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2013 Annual Bathymetric Monitoring Report for the Ponds within the Well Fields and Cones of Depression

for the

Platte West Water Production Facility Project

prepared for

METROPOLITAN
UTILITIES DISTRICT

Metropolitan Utilities District
Omaha, Nebraska

Project No. 60787

January 2014

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Burns & McDonnell Engineering Company, Inc.
Kansas City, Missouri

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EXECUTIVE SUMMARY

The Metropolitan Utilities District (District) in Omaha, Nebraska received a Section 404 Individual Permit on May 16, 2003, from the U.S. Army Corps of Engineers, Omaha District (Corps), for the Platte West Water Production Facilities Project (Project) (U.S. Army Corps of Engineers 2003). As part of the terms and conditions included in the Corps Section 404 Permit, existing ponds located in the well fields and projected cones of depression must be monitored to evaluate changes in water levels to determine the extent of any impacts to ponds that may take place as a result of Project operation. To comply with this condition, a Bathymetric Monitoring Plan was approved in 2005 and is now being implemented (Burns & McDonnell 2005).

As part of the Bathymetric Monitoring Plan, surface water elevation monitoring of the ponds in the well fields and projected cones of depression was conducted in March, August, September, and October 2013. This sampling effort represents the fifth year of monitoring during operation of the water treatment plant. Data obtained during 2013 has been analyzed and compared to baseline data and the results are discussed in this annual report and included in Appendices I and II.

During the 2013 monitoring year, the majority of the monitored ponds experienced a general trend of decreasing surface water elevations since Project operation began in August 2008. The number of statistically significant differences in pond elevations was lower than in the previous year; two ponds had a significantly lower elevation than the baseline elevations.

As a result of the conditions observed at the monitored ponds in 2013, it is recommended that pond monitoring efforts in 2014 continue without changes to the methodology at this time.

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1.0 INTRODUCTION

The Metropolitan Utilities District (District) in Omaha, Nebraska received a Section 404 Individual Permit on May 16, 2003, from the U.S. Army Corps of Engineers, Omaha District (Corps), for the Platte West Water Production Facilities Project (Project) (U.S. Army Corps of Engineers 2003). As part of the terms and conditions included in the Corps Section 404 Permit, existing ponds located in the well fields and projected cones of depression must be monitored to evaluate changes in water levels to determine the extent of any impacts to ponds that may take place as a result of Project operation. To comply with this condition, a Bathymetric Monitoring Plan was approved in 2005 and is now being implemented (Burns & McDonnell 2005).

As stated in Permit Condition 80, the District must "…complete a detailed study of each pond within the Platte West well field cone of depression for the purpose of acquiring detailed bathymetric data for each pond. This data will be updated annually and used to assess any declines in pond levels and surface area resulting from well field pumping." The 2005 Bathymetric Monitoring Plan presents a systematic approach to monitor seasonal pond water levels in Douglas, Saunders, and a small corner of Sarpy Counties to evaluate any impact due to the operation of the Project. For the purposes of this report, the ponds in Sarpy County are included with those in Douglas County.

Maps were developed in September 2004 by measuring each pond's surface water area, water depth, and water storage capacity. Pond monitoring from September 2004 through March 2008 was conducted to characterize the baseline surface water elevation conditions for each pond prior to the initiation of Project activities. The Project began producing water for municipal use during the summer of 2008; therefore, the monitoring efforts from August 2008 through the present are considered post-operational.

This monitoring report summarizes the data collected during the 2013 monitoring efforts (March, August, September, and October) and provides some comparisons and statistical analysis of the water level elevations for each monitored pond.

* * * * *

2.0 METHODS

The goal of monitoring ponds within the Douglas County and Saunders County well fields and associated cones of depression (Figures 2-1 and 2-2) is to evaluate the impact that Project operation may have on the existing ponds, specifically any fluctuations in surface water elevation. The pond monitoring approach, as described in the 2005 Bathymetric Monitoring Plan and in the following sections, has been approved and implemented.

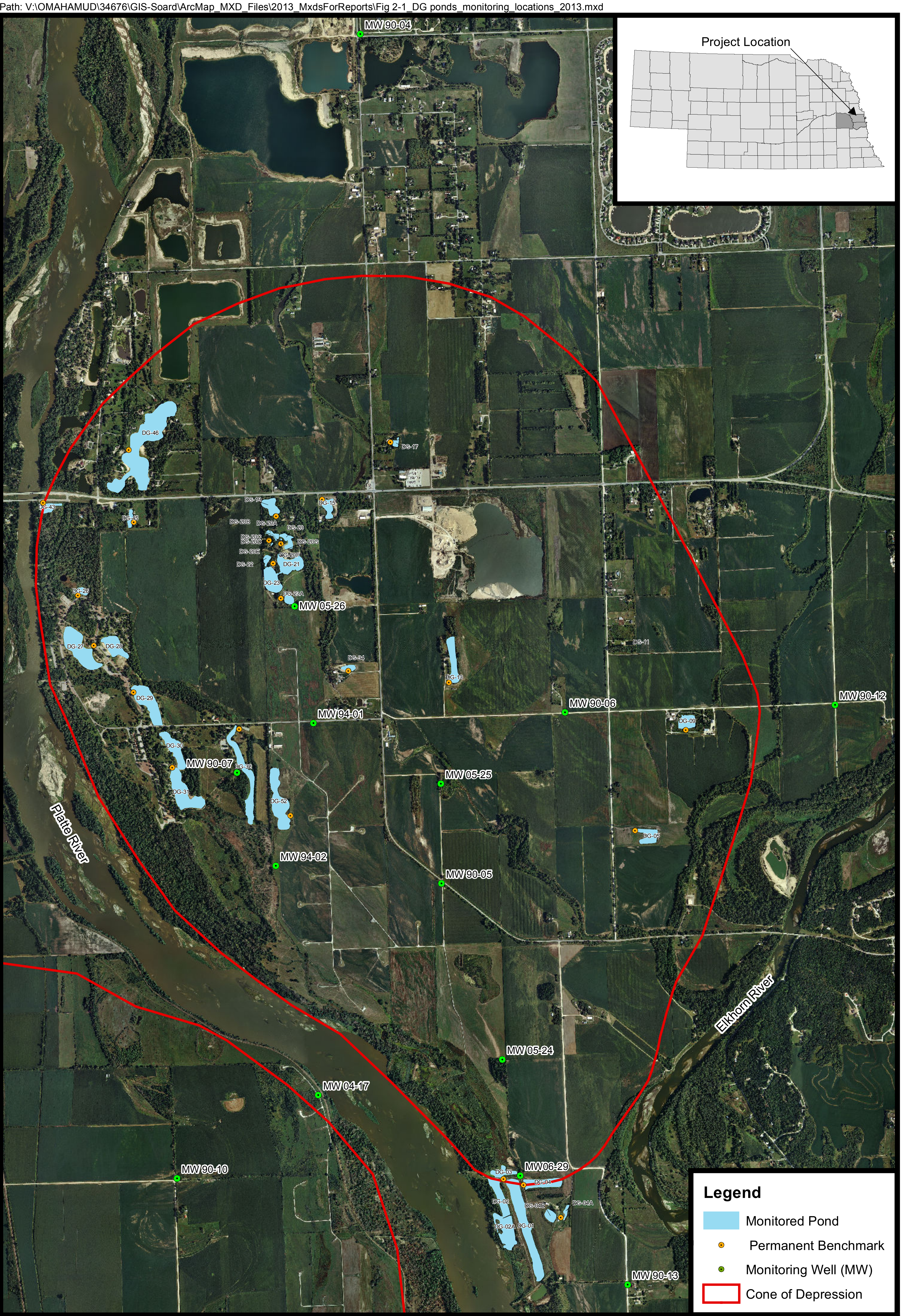
Pond monitoring began during fall 2004, prior to the initiation of Project operation. Monitoring will continue until the Corps determines that any impacts to ponds as a result of Project operation are either completely mitigated for or are not likely to occur. If the results of the monitoring program indicate that no pond impacts are occurring, long-term monitoring can either be decreased or stopped. If, however, the results of the monitoring indicate that ponds are being affected by Project operation, discussions with the Corps will be initiated to determine what additional mitigation may be required.

2.1 BATHYMETRIC MAPPING

The initial bathymetric mapping was conducted in September 2004 for 45 ponds in the Platte West well fields and cones of depression in Douglas and Saunders Counties. Three additional ponds were mapped in 2005 and 2006 either at the request of a landowner or because they were inadvertently overlooked during the initial bathymetric surveys. Ponds located in Douglas and Sarpy Counties have a “DG” designation before the pond number, while those in Saunders County have a “SN” designation.

Bathymetric mapping was completed using a boat-mounted, strip-chart recording sonar (Unimetrics model SH 20/20A) for all ponds except SN-16, SN-34, and DG-09, which were mapped using a boat-mounted, integrated depth sounder with one-centimeter precision (Seafloor System model Hydrolite). Both methods of bathymetric survey also used a Global Positioning System (GPS) with sub-meter accuracy. In most cases, each bathymetric cross-section was recorded as the boat was piloted across a pond at a constant speed using an electric motor. If a pond was too shallow to easily use the boat and record sonar, cross-section transects were waded on foot, and water depths were recorded at fixed intervals along the transect using a water depth pole. These bathymetric data were used to develop water depth contour maps (Burns & McDonnell 2005, 2006).

Using the collected bathymetric data, the total surface area and water storage volume (area capacity) for each pond were estimated. The point at which each pond’s surface water elevation was equal to zero was adjusted to correspond to the measured ordinary high water mark (OHWM) to provide a standard from which each pond’s normal fluctuation in surface water elevation (pre-Project operation), Path: V:\OMAHAMUD\34676\GIS-Soard\ArcMap_MXD_Files\2013_MxdsForReports\Fig 2-1_DG ponds_monitoring_locations_2013.mxd



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Source: Wilson & Company 2013 Aerial Photography

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Figure 2-1
Locations of Monitoring Wells, Monitored Ponds and Permanent Benchmarks in Douglas County
Platte West Water Production Facilities Project
Douglas County, Nebraska

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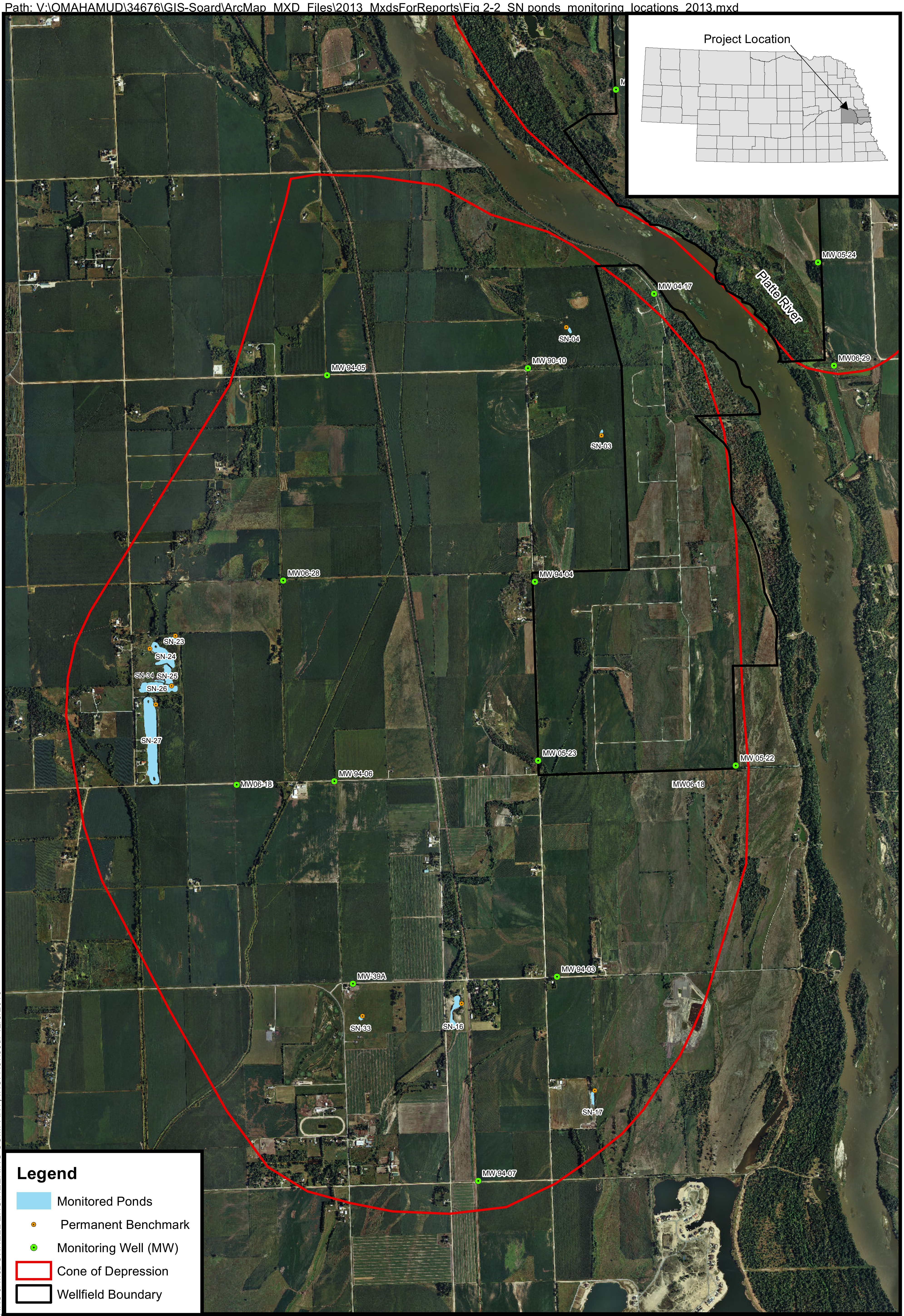

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Figure 2-2
Locations of Monitoring Wells, Monitored Ponds and Permanent Benchmarks in Saunders County
Platte West Water Production Facilities Project
Saunders County, Nebraska

surface area, and water storage volume are based. The OHWM was used because it is a repeatedly identifiable elevation for any pond.

