SITE HISTORY

- 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.


- December 2005: The ISGS was tasked by IDOT to perform post-construction monitoring.

WETLAND HYDROLOGY CALCULATION FOR 2010

The area of the site that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for more than 5% of the 2010 growing season was estimated to be 8.9 ha (22.0 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 8.9 ha (22.0 ac). Using the 2010 Midwest Region supplement (U.S. Army Corps of Engineers 2010) to the 1987 Manual, we estimate that 8.9 ha (22.0 ac) satisfied wetland hydrology criteria for 14 or more consecutive days during the growing season. These estimates are based on the following factors:

- According to the MRCC, the median date that the growing season begins at the nearby Quad City International Airport weather station in 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. According to methods outlined in the 2010 Midwest Region supplement, we estimate that March 18 was the starting date of the 2010 growing season based on soil temperatures observed at the wetland mitigation site.

- Total precipitation during the monitoring period as recorded at the Quad City International Airport weather station in Moline, Illinois, was 121% of normal and precipitation in Spring 2010 (March through May) was 109% of normal.

- In 2010, all the monitoring wells satisfied wetland hydrology criteria for more than 5% of the growing season and for more than 12.5% of the growing season. All of the wells satisfied wetland hydrology criteria for 14 or more consecutive days during the growing season as per the 2010 Midwest Region supplement.

- There was an overall increase in surface-water elevation from March to July, likely due to continuing beaver activity.
Surface-water elevations measured at SW1R were at or above 172.30 m (565.31 ft) from June 19 to July 2 (14 days), long enough to satisfy wetland hydrology criteria for 5% of the growing season. Surface-water elevation was at or above 172.28 m (565.25 ft) from June 18 to July 21 (34 days), long enough to satisfy wetland hydrology criteria for 12.5% of the growing season. Surface-water elevations measured at SW1R were at or above 172.30 m (565.31 ft) from June 19 to July 2 (14 days), long enough to satisfy wetland hydrology criteria for 14 or more consecutive days during the growing season as per the 2010 Midwest Region supplement.

Gauges H and I, and logger SW1, were moved south in April because the increasing water depth made accessing them difficult. They are in the same water body as at their original locations, therefore, they were designated HR, IR, and SW1R. The data collected at the new locations show that water depth continued to increase after they were moved.

On-site observations and surface-water data indicate that the surface water on the site is one continuous water body. The greatest extent of inundation (8.1 ha [20.0 ac]) occurred from June to August when surface-water elevation was at or above an elevation of 172.23 m (565.08 ft).

ADDITIONAL INFORMATION

- The ISGS has now completed 5 years of post-construction monitoring.

PLANNED FUTURE ACTIVITIES

- Monitoring of the site will continue until notified otherwise by IDOT.
Milan Beltway, Airport Road Wetland Mitigation 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 Mitigation Site  
(FAU 5822)  
Estimated Areal Extent of 2010 Wetland Hydrology  
September 1, 2009 through August 31, 2010  
Map based on USGS digital orthophotograph, Milan NE quarter quadrangle from 03/30/2000 aerial photography (ISGS 2005)
Milan Beltway, Airport Road Wetland Mitigation Site
September 1, 2009 through August 31, 2010

Water-Level Elevations in Soil-Zone Monitoring Wells
in the Northern Portion of the Site

Elevation (in m referenced to NAVD, 1988)
Milan Beltway, Airport Road Wetland Mitigation Site
September 1, 2009 through August 31, 2010

Depth to Water in Soil-Zone Monitoring Wells in the Northern Portion of the Site

Depth (m referenced to land surface)

Well 2SR
Well 5S
Well 6S
Well 7S
Well 8S
Well 18S
Milan Beltway, Airport Road Wetland Mitigation Site
September 1, 2009 through August 31, 2010

Water-Level Elevations in Soil-Zone Monitoring Wells
in the Southern Portion of the Site
Milan Beltway, Airport Road Wetland Mitigation Site
September 1, 2009 through August 31, 2010

Depth to Water in Soil-Zone Monitoring Wells
in the Southern Portion of the Site

Depth (in m referenced to land surface)

Well 3SR
Well 4S
Well 9S
Well 10SR
Well 11S
Well 12S
Well 13S
Well 14S
Well 15S
Well 16S
Well 19S
Well 20S
Well 21S
Water-Level Elevations in Deeper Monitoring Wells

Milan Beltway, Airport Road Wetland Mitigation Site
September 1, 2009 through August 31, 2010

Elevation (in m referenced to NAVD, 1988)
Milan Beltway, Airport Road Wetland Mitigation Site
September 1, 2009 through August 31, 2010

Water-Level Elevations in Selected Monitoring Well Clusters

Well 12S (data logger)  Well 8S  Well 8D  Well 12S  Well 12U

Elevation (in m referenced to NAVD, 1988)
Milan Beltway, Airport Road Wetland Mitigation Site
September 1, 2009 through August 31, 2010

Depth to Water in Selected Monitoring Well Clusters

-0.6
-0.5
-0.4
-0.3
-0.2
-0.1
0.0
0.1
0.2
0.3

Depth (in m referenced to land surface)

Well 12S
Well 8S
Well 8D
Well 12U

Well 12S (data logger)
Milan Beltway, Airport Road
Wetland Mitigation Site
September 2009 through August 2010
Total Monthly Precipitation Recorded on Site and at the
Quad City International Airport, Moline, IL

on-site rain gauge
removed 12/18/2009
installed 3/2/2010

- monthly precipitation recorded at Moline, IL (MRCC)
- monthly precipitation recorded on site by ISGS
- 1971-2000 monthly 30% above average threshold at Moline, IL (NWCC)
- 1971-2000 monthly average precipitation at Moline, IL (NWCC)
- 1971-2000 monthly 30% below average threshold at Moline, IL (NWCC)

Graph last updated September 29, 2010