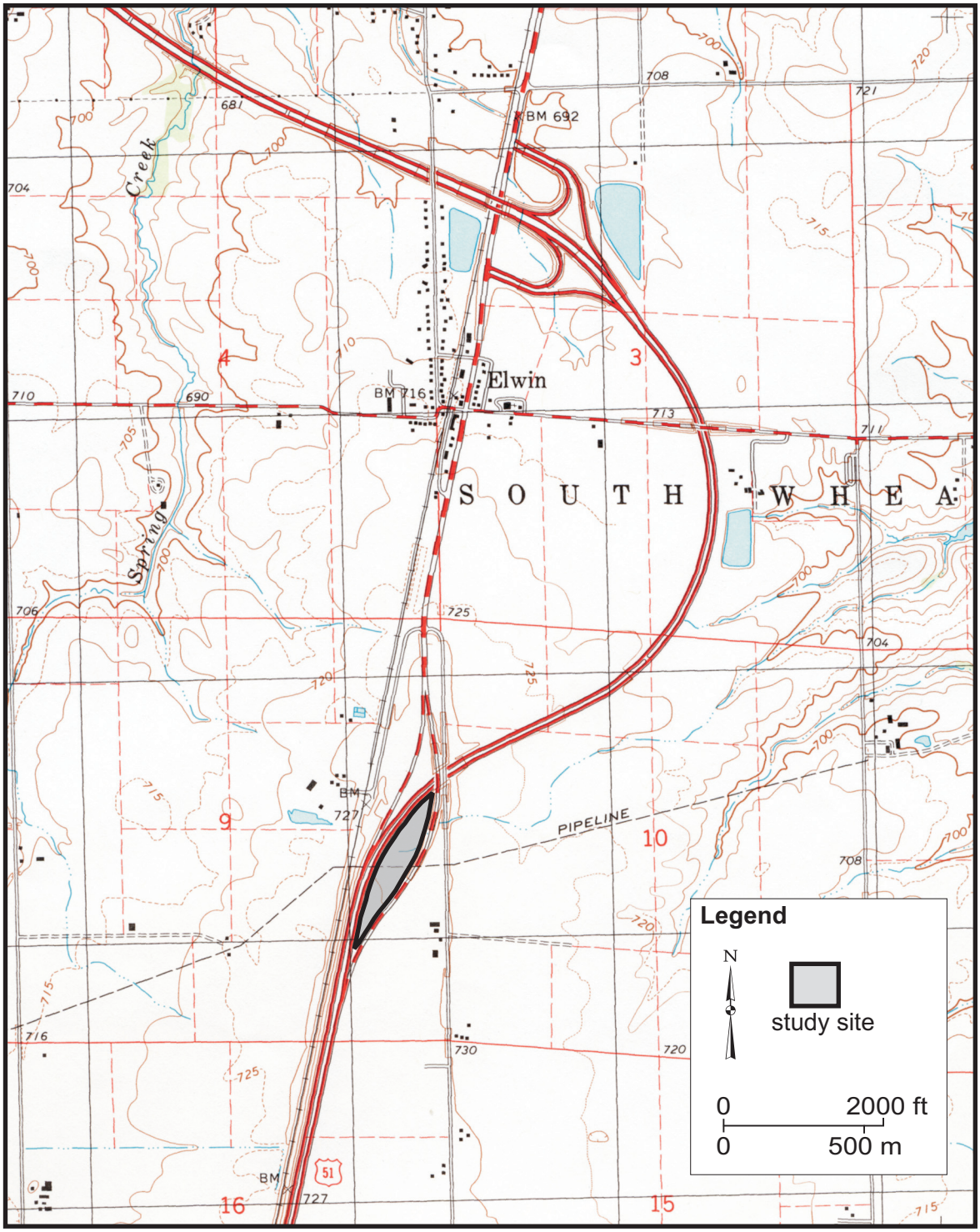
PLANNED FUTURE ACTIVITIES

- Monitoring wells and staff gauges will remain on site until no longer required by IDOT.

Decatur, U.S. Route 51 Wetland Compensation Site (FAP 322)

General Study Area and Vicinity

from the USGS Topographic Series, Decatur, IL 7.5-minute Quadrangle (USGS 1998)
contour interval is 10 feet, supplementary contour interval is 5 feet



Decatur, U.S. Route 51 Wetland Compensation Site
(FAP 322)
2007 Instrument Map

Map based on USGS digital orthophotograph, Decatur SW quarter quadrangle
produced from 4/14/98 aerial photography (ISGS 2000)

LEGEND

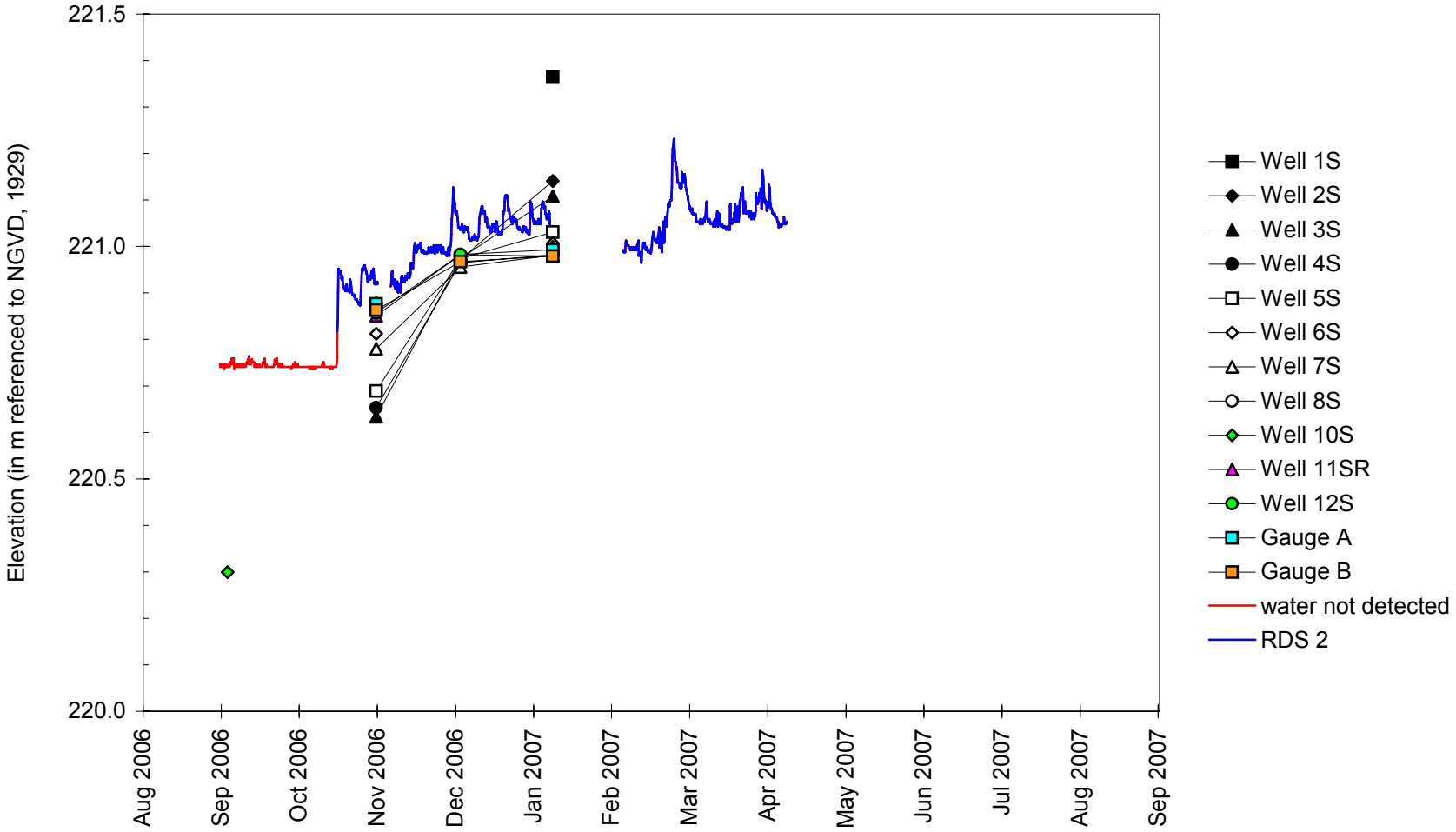
- ○ monitoring well
- □ staff gauge
- △ RDS data logger
- ❄ rain gauge

N

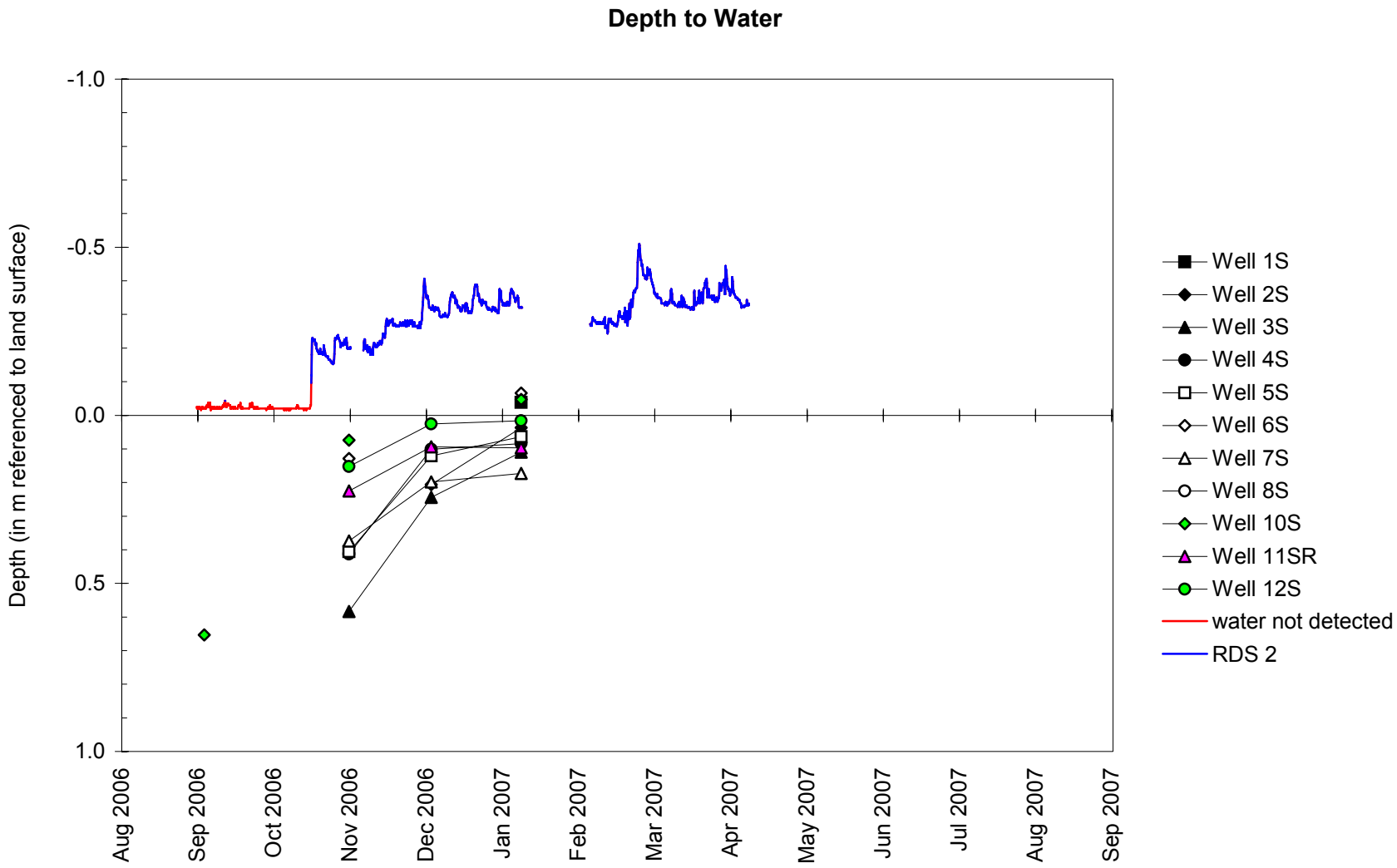
0 500 ft
0 150 m

Decatur, U.S. Route 51 Wetland Compensation Site
September 1, 2006 to September 1, 2007

Water-Level Elevation



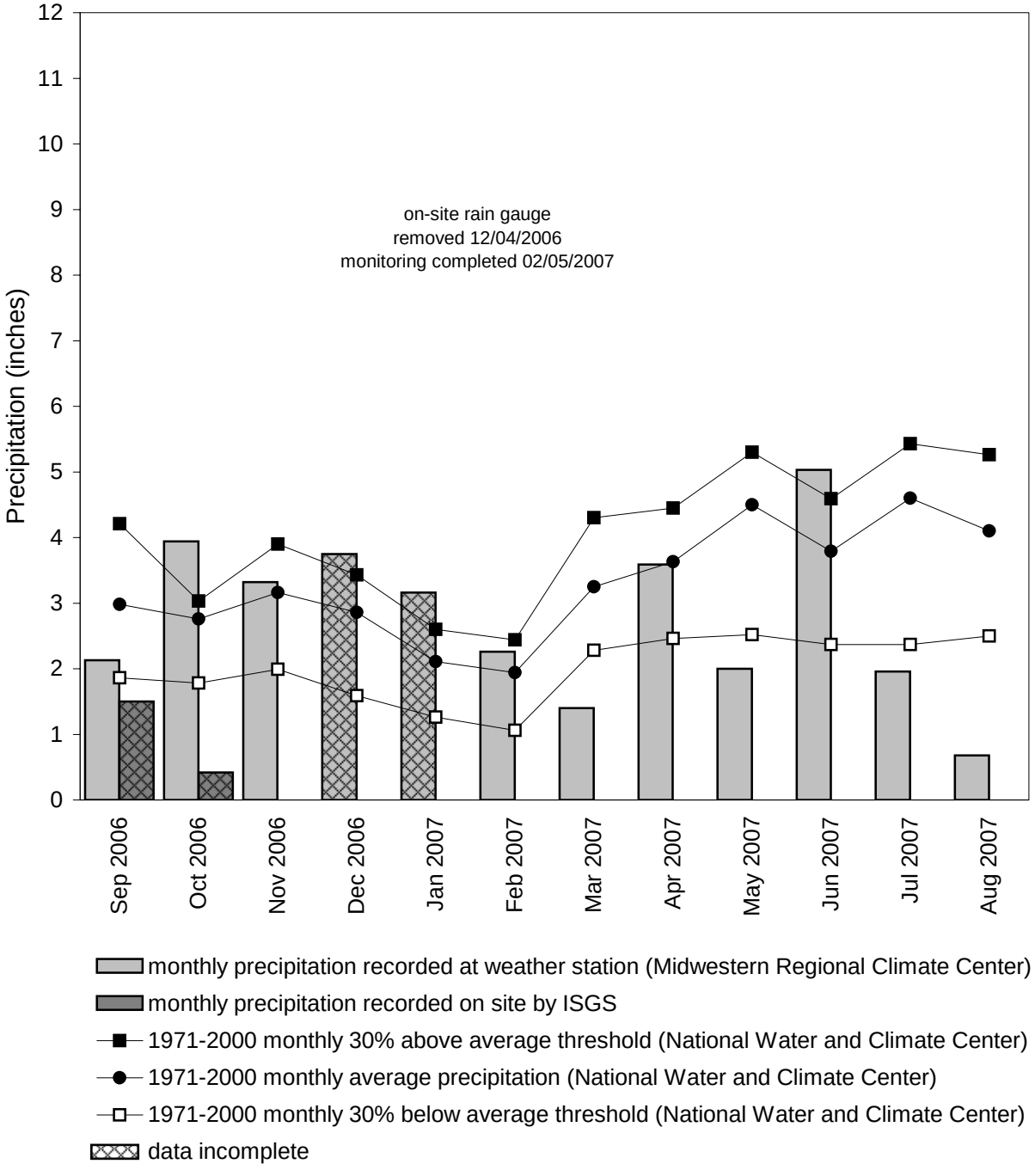
Decatur, U.S. Route 51 Wetland Compensation Site
September 1, 2006 to September 1, 2007



Decatur Wetland Compensation Site

September 2006 through August 2007

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



Graph last updated October 9, 2007

HANCOCK COUNTY NEAR CARTHAGE **ISGS #42**
WETLAND COMPENSATION SITE
FAP 315 & FAP 10
Hancock County, near Carthage, Illinois
Primary Project Manager: Steven E. Benton
Secondary Project Manager: not assigned

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 2007

The area of the site that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for more than 5% of the 2007 growing season was estimated to be 9.1 ha (22.5 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 estimated to be 8.5 ha (21.1 ac). 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.
- Total precipitation recorded at Bentley, Illinois during the monitoring period was 80% of normal. Precipitation in November 2006, and in January, February, March, April, June, and August 2007 was at or above normal.
- Monitoring wells 1U, 2U, 3U, 4U, 5U, 6U, 8U, 11S, 13S, 14S, 16S, and 17S satisfied the criteria for jurisdictional wetland hydrology at 5% of the growing season. With the exception of 11S, these monitoring wells also satisfied the criteria for jurisdictional wetland hydrology at 12.5% of the growing season.
- Surface-water elevations measured at RDS 1 were greater than or equal to 165.57 m (543.23 ft) for more than 5% of the growing season, and greater than or equal to 165.51 m (543.04 ft) for more than 12.5% of the growing season. Surface-water elevations measured at RDS 2 were greater than or equal to 165.60 m (543.33 ft) for more than 5% of the growing season, and greater than or equal to 165.56 m (543.20 ft) for more than 12.5% of the growing season. Surface-water elevations measured at RDS 3 were greater than or equal to 165.15 m (541.86 ft) for more than 5% of the growing season, and greater than or equal to 165.14 m (541.82 ft) for more than 12.5% of the growing season.
- Wetland construction appears to have had an effect on the acreage of jurisdictional wetland hydrology. In 2007, precipitation in the spring (April, May, June) was 71% of normal, and

the area of jurisdictional wetland hydrology at 5% of the growing season was 9.1 ha (22.5 ac). In 2005, precipitation in the spring was 77% of normal, but the area of jurisdictional wetland hydrology at 5% of the growing season was only 6.0 ha (14.9 ac). In 2004, precipitation in the spring was 106% of normal, and the area of jurisdictional wetland hydrology at 5% of the growing season was only 4.9 ha (12.0 ac).

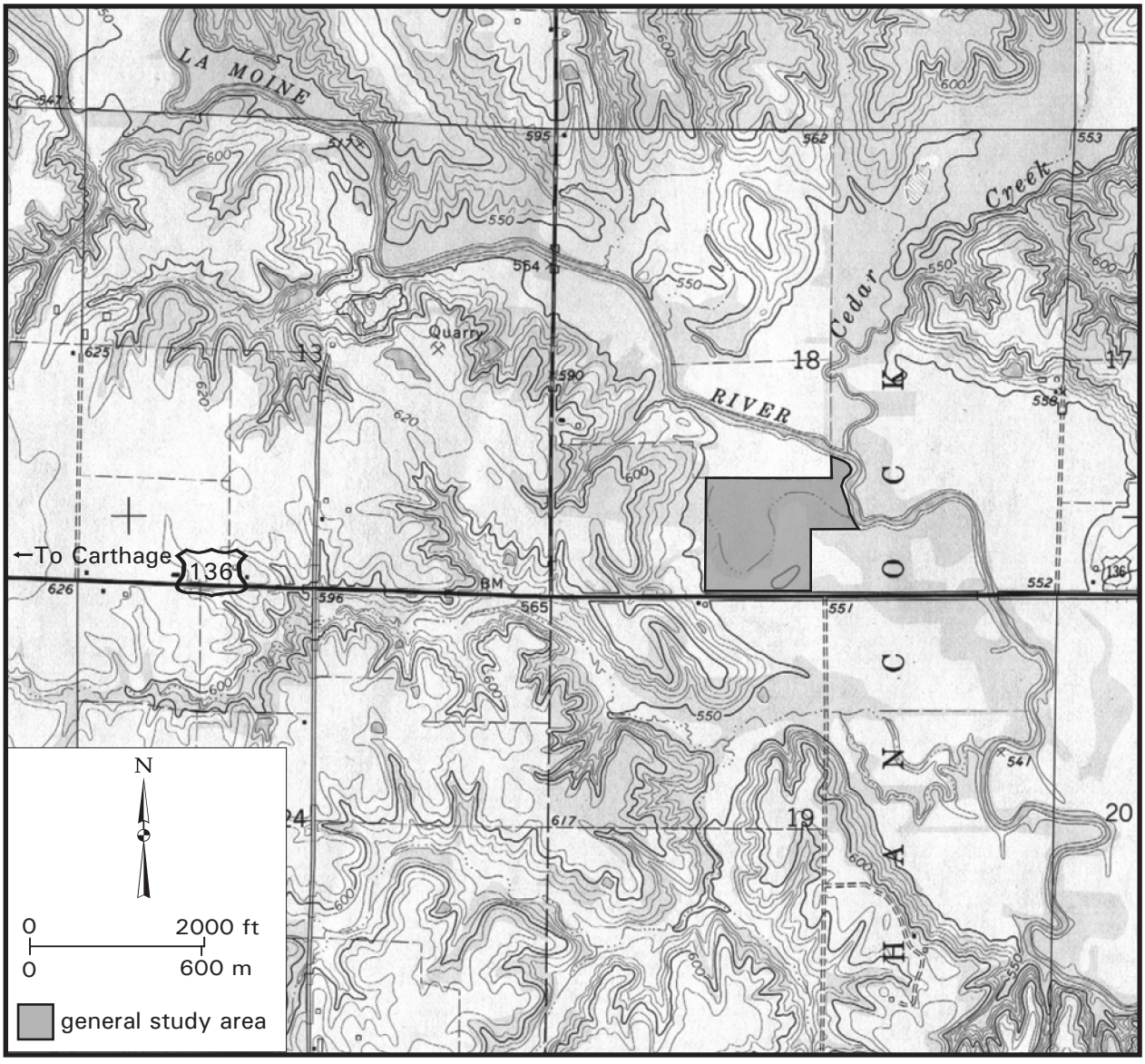
PLANNED FUTURE ACTIVITIES

- 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

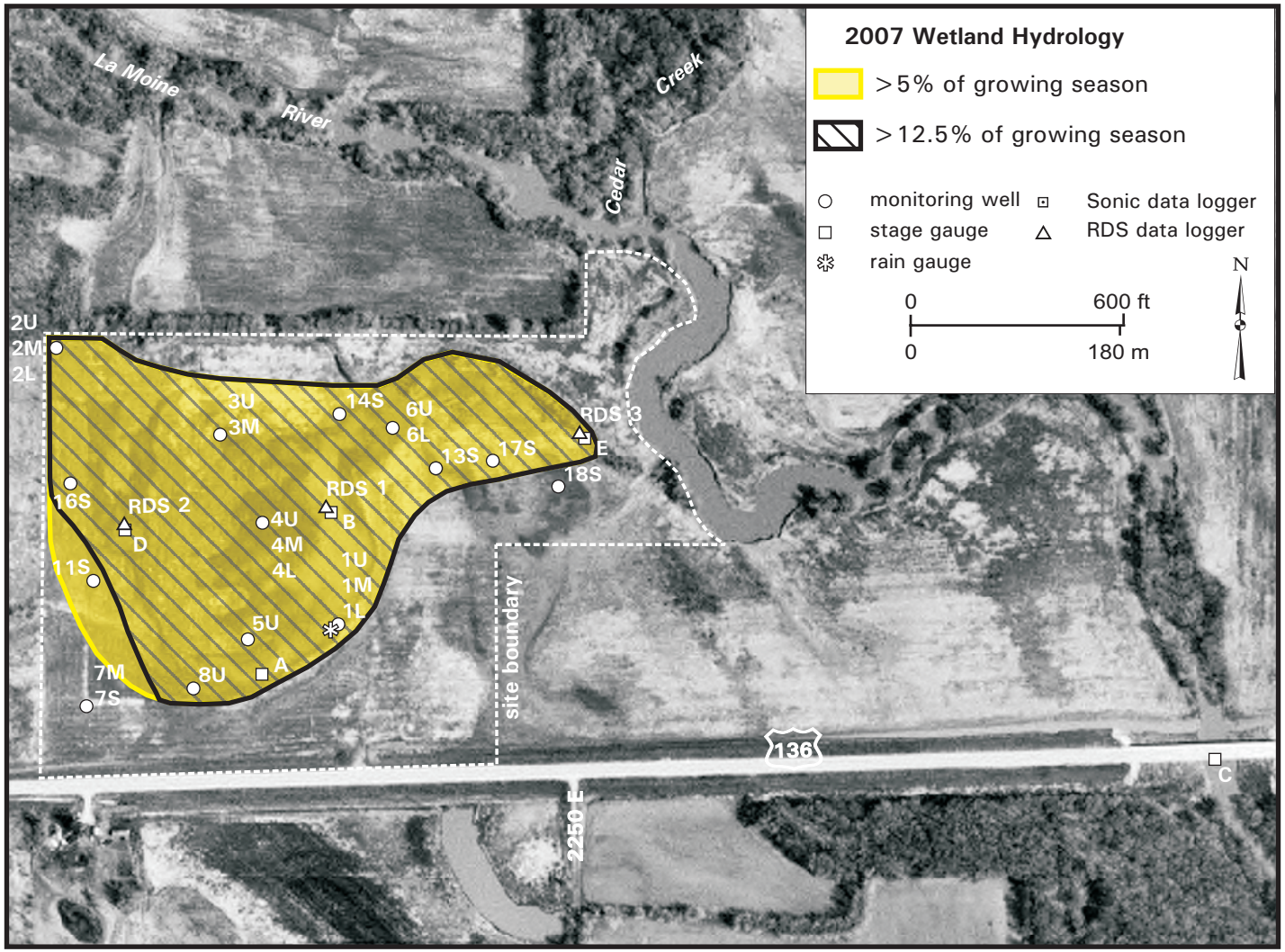


Hancock County near Carthage Wetland Compensation Site (FAP 315 and FAP 10)

Estimated Areal Extent of 2007 Wetland Hydrology

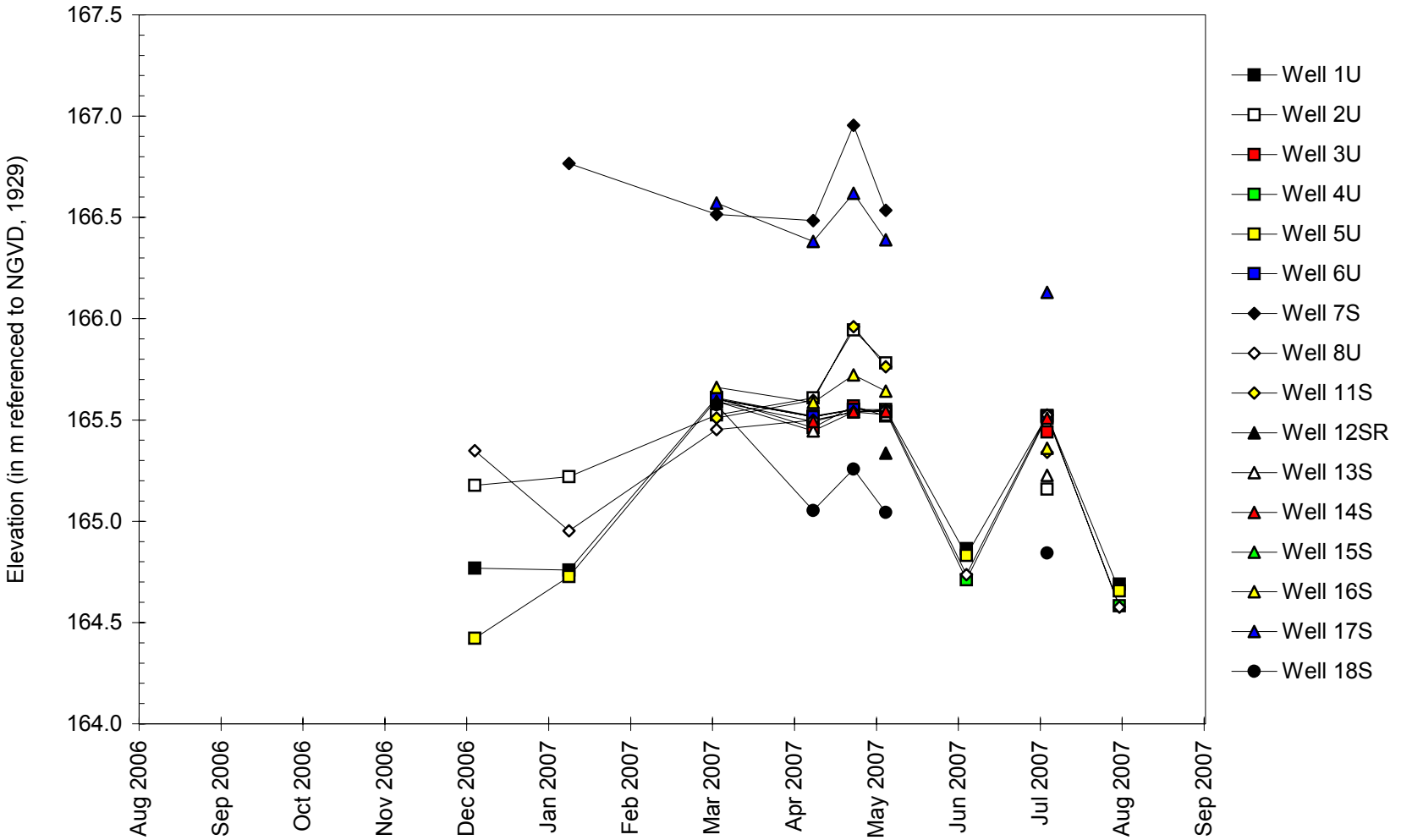
based on data collected between September 1, 2006 and September 1, 2007

Map based on USGS digital orthophotograph, Carthage East SE quarter quadrangle
produced from 4/14/98 aerial photography (ISGS 2002)



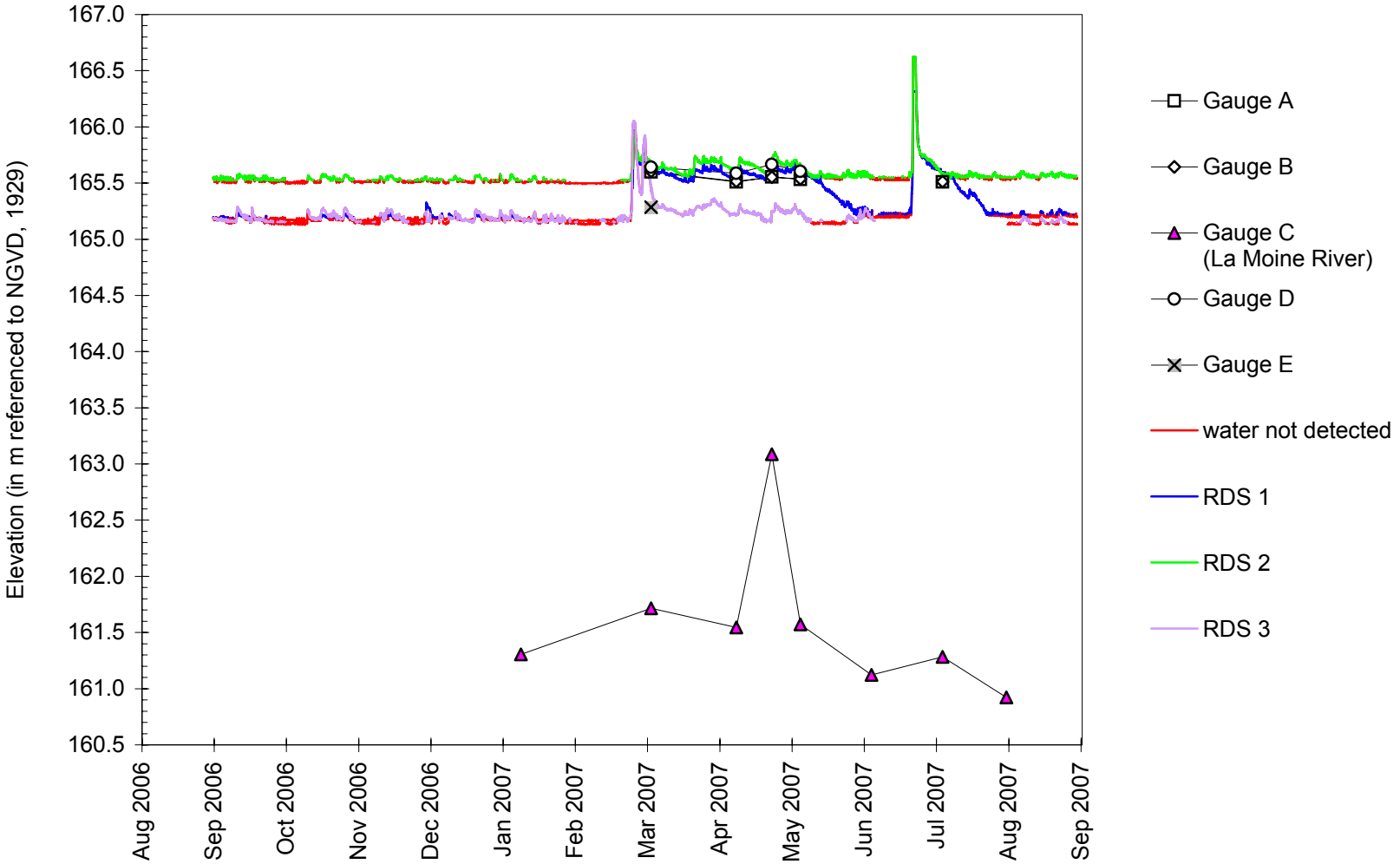
Hancock County near Carthage Wetland Compensation Site
September 1, 2006 to September 1, 2007

Water-Level Elevations
in Wells Used to Determine Areas Satisfying Wetland Hydrology Criteria

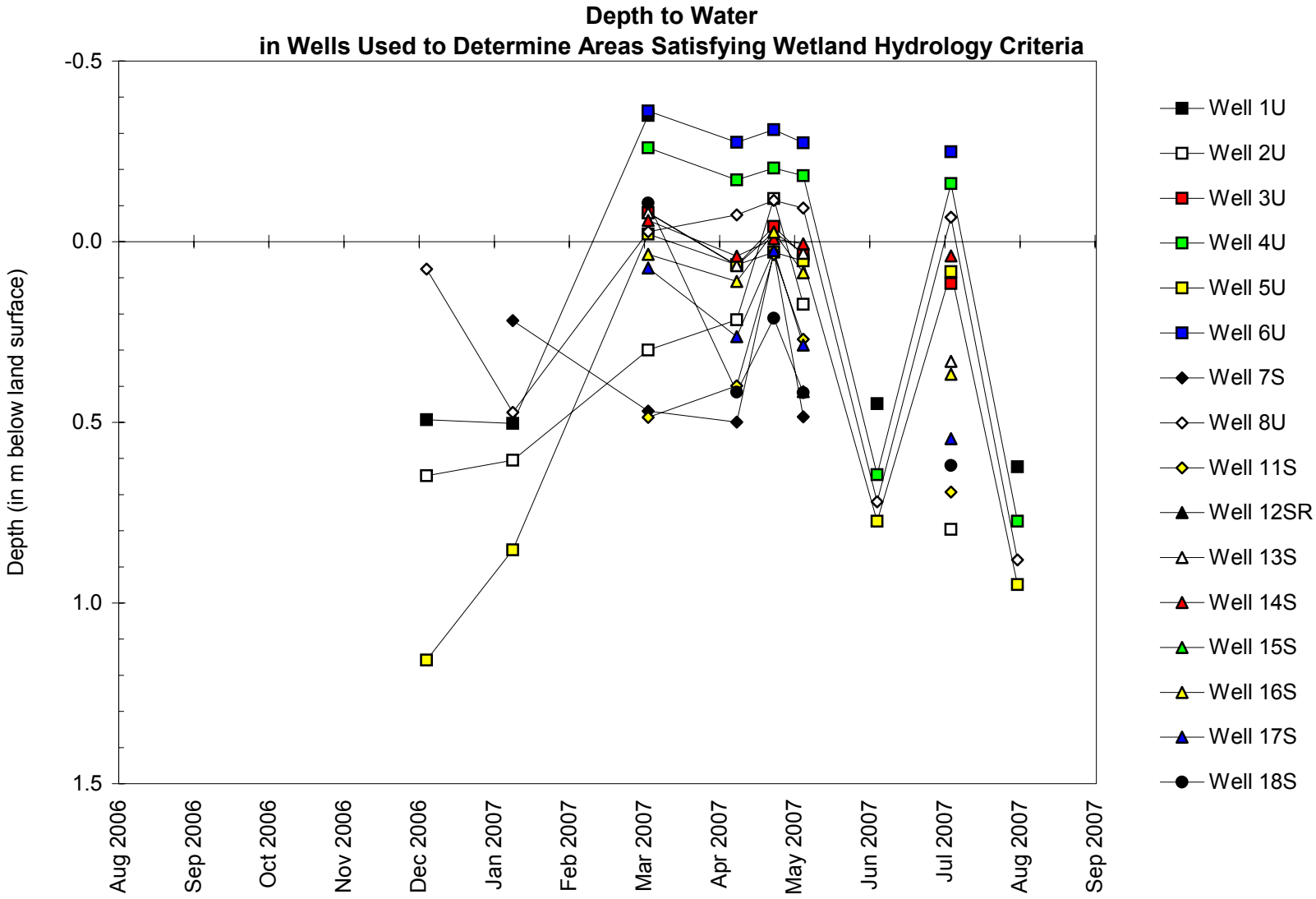


Hancock County near Carthage Wetland Compensation Site
September 1, 2006 to September 1, 2007

Water-Level Elevations
on Stage Gauges and at Data Loggers

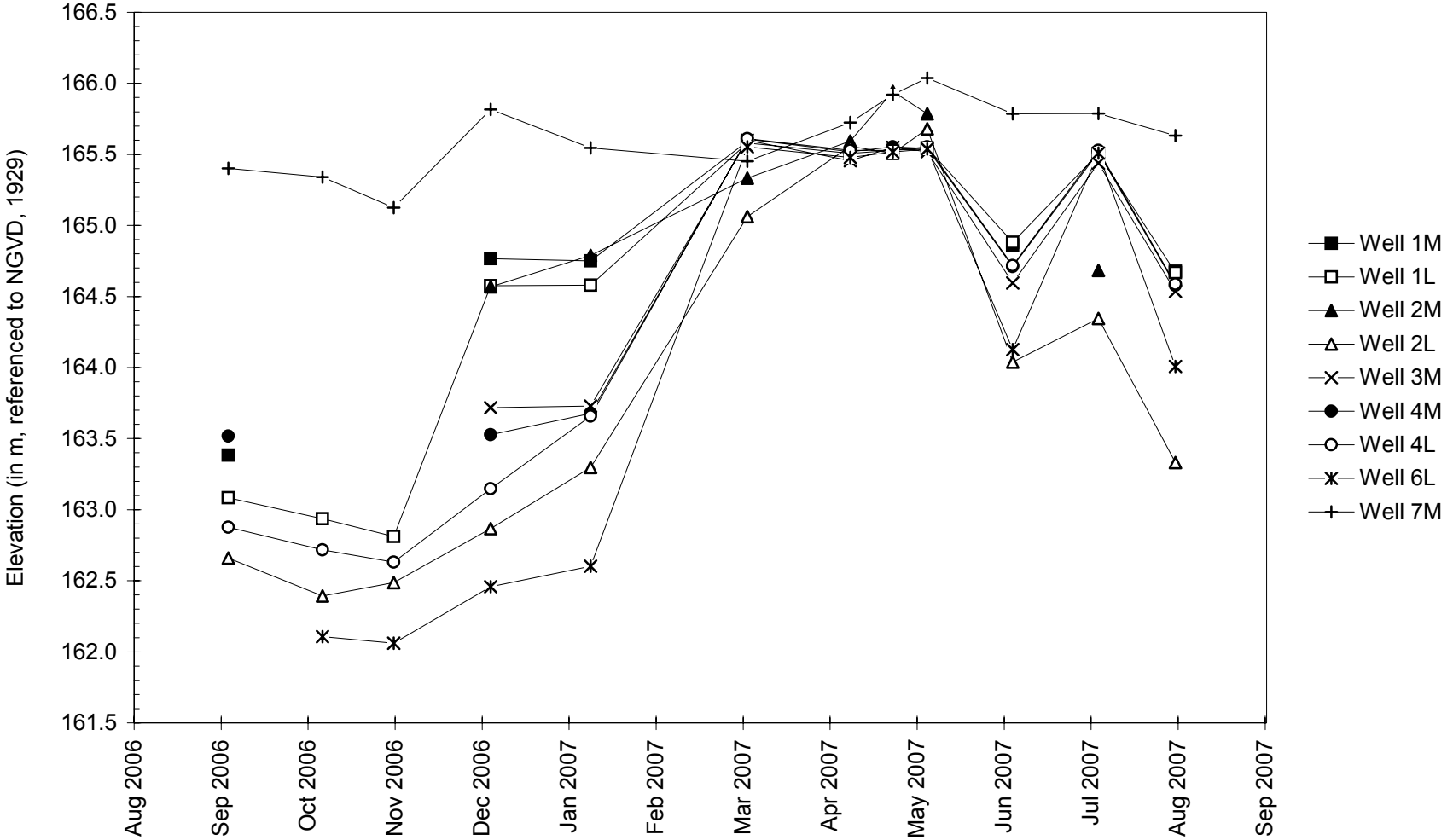


Hancock County near Carthage Wetland Compensation Site
September 1, 2006 to September 1, 2007

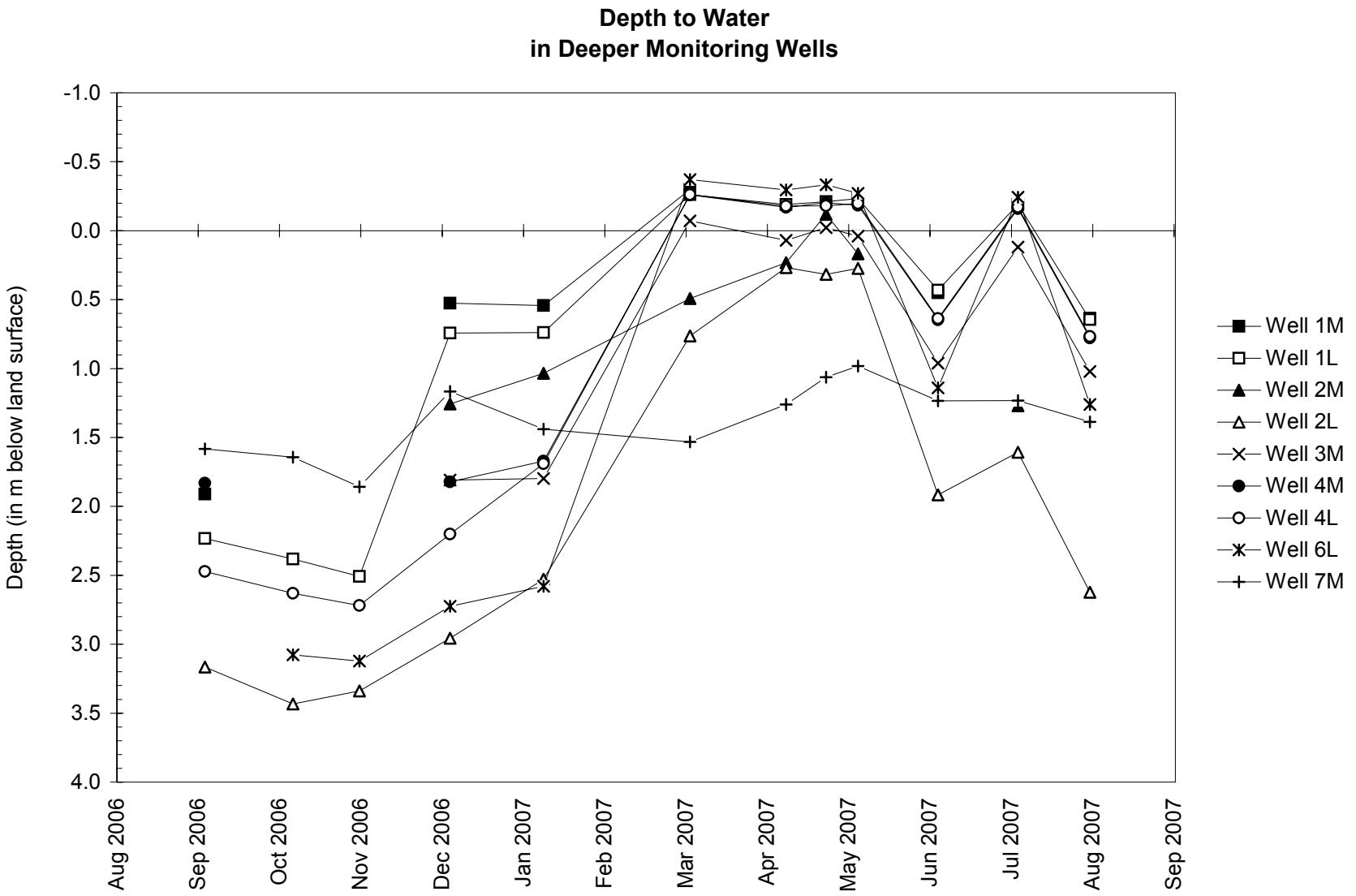


Hancock County near Carthage Wetland Compensation Site
September 1, 2006 to September 1, 2007

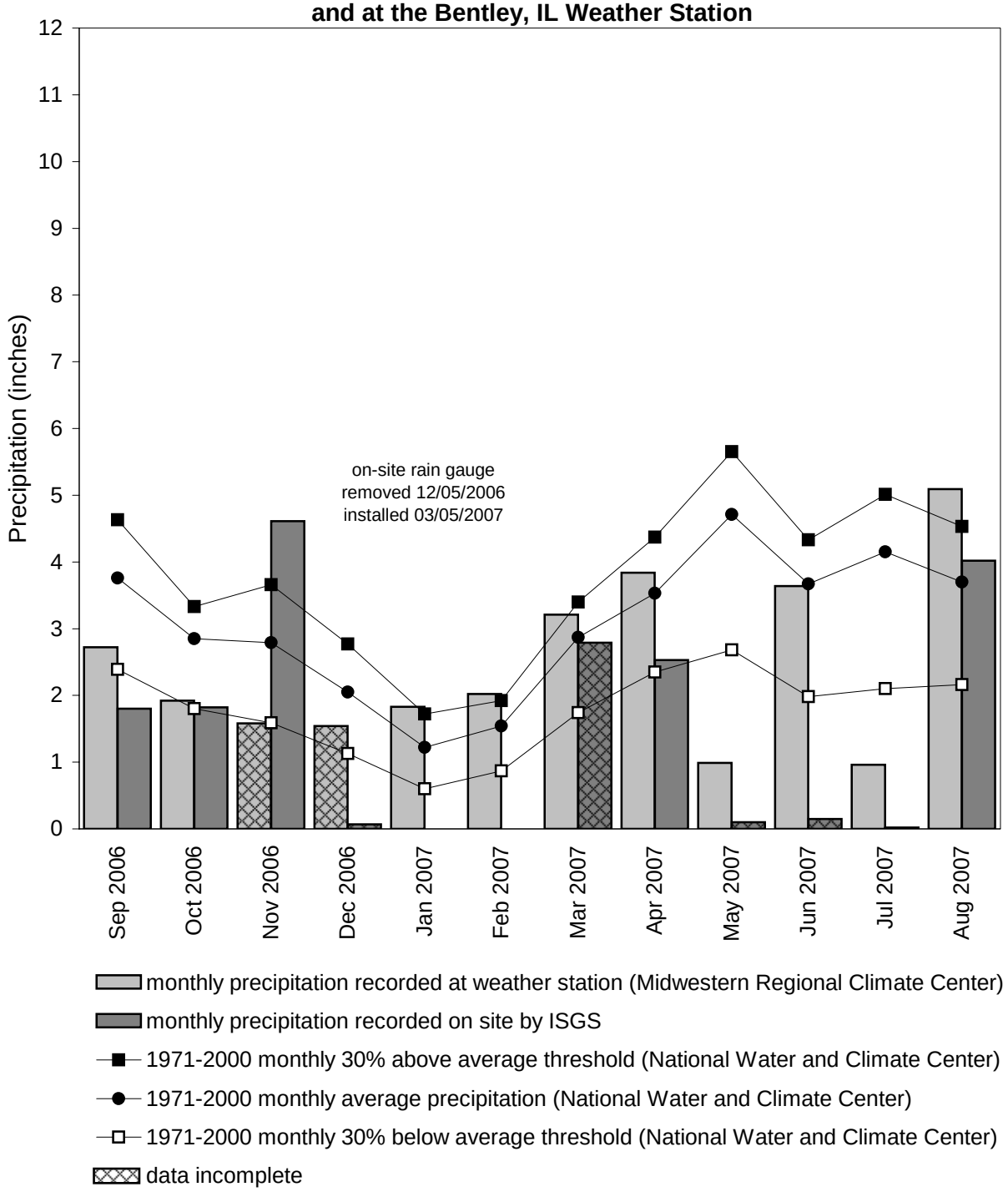
Water-Level Elevations
in Deeper Monitoring Wells



Hancock County near Carthage Wetland Compensation Site
September 1, 2006 to September 1, 2007



Hancock County near Carthage
Wetland Compensation Site
September 2006 through August 2007
Total Monthly Precipitation Recorded On Site and at the Bentley, IL Weather Station



Graph last updated October 9, 2007

MILAN BELTWAY, GREEN ROCK **ISGS #44**
WETLAND COMPENSATION SITE
FAU 5822
Sequence #67
Henry County, near Green Rock, Illinois
Primary Project Manager: Steven E. Benton
Secondary Project Manager: not assigned

SITE HISTORY

- December 2005: IDOT tasked the ISGS to conduct five-year performance monitoring of the Green Rock wetland mitigation site.

- March 2006: The monitoring network was installed.

WETLAND HYDROLOGY CALCULATION FOR 2007

The area of the site that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for more than 5% of the 2007 growing season was estimated to be 21.2 ha (52.4 ac) out of an area of 21.1 ha (52.0 ac). This included 18.4 ha (45.5 ac) of Phase I and 2.8 ha (6.9 ac) of Phase II. The area that satisfied wetland hydrology criteria for more than 12.5% of the growing season was estimated to be 13.2 ha (32.7 ac) out of an area of 21.1. ha (52.0 ac). This included 10.5 ha (25.9 ac) of Phase I and 2.7 ha (6.8 ac) of Phase II. These estimates are based on the following factors:

- According to the MRCC, the median date that the growing season begins at the Quad City International Airport in nearby Moline, Illinois, is April 13 and the season lasts 196 days; 5% of the growing season is 10 days and 12.5% of the growing season is 25 days.

- Total precipitation during the monitoring period was 113% of normal. Precipitation was at or above normal in December 2006, and in February, March, June, July, and August 2007.

- In 2007, wetland hydrology occurred for more than 5% of the growing season at wells 1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S, 9S, 10S, 11S and 12S. Wetland hydrology also occurred for more than 12.5% of the growing season at wells 1S, 4S, 5S, 7S, 8S, 9S, 10S, 11S, and 12S.

- The site was flooded twice during the monitoring period. The first event was on March 1, 2007 and the second was on August 25, 2007. The U.S. Army Corps of Engineers (USACE) gauge on the Green River at Geneseo, Illinois recorded a peak stage of 4.80 m (15.75 ft) on March 1, and a peak stage of 4.41 m (14.46 ft) on August 25. Flood stage at Geneseo is 4.57 m (15.00 ft). On-site observations in August and September 2007 found that the entire site was flooded for at least 5% of the growing season.

ADDITIONAL INFORMATION

- No monitoring wells have yet been installed in the Phase II portion of the site. However, surface water was observed over the entire area on August 27 and again on September 18, 2007. Therefore, it is assumed that Phase II satisfied the criteria for jurisdictional wetland hydrology for both 5% and 12.5% of the growing season.

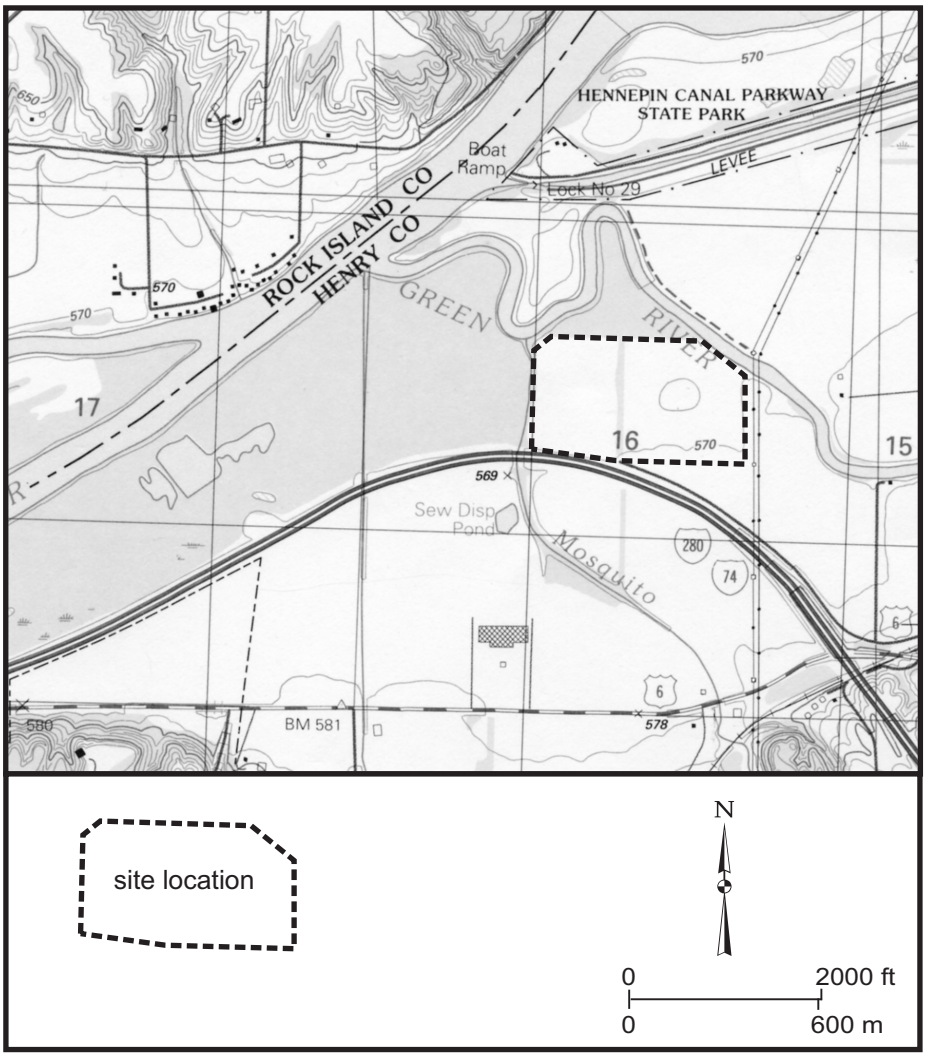
PLANNED FUTURE ACTIVITIES

- Monitoring of the site will continue until notified otherwise by IDOT.

Milan Beltway, Green Rock Wetland Compensation Site (FAU 5822)

General Study Area and Vicinity

from the USGS Topographic Series, Coal Valley, IL (W) (USGS 1991) and Green Rock, IL (E) (USGS 1992) 7.5-minute Quadrangles
contour interval is 10 feet

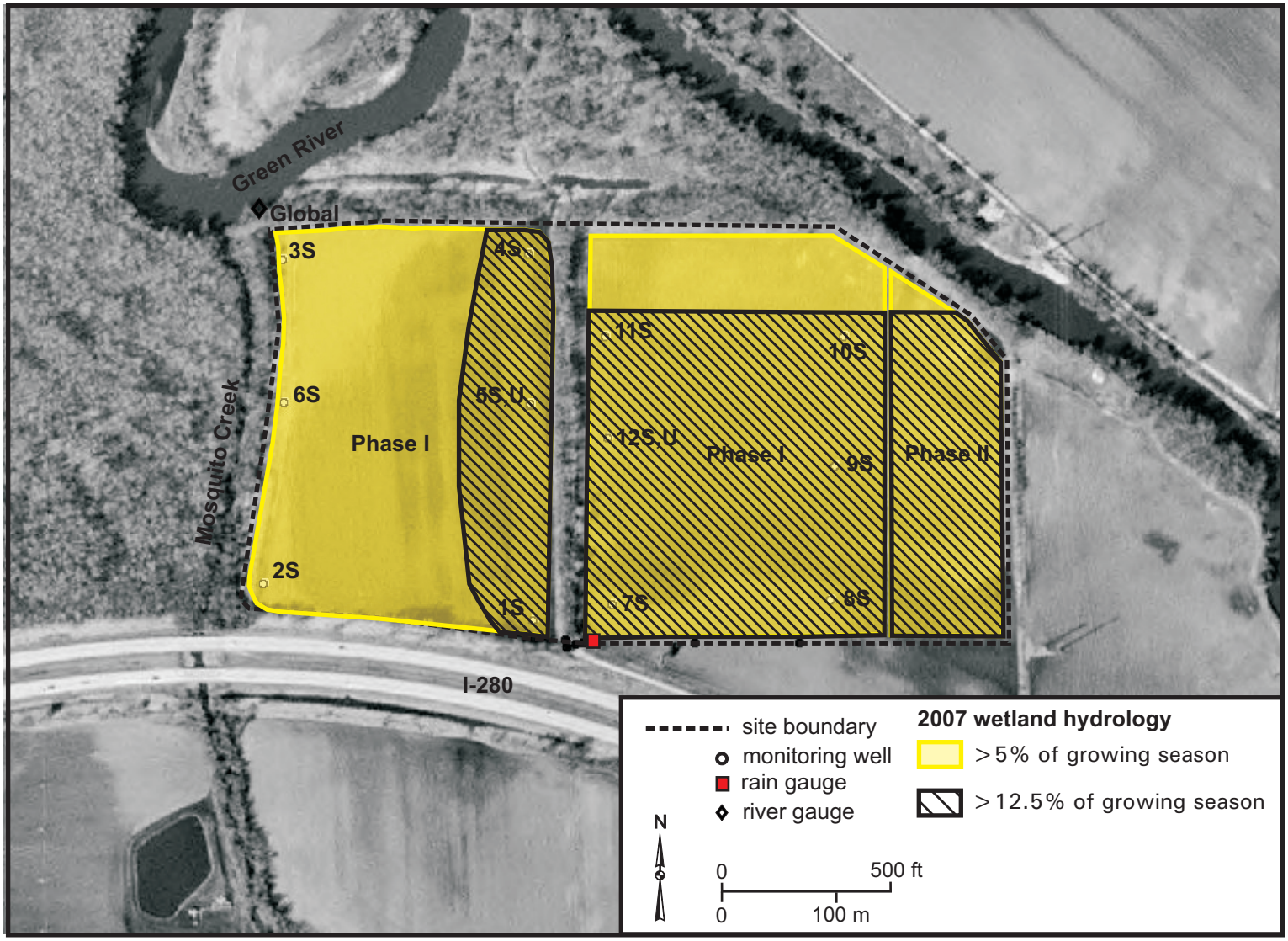


Milan Beltway, Green Rock Wetland Compensation Site (FAU 5822)

Estimated Areal Extent of 2007 Wetland Hydrology

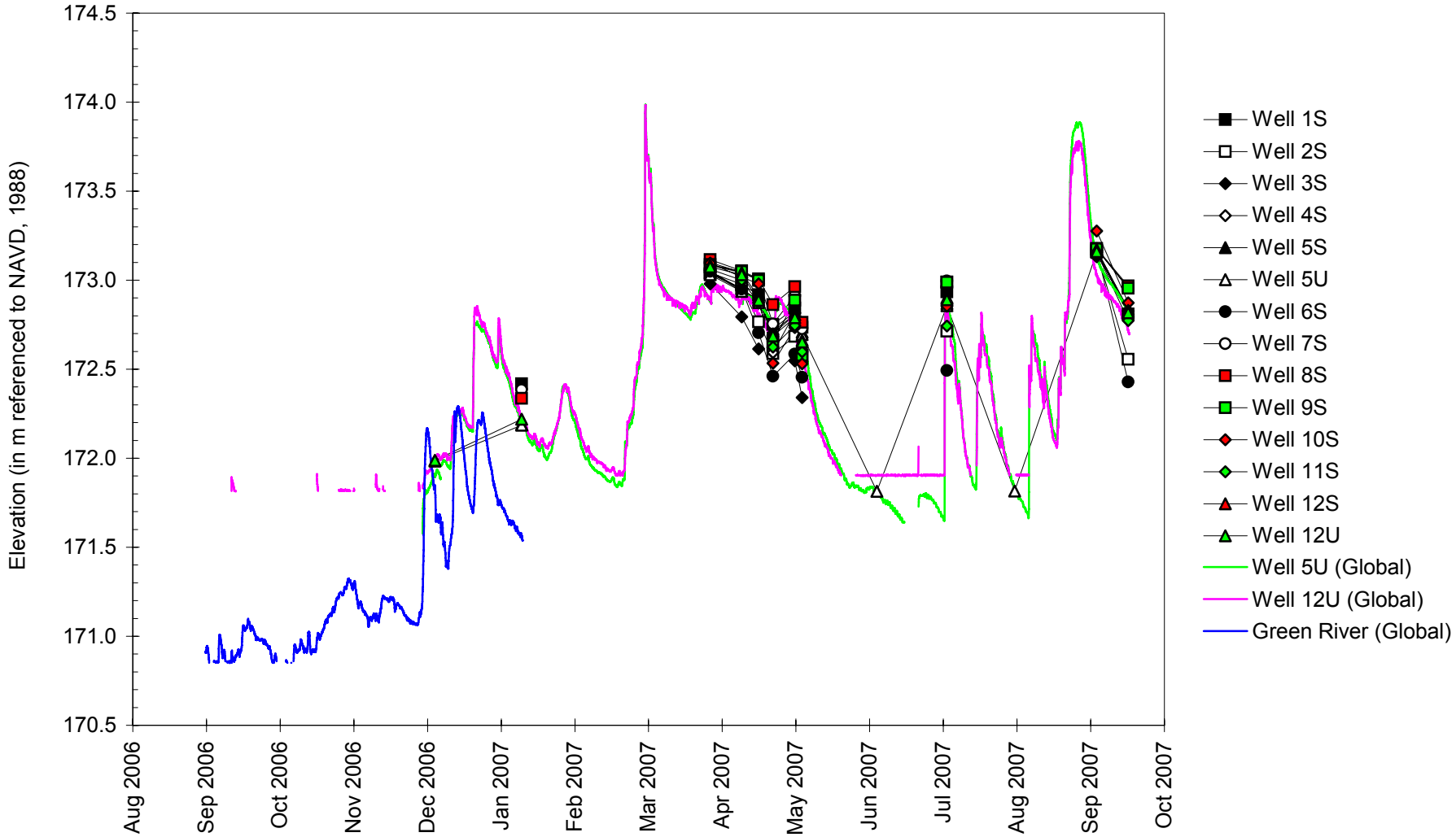
based on data collected between September 1, 2006 and September 18, 2007

Map based on USGS digital orthophotograph, Coal Valley NE quarter quadrangle
produced from 4/14/98 aerial photography (ISGS 2006)



Milan Beltway, Green Rock Wetland Compensation Site
September 1, 2006 to September 18, 2007

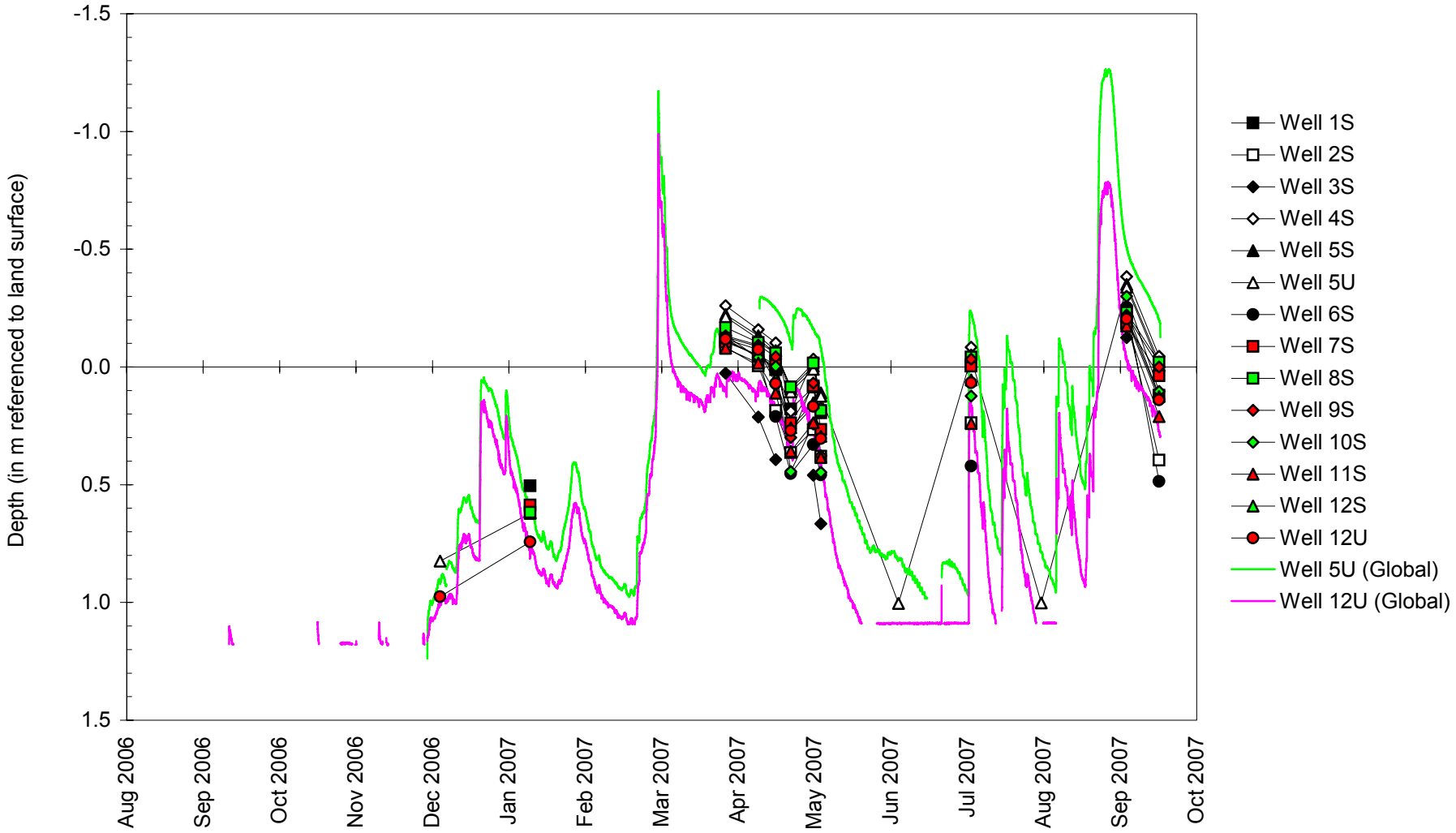
Water-Level Elevations



Milan Beltway, Green Rock Wetland Compensation Site

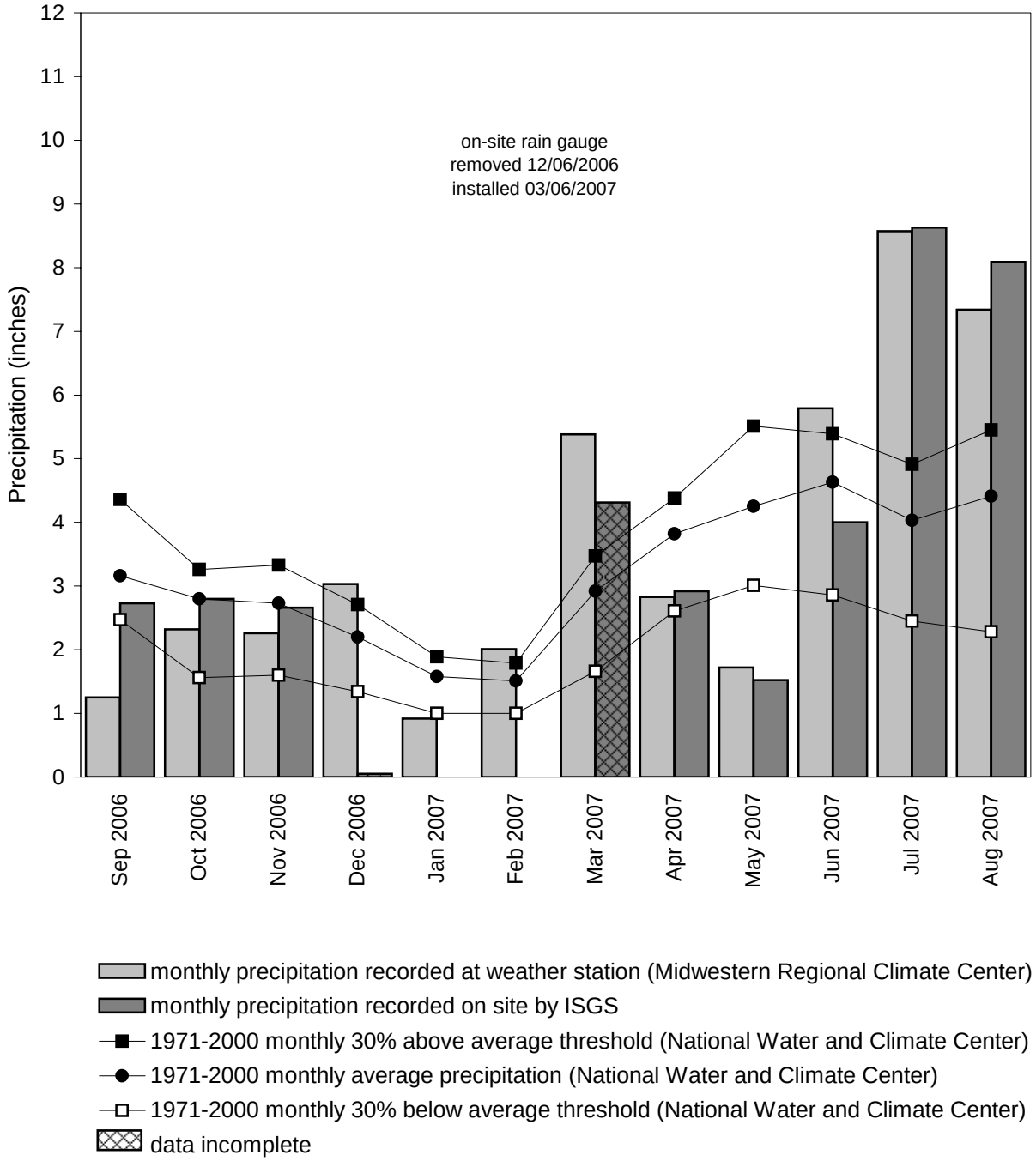
September 1, 2006 to September 18, 2007

Depth to Water



Green Rock Wetland Compensation Site
September 2006 through August 2007

Total Monthly Precipitation Recorded On Site and at the Quad City International Airport Weather Station, Moline, IL



Graph last updated October 9, 2007

MORRIS, ILLINOIS RIVER **ISGS #49**
WETLAND BANK SITE
Grundy County, near Morris, Illinois
Primary Project Manager: Keith W. Carr
Secondary Project Manager: Geoffrey E. Pociask

SITE HISTORY

- March 1999: ISGS was tasked by IDOT to perform a Level II hydrogeologic assessment of the potential banking site.

- April and December 2003: Drainage tile removal was undertaken in the east field, also called the "spider" field. This concluded tile removal work at the bank site.

- Spring 2004: Trees were planted over large areas of the site within soil units mapped by the National Resources Conservation Service (NRCS) and INHS as hydric. These areas are slated for wetland restoration in the IDOT banking instrument.

- Spring 2006: Monitoring was discontinued in 11 deeper monitoring wells which were not involved in monitoring wetland hydrology at the site, and also at 14 soil-zone wells located in "mesic" areas not slated for wetland preservation, enhancement, or restoration. Further, six soil-zone wells were added in mapped hydric-soil areas.

- Spring and Summer 2007: During field visits on April 13 and August 28, water was seen flowing into and out of the "spider" field. A topographic survey was done on May 8 to investigate the possibility of building a berm to capture this water and potentially expand the area of wetland hydrology.

WETLAND HYDROLOGY CALCULATION FOR 2007

We estimate that the total area of the site that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the growing season in 2007 was 11.3 ha (27.9 ac) out of a total site area of 342 ha (844 ac). Further, 6.0 ha (14.8 ac) also satisfied wetland hydrology criteria for greater than 12.5% of the growing season. These estimates are based on the following factors:

- According to the MRCC, the median date that the growing season begins in Morris, Illinois is April 13 and the season lasts 187 days; 5% of the growing season is 9 days and 12.5% of the growing season is 23 days.

- Total precipitation for the monitoring period was 116% of normal, primarily due to extreme precipitation in August of 2007. During the four-month period from December 2006 to March 2007, precipitation was 111% of normal, resulting in slightly wetter than normal conditions entering the growing season. In the critical April to July period, however, precipitation dropped off to only 71% of normal. High August precipitation totals (298% of normal) plus heavy up-basin rains caused a large overbank flood at the site, which peaked on August 25 and enhanced wetland hydrology in this monitoring year.

- In 2007, of the 40 soil-zone wells on site, 11 satisfied wetland hydrology criteria for greater than 5% of the growing season (11SR, 16S, 21SR, 42S, 43S, 43VS, 44S, 44VS, 48SR,

51S, 57S). Further, seven of these wells satisfied wetland hydrology criteria for greater than 12.5% of the growing season (21SR, 42S, 43S, 43VS, 44S, 44VS, 57S).

- Staff gauges or data loggers in closed depressions at SW5, SW7, SW8, SW9, and SW10 indicated inundation for a period greater than 5% of the growing season. The same gauges, with the exception of SW8, also showed inundation for a period greater than 12.5% of the growing season.

- In the 2006–2007 season, an on-site data logger at SW2 and the nearby USACE gauge showed that two flood events during the growing season reached the bankfull elevation of the Mazon River and Mud Slough, roughly 149.4 m (490 ft). The first of these floods, which peaked at 150.46 m (493.64 ft) on April 27, attained an elevation sufficient to flood most areas of the site slated for wetland restoration, but was of short duration (5 days over bankfull). The second flood, with a stage height unprecedented since ISGS monitoring began in 1999, flooded the entire site. This flood, which peaked at 152.44 m (500.12 ft) on August 25, was also of short duration (5 days over bankfull). As in previous years, the flood duration itself was not sufficient to meet wetland hydrology criteria, nor did widespread areas of the site retain water for sufficient periods after the flood to do so.

- As in previous years, perennial water bodies such as the creek channels were not included in areas having met wetland hydrology criteria.

PLANNED FUTURE ACTIVITIES

- Monitoring will continue until no longer required by IDOT.