2.2 WATER LEVEL ELEVATION MONITORING

The types of data that were collected, the methods used, and the analyses completed during the pond monitoring process in the well fields and cones of depression are described in the following paragraphs.

1.1.1 Staff Gauge Monitoring

Staff gauges were initially installed in each pond in 2004 to facilitate the seasonal acquisition of surface water elevations. In early 2005, it became apparent that the staff gauges could undergo shifts in position or orientation due to a variety of events, including pond freezing and thawing, ice movement during the winter months, siltation, or strong prevailing winds. During the 2006 to 2009 period, most of the staff gauges fell over or shifted due to winter weather conditions and were removed. In March 2010, all remaining staff gauges were manually removed.

2.2.1 Permanent Benchmark Monitoring

Permanent benchmarks were established in June 2005, adjacent to each pond, to compensate for the shifting staff gauges. Each benchmark is a permanent concrete marker placed in the ground near the edge of the pond above the OHWM. The location and elevation of each permanent benchmark was recorded using a survey-grade GPS (Trimble 5700 RTK). In some cases, one benchmark was used for multiple ponds that were in close proximity to each other.

Surface water elevations are measured four times annually (March, August, September, and October) using the permanent benchmarks according to the methods described in the 2005 Bathymetric Monitoring Report that was approved by the Corps (Burns & McDonnell 2006). The surface water elevation at each pond is calculated using a surveyor’s level to take measurements at the benchmark and at the current edge of standing water in the pond on a telescoping rod.

Since 2008, the surface water elevations of 45 ponds have been monitored using the permanent benchmark method. SN-33 was removed from monitoring in March 2008 at the request of the landowner. DG-11 was added at the request of the landowner in 2009 and is being monitored, at this time, by photographic documentation only. DG-02A was added at the request of the landowner in 2011; its surface water elevation is being monitored from an existing permanent benchmark. SN-17 was removed from monitoring in 2012 due to safety issues on the property. SN-03 and SN-04 were removed from monitoring following the March 2013 monitoring event due to conversion to row crop agriculture.

The seasonal variation in surface water elevation of the 46 ponds under baseline and operational conditions will be evaluated in concert with the other hydrologic data that are being collected. The water level elevations and bathymetric data collected from the ponds will be used to indicate if water level fluctuations are occurring at a specific pond or ponds and if these fluctuations are different than what was observed during baseline monitoring. Any observed water level fluctuations will be analyzed to determine if they are attributable to Project operation or the result of the pond's natural responses to climate and precipitation variation.

2.3 HYDROLOGICAL MONITORING

Several different types of hydrological data are being collected and analyzed in addition to the pond water level elevations. This hydrological data is used to document the potential effect Project operation may have on the existing water table and subsequently the surface water elevations of the monitored ponds.

2.3.1 Groundwater Monitoring Wells

Permanent monitoring wells designed to measure groundwater levels before and during Project operation have been installed at specific locations in and around the Douglas County and Saunders County well fields and cones of depression (Figures 2-1 through 2-2). The location of these groundwater monitoring wells was recorded using GPS. Data loggers have been installed at the monitoring wells to measure and record daily groundwater levels. Groundwater data from the monitoring wells will be correlated with the other collected hydrological data to identify and evaluate if any Project-induced groundwater system changes are occurring.

2.3.2 Production Wells

During Project operation, production wells located in the Douglas County and Saunders County well fields are pumped to provide raw water to the water treatment plant (Figures 2-3 and 2-4). These water production wells are fitted with data loggers that measure and record the depth to the water table at each well head, whether or not the well is actively being pumped. The rate at which each well is being pumped is measured in millions of gallons per day (MGD). The location of these water production wells was recorded using GPS. Groundwater data from the water production wells (production rate, drawdown, cone of depression, etc.) during Project operation will be correlated with the other hydrological data being collected to evaluate if Project-induced changes to ponds are occurring.

2.3.3 Other Hydrological Data

Additional hydrological data collected during the annual monitoring effort includes monthly total precipitation, monthly average ambient air temperature, and stream gauge data for the Platte and Elkhorn Rivers.

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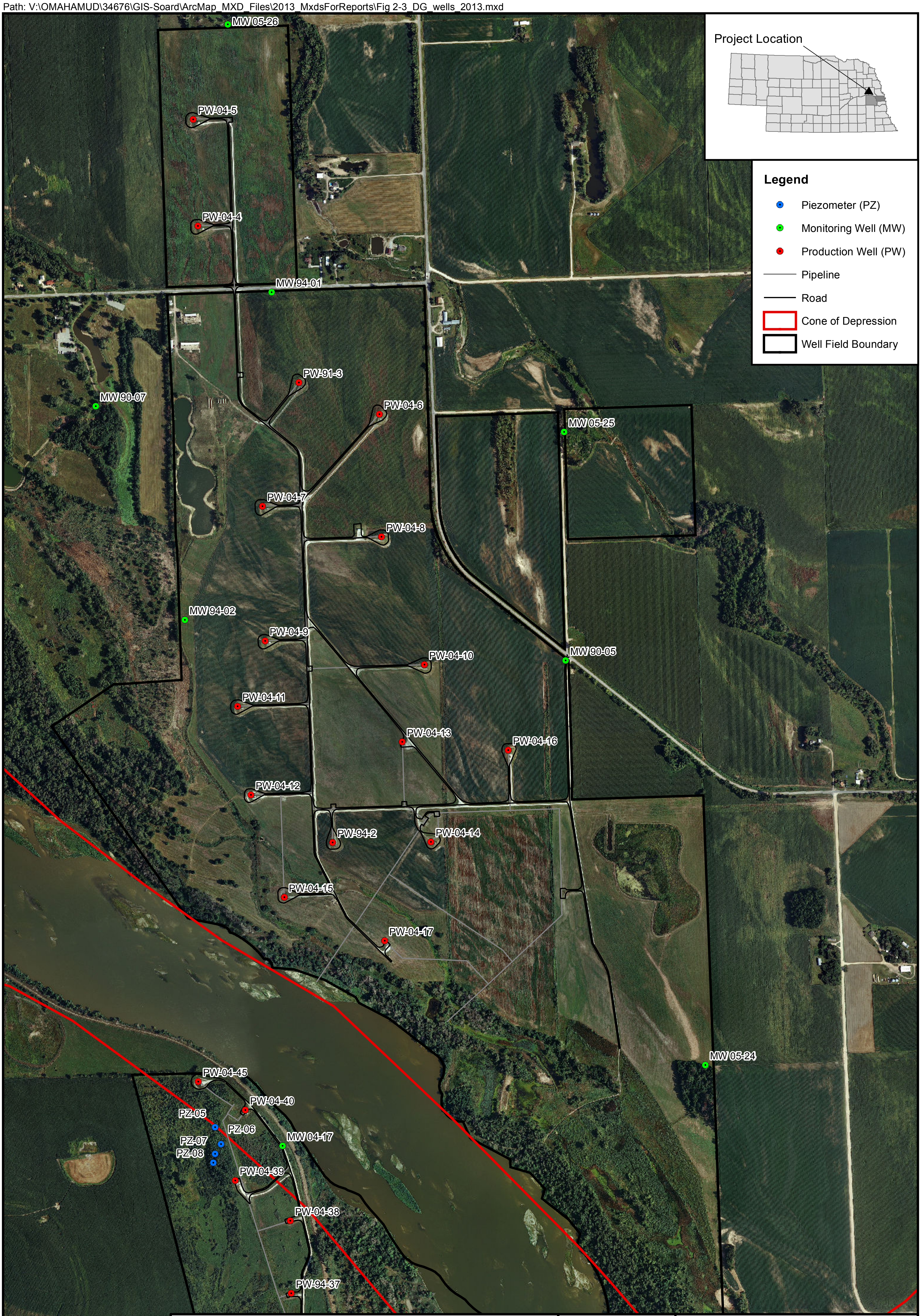

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Source: Wilson & Company 2013 Aerial Photography

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Figure 2-3
Well Locations for the
Douglas County Well Field
Metropolitan Utilities District

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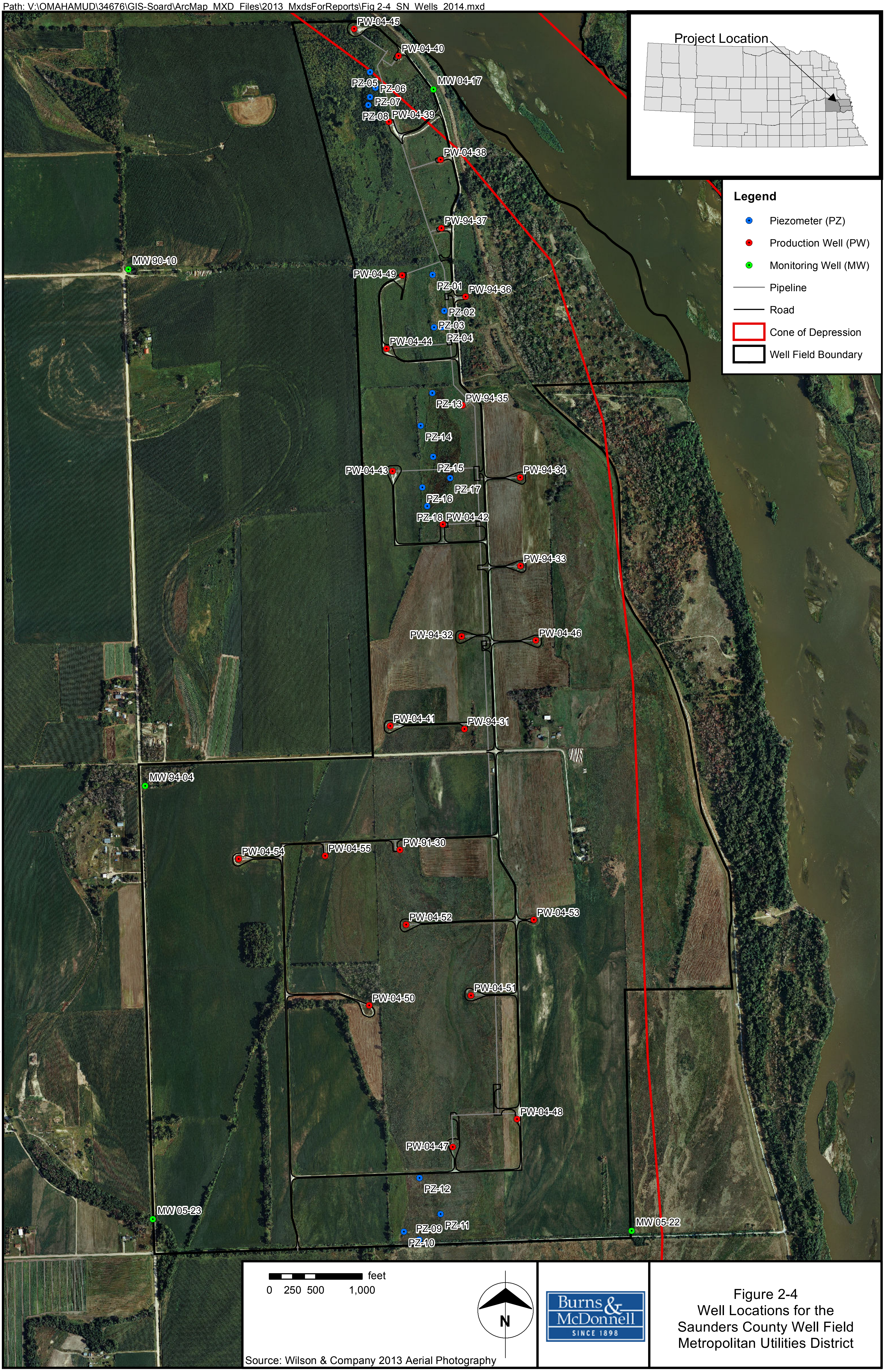

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Figure 2-4
Well Locations for the
Saunders County Well Field
Metropolitan Utilities District

3.0 DATA ANALYSIS

The following sections provide a brief discussion of the data analysis completed to interpret the results of the 2013 pond monitoring effort.

3.1 BATHYMETRIC MONITORING DATA

The 2013 bathymetric monitoring data reflects operational Project conditions for the ponds being monitored in the well fields and cones of depression. Data collected are used to determine the seasonal and annual variation in surface water elevation of the monitored ponds under pre-Project conditions and during Project operation. All bathymetric data is input into a Microsoft® Access database, which is designed specifically for this Project to accommodate seasons and years of data.

Fluctuations in surface water elevation are plotted in graphical form for the March through October 2013 monitoring period and for the duration of monitoring from 2005 through 2013 (Appendices I and II). This data is also displayed to show the fluctuations relative to the maximum and minimum baseline surface water elevations.

3.2 STATISTICAL ANALYSIS

To determine whether any observed changes in the water level elevation data are significant, a statistical analysis was conducted to compare the baseline data, which captured some of the natural variation in the pond water level elevations, to the operational data to determine if Project operation is having a significant effect on the ponds' water levels. The Repeated Measures ANOVA was used for the first time this year; in previous years a paired t-test was used. The Repeated Measures ANOVA was used in lieu of the t-test because the Repeated Measures ANOVA allows for a yearly comparison of elevation data; the t-test relies on operational and baseline averages, which are easily distorted by atypical years. The statistical add-on package to Microsoft Excel that was utilized for this analysis is the EZAnalyze program (www.ezanalyze.com). The Repeated Measures ANOVA is able to compare multiple sampling seasons of data against the baseline elevation for a given pond. A post-hoc analysis is also included when a significant difference is detected to determine which sampling efforts were significantly different. A Bonferroni correction is then applied to the p-values to decrease the error that may occur when comparing multiple data sets. The final p-Bonferroni values are reviewed to determine if any of the sampling efforts are significantly different from the baseline average value.

A significant difference indicates a mathematical difference, but not necessarily a biological change. For example, a significant difference in water level elevation of one foot between baseline and operational averages may have very little biological effect in a pond that is 20 feet deep. However, a one foot difference in water level elevation between baseline and operational averages, even though mathematically non-significant, may be biologically significant to a pond that is only three feet deep. The analysis of the pond water level elevation data will take into account both the mathematical significance of a difference as well as the biological significance of any difference in pond water level elevations.

The pond elevations throughout the entire monitoring period were graphed, and a trendline was calculated to characterize the change in elevation over time for each pond. The slope of the trend line represents the rate at which each pond elevation has changes, and it can be used to predict the pond elevation for future dates. The R^2 value indicates the strength of the correlation between time and pond elevation; a value close to one indicates a strong relationship between time and pond elevation, and a value close to zero indicates a weak relationship.

3.3 HYDROLOGICAL DATA

Several different types of hydrological data were collected during the 2013 monitoring effort to supplement the bathymetric monitoring data.

3.3.1 Groundwater Monitoring Wells

Twenty-two permanent monitoring wells are located and monitored in the Project area. These wells are equipped with data loggers designed to measure groundwater levels before and during Project operation. Water level readings were measured and recorded on a daily basis in 2013. The collected 2013 data have been graphed over time and are presented for each monitoring well in Section A of Appendix III. Readings from these monitoring wells were analyzed to provide additional data on the relationship between groundwater fluctuations and changes in the surface water elevation for each monitored pond.

3.3.2 Production Wells

The Project production wells that provide raw water to the water treatment facility during Project operation are monitored using installed data loggers. These wells are located in the Douglas County and Saunders County well fields (Figures 2-3 and 2-4). Groundwater data from the production wells was analyzed to provide additional data to help explain any changes detected in the other monitoring data (Section B, Appendix III).

3.3.3 Other Hydrological Data

Additional hydrological data collected during the 2013 monitoring efforts included monthly total precipitation, monthly average ambient air temperature, and stream gauge data. The 2013 monthly total precipitation and monthly average ambient air temperature data were obtained from the weather station at

Fremont Municipal Airport in Fremont, Nebraska (Weather Underground 2013). The 2013 monthly data and the historical average monthly precipitation and temperature data (The Weather Channel 2013) have been graphed over time; the graphs are included in Figures 1 and 2 (Section C, Appendix III).

Stream gauge data was obtained from the U.S. Geological Survey (USGS) stream gauge stations on the Elkhorn and Platte Rivers (USGS 2013a and 2013b). Platte River data was obtained from the stream gauge near Venice, Nebraska (USGS Stream Gauge No. 06796550); data collected from this stream gauge is represented in Figure 3, and the location of the stream gauge is shown on Figure 5 (Section C, Appendix III). The Elkhorn River data was obtained from the stream gauge near Waterloo, Nebraska (USGS Stream Gauge No. 06800500); data collected from this stream gauge is represented in Figure 4, and the location of the stream gauge is shown on Figure 5 (Section C, Appendix III).

4.0 RESULTS

The following sections provide the results of the data analysis for each of the ponds monitored during the 2013 efforts. The complete set of data (figures, data sheets, ground photographs) for each monitored pond in the well fields and cones of depression are available in Appendices I and II.

The surface water elevation for each monitored pond and other supporting hydrological data have been analyzed to compare 2013 data to baseline averages. The data presented in the following sections may be used by the District to determine mitigation measures on a pond-by-pond basis if it is determined that Project operations are having an effect on an individual pond.

4.1 PONDS MONITORED

The 2013 pond monitoring effort documented the seasonal variation of 46 ponds within the Project well fields and cones of depression.

4.2 LANDOWNER ALTERATIONS

Occasionally individual landowners dredge or otherwise alter a pond, resulting in a change to the pond's surface water area and elevation, water storage capacity, or other bathymetric characteristics. When a landowner significantly alters a pond, the pond's bathymetric characteristics may be resurveyed. These needs will be handled on a case-by-case basis with the concurrence of the landowner, the District, and the Corps. Several alterations to the monitored ponds were observed or reported by landowners in 2013. All of the alterations were done at the landowner's discretion without Burns & McDonnell's or the District's consultation. Discovery of the following alterations occurred during routine monitoring visits.

- Based on site observations and conversations with the landowner, the groundwater well that was previously installed for adding water to DG-19 was also used for supplemental water for DG-20 and DG-20A during March, August, and September
- Water from a hose connected to a rural water hydrant was being added to DG-23A during the August, September, and October monitoring events
- Based on site observations noted in March 2013, DG-03 was dredged in the west portion of the pond between the August and September 2012 monitoring events; this dredging was previously unnoticed due to its location
- Water was observed being pumped into DG-11 during the March, August, September, and October 2013 visits

- Ponds SN-25 and SN-26 were connected by the removal of approximately 30-45 feet of shoreline material between the ponds sometime between the March and August 2013 monitoring events
- The areas that included SN-03 and SN-04 were included in a pasture conversion to row-cropped agricultural (corn in 2013) between the March and August monitoring events; access was not possible, therefore, during the August, September, or October monitoring events

The potential need to resurvey those ponds that were dredged, thereby altering the bathymetric characteristics, will be evaluated through discussions between Burns & McDonnell, the District, the landowners, and the Corps.

4.3 BASELINE DATA

According to baseline conditions, a majority of the ponds typically experience surface water elevation trends that include relatively high March levels, a water level elevation decrease in August and September, followed by an increase in October. The water level elevation increase in October typically does not rise to the annual highest level recorded in March.

4.4 2013 DOUGLAS COUNTY BATHYMETRIC MONITORING RESULTS

The following sections present the 2013 pond monitoring results for those ponds located in Douglas County and Sarpy County.

4.4.1 Pond DG-01

DG-01 is located approximately 650 feet east of the Platte River in northern Sarpy County and is included with the ponds from Douglas County for the purposes of the bathymetric monitoring (Figure 2-1). Mapping conducted at the start of baseline monitoring determined that the surface area at DG-01 was 11.98 acres and volume was 70.32 acre-feet in 2005. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have altered the storage capacity of the pond over time. In the summer of 2012, evidence of dredging was evident on the east end of the pond.

The 2013 surface water elevation readings for DG-01 included a March reading of 1,095.07 feet, a decrease in water level in August to 1,094.14 feet, a further decrease in September (1,093.97 feet), and an increase to the seasonal high elevation in October (1,095.35 feet) (Appendix I – DG-01, Figures 1 and 2). The March and October readings were located between the minimum and maximum baseline surface water elevations for DG-01, while the other 2013 elevation readings were below the minimum observed baseline surface water elevation for this pond (1,094.31 feet). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-01.

In general, water elevations at DG-01 corresponded closely with local precipitation (Appendix I –DG-01, Figure 2). The considerably higher March 2013 reading is likely the result of spring snow melt runoff entering DG-01. Pond levels also followed the general trend of water level patterns of the Platte River as well as the groundwater elevations from nearby Groundwater Monitoring Well MW 06-29 (Appendix III, Section C). Given the proximity of DG-01 to the Platte River, DG-01 is likely influenced by the Platte River as well as local fluctuations in groundwater levels. The recorded water level elevations and the local precipitation amounts were graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-01, Figure 2). Additionally, a trendline has been applied to Figure 2 to indicate the general trend of the water level elevation in the pond. Throughout most of the monitoring period, pond level fluctuations correlated with precipitation levels. The 2013 seasonal fluctuation of water elevations at DG-01 was similar to seasonal fluctuations seen in baseline monitoring, although the trendline indicates a general downward trend (Appendix I – DG-01, Figure 2). The trendline indicates that the average pond water level elevation is decreasing slightly each year, although the R^2 value, 0.0668, indicates that the trendline is a weak predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

As previously mentioned, the east end of DG-01 was dredged during the summer of 2012. The subsequent changes to the bathymetric characteristics of DG-01 will be taken into consideration during future pond level evaluations.

4.4.2 Pond DG-02

DG-02 is located in northern Sarpy County approximately 350 feet east of the Platte River (Figure 2-1). Mapping conducted at the start of baseline monitoring determined that the surface area at DG-02 was 10.02 acres and volume was 18.50 acre-feet in 2005. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have altered the storage capacity of the pond over time. DG-02 is connected to DG-03 by a culvert to the north when water levels are sufficient for flow, and is also hydrologically connected to DG-02A to the south (Appendix I – DG-02, Figure 1). In 2013, DG-02 was only hydrologically connected to DG-02A during the March monitoring event. DG-02 and DG-03 were connected during October, but they were not connected during the rest of the season due to low water conditions.

The surface water elevation readings during the 2013 monitoring efforts showed a high reading in October (1,096.10 feet) and a low reading in September (1,095.00 feet). The surface water elevation was 1,095.78 feet in March, and 1,095.02 feet in August (Appendix I – DG-02, Figure 1). The March and

October pond level readings were between the minimum (1,095.33 feet) and maximum (1,096.73 feet) baseline surface water elevations, while the other pond readings were below the minimum baseline elevation. Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-02.

In 2013, the surface water elevations at DG-02 corresponded with the Platte River levels and with local precipitation levels (Appendix III, Section C). Based on the available 2013 groundwater readings from nearby Groundwater Monitoring Well (MW 06-29), the surface water elevations at DG-02 correspond with groundwater elevations (Appendix III, Section A). This pond is likely influenced by a year-round groundwater connection with the Platte River. DG-02 is close in proximity to Production Well PW 04-15; however, it is unlikely that the production well had an impact on DG-02 water elevations during 2013 as pumping at PW 04-15 only occurred during November (Appendix III, Section B). The recorded water level elevations and the local precipitation amounts were graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-02, Figure 2). Additionally, a trendline has been applied to Figure 2 to indicate the general trend of the water level elevation in the pond. Throughout most of the monitoring period, pond level fluctuations at this pond correlated with precipitation levels. The 2013 seasonal fluctuation of water elevations at DG-02 was similar to seasonal fluctuations seen in baseline monitoring, although the elevation shows a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, and the R^2 value, 0.2021, indicates that the trendline is a moderately strong predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.4.3 Pond DG-02A

In 2010, the landowner requested a second monitoring location be established on DG-02 due to seasonal low water conditions. DG-02A is located south of DG-02 and was only hydrologically connected to DG-02 during the March 2013 monitoring event (Figure 2-1). The surface water elevation reading for DG-02A was recorded in March at 1,095.61 feet, a low in August at 1,094.55 feet and a high in October of 1,096.00 feet. DG-02A was dry during September (Appendix I – DG-02A, Figure 1). No statistical analysis was conducted for DG-02A data because baseline elevations were not collected at this location; therefore, a comparison between baseline and operational conditions cannot be made.