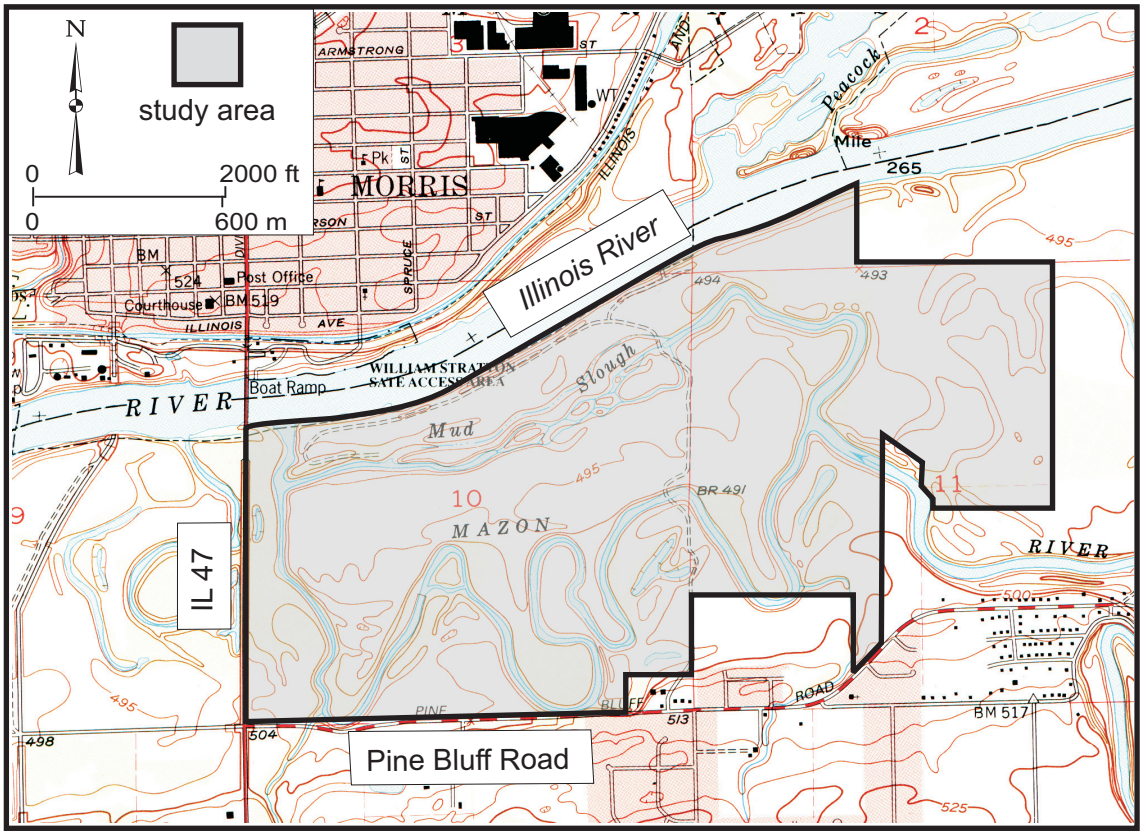
- The feasibility of building a berm in the “spider” field to capture additional water will be studied. Topographic data collected in 2007 will be amalgamated with an existing onsite topographic map to determine the likelihood that a berm could expand the area of wetland hydrology significantly.

- Several monitoring wells and a data logger will be added to the site to the west of the Illinois Route 47 bridge Right Of Way. Spring flooding in 2007 precluded this emplacement during the current year.

Morris, Illinois River Wetland Bank Site

General Study Area and Vicinity

from the USGS Topographic Series, Morris, IL 7.5-minute Quadrangle (USGS 1993)
contour interval is 5 feet

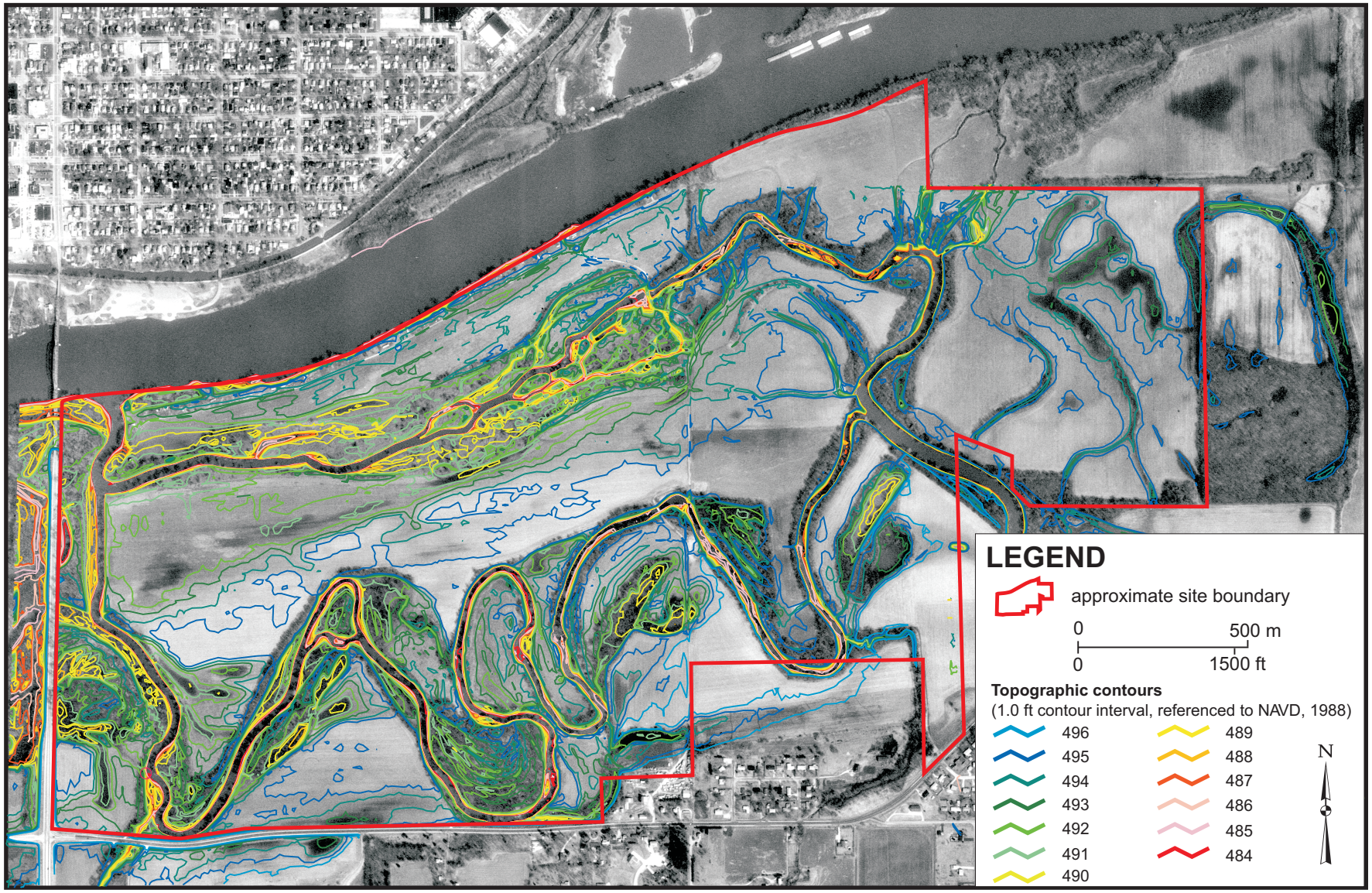


Morris, Illinois River Wetland Bank Site

Site Topographic Map (IDOT / INHS)

contours prepared by Illinois Natural History Survey in May 2000, using IDOT survey data

Map based on USGS digital orthophotograph, Morris NE quarter quadrangle
from 4/5/1998 aerial photography (ISGS 2001)

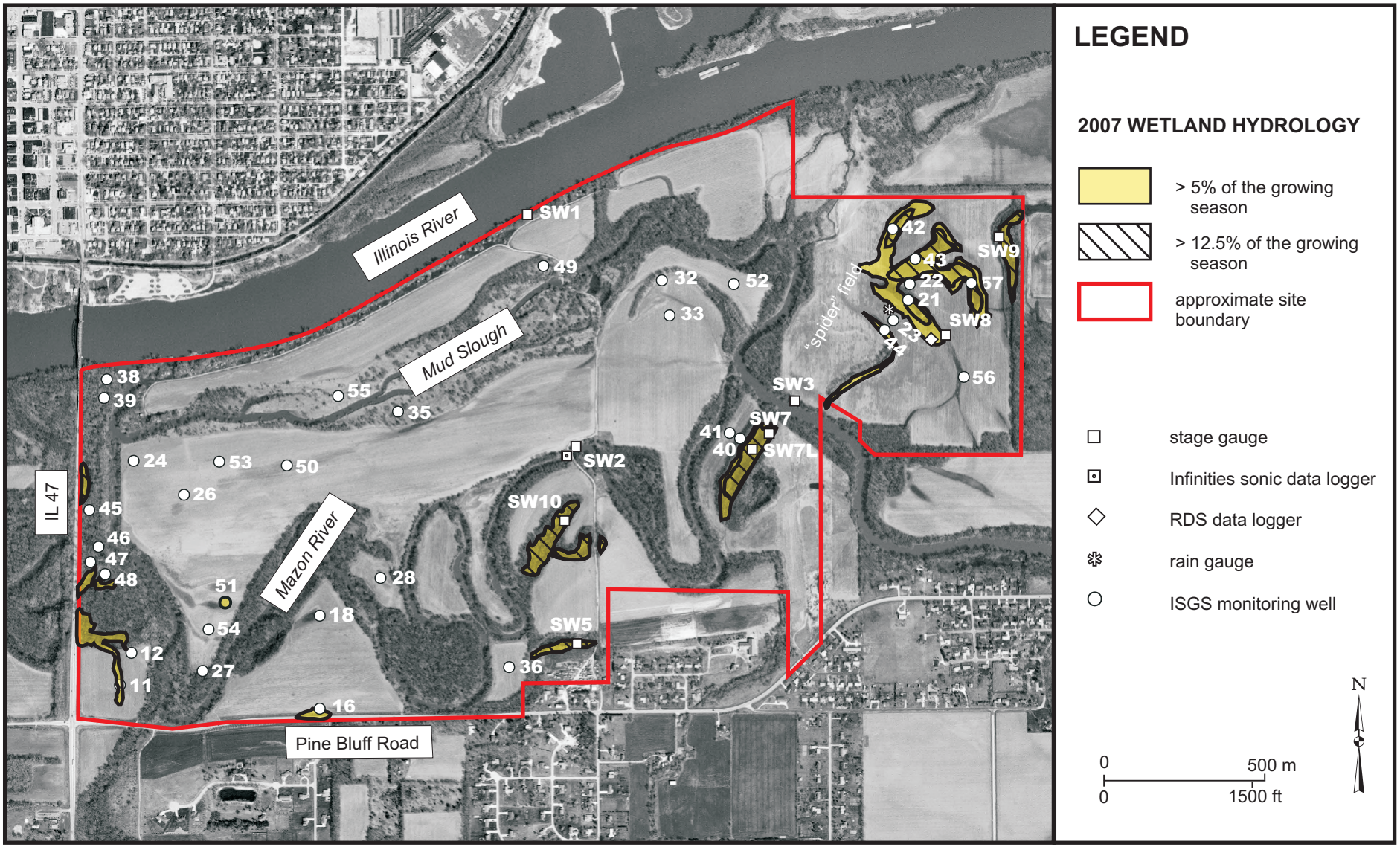


Morris, Illinois River Wetland Bank Site

Estimated Areal Extent of 2007 Wetland Hydrology

based on data collected between September 1, 2006 and September 18, 2007

Map based on USGS digital orthophotograph, Morris NE quarter quadrangle
from 4/5/1998 aerial photography (ISGS 2001)



LEGEND

2007 WETLAND HYDROLOGY

- > 5% of the growing season
- > 12.5% of the growing season
- approximate site boundary

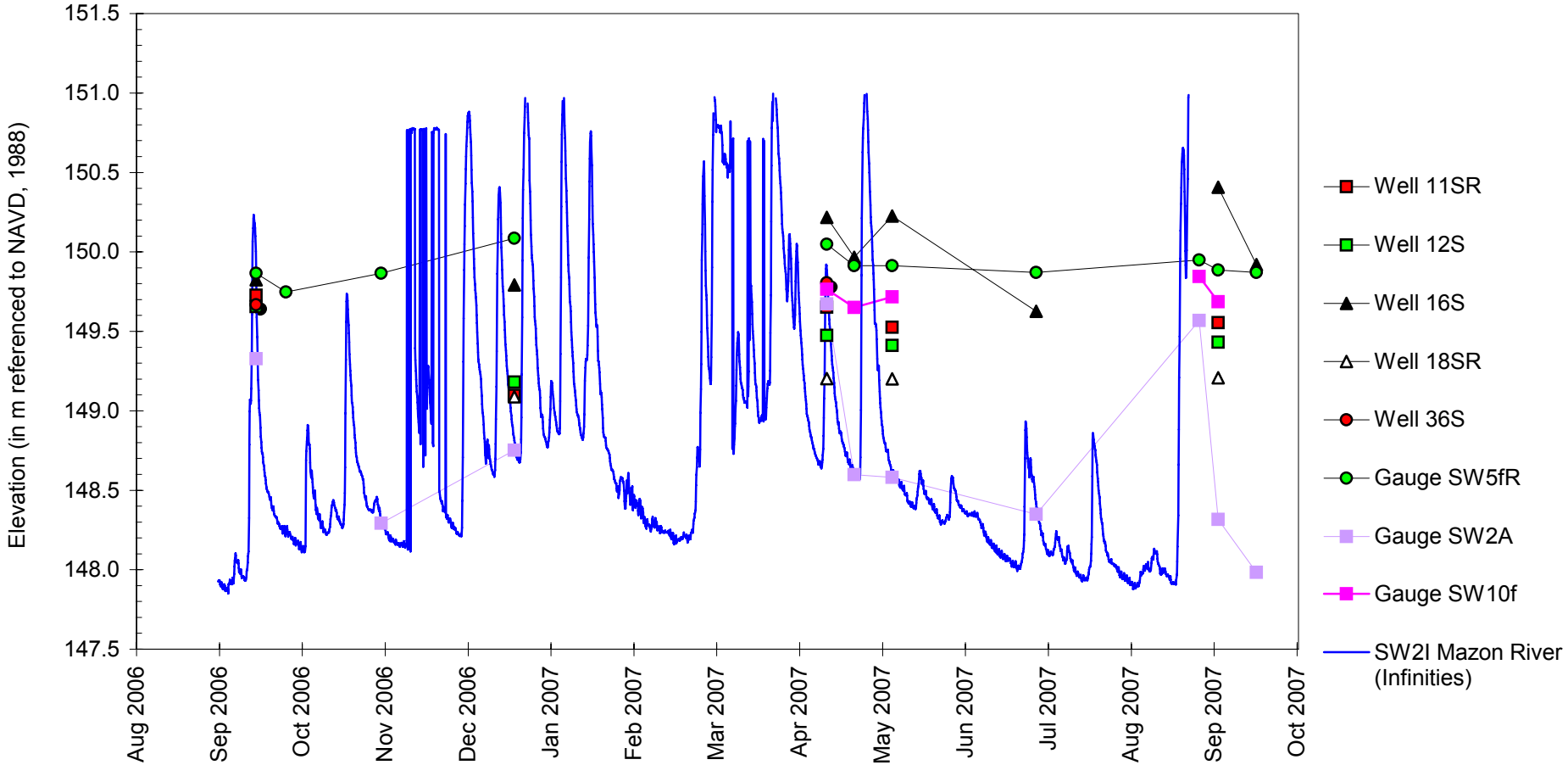
- stage gauge
- Infinities sonic data logger
- RDS data logger
- rain gauge
- ISGS monitoring well

N

0 500 m
0 1500 ft

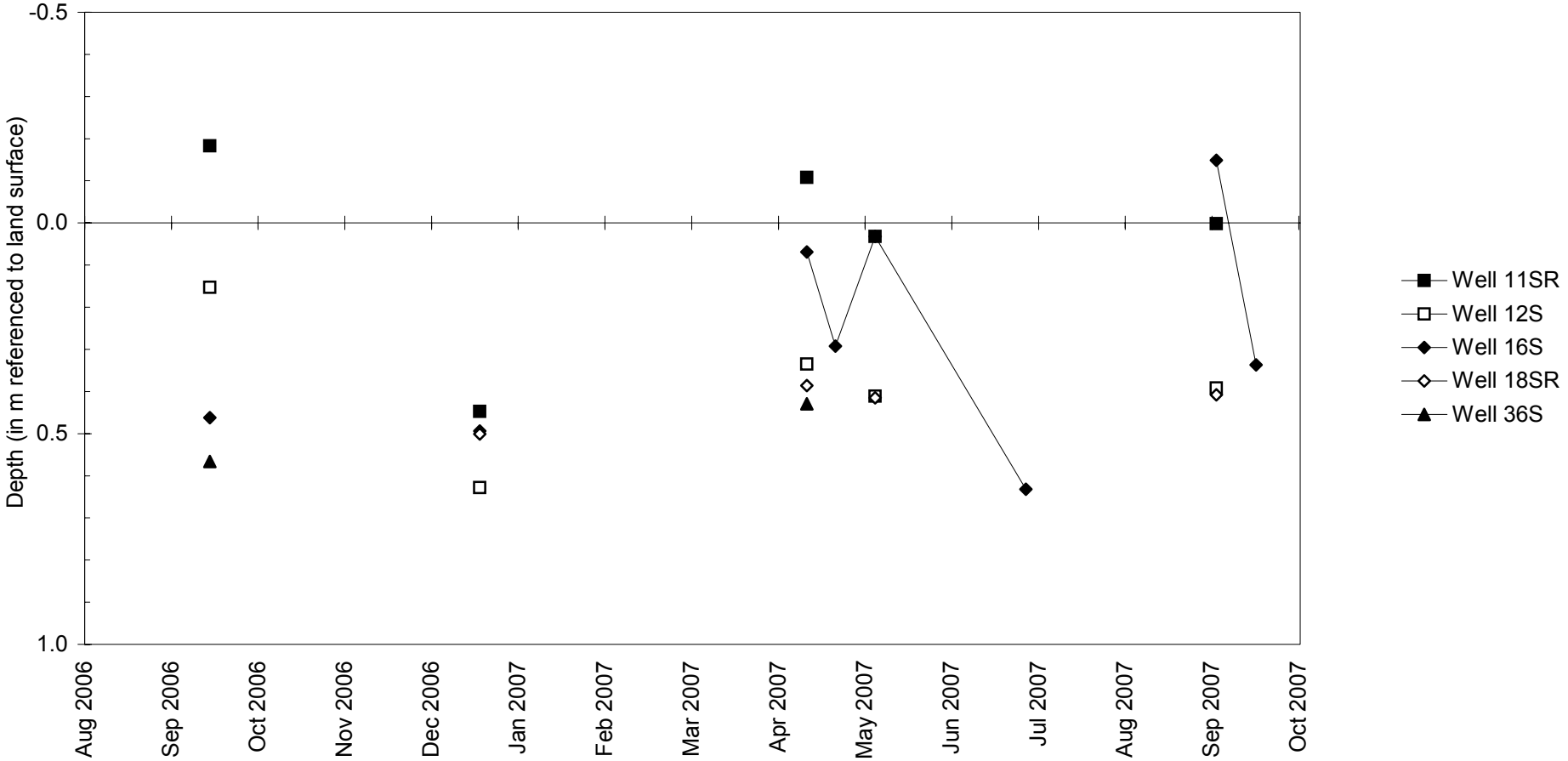
Morris, Illinois River Wetland Bank Site
September 1, 2006 to September 18, 2007

Water-Level Elevations
in Soil-Zone Monitoring Wells, Data Loggers, and Stage Gauges
South of the Mazon River



Morris, Illinois River Wetland Bank Site
September 1, 2006 to September 18, 2007

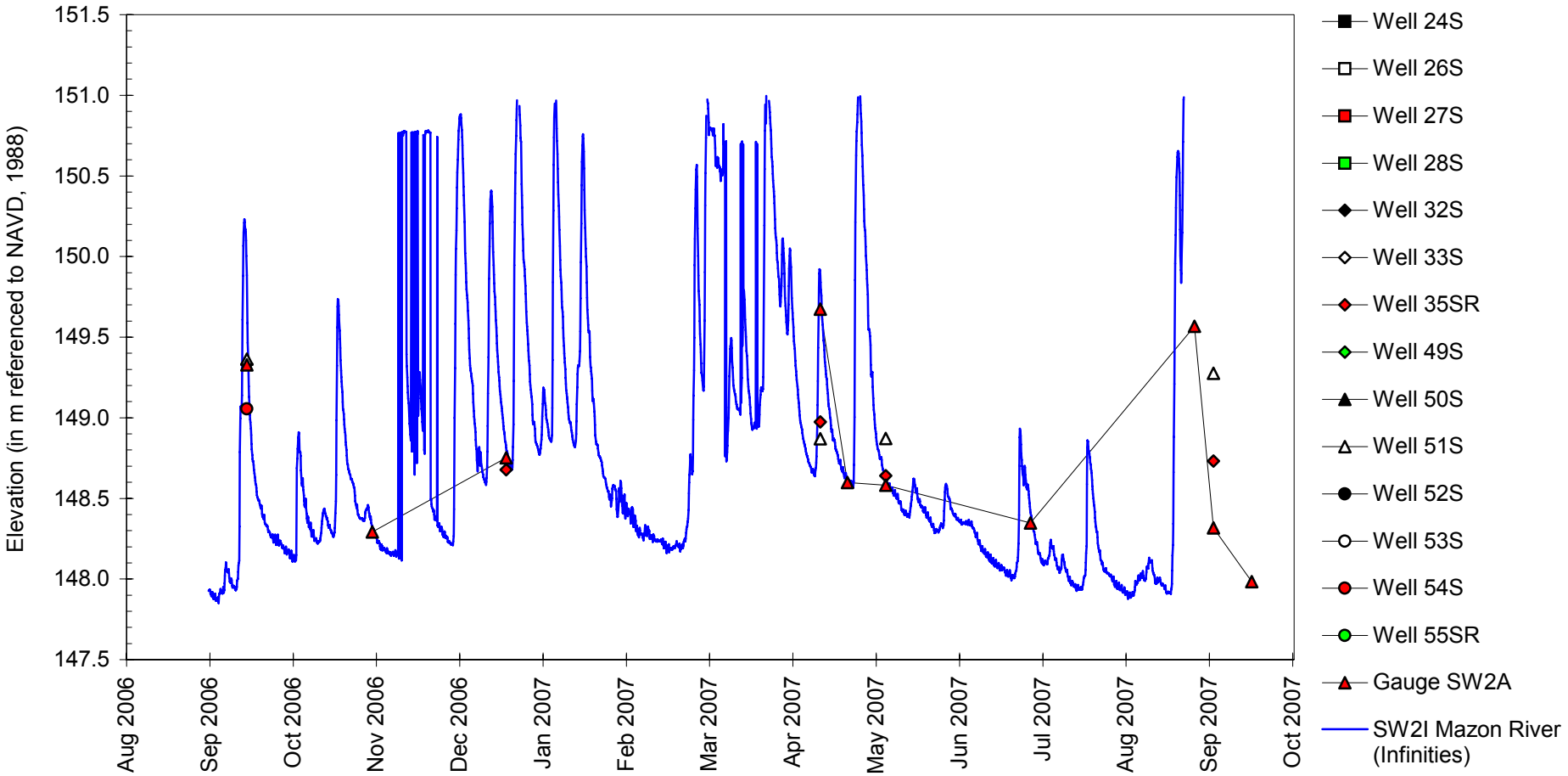
Depth to Water
in Soil-Zone Monitoring Wells
South of the Mazon River



Morris, Illinois River Wetland Bank Site

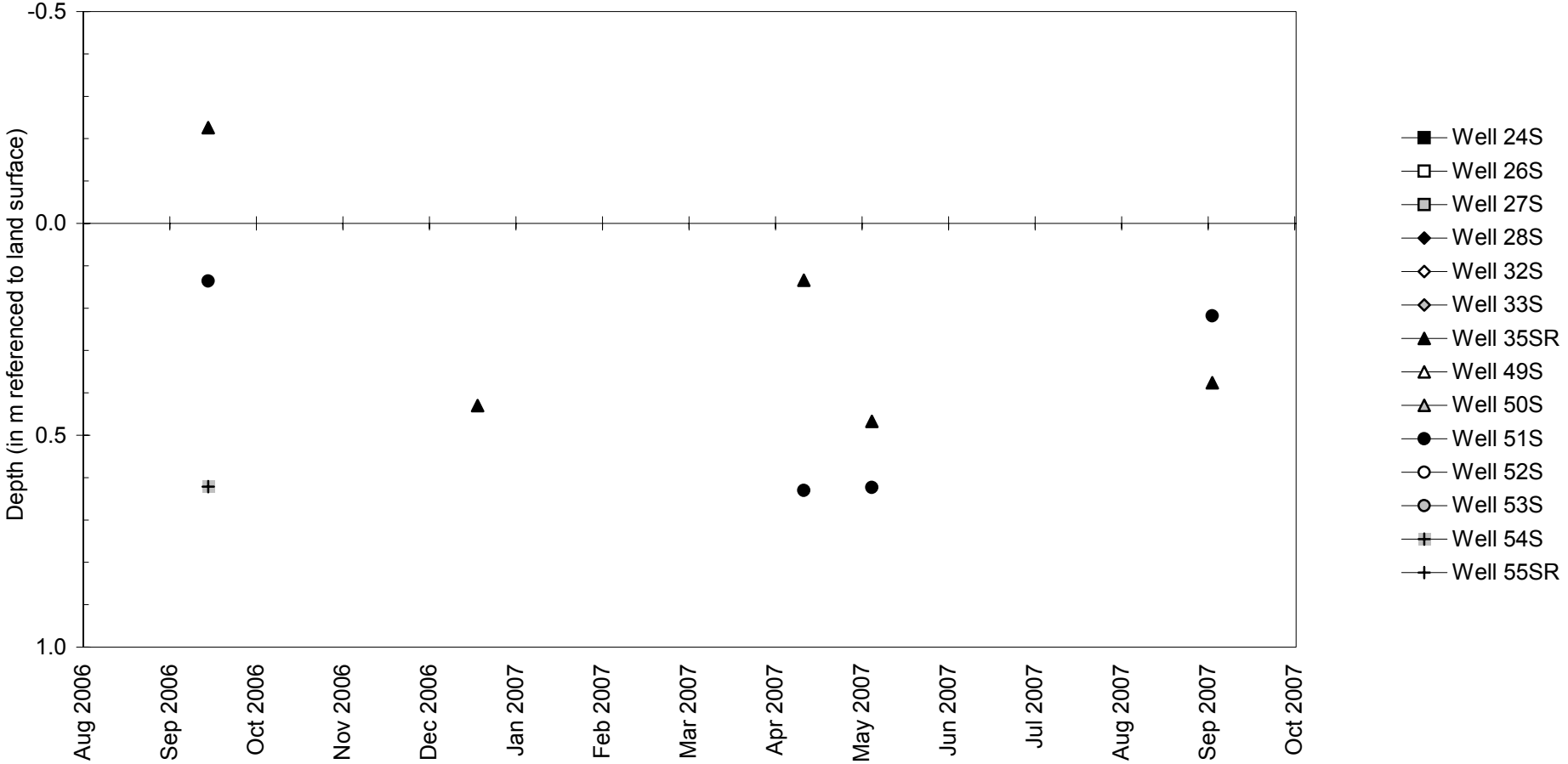
September 1, 2006 to September 18, 2007

Water-Level Elevations
in Soil-Zone Monitoring Wells, Data Loggers, and Stage Gauges
North of the Mazon River



Morris, Illinois River Wetland Bank Site
September 1, 2006 to September 18, 2007

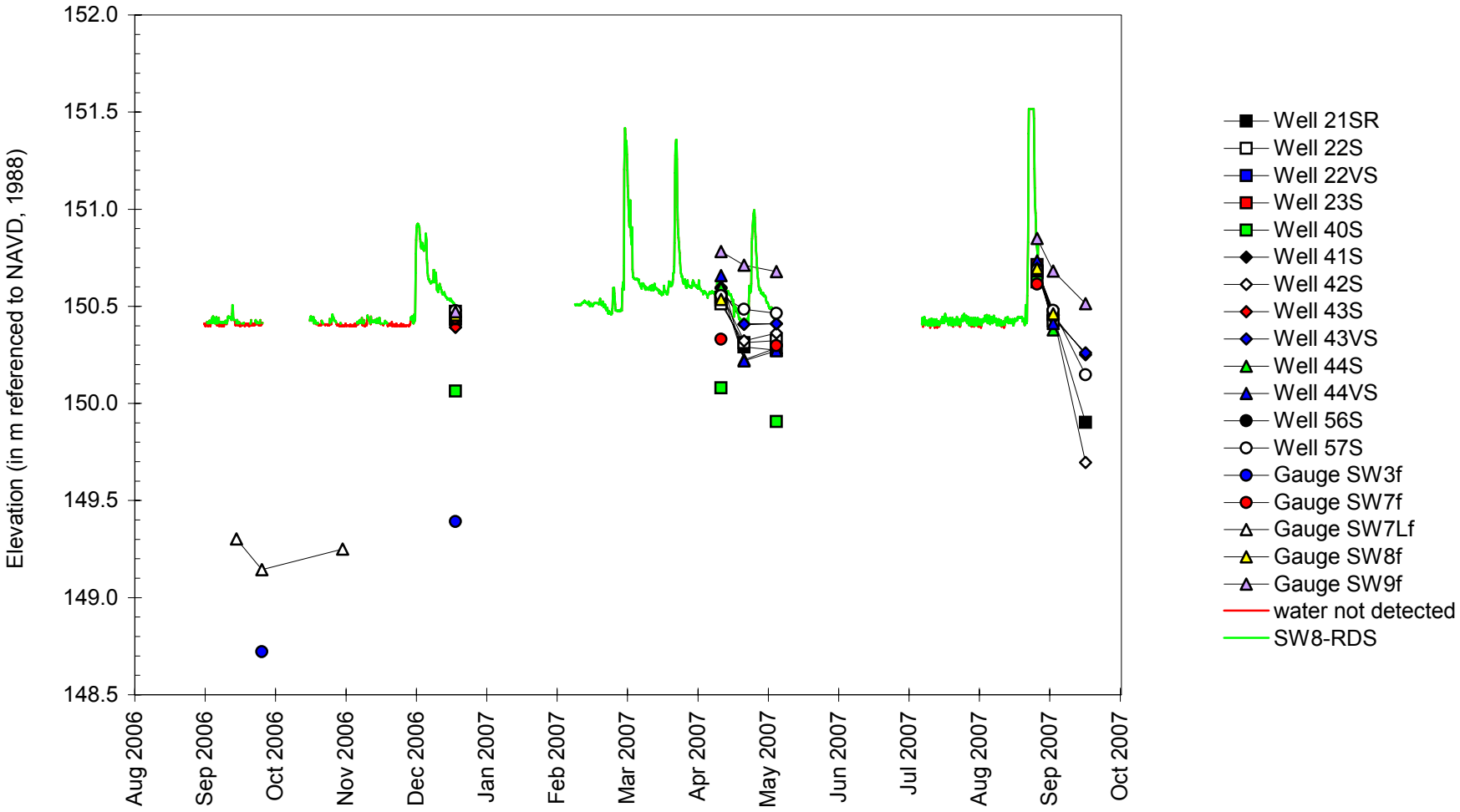
Depth to Water
in Soil-Zone Monitoring Wells
North of the Mazon River



Morris, Illinois River Wetland Bank Site

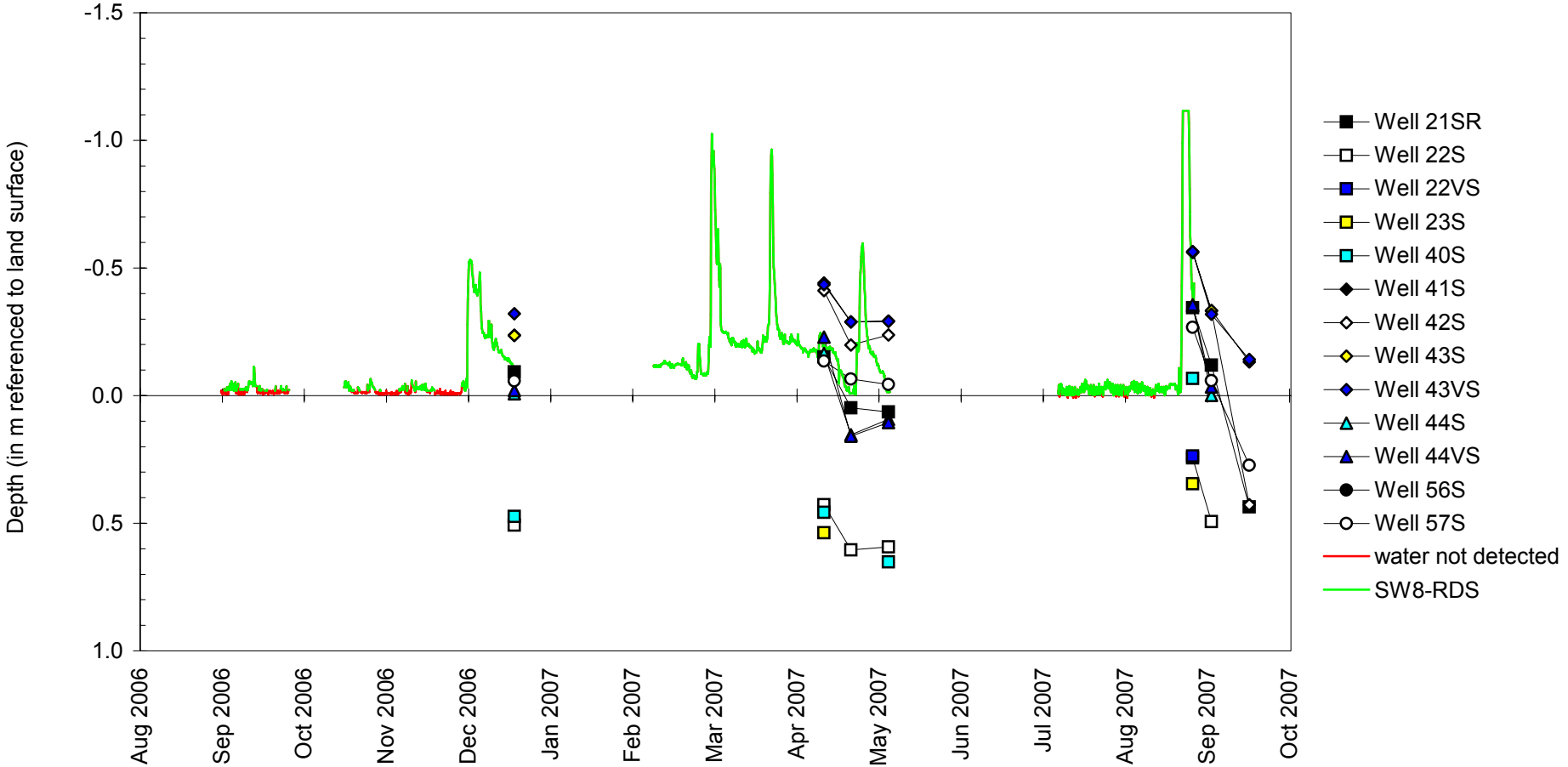
September 1, 2006 to September 18, 2007

Water-Level Elevations
in Soil-Zone Monitoring Wells, Data Loggers, and Stage Gauges
in the East Field and near the Natural Slough



Morris, Illinois River Wetland Bank Site
September 1, 2006 to September 18, 2007

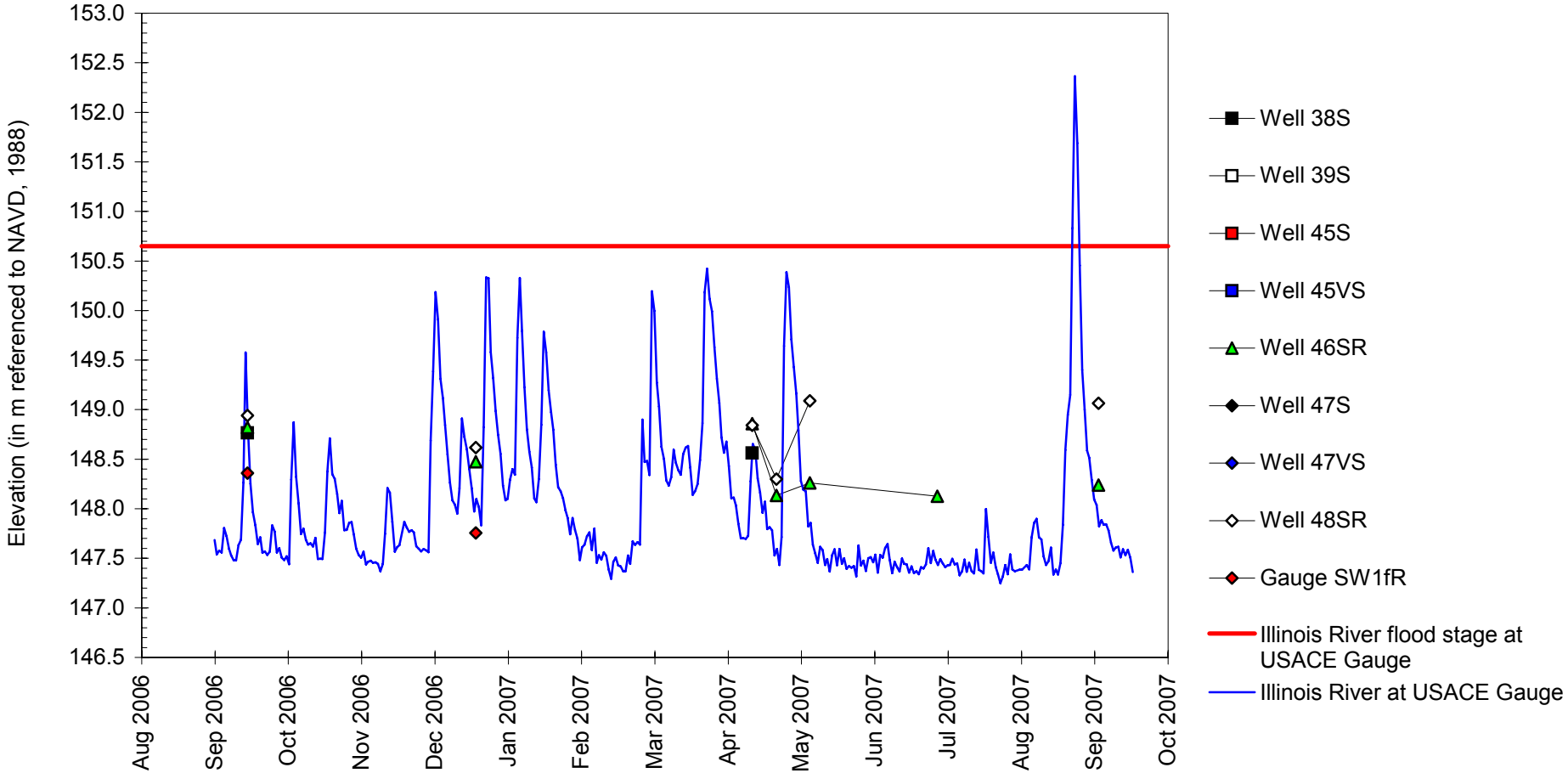
Depth to Water
in Soil-Zone Monitoring Wells and Data Loggers
in the East Field and near the Natural Slough



Morris, Illinois River Wetland Bank Site

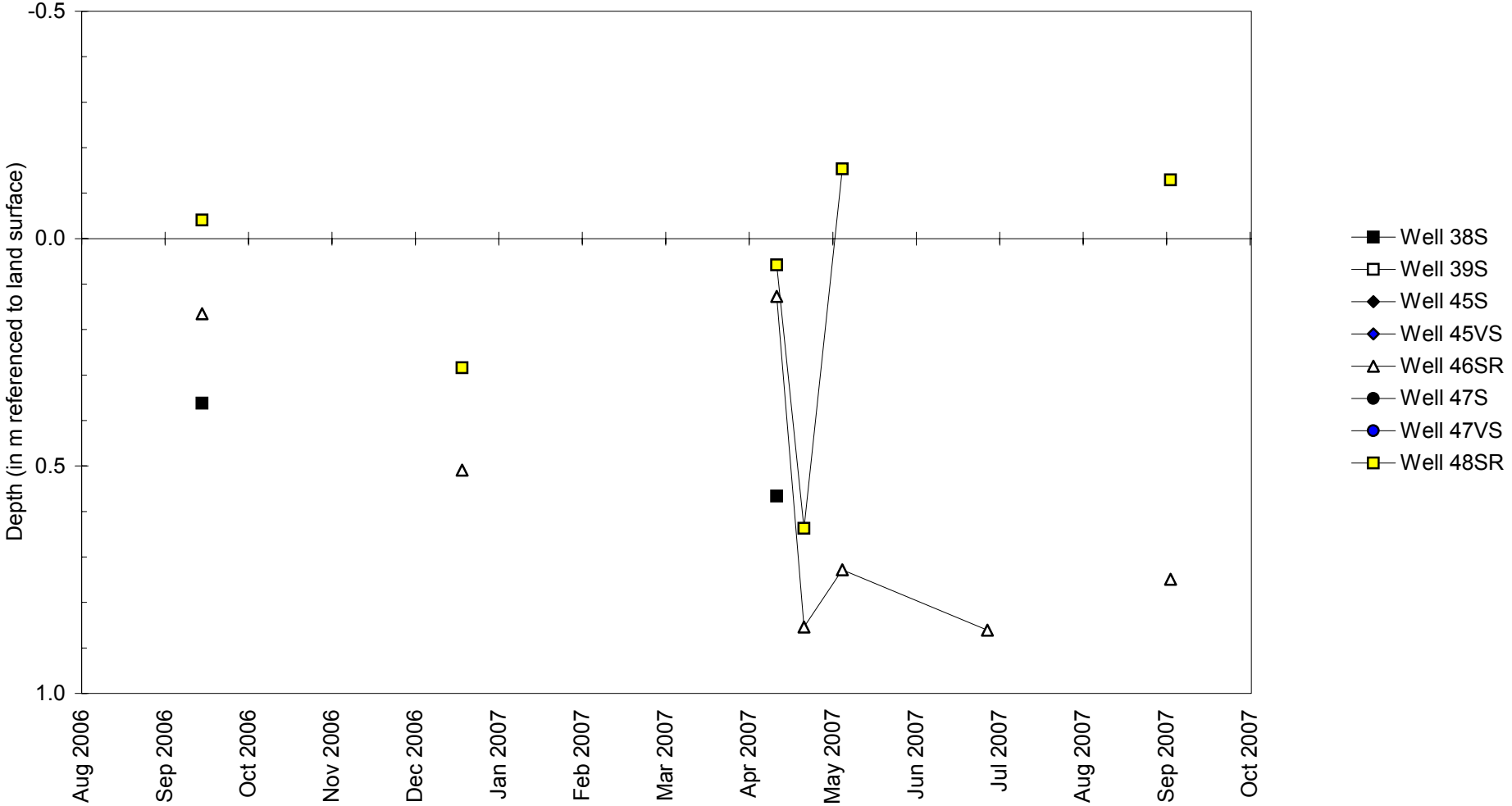
September 1, 2006 to September 18, 2007

Water-Level Elevations in Monitoring Wells, Data Loggers, and Stage Gauges near the Illinois River Floodplain Forest



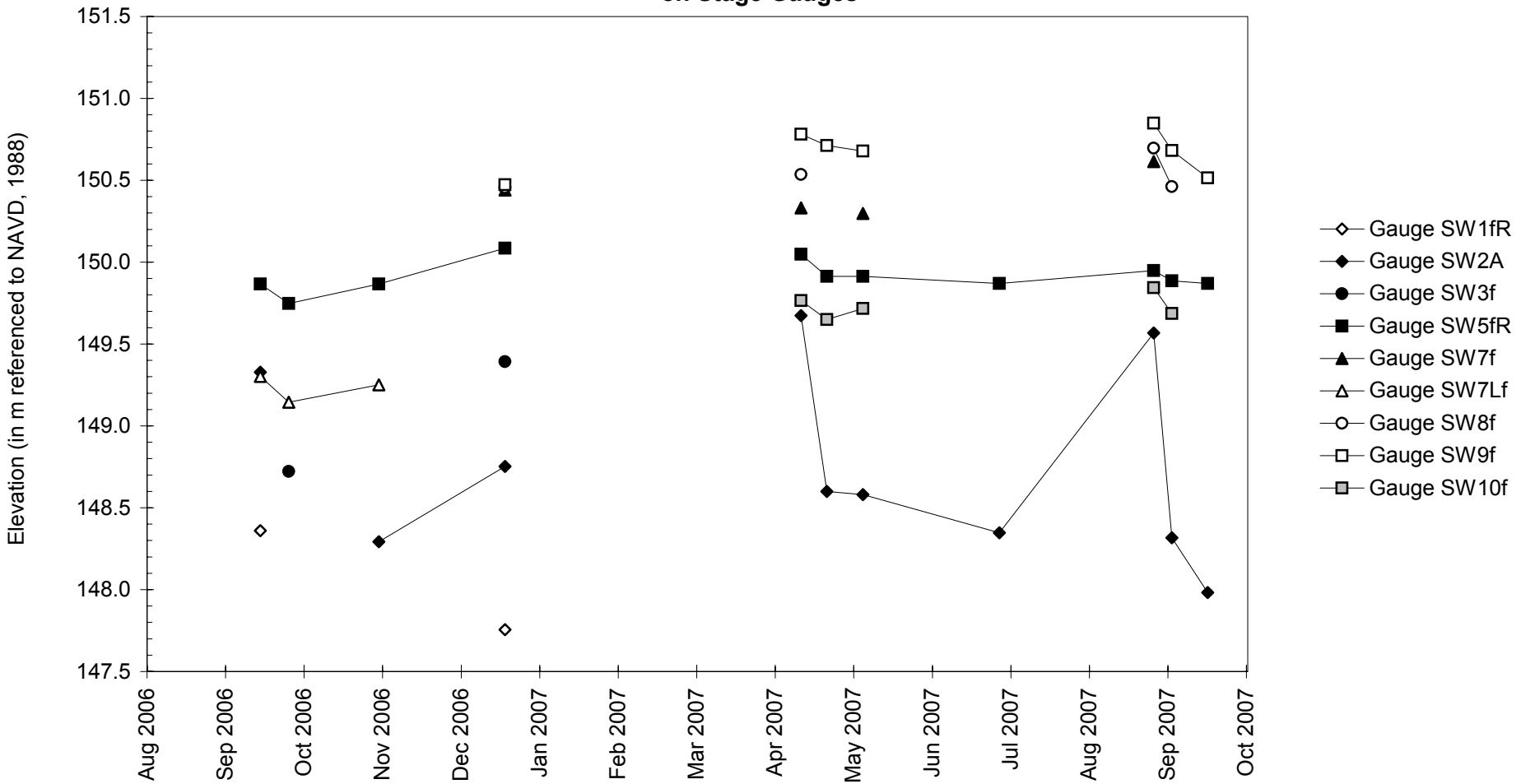
Morris, Illinois River Wetland Bank Site
September 1, 2006 to September 18, 2007

Depth to Water
in Monitoring Wells
near the Illinois River Floodplain Forest



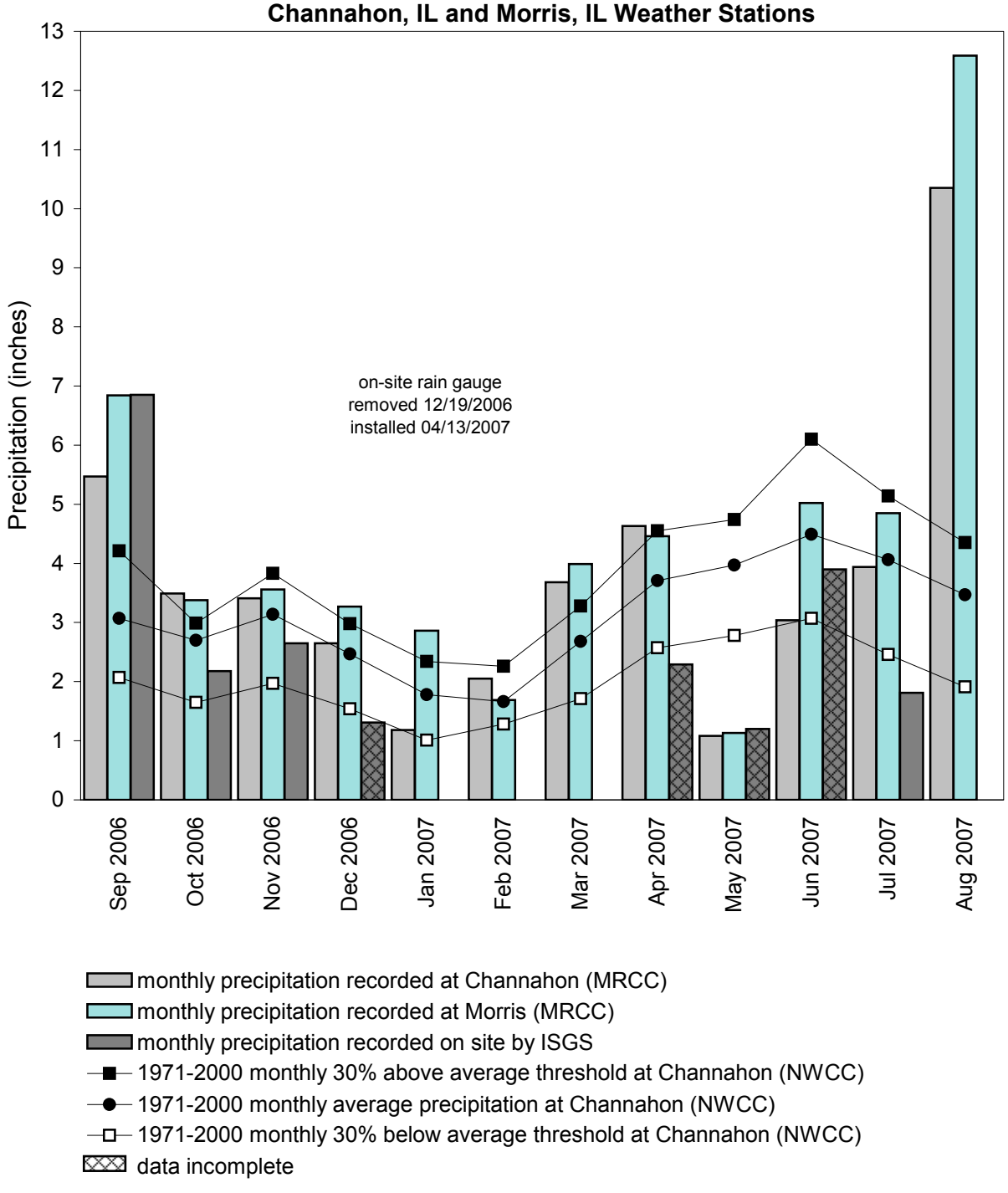
Morris, Illinois River Wetland Bank Site
September 1, 2006 to September 18, 2007

Water-Level Elevations on Stage Gauges



Morris, Illinois River Wetland Bank Site
September 2006 through August 2007

Total Monthly Precipitation Recorded On Site and at the Channahon, IL and Morris, IL Weather Stations



Graph last updated October 10, 2007

EDWARDS RIVER, MERCER COUNTY **ISGS #50**
WETLAND COMPENSATION SITE
FAP 310
Mercer County, near Boden, Illinois
Primary Project Manager: Steven E. Benton
Secondary Project Manager: Keith W. Carr

SITE HISTORY

- May 1996: ISGS submitted an initial site evaluation report to IDOT.
- Spring 1999: ISGS began post-construction monitoring.
- Fall 1999: Eleven sediment traps were added to the site at IDOT's request.
- April 2005: A berm was constructed at the northwest corner of the site by IDOT in order to increase the depth and duration of water retention on the site.

WETLAND HYDROLOGY CALCULATION FOR 2007

The area of the site that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the growing season was estimated to be 0.38 ha (0.95 ac) out of a total area of 0.61 ha (1.51 ac). The area of the site that satisfied wetland hydrology criteria for greater than 12.5% of the growing season was estimated to be 0.22 ha (0.54 ac). These estimates are based on the following factors:

- According to the MRCC, the median date that the growing season begins in nearby Aledo, Illinois, is April 11 and the season lasts 195 days; 5% of the growing season is 10 days and 12.5% of the growing season is 24 days.
- Total precipitation for the monitoring period was 88% of normal. Precipitation was at or above normal in November 2006, and in March, April, June and August 2007.
- In 2007, wetland hydrology occurred for more than 5% of the growing season at RDS 2, and at wells 3S, 3VS, 5SR, 6SR, 8VS, 9S, 11S, 12S, 12VS, 13S, and 13VS, and wetland hydrology also occurred for more than 12.5% of the growing season at RDS 2, and at wells 3VS, 8VS, 11S, 12VS, 13VS, and 13S.
- Surface-water levels measured at RDS 1 reveal that inundation occurred at an elevation greater than or equal to 193.68 m (635.46 ft) for more than 5%, but less than 12.5%, of the growing season.
- In 2007, inundation of the site was caused by two flood events, the first on February 25 and the second on March 1. Flood water flowed onto the site for about 20 hours during the first event, and for about 52 hours during the second event. The floods inundated the site to a depth of about 0.4 m (1.3 ft).
- The duration of these floods was much longer than in previous years, likely due to the berm built across the northwest corner of the site in 2005.

ADDITIONAL INFORMATION

- The sediment traps on the site were emptied on August 17, 2007. All of the traps contained sediment, most of which was likely deposited by the flood events in February and March 2007, though some may have been deposited by a flood event in September 2006. The last flood event to affect the site was in May 2004. Sediment thickness in the wetland mitigation area (T1, T2, T3, T4, T5, T6, T7, T10, and T12) ranged from 0.17 cm (0.07 inches [in]) to 1.04 cm (0.41 in), and averaged 0.42 cm (0.16 in). Sediment thickness in the natural forested wetland (T9) was 0.62 cm (0.24 in), and sediment thickness on the levee (T8) was 0.26 cm (0.10 in).

PLANNED FUTURE ACTIVITIES

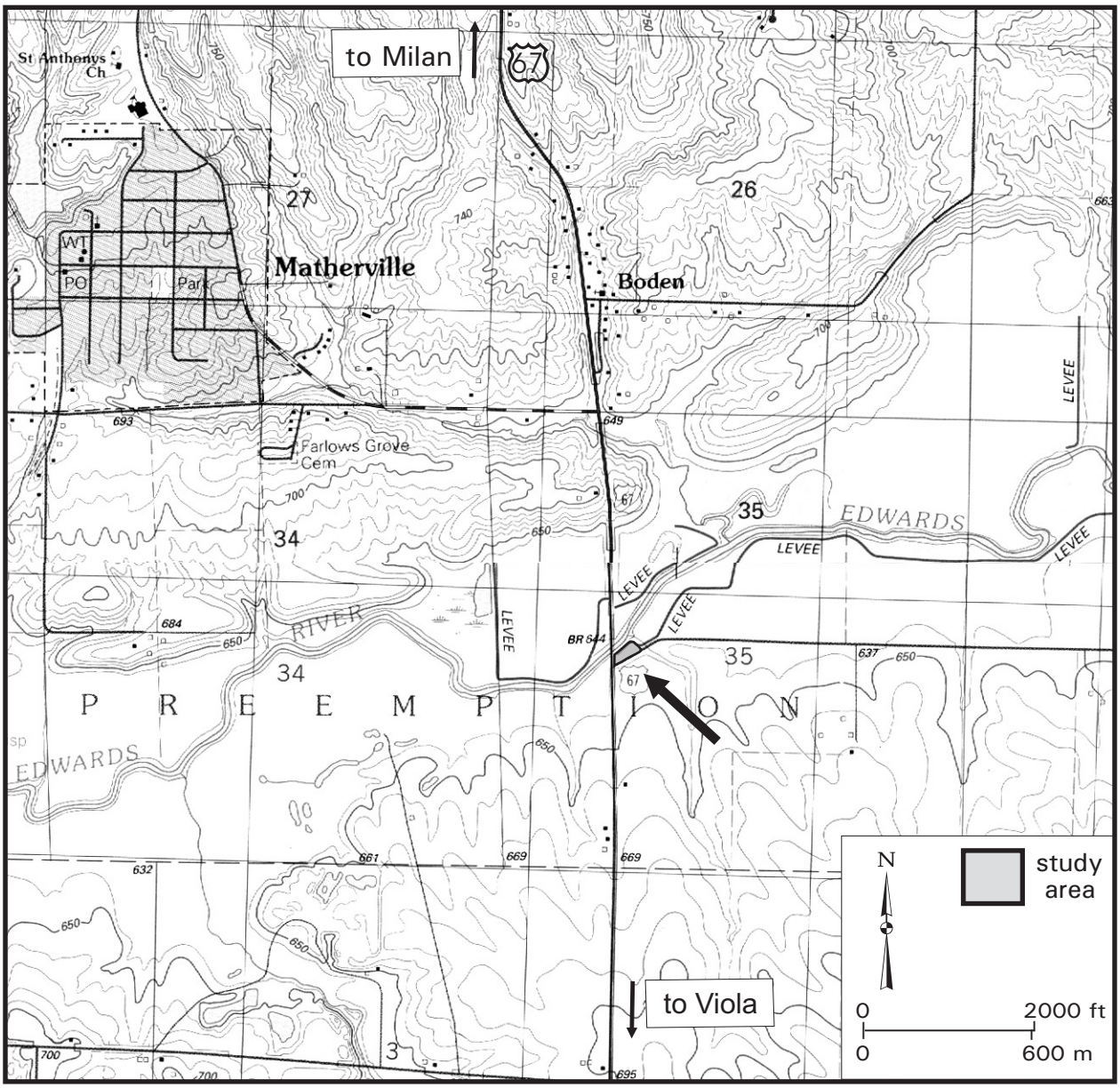
- Monitoring of hydrology and sediment deposition will continue until no longer required by IDOT.

Edwards River, Mercer County Wetland Compensation Site

(FAP 310)

General Study Area and Vicinity

from the USGS Topographic Series, Viola, IL (USGS 1992) and
Matherville, IL (USGS 1991) 7.5-minute Quadrangles
contour interval is 10 ft



Edwards River, Mercer County Wetland Compensation Site

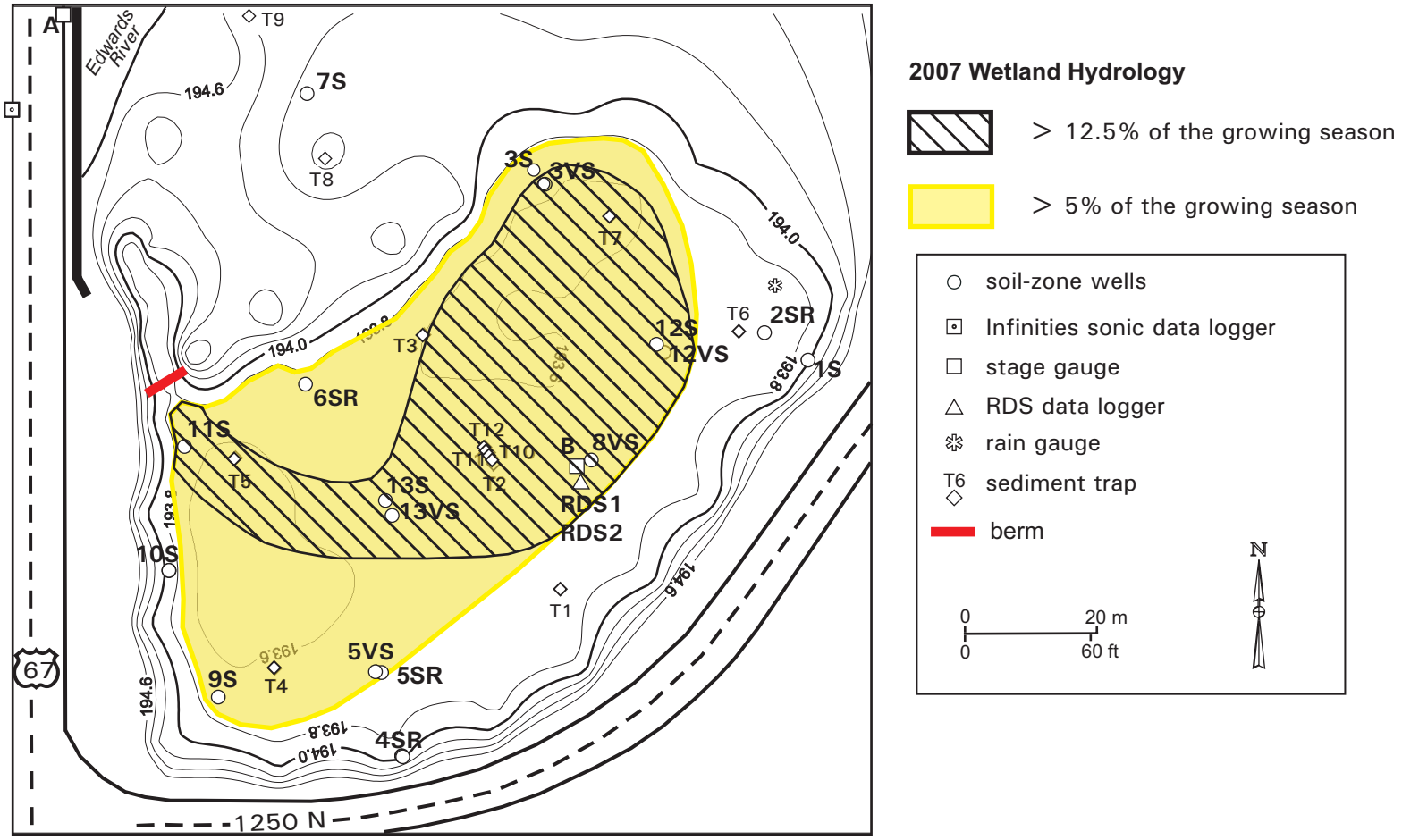
(FAP 310)

Estimated Areal Extent of 2007 Wetland Hydrology

based on data collected between September 1, 2006 and September 1, 2007

Map based on 2002 ISGS elevation survey referenced to NGVD, 1929

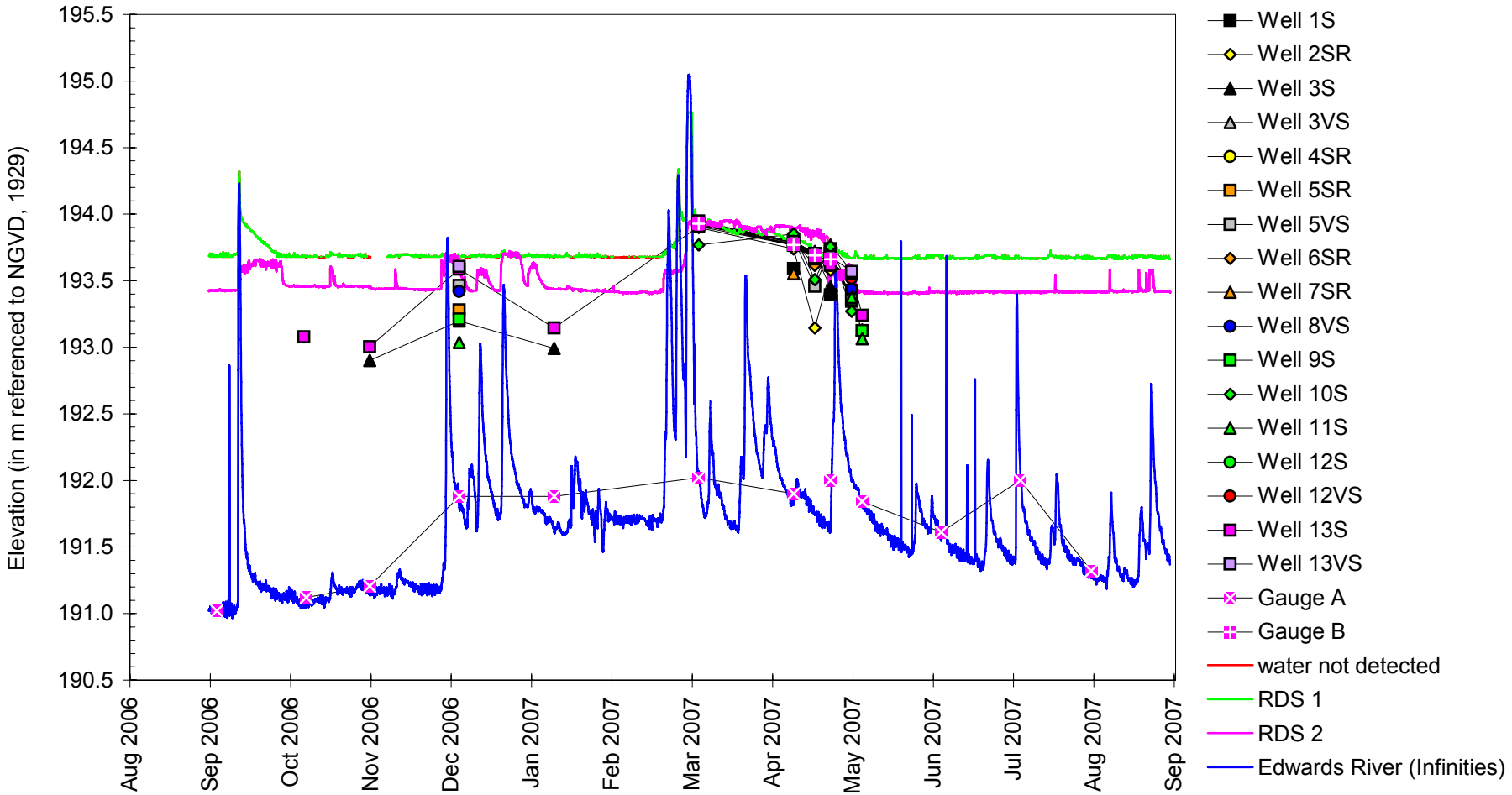
contour interval is 0.2 meters



Edwards River, Mercer County Wetland Compensation Site

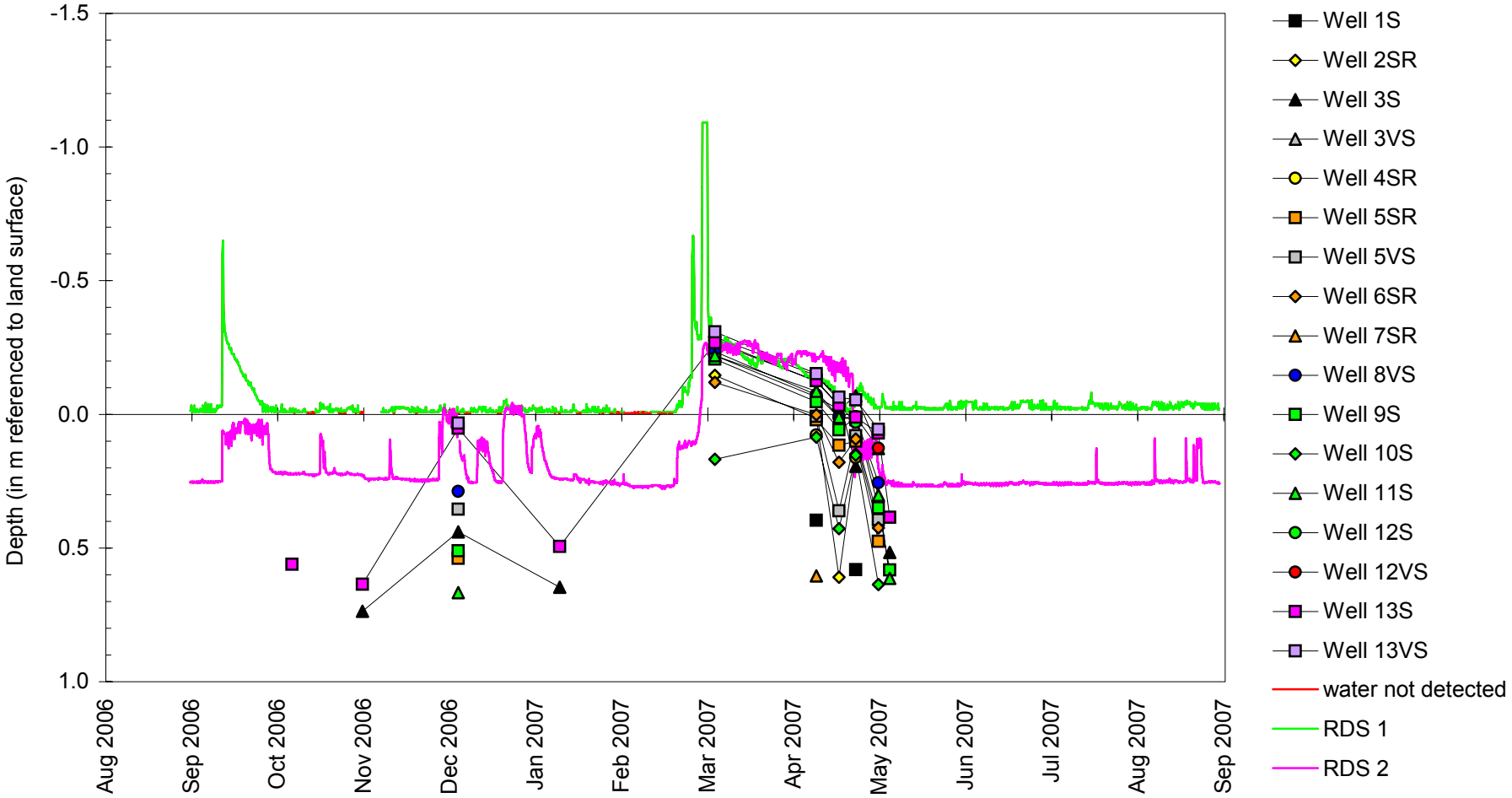
September 1, 2006 to September 1, 2007

Water-Level Elevations



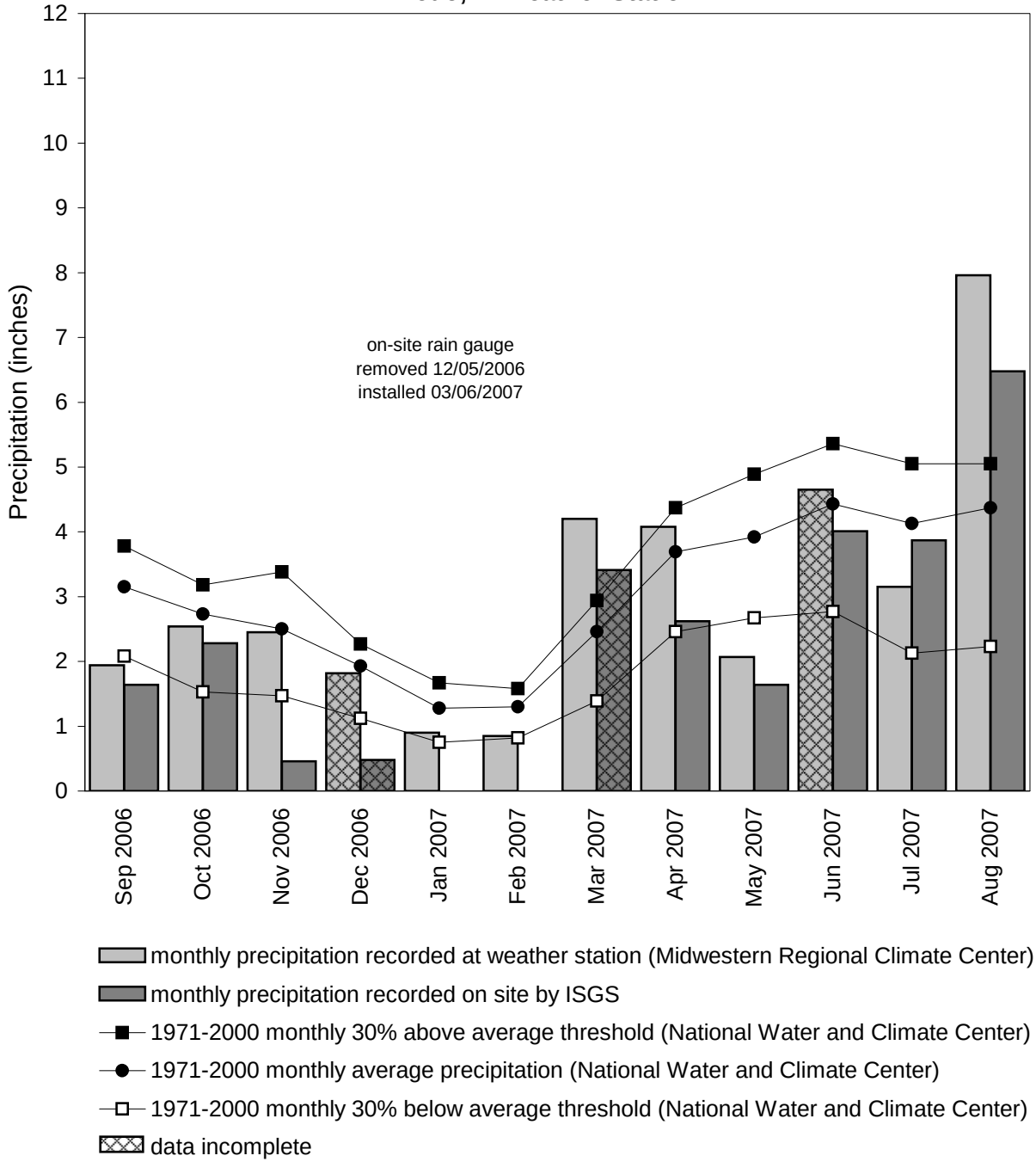
Edwards River, Mercer County Wetland Compensation Site
September 1, 2006 to September 1, 2007

Depth to Water



Edwards River, Mercer County
Wetland Compensation Site
September 2006 through August 2007

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



Graph last updated October 9, 2007

FORMER LUEHMANN PROPERTY, NEW RIVER CROSSING **ISGS #51**
POTENTIAL WETLAND COMPENSATION SITE
FAP 999
Madison County, near Stallings, Illinois
Primary Project Manager: Bonnie J. R. Sperling
Secondary Project Manager: Keith W. Carr

SITE HISTORY

- February 2000: The ISGS was tasked to perform a Level II hydrogeologic assessment of the site.

- May 2003: A Level II hydrogeological characterization report was submitted to IDOT (ISGS Open-File Series 2003–09).

- June 2003: IDOT requested the suspension of ground-water monitoring. The collection of data from surface-water instruments is ongoing.

SUMMARY OF 2007 EVENTS

The total area of the site is 27.5 ha (68 ac). Because ground-water monitoring was suspended at this site, an estimate of the area satisfying the criteria for wetland hydrology was not prepared for this report.

- According to the MRCC, the median date that the growing season begins in nearby Belleville, Illinois, is April 6 and the season lasts 199 days; 5% of the growing season is 10 days and 12.5% of the growing season is 25 days.

- Precipitation at the nearby Edwardsville weather station during the monitoring period was 92% of normal. Above-normal precipitation was reported during five months; October and December 2006, and January, February and April 2007, while below-normal precipitation was reported through the remainder of the monitoring period.

- Measurements in the Cahokia Canal indicate that the water level exceeded 126.8 m (416 ft) on two occasions during the growing season, April 14 and May 4–5, 2007. This is the suggested elevation of an intake culvert described in the Level II Report (ISGS Open-File Series 2003–09).