In 2013, surface water level fluctuations at DG-02A corresponded with local precipitation levels and with Platte River levels. Based on the available 2013 groundwater readings from nearby Groundwater Monitoring Well (MW 06-29), surface water elevation readings for DG-02A correlated with the fluctuation in groundwater levels (Appendix III, Sections A and C). This pond is likely influenced by a year-round groundwater connection with the Platte River. DG-02A is close in proximity to Production Well PW 04-15; however, it is unlikely that the production well had an impact on DG-02A water elevations during 2013 as pumping at PW 04-15 only occurred during November (Appendix III, Section B). The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of the 2011-2013 operational monitoring period (Appendix I – DG-02A, Figure 2). The 2013 seasonal fluctuation of water elevations at DG-02A was similar to seasonal fluctuations seen in previous years.

4.4.4 Pond DG-03

DG-03 is located approximately 600 feet east of the Platte River in northern Sarpy County (Figure 2-1). It is connected to the south to DG-02 by a culvert when water levels are sufficient for flow (Appendix I – DG-03, Figure 1). The surface area and volume of DG-03, as determined during baseline monitoring, were 1.86 acres and 3.59 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. Based on site observations, DG-03 was dredged between the August and September 2012 monitoring events. DG-03 was not hydrologically connected to DG-02 in March, August, and September due to low water conditions. The surface water elevation at DG-03 was lowest in September (1,094.72 feet), and highest in October (1,096.33 feet). Surface water elevation was recorded at 1,095.71 feet in March and 1,094.72 feet in August (Appendix I – DG-03, Figure 1). All 2013 monthly surface water elevation readings were within the range of the baseline surface water elevations (1,094.70 and 1,098.92 feet) (Appendix I – DG-03, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-03.

The 2013 surface water level elevations at DG-03 corresponded with the water level fluctuations of the Platte River and with local precipitation levels (Appendix III, Section C). Groundwater levels collected in 2013 from nearby Groundwater Monitoring Well MW 06-29 also correlated with pond levels at DG-03 (Appendix III, Section A). This pond is likely influenced by a year-round groundwater connection with the Platte River. DG-03 is close in proximity to Production Well PW 04-15; however, it is unlikely that the production well had an impact on DG-03 water elevations during 2013 as pumping at PW 04-15 only occurred during November (Appendix III, Section B). The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-03, Figure 2). Throughout most of the monitoring period, pond level fluctuations correlated with precipitation levels. The 2013 seasonal fluctuation of water elevations at DG-03 was similar to seasonal fluctuations seen in baseline monitoring, although the elevation shows a general downward trend. The trendline indicates that the average pond water elevation is decreasing slightly each year, although the R^2 value, 0.0749, indicates that the trendline is a weak predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.4.5 Pond DG-04

DG-04 is located in northern Sarpy County approximately 1,200 feet east of the Platte River (Figure 2-1). The surface area and volume of DG-04, as determined during baseline monitoring, were 3.9 acres and 23.96 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. The north and west ends of DG-04 were dredged between the August and September 2012 monitoring events. The 2013 data revealed the highest water elevations in March (1,094.29 feet) and October (1,094.29 feet). The reading was 1,093.33 feet in August and a low of 1,093.18 feet in September (Appendix I – DG-04, Figure 1). All 2013 monthly surface water elevation readings were between the minimum and maximum baseline surface water elevations (1,093.16 and 1,095.78 feet) (Appendix I – DG-04, Figure 1). Differences between the 2013 operational readings and baseline elevations were not statistically significant for DG-04.

The 2013 water level readings at DG-04 corresponded to the 2013 precipitation data and with the water level fluctuations of the Platte River (Appendix III, Section C). The high surface water elevation level in March is likely the result of runoff from spring snow melt. Data from nearby Groundwater Monitoring Well MW 06-29 also correlates to the 2013 pond levels at DG-04, which shows groundwater levels decreasing to a low in August and September before sharply increasing during October (Appendix III, Section A). This pond is likely influenced by a year-round groundwater connection with the Platte River. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-04, Figure 2). Throughout most of the monitoring period, pond level fluctuations correlated with precipitation levels. The 2013 seasonal fluctuation of water elevations at DG-04 was similar to seasonal fluctuations seen in baseline monitoring, although the elevation shows a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, although the R^2 value, 0.0916, indicates that the trendline is a weak predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

As previously mentioned, the north and west ends of DG-04 were dredged during 2012 between the August and September monitoring events. The subsequent changes to the bathymetric characteristics of DG-04 will be taken into consideration during future pond level evaluations.

4.4.6 Pond DG-04A

DG-04A is located approximately 1,800 feet from the Platte River and 1,900 feet from the Elkhorn River in northern Sarpy County (Figure 2-1). The surface area and volume of DG-04A, as determined during baseline monitoring, were 0.54 acres and 1.08 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. The west end of DG-04A was dredged during 2012 between the August and September monitoring event. The 2013 surface water elevation for DG-04A was highest in October (1,092.85 feet). The lowest reading was in August at 1,092.05 feet. The surface elevation was recorded at 1,092.76 feet in March and 1,091.87 feet in September (Appendix I – DG-04A, Figure 1). The surface water elevations in March and October were between the maximum and minimum baseline surface water elevations; the other readings were below the minimum baseline elevation (Appendix I – DG-04A, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-04A.

As in past years, the general trend in surface water elevations at DG-04A followed that of both the Platte and Elkhorn Rivers and Groundwater Monitoring Well MW 06-29. DG-04A levels also correlated with local precipitation levels. This pond is within the same surface watershed as DG-04 and may be subjected to similar circumstances including a groundwater influence from the Platte River. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-04A, Figure 2). For most of the monitoring period, pond level fluctuations correlated with precipitation levels. The 2013 seasonal fluctuation of water elevations at DG-04A was similar to seasonal fluctuations seen in baseline monitoring, although the elevation shows a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, although the R^2 value, 0.0938, indicates that the trendline is a weak predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

As previously mentioned, the west end of DG-04A was dredged during 2012 between the August and September monitoring events. The subsequent changes to the bathymetric characteristics of DG-04A will be taken into consideration during future pond level evaluations.

4.4.7 Pond DG-04B

DG-04B is located in northern Sarpy County approximately 1,350 feet from the Platte River and 2,450 feet from the Elkhorn River (Figure 2-1). The surface area and volume of DG-04B, as determined during baseline monitoring, were 0.85 acres and 4.44 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. The north end of DG-04B was dredged during 2012 between the August and September monitoring event. In 2013, the surface water elevation of DG-04B was at its highest level in March (1,094.12 feet). It decreased in September to the lowest reading (1,093.03 feet). Surface water elevation was recorded at 1,093.30 feet in August and 1,093.85 feet in October (Appendix I – DG-04B, Figure 1). All 2013 monthly recorded surface water elevation readings were between the maximum and minimum baseline elevations (1,092.72 and 1,095.58 feet) (Appendix I – DG-04B, Figure 1). Differences between the 2013 operational readings and baseline elevations were not statistically significant for DG-04B.

The 2013 general trend in surface water elevation for DG-04B correlated to the 2013 monthly mean water elevation of the Platte River, the 2013 monthly precipitation values, and the 2013 groundwater level data from nearby Groundwater Monitoring Well MW 06-29 (Appendix III, Sections A and C). Similar to DG-04 and DG-04A, this pond likely experiences surface water elevation changes resulting from groundwater fluctuations. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-04B, Figure 2). Throughout most of the monitoring period, pond level fluctuations correlated with precipitation levels. The 2013 seasonal fluctuation of water elevations at DG-04B was similar to seasonal fluctuations seen in baseline monitoring. The trendline indicates that the average pond water level elevation is decreasing slightly each year, although the R^2 value, 0.0059, indicates that the trendline is a weak predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

As previously mentioned, the north end of DG-04B was dredged in 2012 between the August and September monitoring events. The subsequent changes to the bathymetric characteristics of DG-04B will be taken into consideration during future pond level evaluations.

4.4.8 Pond DG-05

DG-05 is one of the easternmost monitored ponds in Douglas County and is located approximately 3,400 feet west of the Elkhorn River (Figure 2-1). The surface area and volume of DG-05, as determined during baseline monitoring, were 2.72 acres and 18.04 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. The August water level elevation was the highest recorded during the 2013 monitoring effort (1,096.24 feet). The surface water elevation decreased to the low in September at 1,095.56 feet. Surface water elevations were recorded at 1,095.78 feet in March and 1,095.83 feet in October (Appendix I – DG-05, Figure 1). All 2013 monthly surface water elevations fell below the minimum baseline surface water elevations for DG-05 (1,096.42 feet) (Appendix I – DG-05, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-05.

The surface water elevation trend for DG-05 typically correlates to the groundwater level fluctuations measured from nearby Groundwater Monitoring Well MW 90-06, but that was not the case in 2013. The pond's elevation readings also did not correspond to local precipitation data or the Elkhorn River water levels (Appendix III, Sections A and C). Unlike the groundwater level fluctuations, local precipitation data, and Elkhorn River elevation data, the surface water elevation for DG-05 peaked in August. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-05, Figure 2). Throughout most of the monitoring period, pond level fluctuations closely correlated with precipitation levels. The seasonal fluctuations for DG-05 differed from previous years; the March 2013 water elevation was lower in comparison with the subsequent readings. Overall, pond levels at DG-05 show a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, and the R^2 value, 0.2781, indicates that the trendline is a moderately strong predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.4.9 Pond DG-09

DG-09 is the easternmost monitored pond in Douglas County and is located approximately 3,900 feet from the Elkhorn River (Figure 2-1). The surface area and volume of DG-09, as determined during baseline monitoring, were 2.59 acres and 16.54 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. The March surface water elevation was the highest recorded reading at DG-09 in 2013 at 1098.66 feet. The surface water elevation decreased in August (1,098.60 feet) to the recorded low in September (1,097.23 feet) and then increased in October to 1,098.38 feet (Appendix I – DG-09, Figure 1). Each of the 2013 monthly surface water elevation readings for DG-09 fell below the minimum baseline surface water elevation (1,099.13 feet) (Appendix I – DG-09, Figure 1). Differences between 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-09.

The seasonal fluctuation in surface water elevation for DG-09 usually follows the groundwater level fluctuation readings from nearby Groundwater Monitoring Well MW 90-06; however, this was not the case in 2013. The 2013 elevation readings for DG-09 also do not correspond to local precipitation data or the Elkhorn River (Appendix III, Sections A and C). The surface water elevation for DG-09 shows a second highest value in August, which is not accounted for by the Groundwater Monitoring Well MW 90-06, local precipitation data, or the Elkhorn River. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-09, Figure 2). Throughout most of the monitoring period, pond level fluctuations closely correlated with precipitation levels. Overall, pond levels at DG-09 show a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, and the R^2 value, 0.4604, indicates that the trendline is a strong predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.4.10 Pond DG-11

DG-11 is located approximately 1.2 miles northwest of the Elkhorn River and approximately 1,600 feet north of two Groundwater Monitoring Wells, MW 90-06 and MW 94-12 (Figure 2-1). Water was observed being pumped into DG-11 during the 2012 monitoring events. Photo documentation of DG-11 was initiated in September 2009 at the request of the landowner, but this pond has not been quantitatively monitored.

DG-11 was monitored by photographic documentation during each monitoring effort. Photographs from the 2013 monitoring efforts are included in Appendix I – DG-11. At present, attempts at correlating qualitative photographic documentation of DG-11 to data from the two nearby groundwater monitoring wells have not be made.

4.4.11 Pond DG-13

DG-13 is approximately 1.7 miles northwest of the Elkhorn River and 1.6 miles northeast of the Platte River (Figure 2-1) and is located between Groundwater Monitoring Wells MW 90-06 and MW 94-01. The surface area and volume of DG-13, as determined during baseline monitoring, were 4.12 acres and 28.25 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. In 2013, the highest recorded surface water elevation reading was in August (1,103.63 feet), then decreased in September (1,102.96 feet) to the low of 1,102.95 feet in October. Surface water elevation was recorded at 1,103.22 in March (Appendix I – DG-13, Figure 1). All 2013 monthly elevation readings fell below the minimum baseline surface water elevation for DG-13 (1,104.15 feet) (Appendix I – DG-13, Figure 2). Differences between 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-13.

In 2013, precipitation levels did not directly correlate to the observed surface water elevation readings of DG-13. However, the groundwater level readings for Groundwater Monitoring Well MW 90-06 followed a similar pattern to the surface water elevation fluctuations for DG-13 (Appendix III, Sections A and C). These relationships indicate that DG-13 is likely influenced more strongly by groundwater than by precipitation. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-13, Figure 2). Throughout most of the monitoring period, pond level fluctuations correlated with precipitation levels. Overall, pond levels at DG-13 show a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, and the R^2 value, 0.2379, indicates that the trendline is a moderately strong predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.4.12 Pond DG-15

DG-15 is located in the northern portion of the Douglas County cone of depression, approximately 2,100 feet north of Groundwater Monitoring Well MW 05-26 (Figure 2-1). The surface area and volume of DG-15, as determined during baseline monitoring, were 2.02 acres and 10.02 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. The highest 2013 surface water elevation at DG-15 was recorded in August (1,108.14 feet). The pond level decreased to the low in September at 1,107.26 feet. Surface water elevation was recorded at 1,108.08 feet in March and 1,107.89 feet in October (Appendix I – DG-15, Figure 1). All 2013 monthly surface water elevations fell below the minimum baseline elevation for DG-15 (1,108.27 feet) (Appendix I – DG-15, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-15.

In 2013, precipitation levels did not directly correlate to the observed surface water elevation readings of DG-15. However, the recorded groundwater levels at Groundwater Monitoring Well MW 05-26 showed a pattern similar to the fluctuations in surface water elevation for DG-15 (Appendix III, Sections A and C). These relationships indicate that DG-15 is likely influenced more strongly by groundwater than by precipitation. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-15, Figure 2).

Throughout the monitoring period, pond level fluctuations closely correlated with precipitation levels. Overall, pond water levels at DG-15 show a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, although the R^2 value, 0.1753, indicates that the trendline is a weak predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.4.13 Pond DG-17

DG-17 is one of the northernmost monitored ponds in Douglas County (Figure 2-1). The Platte and Elkhorn rivers are 1.5 miles west and 2.6 miles southeast of DG-17, respectively. The surface area and volume of DG-17, as determined during baseline monitoring, were 0.59 acres and 1.74 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. The surface water elevation at DG-17 was highest in August (1108.60 feet). The pond level decreased in September to the lowest elevation reading of 1,107.89 feet. Surface water elevation was recorded at 1,108.33 feet in March and 1,108.18 in October (Appendix I – DG-17, Figure 1). The August 2013 surface water elevation reading was between the maximum (1111.57 feet) and minimum (1,108.51 feet) values for baseline surface water elevations, while the remainder of the 2013 readings for DG-17 fell below the minimum baseline elevation (Appendix I – DG-17, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-17.

In 2013, precipitation levels did not directly correlate to the observed surface water elevation readings of DG-17. Groundwater Monitoring Well MW 05-26 is located approximately 4,350 feet southwest of DG-17, and groundwater level readings from this well do correlate to surface water elevation readings for DG-17 (Appendix III, Sections A and C). The fluctuation in surface water elevation at DG-17 followed the same pattern observed at those ponds in close vicinity to DG-17. This pond is likely influenced by surface water runoff and groundwater sources. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-17, Figure 2). Throughout the monitoring period, pond level fluctuations generally correlated with precipitation levels. Overall, pond levels at DG-17 show a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, and the R^2 value, 0.3054, indicates that the trendline is a moderately strong predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.4.14 Pond DG-19

DG-19 is located approximately one mile east of the Platte River and is in close proximity to numerous other monitored ponds (Figure 2-1). The surface area and volume of DG-19, as determined during baseline monitoring, were 2.40 acres and 23.64 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. In 2012, a well was installed adjacent to DG-19 that pumps groundwater into the pond. The 2013 surface water elevation data showed a high reading in March (1,109.04 feet) and a decrease in August (1,108.73 feet) to the low in September of 1,108.02 feet. Surface water elevation then rose to 1,108.51 feet in October (Appendix I – DG-19, Figure 1). All 2013 surface water elevation readings fell between the minimum (1,107.78 feet) and maximum (1,112.46 feet) baseline elevations (Appendix I – DG-19, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-19. Operational elevations could not be compared to 2007 baseline elevations due to months with missing data.

The observed surface water elevations of DG-19 correlated with the 2013 precipitation levels and the Platte River stream gauge readings. The high March reading is likely the result of seasonal runoff from snow melt. Unlike most years, however, the observed surface water elevations of DG-19 did not correlate with data from Groundwater Monitoring Well MW 05-26, located approximately 2,200 feet south of DG-19 (Appendix III, Sections A and C). The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-19, Figure 2). Throughout most of the monitoring period, pond level fluctuations correlated with precipitation levels. Overall, pond levels at DG-19 show a general trend of increasing. The trendline indicates that the average pond water level elevation is increasing slightly each year, although the R^2 value, 0.0148, indicates that the trendline is a weak predictor of change in water elevation.

4.4.15 Pond DG-20

DG-20 is located in close proximity to several other monitored ponds and is hydrologically connected to DG-20A during high water levels (Figure 2-1). The surface area and volume of DG-20, as determined during baseline monitoring, were 1.38 acres and 6.76 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. In 2013, DG-20 and DG-20A were hydrologically connected during August. During the March, August, and September monitoring events, the well installed adjacent to DG-19 was used to pump water into DG-20. The highest surface water elevation reading for 2013 was in March (1,108.37 feet) and lowest in September (1,107.06 feet). Surface water elevation was recorded at 1,107.82 feet in August and 1,107.61 feet in October (Appendix I – DG-20, Figure 1). The March surface water elevation was within the range defined by the minimum and maximum baseline surface water elevations; the August, September, and October 2013 readings were below the minimum baseline elevation (Appendix I – DG-20, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-20.

Local precipitation levels generally correlated to the 2013 surface water elevation readings at DG-20, although the low October surface water elevation was not reflected in the precipitation data. This is likely accounted for by the cessation of pumping water into the pond from the well adjacent to DG-19. Data for Groundwater Monitoring Well MW 05-26, located approximately 1,300 feet south of DG-20, generally corresponded with the 2013 readings for DG-20 as well (Appendix III, Sections A and C). Groundwater drawdown and fluctuations in pond levels are not likely related to the pumping rates of nearby Production Wells PW 04-4 and PW 04-5, which pumped very little throughout 2013 and were not in operation in March, August, and October (Appendix III, Section B). These relationships indicate that DG-20 is likely influenced by seasonal surface water runoff and localized groundwater. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-20, Figure 2). Throughout the majority of the monitoring period, pond level fluctuations correlated with precipitation levels. Seasonal fluctuations in pond level were similar to seasonal fluctuations seen in baseline monitoring, although elevations at DG-20 show a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, and the R^2 value, 0.2849, indicates that the trendline is a moderately strong predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.4.16 Pond DG-20A

DG-20A is located in close proximity to several other monitored ponds and is hydrologically connected to DG-20 during high water levels (Figure 2-1). The surface area and volume of DG-20A, as determined during baseline monitoring, were 0.57 acres and 1.82 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. In 2013, DG-20A was hydrologically connected to DG-20 during August. During the March, August, and September monitoring events, the well installed adjacent to DG-19 was used to pump water into DG-20A. The March surface water elevation reading for DG-20A was the highest (1108.31 feet) of the 2013 recorded levels. The pond level decreased through August (1,108.11feet) to the lowest elevation reading in September (1,107.59 feet) before increasing in October to 1,107.73 feet (Appendix I – DG-20A, Figure 1). All of the 2013 recorded elevations for DG-20A fell below the minimum (1,108.27 feet) baseline surface water elevation except for March which fell between the minimum and maximum

(1,110.73 feet) baseline surface water elevations (Appendix I – DG-20A, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-20A.

There was not a direct relationship between precipitation levels and the surface water elevation readings of DG-20A in 2013. As in previous years, however, the surface water elevation readings of DG-20A correlated to the groundwater level readings of Groundwater Monitoring Well MW 05-26, which is located approximately 1,600 feet south of DG-20A (Appendix III, Sections A and C). Groundwater drawdown and fluctuations in pond levels are not likely related to the pumping rates of nearby Production Wells PW 04-4 and PW 04-5, which pumped very little throughout 2013 and were not in operation in March, August, and October (Appendix III, Section B). As suggested for other ponds in the area, DG-20A is likely influenced by seasonal surface water runoff and localized groundwater. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-20A, Figure 2). Throughout most of the monitoring period, pond level fluctuations closely correlated with precipitation levels. Overall, pond levels at DG-20A show a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, and the R^2 value, 0.2194, indicates that the trendline is a moderately strong predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.4.17 Pond DG-20B

DG-20B is located adjacent to DG-20A and DG-20C (Figure 2-1). The surface area and volume of DG-20B, as determined during baseline monitoring, were 0.08 acres and 0.23 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. DG-20A and DG-20B were not hydrologically connected during the 2013 monitoring season. In 2013, the highest surface water elevation was recorded in March (1,108.29 feet). Elevation fell in August (1,107.83 feet) to the low in September of 1,107.48 feet, and then increased slightly to 1,107.74 feet in October (Appendix I – DG-20B, Figure 1). The March 2013 surface water elevation reading was between the minimum (1,108.19 feet) and maximum (1,110.73 feet) baseline surface water elevations for DG-20B; all other elevations fell below the minimum. Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-20B (Appendix I – DG-20B, Figure 3).

Precipitation levels did not directly correlate to the surface water elevation readings of DG-20B. Precipitation data shows a decrease in rainfall in September, while DG-20B had a higher elevation in

September than in August. Groundwater level data from Groundwater Monitoring Well MW 05-26, located approximately 1,750 feet south of DG-20B, also did not correlate to the surface water elevation readings of DG-20B, (Appendix III, Sections A and C). The increase in pond water levels in September is not likely related to the pumping rates of Production Wells PW 04-4 and PW 04-5, which operated in September and not in August (Appendix III, Section B). Similar to the other nearby ponds, DG-20B may be reliant on seasonal surface water runoff and localized groundwater. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-20B, Figure 2). Throughout the monitoring period, pond level fluctuations correlated with precipitation levels. The 2013 seasonal fluctuation of water elevations at DG-20B was similar to seasonal fluctuations seen in baseline monitoring, although the elevation shows a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, and the R^2 value, 0.2577, indicates that the trendline is a moderately strong predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.4.18 Pond DG-20C

DG-20C is located adjacent to DG-20A, DG-20B and DG-20D (Figure 2-1). The surface area and volume of DG-20C, as determined during baseline monitoring, were 0.04 acres and 0.08 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. Although DG-20C is often seasonally connected to DG-20A, this was not the case in 2013. In 2013, the highest surface water elevation recording was in March (1,108.41 feet) and fell through August (1,107.89 feet) to the low in September of 1,107.30 feet before rising in October to 1,107.75 feet (Appendix I – DG-20C, Figure 1). The March 2013 reading was between the minimum (1,108.17 feet) and maximum (1,110.73 feet) baseline surface water elevations (Appendix I – DG-20C, Figure 1); all other elevations fell below the minimum. Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-20C.

Precipitation levels did not directly correlate to the surface water elevation readings of DG-20C. However, data from Groundwater Monitoring Well MW 05-26, located approximately 1,700 feet south of DG-20C, did correlate to the surface water elevation readings of DG-20C (Appendix III, Sections A and C). Groundwater drawdown and fluctuations in pond levels are not likely related to the pumping rates of nearby Production Wells PW 04-4 and PW 04-5, which pumped very little throughout 2013 and were not in operation in March, August, and October (Appendix III, Section B). Similar to the other nearby ponds, DG-20C may be reliant on seasonal surface water runoff and localized groundwater. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-20C, Figure 2). Throughout most of the monitoring period, pond level fluctuations generally correlated with precipitation levels. The 2013 seasonal fluctuation of water elevations at DG-20C was similar to seasonal fluctuations seen in baseline monitoring, although the elevation shows a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, and the R^2 value, 0.2224, indicates that the trendline is a moderately strong predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.4.19 Pond DG-20D

DG-20D is located in the northwest portion of the Douglas County cone of depression near DG-20A, DG-20B, and DG-20C. The surface area and volume of DG-20D, as determined during baseline monitoring, were 0.02 acres and 0.05 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. Although DG-20D is often seasonally connected to DG-20A and DG-20E, this was not the case in 2013 (Figure 2-1). In 2013, the highest surface water elevation reading was in March (1,110.66 feet) and fell through August (1,107.72 feet) to the low of 1,107.64 feet in October. The pond was dry in September (Appendix I – DG-20D, Figure 1). The March 2013 reading was between the minimum (1,107.96 feet) and maximum (1,110.73 feet) baseline surface water elevations (Appendix I – DG-20D, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-20D.