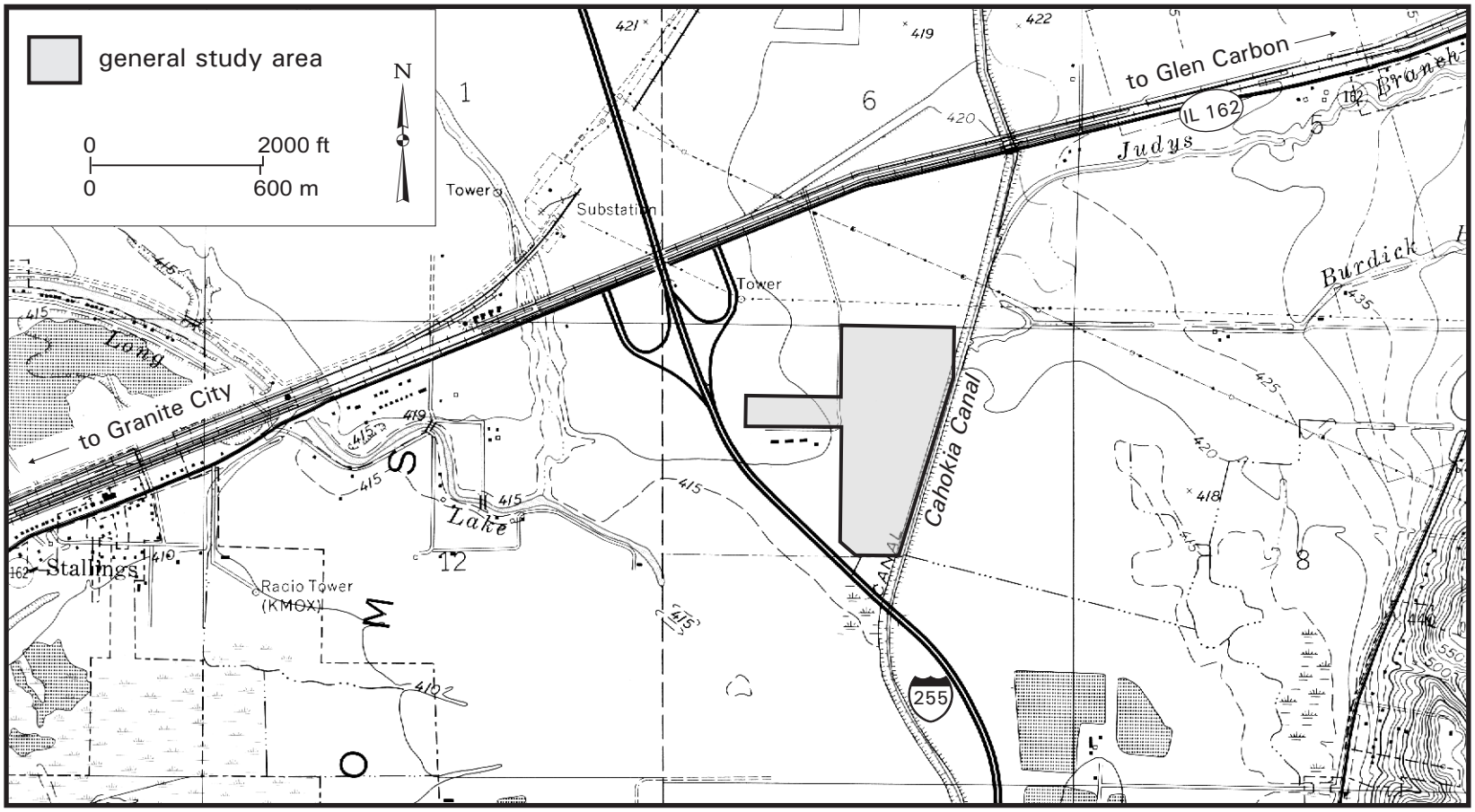
PLANNED FUTURE ACTIVITIES

- Collection of surface-water data will continue at this site until no longer required by IDOT.

Former Luehmann Property, New River Crossing Potential Wetland Compensation Site (FAP 999)

General Study Area and Vicinity

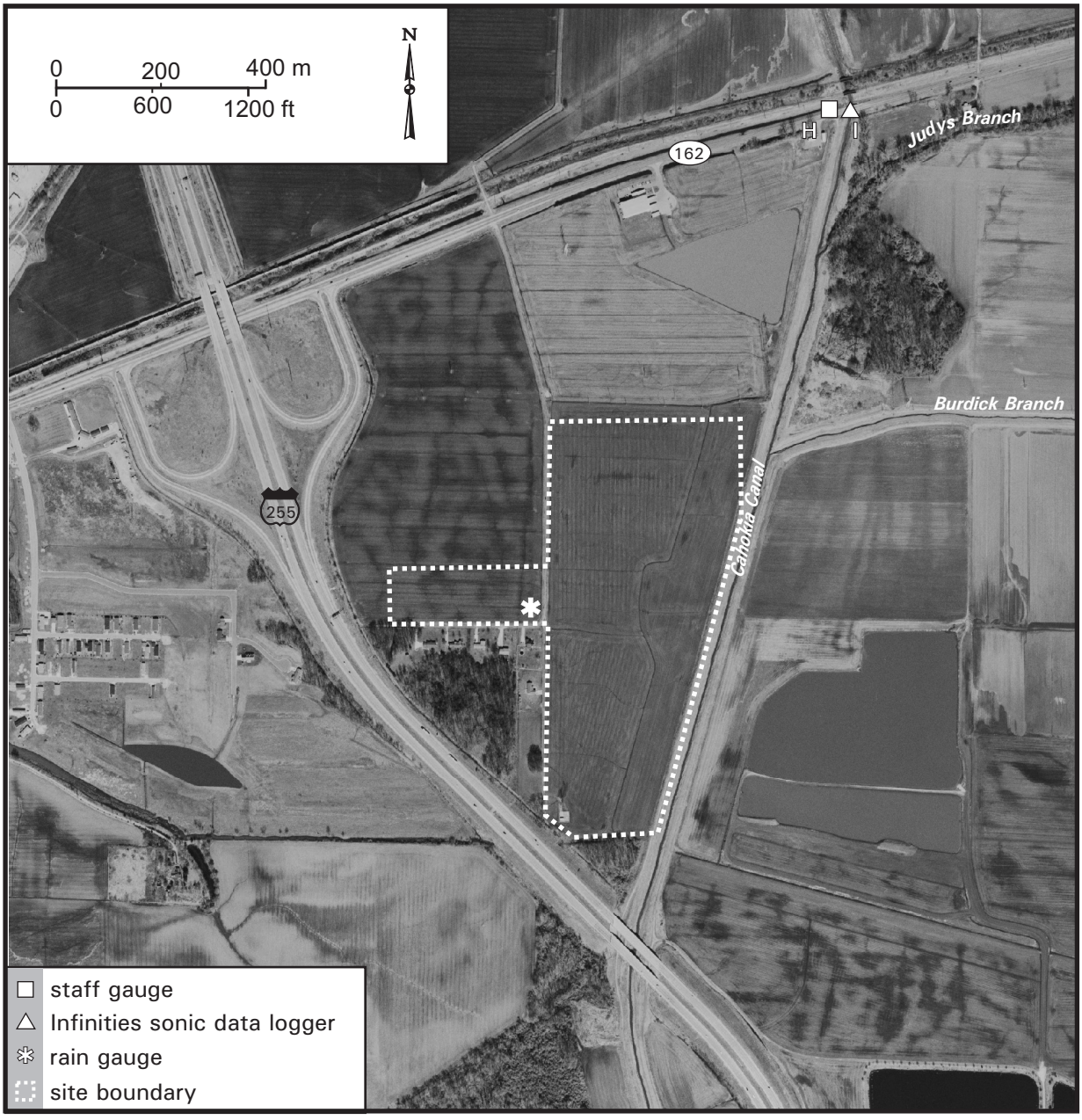
from the USGS Topographic Series, Monks Mound, IL 7.5-minute Quadrangle (USGS 1993)
contour interval is 10 feet



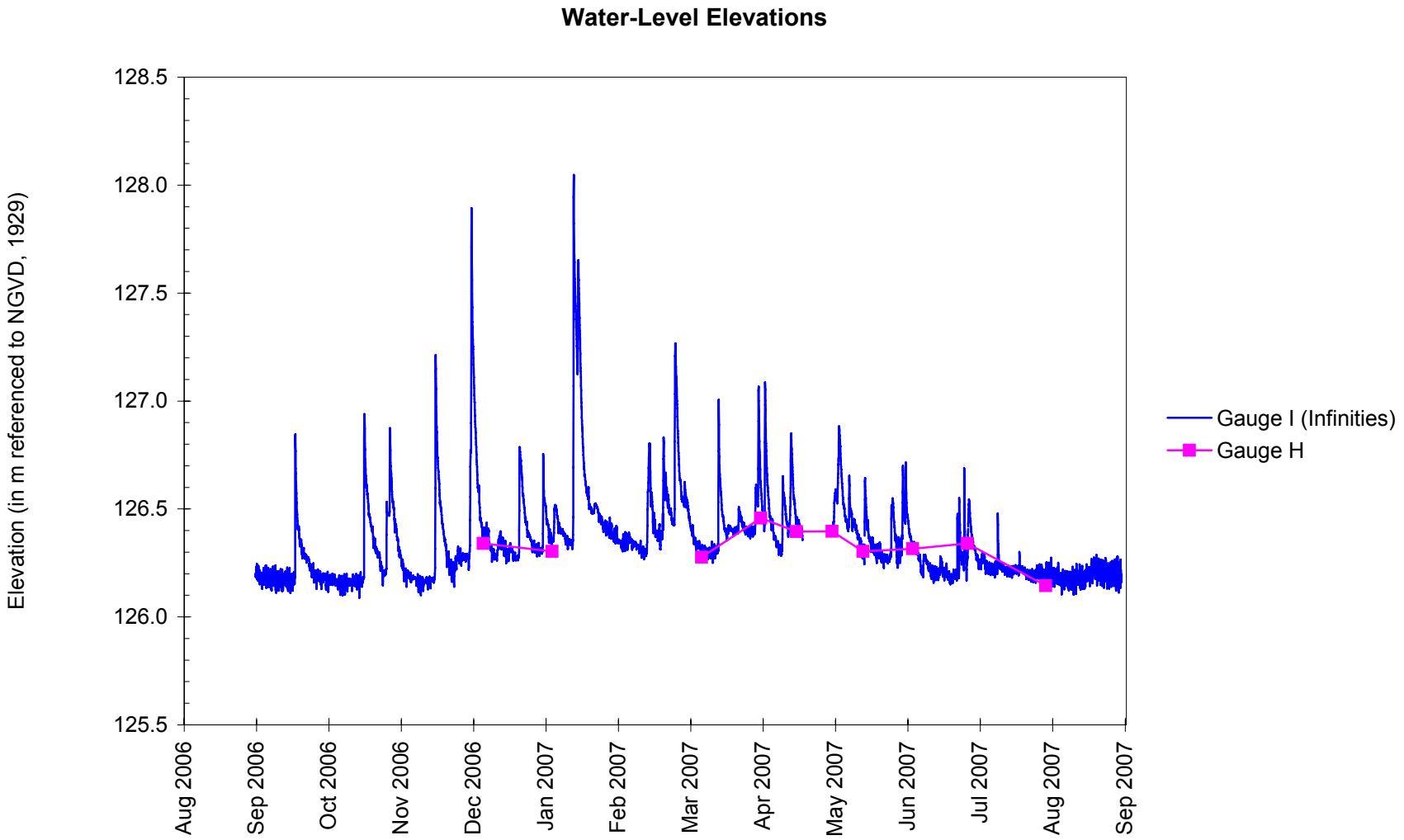
Former Luehmann Property, New River Crossing
Potential Wetland Compensation Site
(FAP 999)

Locations of ISGS Monitoring Instruments

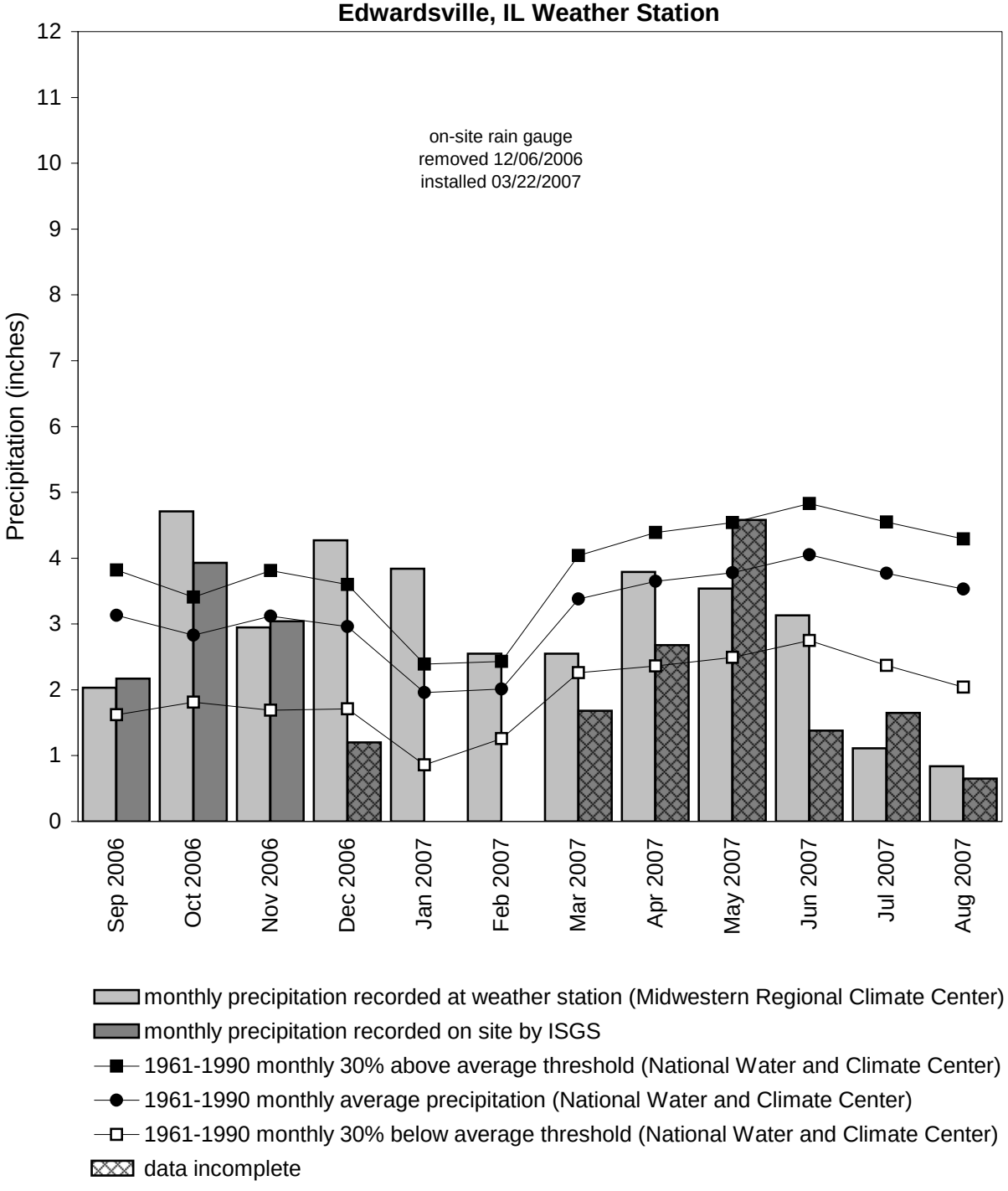
Map based on USGS digital orthophotograph, Monks Mound NE quarter quadrangle
produced from 2005 aerial photography (ISGS 2006)



Former Luehmann Property, New River Crossing Potential Wetland Compensation Site
September 1, 2006 to September 1, 2007



Former Luehmann Property, New River Crossing
Potential Wetland Compensation Site
September 2006 through August 2007
Total Monthly Precipitation Recorded On Site and at the Edwardsville, IL Weather Station



Graph last updated October 10, 2007

FORMER WESSEL PROPERTY **ISGS #52**
LA GRANGE WETLAND BANK SITE
Brown County, near La Grange, Illinois
Primary Project Manager: Keith W. Carr
Secondary Project Manager: Geoffrey E. Pociask

SITE HISTORY

- February 2000: ISGS was tasked by IDOT to conduct a Level II hydrogeologic assessment of the site, and began on-site activities in the Spring of 2000.

- August 2002: IDOT tasked ISGS and INHS to prepare a draft wetland banking instrument, which was submitted to IDOT in January 2003.

- January 2005: A Level II report was submitted to IDOT (ISGS Open-File Series 2005–02).

- Fall 2005 and Spring 2006: Extensive earthworks were undertaken by IDOT, including filling and plugging of several ditches, reshaping of the east levee, construction of a raised access road, and the excavation of a large basin in the north–central area of the site. Two large drainage tiles were located and removed by IDOT. A partial repair of the south levee breach was also completed by an adjacent landowner.

- Fall 2006: A total of 2,849 primarily oak and hickory trees were planted in Fields 4 and 7. Protective baskets, support poles, and weed mats were also installed.

- Winter and Spring 2007: A combination of winter and spring floods inundated most of the site, and ice and wave action caused some damage to planted trees. A total of 12 ISGS soil-zone wells were also destroyed. Trees were righted and baskets were repaired by the end of May.

WETLAND HYDROLOGY CALCULATION FOR 2007

We estimate that the total area of the site that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the growing season in 2007 was 487.8 ha (1205.4 ac) out of a total site area of 666 ha (1645 ac). Further, 451.0 ha (1114.4 ac) also satisfied wetland hydrology criteria for greater than 12.5% of 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 Rushville, Illinois is April 6 and the season lasts 208 days; 5% of the growing season is 10 days and 12.5% of the growing season is 26 days.

- Total precipitation for the monitoring period was 78% of normal. During the four-month period from December 2006 to March 2007, precipitation was 101% of normal, resulting in normal conditions entering the growing season and a fairly typical early spring flood. In the critical April to July period, however, precipitation dropped off sharply to only 54% of normal. This below-normal spring and summer precipitation did not reduce the extent of wetland hydrology in this monitoring year due to the spring flood.

- Of the 25 undamaged soil-zone wells on site, 22 wells satisfied wetland hydrology criteria for greater than 5% of the growing season. These were 3S, 4S, 5S, 6S, 7S, 8S, 10S, 11S, 12S, 13S, 15S, 16S, 17S, 18S, 20S, 21S, 22S, 23S, 26S, 29S, 35S, and 36S. Further, 17 of the undamaged soil-zone wells satisfied wetland hydrology criteria for greater than 12.5% of the growing season. These were 6S, 7S, 8S, 10S, 11S, 12S, 13S, 15S, 16S, 17S, 18S, 20S, 21S, 22S, 23S, 35S, and 36S.

- Water levels recorded at all eight stage gauges on site satisfied wetland hydrology criteria for greater than both 5% and 12.5% of the growing season. A combination of data from these on-site gauges and from the USACE La Grange stream gauging station showed surface-water inundation for a period sufficient to satisfy wetland hydrology criteria at an elevation of at least 132.50 m (434.71 ft) for greater than 5% of the growing season, and at an elevation of at least 132.25 m (433.89 ft) for greater than 12.5% of the growing season.

PLANNED FUTURE ACTIVITIES

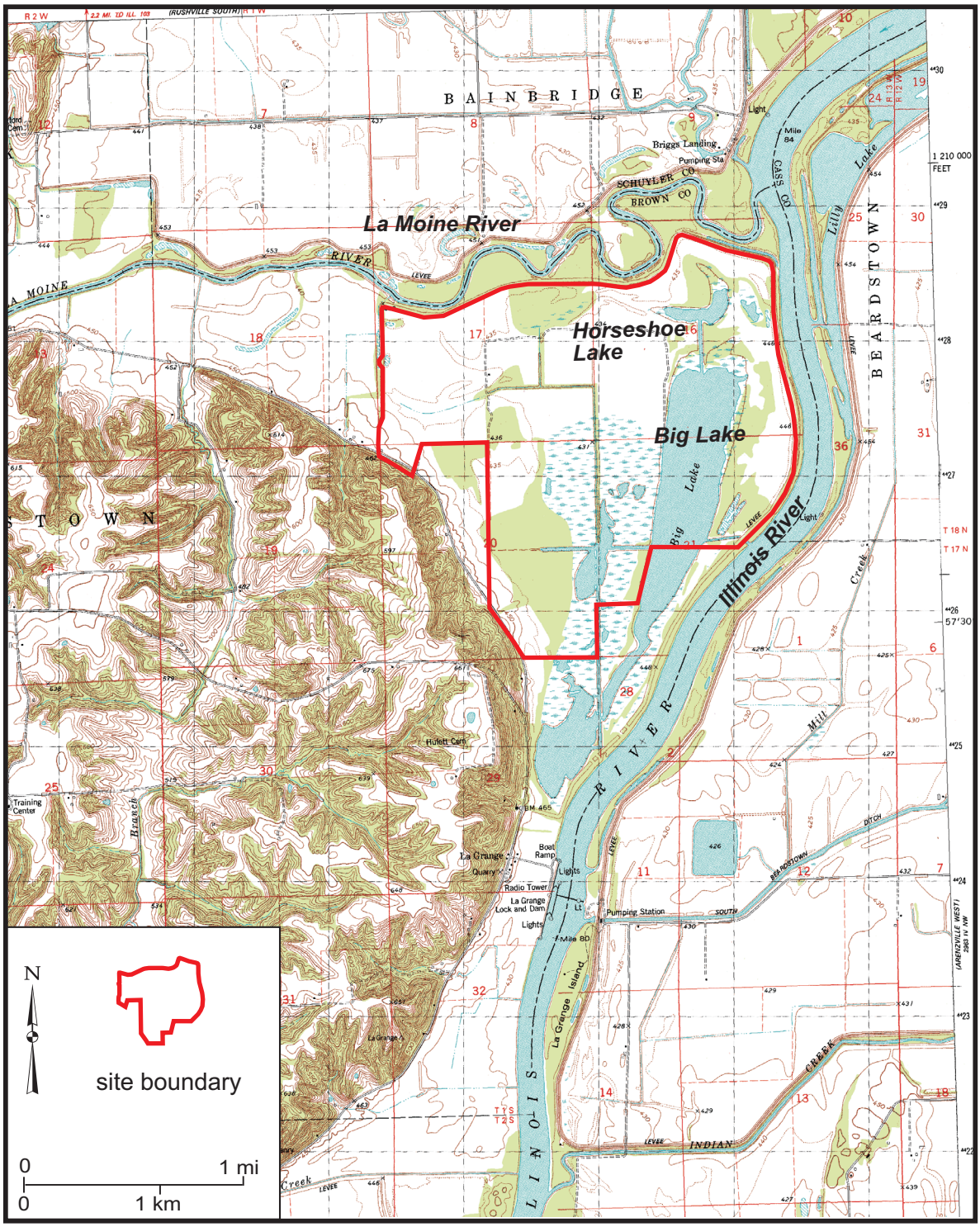
- Two flood-resistant data loggers will be added to the site in the spring of 2008. Soil-zone wells damaged in the 2007 flooding will also be replaced prior to the start of the growing season.

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

Former Wessel Property, La Grange Wetland Bank Site

General Study Area and Vicinity

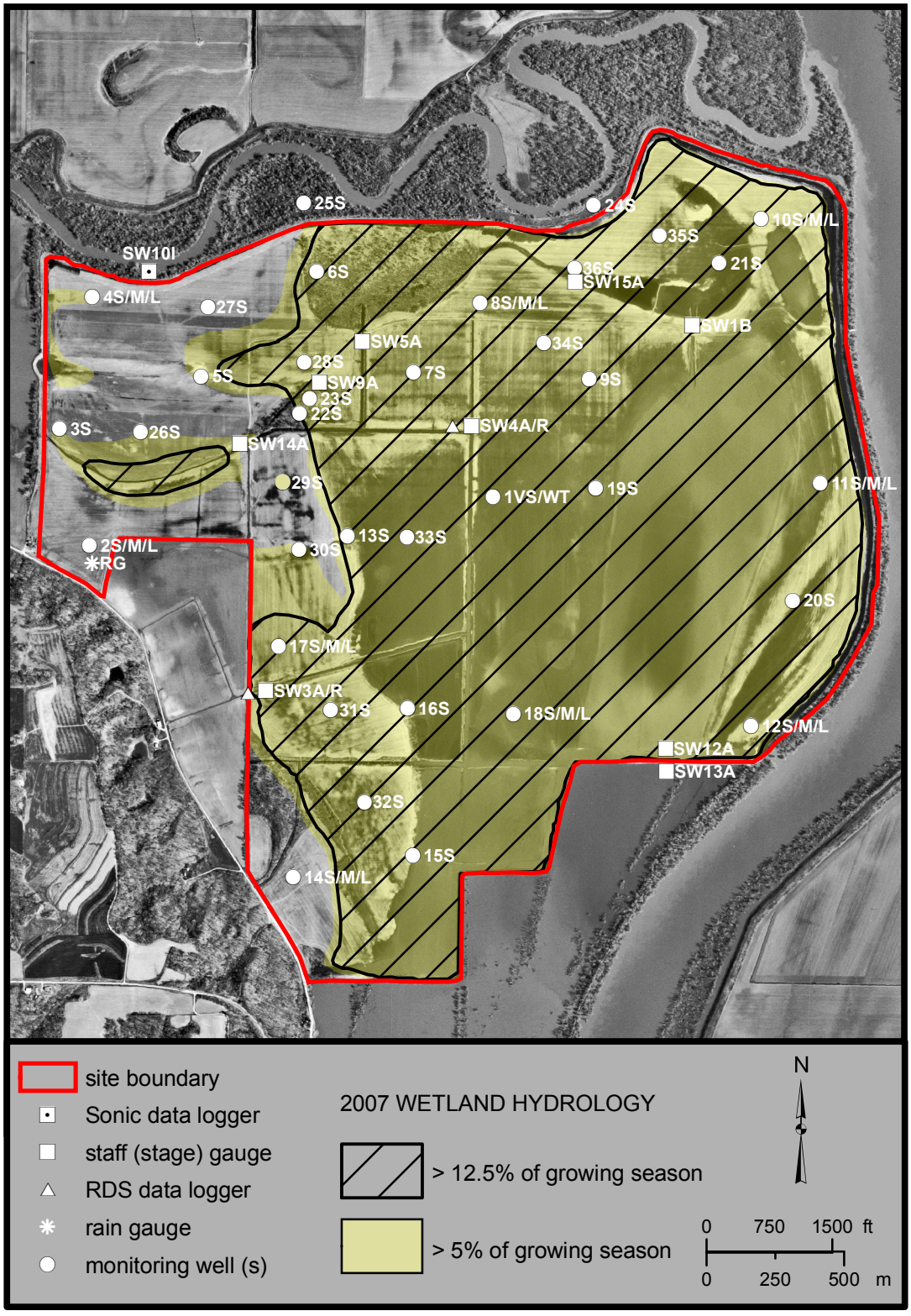
from the USGS Topographic Series, Cooperstown, IL 7.5-minute Quadrangle (USGS 1980)
contour interval is 10 feet



Former Wessel Property, La Grange Wetland Bank Site

Estimated Areal Extent of 2007 Wetland Hydrology

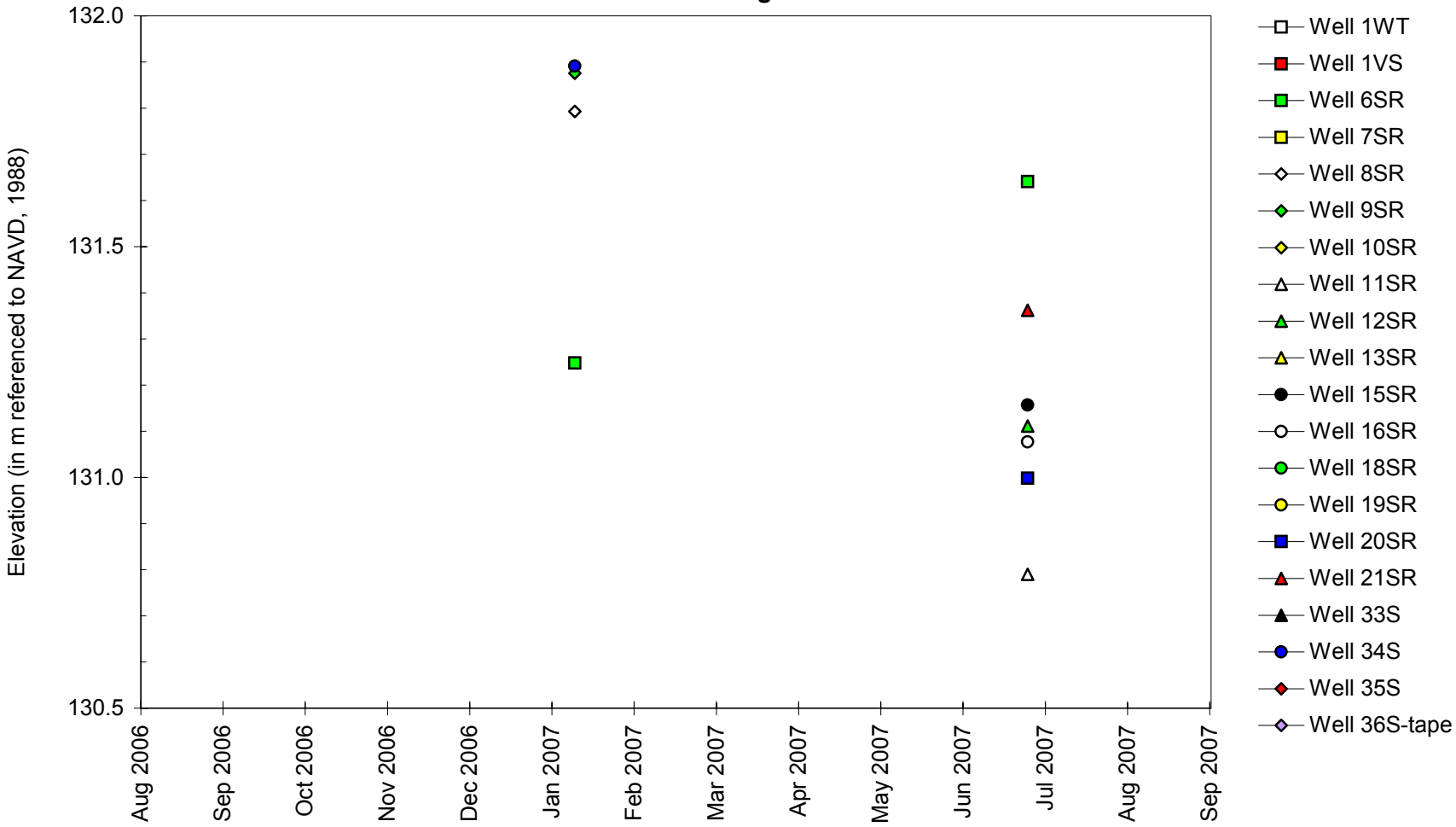
map based upon USGS digital orthophotograph, Cooperstown NE quarter quadrangle, produced from 4/14/98 aerial photography (ISGS 2002)



Former Wessel Property, La Grange Wetland Bank Site

September 1, 2006 to September 1, 2007

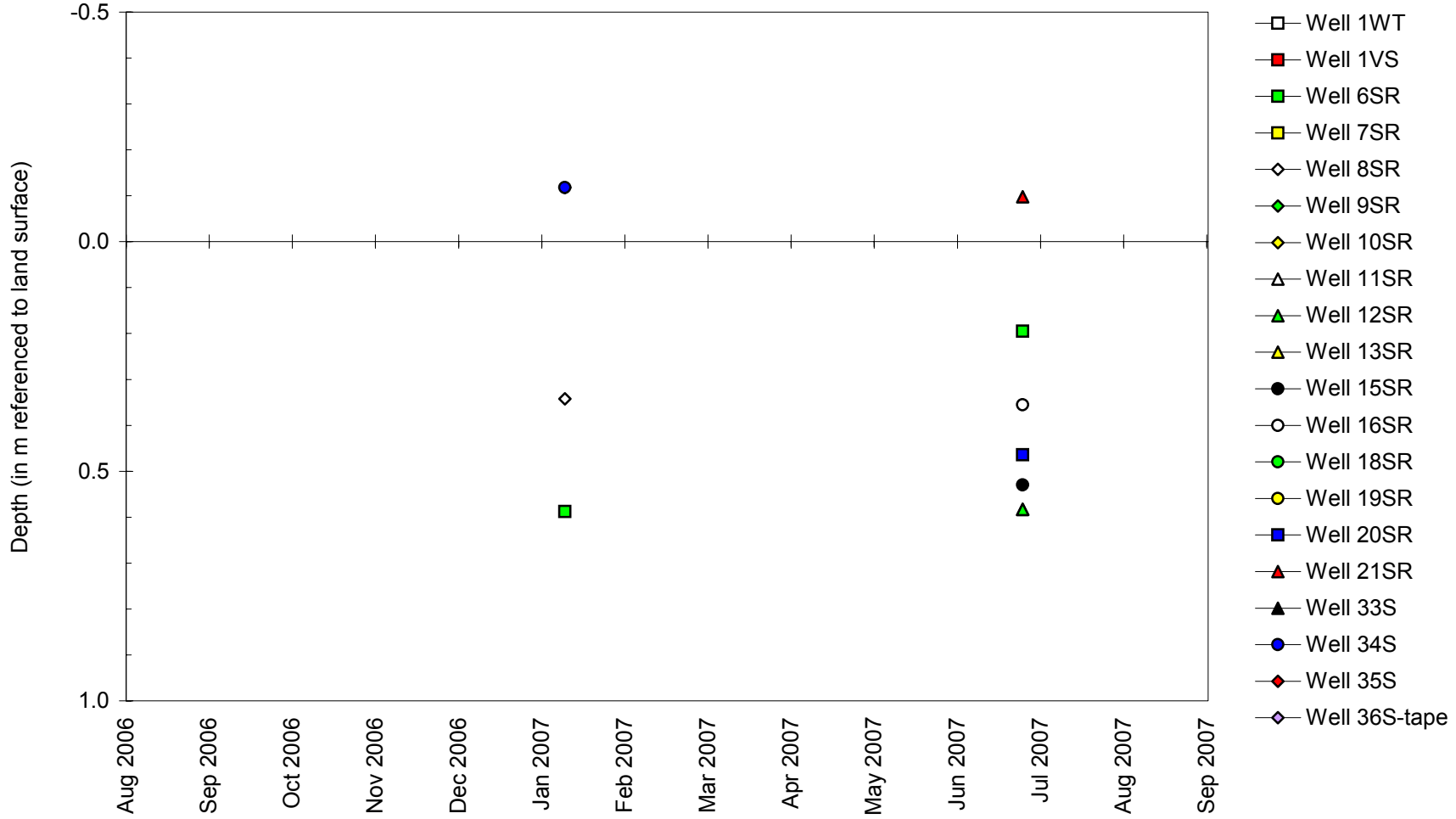
Water-Level Elevations in Shallow Monitoring Wells in the Basin of Big Lake



Former Wessel Property, La Grange Wetland Bank Site

September 1, 2006 to September 1, 2007

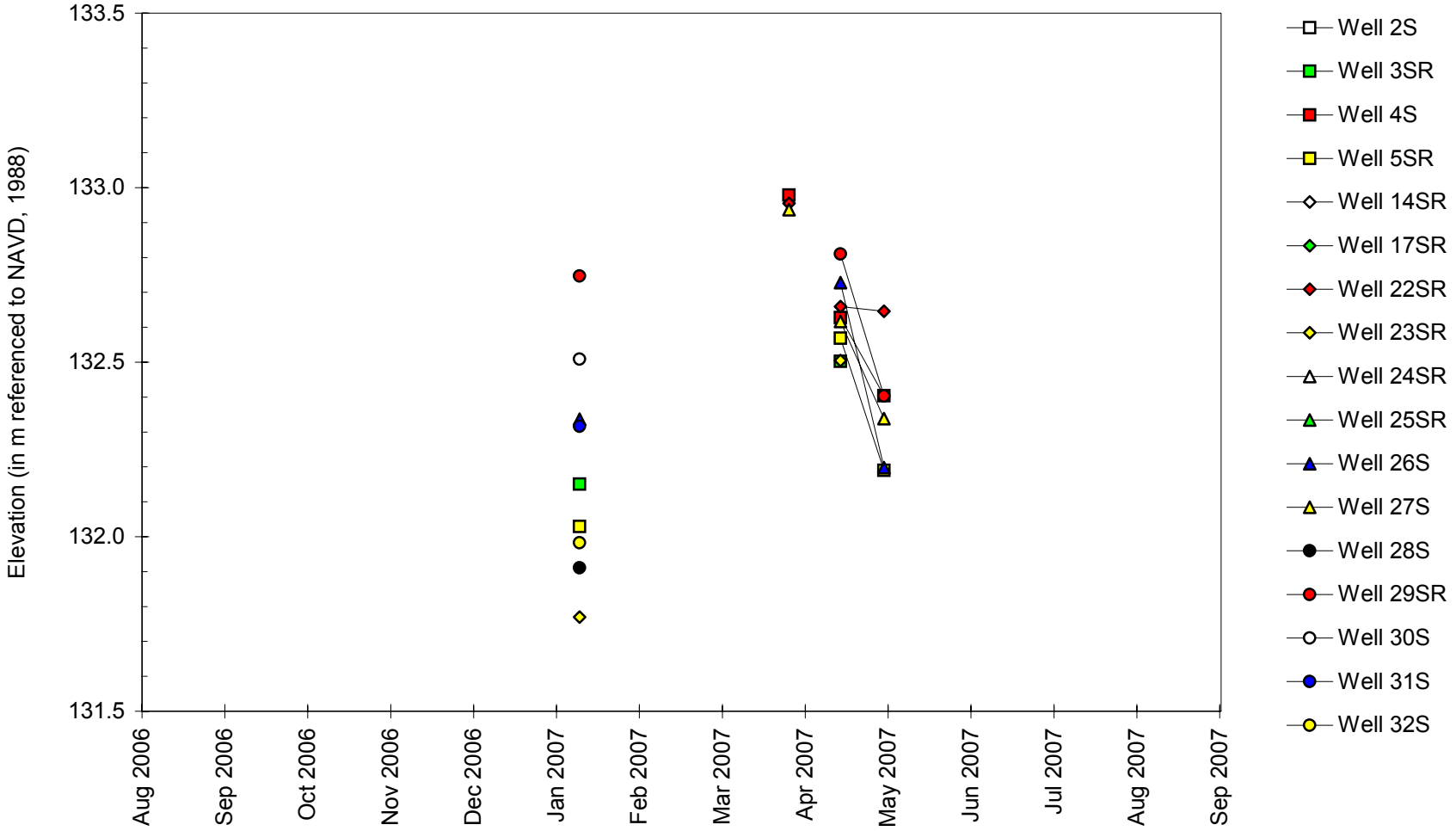
Depth to Water
in Shallow Monitoring Wells
in the Basin of Big Lake



Former Wessel Property, La Grange Wetland Bank Site

September 1, 2006 to September 1, 2007

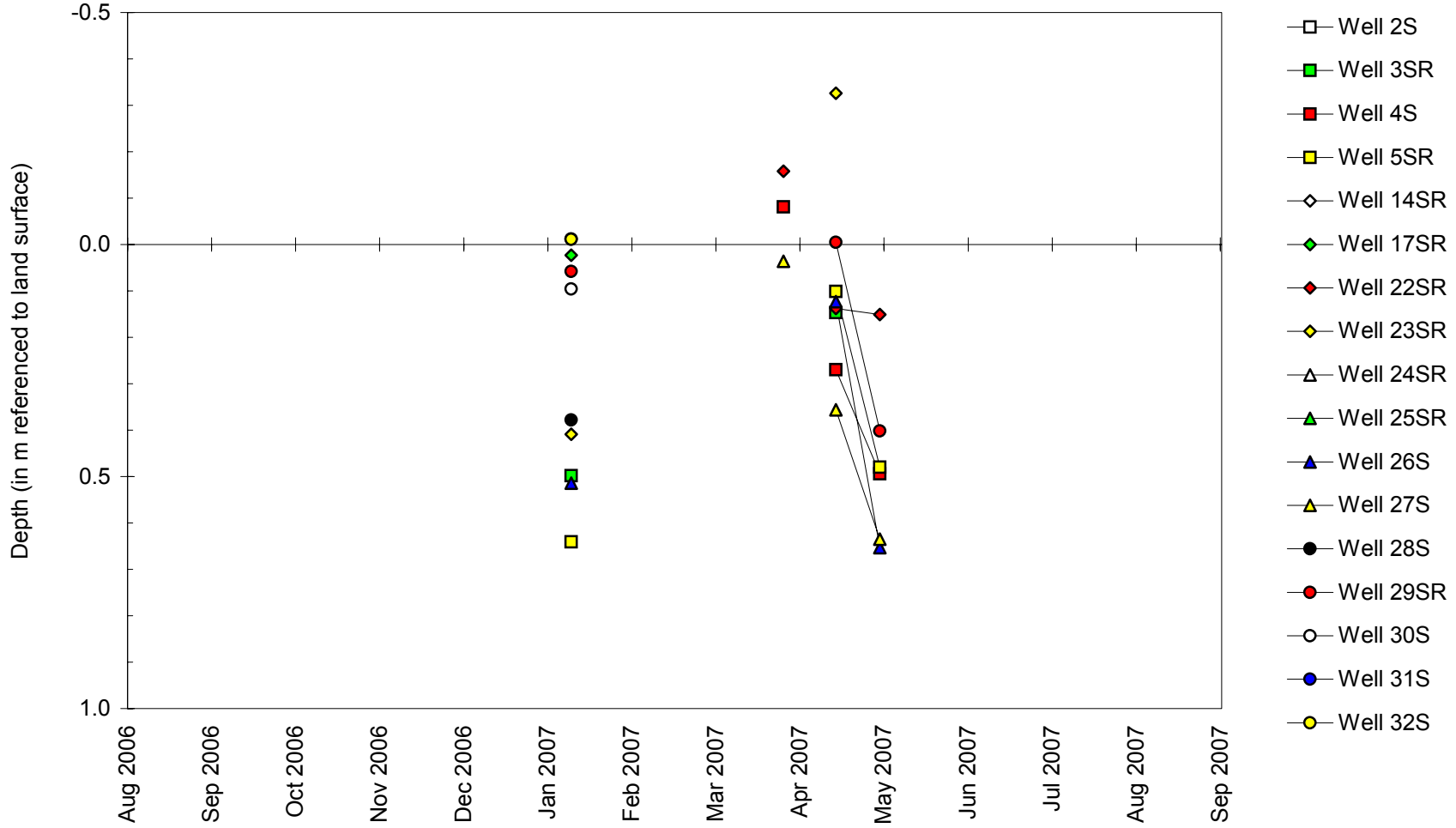
Water-Level Elevations in Shallow Monitoring Wells in the Terrace and Fan



Former Wessel Property, La Grange Wetland Bank Site

September 1, 2006 to September 1, 2007

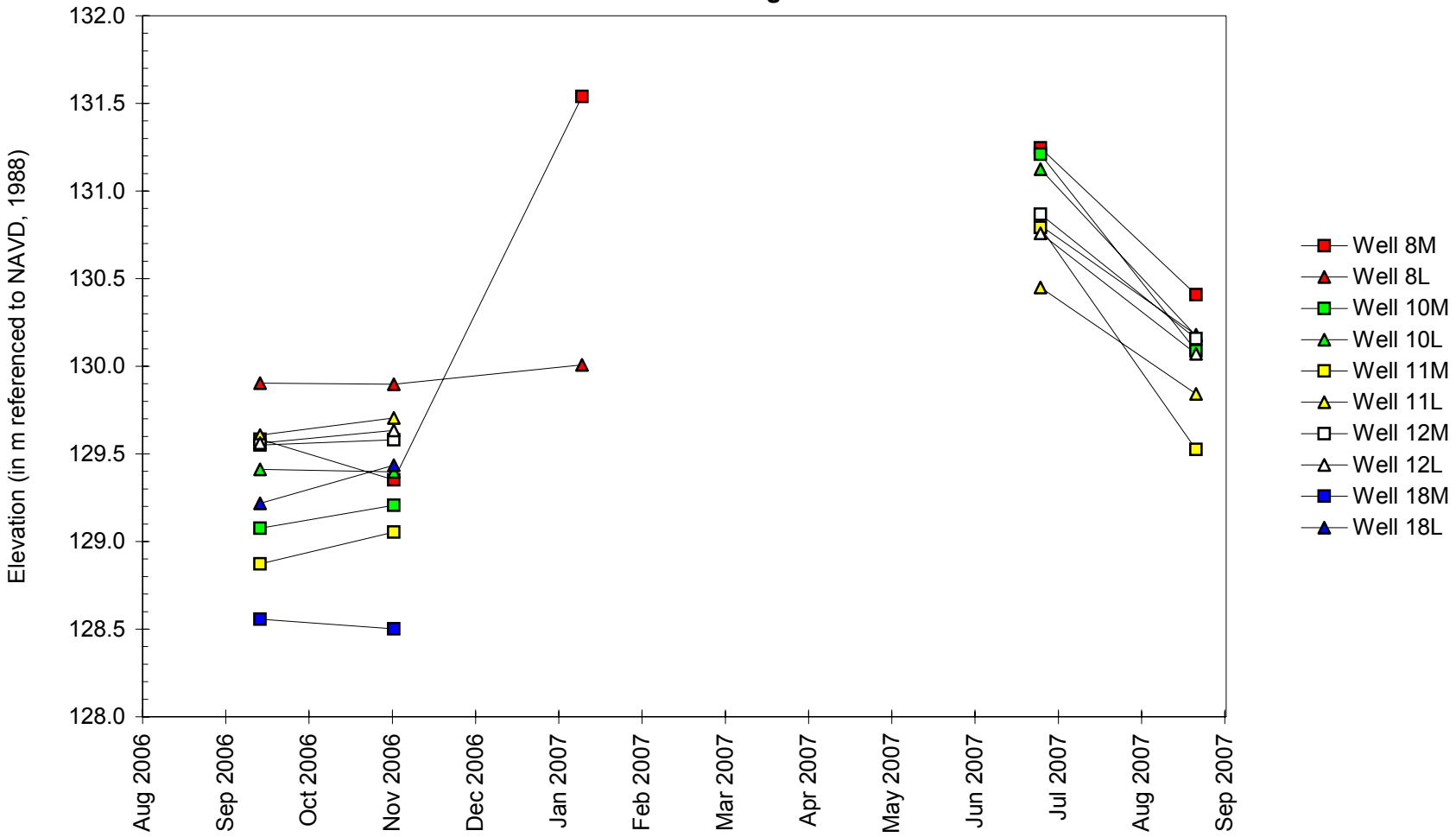
Depth to Water
in Shallow Monitoring Wells
in the Terrace and Fan



Former Wessel Property, La Grange Wetland Bank Site

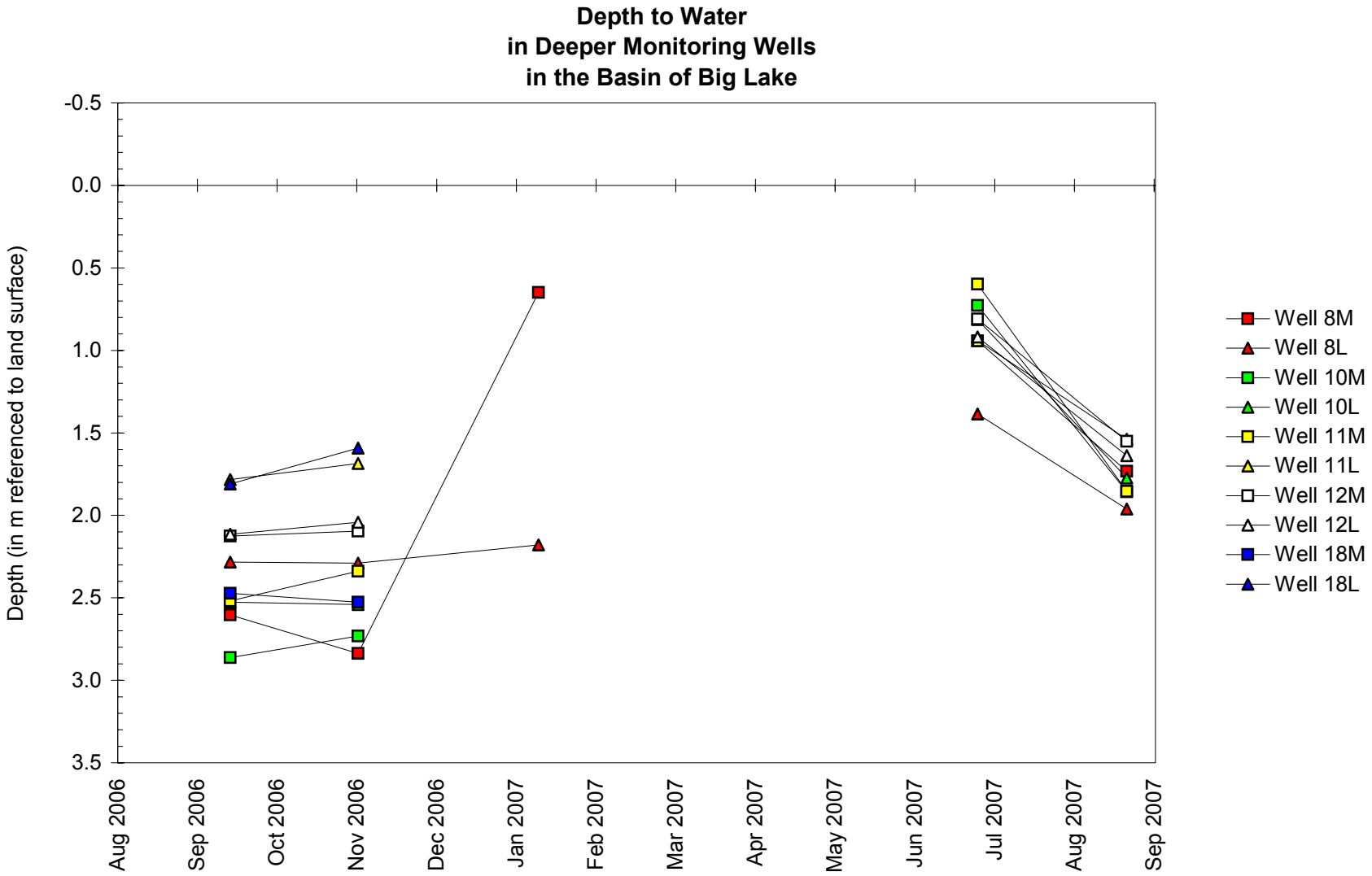
September 1, 2006 to September 1, 2007

Water-Level Elevations in Deeper Monitoring Wells in the Basin of Big Lake



Former Wessel Property, La Grange Wetland Bank Site

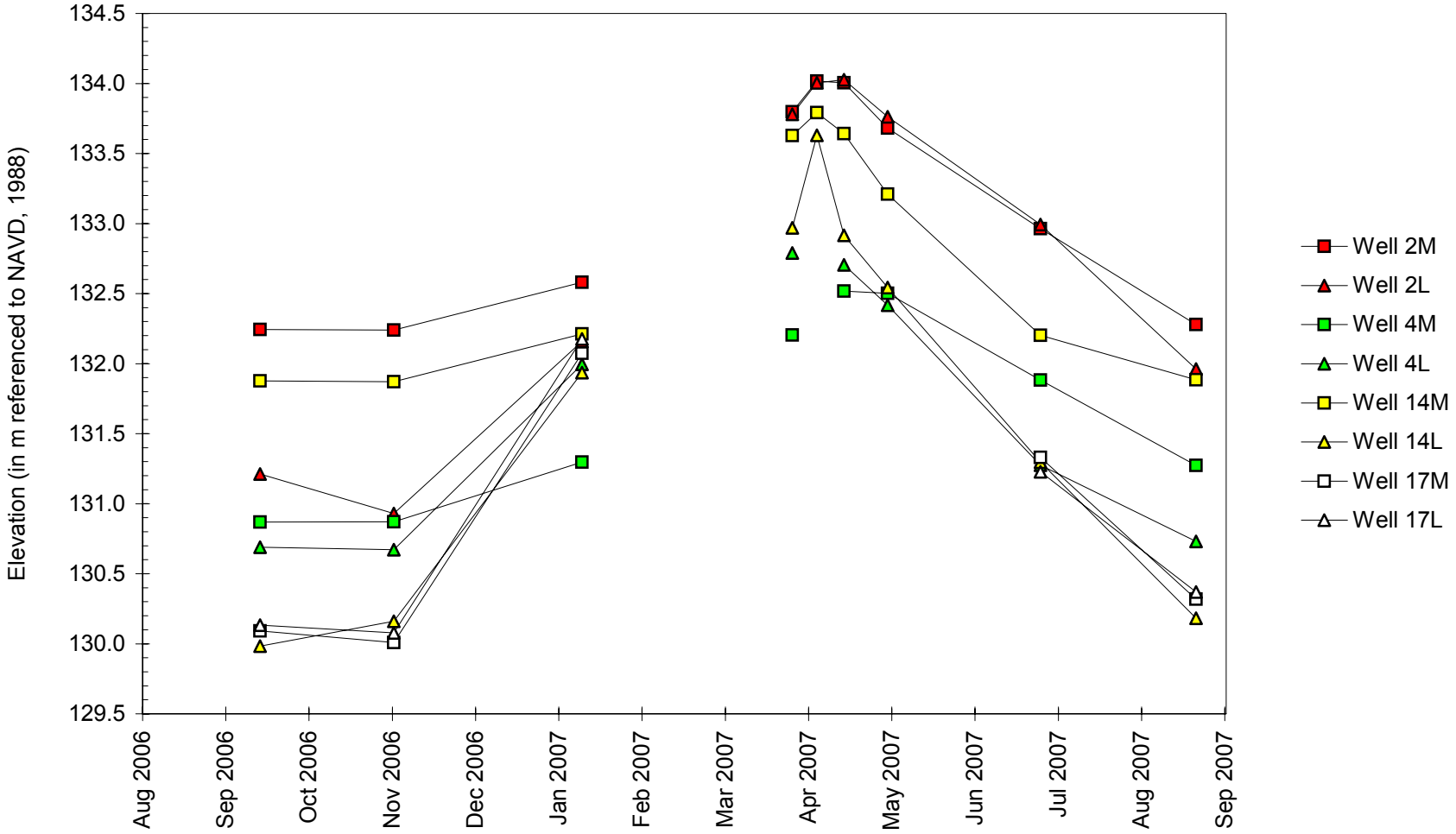
September 1, 2006 to September 1, 2007



Former Wessel Property, La Grange Wetland Bank Site

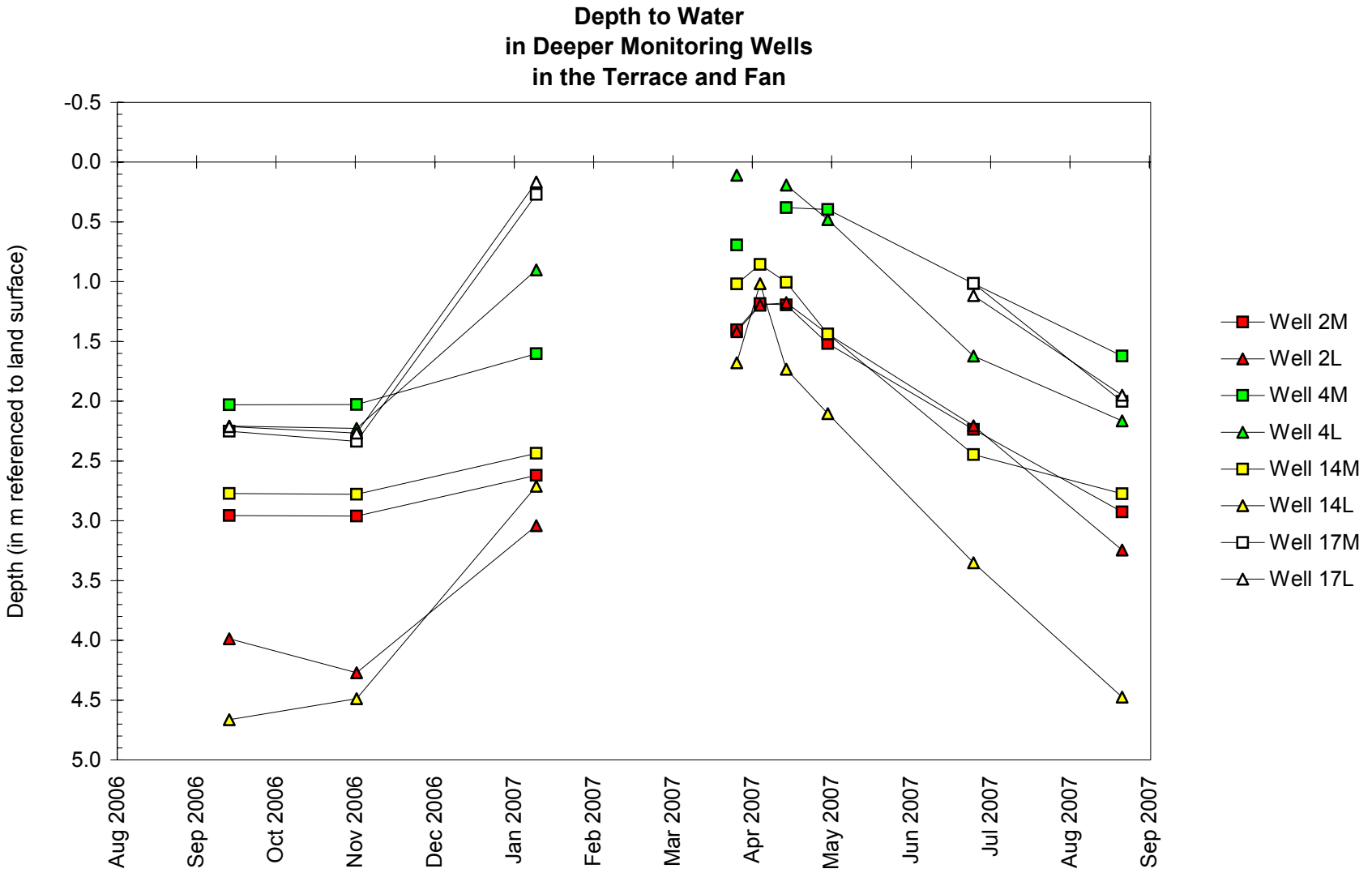
September 1, 2006 to September 1, 2007

Water-Level Elevations in Deeper Monitoring Wells in the Terrace and Fan



Former Wessel Property, La Grange Wetland Bank Site

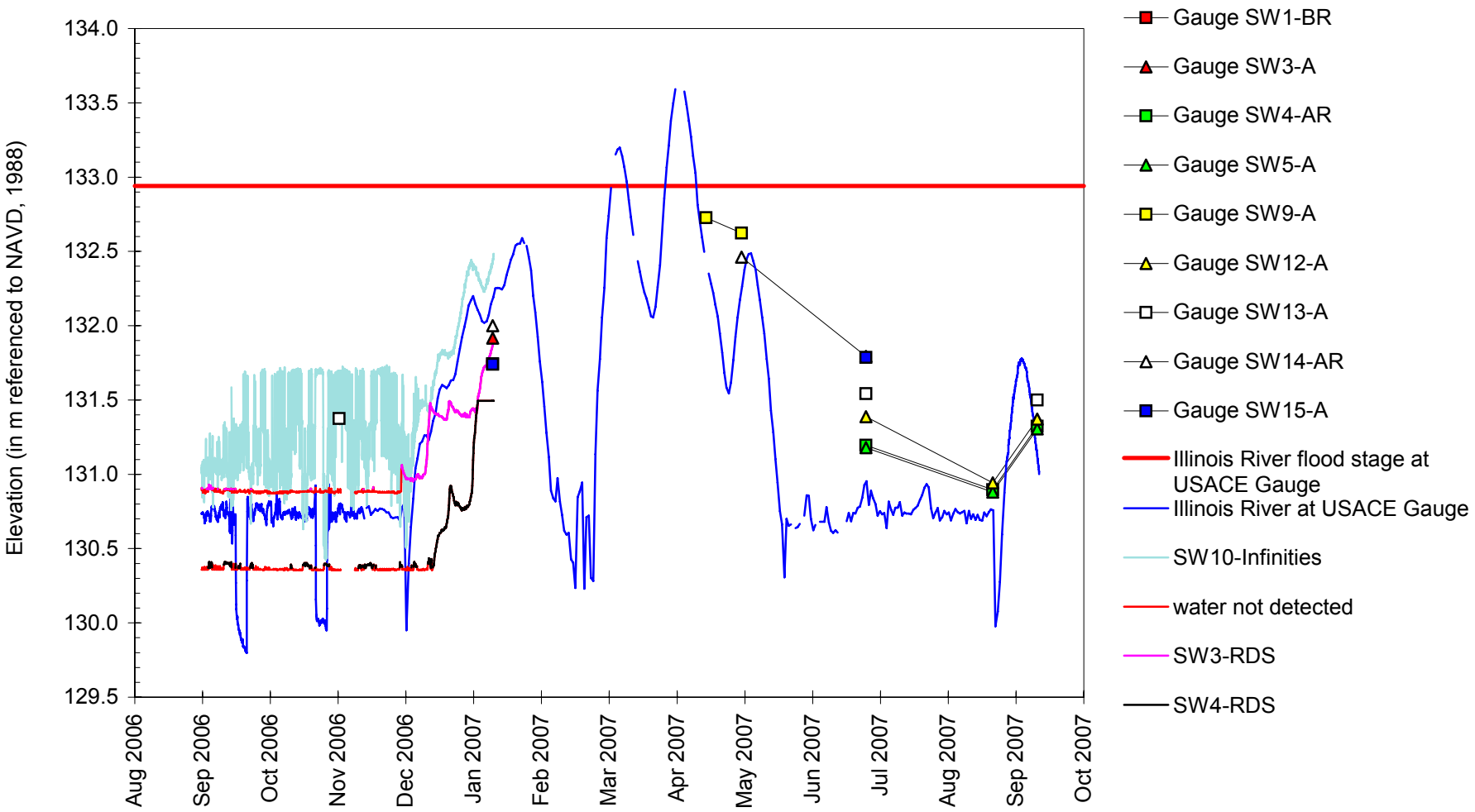
September 1, 2006 to September 1, 2007



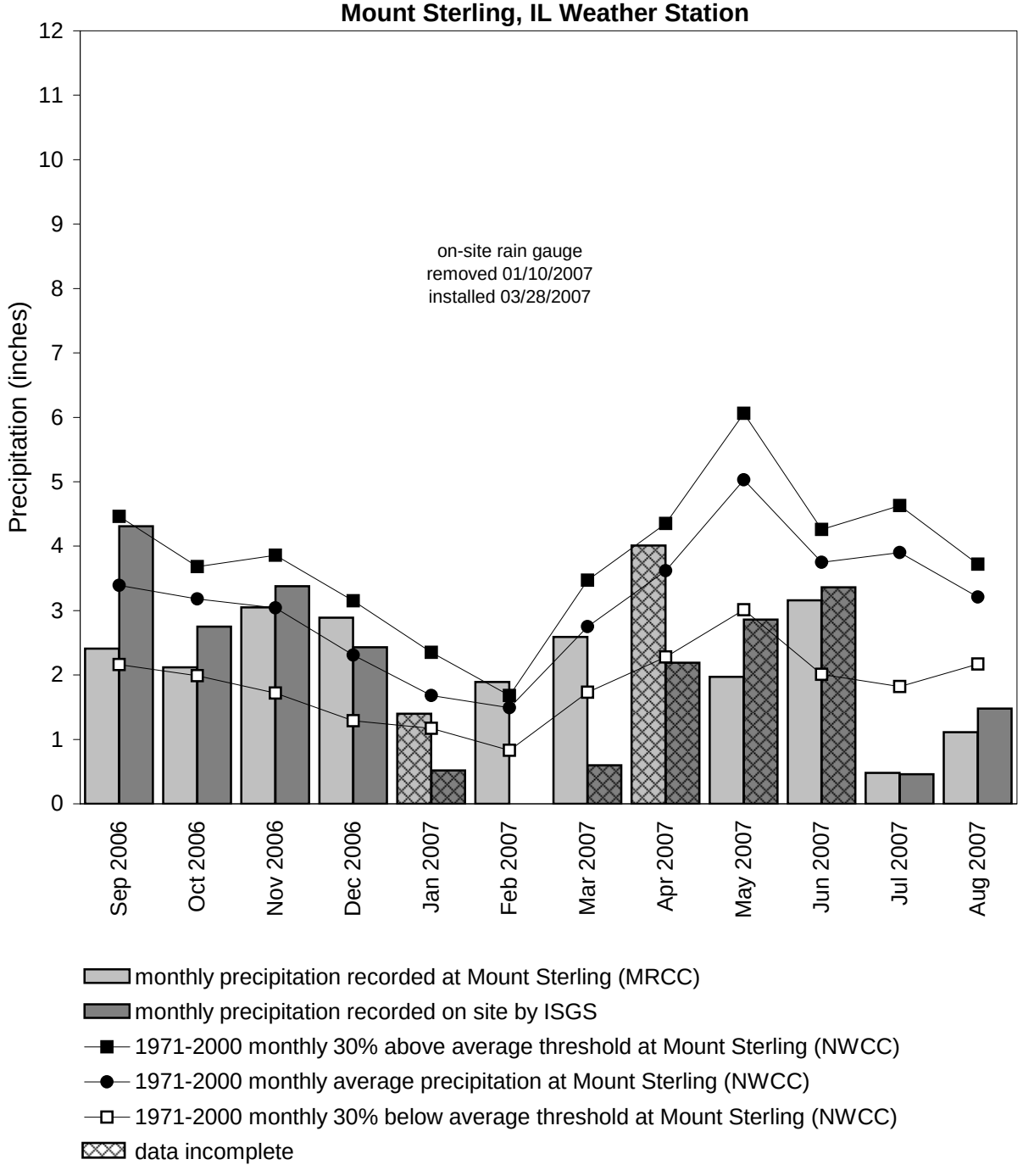
Former Wessel Property, La Grange Wetland Bank Site

September 1, 2006 to September 12, 2007

Water-Level Elevations on Surface Water Gauges



Former Wessel Property,
La Grange Wetland Bank Site
September 2006 through August 2007
Total Monthly Precipitation Recorded On Site and at the Mount Sterling, IL Weather Station



Graph last updated October 11, 2007

FAIRMONT CITY, NEW RIVER CROSSING **ISGS #53**
POTENTIAL WETLAND COMPENSATION SITE
FAP 999
Saint Clair County, near Fairmont City, Illinois
Primary Project Manager: Steven E. Benton
Secondary Project Manager: not assigned

SITE HISTORY

- August 1999: The ISGS conducted an initial site evaluation. The results were reported to IDOT by letter in November.
- June 2000: IDOT requested that the ISGS perform a Level II investigation.
- September 2000: ISGS began monitoring ground- and surface-water levels.
- March 2003: A Level II report was submitted to IDOT (ISGS Open-File Series 2003–04).

WETLAND HYDROLOGY CALCULATION FOR 2007

The area of the site that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for more than 5% of the 2007 growing season was estimated to be 10.9 ha (27.0 ac) out of a total area of 32.4 ha (80.0 ac). The area that satisfied wetland hydrology criteria for more than 12.5% of the 2007 growing season was estimated to be 10.6 ha (26.2 ac). These estimates are based on the following factors:

- According to the MRCC, the median date that the growing season begins in nearby Belleville, Illinois, is April 6 and the season lasts 199 days; 5% of the growing season is 10 days and 12.5% of the growing season is 25 days.
- Total precipitation recorded at the Belleville, Illinois weather station during the monitoring period was 91% of normal. Precipitation was at or above normal in October and December 2006, and in January, February, and May 2007. Total precipitation in the spring was 99% of normal.
- In 2007, wetland hydrology occurred for more than 5% of the growing season at wells 3S, 4S, 5S, 9S, 13S, 15S, 17SR, 25S, and 26S. Wetland hydrology occurred for more than 12.5% of the growing season at wells 3S, 4S, 5S, 9S, 13S, 15S, 17SR, and 26S.
- Inundation occurred in two areas of the site. In the southwest pond (Global) and the drainage ditch along the base of the terrace (gauges AR, B, and BR) surface-water elevation was at or above 121.90 m for both 5% and 12.5% of the growing season. At gauges D and F, on the east side of the site, surface-water elevation was at or above 122.35 m (401.43 ft) for both 5% and 12.5% of the growing season.

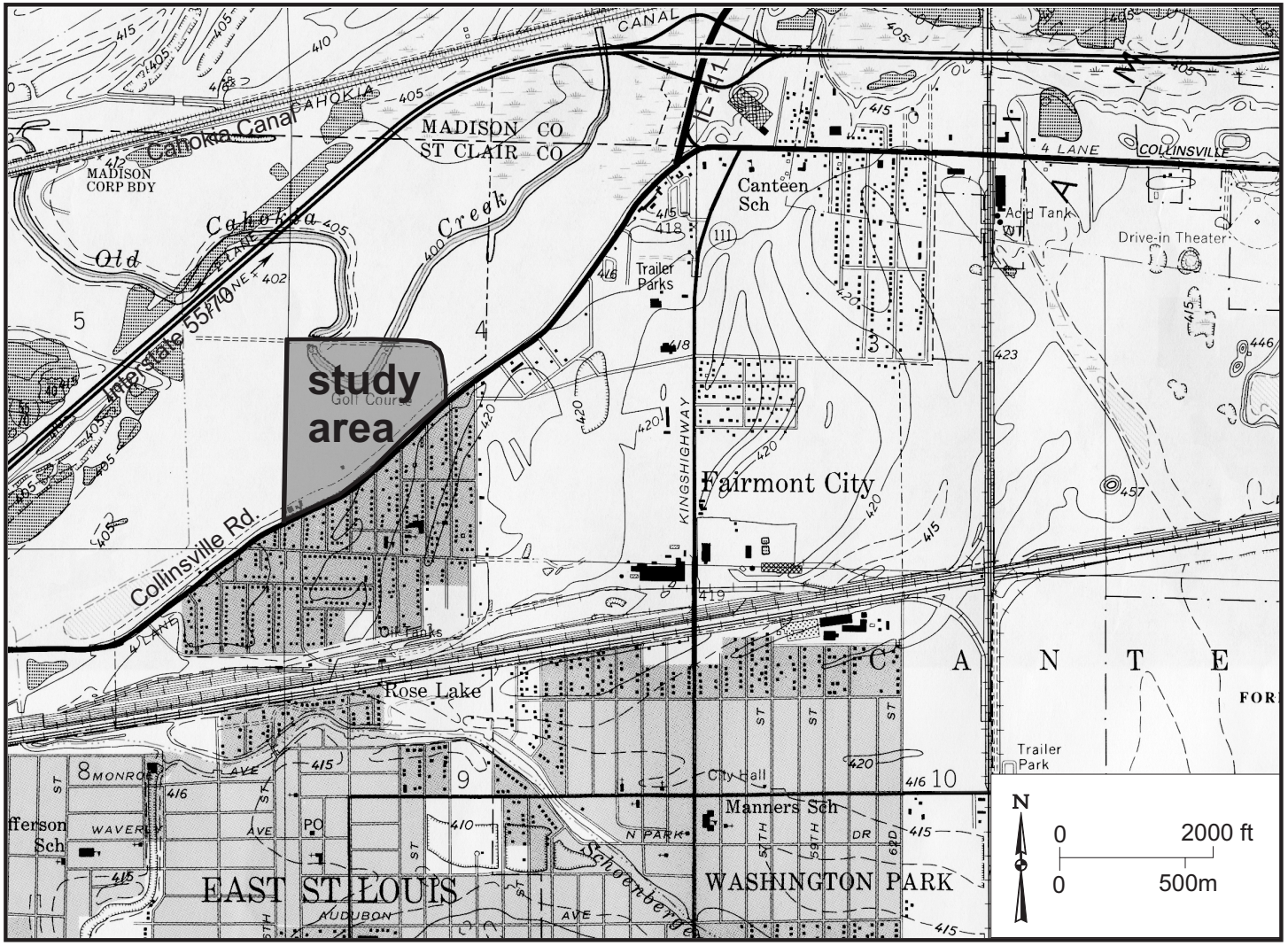
PLANNED FUTURE ACTIVITIES

- Monitoring will continue at this site until notified otherwise by IDOT.