Precipitation levels did not directly correlate to the surface water elevation readings of DG-20D as the precipitation levels did not account for the dry September reading. Groundwater Monitoring Well MW 05-26 is the closest groundwater well to DG-20D, located approximately 1,675 feet to the south. The 2013 groundwater readings from MW 05-26 did correlate to the surface water elevation readings of DG-20D (Appendix III, Sections A and C). The September low reading is likely related to the pumping rates of nearby Production Wells PW 04-4 and PW 04-5, which pumped during September and not during March, August, and October (Appendix III, Section B). Similar to the other nearby ponds, DG-20D may be reliant on seasonal surface water runoff and localized groundwater. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-20D, Figure 2). Throughout the monitoring period, pond level fluctuations correlated with precipitation levels. The 2013 seasonal fluctuation of water elevations at DG-20D was not similar to seasonal fluctuations seen in baseline monitoring. The trendline indicates that the average pond water level elevation is decreasing slightly each year, although the R^2 value, 0.1437, indicates that the trendline is a weak predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.4.20 Pond DG-20E

DG-20E is located in the northwest portion of the Douglas County cone of depression near DG-20A, DG-20B, and DG-20C. During periods of high water, DG-20E is hydrologically connected to DG-20A. The surface area and volume of DG-20E, as determined during baseline monitoring, were 0.05 acres and 0.11 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. DG-20E was not hydrologically connected to DG-20A during the March 2013 monitoring event (Figure 2-1). The highest surface water elevation level recorded in 2013 was in March (1,110.89 feet) and fell through August (1,107.87 feet) to the low in September (1,107.20 feet) before rising slightly to 1,107.50 feet in October (Appendix I – DG-20E, Figure 1). The March surface water elevation reading at DG-20E was greater than the maximum (1,110.73 feet) baseline surface water elevations (Appendix I – DG-20E, Figure 1). All other pond water elevations during 2013 were below the minimum baseline elevation. Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-20E.

The 2013 water level elevation trend at DG-20E did not directly correspond to the 2013 precipitation levels for the area. However, groundwater fluctuation readings from Groundwater Monitoring Well MW 05-26, located approximately 1,575 feet south of DG-20E, did correlate to the surface water elevation readings of DG-20E (Appendix III, Sections A and C). Groundwater drawdown and fluctuations in pond levels are not likely related to the pumping rates of nearby Production Wells PW 04-4 and PW 04-5, which pumped very little throughout 2013 and were not in operation in March, August, and October (Appendix III, Section B). Similar to the other nearby ponds, DG-20E may be reliant on seasonal surface water runoff and localized groundwater. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-20E, Figure 2). Throughout the monitoring period, pond level fluctuations generally correlated with precipitation levels. The 2013 seasonal fluctuation of water elevations at DG-20E was not similar to seasonal fluctuations seen in baseline monitoring, and the elevation shows a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, although the R^2 value, 0.1450, indicates that the trendline is a weak predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.4.21 Pond DG-20F

Although DG-20F is located near ponds DG-19 through DG-23A, this incised pond is relatively isolated within the area (Figure 2-1). The surface area and volume of DG-20F, as determined during baseline monitoring, were 0.07 acres and 0.20 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. The highest 2013 surface water elevation for DG-20F was recorded in March (1,108.92 feet). The pond level decreased in August (1,107.65 feet) to the low in September (1,106.95 feet) before rising to 1,107.41 feet in October (Appendix I – DG-20F, Figure 1). The 2013, March, August, and October readings for DG-20F were between the minimum (1,107.07 feet) and maximum (1,110.64 feet) baseline surface water elevations. The September elevation reading fell below the minimum baseline surface water elevation (Appendix I – DG-20F, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-20F.

The 2013 precipitation levels do not directly correlate to the surface water elevation readings of DG-20F. The trend shown by the groundwater level data from Groundwater Monitoring Well MW 05-26, located approximately 1,500 feet south of DG-20F, does correspond with the surface water elevation data (Appendix III, Sections A and C). Groundwater drawdown and fluctuations in the DG-20F pond levels are not likely related to the pumping rates of nearby Production Wells PW 04-4 and PW 04-5, which pumped very little throughout 2013 and were not in operation in March, August, and October (Appendix III, Section B). These relationships indicate that DG-20F may be influenced by localized groundwater and seasonal surface water runoff. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-20F, Figure 2). Throughout most of the monitoring period, pond level fluctuations correlated with precipitation levels. The 2013 seasonal fluctuation of water elevations at DG-20F was not similar to seasonal fluctuations seen in baseline monitoring, and the elevation shows a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, although the R^2 value, 0.1612, indicates that the trendline is a weak predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.4.22 Pond DG-20G

DG-20G is located in close proximity to DG-20 and DG-20A, and Groundwater Monitoring Well MW 05-26 is located approximately 1,575 feet to the south (Figure 2-1). The surface area and volume of DG-20G, as determined during baseline monitoring, were 0.04 acres and 0.09 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. The lowest recorded surface water elevation in 2013 was in March (1,105.28 feet) and highest in August (1,108.66 feet) before falling through September (1,108.14 feet) to 1,107.69 feet in October (Appendix I – DG-20G, Figure 1). The August and September elevation readings were between the minimum (1,108.03 feet) and maximum (1,110.78 feet) baseline surface water elevations; the March and October readings were below the minimum baseline elevation (Appendix I – DG-20G, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-20G.

Precipitation levels in 2013 did not correlate with the surface water elevation readings of DG-20G. The trend shown by the groundwater level data for Groundwater Monitoring Well MW 05-26 also does not correspond with the 2013 DG-20G surface water elevation data (Appendix III, Sections A and C). The DG-20G surface water elevation data show a decreasing level from September to October. Groundwater drawdown and fluctuations in pond levels are not likely related to the pumping rates of Production Wells PW 04-4 and PW 04-5, which operated sparingly in 2013 and did not operate at all in October (Appendix III, Section B). Similar to the other nearby ponds, DG-20G may be reliant on seasonal surface water runoff and localized groundwater. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-20G, Figure 2). Throughout the majority of the monitoring period, pond level fluctuations correlated with precipitation levels. The 2013 seasonal fluctuation of water elevations at DG-20G was not similar to seasonal fluctuations seen in baseline monitoring, and the elevation shows a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, although the R^2 value, 0.1818, indicates that the trendline is a weak predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.4.23 Pond DG-21

DG-21 is a relatively large pond in close proximity to numerous other ponds monitored within the Project area. The surface area and volume of DG-21, as determined during baseline monitoring, were 4.40 acres and 44.35 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. DG-21 is hydrologically connected to DG-23, except during extremely low water events; DG-21 and DG-23 were not hydrologically connected in 2013 (Figure 2-1). Groundwater Monitoring Well MW 05-26 is located approximately 750 feet south of DG-21. The observed surface water elevation for DG-21 was lowest in August 2013 (1,103.52), increasing through September (1,104.58 feet) to the highest level in October at 1,106.53 feet. Surface water elevation was recorded at 1,105.55 in March (Appendix I – DG-21, Figure 1). All 2013 monthly elevations reading were below the minimum (1,107.33 feet) baseline surface water elevation (Appendix I – DG-21, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-21.

Precipitation levels in 2013 did not correlate with the surface water elevation readings of DG-21. The trend shown by the groundwater level data for Groundwater Monitoring Well MW 05-26 also did not directly correlate with the surface water elevation data for DG-21 (Appendix III, Sections A and C). Despite a decrease in precipitation and groundwater level, the surface water elevation increased from August to September. Groundwater drawdown and fluctuations in pond levels are not likely related to the pumping rates of nearby Production Wells PW 04-4 and PW 04-5, which pumped very little throughout 2013 and were not in operation in March, August, and October (Appendix III, Section B). As the elevations at this pond were not closely correlated with precipitation or groundwater monitoring well data, it is possible that pond level is influenced by artificial means. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-21, Figure 2). The 2013 seasonal fluctuation of water elevations at DG-21 was similar to seasonal fluctuations seen in baseline monitoring, although the elevation shows a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, and the R^2 value, 0.3413, indicates that the trendline is a moderately strong predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.4.24 Pond DG-22

DG-22 is located adjacent to DG-23 with a ten-foot-wide levee separating the two ponds (Figure 2-1). The surface area and volume of DG-22, as determined during baseline monitoring, were 0.66 acres and 2.30 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. The observed surface water elevation at DG-22 was highest in March 2013 (1,108.16 feet). The pond level decreased to the lowest reading in September at 1,106.46 feet before rising slightly in October to 1,106.84 feet (Appendix I – DG-22, Figure 1). All elevation readings were below the minimum (1,107.53 feet) baseline surface water elevation, except for March which was between the maximum (1,110.78 feet) and minimum baseline surface water elevations (Appendix I – DG-22, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-22.

Groundwater Monitoring Well MW 05-26 is located approximately 1,100 feet south of DG-22. The 2013 trend shown by the groundwater level data for MW 05-26 closely correlates to the surface water elevation data for DG-22 (Appendix III, Sections A and C). Groundwater drawdown and fluctuations in pond levels are not likely related to the pumping rates of nearby Production Wells PW 04-4 and PW 04-5, which pumped very little throughout 2013 and were not in operation in March, August, and October (Appendix III, Section B). DG-22 is likely influenced by localized groundwater and seasonal surface water runoff. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-22, Figure 2). Throughout the monitoring period, pond level fluctuations closely correlated with precipitation levels. The 2013 seasonal fluctuation of water elevations at DG-22 was not similar to seasonal fluctuations seen in baseline monitoring, and the elevation shows a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, and the R^2 value, 0.2361, indicates that the trendline is a moderately strong predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.4.25 Pond DG-23

DG-23 is hydrologically connected to DG-21 except during extremely low water events and is separated from DG-22 by a narrow berm or levee (Figure 2-1). The surface area and volume of DG-23, as determined during baseline monitoring, were 4.34 acres and 79.32 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. DG-23 and DG-21 were not hydrologically connected during the 2013 monitoring season. Groundwater Monitoring Well MW 05-26 is located approximately 500 feet southeast of DG-23. During the 2013 monitoring year, the highest surface water elevation at DG-23 occurred in March (1,107.75 feet). The water level decreased gradually in August (1,107.12 feet) to the lowest recording in September (1,106.38 feet) then rose in October to 1,106.79 feet (Appendix I – DG-23, Figure 1). The August, September, and October 2013 elevation readings fell below the minimum baseline surface water elevation. The March reading was within the range of the minimum (1,107.33 feet) and maximum (1,110.53 feet) baseline surface water elevations (Appendix I – DG-23, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-23.

Precipitation levels in 2013 did not directly correlate to the surface water elevation readings of DG-23. However, the trend shown by the groundwater level data for nearby Groundwater Monitoring Well MW 05-26 closely corresponds with the DG-23 surface water elevation data (Appendix III, Sections A and C).

Groundwater drawdown and fluctuations in pond levels are not likely related to the pumping rates of nearby Production Wells PW 04-4 and PW 04-5, which pumped very little throughout 2013 and were not in operation in March, August, and October (Appendix III, Section B). These relationships indicate that DG-23 may be influenced by localized groundwater and seasonal surface water runoff. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-23, Figure 2). Throughout most of the monitoring period, pond level fluctuations correlated with precipitation levels. The 2013 seasonal fluctuation of water elevations at DG-23 was not similar to seasonal fluctuations seen in baseline monitoring, and the elevation shows a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, and the R^2 value, 0.2277, indicates that the trendline is a moderately strong predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.4.26 Pond DG-23A

DG-23A is located southeast of DG-21, DG-22, and DG-23 (Figure 2-1). Groundwater Monitoring Well MW 05-26 is located approximately 100 feet southeast of DG-23A. The surface area and volume of DG-23A, as determined during baseline monitoring, were 0.90 acres and 2.40 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. During the August, September, and October monitoring events, a hose connected to a rural water hydrant was observed adding water into DG-23A. The 2013 surface water elevation data for DG-23A shows the lowest reading in March at 1,106.20 feet and the highest reading in August at 1,106.69 feet. The surface water elevation was recorded at 1,106.21 feet in September and 1,106.75 feet in October (Appendix I – DG-23A, Figure 1). All 2013 monthly elevation levels fell below the minimum (1,107.09 feet) baseline surface water elevation (Appendix I – DG-23A, Figure 1). Differences between the operational surface water elevation readings and baseline elevations were not statistically significant for DG-23A.