Fairmont City, New River Crossing Potential Wetland Compensation Site (FAP 999)

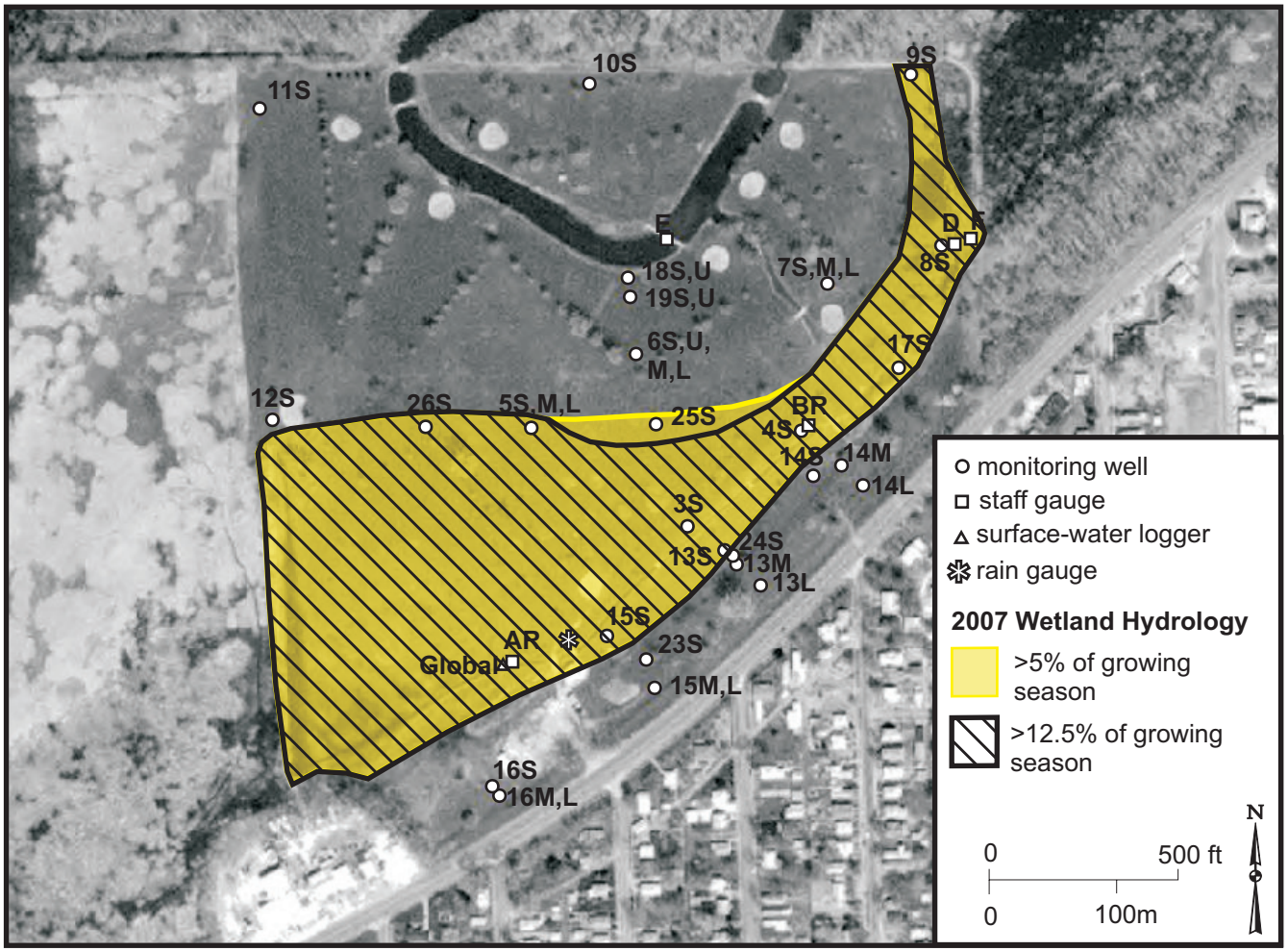
General Study Area and Vicinity

from the USGS Topographic Series, Monks Mound, IL 7.5-minute Quadrangle (USGS 1993)



Fairmont City Potential Wetland Compensation Site
(FAP 999)
Estimated Areal Extent of 2007 Wetland Hydrology
based on data collected between September 1, 2006 and September 1, 2007

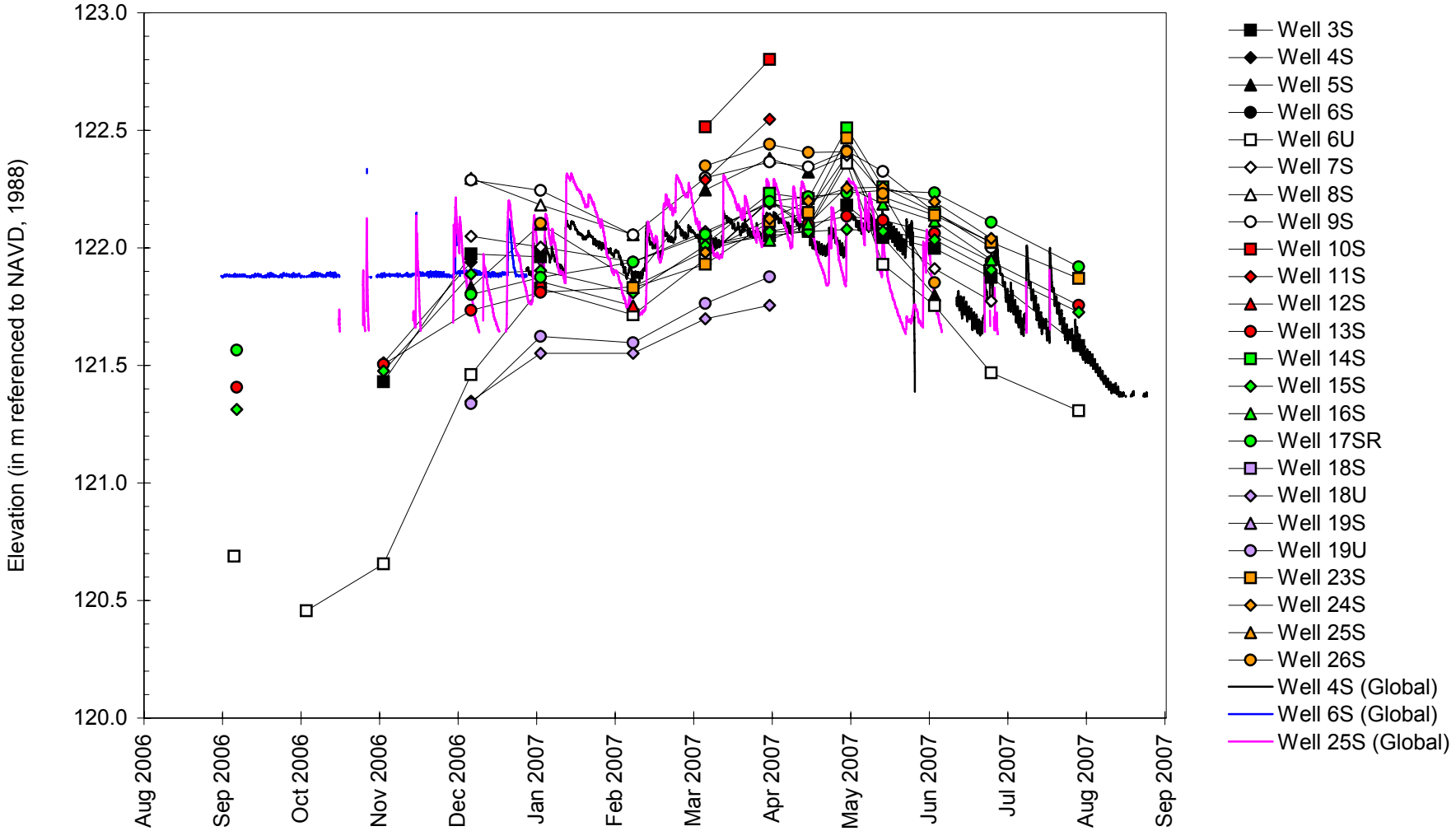
Map based on USGS digital orthophotograph, Monks Mound SW quarter quadrangle
produced from 04/08/1999 aerial photography (ISGS 2001)
monitoring well, staff gauge and data logger locations from GPS survey



Fairmont City, New River Crossing Potential Wetland Compensation Site

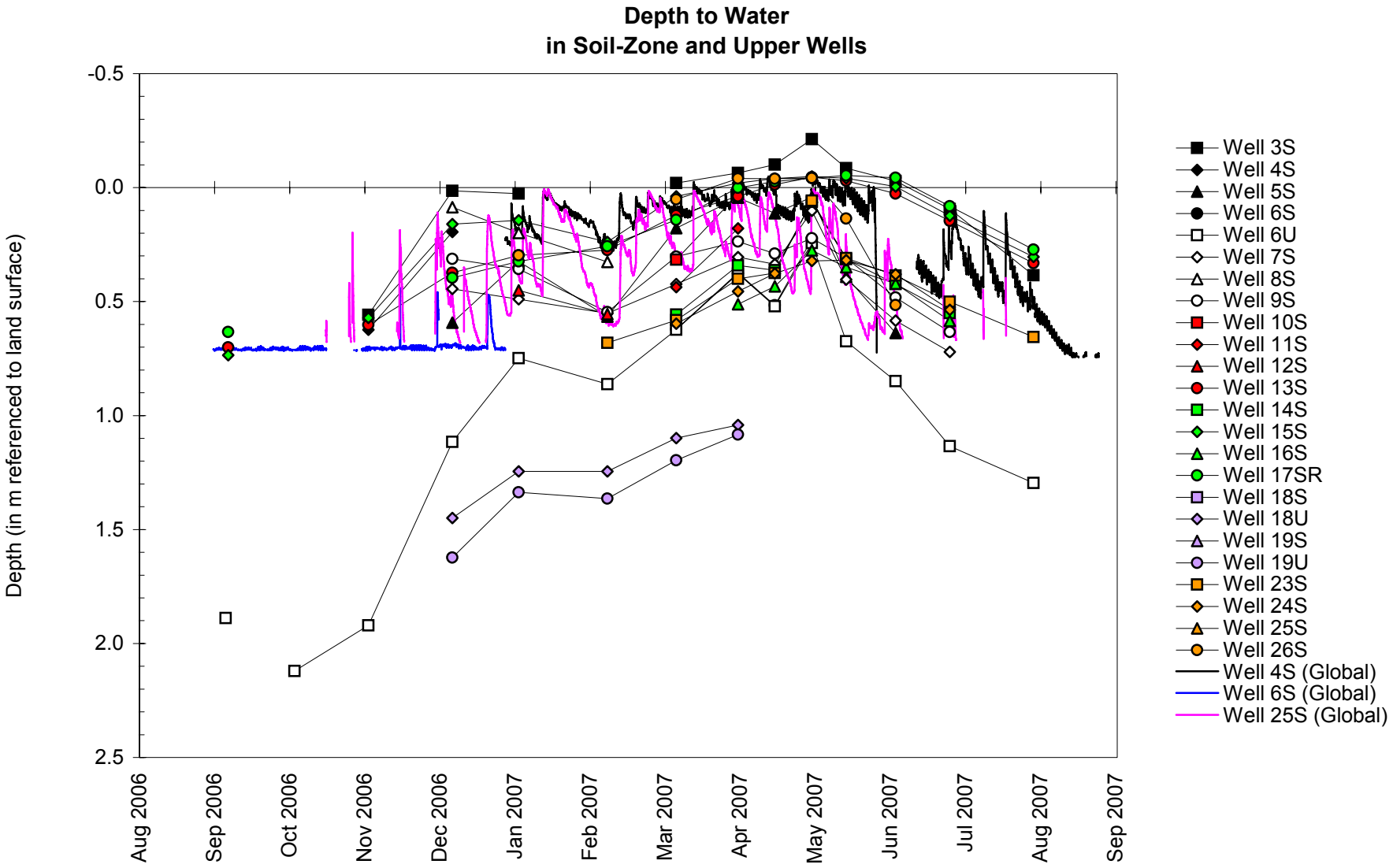
September 1, 2006 to September 1, 2007

Water-Level Elevations in Soil-Zone and Upper Wells



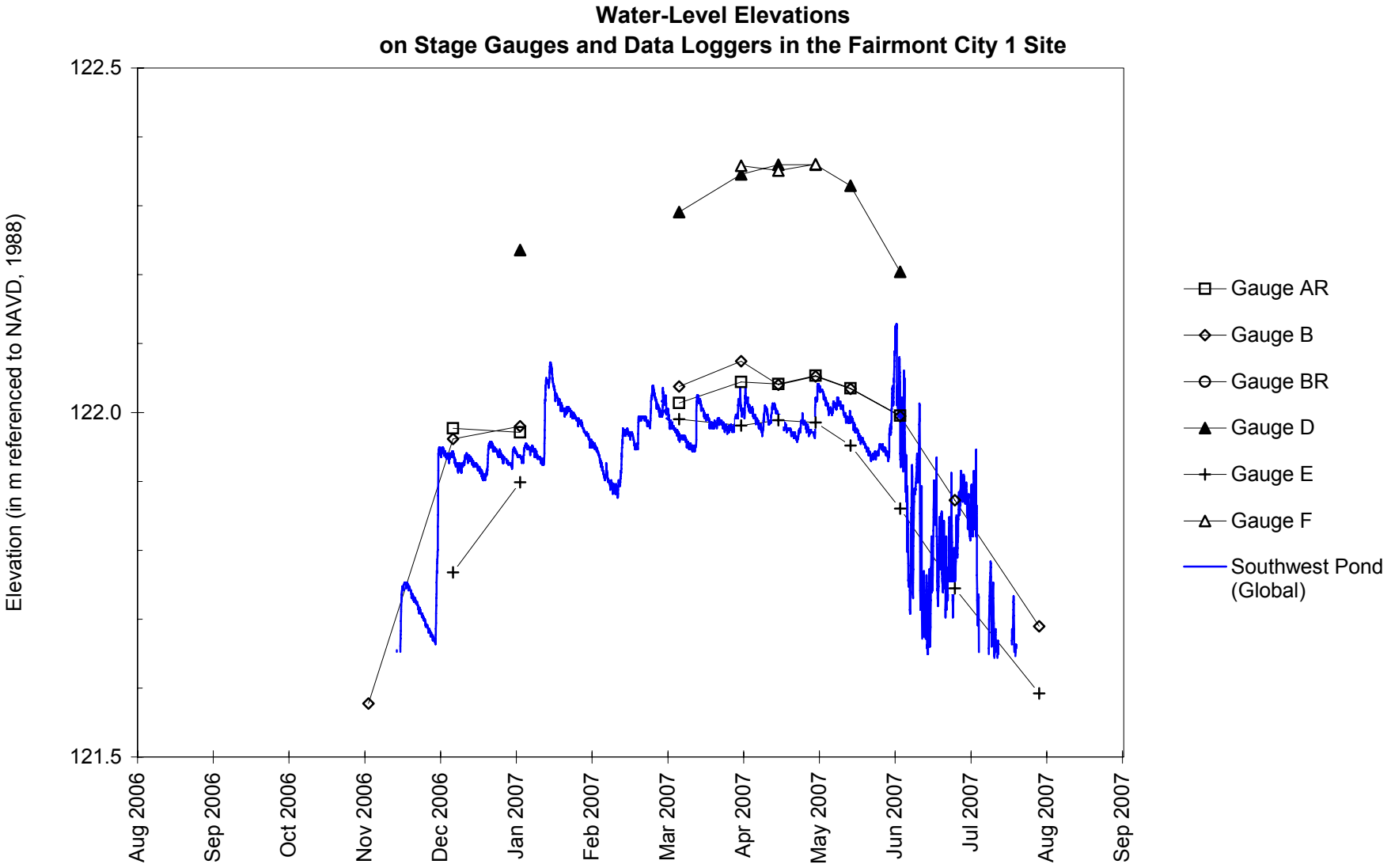
Fairmont City, New River Crossing Potential Wetland Compensation Site

September 1, 2006 to September 1, 2007



Fairmont City, New River Crossing Potential Wetland Compensation Site

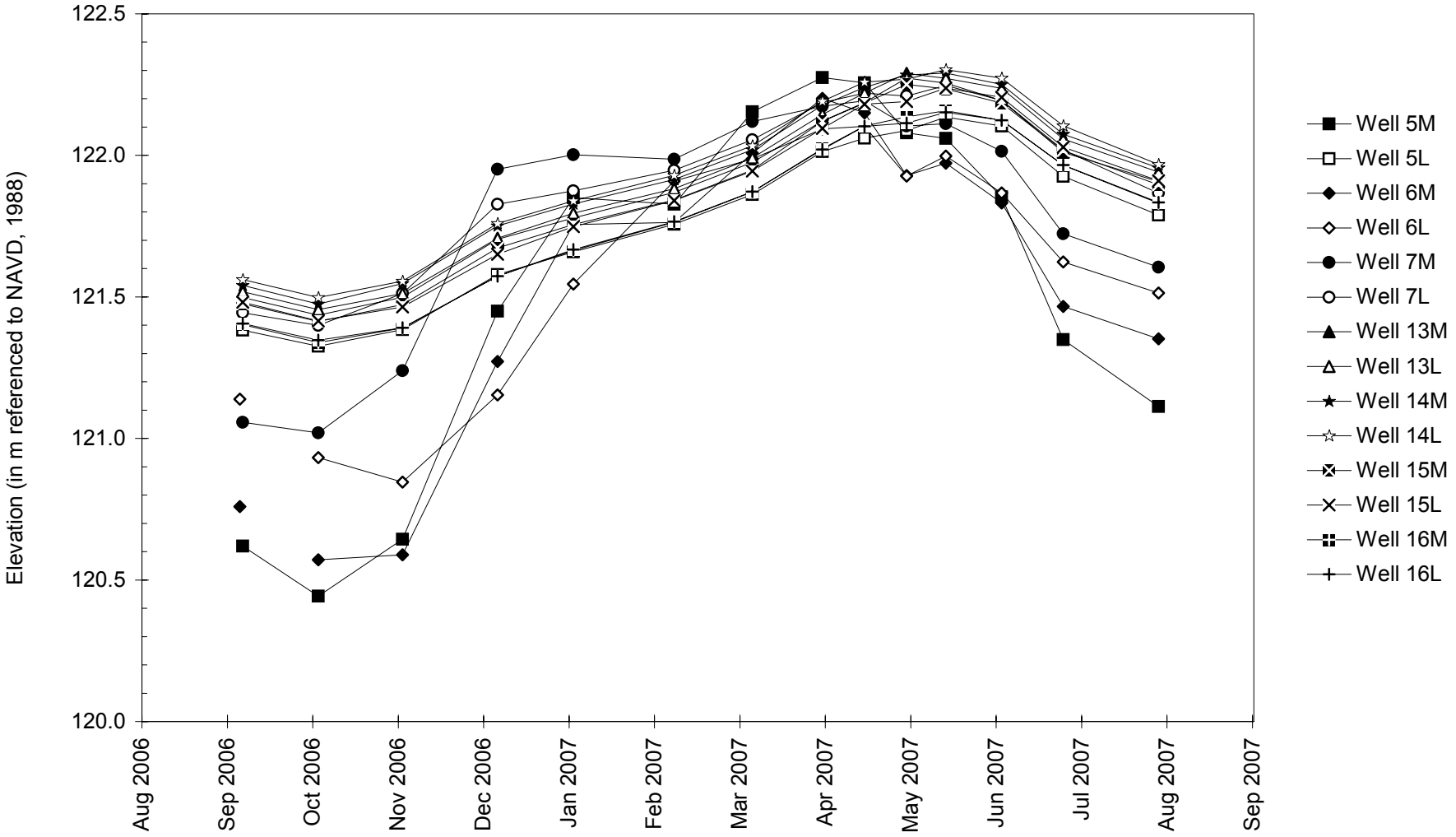
September 1, 2006 to September 1, 2007



Fairmont City, New River Crossing Potential Wetland Compensation Site

September 1, 2006 to September 1, 2007

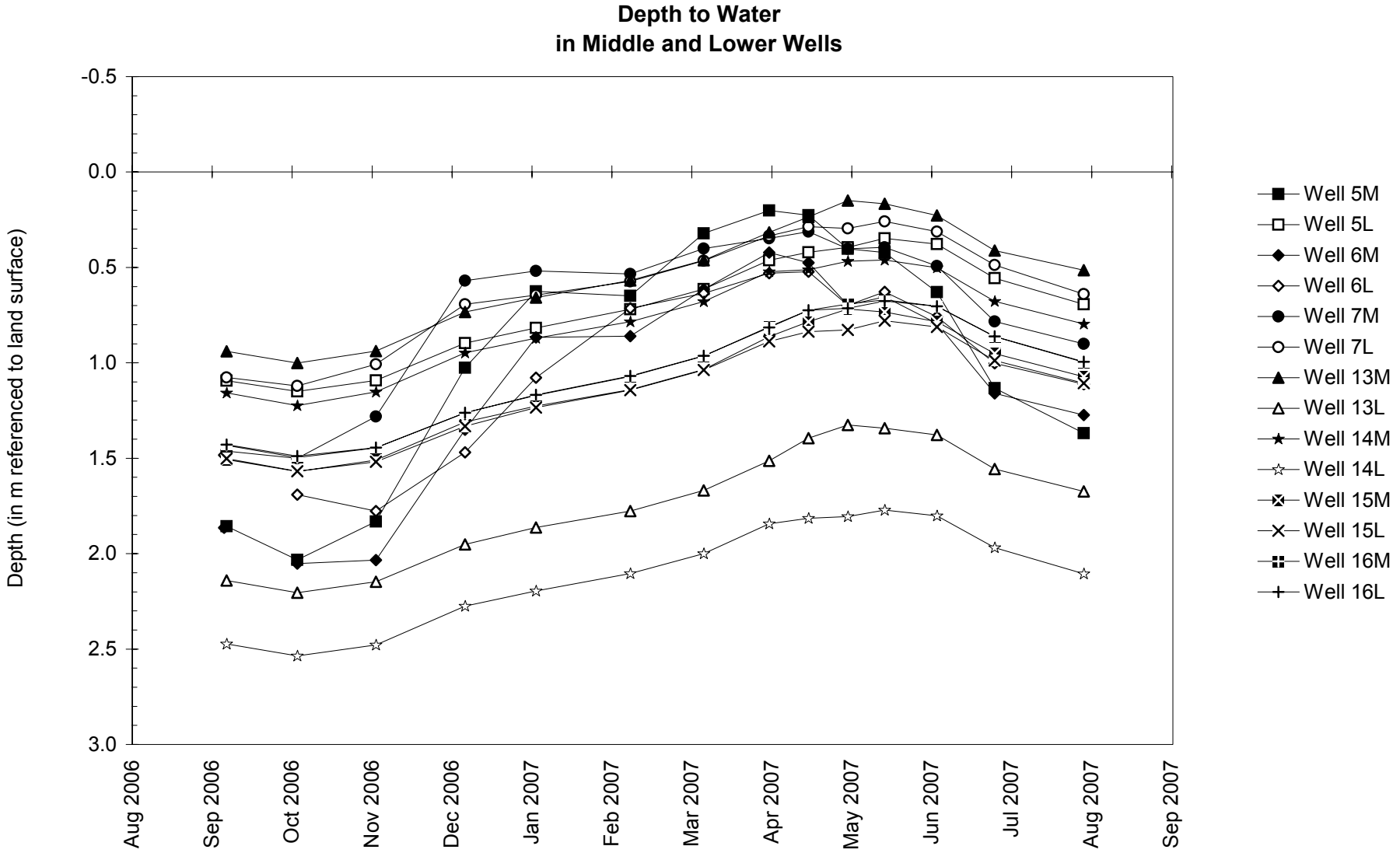
Water-Level Elevations in Middle and Lower Wells



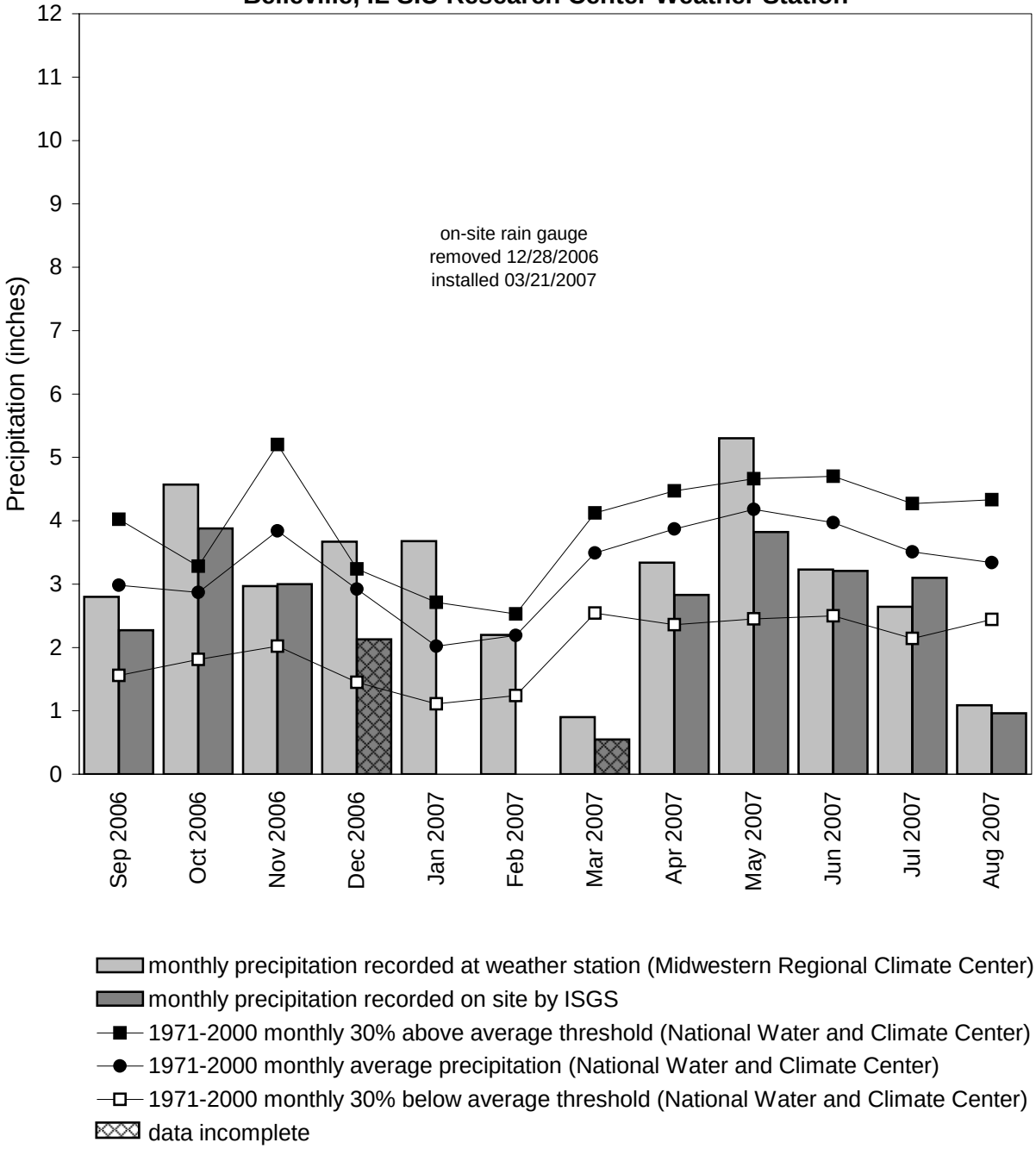
06

Fairmont City, New River Crossing Potential Wetland Compensation Site

September 1, 2006 to September 1, 2007



Fairmont City, New River Crossing
Potential Wetland Compensation Site
September 2006 through August 2007
Total Monthly Precipitation Recorded On Site and at the Belleville, IL SIU Research Center Weather Station



Graph last updated October 10, 2007

SPRINGFIELD, ILLINOIS ROUTE 29 **ISGS #54**
WETLAND COMPENSATION SITE
FAP 658
Sangamon County near Springfield, Illinois
Primary Manager: Geoffrey E. Pociask
Secondary Manager: Eric T. Plankell

SITE HISTORY

- September 1996: ISGS conducted an initial site evaluation of the proposed compensation site and reported findings to IDOT.

- Spring 1997: The wetland compensation site was constructed.

- June 2000: ISGS was tasked by IDOT to monitor wetland hydrology on the compensation site. In 2005, IDOT extended monitoring through 2007.

WETLAND HYDROLOGY CALCULATION FOR 2007

We estimate that 0.9 ha (2.3 ac) out of an excavation of 2.2 ha (5.4 ac) satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the growing season in 2007, whereas the area that satisfied wetland hydrology criteria for greater than 12.5% of the growing season was 0.7 ha (1.7 ac). The 2007 estimates are based on the following factors:

- According to the MRCC, the median date that the growing season begins in Springfield, Illinois, is April 6 and the season lasts 205 days; 5% of the growing season is 10 days and 12.5% of the growing season is 26 days.

- Total precipitation for the reporting period from September 2006 through August 2007 was 90% of normal. Drier than normal conditions prevailed in September and December 2006 and in March, April, May, July, and August 2007. Precipitation amounts were at or above normal for October 2006 through February 2007 and in June 2007.

- In 2007, wells 13S, 14S, 15S, 16S, and 17S satisfied wetland hydrology criteria for greater than 5% of the growing season. Furthermore, these wells also satisfied wetland hydrology criteria for greater than 12.5% of the growing season.

- The surface-water data logger (RDS 1) indicated areas at or below 156.69 m (514.07 ft) in the closed depression in the north end of the site remained inundated for greater than 5% of the growing season. In the same depression, areas at or below 156.56 m (513.64 ft) were inundated for greater than 12.5% of the growing season.

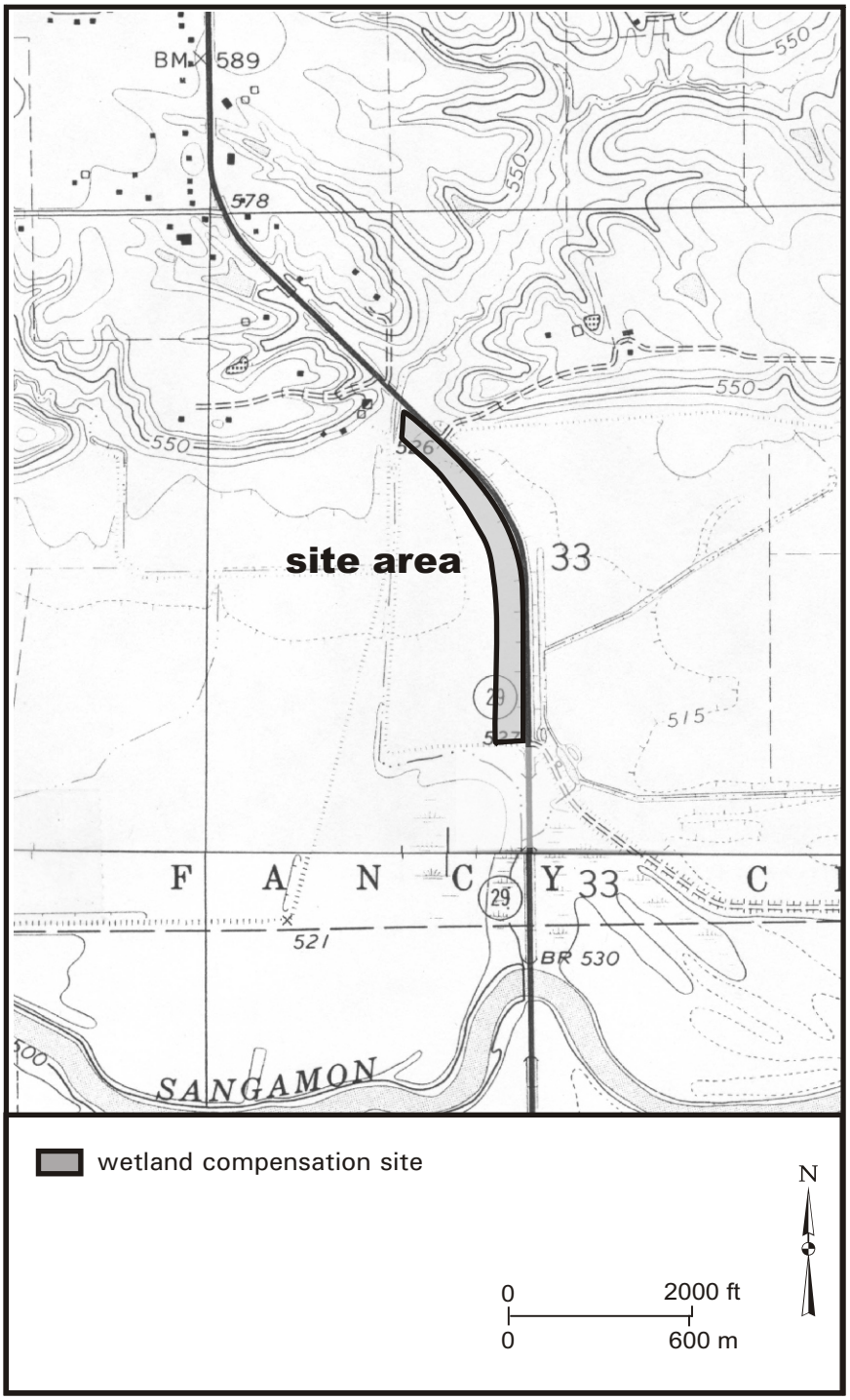
PLANNED FUTURE ACTIVITIES

- Monitoring will continue until no longer required by IDOT.

Springfield, IL Route 29 Wetland Compensation Site
(FAP 658)

General Study Area and Vicinity

from the USGS Topographic Series, Athens, IL (USGS 1966; photorevised 1971 and 1976) and Springfield West, IL (USGS 1965; photorevised 1971 and 1976) 7.5-minute Quadrangles
contour interval is 10 feet

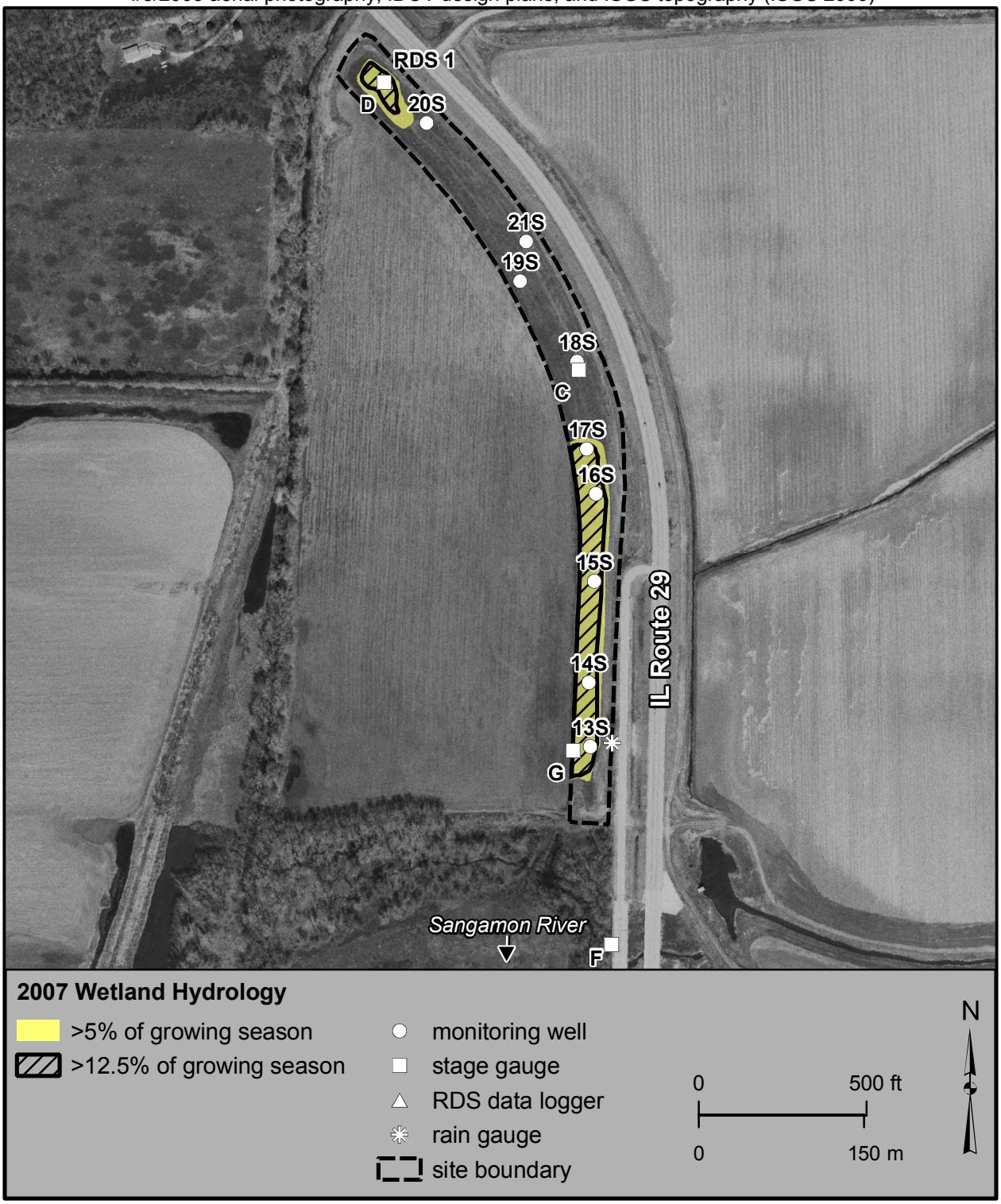


Springfield, IL Route 29 Wetland Compensation Site (FAP 658)

Estimated Areal Extent of 2007 Wetland Hydrology

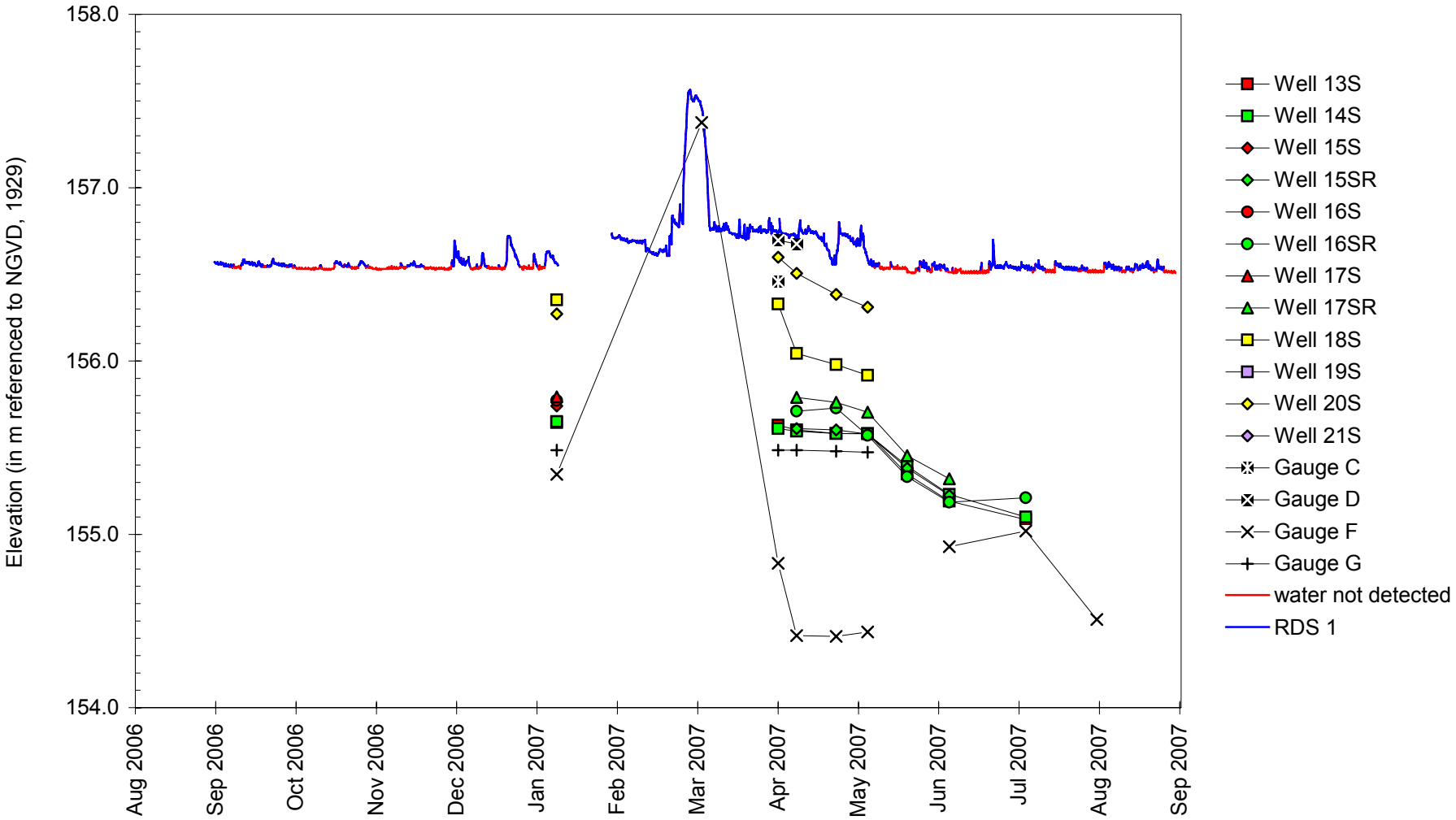
based on data collected between September 1, 2006 and September 1, 2007

Map based on USGS digital orthophotograph Athens SW quarter quadrangle from 4/8/2005 aerial photography, IDOT design plans, and ISGS topography (ISGS 2006)



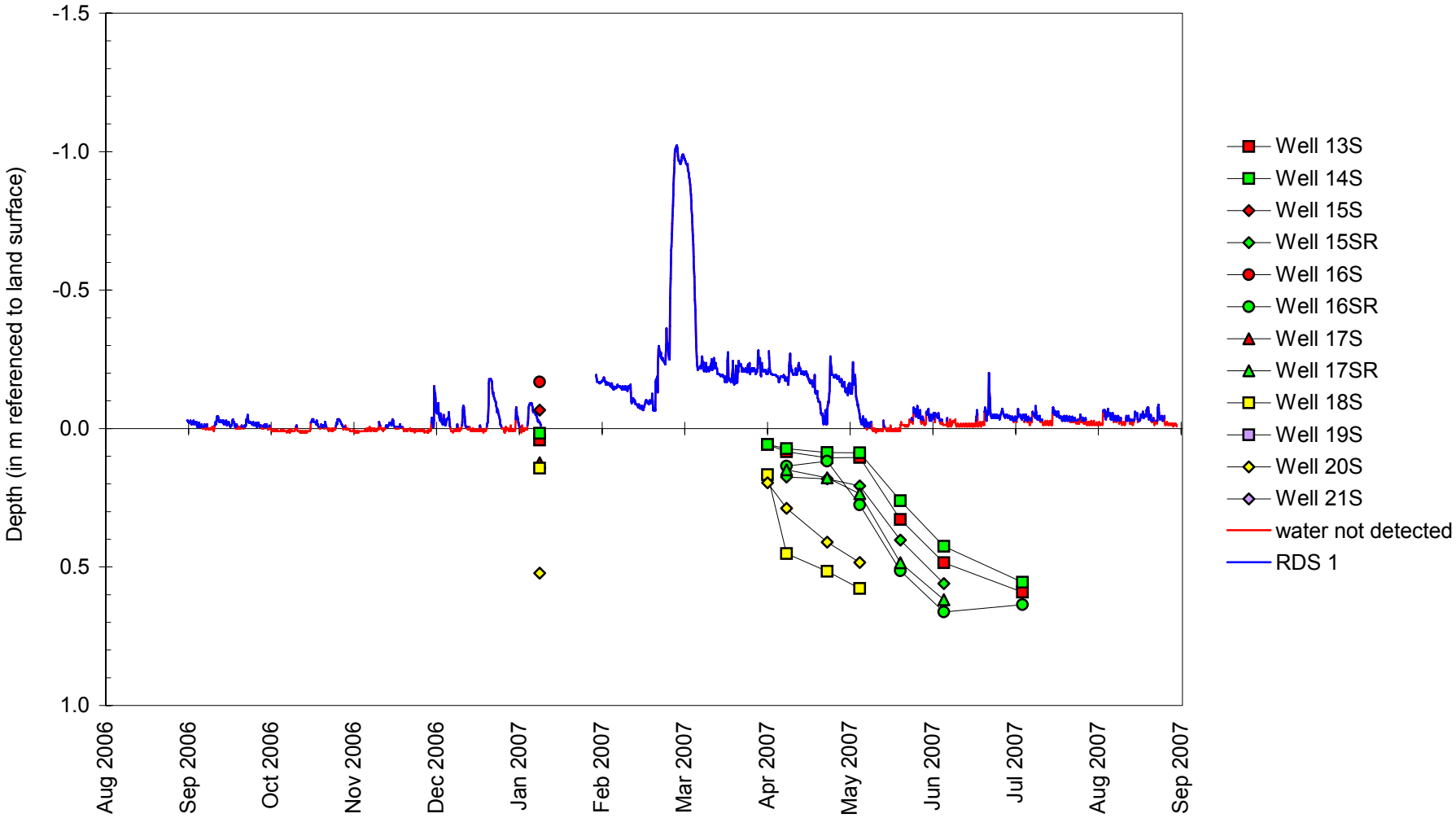
Springfield, IL Route 29 Wetland Compensation Site
September 1, 2006 to September 1, 2007

Water-Level Elevations

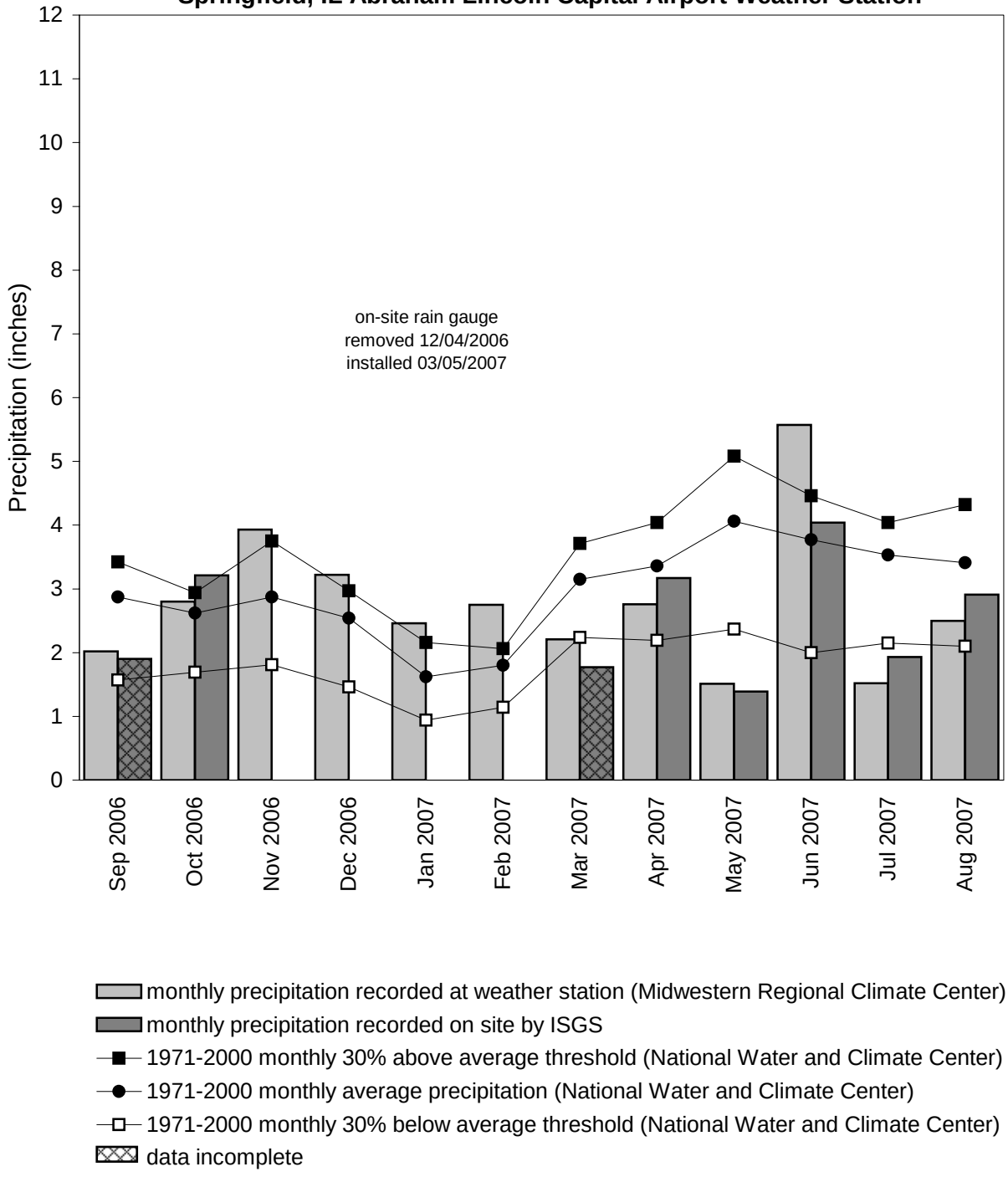


Springfield, IL Route 29 Wetland Compensation Site
September 1, 2006 to September 1, 2007

Depth to Water



Springfield, IL Route 29
Wetland Compensation Site
September 2006 through August 2007
Total Monthly Precipitation Recorded On Site and at the Springfield, IL Abraham Lincoln Capital Airport Weather Station



Graph last updated October 10, 2007

FORMER TIERNAN PROPERTY, NEW RIVER CROSSING **ISGS #57**
POTENTIAL WETLAND COMPENSATION SITE
FAP 999
Sequence #33G
Saint Clair County, near Cahokia, Illinois
Primary Project Manager: Bonnie J. R. Sperling
Secondary Project Manager: Charles W. Knight

SITE HISTORY

- July 2000: The ISGS was tasked to perform a Level II hydrogeologic assessment of the site.

- March–November 2001: Thirty-two S wells, ten VS wells, five M wells, two staff gauges, and six benchmarks were installed and surveyed. Six soil-moisture probes were installed in three clusters in the northern field. Water-quality sampling was terminated because no quality standards were exceeded in any of the initial samples.

- July 2005: A Level II hydrogeologic characterization report was submitted to IDOT (ISGS Open-File Series 2005–11).

WETLAND HYDROLOGY CALCULATION FOR 2007

The area that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the growing season was estimated to be 17.1 ha (42.1 ac) out of a total site area of 26.4 ha (65.3 ac). Furthermore, 15.0 ha (37.0 ac) of that area also satisfied wetland hydrology criteria for greater than 12.5% of the growing season. The estimates for 2007 are based on the following factors:

- According to the MRCC, the median date that the growing season begins in nearby Cahokia, Illinois, is April 2 and the season lasts 214 days; 5% of the growing season is 11 days and 12.5% of the growing season is 27 days.

- Precipitation during the monitoring period was 91% of normal at the Belleville, Illinois weather station. Above-normal precipitation in October and December 2006 through February 2007 increased water levels on site. Despite below-normal precipitation in March and April 2007, water levels remained high, and the pattern of precipitation coupled with low evapotranspiration rates resulted in flooding in the southern portion of the site. Water levels remained elevated through May, a month of above-normal precipitation, and then fell throughout the summer as a result of high summer evapotranspiration rates coupled with below-normal precipitation.

- In 2007, water levels measured in wells 2S, 8S, 9S, 10S, 13S, 14S, 15S, 16S, 19S, 20S, 21S, 22S, 24S, 24VS, 25S, 25VS, 26S, 26VS, 27VS, 28S, 28VS, 29S, 29VS, 30S, 30VS, 31S, 31VS, and 32S satisfied the wetland hydrology criteria for greater than 5% of the growing season. Furthermore, wells 8S, 13S, 14S, 15S, 16S, 19S, 20S, 21S,22S, 24VS, 25S, 25VS, 26S, 27VS, 28S, 28VS, 29S, 29VS, 30S, 30VS, 31S, 31VS, and 32S satisfied wetland hydrology criteria for greater than 12.5% of the growing season. Surface-water stage data from gauge D indicate that inundation occurred to an elevation of 121.291 m (397.94 ft) for a period sufficient to satisfy wetland hydrology criteria for greater than 5%

of the growing season and to an elevation of 120.839 m (396.45 ft) for 12.5% of the growing season.

- While most of the southern half of the site (the former borrow pit) is mapped as preexisting wetland, the hydrology is controlled primarily by the water level in Blue Waters Ditch southeast of the site. Extreme springtime precipitation events resulted in widespread flooding in the southern half of the site.

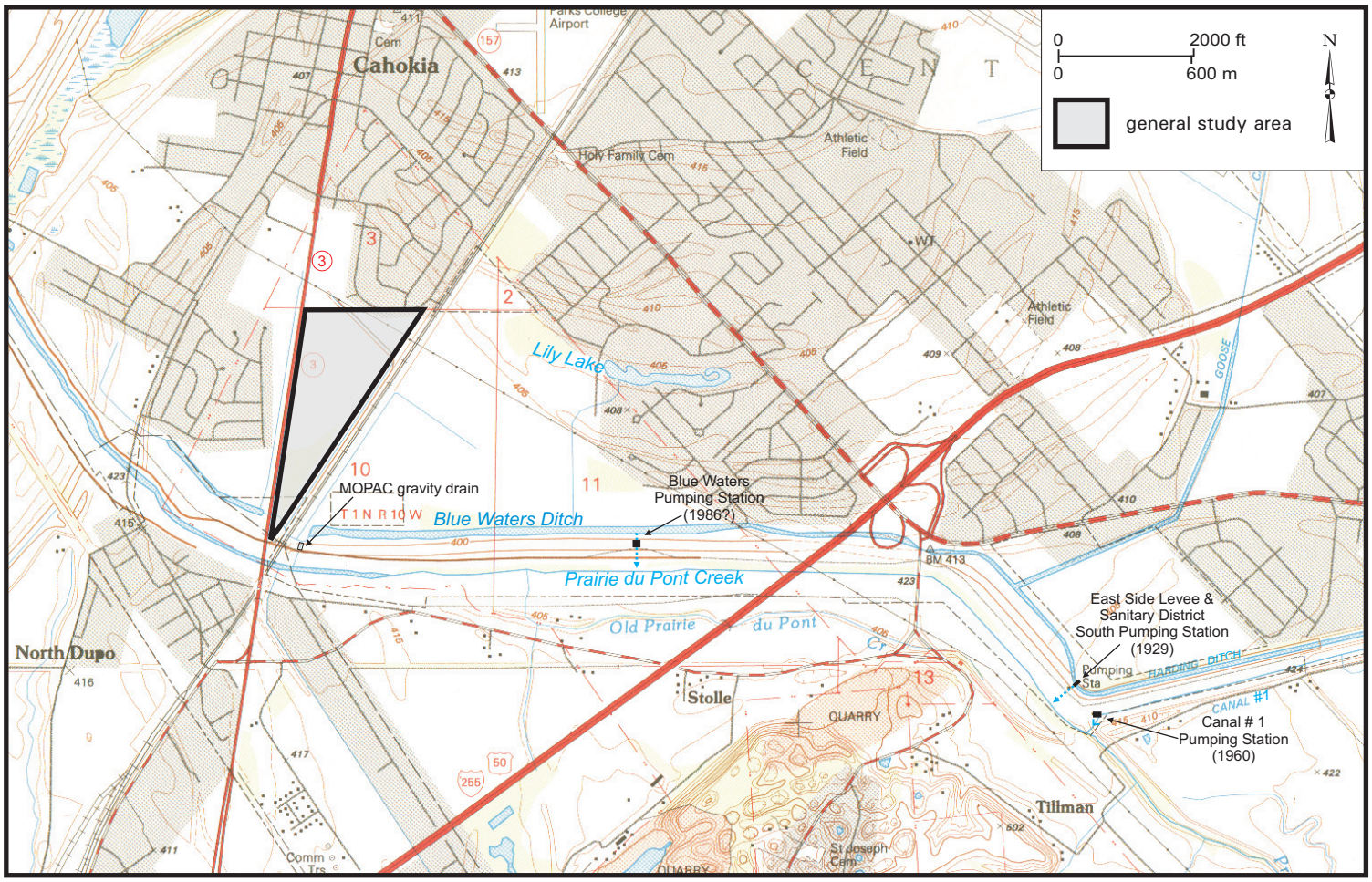
PLANNED FUTURE ACTIVITIES

- Monitoring will continue until no longer required by IDOT.

Former Tiernan Property (Cahokia) Potential Wetland Compensation Site
(FAP 999)

General Study Area and Vicinity

from the USGS Topographic Series, Cahokia, IL 7.5-minute Quadrangle (USGS 1993)
contour interval is 3 m (10 ft)

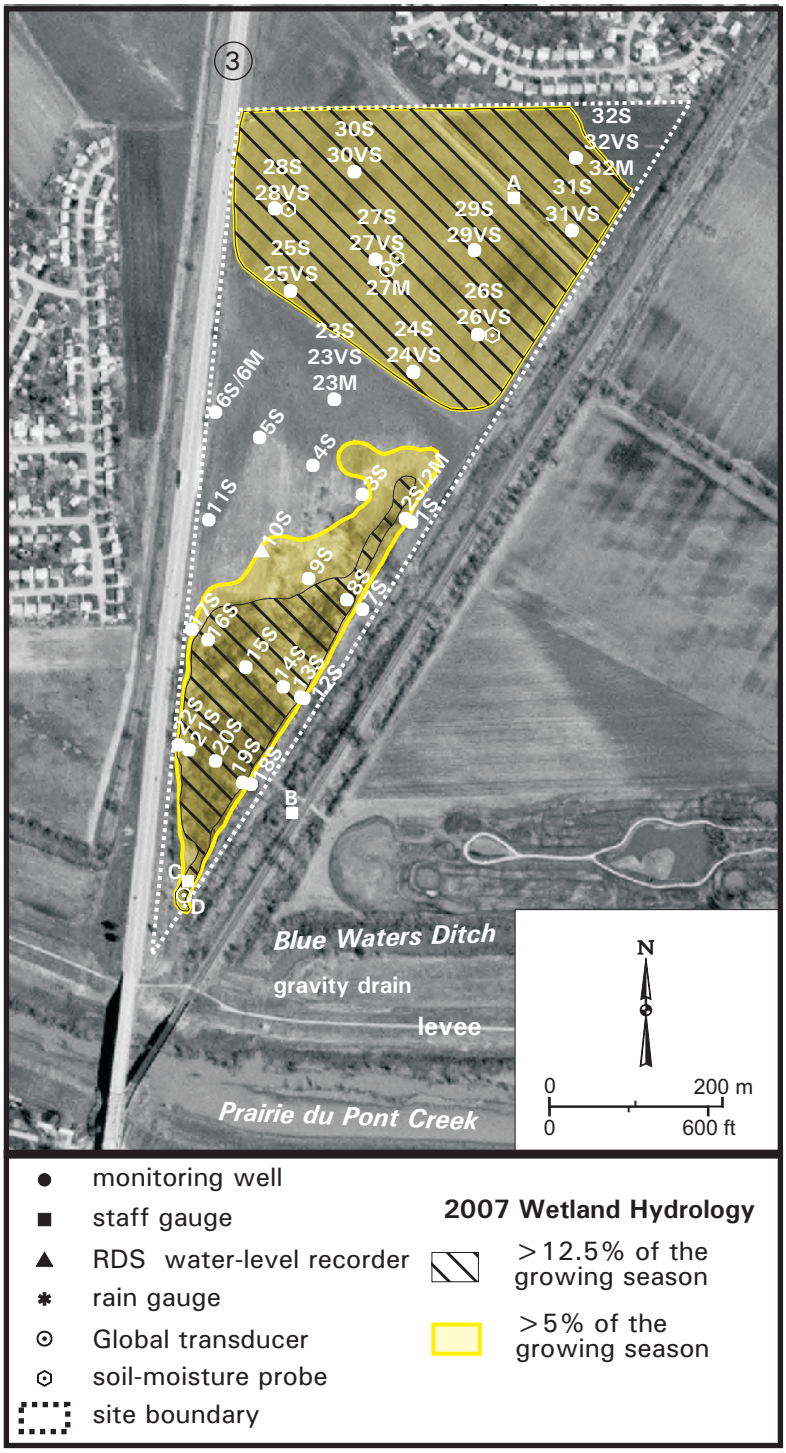


Former Tiernan Property, New River Crossing
Potential Wetland Compensation Site
(FAP 999)

Estimated Areal Extent of 2007 Wetland Hydrology

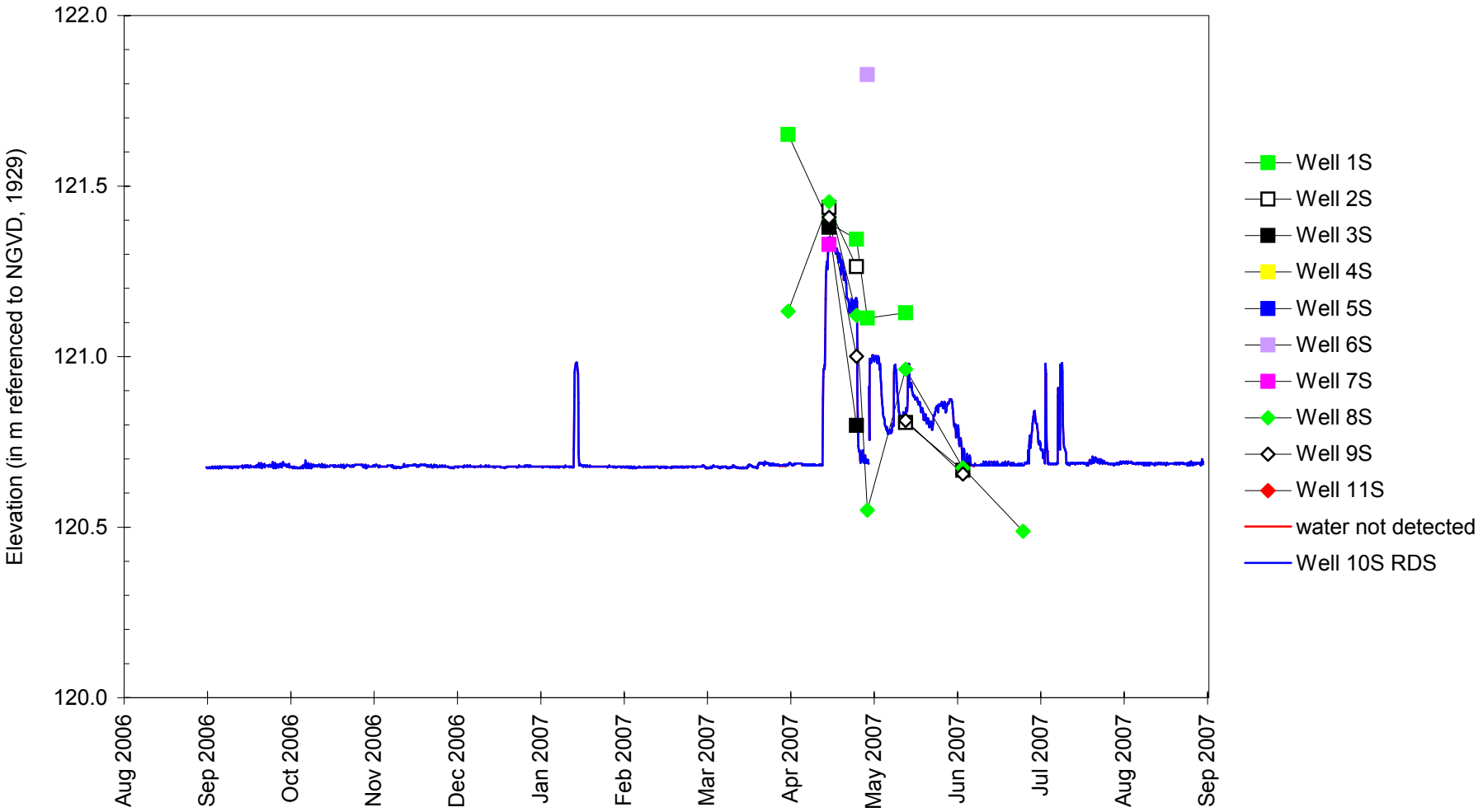
based on data collected between September 1, 2006 and September 1, 2007

Map based on USGS digital orthophotograph, Cahokia SW quarter quadrangle
produced from 04/02/98 aerial photography (ISGS 2000)



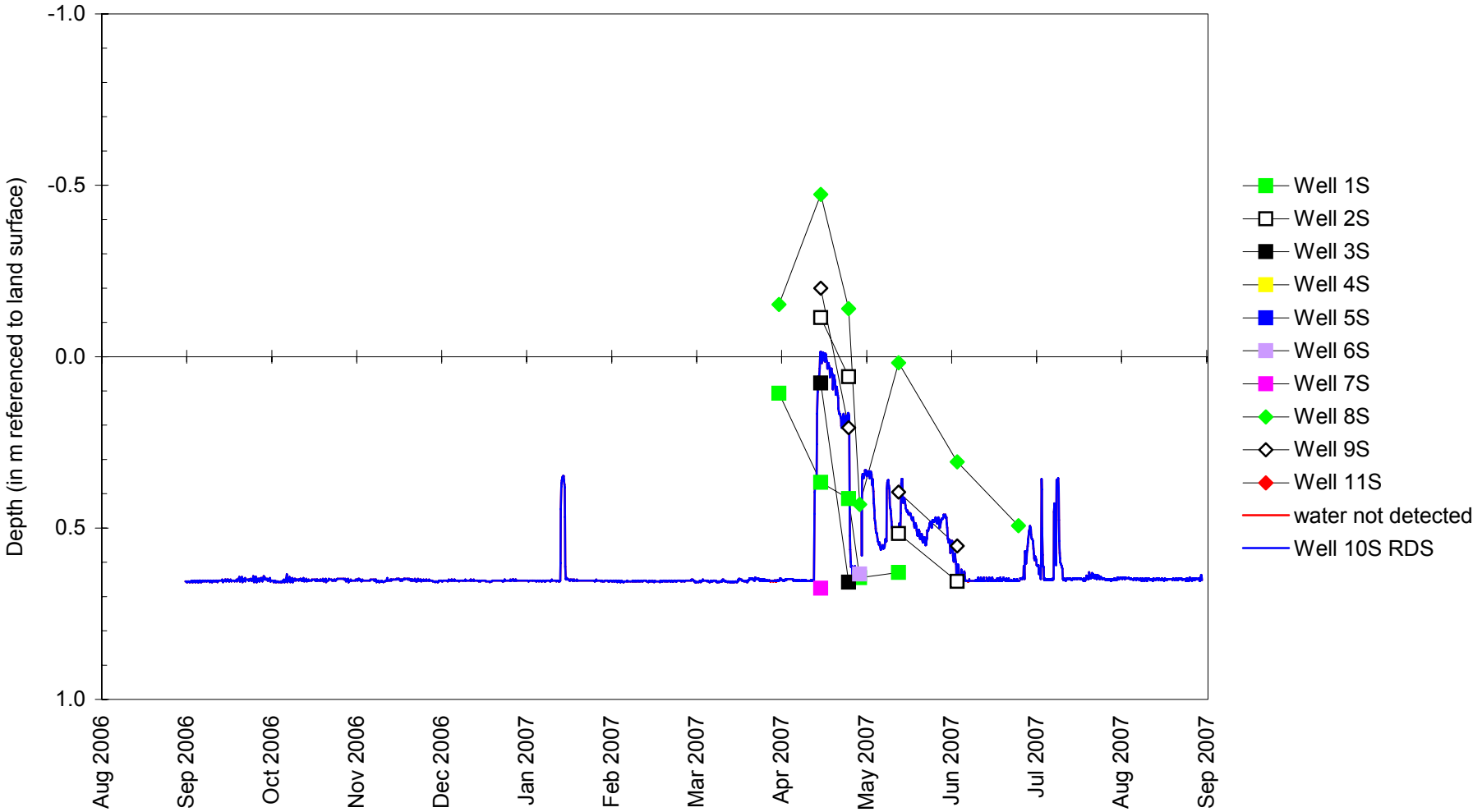
Former Tiernan Property, New River Crossing Potential Wetland Compensation Site
September 1, 2006 to September 1, 2007

Water-Level Elevations



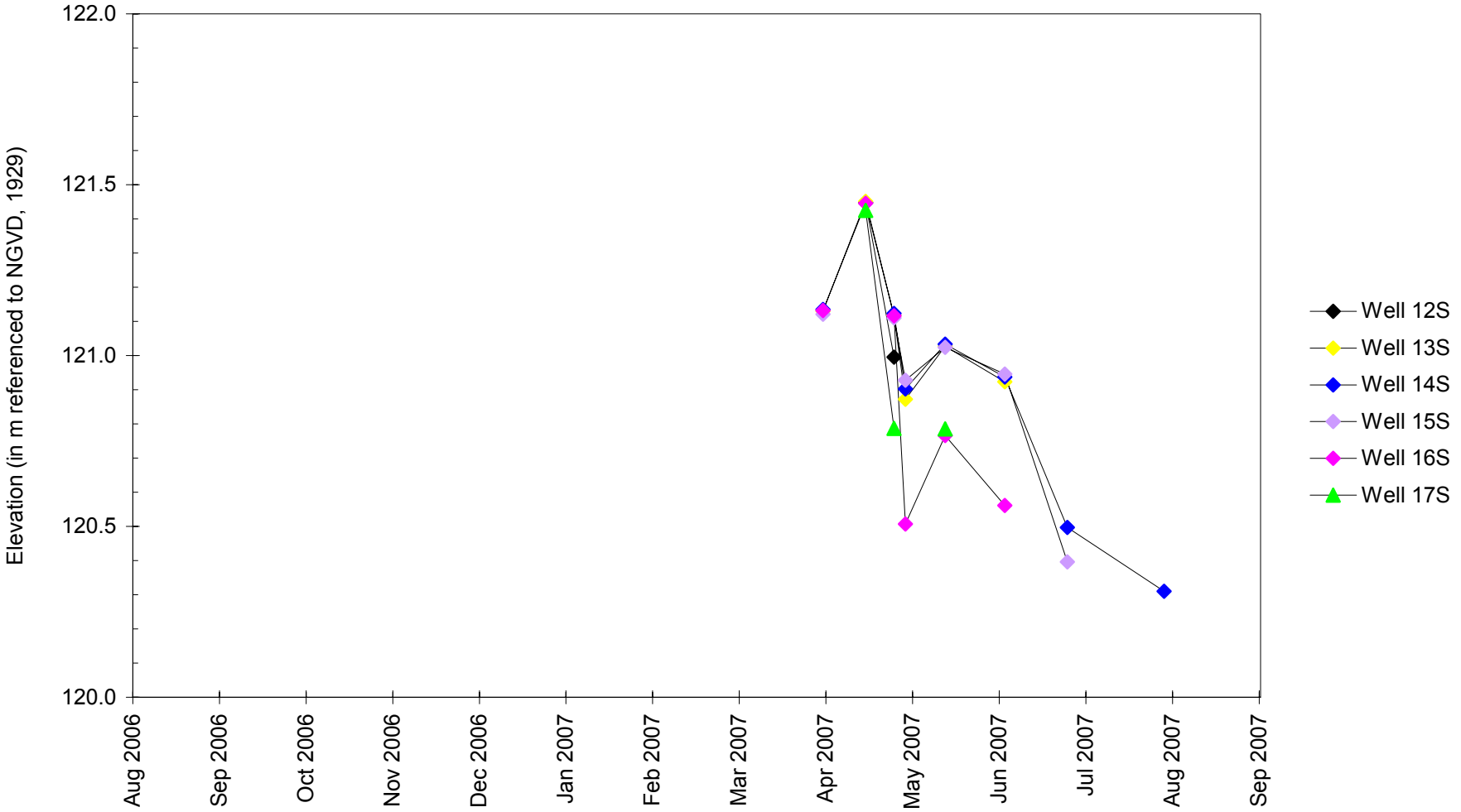
Former Tiernan Property, New River Crossing Potential Wetland Compensation Site
September 1, 2006 to September 1, 2007

Depth to Water



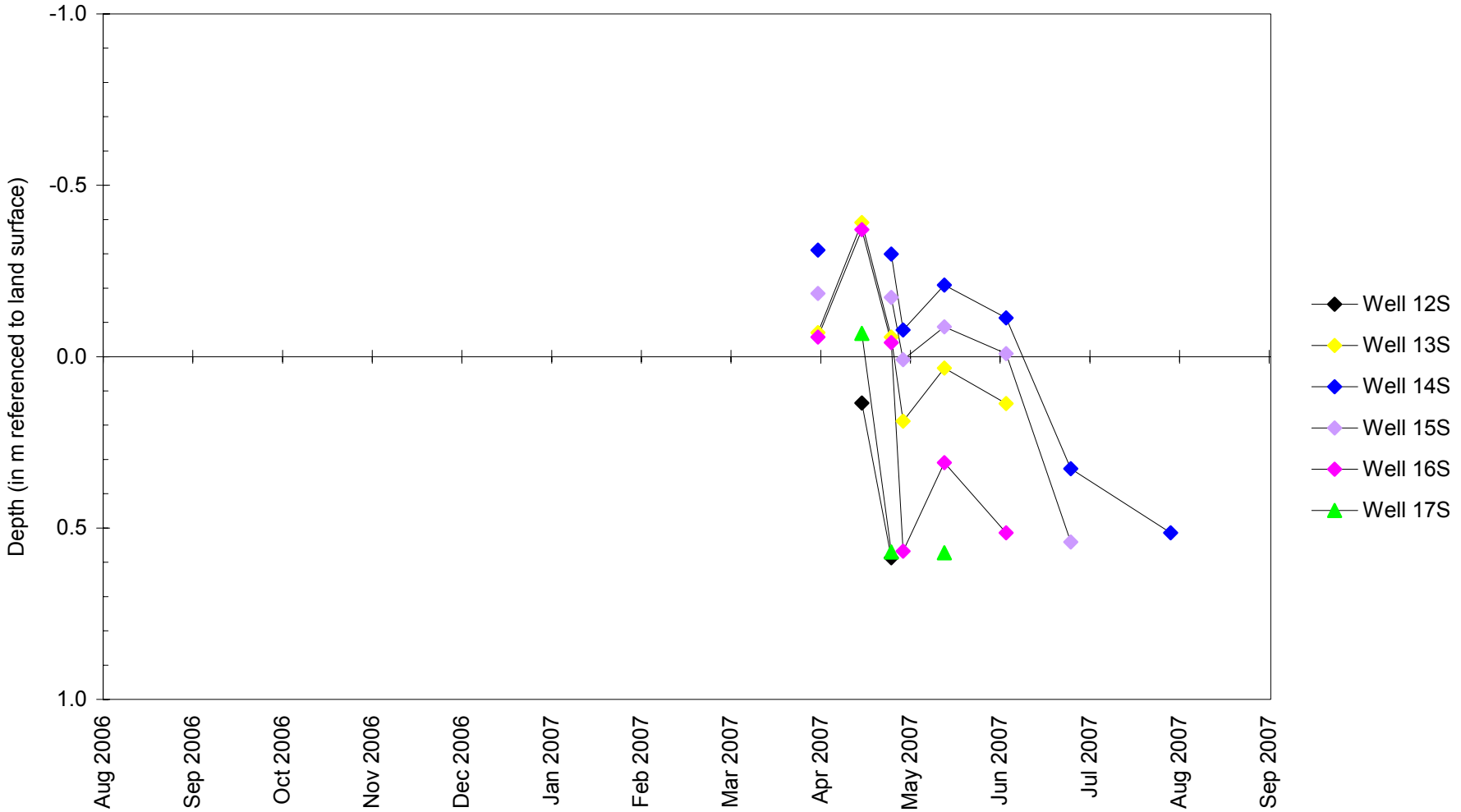
Former Tiernan Property, New River Crossing Potential Wetland Compensation Site
September 1, 2006 to September 1, 2007

Water-Level Elevations



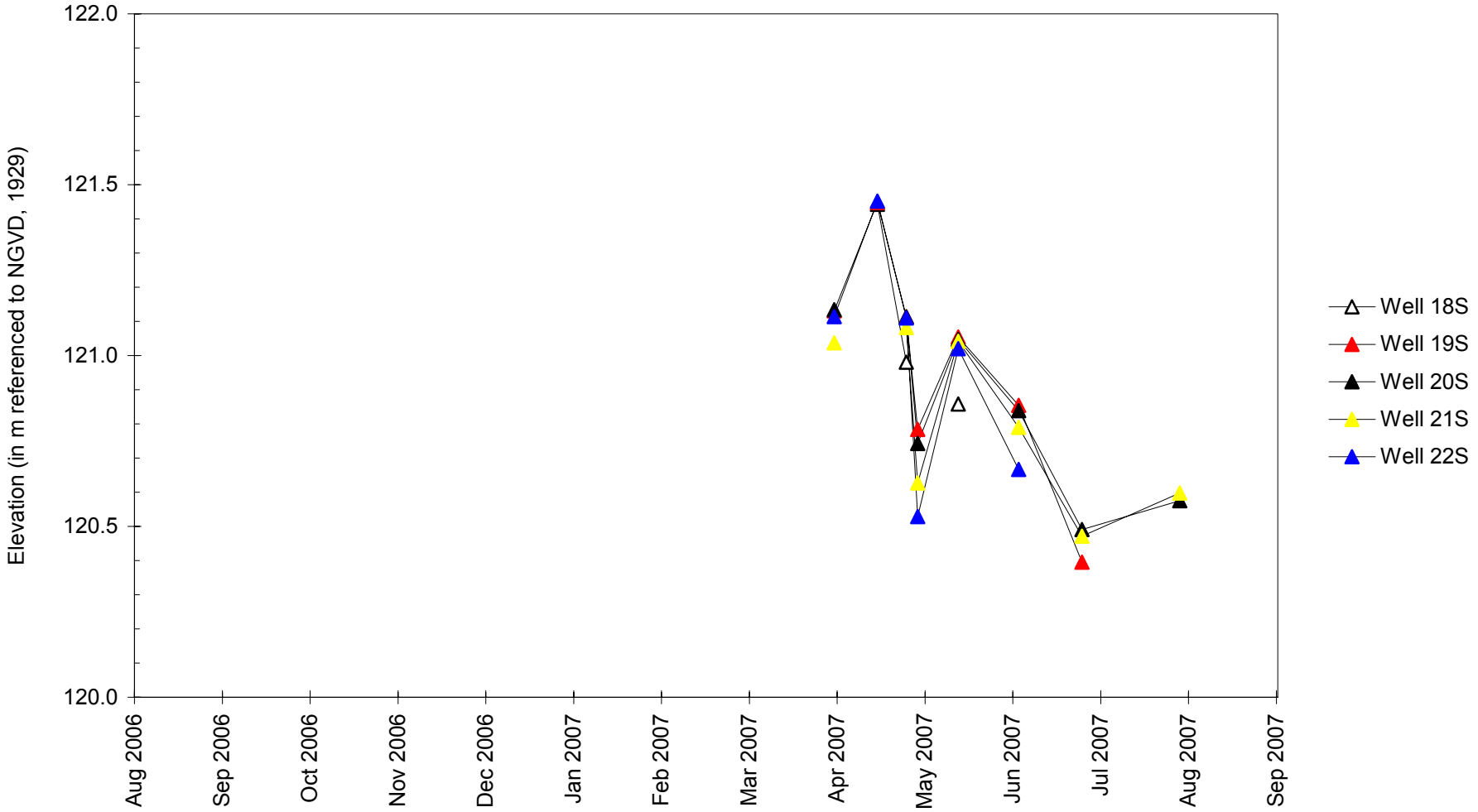
Former Tiernan Property, New River Crossing Potential Wetland Compensation Site
September 1, 2006 to September 1, 2007

Depth to Water

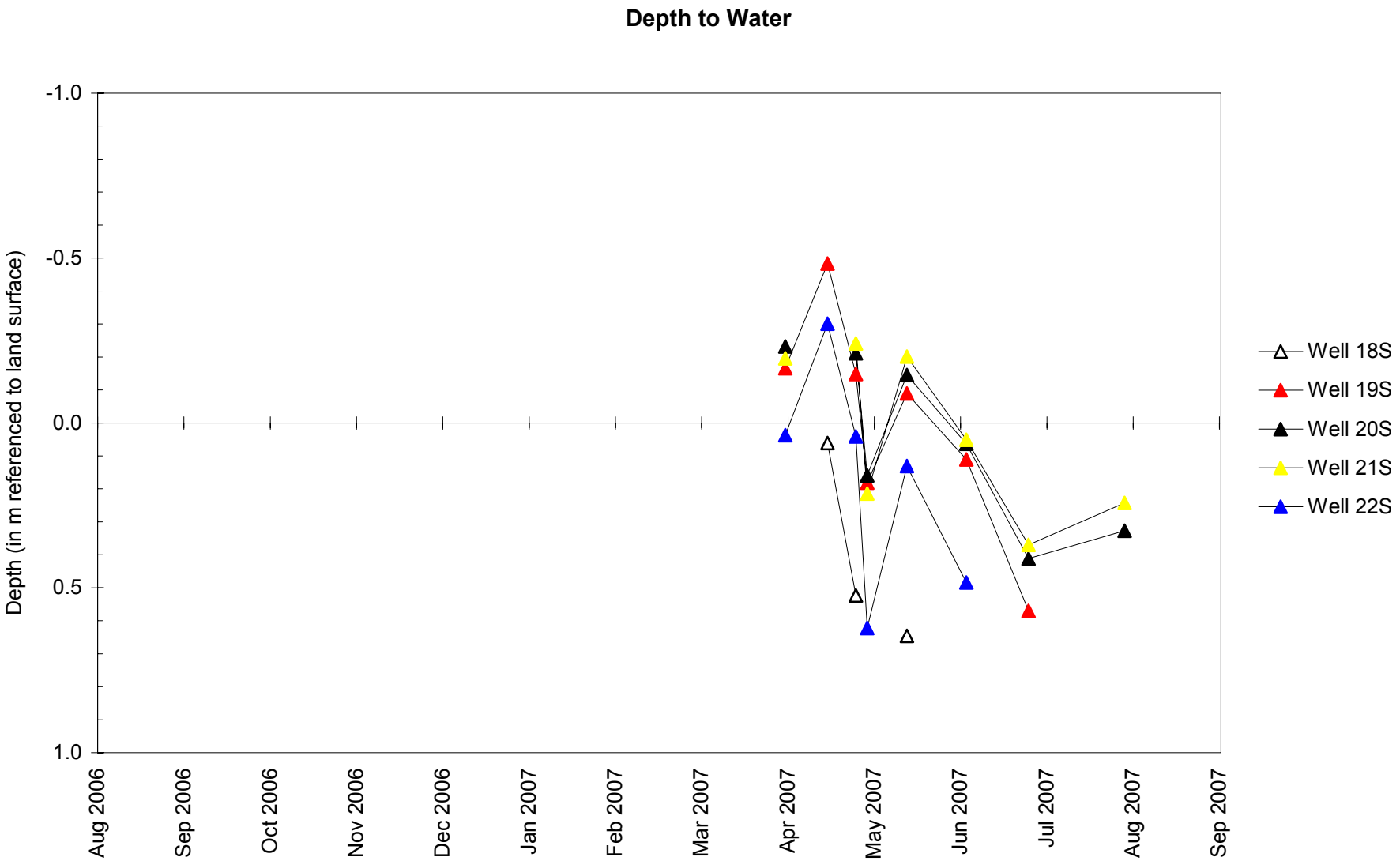


Former Tiernan Property, New River Crossing Potential Wetland Compensation Site
September 1, 2006 to September 1, 2007

Water-Level Elevations

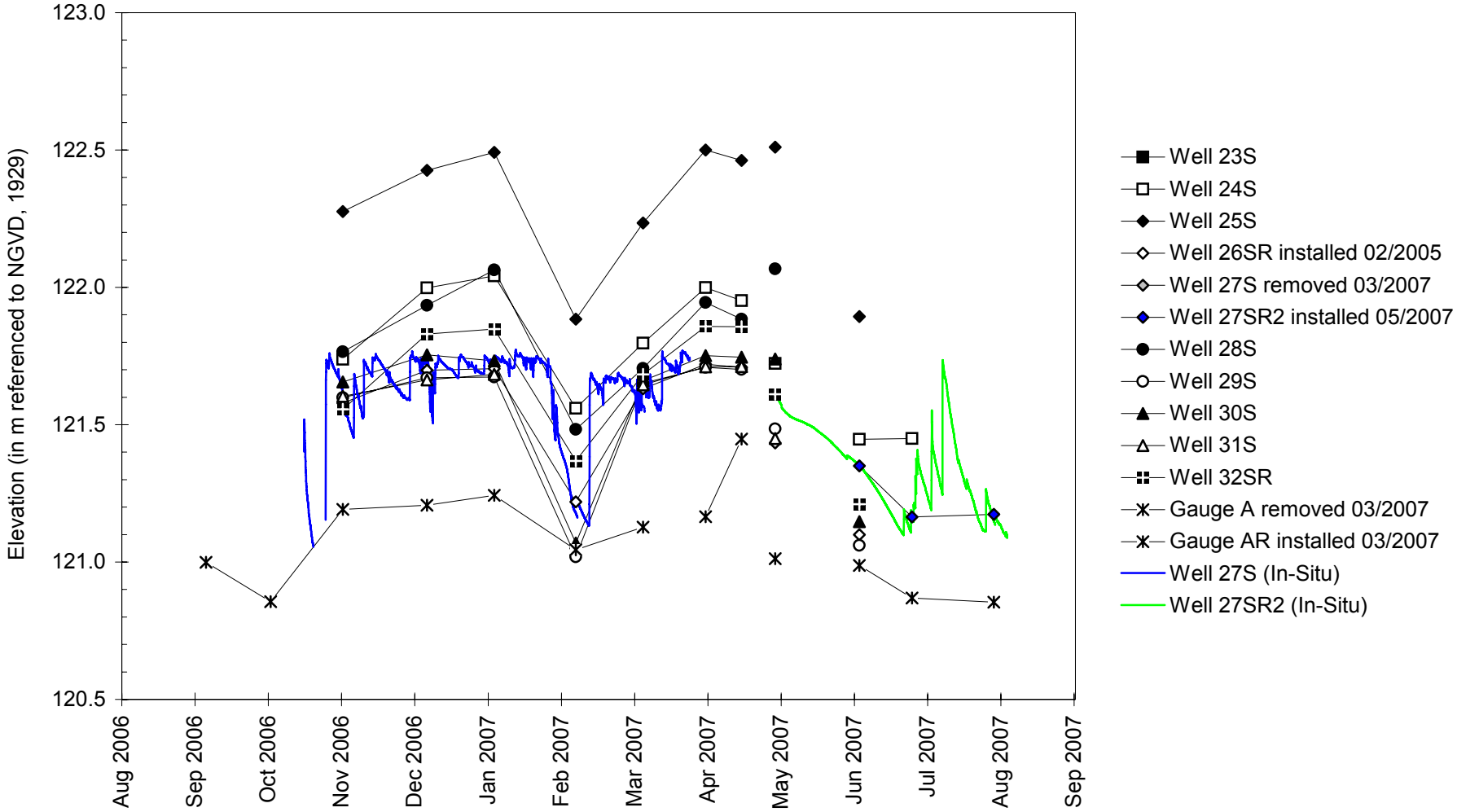


Former Tiernan Property, New River Crossing Potential Wetland Compensation Site
September 1, 2006 to September 1, 2007

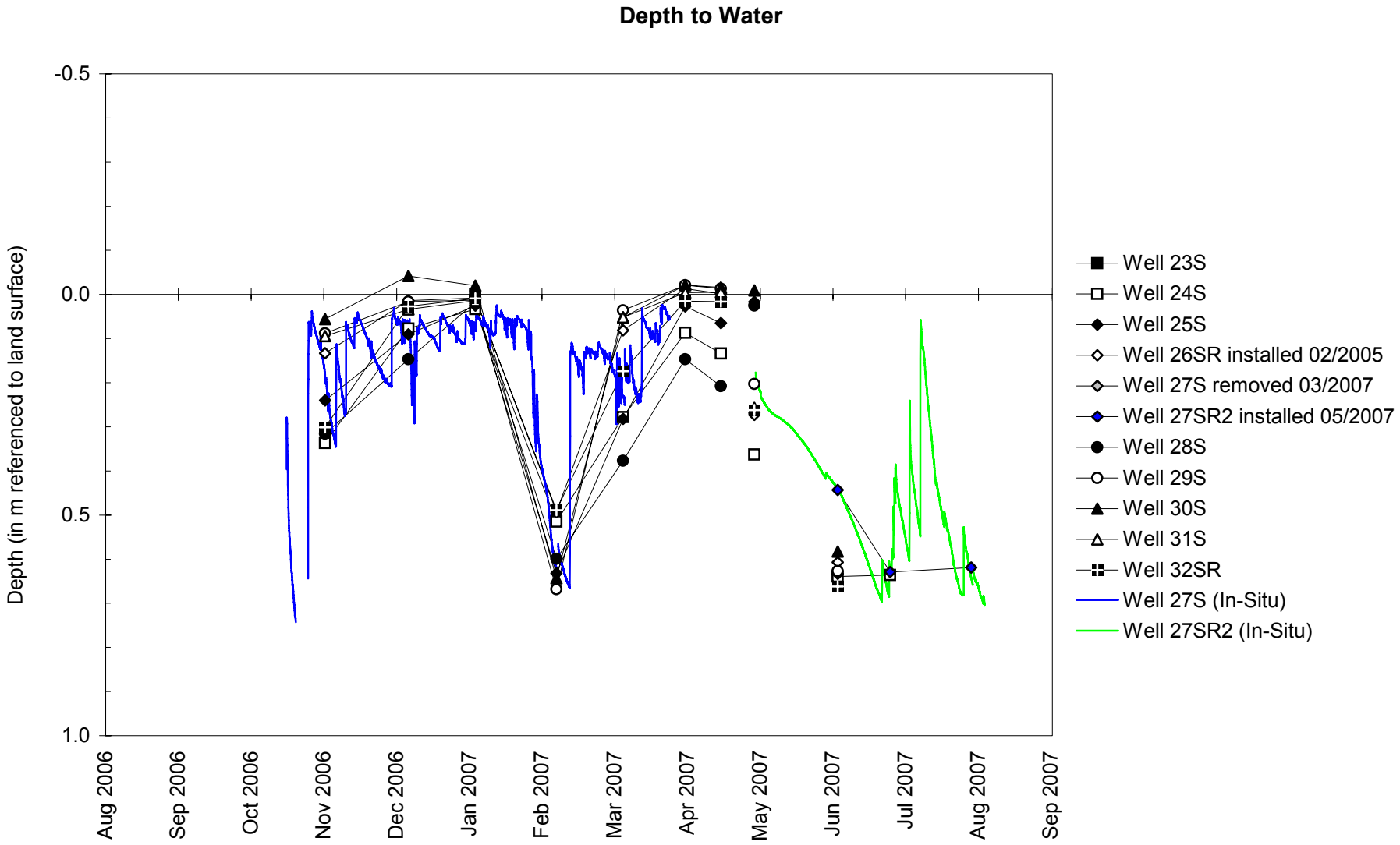


Former Tiernan Property, New River Crossing Potential Wetland Compensation Site
September 1, 2006 to September 1, 2007

Water-Level Elevations

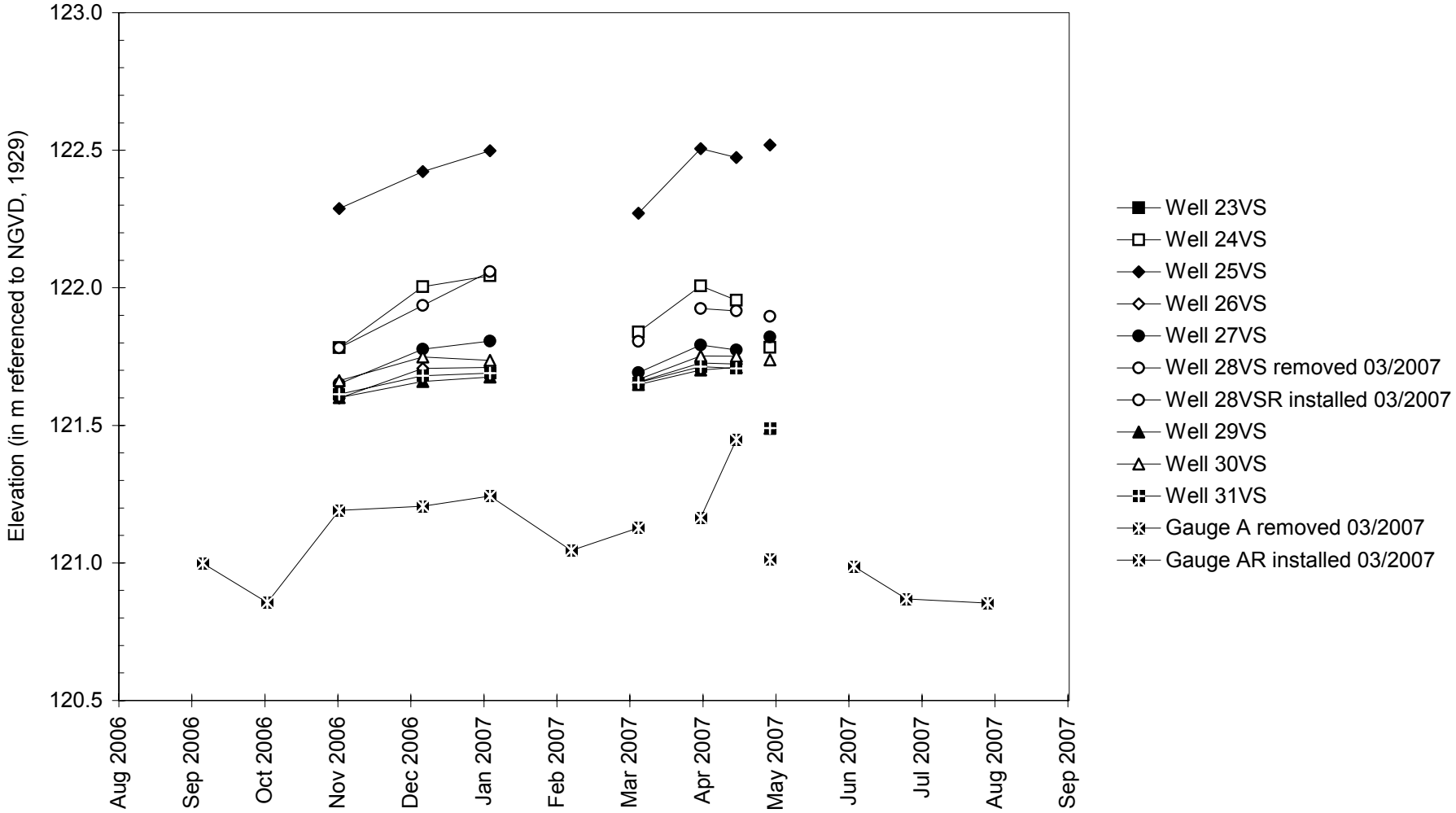


Former Tiernan Property, New River Crossing Potential Wetland Compensation Site
September 1, 2006 to September 1, 2007

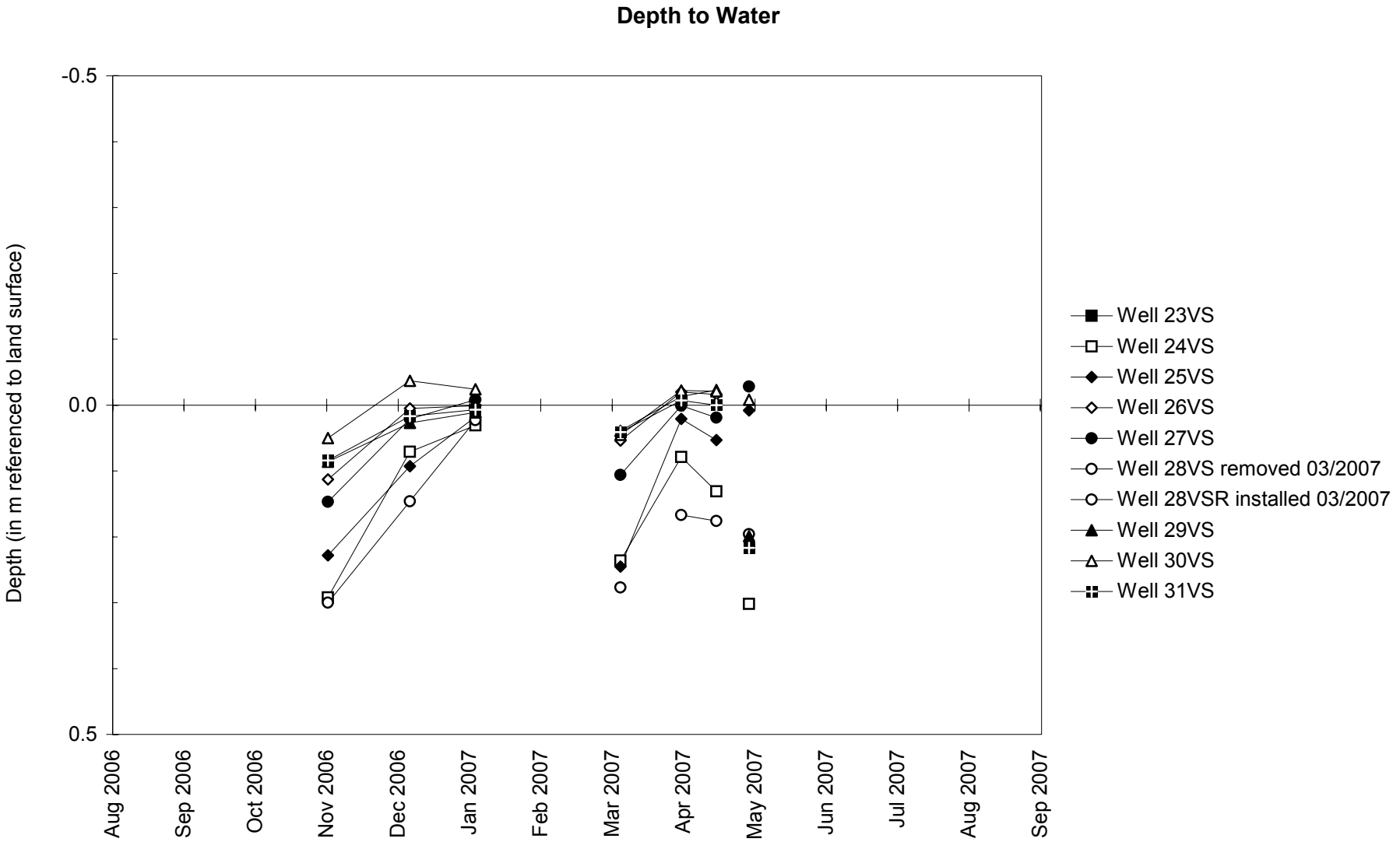


Former Tiernan Property, New River Crossing Potential Wetland Compensation Site
September 1, 2006 to September 1, 2007

Water-Level Elevations

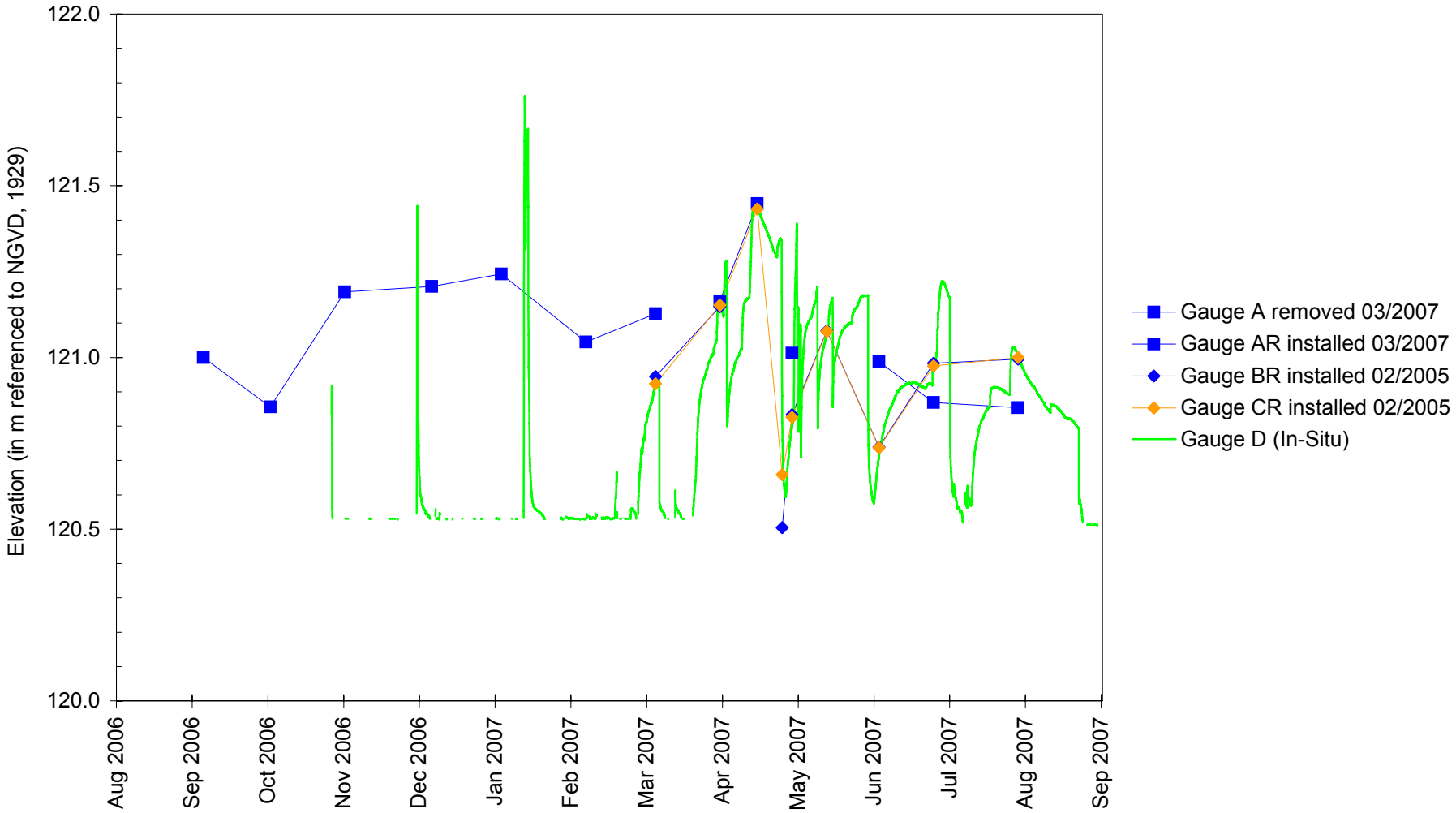


Former Tiernan Property, New River Crossing Potential Wetland Compensation Site
September 1, 2006 to September 1, 2007



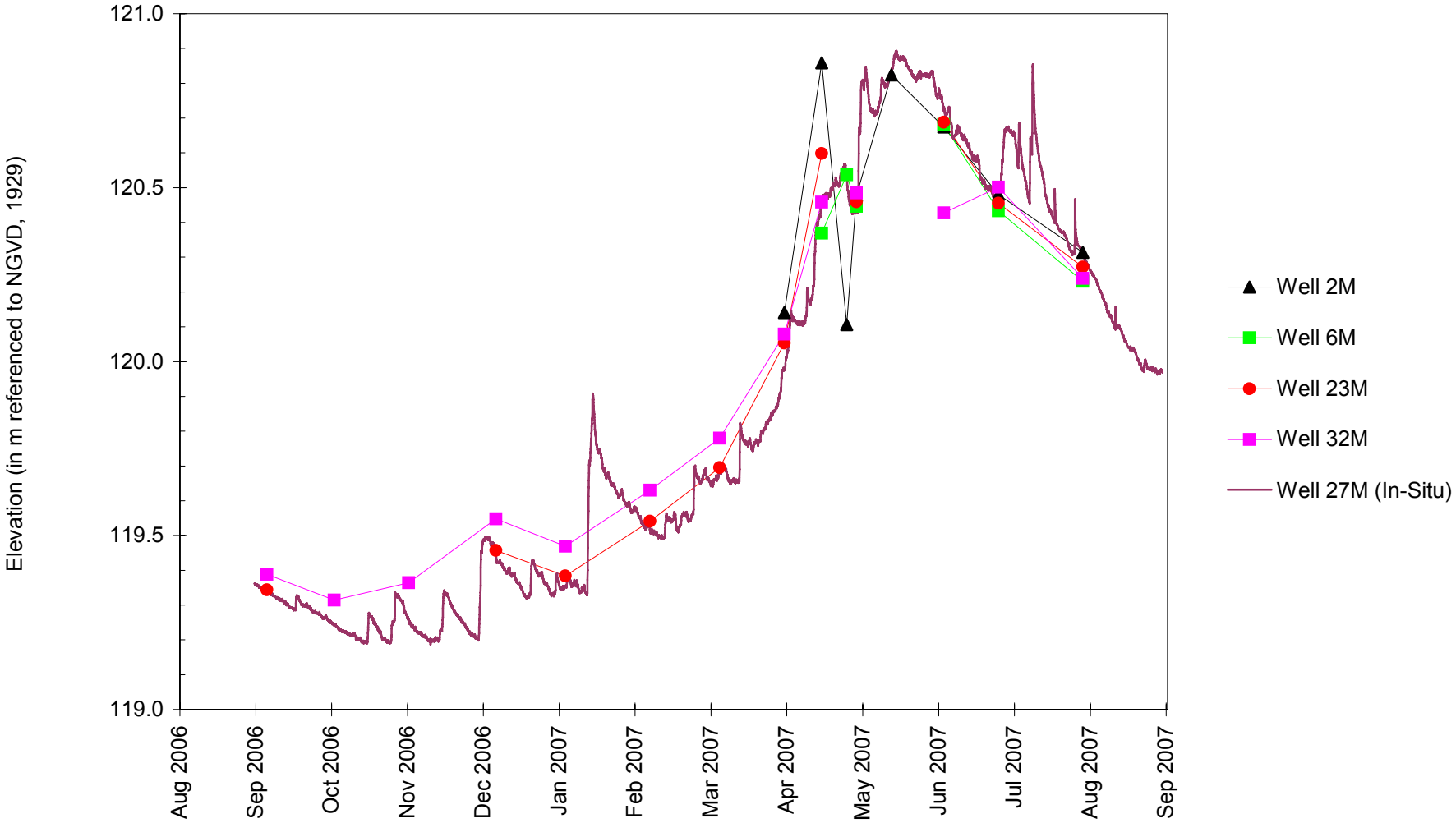
Former Tiernan Property, New River Crossing Potential Wetland Compensation Site
September 1, 2006 to September 1, 2007

Water-Level Elevations

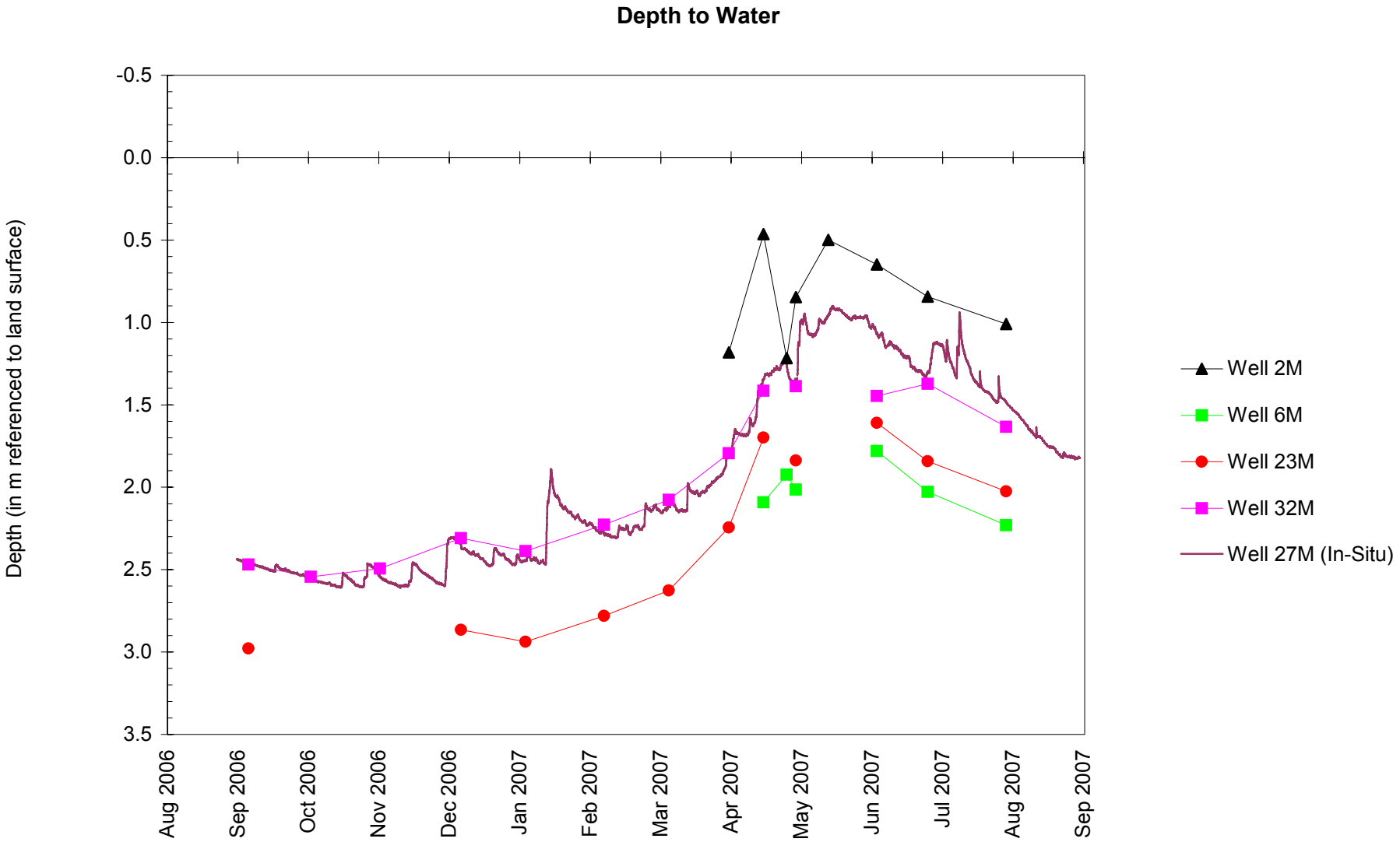


Former Tiernan Property, New River Crossing Potential Wetland Compensation Site
September 1, 2006 to September 1, 2007

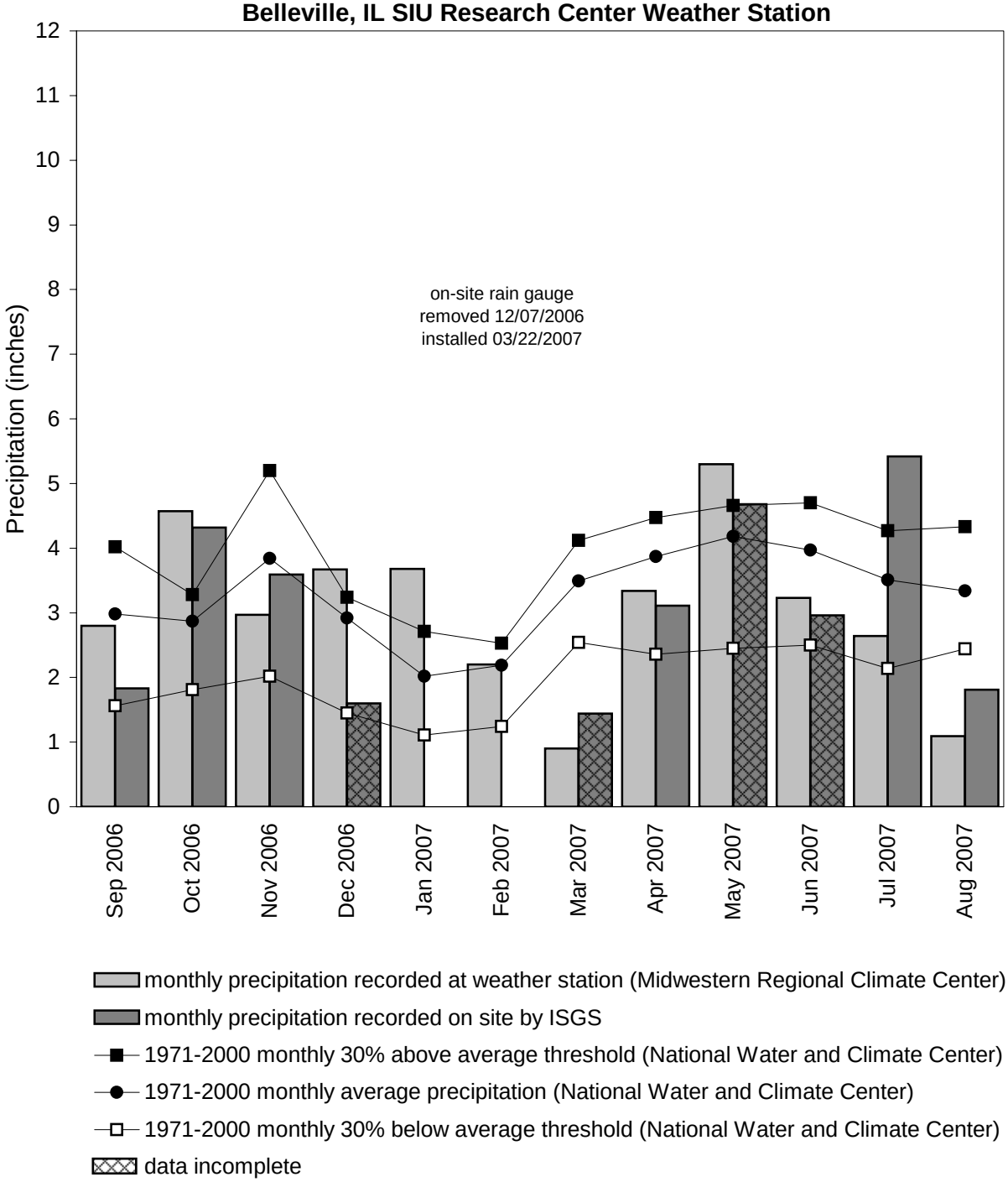
Water-Level Elevations



Former Tiernan Property, New River Crossing Potential Wetland Compensation Site
September 1, 2006 to September 1, 2007



Former Tiernan Property, New River Crossing
Potential Wetland Compensation Site
September 2006 through August 2007
Total Monthly Precipitation Recorded On Site and at the Belleville, IL SIU Research Center Weather Station



Graph last updated October 10, 2007

BUCKHART **ISGS #58**
WETLAND COMPENSATION SITE
FAS 1637, TR 478
Sangamon County, near Buckhart, Illinois
Primary Project Manager: Eric T. Plankell
Secondary Project Manager: Keith W. Carr

SITE HISTORY

- 1996: Young Road was realigned and a new bridge was constructed over the Sangamon River. Construction of wetland mitigation areas was subsequently completed.

- April 2004: ISGS was tasked to conduct hydrologic monitoring at the site.

- May–August 2004: ISGS installed a number of instruments at the site.

- Spring 2006: Young Road was raised by 0.6 m (2 ft) immediately north of the site.

WETLAND HYDROLOGY CALCULATION FOR 2007

The estimated total area that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the 2007 growing season is 0.6 ha (1.6 ac) out of a total compensation area of 2.3 ha (5.8 ac). The area that satisfied wetland hydrology criteria for greater than 12.5% of the 2007 growing season is 0.4 ha (1.0 ac). These estimates are based on the following factors:

- According to the MRCC, the median date that the growing season begins in nearby Springfield, Illinois, is April 6 and the season lasts 205 days; 5% of the growing season is 10 days and 12.5% of the growing season is 26 days.

- Total precipitation at the nearby Abraham Lincoln Capital Airport weather station in Springfield, Illinois, was 93% of normal for the period from September 2006 through August 2007. Precipitation at this station was below normal in September 2006, and also in March, April, May, July, and August 2007. Precipitation amounts were near or above normal for the remaining months of the monitoring period.

- In 2007, water levels in wells 7S and 8S satisfied wetland hydrology criteria for greater than 5% of the growing season. In addition, water levels in well 8S satisfied wetland hydrology criteria for greater than 12.5% of the growing season.

- In 2007, surface-water data logger gauge A (In-Situ), located within a closed depression in Mitigation Area 2, recorded inundation to a depth of 163.9 m (537.7 ft) for greater than 5% of the growing season. Gauge A also recorded inundation to a depth of 163.5 m (536.4 ft) for greater than 12.5% of the growing season.

- The areas that met wetland hydrology criteria for the 2007 growing season did so as a result of an overbank flooding event from the Sangamon River, which peaked on April 6, the first day of the growing season. At least seven additional instances of overbank flooding from the Sangamon River were recorded at the site in December 2006 and in January, February, March, and May 2007.

PLANNED FUTURE ACTIVITIES

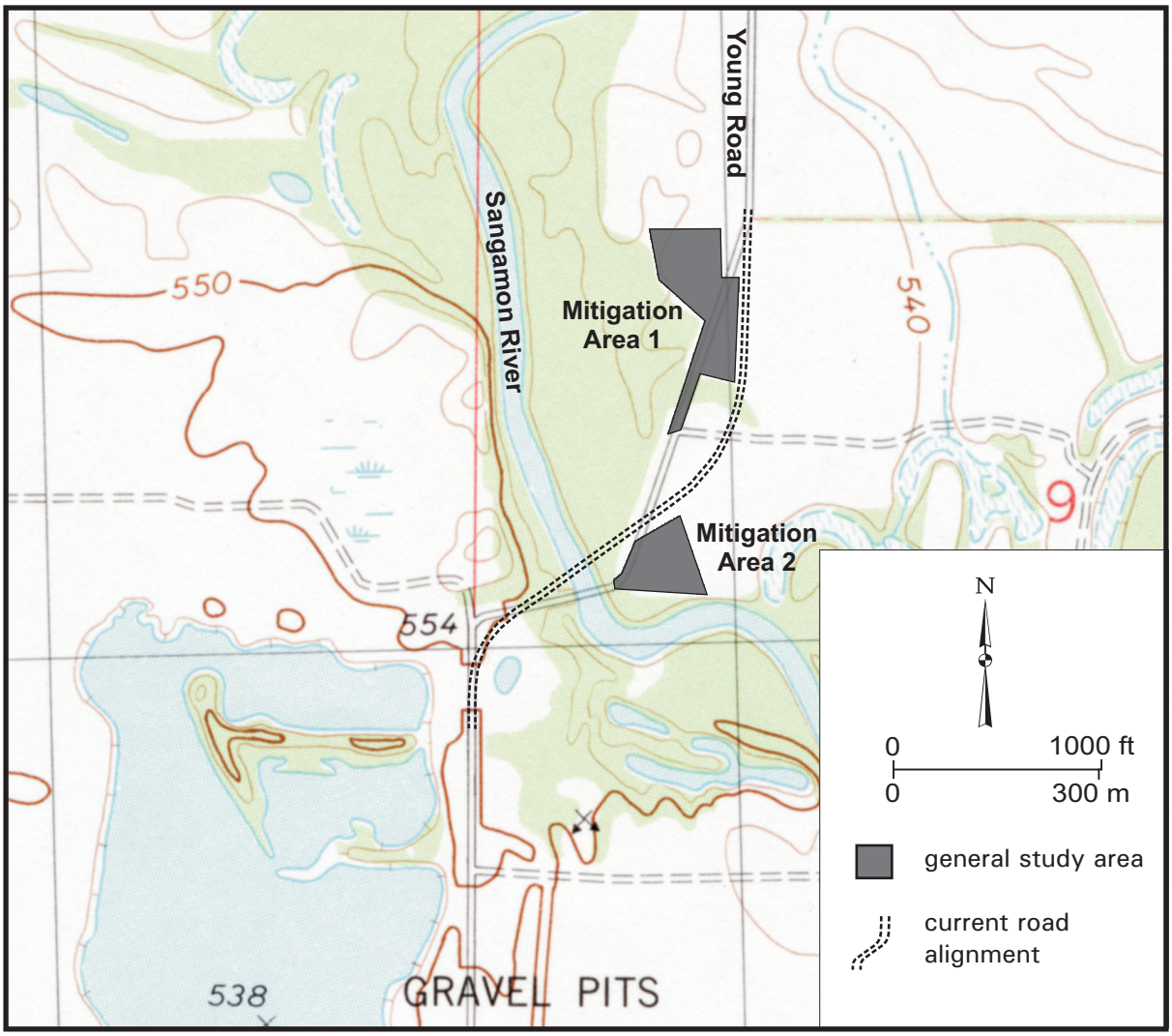
- Monitoring will continue until no longer required by IDOT.

Buckhart Wetland Compensation Site

(FAS 1637, TR 478)

General Study Area and Vicinity

from the USGS Topographic Series, Mechanicsburg, IL 7.5-minute Quadrangle (USGS 1982)
contour interval is 10 feet



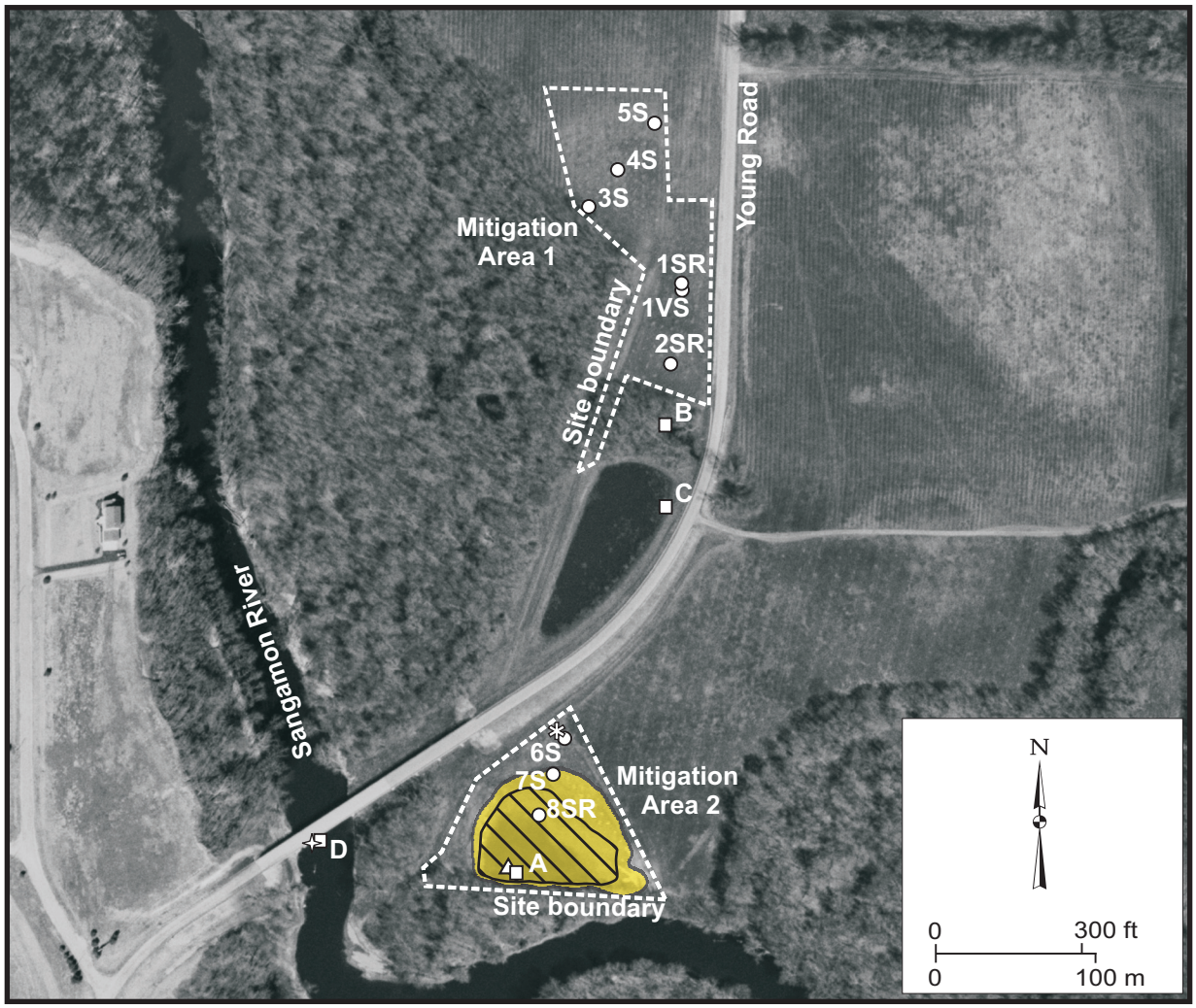
Buckhart Wetland Compensation Site

(FAS 1637, TR 478)

Estimated Areal Extent of 2007 Wetland Hydrology

Based on data collected between September 1, 2006 and September 1, 2007

Map based on USGS digital orthophotographs, Mechanicsburg, SE and SW quarter quadrangles (ISGS 2005)



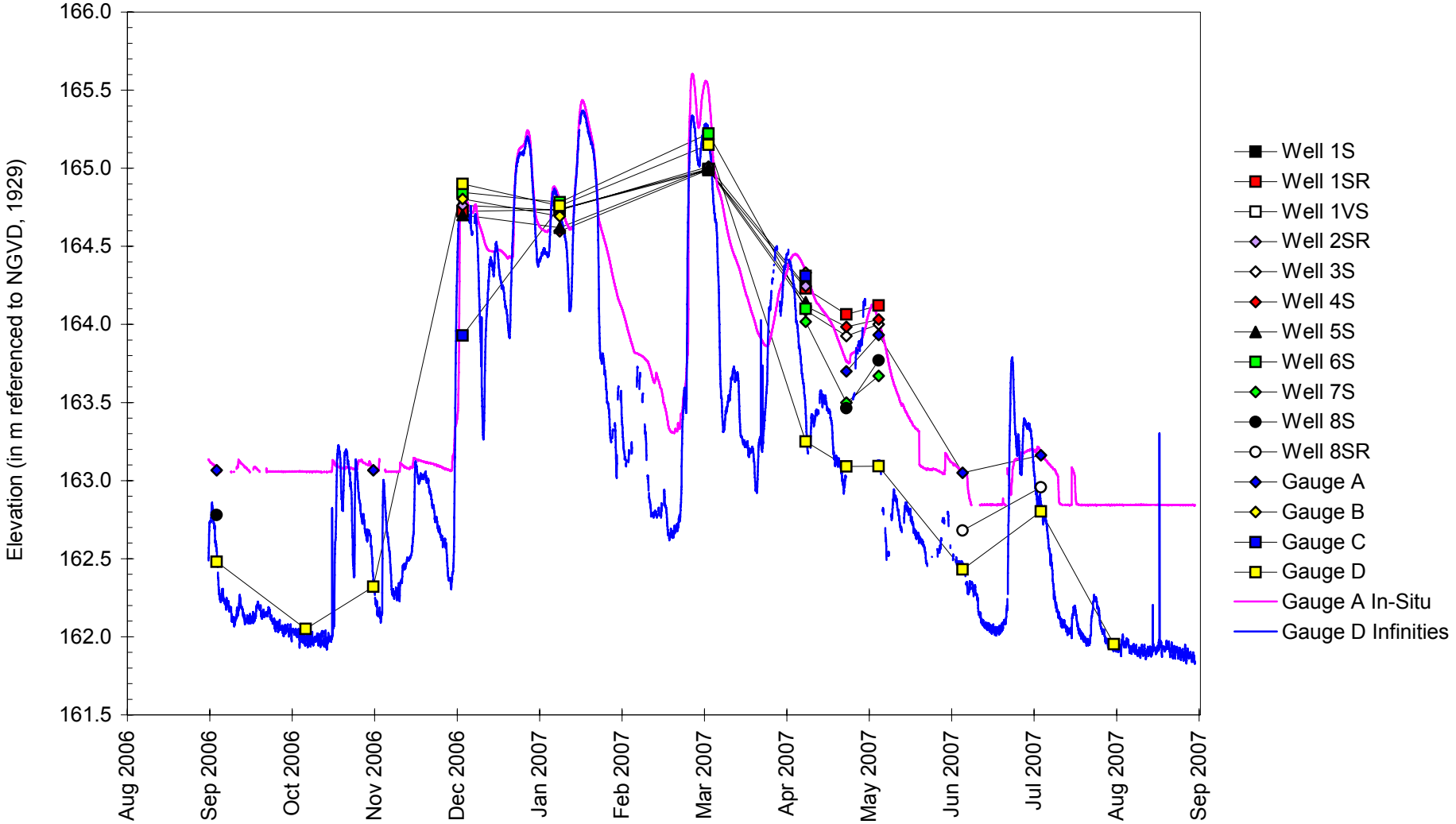
2007 Wetland Hydrology

- >12.5% of the growing season
- >5% of the growing season

- ○ monitoring well
- □ staff gauge
- △ In-Situ data logger
- ❄ rain gauge
- ✧ Sonic data logger

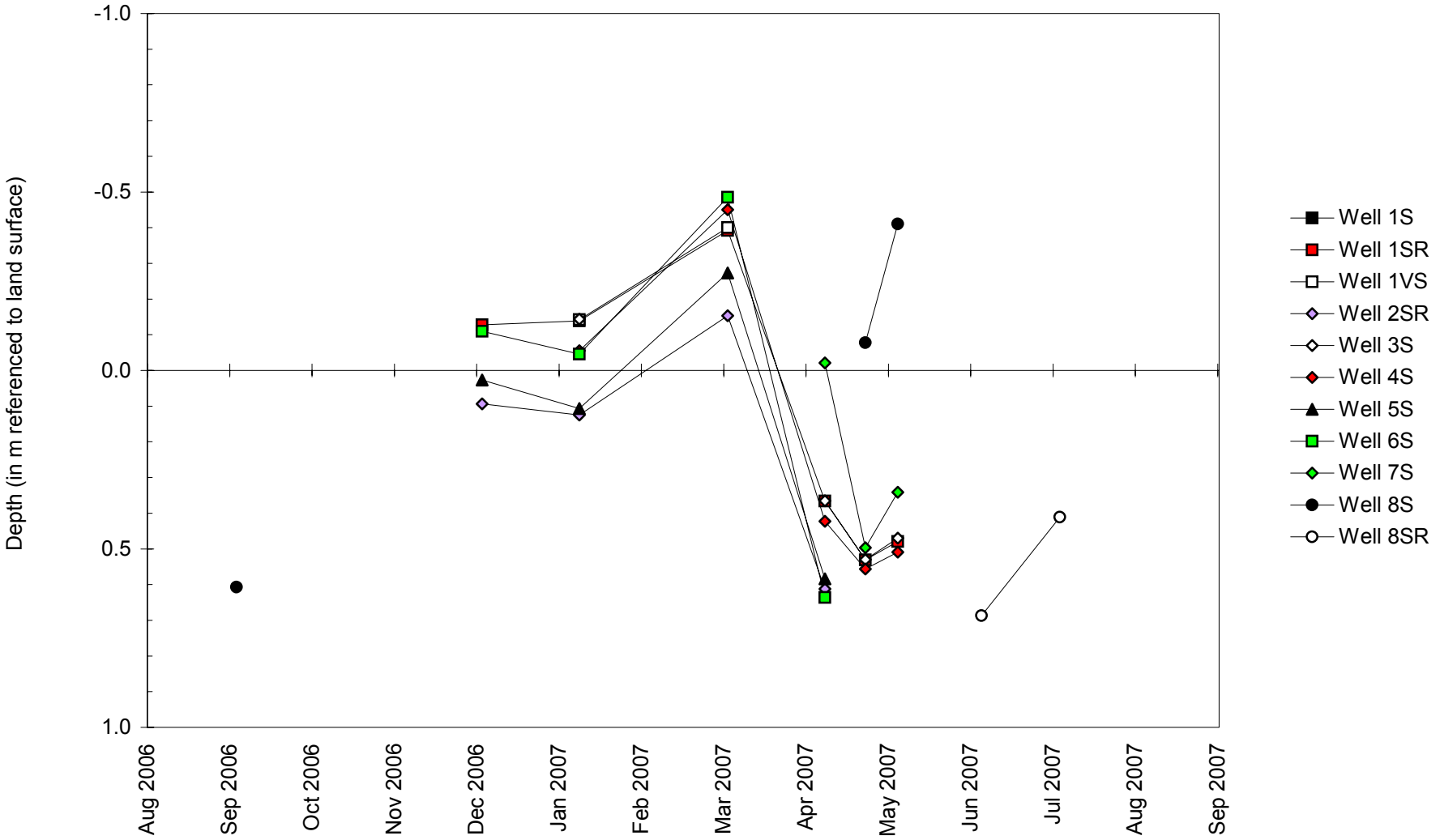
Buckhart Wetland Compensation Site
September 1, 2006 to September 1, 2007

Water-Level Elevations
in Monitoring Wells, on Stage Gauges, and in Data Loggers



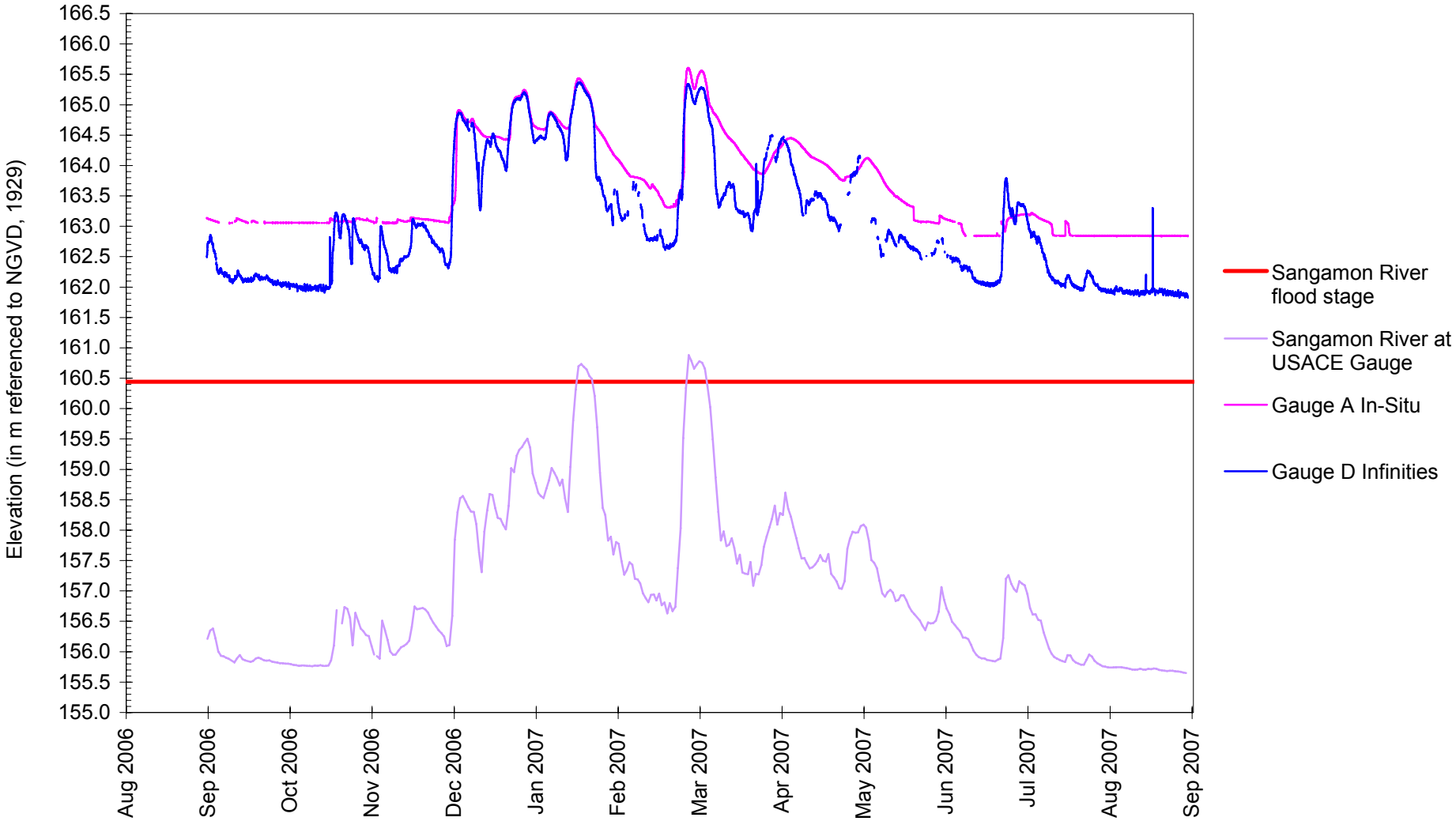
Buckhart Wetland Compensation Site
September 1, 2006 to September 1, 2007

Depth to Water
in Monitoring Wells



Buckhart Wetland Compensation Site
September 1, 2006 to September 1, 2007

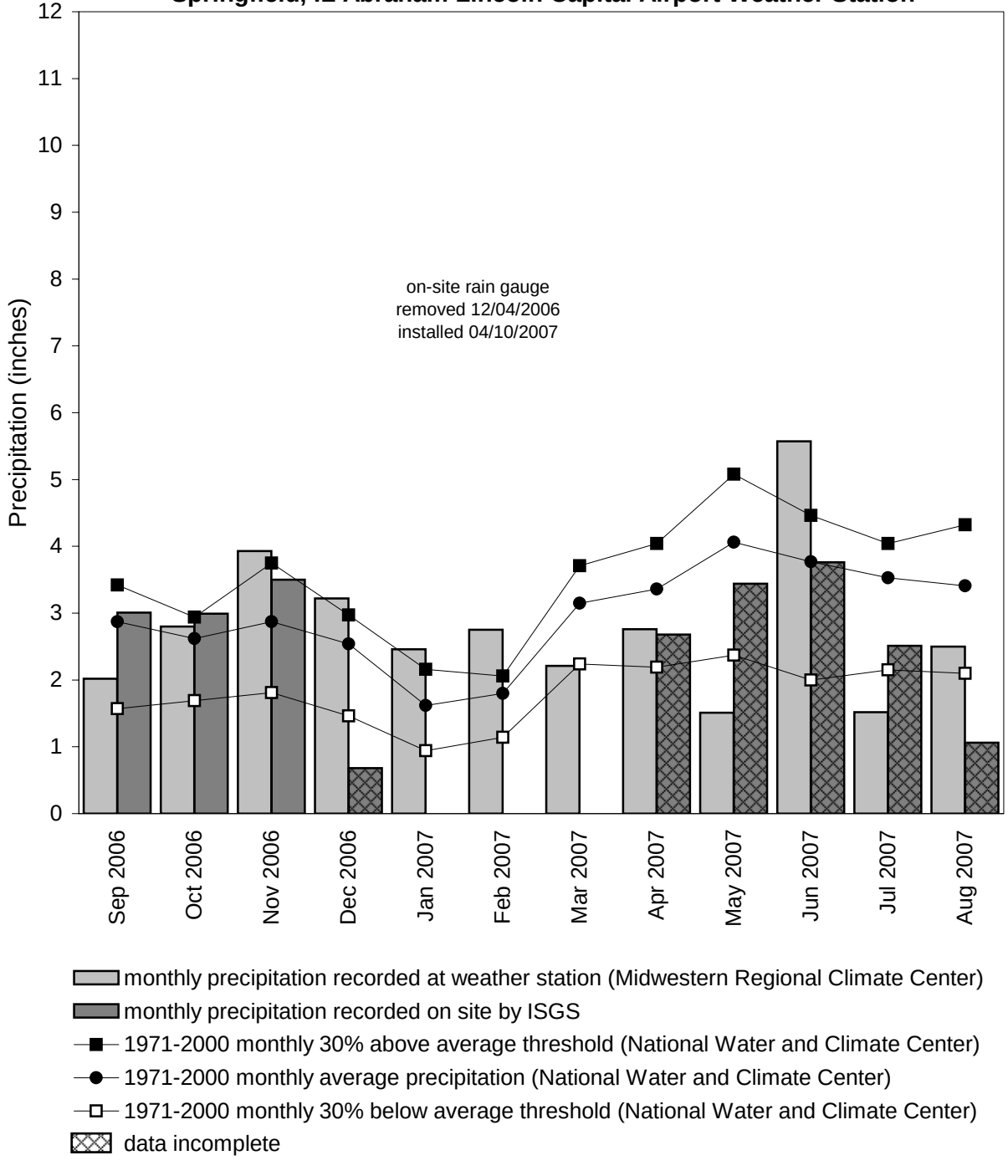
Water-Level Elevations



Buckhart Wetland Compensation Site

September 2006 through August 2007

Total Monthly Precipitation Recorded On Site and at the Springfield, IL Abraham Lincoln Capital Airport Weather Station



Graph last updated October 10, 2007

HARRISBURG **ISGS #63**
POTENTIAL WETLAND COMPENSATION SITE
FAP 332
Saline County, near Harrisburg, Illinois
Primary Project Manager: Geoffrey E. Pociask
Secondary Project Manager: not assigned

SITE HISTORY

- April 2000: ISGS submitted an initial site evaluation report identifying the site as having low–moderate potential for wetland restoration.

- December 2001: ISGS was tasked by IDOT to conduct a Level II hydrogeologic characterization of the site.

- April 2004: A Level II hydrologic characterization report was submitted to IDOT (ISGS Open-File Series 2004–07).

- May 2004: Construction at the wetland compensation site was completed.

- December 2005: ISGS was tasked by IDOT to monitor the site for performance standards as outlined in the wetland mitigation plan and post-construction water-level monitoring was initiated.

WETLAND HYDROLOGY CALCULATION FOR 2007

We estimate that 5.9 ha (14.5 ac) out of a total site area of 8.1 ha (20.0 ac) satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the growing season in 2007, whereas 0.4 ha (1.1 ac) satisfied wetland hydrology for greater than 12.5% of the growing season. These estimates are based on the following factors:

- According to the MRCC, the median date that the growing season begins in Harrisburg, Illinois, is April 1 and the season lasts 211 days; 5% of the growing season is 11 days and 12.5% of the growing season is 26 days.

- Total precipitation for the period from September 2006 through August 2007 was 107% of normal. Drier than normal conditions prevailed in March, April, May, July, and August 2007. Precipitation amounts were at or above normal for September 2006 through February 2007 and June 2007.

- In 2007, all wells except 10S satisfied wetland hydrology criteria for greater than 5% of the growing season. Furthermore, wells 8S, 8VS, 9S, 9VS, and 11VS satisfied the wetland hydrology criteria for greater than 12.5% of the growing season.

- The data logger RDS 1, located at the confluence of the drainage ditches at the east end of the site, indicated that surface-water inundation occurred below 111.01 m (364.20 ft) for greater than 5% of the growing season and below an elevation of 110.99 m (364.15 ft) for greater than 12.5% of the growing season. Also, gauge B indicated inundation below 111.41 m (365.51 ft) for greater than 5% of the growing season and inundation below 111.36 m (365.35 ft) for greater than 12.5% of the growing season.

PLANNED FUTURE ACTIVITIES

- Monitoring will continue through 2009 or until no longer required by IDOT.

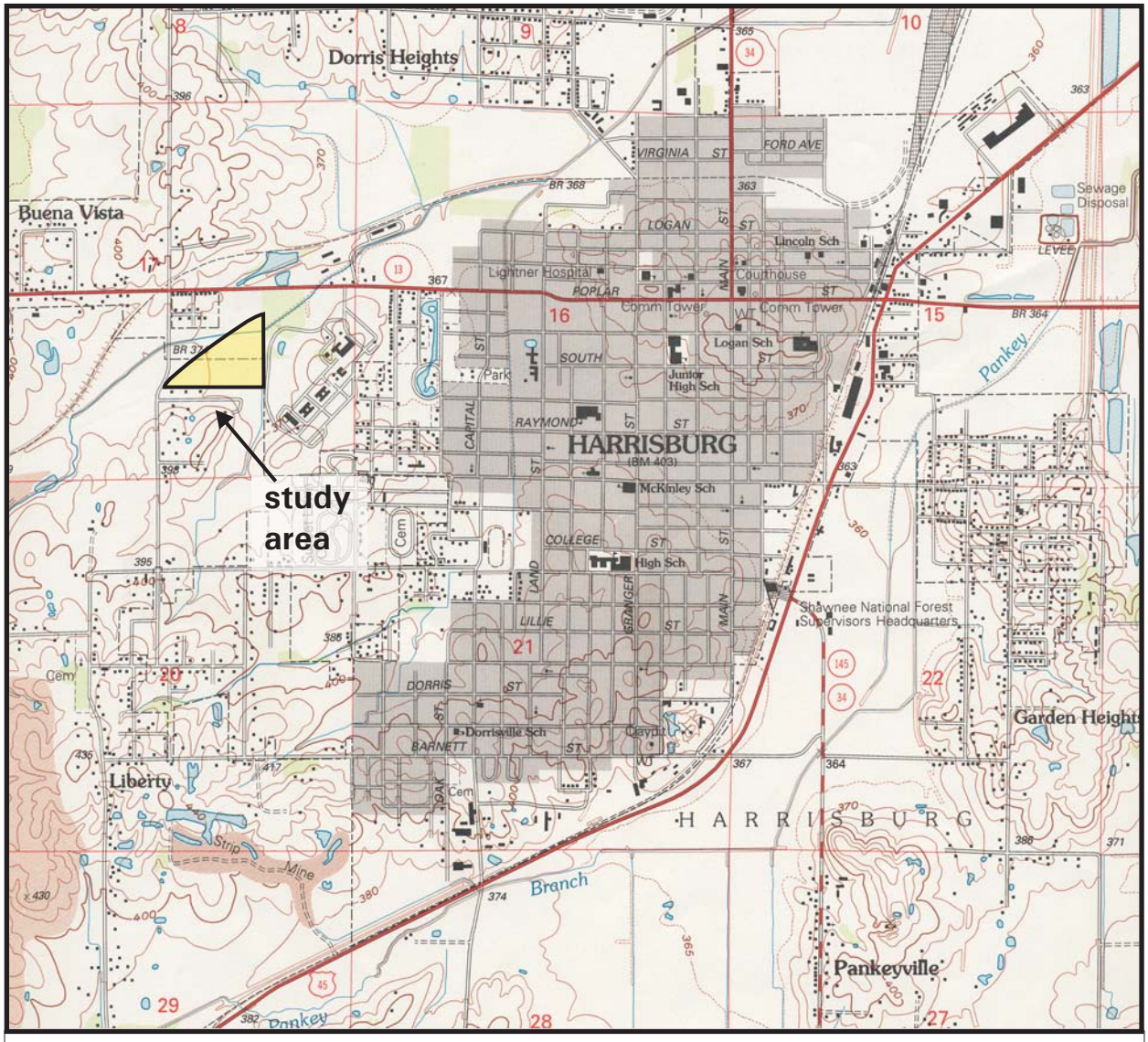
Harrisburg Potential Wetland Compensation Site

(FAP 332)

General Study Area and Vicinity

from the USGS Topographic Series, Harrisburg, IL 7.5-minute Quadrangle (USGS 1996)

contour interval is 5 feet



wetland compensation site

0 2000 ft

0 600 m

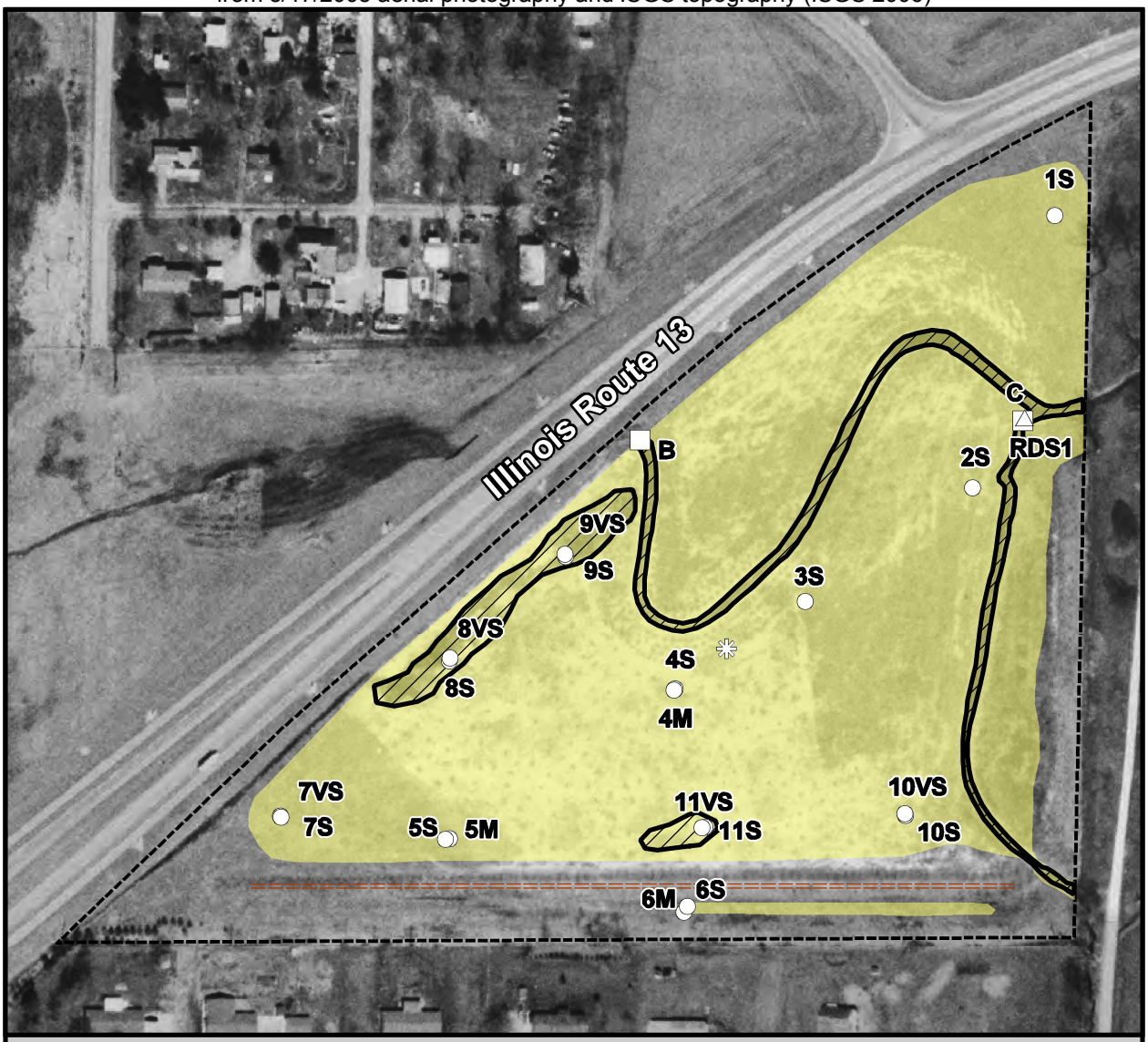
N

Harrisburg Wetland Compensation Site
(FAP 332)

Estimated Areal Extent of 2007 Wetland Hydrology

based on data collected between September 1, 2006 and September 1, 2007

map based on USGS digital orthophotograph Harrisburg NW quarter quadrangle
from 3/17/2005 aerial photography and ISGS topography (ISGS 2006)



2007 Wetland Hydrology

- >5% of growing season
- >12.5% of growing season

- monitoring well
- RDS data logger
- staff gauge
- rain gauge
- berm
- site boundary