During the August, September, and October site visits, water was being added to DG-23A via a hose. The added water to DG-23A makes it difficult to compare the pond level fluctuations to the monthly precipitation data. The trend shown by the groundwater level data from nearby Groundwater Monitoring Well MW 05-26 does, however, correspond with the DG-23A surface water elevation data (Appendix III, Sections A and C). Any groundwater drawdown or decrease in pond water levels that may have naturally occurred in the late summer and early fall was not observed due to artificially added water. Groundwater drawdown and fluctuations in pond levels are not likely related to the pumping rates of nearby Production

Wells PW 04-4 and PW 04-5, which pumped very little throughout 2013 and were not in operation in March, August, and October (Appendix III, Section B). DG-23A may be influenced by localized groundwater and seasonal surface water runoff. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-23A, Figure 2). Throughout most of the monitoring period, pond level fluctuations correlated with precipitation levels. The 2013 seasonal fluctuations were not similar to seasonal fluctuations measured in baseline monitoring, and the elevation shows a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, although the R^2 value, 0.1283, indicates that the trendline is a weak predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.4.27 Pond DG-26

DG-26 is located in the Two Rivers State Recreation Area approximately 900 feet east of the Platte River (Figure 2-1). No Project groundwater monitoring wells are located within 0.5 mile of DG-26. The surface area and volume of DG-26, as determined during baseline monitoring, were 0.99 acres and 5.73 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. Year 2013 Data for DG-26 showed the highest reading in March (1,111.55 feet). Pond levels decreased to the lowest reading in September (1,110.10 feet). Levels were recorded at 1,110.46 feet in August and 1,111.42 feet in October (Appendix I – DG-26, Figure 1). The 2013 readings all were between the minimum (1,110.14 feet) and maximum (1,111.96 feet) baseline surface water elevation, except for the September reading which was below minimum baseline surface water elevation (Appendix I – DG-26, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-26.

In 2013, the observed surface water elevations at DG-26 corresponded with the Platte River water levels and generally correlated with precipitation levels (Appendix III, Section C). Snowmelt and subsequent runoff was the likely cause of the high March elevation reading. Given its proximity to the Platte River and the silty substrate of DG-26, it is likely that this pond is influenced by local seasonal runoff, the Platte River, and localized groundwater levels. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-26, Figure 2). Throughout the majority of the monitoring period, pond level fluctuations generally correlated with precipitation levels. The 2013 seasonal fluctuation of water elevations at DG-26 was not similar to seasonal fluctuations seen in baseline monitoring, and the elevation shows a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, although the R^2 value, 0.0210, indicates that the trendline is a weak predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.4.28 Pond DG-27

DG-27 is located in the Two Rivers State Recreation Area approximately 500 feet east of the Platte River (Figure 2-1). No Project groundwater monitoring wells are located within 0.5 mile of DG-27. The surface area and volume of DG-27, as determined during baseline monitoring, were 9.48 acres and 151.67 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. The highest surface water elevation reading for DG-27 was recorded in March 2013 (1,110.75 feet). The pond level then decreased through August (1,107.12 feet) to the lowest reading in September (1,109.46 feet) before increasing in October to 1,110.76 feet (Appendix I – DG-27, Figure 1). All 2013 monthly readings were between the minimum (1,109.34 feet) and maximum (1,110.87 feet) baseline surface water elevations (Appendix I – DG-27, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-27.

The 2013 pond level data for DG-27 corresponded with the Platte River levels and generally correlated with the 2013 precipitation data (Appendix III, Section C). The high March reading is likely the result of seasonal runoff from snow melt. Given the proximity of DG-27 to the Platte River and their similar trends in surface water elevation, DG-27 is likely considerably influenced by the Platte River as well as by seasonal surface water. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-27, Figure 2). Throughout most of the monitoring period, pond level fluctuations correlated with precipitation levels. The 2013 seasonal fluctuation of water elevations at DG-27 was similar to seasonal fluctuations seen in baseline monitoring, and pond levels show have remained fairly constant. The trendline indicates that the average pond water level elevation is decreasing slightly each year, although the R^2 value, 0.00001, indicates that the trendline is a weak predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.4.29 Pond DG-28

DG-28 is located in the Two Rivers State Recreational Area approximately 1,350 feet east of the Platte River (Figure 2-1). No Project groundwater monitoring wells are located within 0.5 mile of DG-28. The surface area and volume of DG-28, as determined during baseline monitoring, were 4.15 acres and 27.18

acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. The recorded 2013 data shows that DG-28 experienced the lowest pond level reading in March (1,107.90 feet) and the highest reading in October (1,108.55 feet). Surface water elevation was recorded as 1,108.10 feet in August and 1,107.92 feet in September (see Appendix I – DG-28, Figure 1). The October pond level readings exceeded the maximum baseline surface water elevation. All other 2013 monthly readings were between the minimum (1,106.34 feet) and maximum (1,108.14 feet) baseline surface water elevations (Appendix I – DG-28, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-28.

Precipitation levels in 2013 did not correlate to the surface water elevation readings at DG-28; the increase in pond level from March to August does not correlate to the decrease in precipitation levels. Contrary to most years, the surface water elevation reading at DG-28 also did not correlate to water levels for the Platte River (Appendix III, Section C). Given the proximity of DG-28 to the Platte River, DG-28 is normally strongly influenced by a groundwater connection to the Platte River. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-28, Figure 3). Throughout most of the monitoring period, the DG-28 pond level has not fluctuated significantly and does not appear to be strongly correlated to precipitation levels. Water levels measured during 2013 were among the highest seen during operational and baseline monitoring for DG-28 and the elevation shows a general trend of decreasing. The trendline indicates that the average pond water level elevation is decreasing slightly each year, although the R^2 value, 0.0047, indicates that the trendline is a weak predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.4.30 Pond DG-29

DG-29 is located in the Two Rivers State Recreational Area approximately 1,850 feet east of the Platte River (Figure 2-1). Groundwater Monitoring Well MW 90-07 is located approximately 2,050 feet southeast of DG-29. The surface area and volume of DG-29, as determined during baseline monitoring, were 7.02 acres and 91.54 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. The highest surface water elevation recorded in 2013 occurred in March (1,107.91 feet). The pond level then decreased in August (1,106.06 feet), dropped further in September to the lowest recorded elevation (1,105.94 feet), and increased in October to 1,107.34 feet (Appendix I – DG-29, Figure 1). The March and October surface water elevation readings were between the minimum (1,106.27 feet) and maximum (1,107.93 feet) baseline elevations, while the other readings fell below the minimum baseline elevation (Appendix I – DG-29, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-29.

The 2013 surface water elevations at DG-29 generally corresponded with the Platte River levels and with precipitation levels; the high March pond level reading can likely be attributed to seasonal runoff from snow melt (Appendix III, Section C). The groundwater level trend shown by the data for Groundwater Monitoring Well MW 90-07 also closely corresponded with DG-29 surface water elevation data (Appendix III, Section A). Given the proximity of DG-29 to the Platte River and their similar elevation trends, DG-29 is likely influenced by the Platte River in addition to fluctuations in local groundwater levels. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-29, Figure 2). Throughout most of the monitoring period, pond level fluctuations closely correlated with precipitation levels. The 2013 seasonal fluctuation of water elevations at DG-29 was similar to seasonal fluctuations seen in baseline monitoring, although the elevation shows a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, although the R^2 value, 0.0730, indicates that the trendline is a weak predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.4.31 Pond DG-30

DG-30 is located in the Two Rivers State Recreational Area approximately 1,900 feet east of the Platte River (Figure 2-1). The surface area and volume of DG-30, as determined during baseline monitoring, were 4.83 acres and 37.21 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. DG-30 and DG-31 are hydrologically connected except during extremely low water events; these ponds were not connected during the September 2013 monitoring event. In 2013, the highest surface water elevation for DG-30 was recorded in October (1,105.08 feet). The pond level had the lowest recorded reading in September (1,104.27 feet), with readings of 1,105.00 feet in March and 1,104.51 feet in August (Appendix I – DG-30, Figure 1). All 2013 monthly surface water elevations for DG-30 fell below the baseline minimum (1,105.81 feet) (Appendix I – DG-30, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-30.

In 2013, the observed surface water elevations at DG-30 closely corresponded with precipitation levels. Pond levels also corresponded with the Platte River levels and groundwater level data from Groundwater

Monitoring Well MW 90-07, located approximately 1,175 feet east of DG-30 (Appendix III, Section C; Appendix III, Section A). Given the proximity of DG-30 to the Platte River, DG-30 is likely influenced by the Platte River as well as local fluctuations in groundwater levels. The general trend for water level elevations, as it relates to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-30, Figure 2). Throughout the monitoring period, pond level fluctuations closely correlated with precipitation levels. The 2013 seasonal fluctuation of water elevations at DG-30 was similar to seasonal fluctuations seen in baseline monitoring, although the elevation shows a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, and the R^2 value, 0.3494, indicates that the trendline is a moderately strong predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.4.32 Pond DG-31

DG-31 is located in Two Rivers State Recreational Area approximately 1,500 feet east of the Platte River (Figure 2-1). The surface area and volume of DG-31, as determined during baseline monitoring, were 8.09 acres and 75.35 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. DG-30 and DG-31 are hydrologically connected except during extreme low water events; these ponds were not connected in September 2013. The highest surface water elevation at DG-31 in 2013 occurred in March at 1,105.05 feet. The surface water elevation then decreased in August (1,104.47 feet) and September to the lowest recorded reading at 1,103.75 feet. The pond increased in October to 1,104.98 feet (Appendix I – DG-31, Figure 1). All 2013 monthly surface water elevations for DG-31 were below the baseline minimum (1,105.83 feet) (Appendix I – DG-31, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-31.

In 2013, the observed surface water elevations at DG-31 generally corresponded with Platte River levels and local precipitation data (Appendix III, Section C). As with other monitored ponds in the area, the high March pond reading is likely the result of snow melt runoff. The groundwater level trend shown by the data for Groundwater Monitoring Well MW 90-07, located approximately 975 feet east of DG-31, also corresponds with DG-31 surface water elevation data in 2013 (Appendix III, Section A). Given the proximity of DG-31 to the Platte River, DG-31 is likely influenced by the Platte River as well as precipitation and surface water runoff. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-31, Figure 2). Throughout most of the monitoring period, pond level fluctuations closely correlated with precipitation levels. The 2013 seasonal fluctuation of water elevations at DG-31 was similar to seasonal fluctuations seen in baseline monitoring, although the elevation shows a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, and the R^2 value, 0.3657, indicates that the trendline is a moderately strong predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.4.33 Pond DG-32

DG-32 is located in Two Rivers State Recreational Area approximately 3,100 feet east of the Platte River (Figure 2-1). Groundwater Monitoring Wells MW 90-07, MW 94-01, and MW 94-02 are approximately 120 feet west, 1,800 feet east, and 1,100 feet southeast of DG-32, respectively. The surface area and volume of DG-32, as determined during baseline monitoring, were 7.90 acres and 14.82 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. The observed surface water elevation at DG-32 was lowest in March (1,101.83 feet) and rose to the highest level in August (1,103.43 feet). Surface water elevation readings dropped to 1,102.93 feet in September and rose to 1,103.33 feet in October (Appendix I – DG-32, Figure 1). All 2013 monthly readings fell below the minimum (1,104.75 feet) baseline surface water elevation (Appendix I – DG-32, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-32.

In 2013, the observed surface water elevations at DG-32 did not correlate to precipitation data or with the Platte River levels. Both the Platte River stream gauge data and the precipitation data show a decrease in stream level starting from March to August, whereas the DG-32 pond level data shows an increase in pond level from March to August (Appendix III, Section C). The trend for nearby Groundwater Monitoring Well MW 90-07 was also different from the trend for the surface water elevations at DG-32 (Appendix III, Section A). Groundwater drawdown in the area and subsequent fluctuations in pond level may be related to the pumping rate of Production Well PW 04-6. This production well was pumped more heavily in March compared to the rest of the year, which may have resulted in the low March pond level at DG-32 (Appendix III, Section B). The water level at DG-32 is likely influenced by groundwater connections and seasonal surface water runoff. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-32, Figure 2). Throughout the monitoring period, pond level fluctuations correlated with precipitation levels. The 2013 seasonal fluctuation of water elevations at DG-32 was not similar to seasonal fluctuations seen in baseline monitoring, and the elevation shows a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, and the R^2 value, 0.2523, indicates that the trendline is a moderately strong predictor of change in water elevation.

This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.4.34 Pond DG-34

DG-34 is located approximately 1.3 miles east of the Platte River, 1,425 feet northeast of Groundwater Monitoring Well MW 94-01, and 1,775 feet southeast of MW 05-26 (Figure 2-1). The surface area and volume of DG-34, as determined during baseline monitoring, were 0.87 acres and 1.99 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. During 2012, DG-34 was dredged. The surface water elevation of DG-34 was highest in August 2013 at 1,103.96 feet. The pond level then decreased to the lowest recorded elevation in September (1.103.08 feet), then rose in October to1,103.81 feet. The March reading was 1,103.52 feet (Appendix I –DG-34, Figure 1). All 2013 monthly elevation readings were below the minimum (1,105.03 feet) baseline surface water elevation (Appendix I – DG-34, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-34.