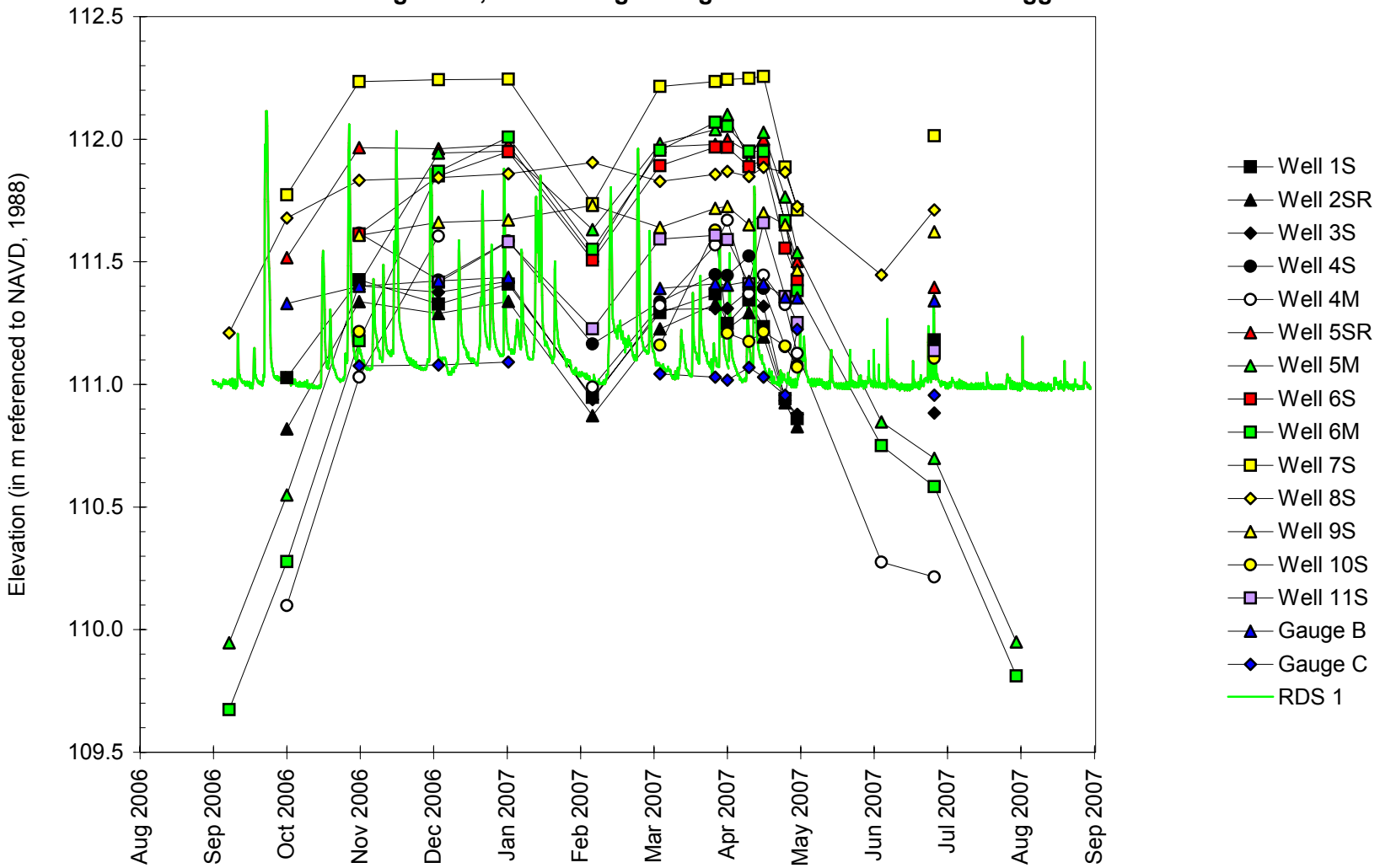
N

0 250 ft

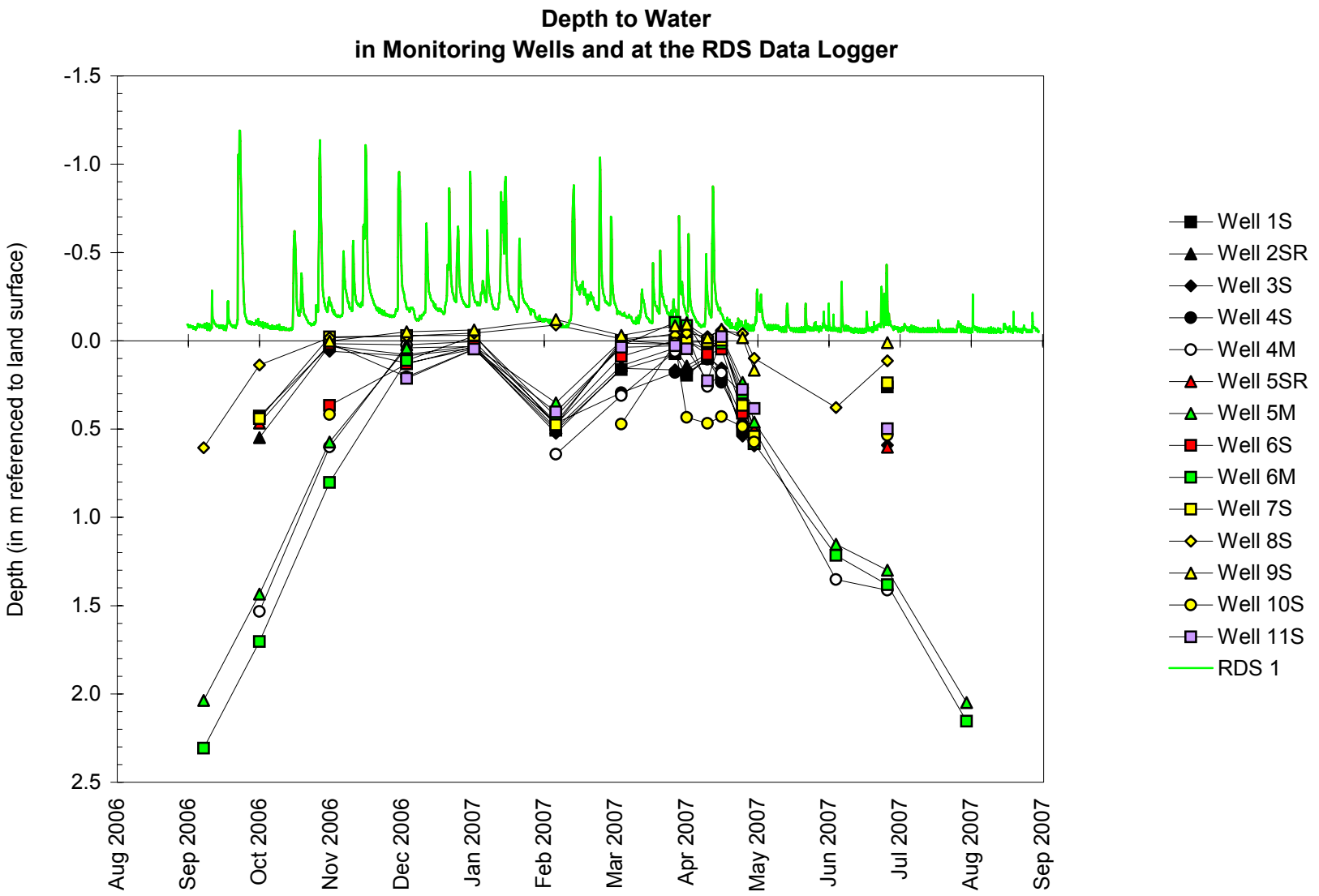
0 75 m

Harrisburg Potential Wetland Compensation Site
September 1, 2006 to September 1, 2007

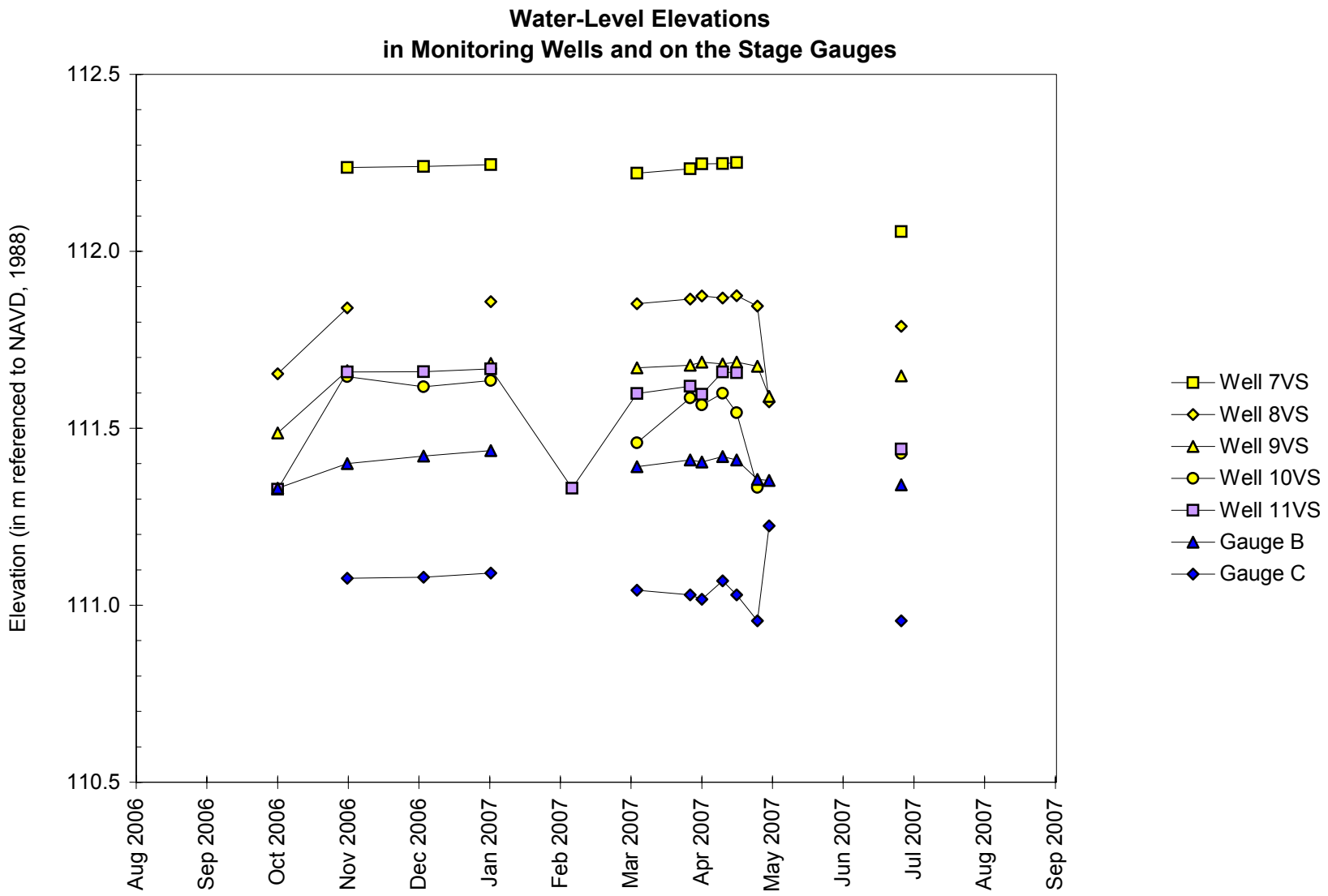
Water-Level Elevations
in Monitoring Wells, on the Stage Gauges and at the RDS Data Logger



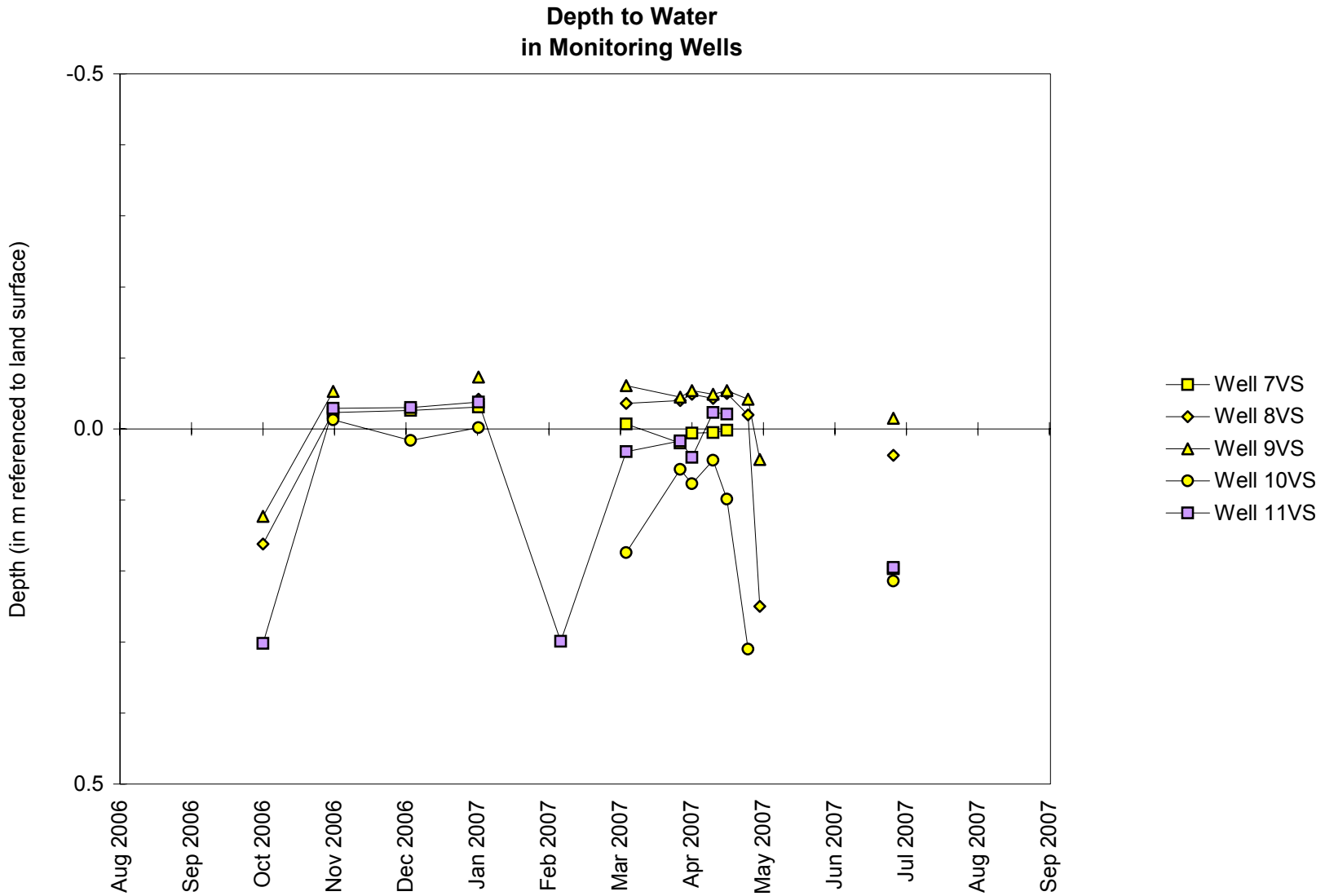
Harrisburg Potential Wetland Compensation Site
September 1, 2006 to September 1, 2007



Harrisburg Potential Wetland Compensation Site
September 1, 2006 to September 1, 2007



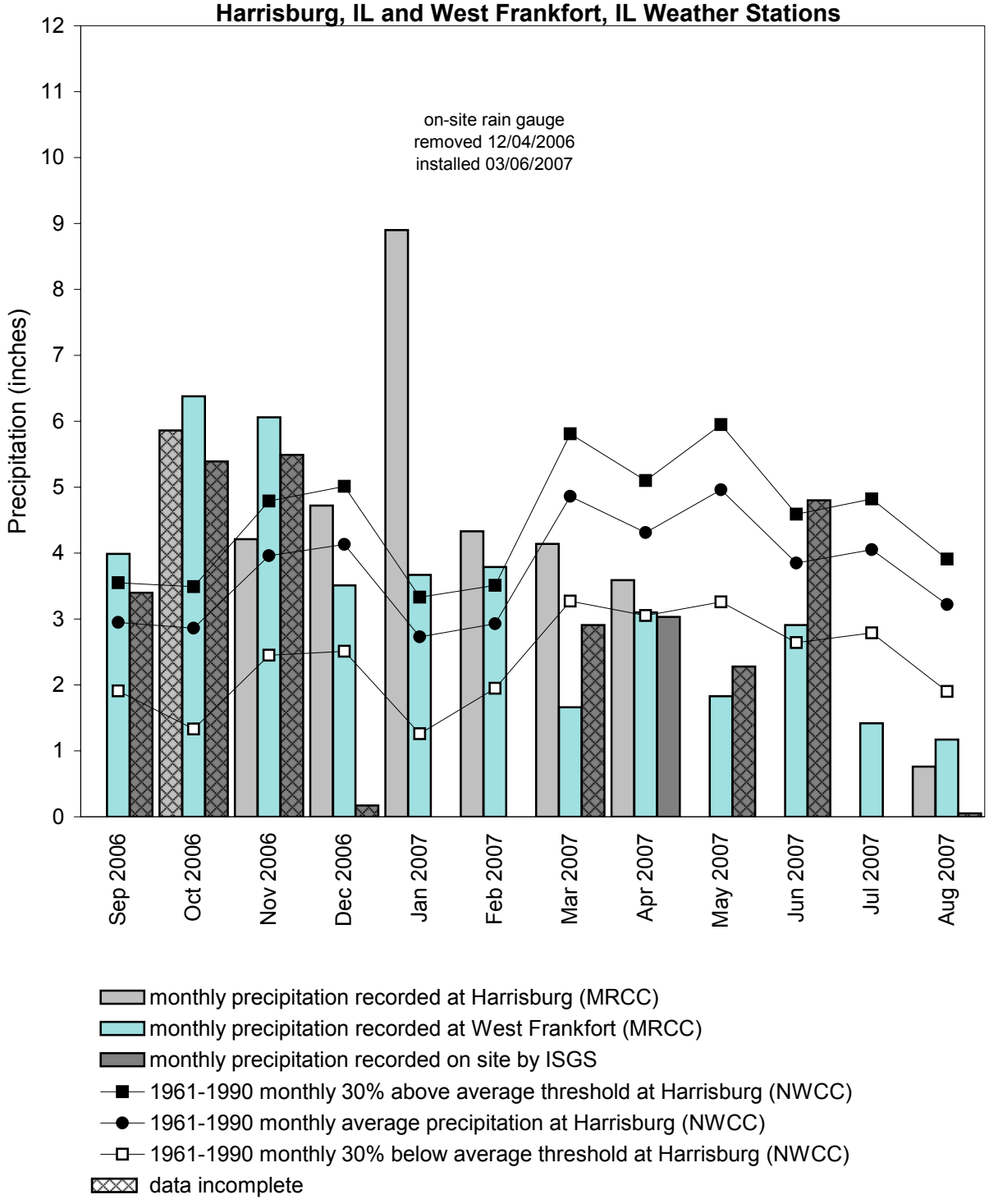
Harrisburg Potential Wetland Compensation Site
September 1, 2006 to September 1, 2007



Harrisburg Potential Wetland Compensation Site

September 2006 through August 2007

Total Monthly Precipitation Recorded On Site and at the Harrisburg, IL and West Frankfort, IL Weather Stations



Graph last updated October 10, 2007

CARBONDALE **ISGS #65**
WETLAND COMPENSATION SITE
FAP 322
Sequence #9780
Jackson County, near Carbondale, Illinois
Primary Project Manager: Geoffrey E. Pociask
Secondary Project Manager: not assigned

SITE HISTORY

- Fall 1999: The wetland compensation site was constructed.
- March 2002: ISGS was tasked by IDOT to monitor wetland hydrology at the site. Post-construction water-level monitoring was initiated in April 2002.
- August 2007: IDOT notified the ISGS to discontinue monitoring.

WETLAND HYDROLOGY CALCULATION FOR 2007

We estimate that 0.3 ha (0.8 ac) out of a total of 4.0 ha (9.9 ac) satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the growing season in 2007, whereas 0.1 ha (0.3 ac) satisfied wetland hydrology for greater than 12.5% of the growing season. These estimates are based on the following factors:

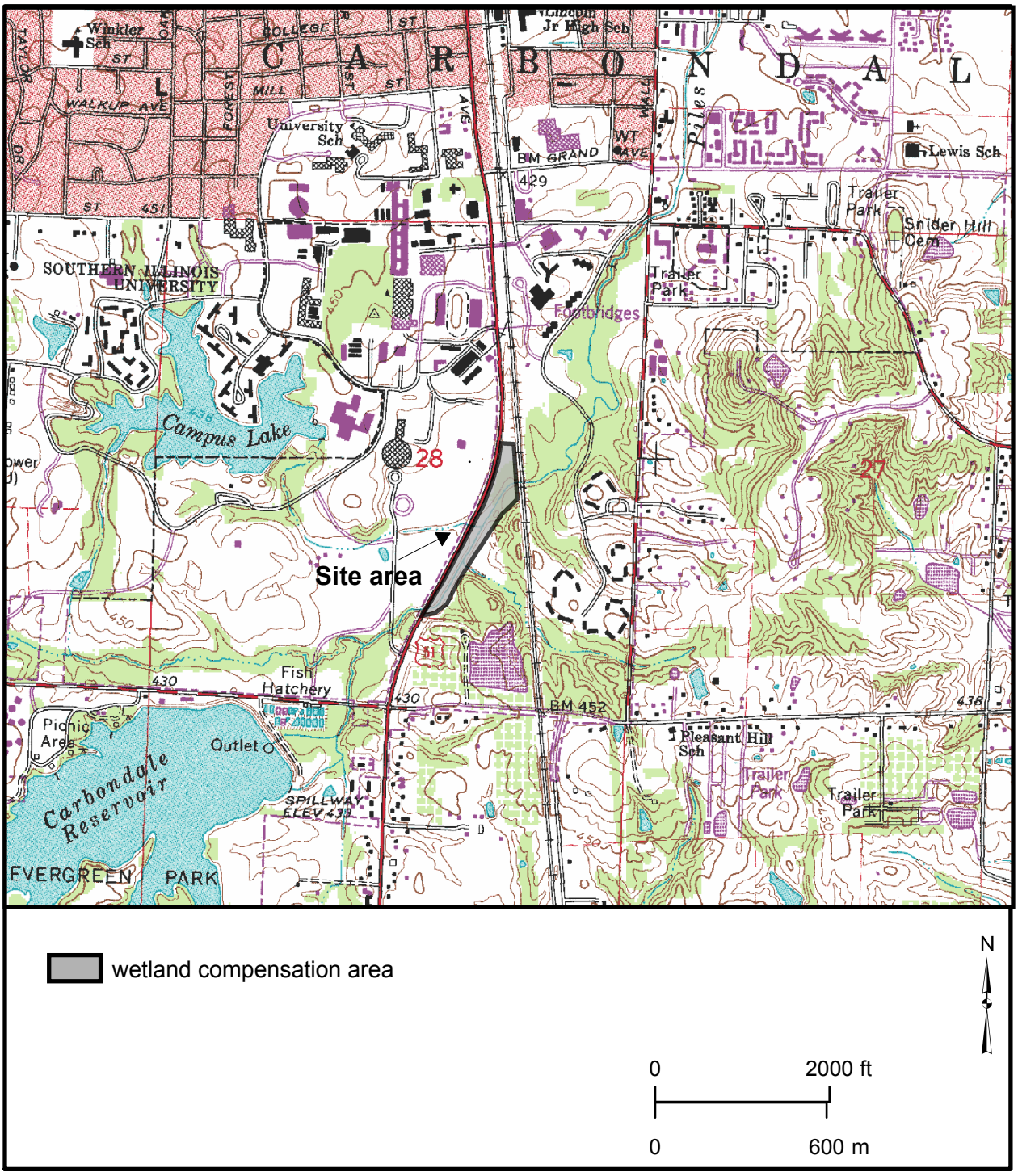
- According to the MRCC, the median date that the growing season begins in Carbondale, Illinois, is April 4 and the season lasts 203 days; 5% of the growing season is 10 days and 12.5% of the growing season is 25 days.
- Total precipitation for the reporting period from September 2006 through August 2007 was 104% of normal. Drier than normal conditions prevailed in March, April, May, July, and August 2007. Precipitation was near or above normal in September 2006 through February 2007, and in June 2007.
- In 2007, wells 2S, 4S, 5S, 6S, 8S, and 12S satisfied wetland hydrology criteria for greater than 5% of the growing season. Furthermore, wells 2S, 4S, and 5S also satisfied wetland hydrology criteria for greater than 12.5% of the growing season.
- The area in the basin surrounding RDS 1 below approximately 122.9 m (403.2 ft) was inundated for greater than 5% of the growing season and for greater than 12.5% of the growing season.

PLANNED FUTURE ACTIVITIES

- Water-level monitoring has been discontinued by IDOT. The ISGS will remove monitoring equipment during Fall 2007.

Carbondale Wetland Compensation Site
(FAP 322)
General Study Area and Vicinity

from the USGS Topographic Series, Carbondale, IL 7.5-minute Quadrangle
(USGS 1966; photorevised 1990)
contour interval is 10 feet

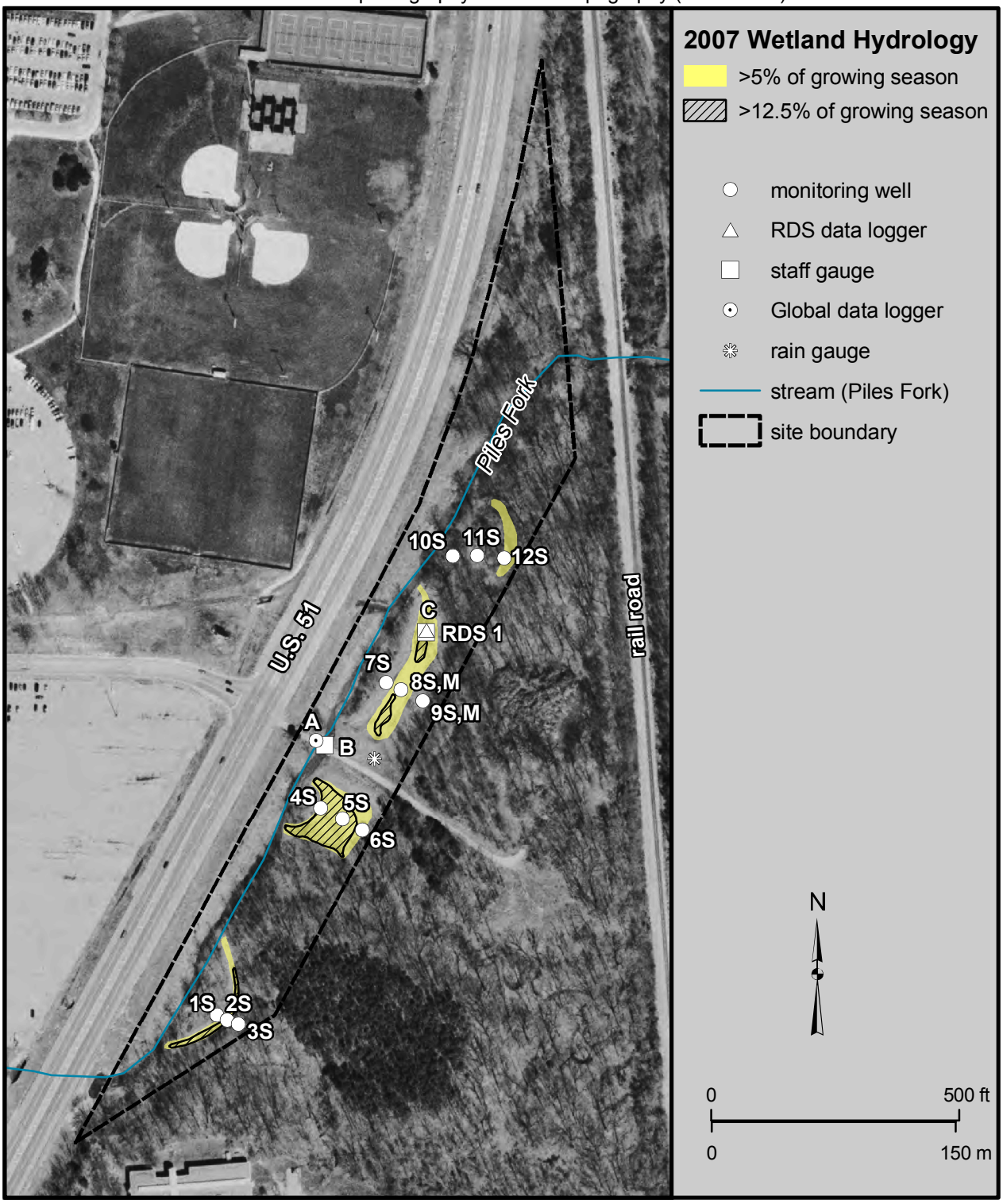


Carbondale Wetland Compensation Site
(FAP 322)

Estimated Areal Extent of 2007 Wetland Hydrology

based on data collected between September 1, 2006 and September 1, 2007

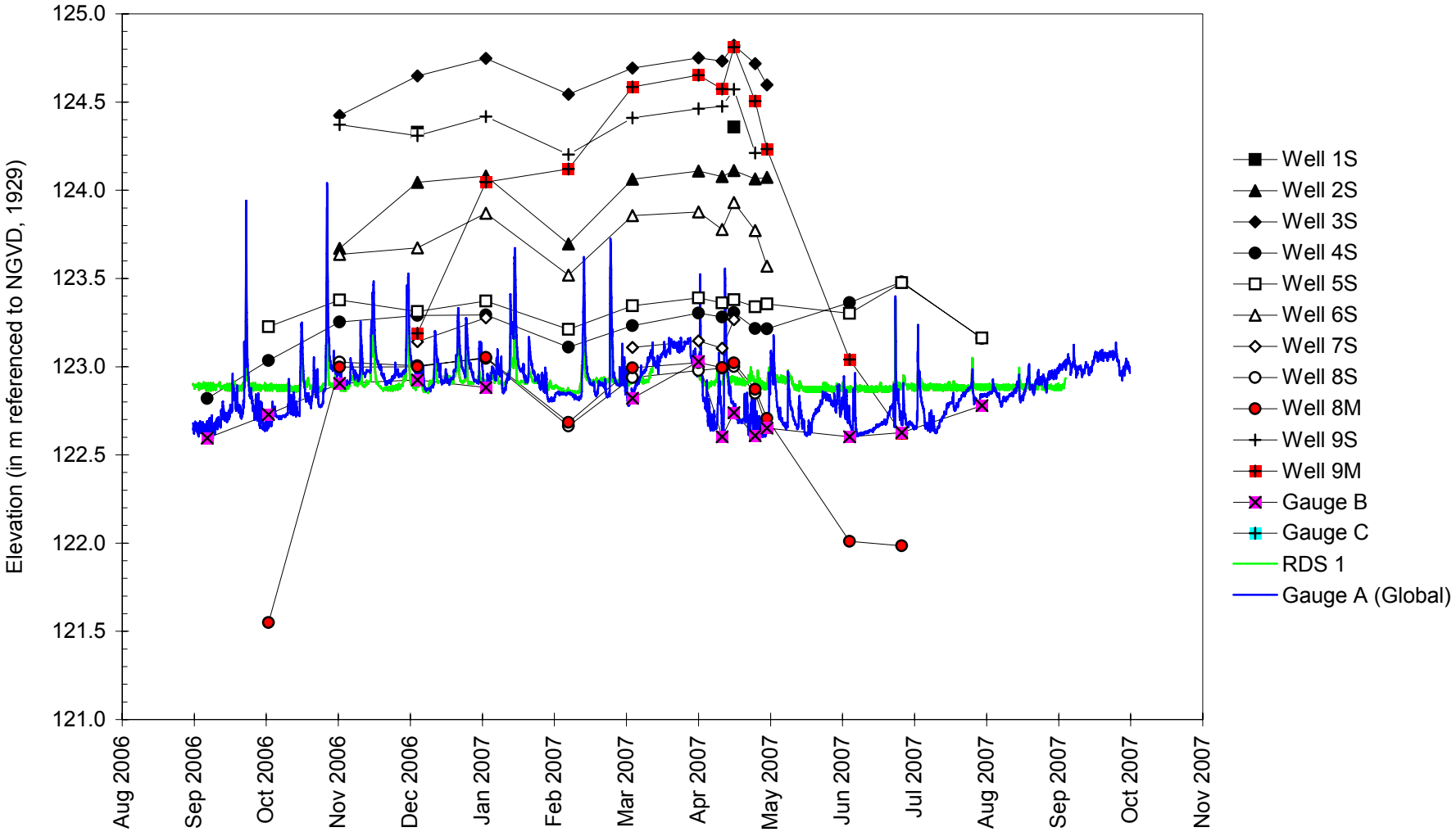
Map based on USGS digital orthophotograph Carbondale NW quarter quadrangle from 3/31/2005 aerial photography and ISGS topography (ISGS 2006)



Carbondale Wetland Compensation Site

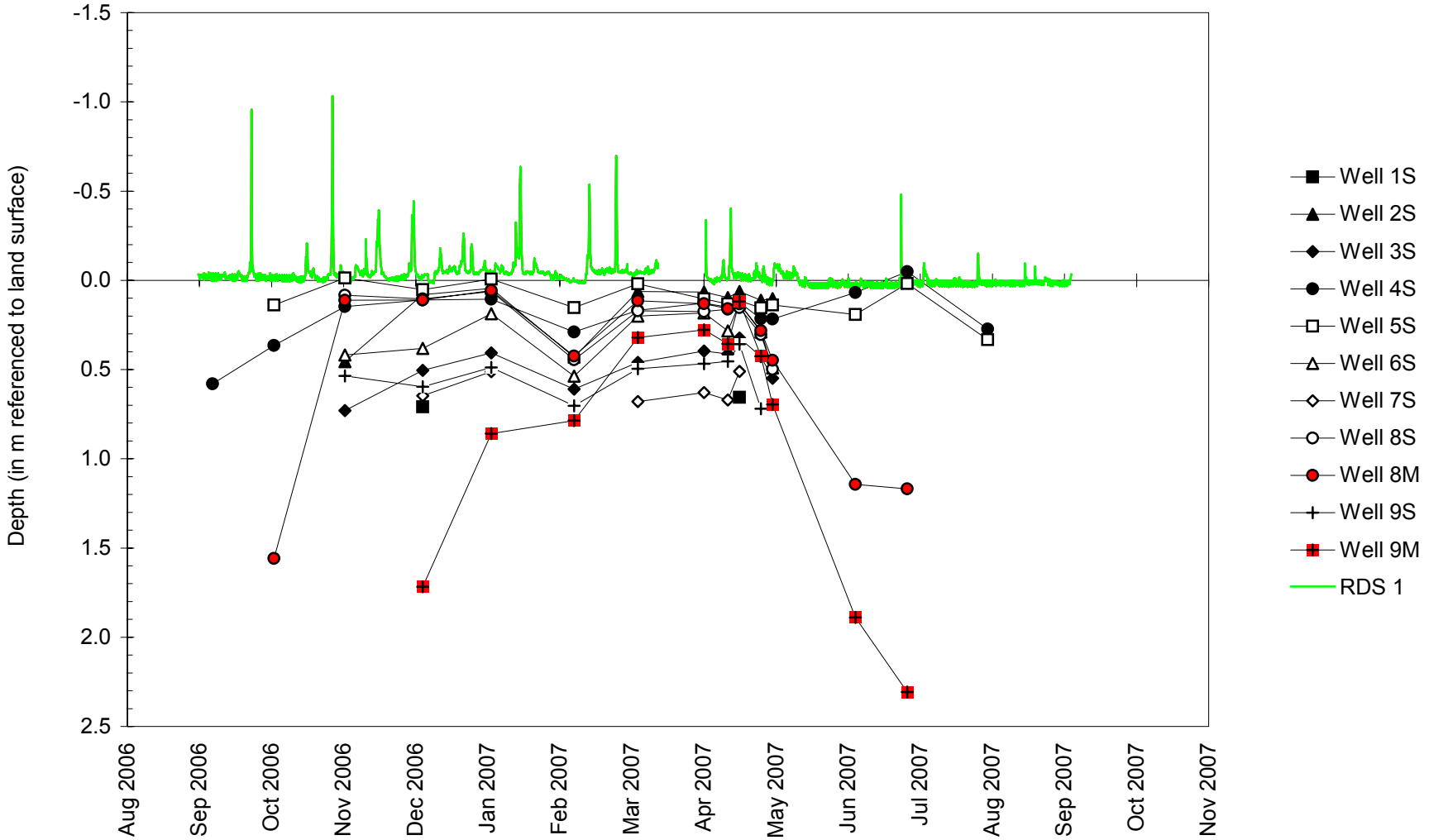
September 1, 2006 to October 2, 2007

Water-Level Elevations
in Selected Monitoring Wells, on the Stage Gauge, and at the Data Loggers



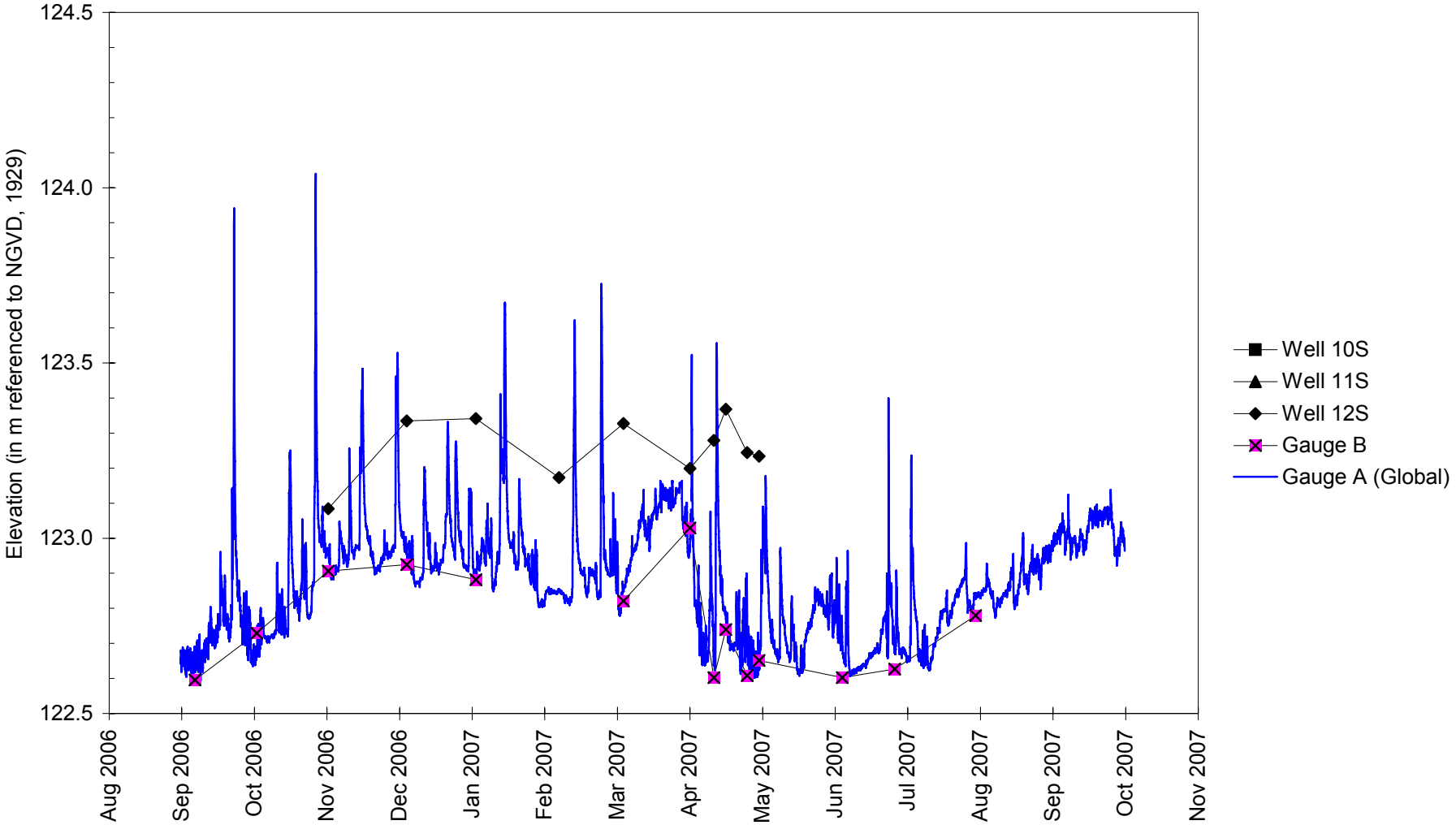
Carbondale Wetland Compensation Site
September 1, 2006 to October 2, 2007

Depth to Water
in Selected Monitoring Wells and at the RDS Data Logger

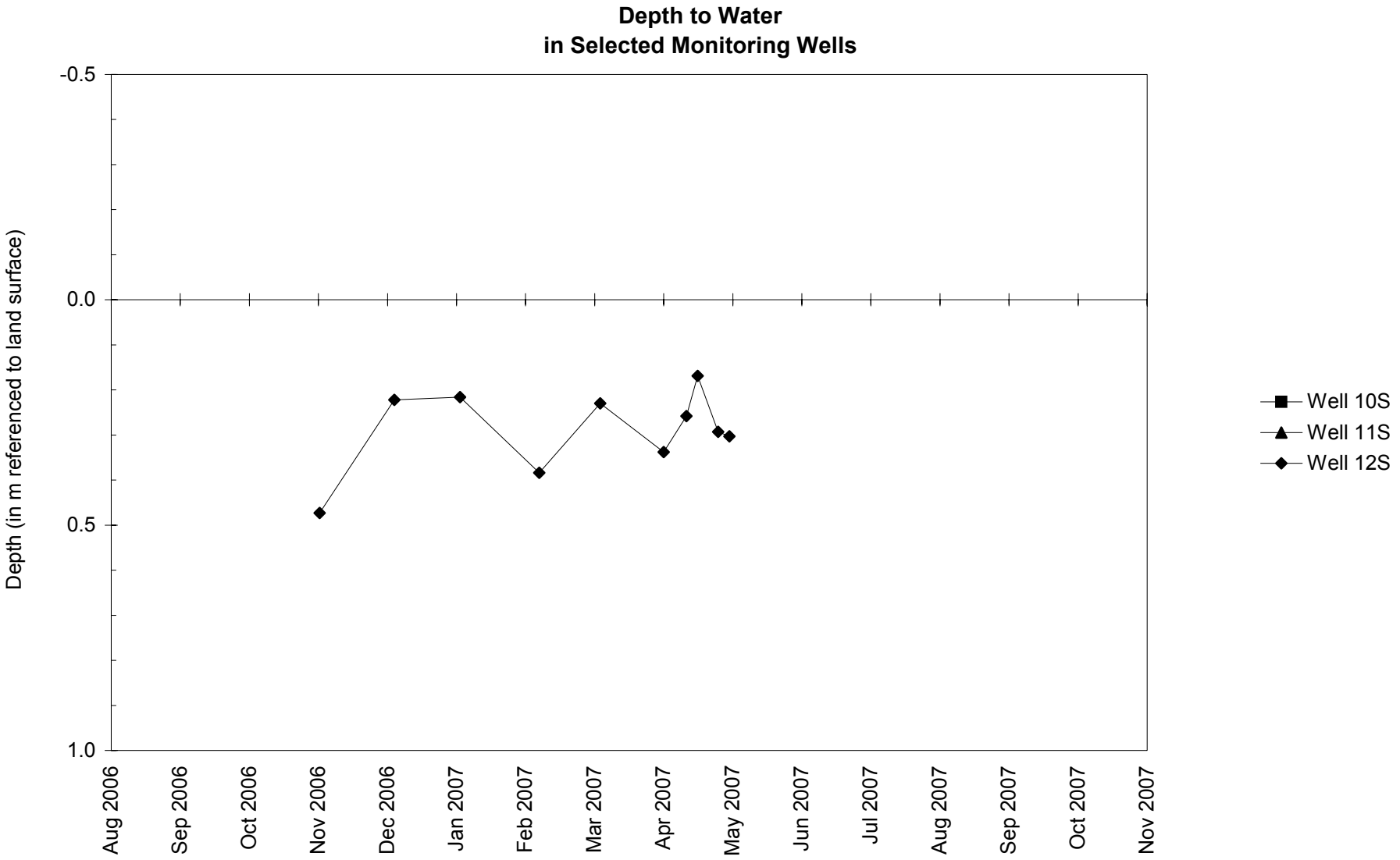


Carbondale Wetland Compensation Site
September 1, 2006 to October 2, 2007

Water-Level Elevations
in Selected Monitoring Wells, on the Stage Gauge, and at the Global Data Logger



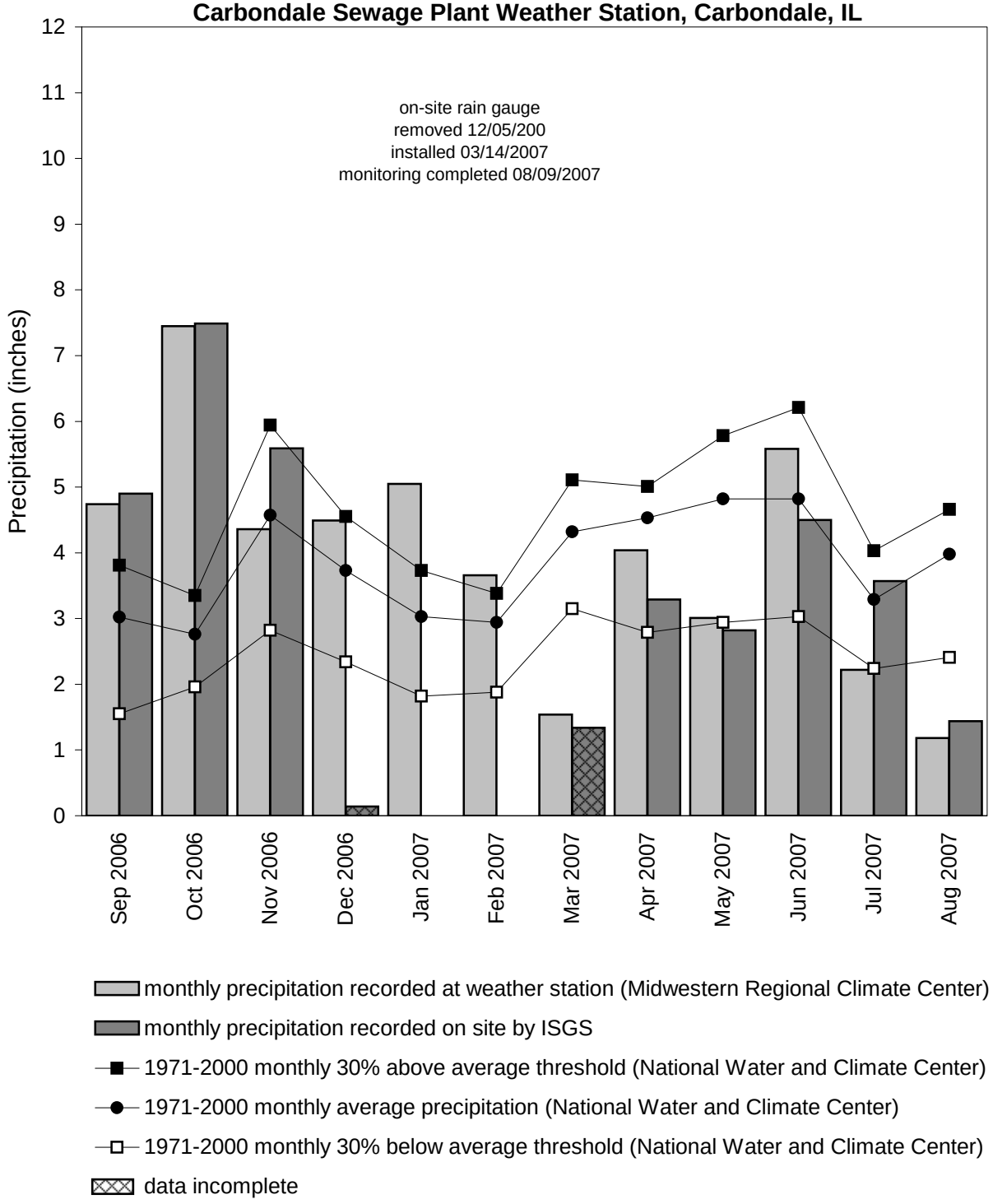
Carbondale Wetland Compensation Site
September 1, 2006 to October 2, 2007



Carbondale Wetland Compensation Site

September 2006 through August 2007

Total Monthly Precipitation Recorded On Site and at the Carbondale Sewage Plant Weather Station, Carbondale, IL



Graph last updated October 10, 2007

PYATTS BLACKTOP **ISGS #67**
WETLAND COMPENSATION SITE
FAP 42
Sequence #409
Perry County, near Pyatts, Illinois
Primary Project Manager: Geoffrey E. Pociask
Secondary Project Manager: not assigned

SITE HISTORY

- Fall 1998: The wetland compensation site was constructed.

- April 2002: ISGS was tasked by IDOT to monitor wetland hydrology. Post-construction water-level monitoring was initiated in May 2002.

- July 2007: IDOT held a site review meeting and proposed closure of this site after the 2007 monitoring season.

- September 2007: ISGS was notified by IDOT to end monitoring.

WETLAND HYDROLOGY CALCULATION FOR 2007

We estimate that 2.8 ha (6.8 ac) out of the 6.7-ha (16.4-ac) site satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the growing season in 2007, whereas 1.1 ha (2.6 ac) satisfied wetland hydrology for greater than 12.5% of 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 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.

- Total precipitation for the reporting period from September 2006 through August 2007 was 81% of normal. Drier than normal conditions prevailed in March through August 2007. Precipitation was at or above normal in September 2006 through February 2007.

- In 2007, wells 1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S, 9S, 9VS, 12S, 12VS, 15S, and 15VS satisfied the wetland hydrology criteria for 5% of the growing season. Furthermore, wells 2S, 3S, 4S, 7S, 8S, 12S, 12VS, and 15VS also satisfied wetland hydrology criteria for greater than 12.5% of the growing season.

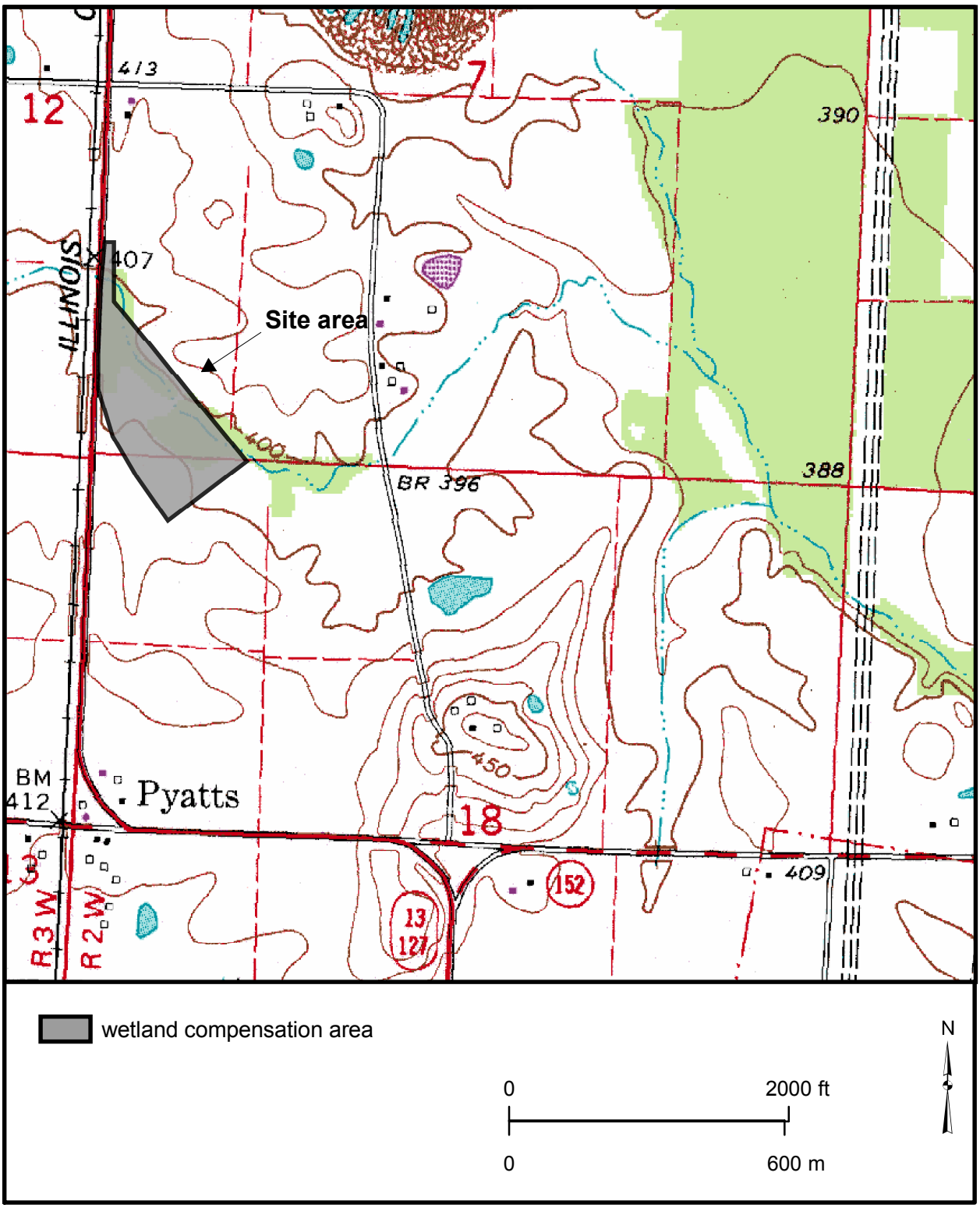
- Surface-water levels recorded at gauge D indicated that water levels in the creek remained well below the elevation of the mitigation area, although isolated areas of inundation were observed near wells 3S, 4S, and 12S.

PLANNED FUTURE ACTIVITIES

- Water-level monitoring has been discontinued by IDOT. The ISGS will remove monitoring equipment during Fall 2007.

Pyatts Blacktop Wetland Compensation Site
(FAP 42)
General Study Area and Vicinity

from the USGS Topographic Series, Pyatts, IL (USGS 1974; photorevised 1982) 7.5-minute Quadrangle
contour interval is 10 feet

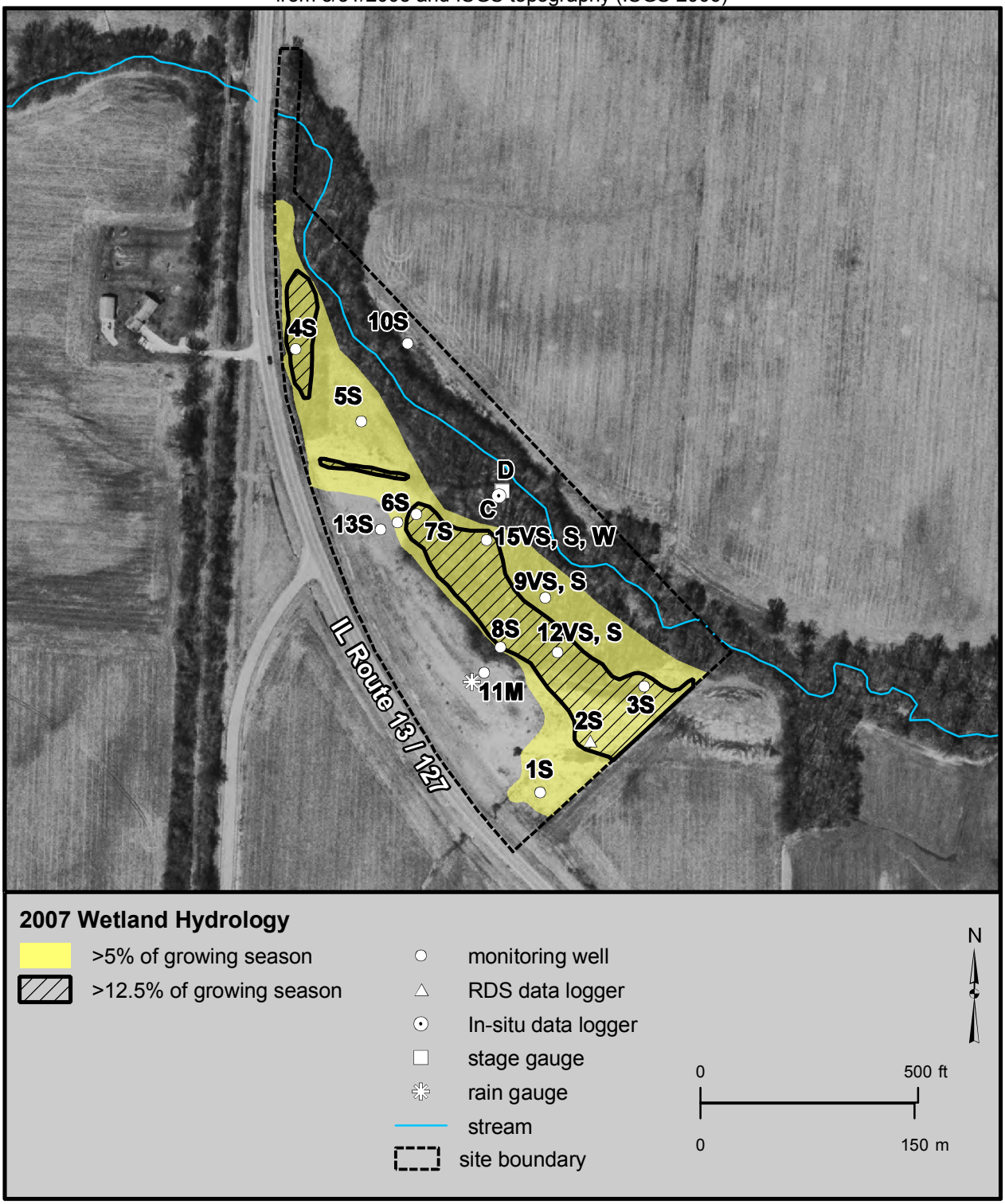


Pyatts Blacktop Wetland Compensation Site
(FAP 42)

Estimated Areal Extent of 2007 Wetland Hydrology

based on data collected between September 1, 2006 and September 1, 2007

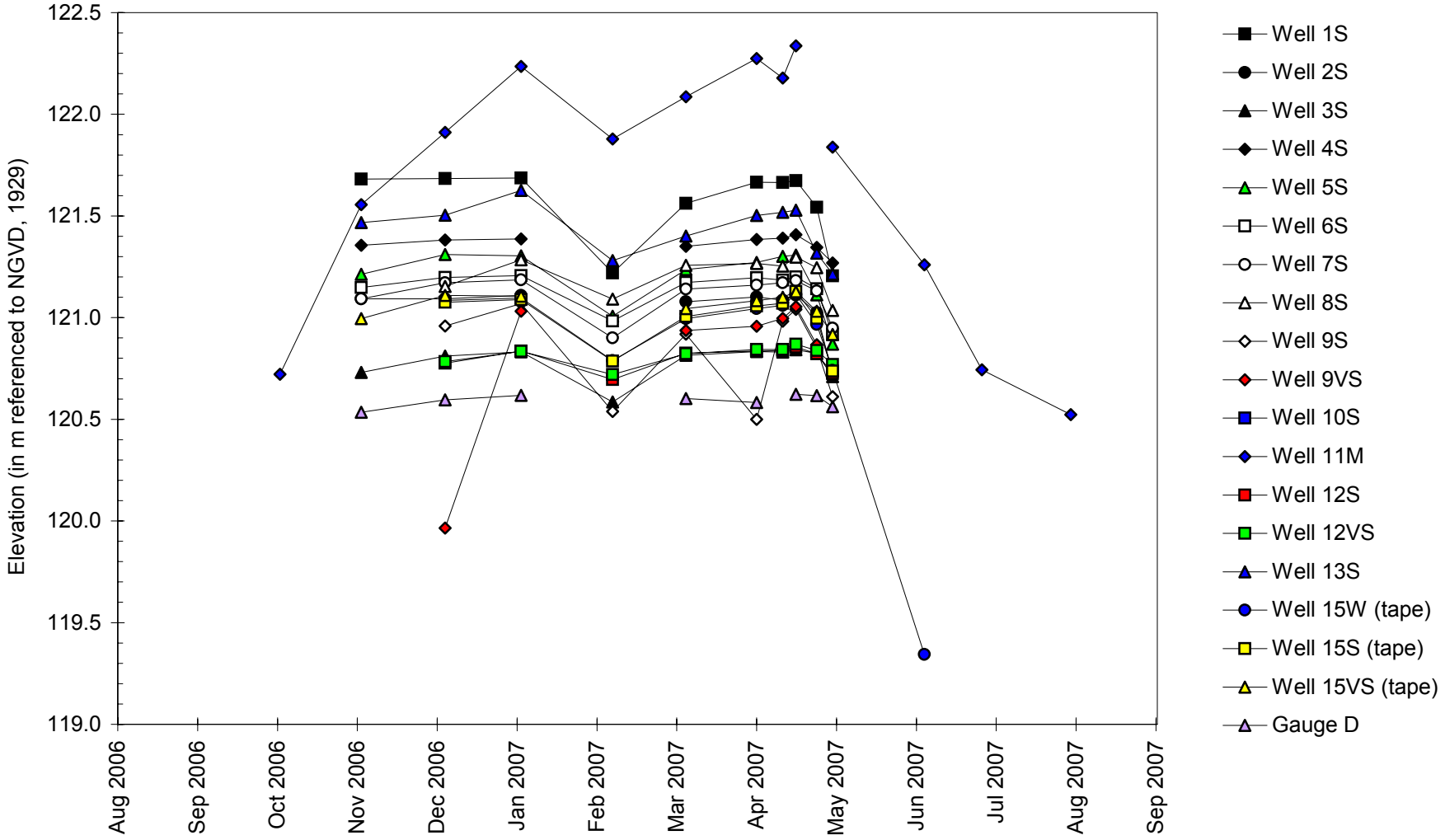
Map based on USGS digital orthophotograph, Pyatts SW quarter quadrangle
from 3/31/2005 and ISGS topography (ISGS 2006)



Pyatts Blacktop Wetland Compensation Site

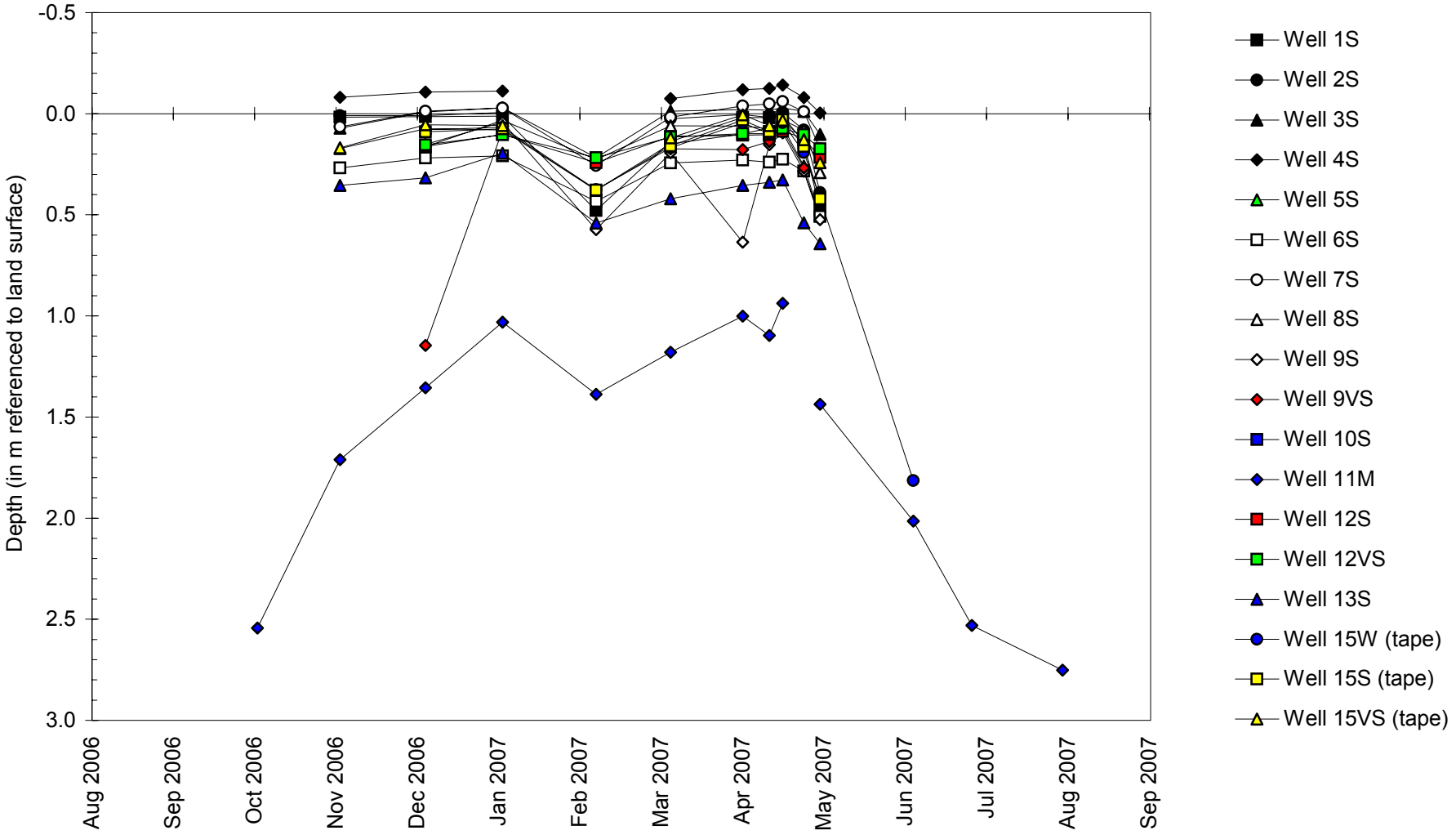
September 1, 2006 to September 1, 2007

Water-Level Elevations

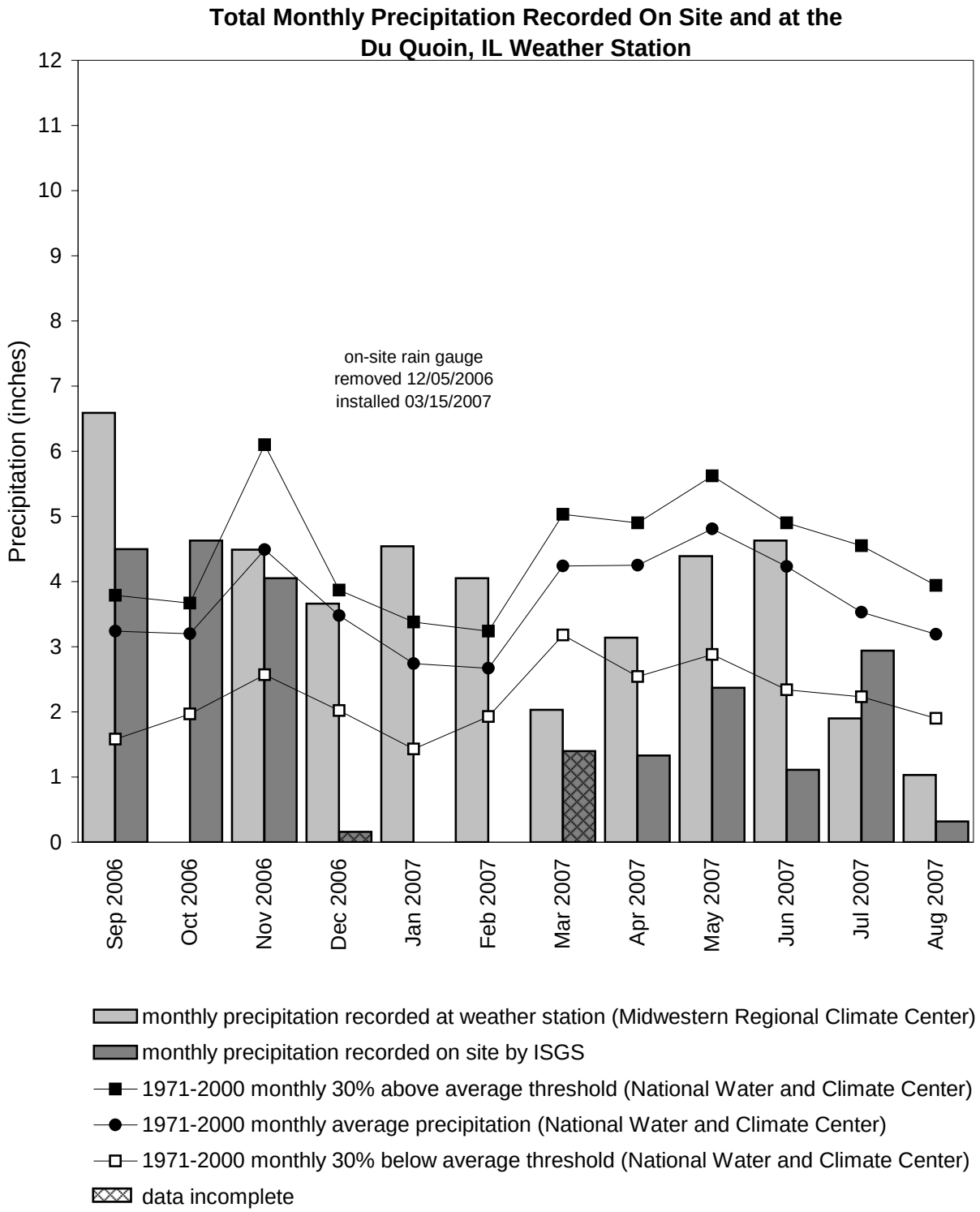


Pyatts Blacktop Wetland Compensation Site
September 1, 2006 to September 1, 2007

Depth to Water



Pyatts Blacktop Wetland Compensation Site
September 2006 through August 2007



Graph last updated October 10, 2007

DE SOTO **ISGS #68**
WETLAND COMPENSATION SITE
FAP 322
Sequence #264
Jackson County, near De Soto, Illinois
Primary Project Manager: Geoffrey E. Pociask
Secondary Project Manager: not assigned

SITE HISTORY

- Summer 2000: The wetland compensation site was constructed.

- August 2002: ISGS was tasked by IDOT to monitor wetland hydrology. Post-construction water-level monitoring was initiated in November 2002.

- July 2007: IDOT held a site review meeting and proposed closure of this site after the 2007 monitoring season.

- September 2007: ISGS was notified by IDOT to end monitoring.

WETLAND HYDROLOGY CALCULATION FOR 2007

We estimate that 2.2 ha (5.4 ac) out of the 2.4-ha (6.0-ac) site area satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the growing season in 2007, whereas 1.8 ha (4.4 ac) satisfied wetland hydrology for greater than 12.5% of 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 Carbondale, Illinois, is April 4 and lasts 203 days; 5% of the growing season is 10 days and 12.5% of the growing season is 25 days.

- Total precipitation for the reporting period from September 2006 through August 2007 was 101% of normal. Drier than normal conditions prevailed in March, April, May, July, and August 2007. Precipitation was at or above normal in September 2006 through February 2007.

- In 2007, all S-wells satisfied wetland hydrology criteria for greater than 5% of the growing season. Furthermore, wells 2S, 3S, 5S, 6S, 8S and 9S satisfied the wetland hydrology criteria for greater than 12.5% of the growing season.

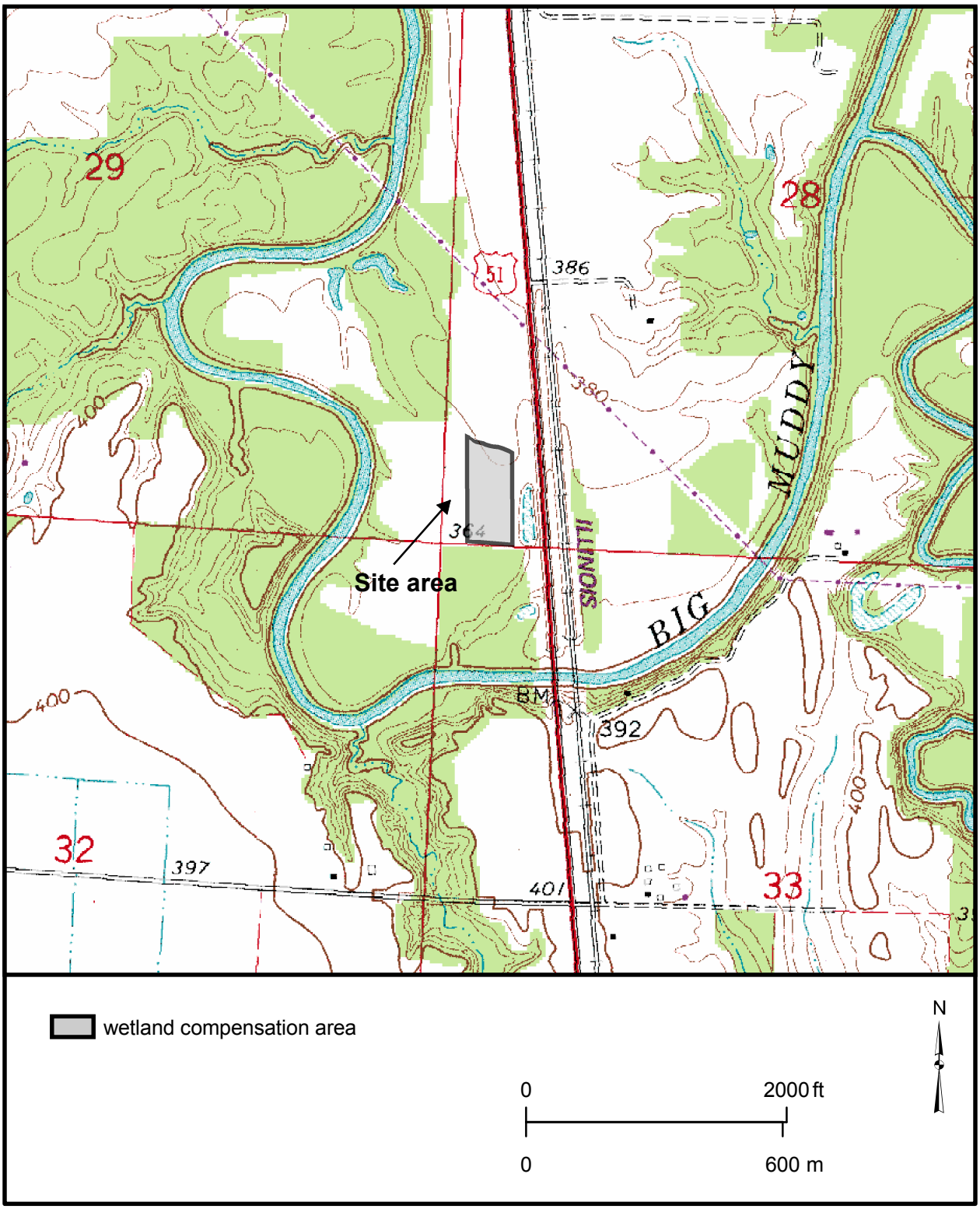
- The water levels recorded at gauge A indicate that areas in the vicinity of that gauge below approximately 110.5 m (362.5 ft) were inundated for greater than both 5% and 12.5% of the growing season and therefore satisfy wetland hydrology criteria.

PLANNED FUTURE ACTIVITIES

- Water-level monitoring has been discontinued by IDOT. The ISGS will remove monitoring equipment during Fall 2007.

De Soto Wetland Compensation Site
(FAP 322)
General Study Area and Vicinity

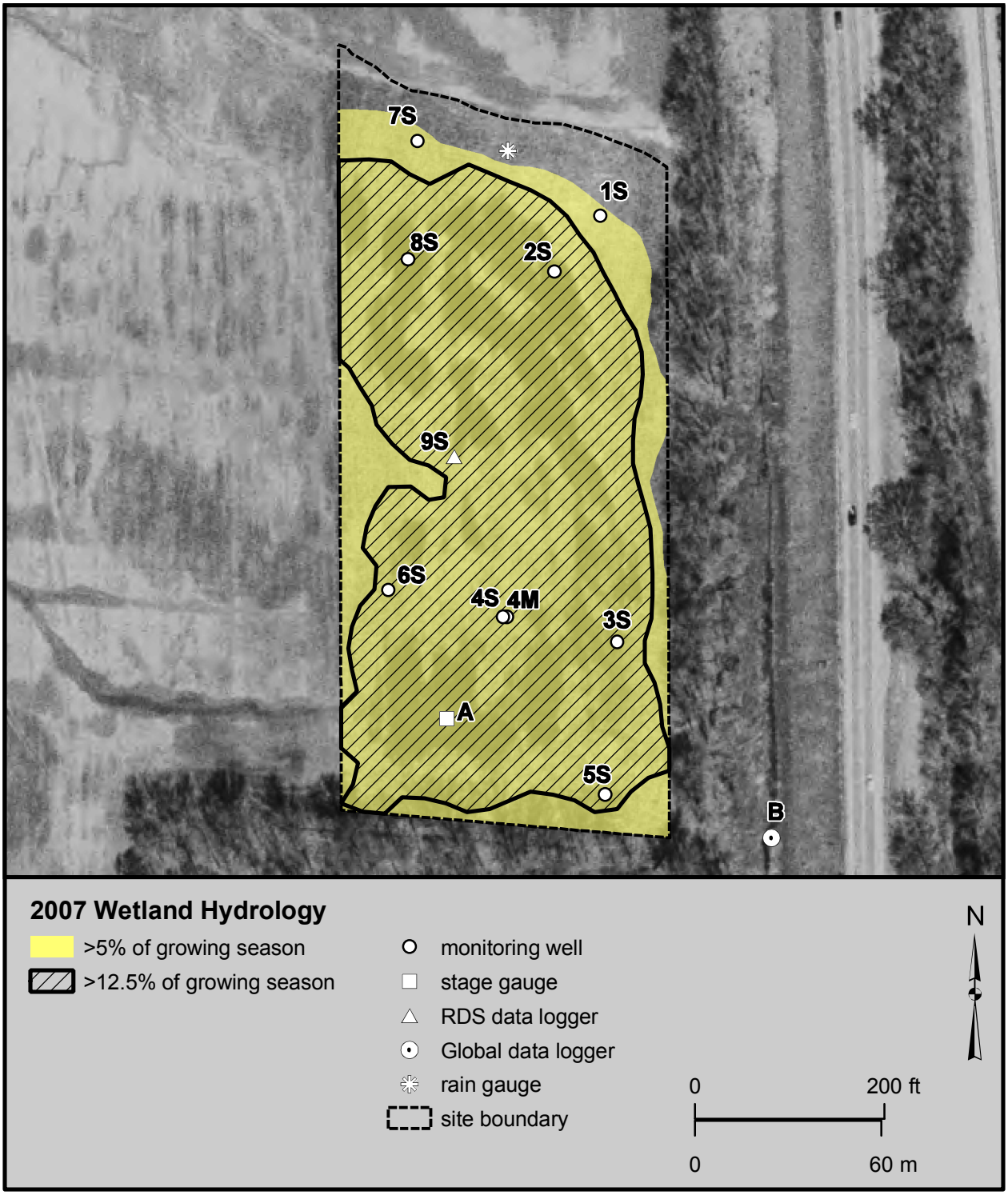
from the USGS Topographic Series, De Soto, IL 7.5-minute Quadrangle (USGS 1968; photorevised 1978)
contour interval is 10 feet



De Soto Wetland Compensation Site
(FAP 322)

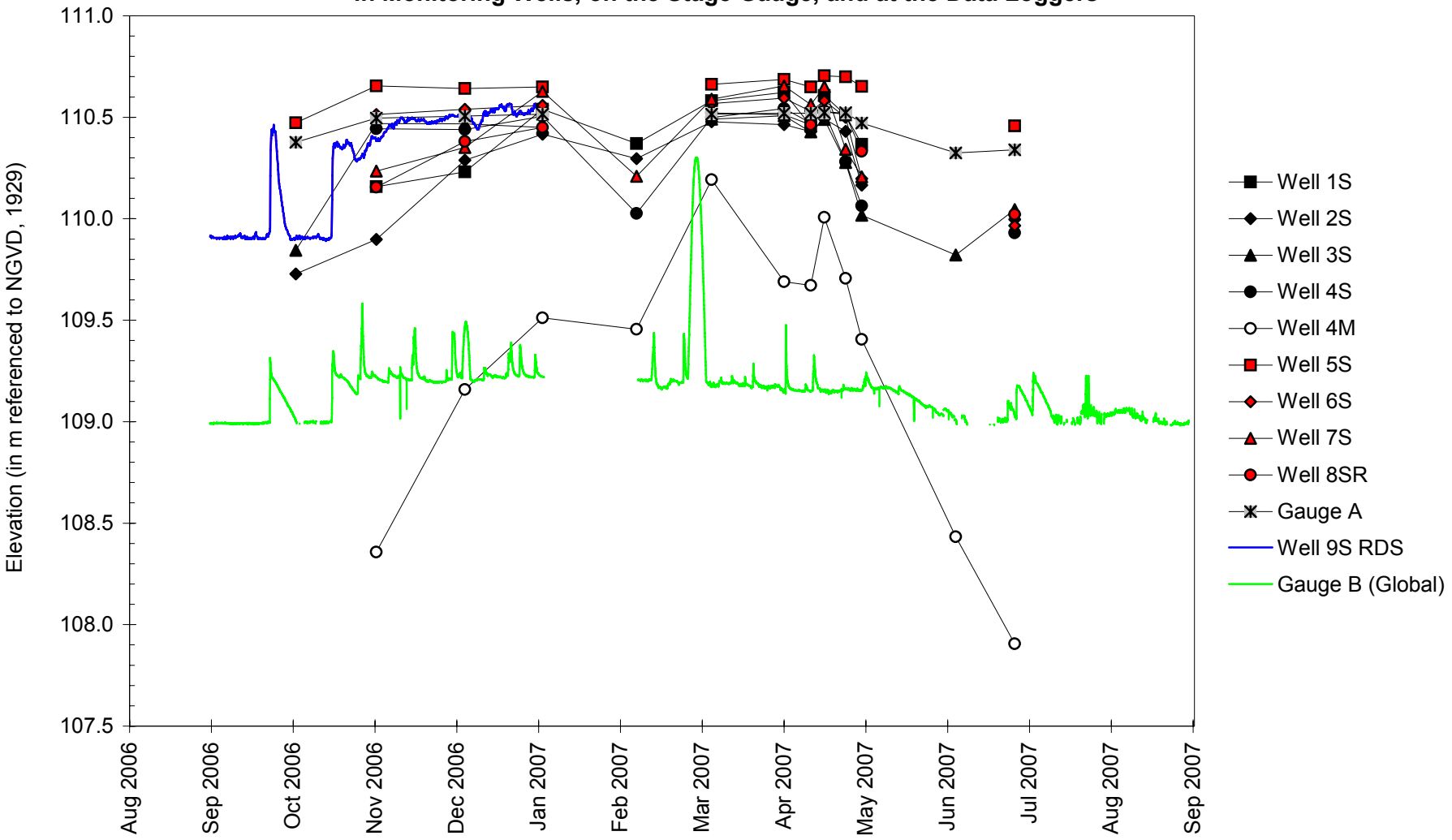
Estimated Areal Extent of 2007 Wetland Hydrology
based on data collected between September 1, 2006 and September 1, 2007

map based on USGS digital orthophotograph De Soto NW quarter quadrangle
from 3/31/2005 aerial photography and ISGS topography (ISGS 2006)



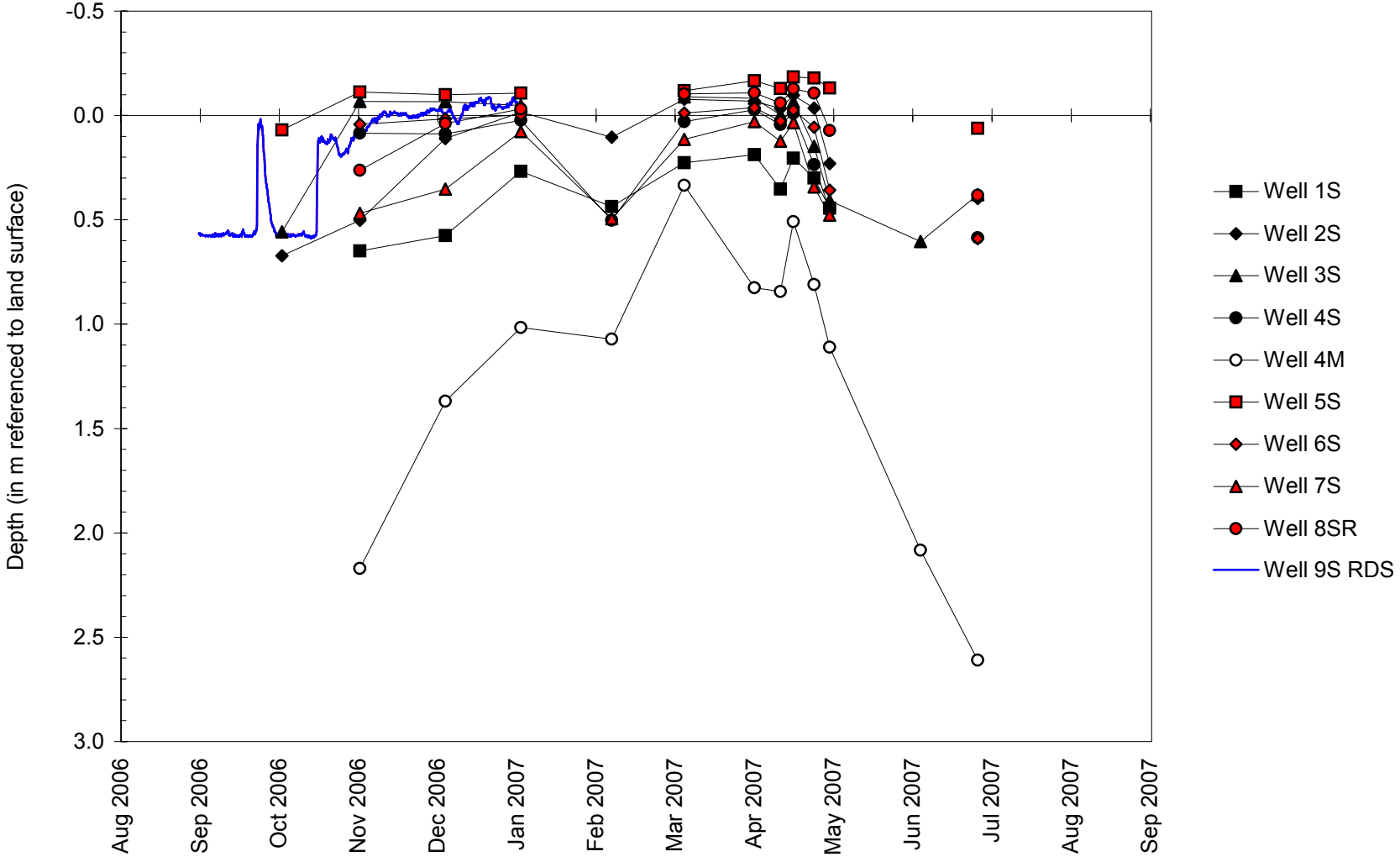
De Soto Wetland Compensation Site
September 1, 2006 to September 1, 2007

Water-Level Elevations
in Monitoring Wells, on the Stage Gauge, and at the Data Loggers



De Soto Wetland Compensation Site
September 1, 2006 to September 1, 2007

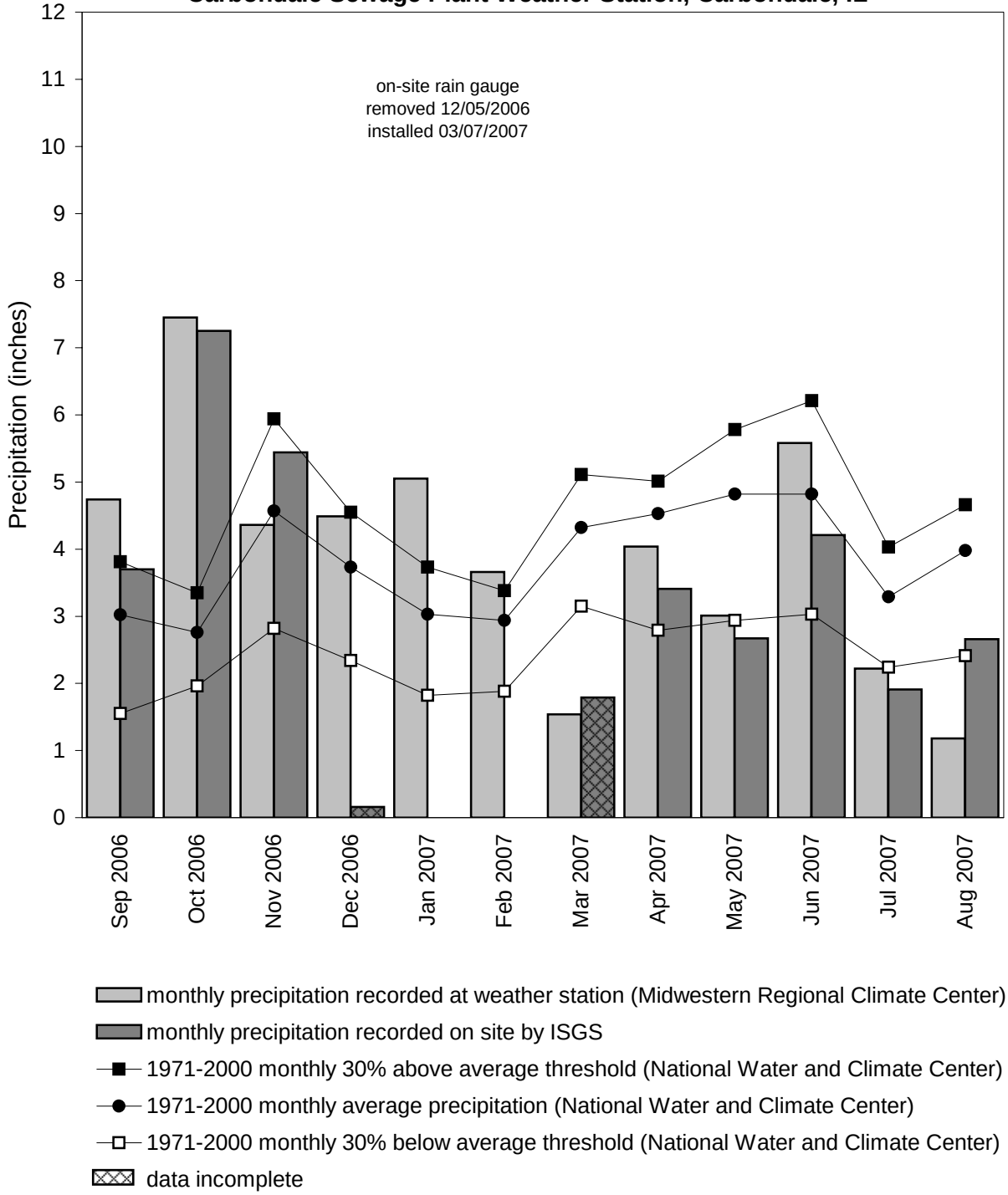
Depth to Water
in Monitoring Wells and the RDS Data Logger



De Soto Wetland Compensation Site

September 2006 through August 2007

Total Monthly Precipitation Recorded On Site and at the Carbondale Sewage Plant Weather Station, Carbondale, IL



Graph last updated October 10, 2007

TAMMS **ISGS #71**
WETLAND COMPENSATION SITE
FAS 1907
Sequence #1026
Union County, near Tamms, Illinois
Primary Project Manager: Geoffrey E. Pociask
Secondary Project Manager: not assigned

SITE HISTORY

- Summer 2001: The wetland compensation site was constructed.
- June 2003: ISGS was tasked by IDOT to monitor wetland hydrology.
- November 2003: Post-construction water-level monitoring was initiated.

WETLAND HYDROLOGY CALCULATION FOR 2007

We estimate that 1.4 ha (3.5 ac) out of the 6.3-ha (15.6-ac) site satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the growing season in 2007, whereas 0.5 ha (1.1 ac) satisfied wetland hydrology criteria for greater than 12.5% of 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 Anna, Illinois, is March 31 and the season lasts 225 days; 5% of the growing season is 11 days and 12.5% of the growing season is 28 days.
- Total precipitation for the reporting period from September 2006 through August 2007 was 100% of normal. Drier than normal conditions prevailed in March, April, July, and August 2007. Precipitation was at or above normal in September 2006 through February 2007 and in May and June 2007.
- In 2007, wells 3S, 5S, 7S, and 10S satisfied the wetland hydrology criteria for greater than 5% of the growing season. Well 7S also satisfied wetland hydrology criteria for greater than 12.5% of the growing season. Due to heavy rains in October 2007, monitoring continued beyond September 1, 2007.
- Data from RDS 1 showed that the northernmost portion of the site below 102.8 m (337.3 ft) was inundated for greater than 5% of the growing season, and areas below 102.7 m (336.9 ft) were inundated for greater than 12.5% of the growing season. Data from RDS 2 showed that an area at the south end of the site below 102.4 m (336.0 ft) was inundated for greater than 5% of the growing season, and areas below 102.3 m (335.6 ft) were inundated for greater than 12.5% of the growing season.

PLANNED FUTURE ACTIVITIES

- Water-level monitoring is expected to continue through 2008 or until no longer required by IDOT.

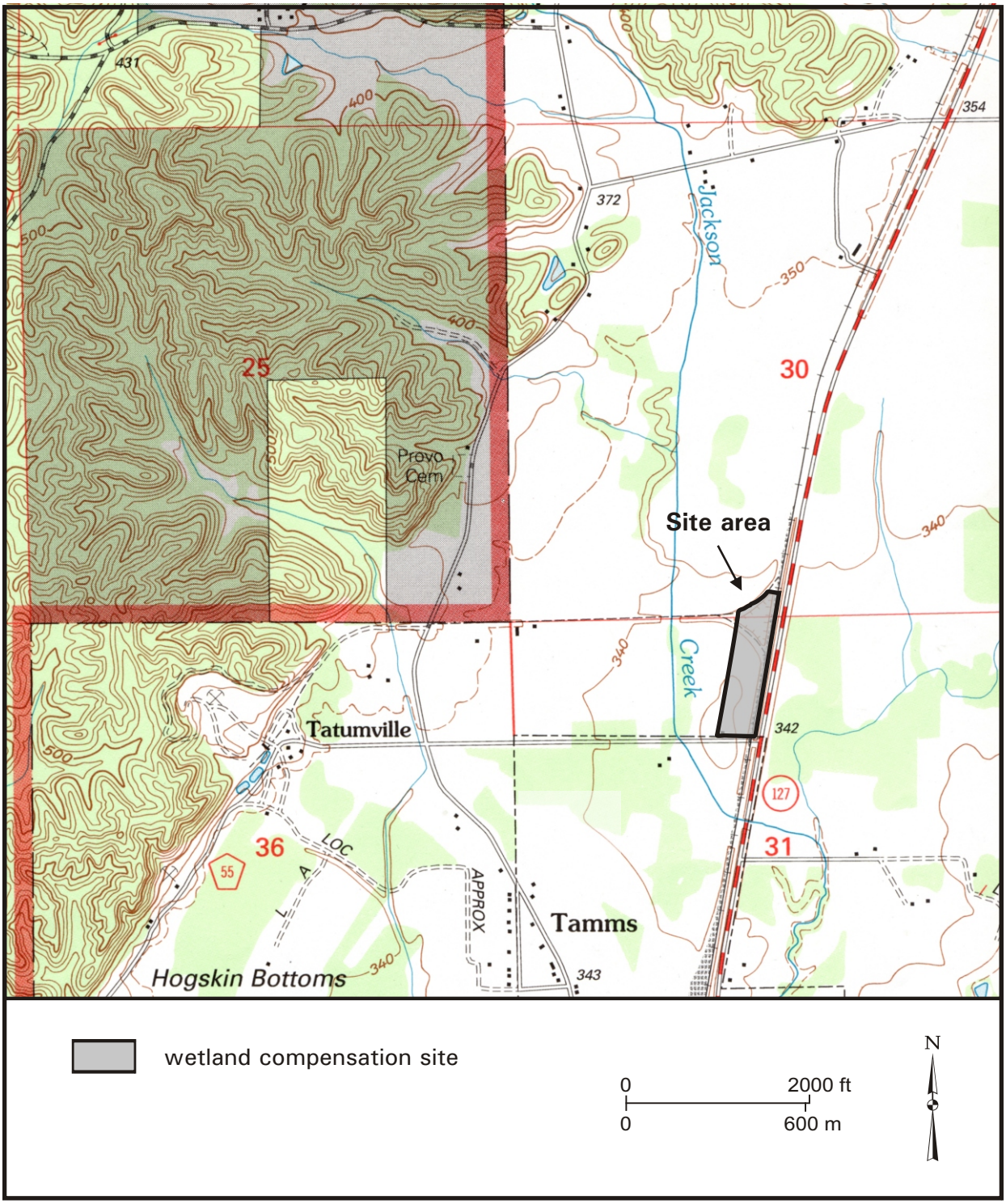
Tamms Wetland Compensation Site

(FAS 1907)

General Study Area and Vicinity

from the USGS Topographic Series, Mill Creek, IL 7.5-minute Quadrangle (USGS 1996).

contour interval is 20 feet

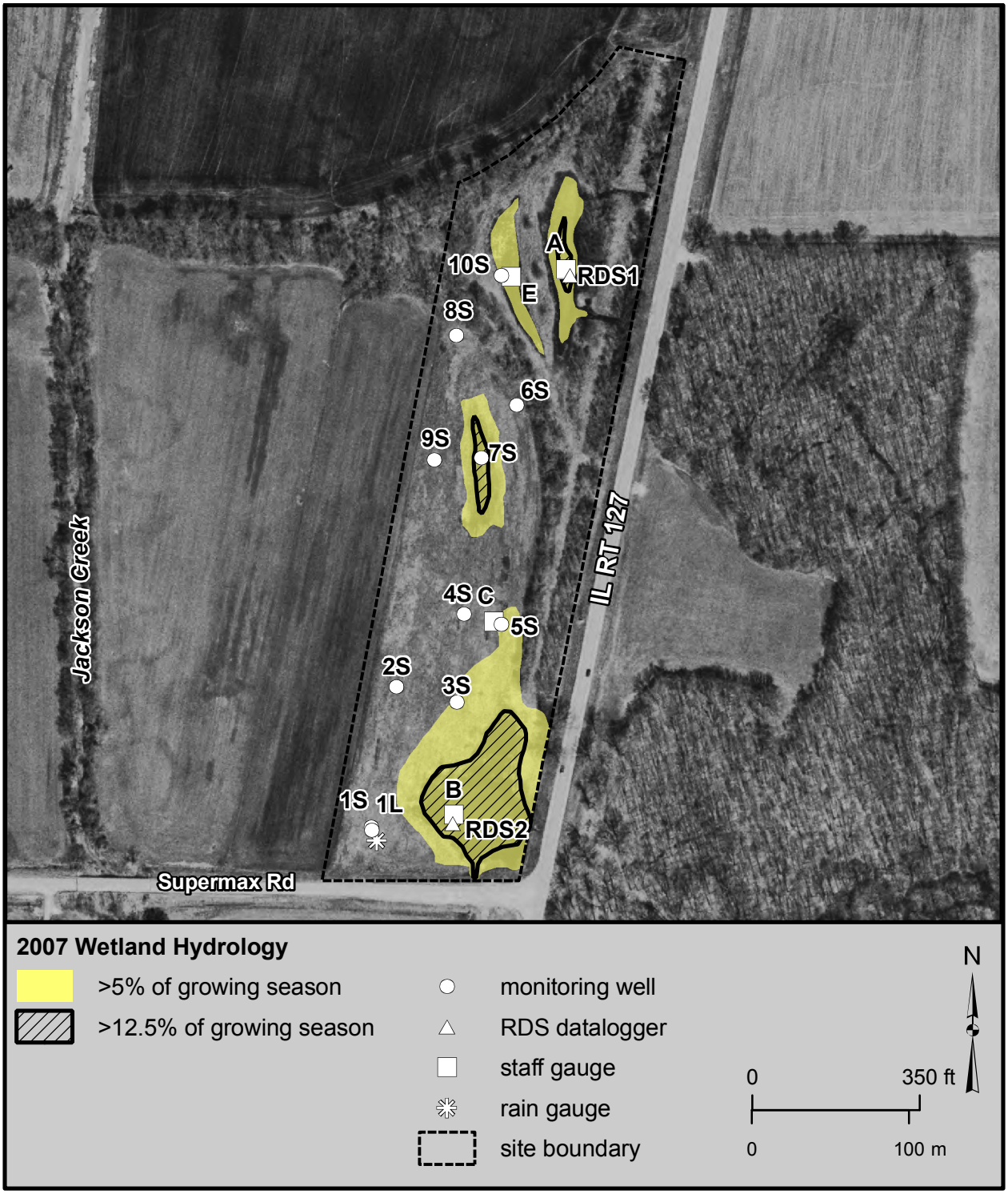


Tamms Wetland Compensation Site
(FAS 1907)

Estimated Areal Extent of 2007 Wetland Hydrology

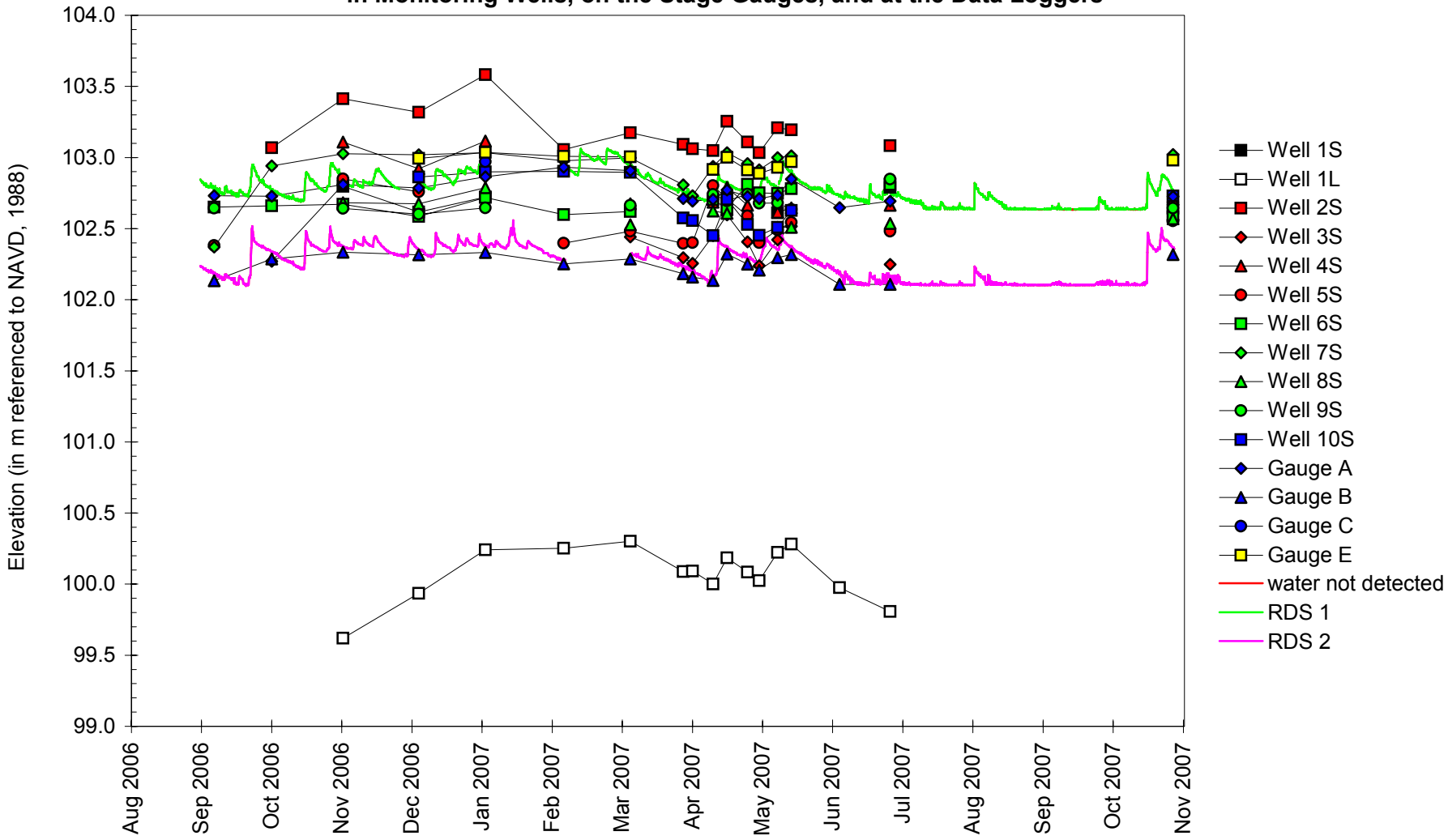
based on data collected between September 1, 2006 and October 29, 2007

map based on USGS digital orthophotograph Mill Creek SE quarter quadrangle
from 3/31/2005 aerial photography and ISGS topography (ISGS 2006).

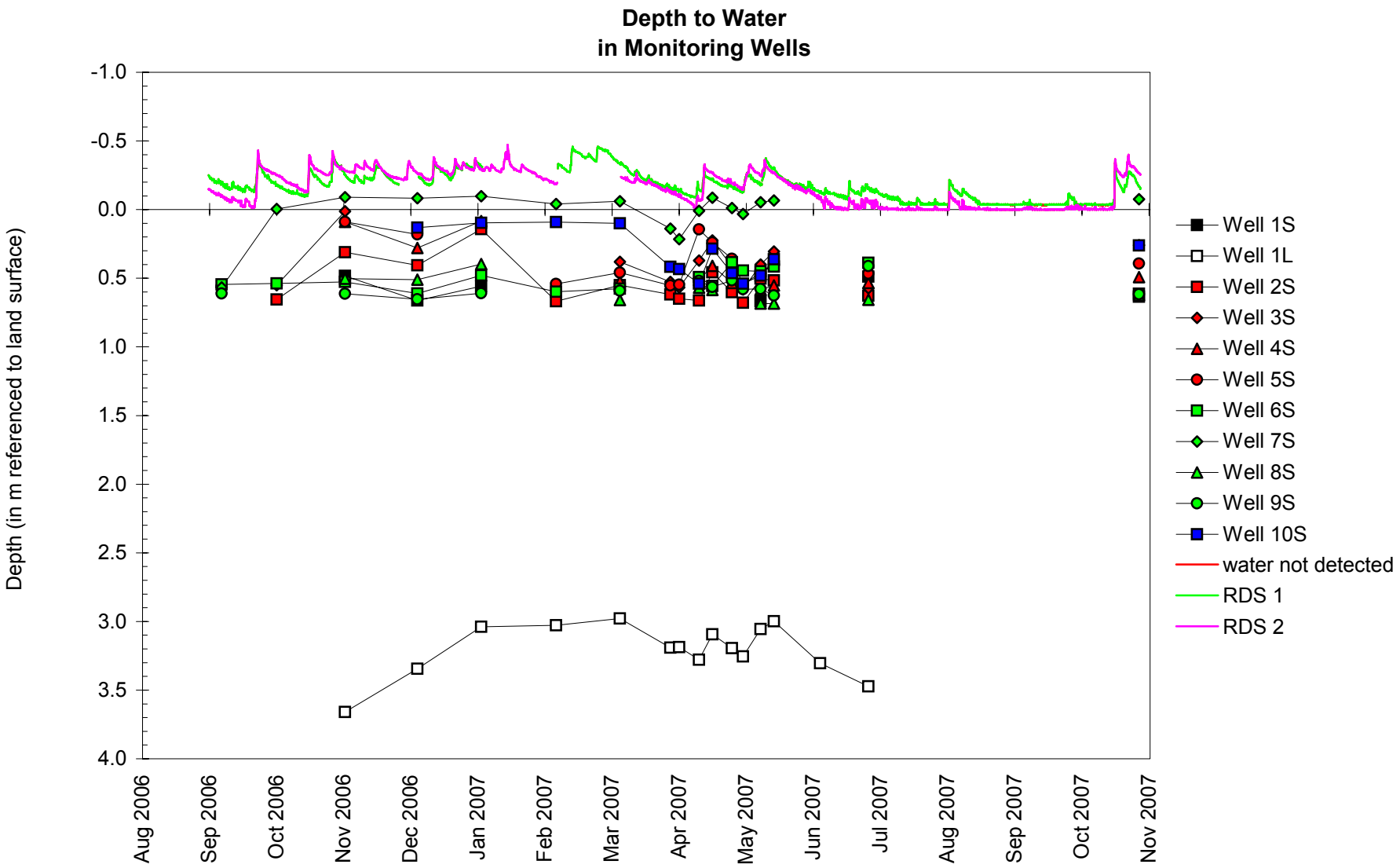


Tamms Wetland Compensation Site
September 1, 2006 to October 29, 2007

Water-Level Elevations
in Monitoring Wells, on the Stage Gauges, and at the Data Loggers



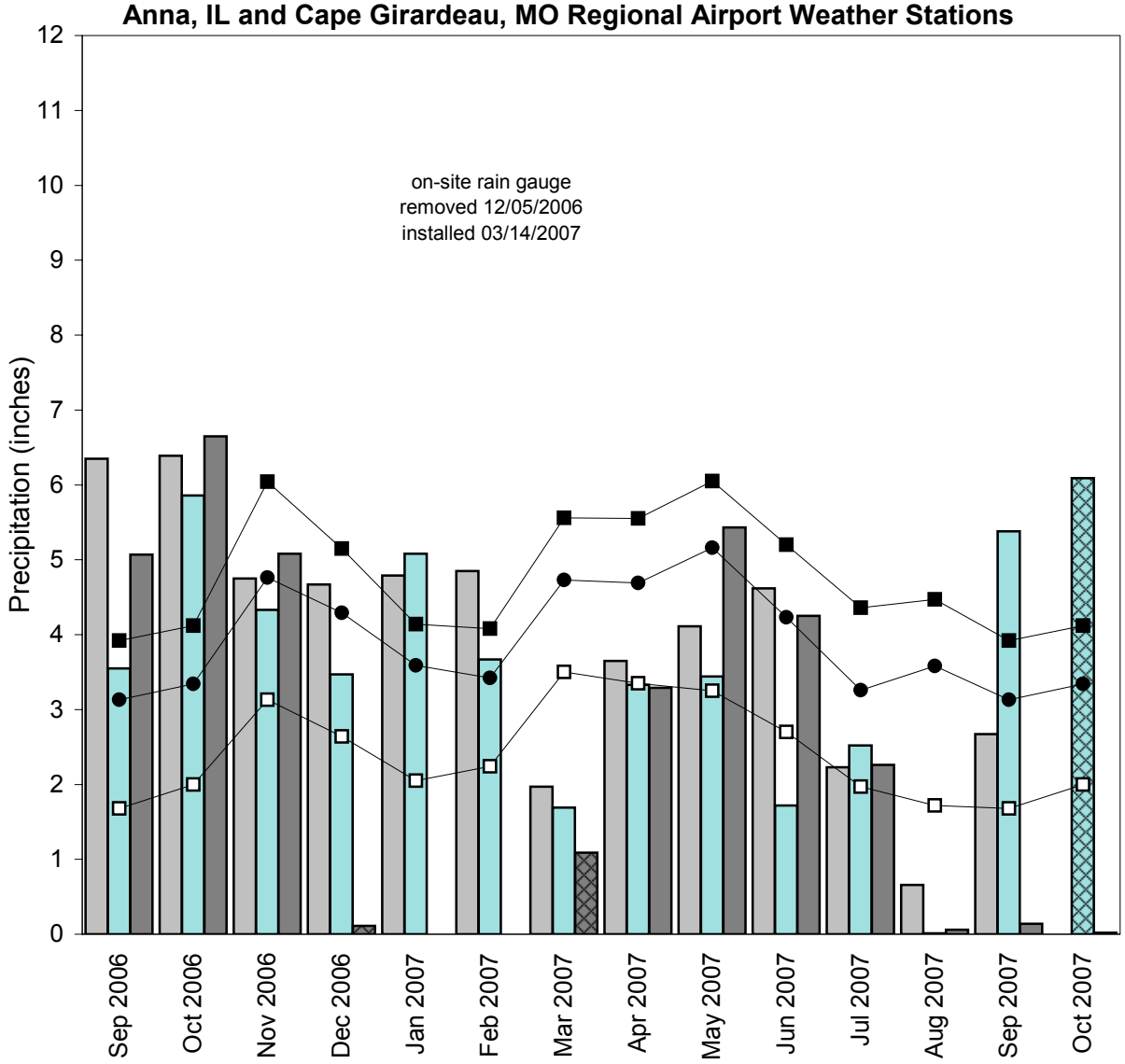
Tamms Wetland Compensation Site
September 1, 2006 to October 29, 2007



Tamms Wetland Compensation Site

September 2006 through October 2007

Total Monthly Precipitation Recorded On Site and at the Anna, IL and Cape Girardeau, MO Regional Airport Weather Stations



monthly precipitation recorded at Anna, IL (MRCC)
monthly precipitation recorded at Cape Girardeau, MO (MRCC)
monthly precipitation recorded on site by ISGS
1971-2000 monthly 30% above average threshold at Anna, IL (NWCC)
1971-2000 monthly average precipitation at Anna, IL (NWCC)
1971-2000 monthly 30% below average threshold at Anna, IL (NWCC)
data incomplete

Graph last updated October 30, 2007

FREEPORT BYPASS WEST **ISGS #72**
POTENTIAL WETLAND COMPENSATION SITE 6W
FAP 301
Sequence #10487
Stephenson County, near Freeport, Illinois
Primary Project Manager: Eric T. Plankell
Secondary Project Manager: not assigned

SITE HISTORY

- Fall 2003: ISGS was tasked by IDOT to perform a Level II hydrogeologic assessment of the potential wetland mitigation at this site.

- December 2003: ISGS monitoring network was installed.

- Summer 2006: Tree planting was completed and a berm was installed at the western end of the central drainage ditch.

- February 2007: ISGS submitted a Level II hydrogeologic characterization report to IDOT (ISGS Open-File Series 2007–01).

WETLAND HYDROLOGY CALCULATION FOR 2007

The estimated total area that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the 2007 growing season is 9.4 ha (23.3 ac) out of a total site area of 9.6 ha (23.6 ac). The area that satisfied wetland hydrology criteria for greater than 12.5% of the 2007 growing season is 5.2 ha (12.8 ac). These estimates are based on the following factors:

- According to the MRCC, the median date that the growing season begins in Freeport, Illinois is April 13, and the season lasts 183 days; 5% of the growing season is 9 days, and 12.5% of the growing season is 23 days.

- Total precipitation at the nearby Wastewater Treatment Plant weather station in Freeport, Illinois was approximately 124% of normal for the monitoring period of September 2006 through August 2007. Precipitation at this station was below normal in January, May, and June 2007. Precipitation amounts were near or above normal for the remaining months of the 2006–2007 monitoring period. Melting snow and above-average precipitation in March and April 2007 caused the Pecatonica River to flood the site immediately prior to the beginning of the growing season. Heavy rains in August 2007 again caused the Pecatonica River to flood the site, resulting in nearly the entire site satisfying the wetland hydrology criteria for greater than 5% of the 2007 growing season.

- In 2007, water levels measured in all soil-zone (S and VS) wells satisfied the wetland hydrology criteria for greater than 5% of the growing season. Water levels in wells 2S, 2VS, 3S, 7S, 8VS, 9S, 10S, 11S, 12S, 13S, 14S, 15S, and 16S also satisfied the wetland hydrology criteria for greater than 12.5% of the growing season.

- Water-level records for the data logger at gauge B (In-Situ) indicated inundation at elevations below approximately 231.739 m (760.30 ft) for a duration that satisfied the wetland hydrology criteria for greater than 5% of the growing season. Additionally, data

from gauge C (RDS) indicated inundation at elevations below approximately 231.146 m (758.35 ft) for a duration that satisfied the wetland hydrology criteria for greater than 12.5% of the growing season.

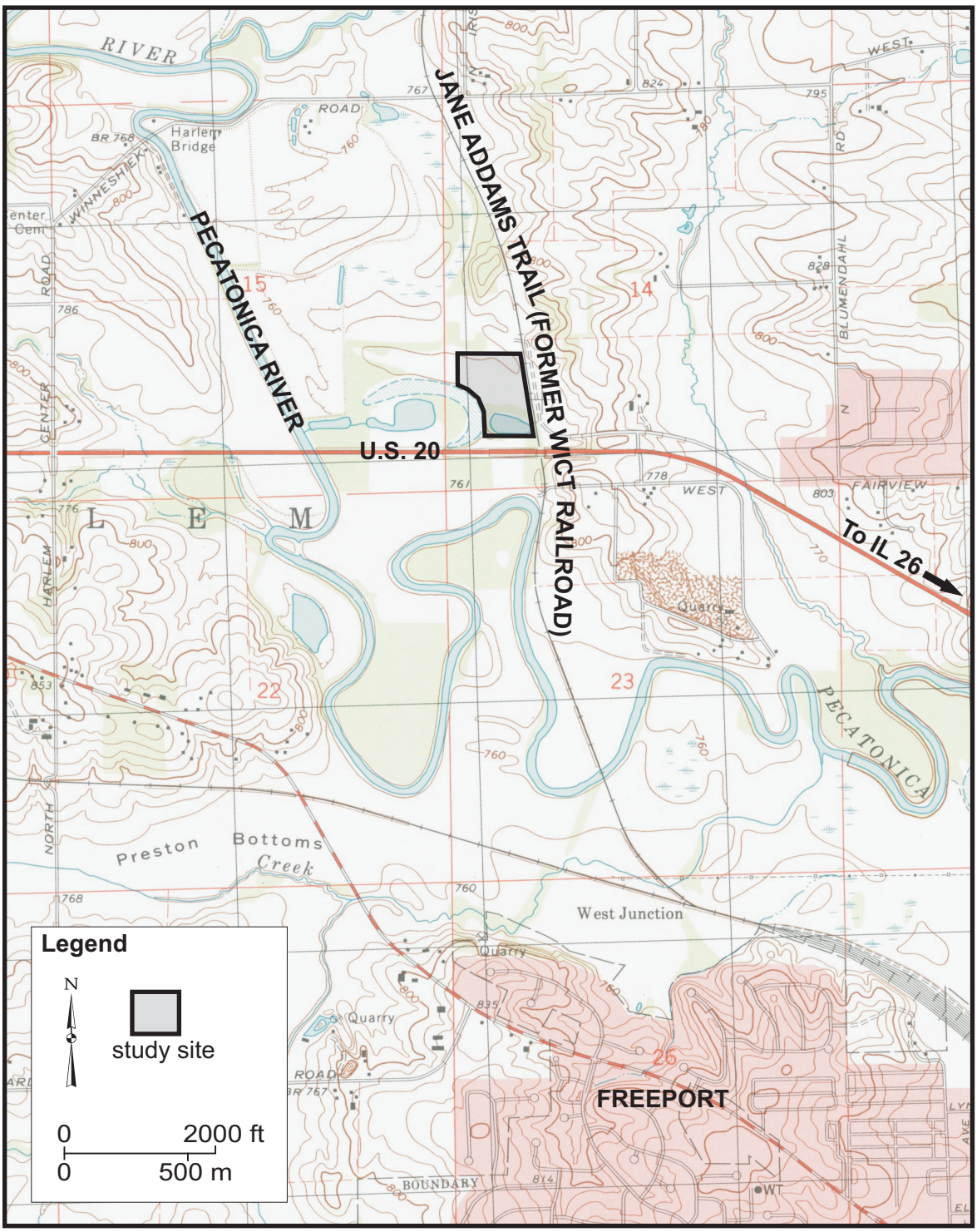
PLANNED FUTURE ACTIVITIES

- Monitoring is expected to continue until no longer required by IDOT.

Freeport Bypass West Wetland Compensation Site 6W
(FAP 301)

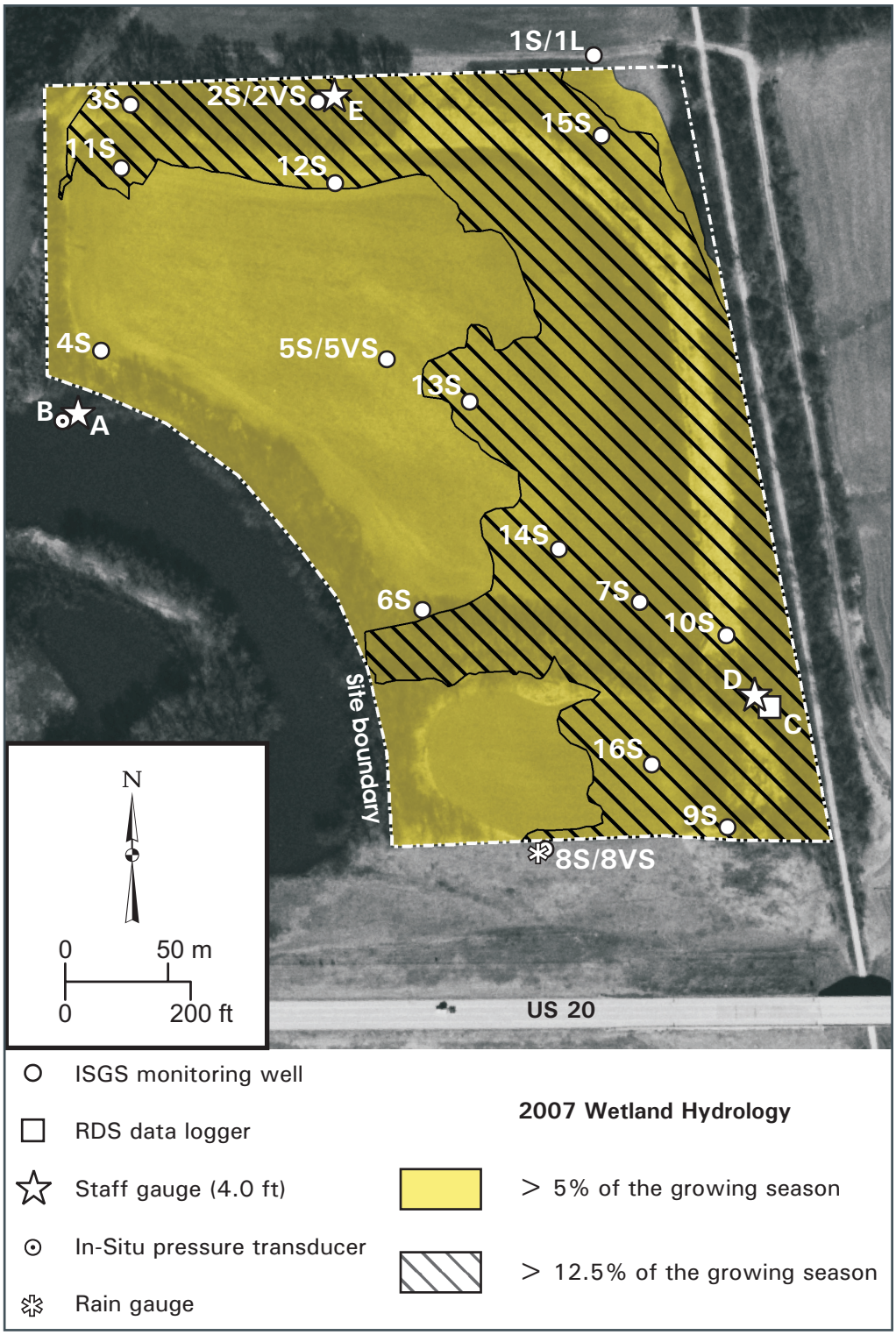
General Study Area and Vicinity

from the USGS Topographic Series, Freeport West, IL 7.5-minute Quadrangle (USGS 1998)
contour interval is 10 feet

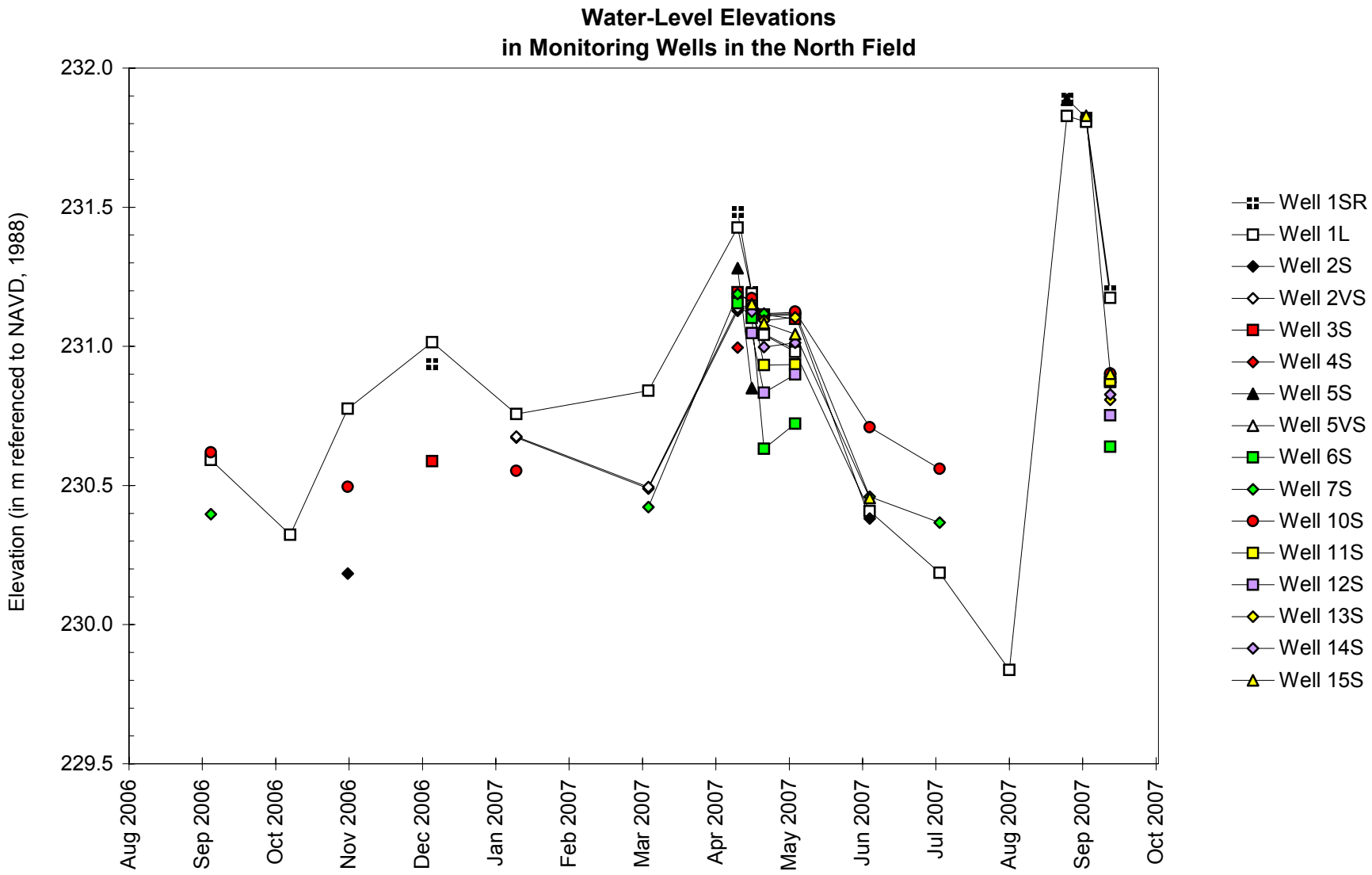


Freeport Bypass West Wetland Compensation Site 6W
(FAS 301)
Estimated Areal Extent of 2007 Wetland Hydrology
based on data collected between September 1, 2006 and September 14, 2007

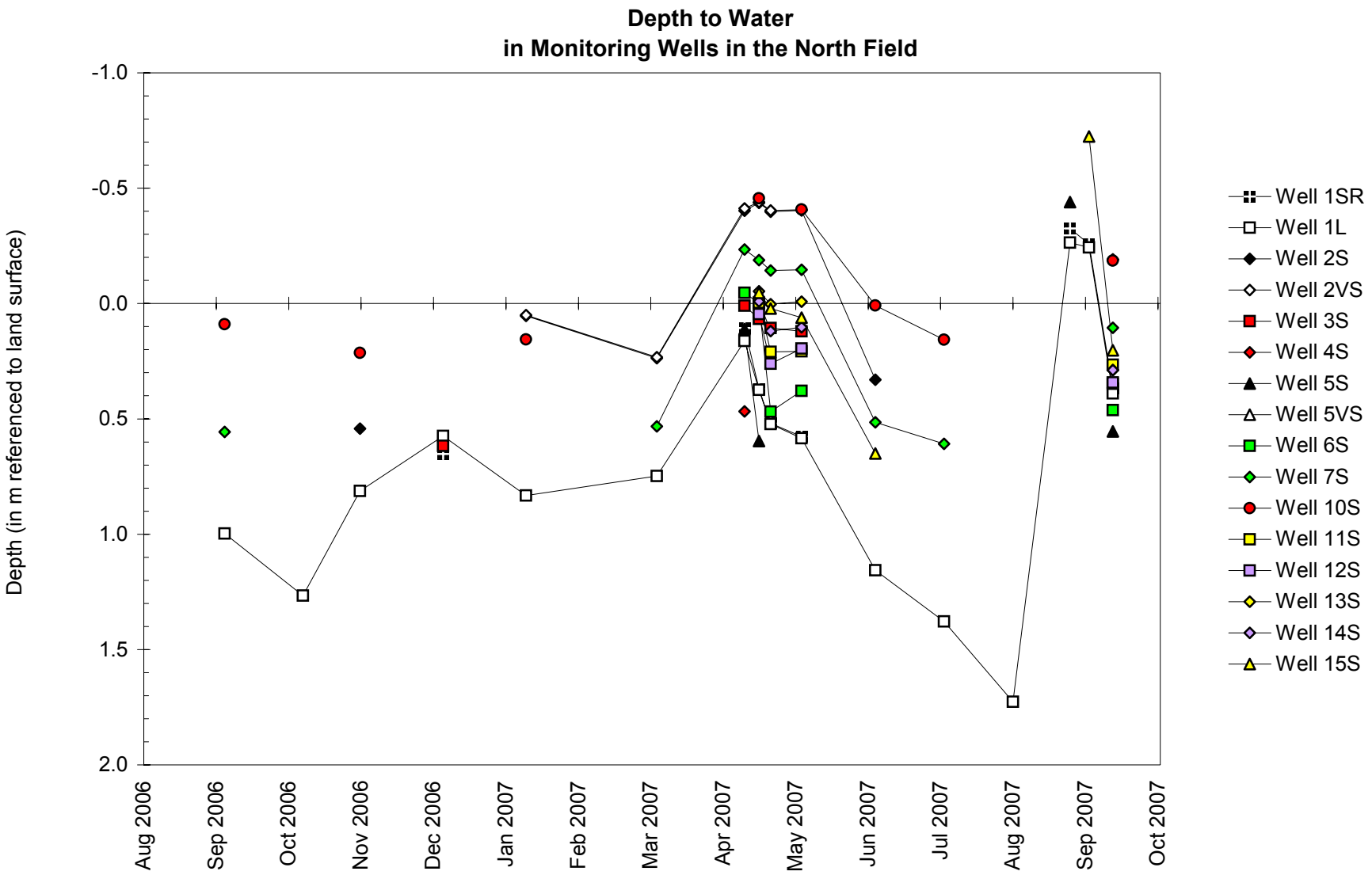
Map based on USGS digital orthophotograph, Freeport West, NE quarter quadrangle (ISGS 2005)



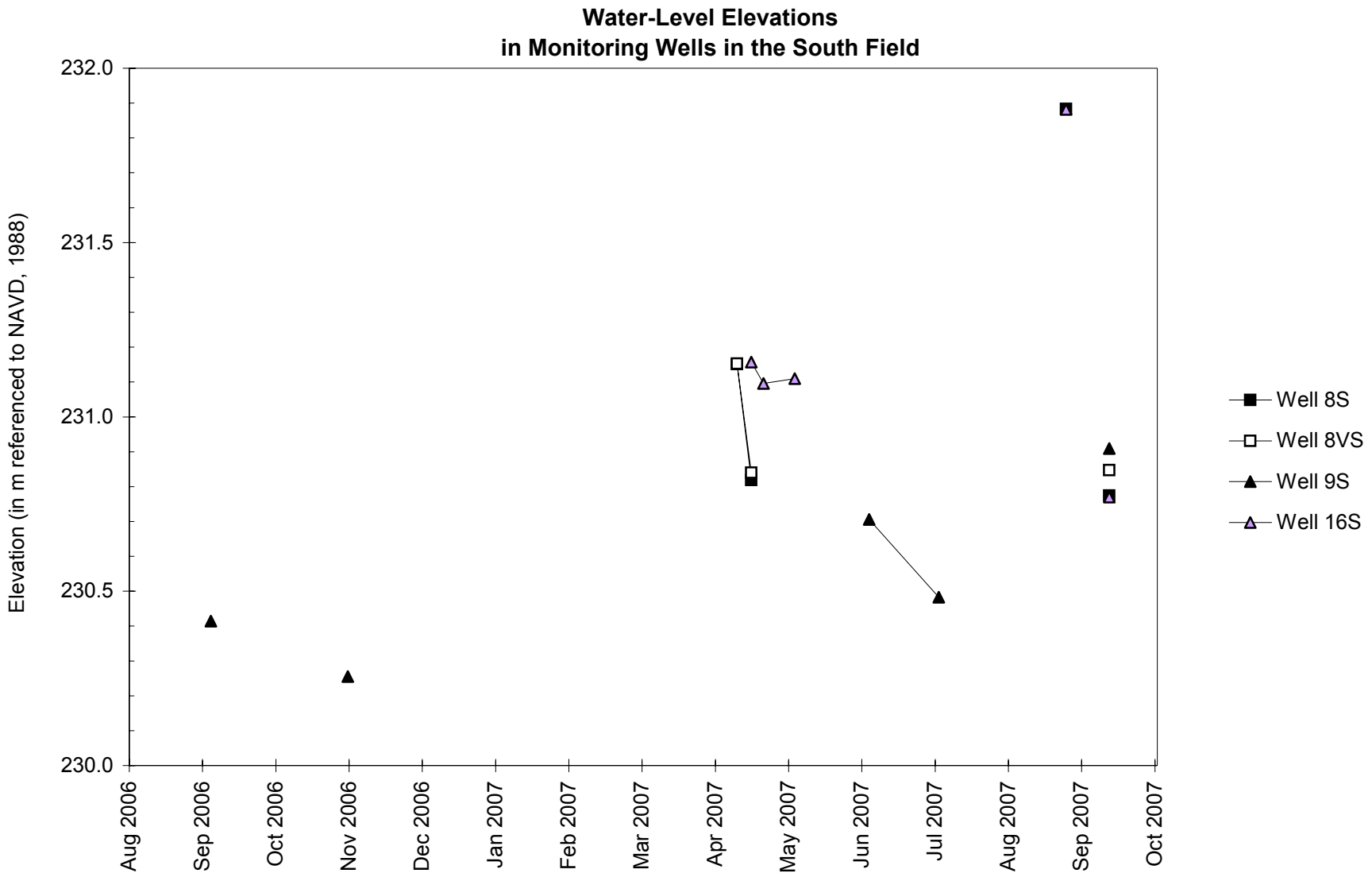
Freeport Bypass West Potential Wetland Compensation Site 6W
September 1, 2006 to September 14, 2007



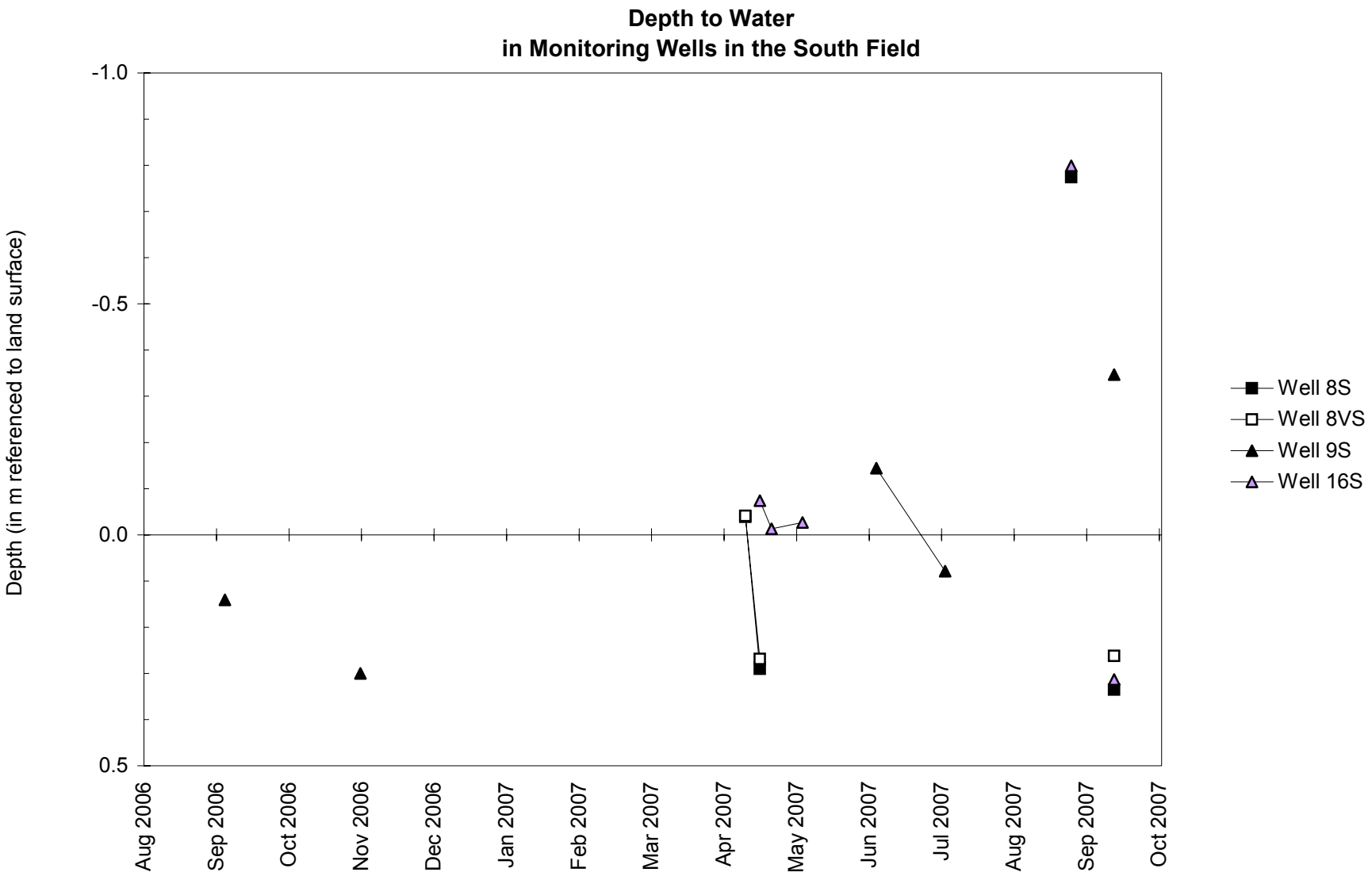
Freeport Bypass West Potential Wetland Compensation Site 6W
September 1, 2006 to September 14, 2007



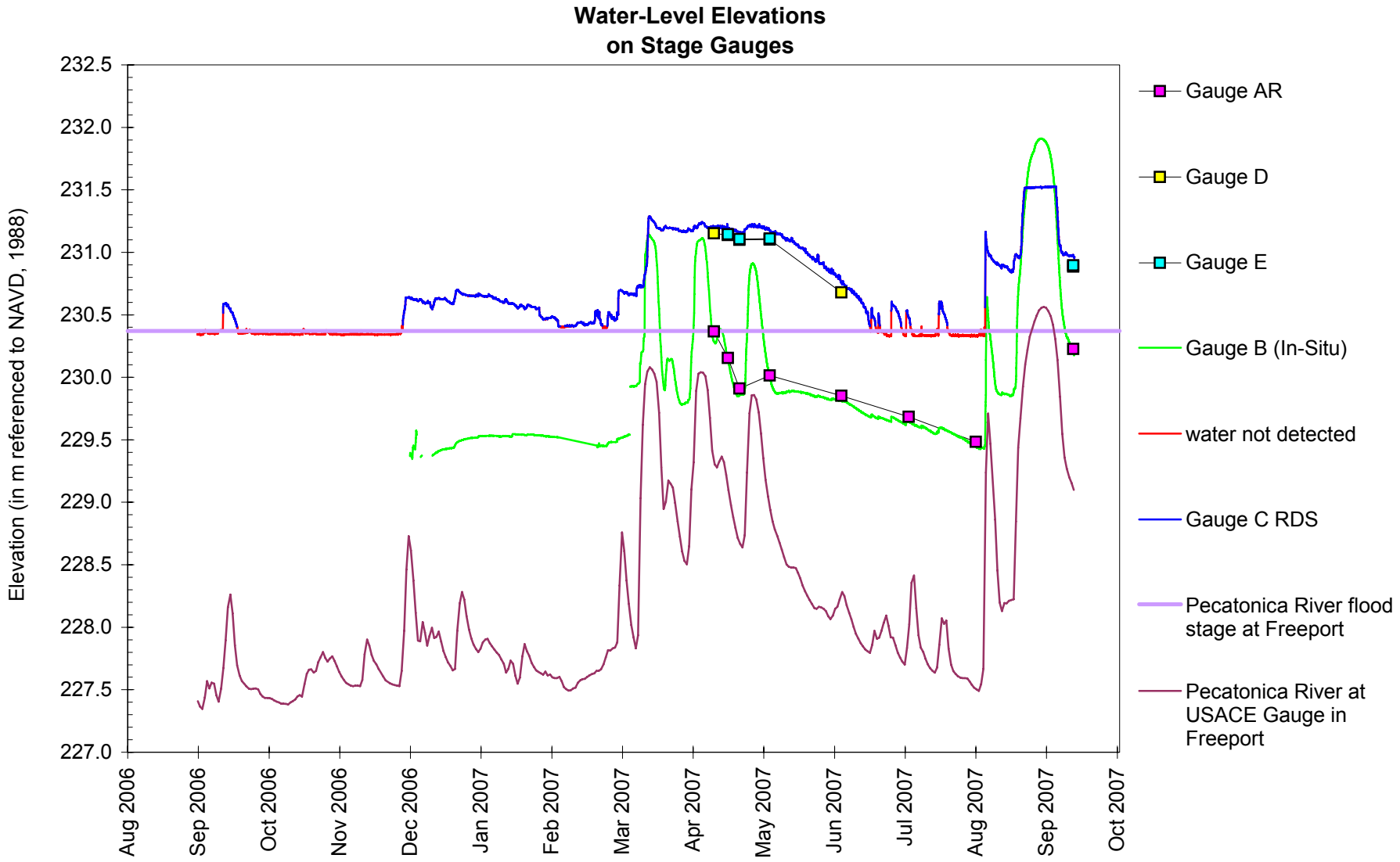
Freeport Bypass West Potential Wetland Compensation Site 6W
September 1, 2006 to September 14, 2007



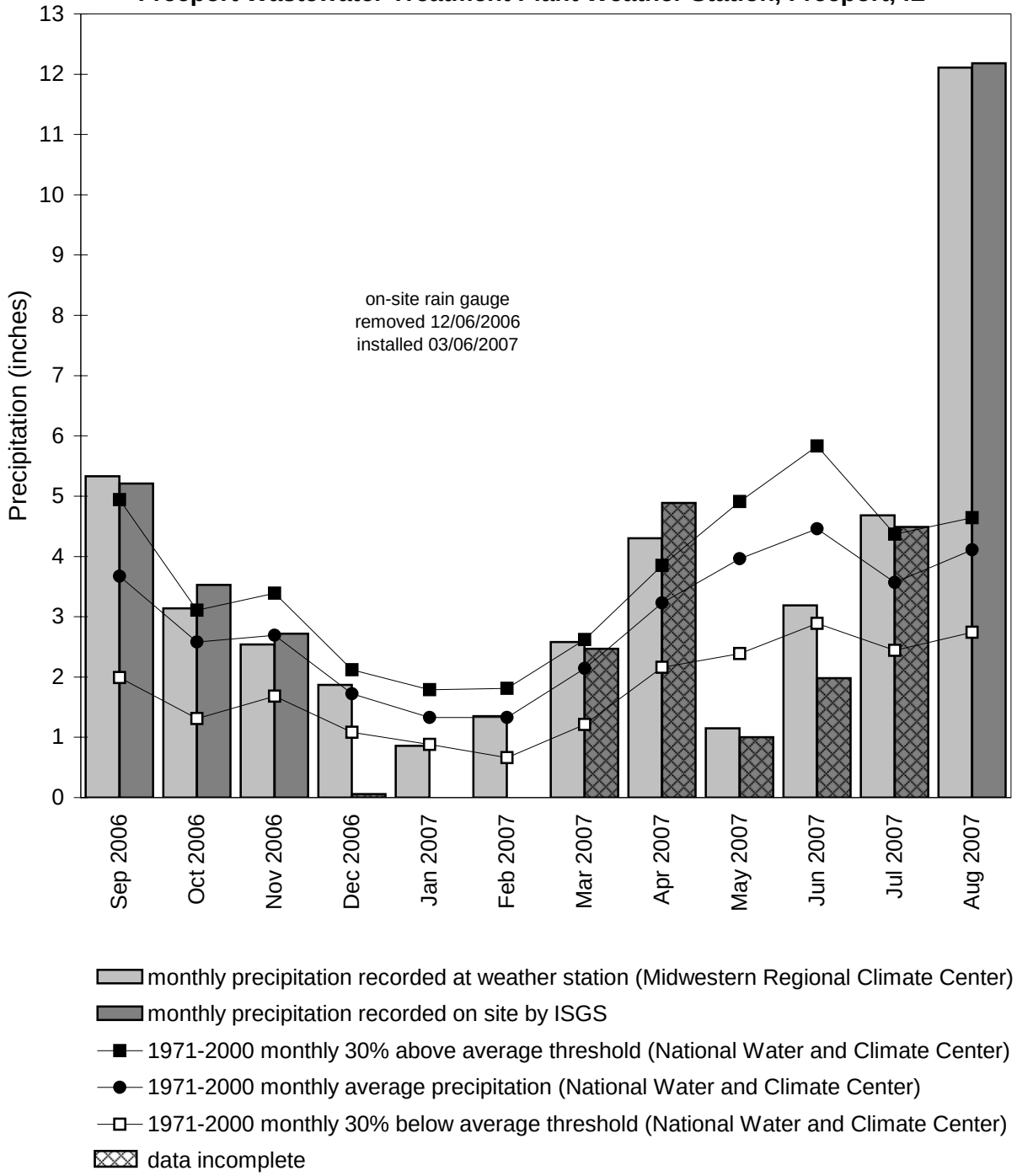
Freeport Bypass West Potential Wetland Compensation Site 6W
September 1, 2006 to September 14, 2007



Freeport Bypass West Potential Wetland Compensation Site 6W
September 1, 2006 to September 14, 2007



Freeport Bypass West
Potential Wetland Compensation Site 6W
September 2006 through August 2007
Total Monthly Precipitation Recorded On Site and at the Freeport Wastewater Treatment Plant Weather Station, Freeport, IL



Graph last updated October 9, 2007

PECATONICA RIVER FOREST PRESERVE **ISGS #73**
WETLAND COMPENSATION SITE
Harrison Avenue Extension
Sequence #3746
Winnebago County, near Pecatonica, Illinois
Primary Project Manager: Eric T. Plankell
Secondary Project Manager: Steven E. Benton

SITE HISTORY

- Summer 2003: Wetland construction was completed at the site.
- February 2005: ISGS was tasked by IDOT to monitor wetland hydrology.
- April 2005: ISGS began on-site monitoring with the installation of a monitoring network.

WETLAND HYDROLOGY CALCULATION FOR 2007

The estimated total area that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the 2007 growing season is 6.9 ha (17.1 ac) out of a total mitigation area of approximately 6.9 ha (17.1 ac). The estimated total area that satisfied wetland hydrology criteria for greater than 12.5% of the 2007 growing season is 3.8 ha (9.4 ac). Additional areas outside the designated mitigation areas also satisfied wetland hydrology criteria, and are discussed below. These estimates are based on the following factors:

- According to the MRCC, the median date that the growing season begins in nearby Freeport, Illinois is April 13, and the season lasts 183 days; 5% of the growing season is 9 days, and 12.5% of the growing season is 23 days.
- Total precipitation at the nearby Wastewater Treatment Plant weather station in Freeport, Illinois, was approximately 124% of normal for the monitoring period of September 2006 through August 2007. Precipitation at this station was below normal in January, May, and June 2007. Precipitation amounts were near or above normal for the remaining months of the 2006-2007 monitoring period. Melting snow and above-average precipitation in March and April 2007 caused the Pecatonica River to flood the site immediately prior to the beginning of the growing season. Heavy rains in August 2007 again caused the Pecatonica River to flood the site, resulting in nearly the entire site satisfying the wetland hydrology criteria for greater than 5% of the 2007 growing season.
- In 2007, water levels measured in all soil-zone (S) wells satisfied the wetland hydrology criteria for greater than 5% of the growing season. Water levels in soil-zone wells 1S, 2S, 3S, 4S, 5S, 6S, 8S, 9S, 10S, 11S, 13S, 14S, and 18S also satisfied the wetland hydrology criteria for greater than 12.5% of the growing season.
- Water-level records for the RDS data loggers at gauges C and H indicated inundation at elevations below approximately 225.60 m (740.16 ft) and 225.61 m (740.19 ft), respectively, for greater than 5% of the growing season. Additionally, gauges C and H indicated inundation at elevations below approximately 224.97 m (738.09 ft) and 224.82 m (737.60 ft), respectively, for greater than 12.5% of the growing season.

- Approximately 10.0 ha (24.6 ac) of the total site area outside of the mitigation areas satisfied wetland hydrology criteria for greater than 5% of the growing season and 3.7 ha (9.1 ac) satisfied wetland hydrology criteria for greater than 12.5% of the growing season. Note that these acreages include some preexisting wetland areas shown on the accompanying figure.

- For the purposes of this report, the boundaries of the mitigation areas were reproduced from engineering plans drawn by Hey and Associates, Inc, and then corrected to match features observed in the field and on aerial photography of the site taken in 2005.

PLANNED FUTURE ACTIVITIES

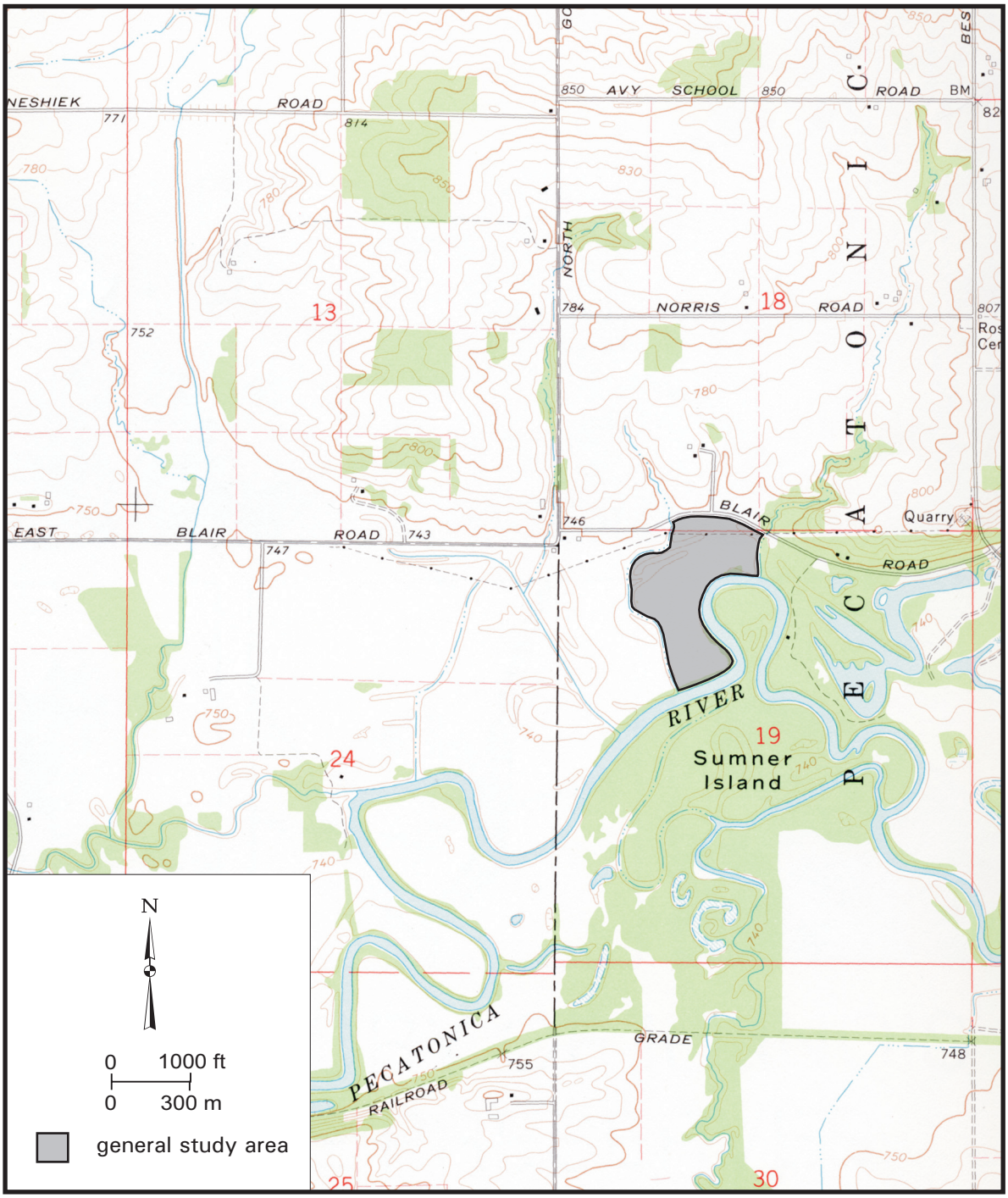
- Hydrogeologic monitoring will continue at the site until no longer required by IDOT.

Pecatonica River Forest Preserve Wetland Compensation Site (Sequence #3746)

General Study Area and Vicinity

from the USGS Topographic Series, Ridott, IL 7.5-minute Quadrangle (USGS 1971)

contour interval is 10 feet

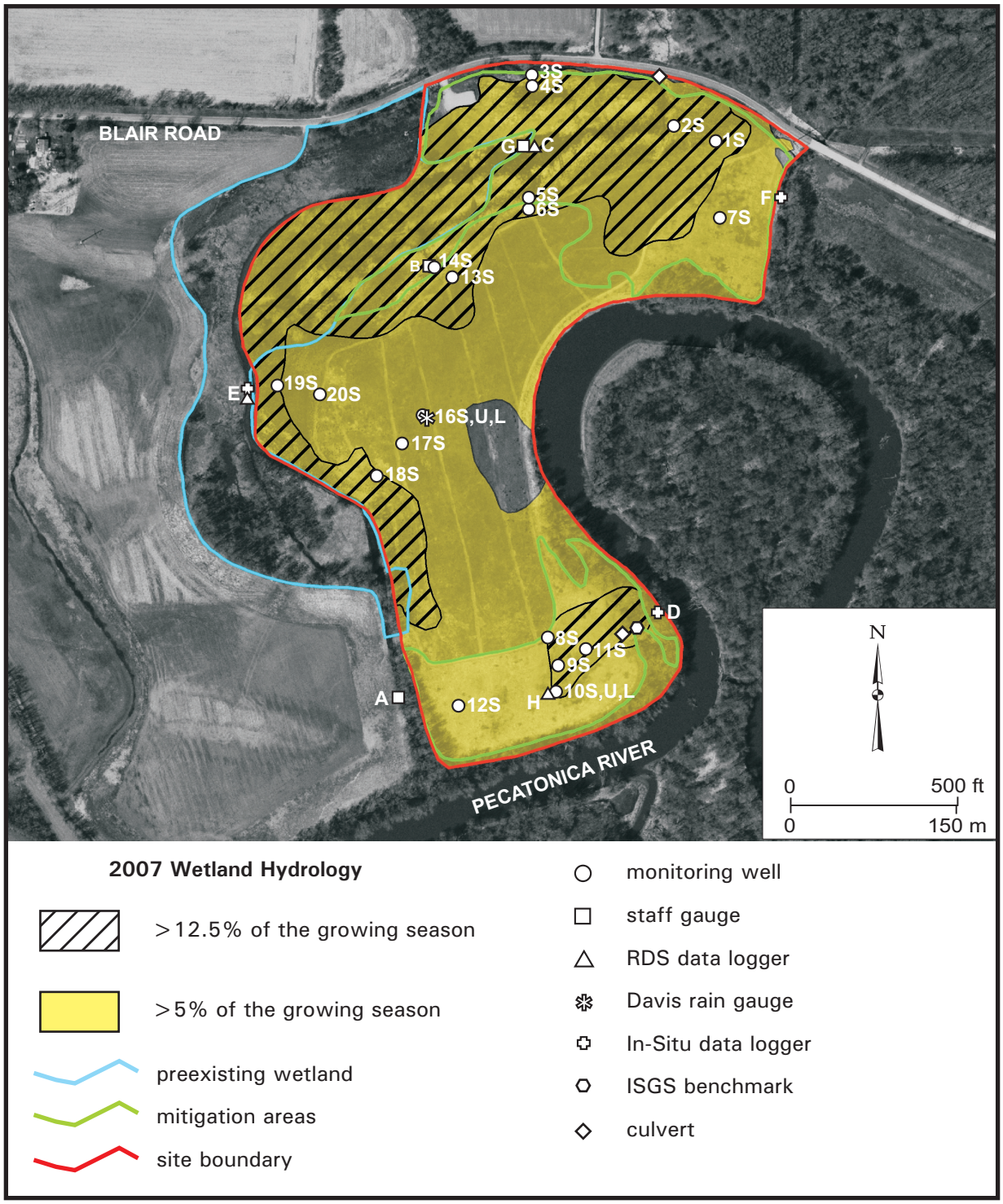


Pecatonica River Forest Preserve Wetland Compensation Site (Sequence #3746)

Estimated Areal Extent of 2007 Wetland Hydrology

based on data collected between September 1, 2006 and September 14, 2007

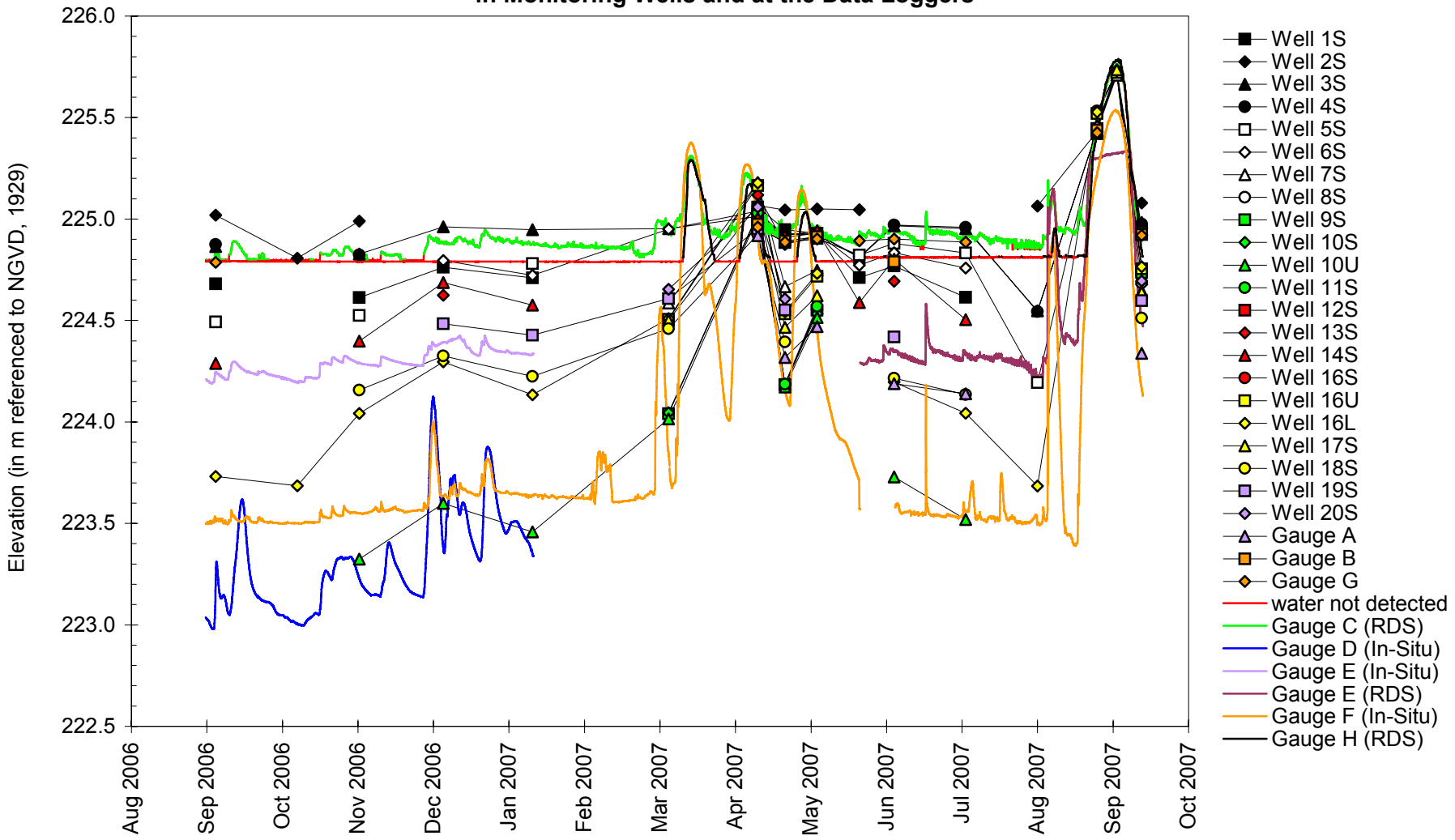
Map based on USGS digital orthophotograph Ridott, NE quarter quadrangle
produced from 4/8/99 aerial photography (ISGS 2005)



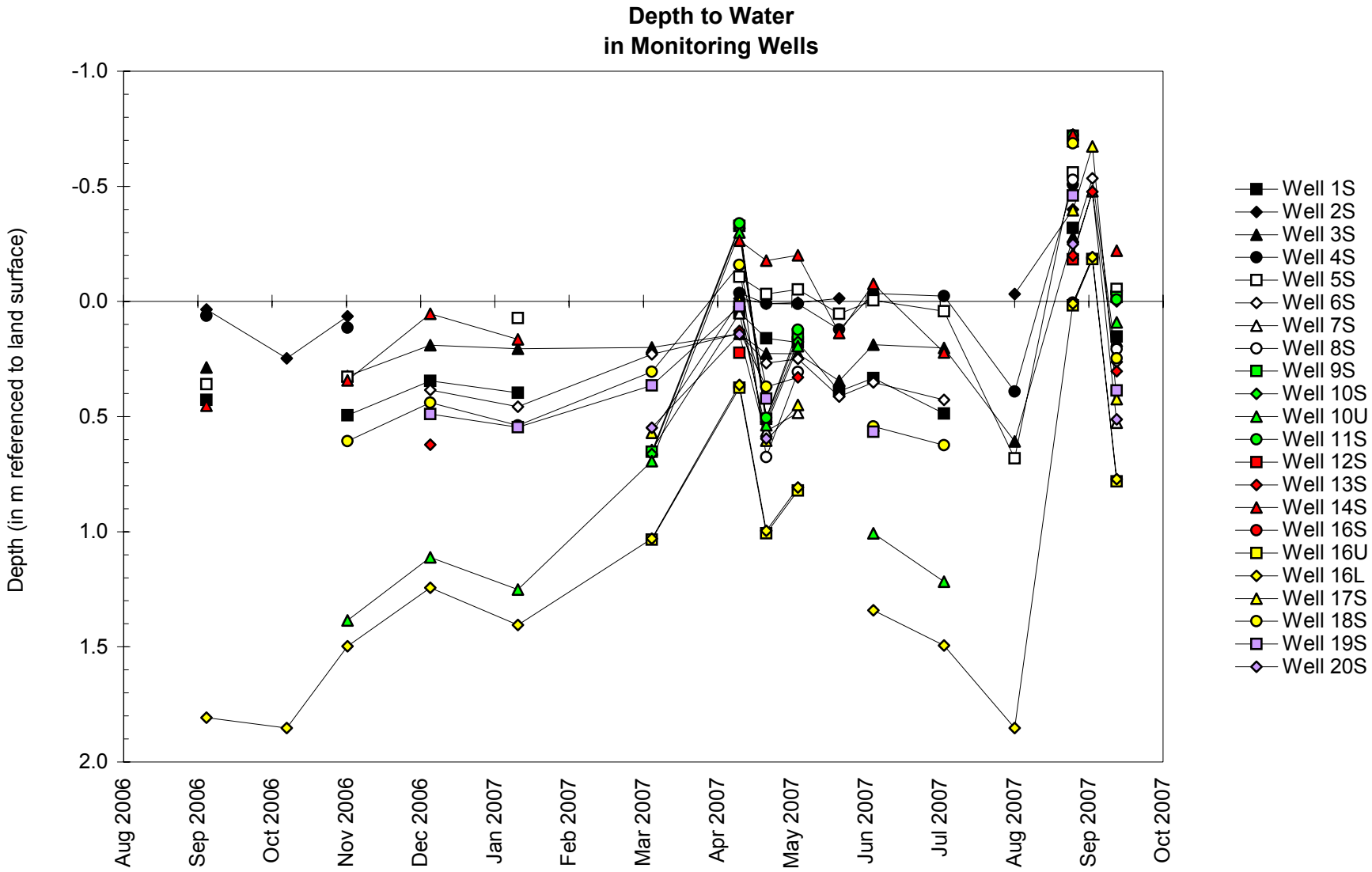
Pecatonica River Forest Preserve Wetland Compensation Site

September 1, 2006 to September 14, 2007

Water-Level Elevations
in Monitoring Wells and at the Data Loggers



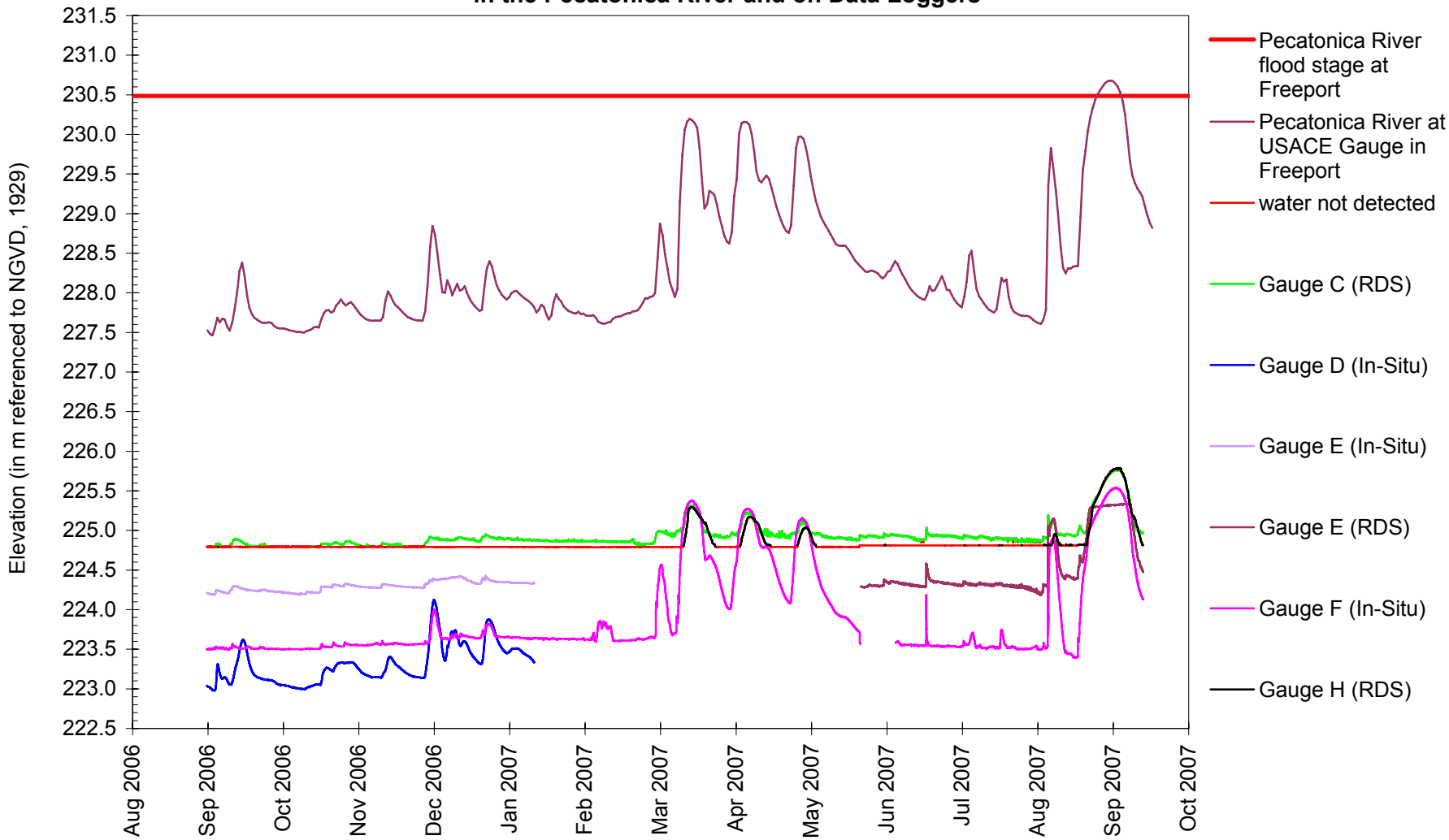
Pecatonica River Forest Preserve Wetland Compensation Site
September 1, 2006 to September 14, 2007



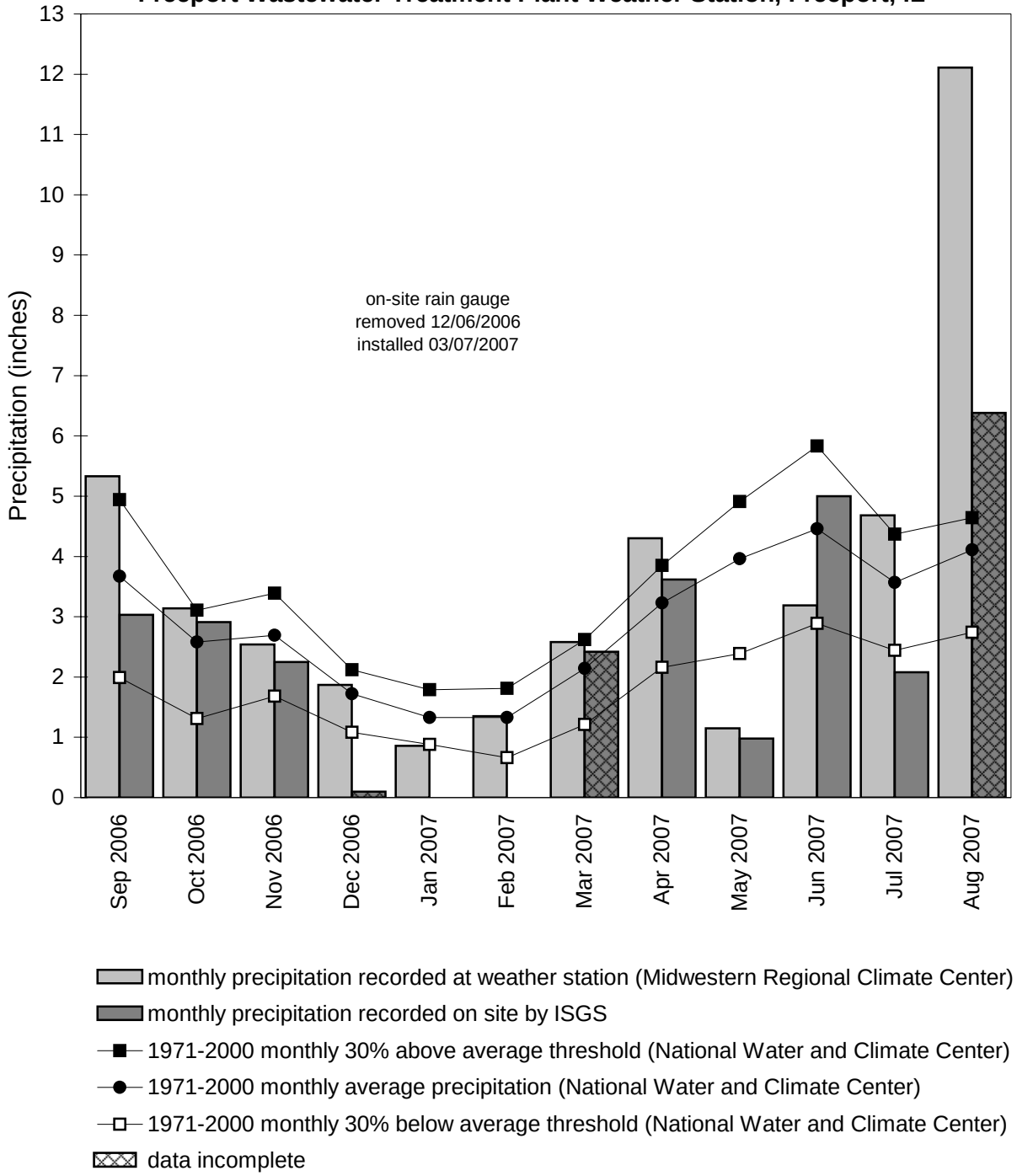
Pecatonica River Forest Preserve Wetland Compensation Site

September 1, 2006 to September 14, 2007

Water-Level Elevations in the Pecatonica River and on Data Loggers



Pecatonica River Forest Preserve
Wetland Compensation Site
September 2006 through August 2007
Total Monthly Precipitation Recorded On Site and at the Freeport Wastewater Treatment Plant Weather Station, Freeport, IL



Graph last updated October 9, 2007

SUGAR CAMP CREEK **ISGS #74**
WETLAND COMPENSATION SITE
FAP 312
Sequence #9282
Franklin County, Northern Township, Illinois
Primary Project Manager: Geoffrey E. Pociask
Secondary Project Manager: not assigned

SITE HISTORY

- December 2004: ISGS submitted an initial site evaluation report to IDOT.
- Spring 2005: IDOT tasked ISGS to conduct a Level II hydrogeologic characterization of the site and to prepare a draft wetland banking instrument for the site. Water-level monitoring was initiated in March 2005.
- August 2006: ISGS submitted a draft wetland banking prospectus to IDOT.
- March 2007: ISGS submitted the Level II hydrogeologic characterization report to IDOT (ISGS Open-File Series 2007–02).
- August 2007: ISGS submitted a draft wetland banking instrument to IDOT.

WETLAND HYDROLOGY CALCULATION FOR 2007

We estimate that 13.8 ha (34.2 ac) of the total site area of 50.9 ha (125.7 ac), including the FAP 312 wetland compensation site, satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the growing season in 2007, whereas 3.9 ha (9.6 ac) satisfied wetland hydrology criteria for greater than 12.5% of the growing season. Within the 8.3-ha (20.5-ac) FAP 312 wetland compensation site, 6.0 ha (14.8 ac) satisfied wetland hydrology criteria for greater than 5% of the growing season, of which 2.3 ha (5.8 ac) satisfied wetland hydrology criteria for greater than 12.5% of 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 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 91% of normal for the monitoring period. Drier than average conditions prevailed in March through August 2007. Precipitation was at or above normal in September 2006 through February 2007.
- In 2007, wells 2S, 3S, 4S, 8S, 9S, 10S, 11S, 13S, 14S, 17S, 18S, 19S, 23S, 29S, 30S, 31S, and 32S satisfied wetland hydrology criteria for greater than 5% of the growing season. Furthermore, wells 8S, 14S, 17S, 19S, and 30S satisfied wetland hydrology criteria for greater than 12.5% of the growing season.
- Data from gauge A in Sugar Camp Creek indicated three minor floods during the 2007 growing season. Data from this data logger indicated that the duration of inundation from each of these floods was less than 5% of the growing season.

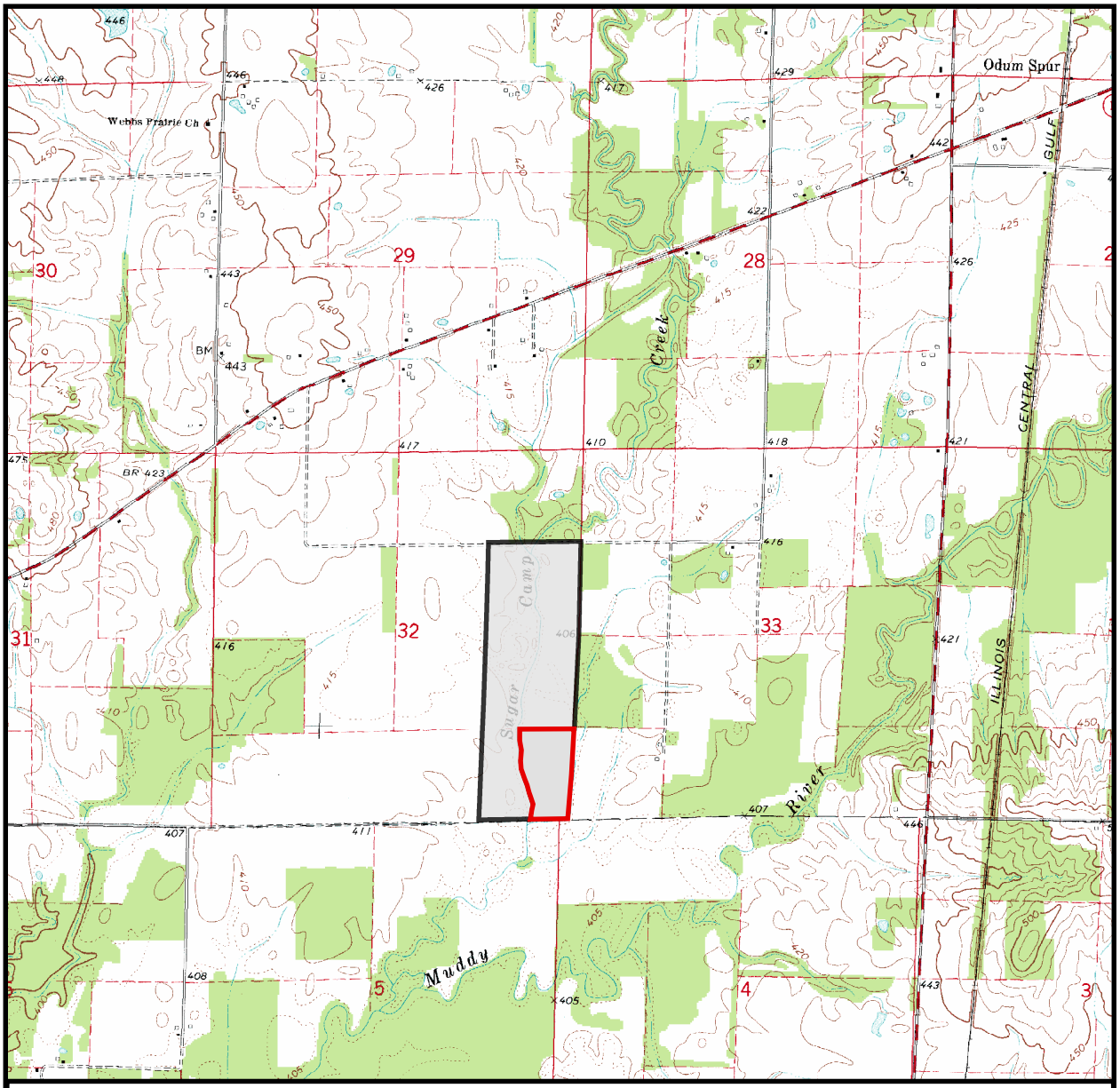
- RDS 1 in the ditch along the east perimeter and RDS 2 in the FAP 312 mitigation area showed that water-level elevation was at or above 123.3 m (404.5 ft) for greater than 5% of the growing season. Furthermore, RDS 1 showed water levels above 123.2 m (404.2 ft) and RDS 2 showed water levels above 123.3 m (404.5 ft) for greater than 12.5 % of the growing season. RDS 3 showed water levels at or above 123.6 m (405.5 ft) for greater than 5% and greater than 12.5% of the growing season.

PLANNED FUTURE ACTIVITIES

- Monitoring activities will continue until no longer required by IDOT.

Sugar Camp Creek Wetland Compensation Site
(FAP 312 and Proposed Wetland Mitigation Bank)
General Study Area and Vicinity

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

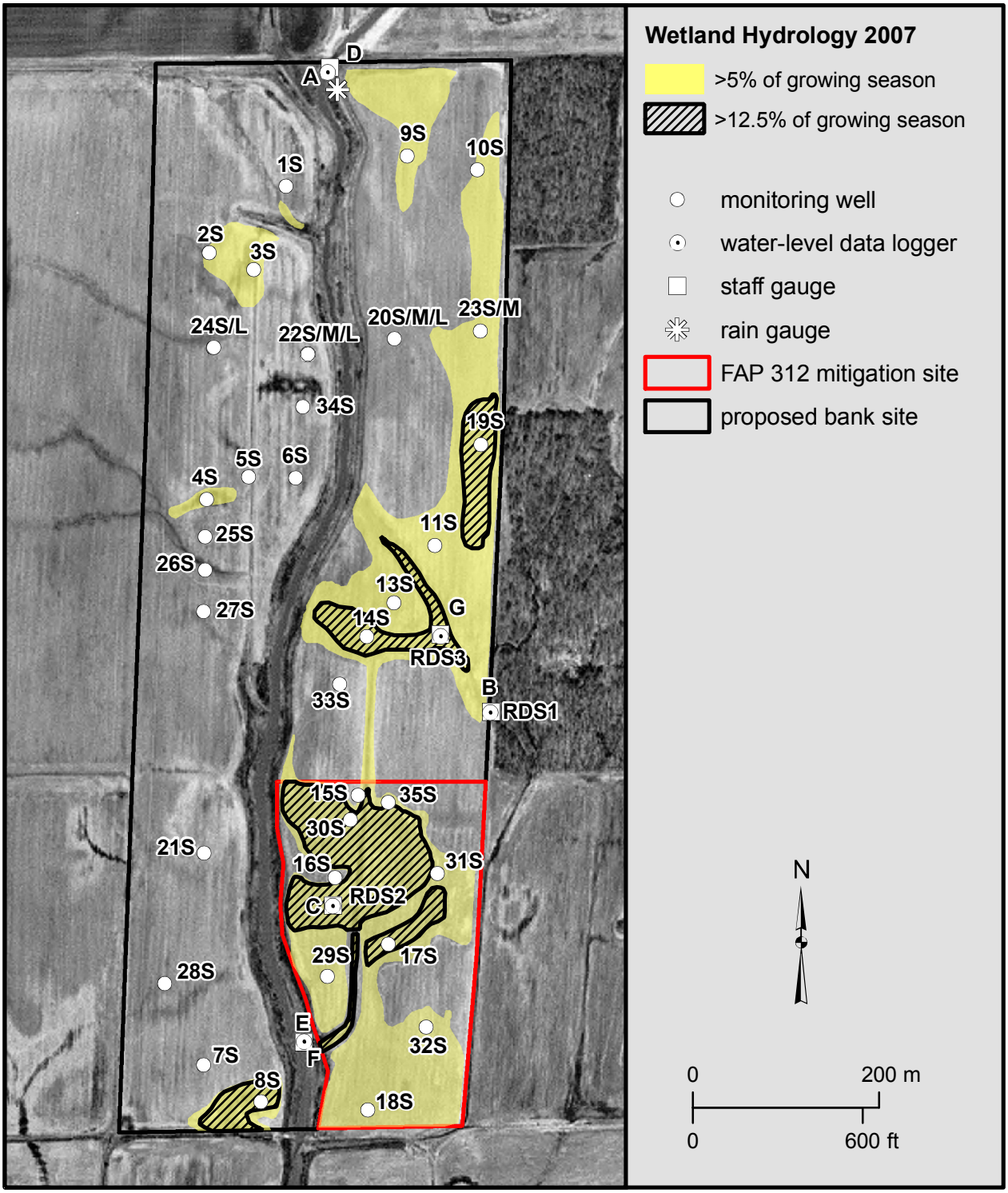


Sugar Camp Creek Wetland Compensation Site
(FAP 312 and Proposed Wetland Mitigation Bank)

Estimated Areal Extent of 2007 Wetland Hydrology

based on data collected between September 1, 2006 and September 1, 2007

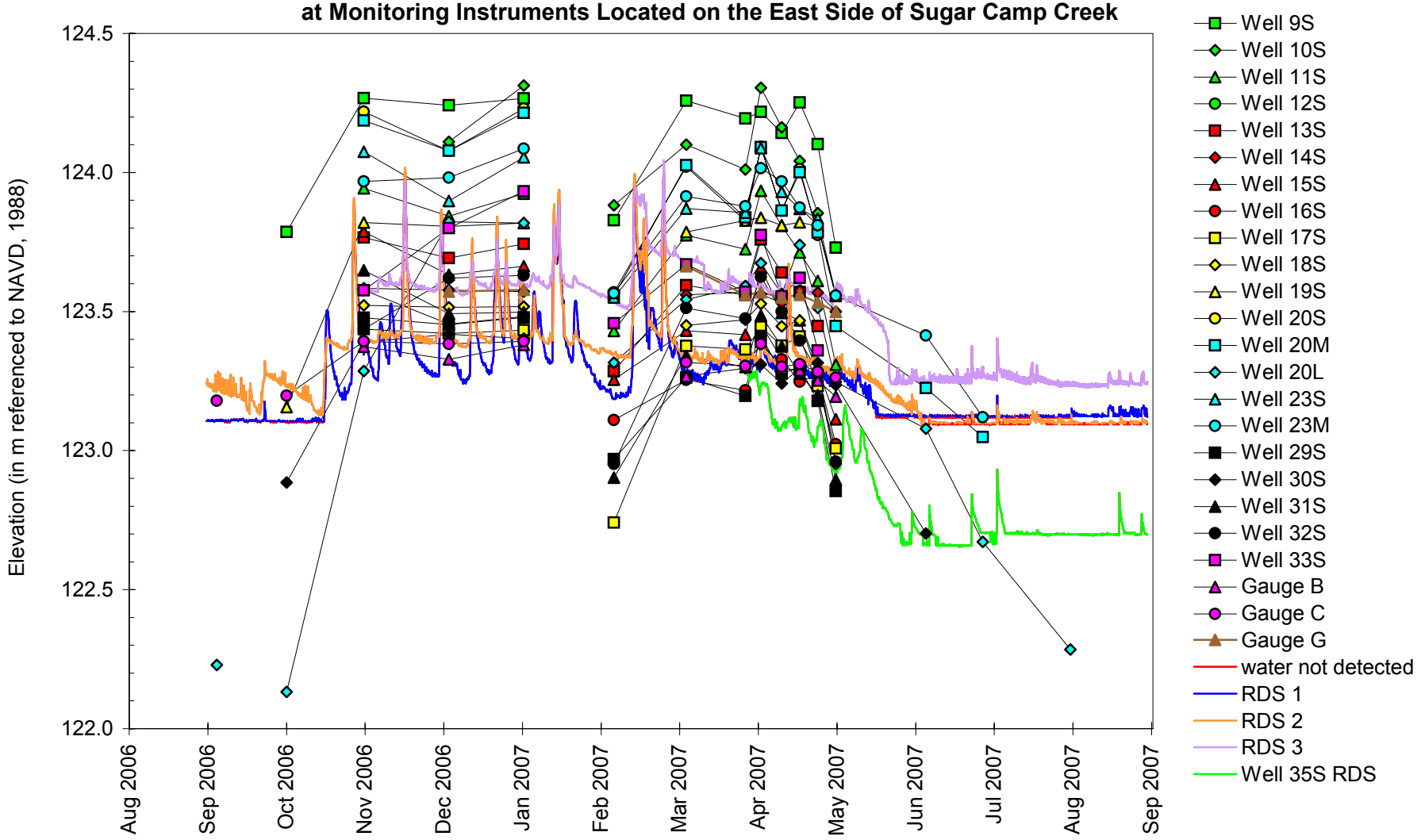
Map based on USGS digital orthophotograph, Ewing SE quarter quadrangle,
aerial photography from April 1998 (ISGS 2000)



Sugar Camp Creek Wetland Compensation Site

September 1, 2006 to September 20, 2007

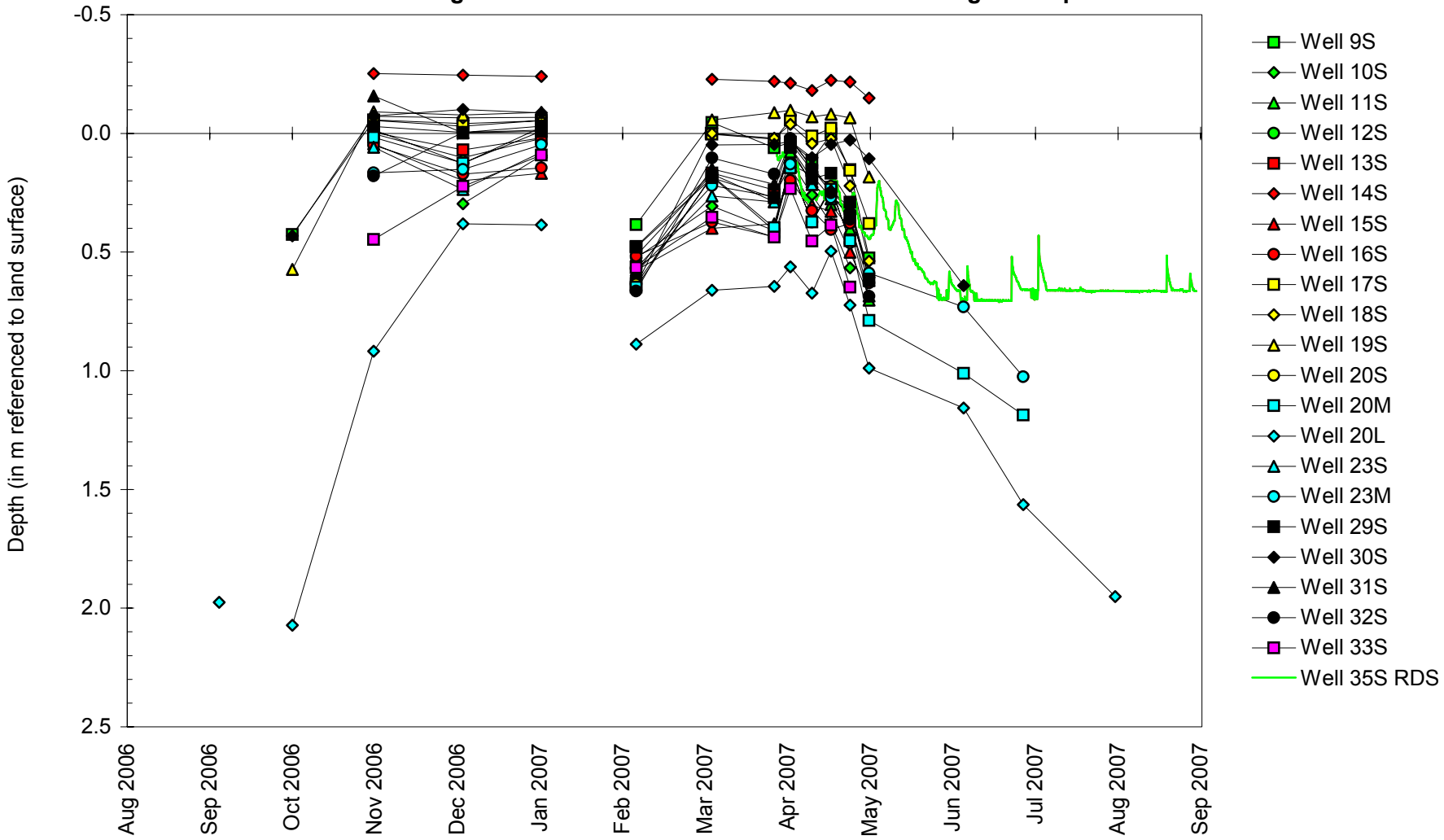
Water-Level Elevations
at Monitoring Instruments Located on the East Side of Sugar Camp Creek



Sugar Camp Creek Wetland Compensation Site

September 1, 2006 to September 20, 2007

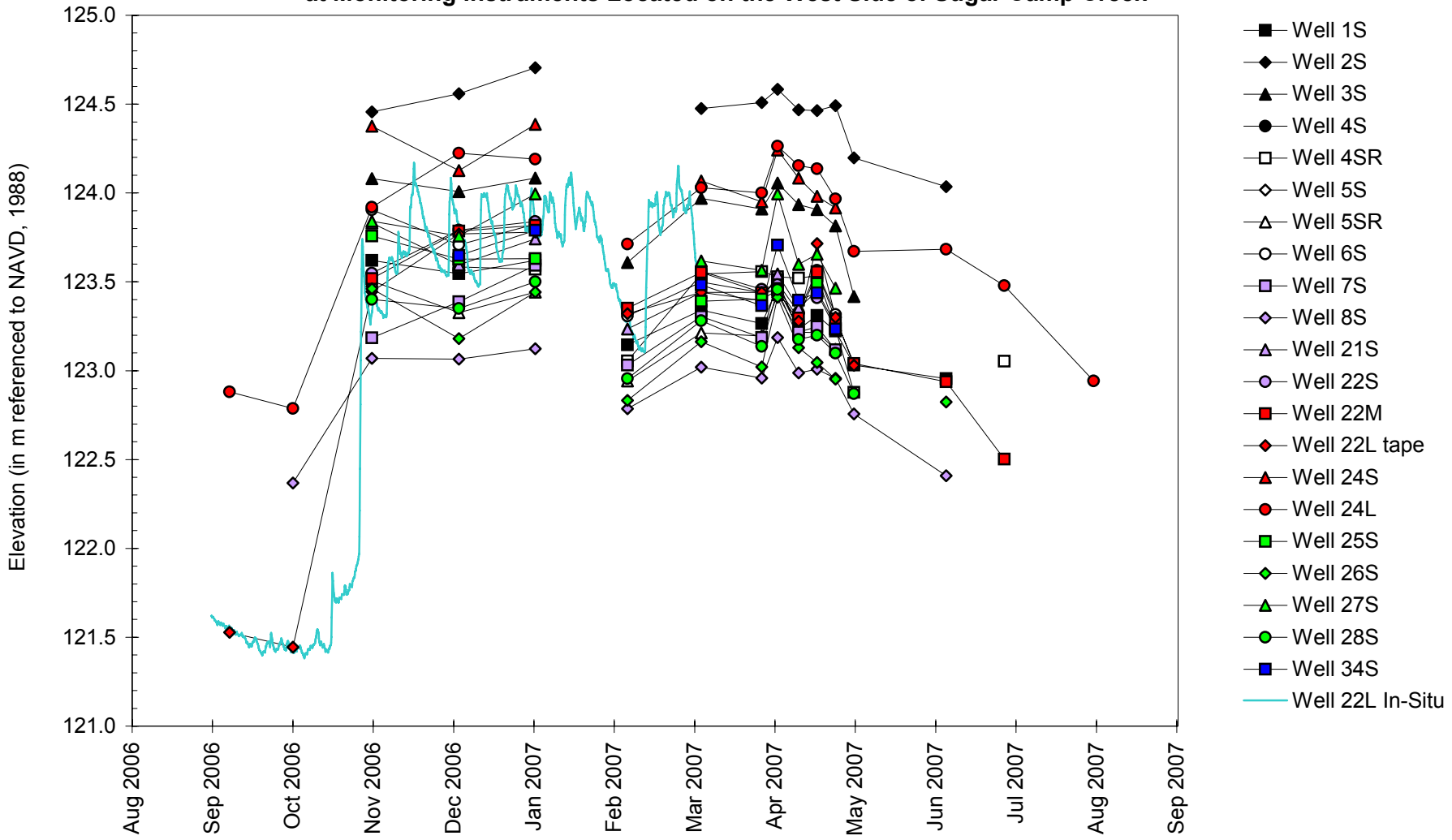
Depth to Water
at Monitoring Instruments Located on the East Side of Sugar Camp Creek



Sugar Camp Creek Wetland Compensation Site

September 1, 2006 to September 20, 2007

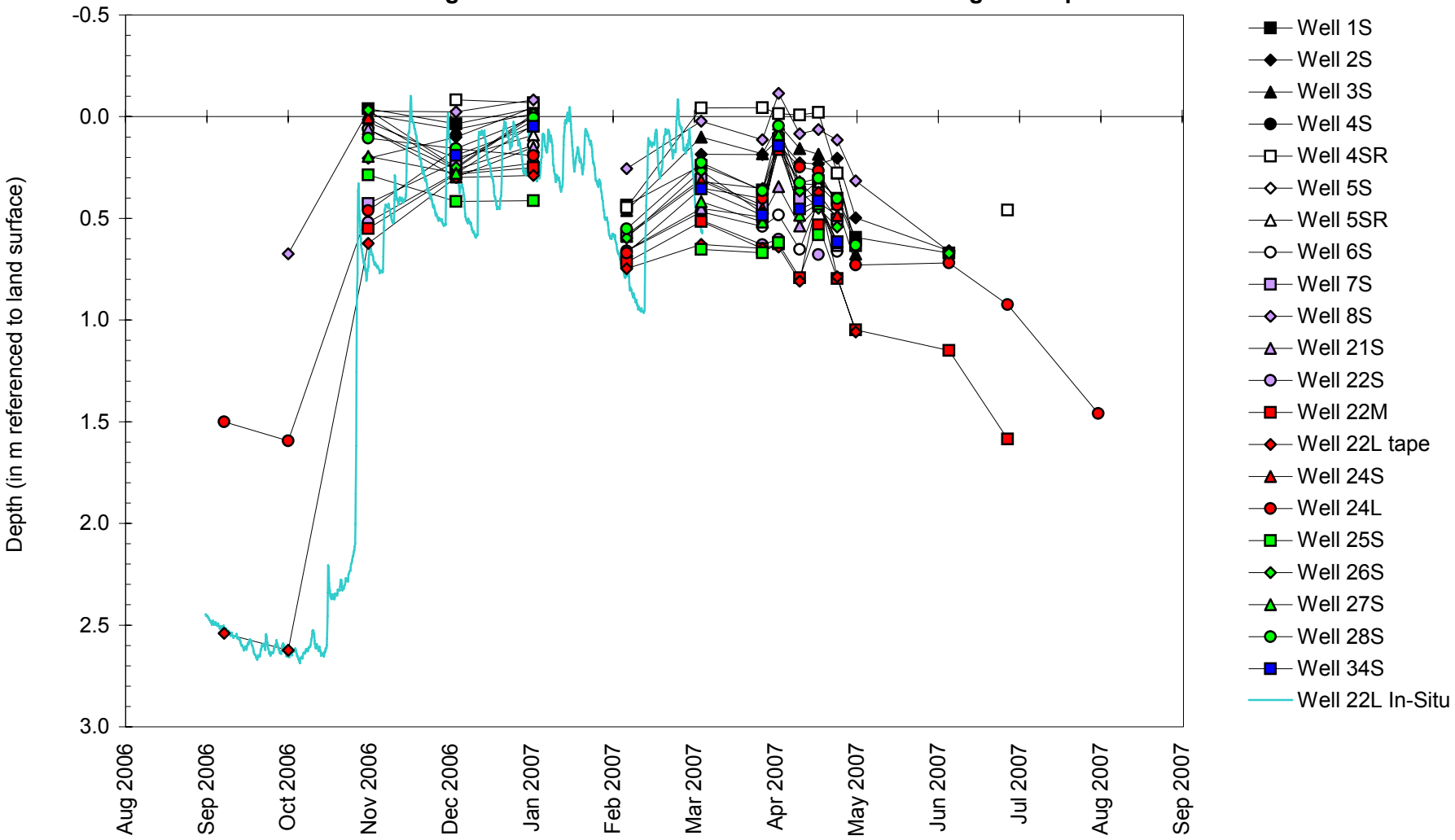
Water-Level Elevations
at Monitoring Instruments Located on the West Side of Sugar Camp Creek



Sugar Camp Creek Wetland Compensation Site

September 1, 2006 to September 20, 2007

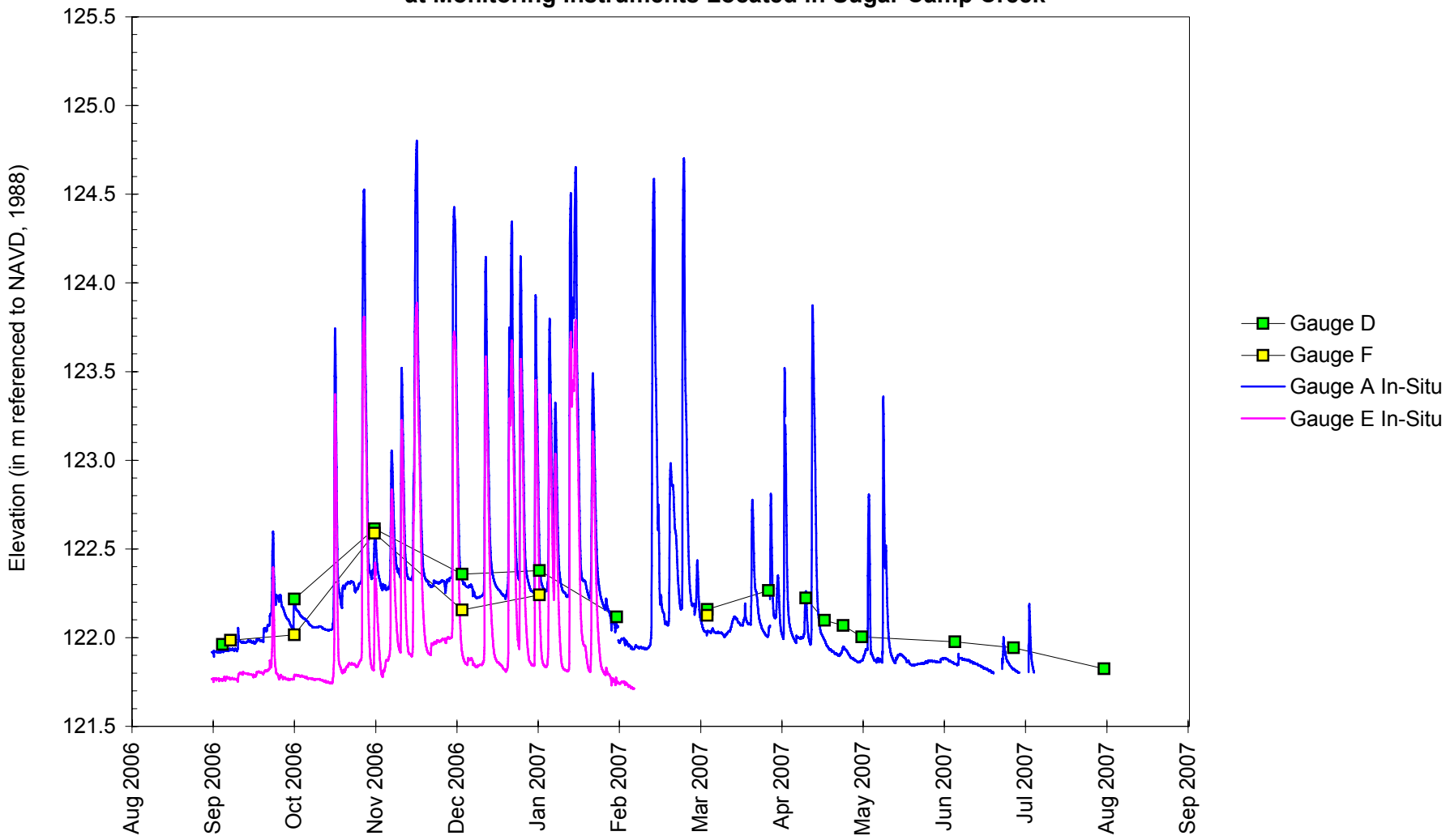
Depth to Water
at Monitoring Instruments Located on the West Side of Sugar Camp Creek



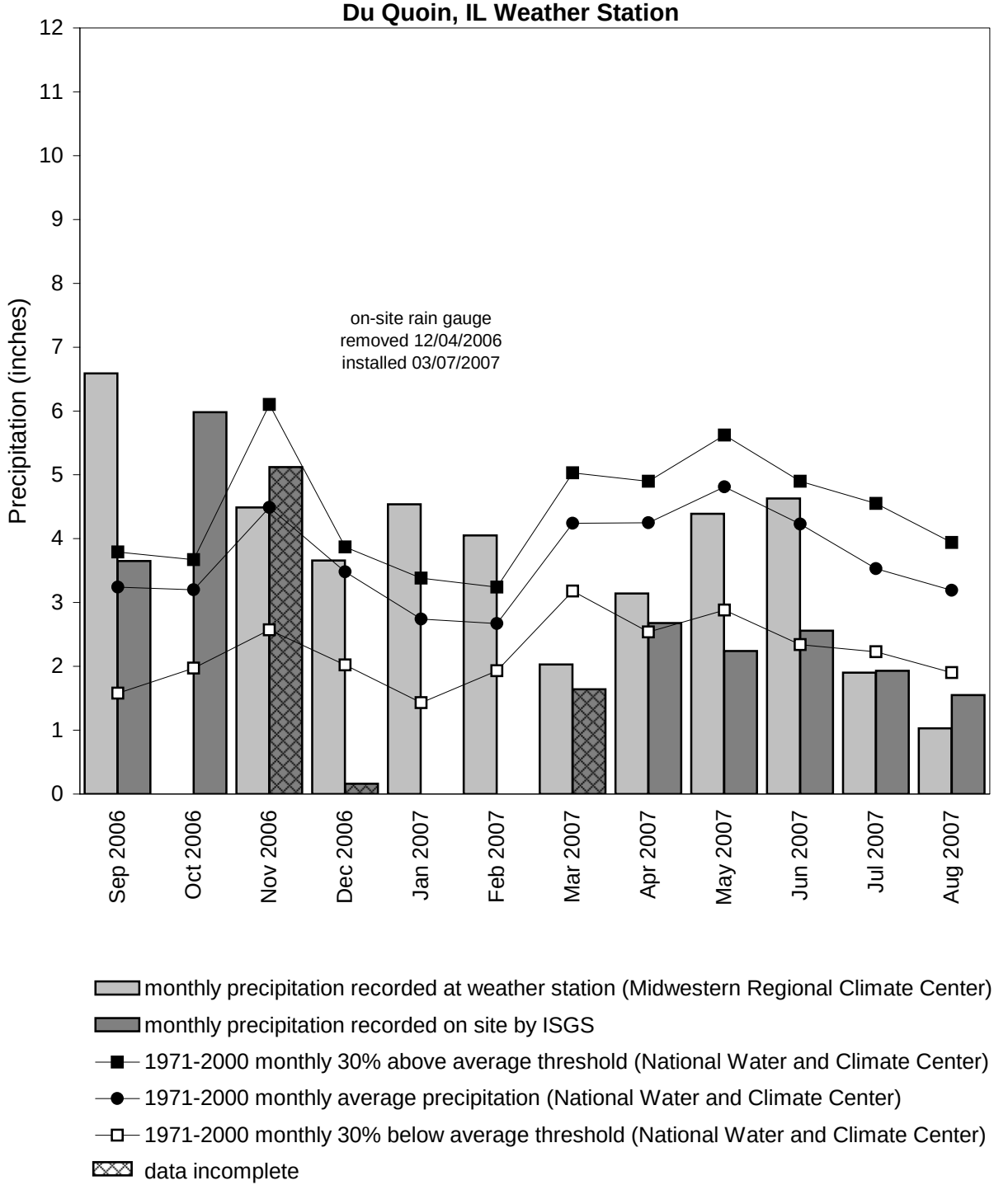
Sugar Camp Creek Wetland Compensation Site

September 1, 2006 to September 20, 2007

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



Sugar Camp Creek
Potential Wetland Compensation Site
September 2006 through August 2007
Total Monthly Precipitation Recorded On Site and at the Du Quoin, IL Weather Station



Graph last updated October 10, 2007

GREEN CREEK **ISGS #75**
WETLAND COMPENSATION SITE
FAP 774
Sequence #12505
Effingham County, near Effingham, Illinois
Primary Project Manager: Bonnie J. R. Sperling
Secondary Project Manager: Eric T. Plankell

SITE HISTORY

- August 2005: ISGS submitted an initial site evaluation report to IDOT.
- March 2006: ISGS submitted a conceptual design plan to IDOT.
- September 2006: A Level II hydrogeological characterization report was submitted to IDOT (ISGS Open-File Series 2006–03).
- March 2007: ISGS increased the existing monitoring network, including a surface-water gauge in Green Creek.
- June 2007: Construction at the wetland compensation site was completed.

WETLAND HYDROLOGY CALCULATION FOR 2007

The area of the site that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the 2007 growing season was estimated to be 1.5 ha (3.7 ac) out of a total site area of 4.1 ha (10.0 ac). The area was also identical to that which satisfied the criteria for greater than 12.5% of the growing season. These estimates were based on the following factors:

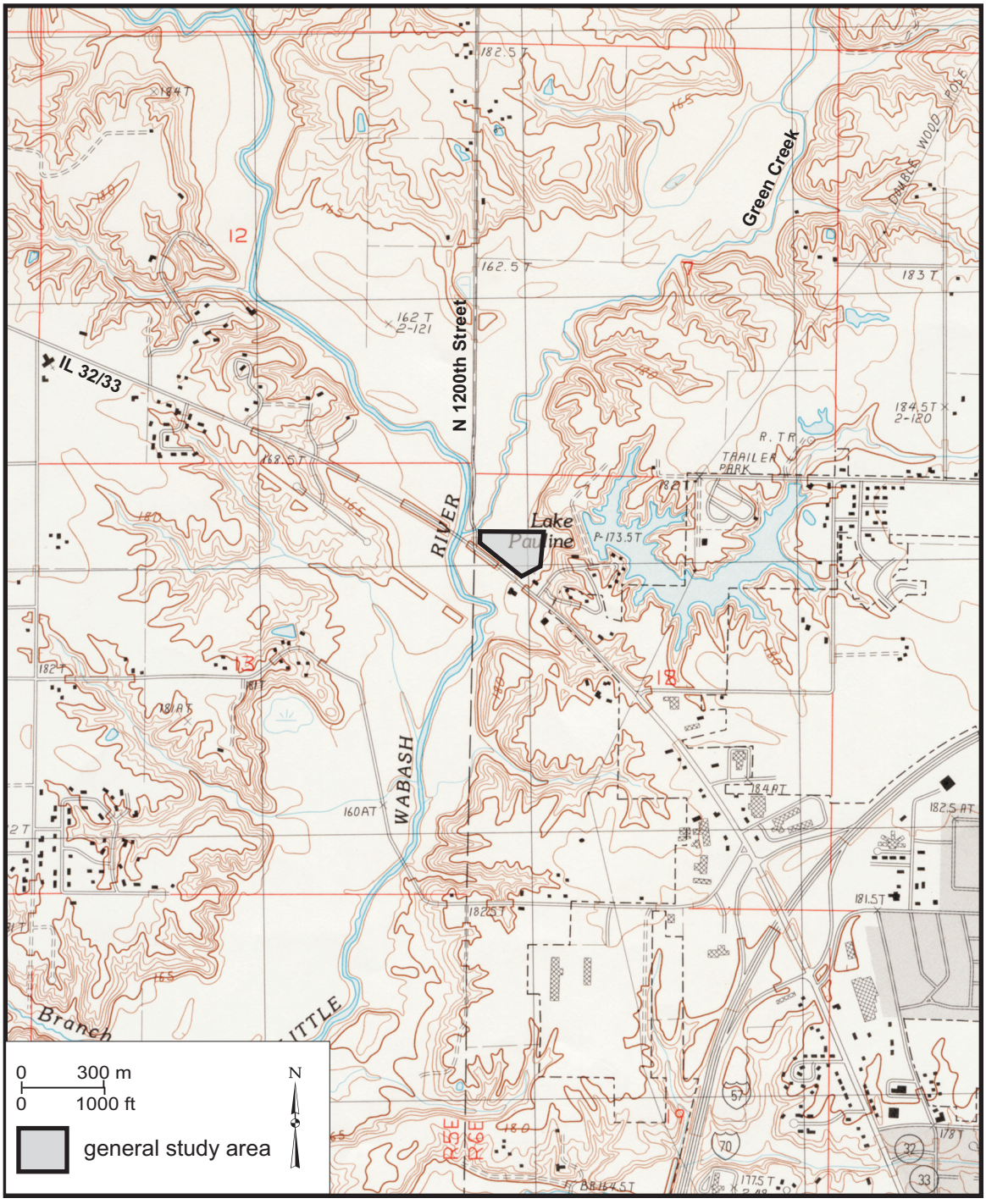
- According to the MRCC, the median date that the growing season begins in nearby Effingham, Illinois, is April 6 and the season lasts 210 days; 5% of the growing season is 11 days and 12.5% of the growing season is 26 days.
- Total precipitation during the monitoring period was 90% of normal. Above-normal precipitation in October and December 2006 through February 2007 resulted in an increase in water levels that was sustained through the spring, despite the below-normal precipitation from March to May 2007. Water levels dropped at the beginning of June 2007 as a result of on-site construction in late May. Above-normal precipitation in June 2007 resulted in a short-lived rebound in water levels, after which they fell again in response to below-normal precipitation and higher summer evapotranspiration rates.
- In 2007, ground-water levels measured in wells 3S, 4S, 7S, 11S and 12S satisfied the wetland hydrology criteria for both 5% and 12.5% of the growing season.
- Areas of inundation were observed for greater than 5% of the growing season on both sides of the main north–south ditch. According to the surface-water gauge in Green Creek, water levels in Green Creek reached an elevation sufficient to exceed its banks and flood the site between July 17 and 19, 2007, a period insufficient to achieve wetland hydrology.

PLANNED FUTURE ACTIVITIES

- Additional shallow wells will be installed on the eastern portion of the site.

Green Creek Wetland Compensation Site
(FAP 774, IL 32/33, Sequence #12505)
General Study Area and Vicinity

from the USGS Topographic Series, Effingham North, IL 7.5-minute Quadrangle (USGS 1985)
contour interval is 3 m (10 ft)



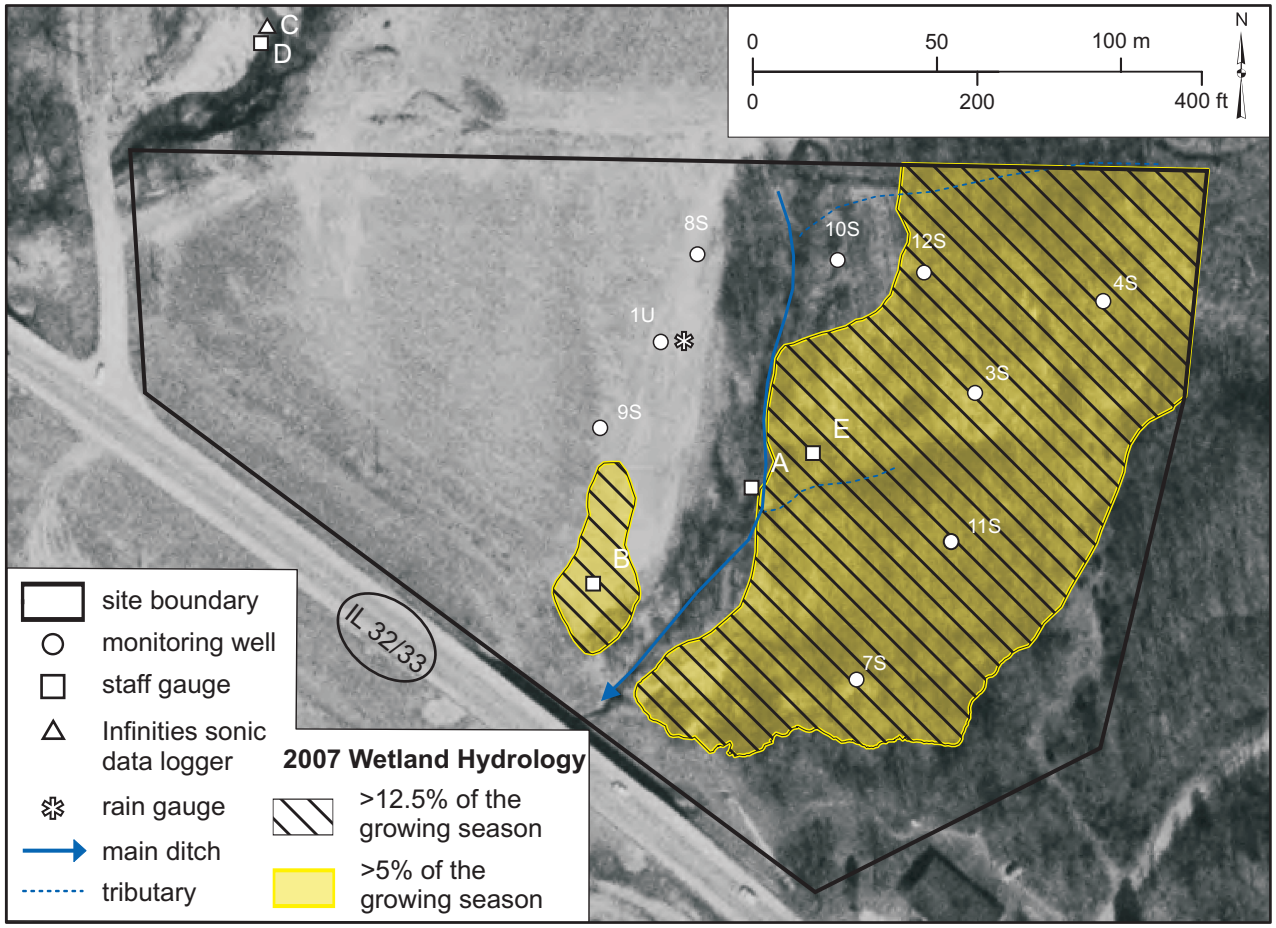
Green Creek Wetland Compensation Site

(FAP 774, IL 32/33, Sequence #12505)

Estimated Areal Extent of 2007 Wetland Hydrology

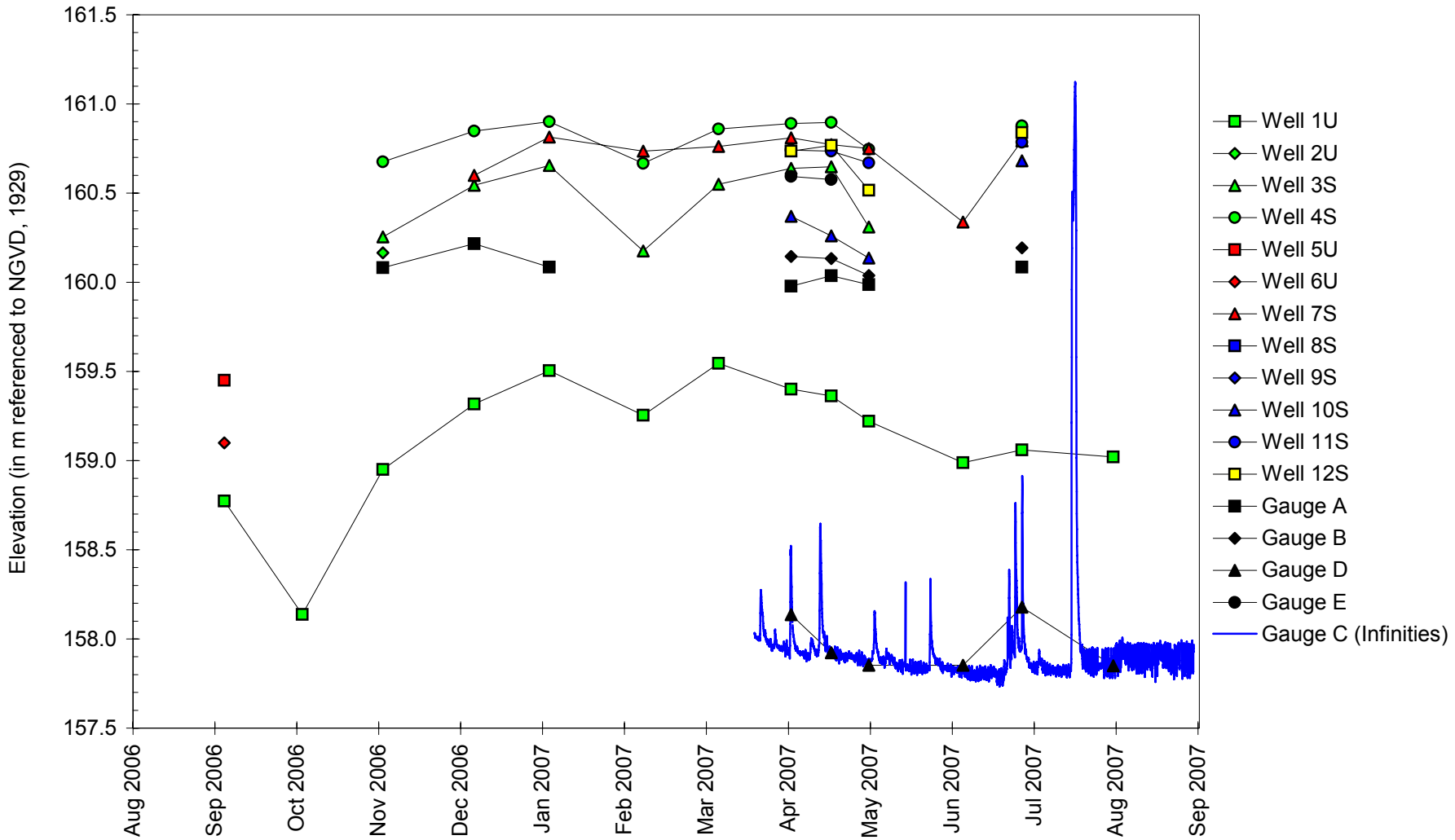
based on data collected between September 1, 2006 and September 1, 2007

Map based on USGS digital orthophotograph, Effingham North SW quarter quadrangle
produced from 2005 aerial photography (ISGS 2006)



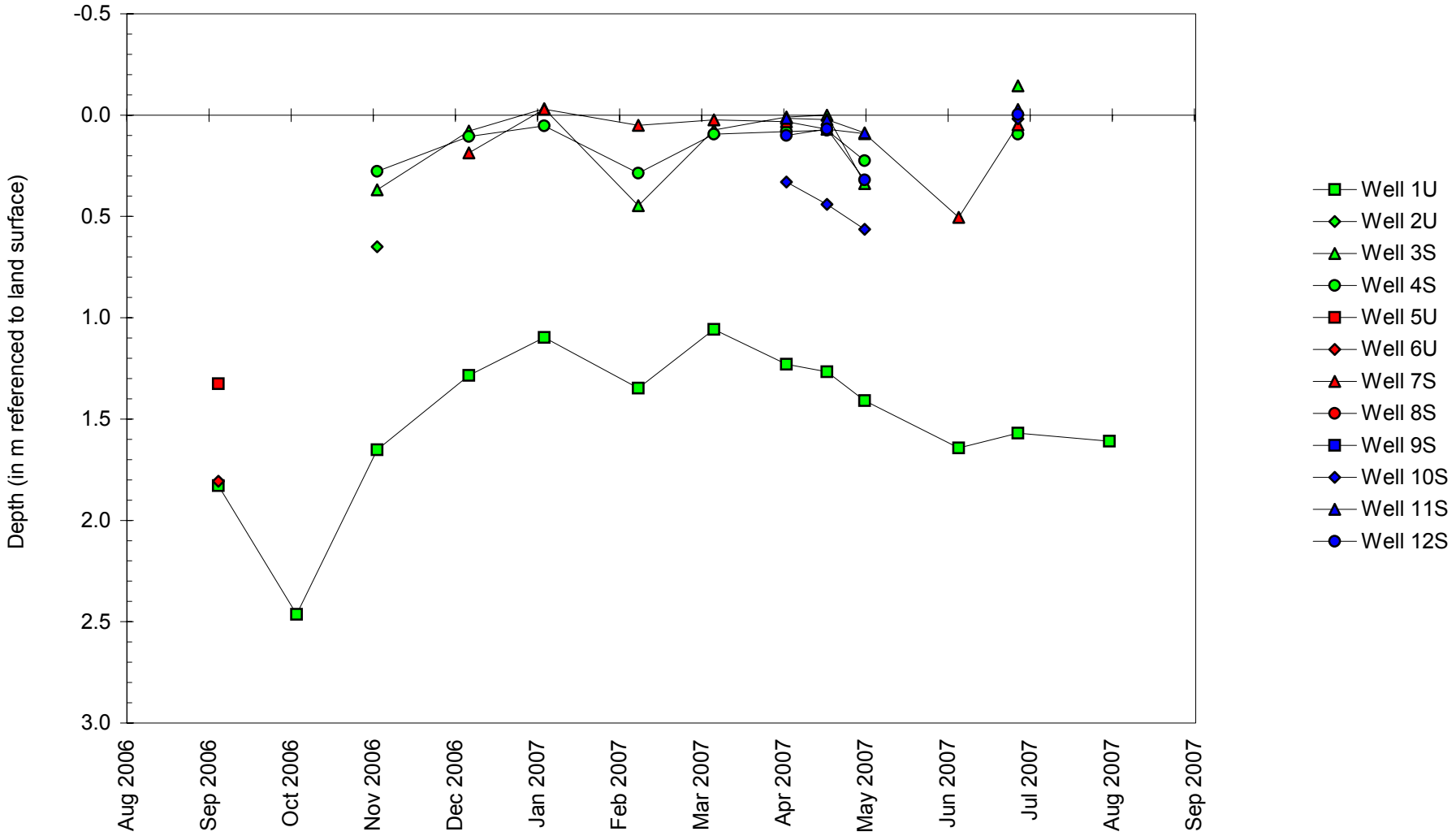
Green Creek Wetland Compensation Site
September 1, 2006 to September 1, 2007

Water-Level Elevations



Green Creek Wetland Compensation Site
September 1, 2006 to September 1, 2007

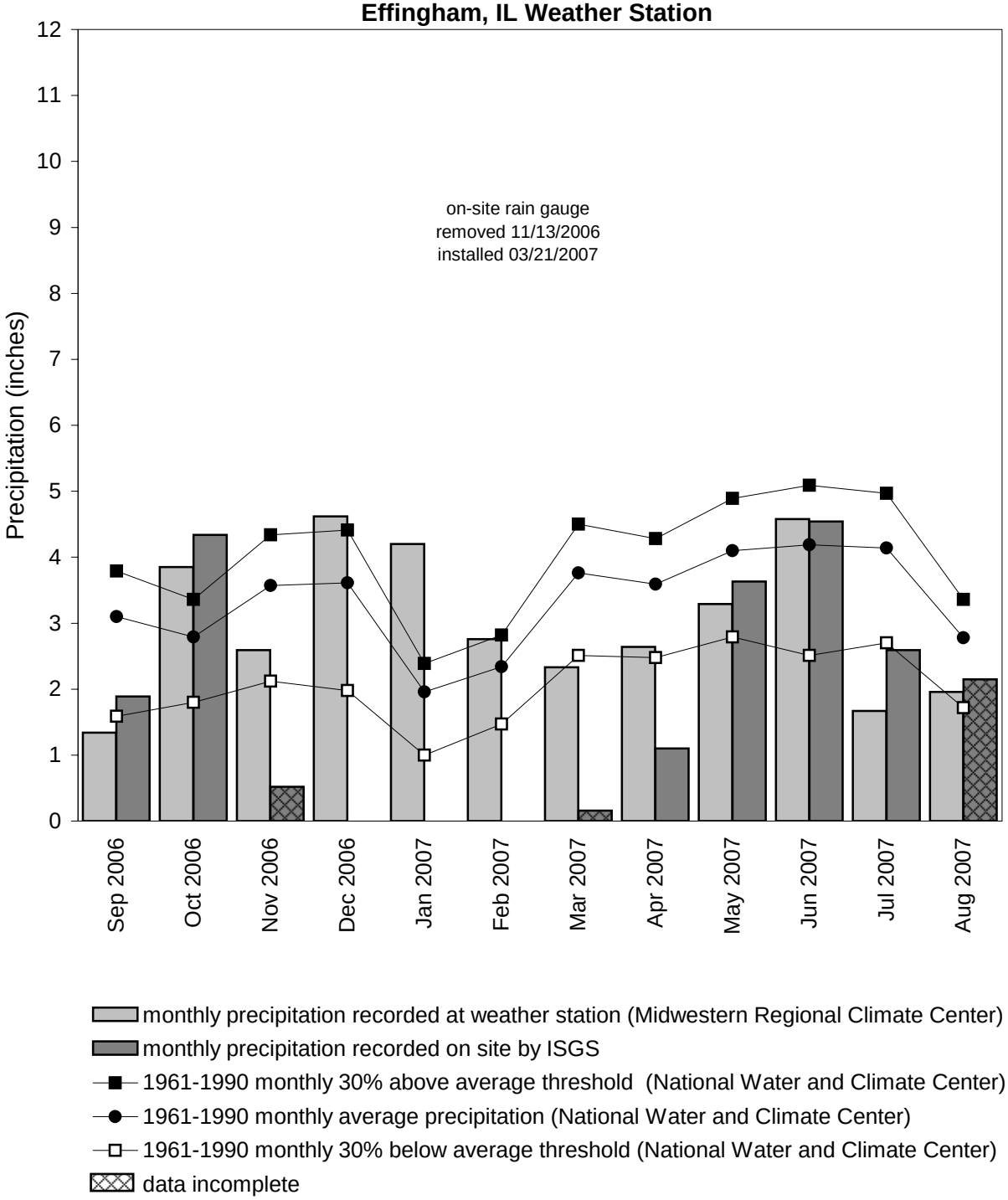
Depth to Water



Green Creek Wetland Compensation Site

September 2006 through August 2007

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



Graph last updated October 10, 2007