The 2013 local precipitation levels did generally correspond to the DG-34 pond levels (Appendix III, Section C). The trend shown by the groundwater level data for Groundwater Monitoring Wells MW 94-01 and MW 05-26 also corresponds with DG-34 water level elevations (Appendix III, Section A). These relationships indicate that DG-34 is likely influenced by groundwater fluctuations and seasonal surface water runoff. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-34, Figure 2). Throughout the monitoring period, pond level fluctuations closely correlated with precipitation levels. The 2013 seasonal fluctuation of water elevations at DG-34 was not similar to seasonal fluctuations seen in baseline monitoring, and the elevation shows a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, and the R^2 value, 0.2981, indicates that the trendline is a moderately strong predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.4.35 Pond DG-43

DG-43 is located approximately 175 feet east of the Platte River (Figure 2-1). No Project groundwater monitoring wells are located within 0.5 mile of DG-43. The surface area and volume of DG-43, as determined during baseline monitoring, were 1.74 acres and 14.78 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. The pond's highest water level elevation in 2013 occurred in March (1,114.22 feet). The pond level then decreased to the lowest level in August (1,112.57 feet) then increased through September (1,113.06 feet) to 1,113.49 feet in October (Appendix I – DG-43, Figure 1). All 2013 monthly readings were between the minimum (1,109.97 feet) maximum (1,114.64 feet) baseline surface water elevations (Appendix I – DG-43, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-43.

Precipitation levels and Platte River water level fluctuations in 2013 did not correlate to the observed surface water elevation readings at DG-43 (Appendix III, Section C). Neither precipitation levels nor Platte River water levels accounted for the increase in DG-43 pond levels from August to September. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-43, Figure 2). The surface water elevations at DG-43 remained relatively constant from 2006 through 2013 despite varying levels of precipitation from year to year. The constancy in surface water elevation at DG-43 is likely related to the pond's close vicinity to the Platte River. The trendline indicates that the average pond water level elevation is decreasing slightly each year, although the R^2 value, 0.00003, indicates that the trendline is a weak predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.4.36 Pond DG-45

DG-45 is located approximately 575 feet south of DG-46 and 2,250 feet east of the Platte River (Figure 2-1). DG-45 is hydrologically connected to DG-46 via a small, intermittent stream that flows south from DG-46. No Project groundwater monitoring wells are located within 0.5 mile of DG-45. The surface area and volume of DG-45, as determined during baseline monitoring, were 0.96 acres and 3.38 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. The 2013 observed surface water elevations for DG-45 reached the lowest level of 1,109.88 feet in September and increased to the highest level in October (1,110.69 feet). Surface water elevation recordings were 1,109.99 feet in March and 1,110.52 feet in August (Appendix I – DG-45, Figure 1). All 2013 monthly readings were between the minimum (1,109.84 feet) and maximum (1,111.38 feet) baseline surface water elevations (Appendix I – DG-45, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-45.

Contrary to most years, the observed surface water elevations at DG-45 did not correspond with the Platte River levels (Appendix III, Section C). DG-45 pond levels do correspond with local precipitation levels, though. Given its proximity to the Platte River, as well as the silty and sandy substrate of this pond, it is likely that DG-45 is influenced by seasonal runoff and localized groundwater levels associated with the Platte River. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-45, Figure 2). Throughout the monitoring period, pond level fluctuations closely correlated with precipitation levels. The 2013 seasonal fluctuation of water elevations at DG-45 was not similar to seasonal fluctuations seen in baseline monitoring, and the elevation shows a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, although the R^2 value, 0.1117, indicates that the trendline is a weak predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

Drawing conclusions about the factors that may influence surface water elevation levels at DG-45 and DG-46 is difficult due to the “stoplogs” or removable boards (water control structures) that are located between DG-46 and DG-45. This device controls the movement of water downstream from DG-46 to DG-45 and is managed by several surrounding landowners. Any manipulation of surface elevation at DG-45 and DG-46 in 2013 as a result of this device is not known.

4.4.37 Pond DG-46

DG-46 is located approximately 575 feet north of DG-45 and 1,550 feet east of the Platte River (Figure 2-1). DG-46 is hydrologically connected to DG-45 by the outflow from DG-46 into DG-45 via a small, intermittent stream. No Project groundwater monitoring wells are located within 0.5 mile of DG-46. The surface area and volume of DG-46, as determined during baseline monitoring, were 24.23 acres and 372.10 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. DG-46 had its highest recorded surface water elevation in March (1,113.30 feet) followed by a gradual decrease in elevation to the lowest reading in September (1,112.97); the DG-46 pond level rose slightly in October to 1,112.97 feet (Appendix I – DG-46, Figure 1). August and September surface water elevations were below the minimum (1,112.61 feet) baseline surface water elevation, and March and October readings fell between the maximum (1,115.40 feet) and minimum baseline surface water elevations (Appendix I – DG-46, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-46.

Precipitation levels in 2013 closely correlated with the surface water elevation readings of DG-46. The high March pond reading was likely the result of runoff from seasonal snow melt. Additionally, the 2013 water level trend for the Platte River followed a similar pattern to the surface water elevation trend for DG-46 (Appendix III, Section C). The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-46, Figure 2). Throughout the monitoring period, pond level fluctuations closely correlated with precipitation levels. The 2013 seasonal fluctuation of water elevations at DG-46 was similar to seasonal fluctuations seen in baseline monitoring, although the elevation shows a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, although the R^2 value, 0.1454, indicates that the trendline is a weak predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

Drawing conclusions about the factors that may influence surface water elevation levels at DG-45 and DG-46 is difficult due to the “stoplogs” or removable boards (water control structures) that are located between DG-46 and DG-45. This device controls the movement of water downstream from DG-46 to DG-45 and is managed by several surrounding landowners. Any manipulation of surface elevation at DG-45 and DG-46 in 2013 as a result of this device is not known.

4.4.38 Pond DG-52

DG-52 is located east of the Two Rivers State Recreational Area and within the Douglas County well field. DG-52 is approximately 3,150 feet east of the Platte River (Figure 2-1). The surface area and volume of DG-52, as determined during baseline monitoring, were 8.53 acres and 128.88 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. In 2013, the highest surface water elevation at DG-52 was recorded in March (1,102.35 feet). The pond level dropped through August (1,101.38 feet) to the lowest elevation readings in September and October (both at 1,101.71 feet) (Appendix I – DG-52, Figure 1). All 2013 monthly readings were below the minimum baseline elevation (1,103.48 feet) (Appendix I – DG-52, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for DG-52.

A close correlation between the precipitation levels and the surface water elevation readings of DG-52 was evident in 2013. Snowmelt and subsequent runoff was the likely cause of the high March elevation reading. Groundwater Monitoring Wells MW 90-07, MW 94-01, and MW 94-02 are located approximately 775 feet west, 1,350 feet northeast, and 850 feet south of DG-52, respectively. The trends shown by the groundwater level data for MW 94-01 and MW 90-07 corresponded with DG-52 surface water elevation data in 2013. Data for 2013 is not available for MW 94-02 prior to May 31; however, the available data also corresponds to the pond level data for DG-52 (Appendix III, Sections A and C). DG-52 is located in the Douglas County well field in close proximity to Project Production Wells (PW 91-3, PW 04-4, PW 04-6, PW 04-7 PW 04-8, and PW 04-9). Groundwater drawdown and subsequent fluctuations in pond water levels are likely influenced by the production well pumping rates (Appendix III, Section B). The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – DG-52, Figure 2). Throughout the monitoring period, pond level fluctuations closely correlated with precipitation levels. The 2013 seasonal fluctuation of water elevations at DG-52 was similar to seasonal fluctuations seen in baseline monitoring, although the elevation shows a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, and the R^2 value, 0.4182, indicates that the trendline is a strong predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.5 2013 SAUNDERS COUNTY BATHYMETRIC MONITORING DATA

The following sections present the 2013 pond monitoring results for those ponds located in Saunders County.

4.5.1 Pond SN-03

SN-03 is located west of the Saunders County well field and approximately 3,500 feet west of the Platte River. Groundwater Monitoring Well MW 90-10 is located approximately 2,500 feet northwest of SN-03 (Figure 2-2). The surface area and volume of SN-03, as determined during baseline monitoring, were 0.17 acres and 0.24 acre-feet, respectively. The area that included SN-03 was converted to row-cropped agriculture between the 2013 March and August monitoring events. Monitoring was not possible, therefore, during the August, September, or October monitoring events. During the March monitoring event, SN-03 was dry.

SN-03 is located in the Saunders County well field, and groundwater fluctuations in the area are likely influenced by the pumping rates of Production Wells PW 04-42, PW 04-43, PW 04-44, PW 04-49, and PW 94-35 (Appendix III, Section B). The past general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – SN-03, Figure 2). During the 2006 through 2009 monitoring period when SN-03 held water, the pond level fluctuations generally correlated with precipitation levels. The trendline indicates that the average pond water level elevation was decreasing slightly each year, and the R^2 value, 0.3859, indicates that the trendline was a moderately strong predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012.

4.5.2 Pond SN-04

SN-04 is located approximately 2,650 feet west of the Platte River and 2,650 feet north of SN-03. Groundwater Monitoring Well MW 90-10 is located approximately 1,500 feet southwest of SN-04 (Figure 2-2). The surface area and volume of SN-04, as determined during baseline monitoring, were 0.26 acres and 0.62 acre-feet, respectively. The only surface water elevation recording during 2013 was March at a level of 1,095.69 feet (Appendix II – SN-04, Figure 1). The area that included SN-04 was converted to row-cropped agriculture between the 2013 March and August monitoring events. Monitoring was not possible, therefore, during the August, September, or October monitoring events.

SN-04 is located adjacent to the Saunders County well field, and groundwater fluctuations in the area are likely influenced by the pumping rates of Production Wells PW 04-38, PW 04-39, PW 04-40, PW 04-45, PW 04-49, and PW 94-37 (Appendix III, Section B). The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – SN-04, Figure 2). Throughout the 2006-2011 monitoring period, when SN-04 consistently held water, pond level fluctuations generally correlated with precipitation levels. The trendline indicates that the average pond water level elevation was decreasing slightly each year, and the R^2 value, 0.5356, indicates that the trendline was a strong predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012.

4.5.3 Pond SN-16

SN-16 is located approximately two miles west of the Platte River and 1.7 miles southwest of the Saunders County well field (Figure 2-2). Groundwater Monitoring Well MW 94-03 is approximately 2,600 feet northeast of SN-16. The surface area and volume of SN-16, as determined during baseline monitoring, were 2.55 acres and 9.79 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. The highest observed surface water elevation for SN-16 was recorded in March 2013 (1,077.56 feet). The pond levels decreased through August (1,077.36 feet) to the lowest recorded reading in September at 1,076.33 feet. The pond level readings in October increased to 1,076.89 feet (Appendix II – SN-16, Figure 1). All 2013 monthly readings were below the minimum (1,078.08 feet) baseline surface water elevation (Appendix II – SN-16, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for SN-16.

In 2013, precipitation levels generally correlated to the surface water elevation readings of SN-16. The considerably higher March 2013 reading is likely the result of spring snow melt runoff entering SN-16. The trend shown by the groundwater level data for Groundwater Monitoring Well MW 94-03 generally corresponds with the SN-16 surface water elevation data (Appendix III, Sections A and C). Given this correlation to the local groundwater monitoring well and precipitation data, it is likely that this pond is strongly influenced by groundwater fluctuations and surface water runoff. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – SN-16, Figure 2). Throughout most of the monitoring period, pond level fluctuations closely correlated with precipitation levels. The 2013 seasonal fluctuation of water elevations at SN-16 was similar to seasonal fluctuations seen in baseline monitoring, although the elevation shows a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, and the R^2 value, 0.2326, indicates that the trendline is a moderately strong predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.5.4 Pond SN-23

SN-23 is located approximately two miles west of the Saunders County well field. It is typically hydrologically connected to SN-24 and is located on the same property as SN-24, SN-25, and SN-26 (Figure 2-2). SN-23 is extremely silty and supports a visible vegetative community of cattails (*Typha latifolia*). No Project groundwater monitoring wells are located within 0.5 mile of SN-23. The surface area and volume of SN-23, as determined during baseline monitoring, were 0.96 acres and 1.51 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. There were no recordings of the March 2013 water surface elevation due to access restrictions resulting from extremely soft mud (Appendix I – SN-23, Photographs 1 and 2). The highest recorded elevation was in August (1,086.84 feet) and the lowest was in September (1,086.40 feet). The pond level increased slightly to 1,086.42 feet in October (Appendix II – SN-23, Figure 1). The recorded surface water elevation readings at SN-23 were between the minimum (1,085.75 feet) and maximum (1,088.87 feet) baseline surface water elevations (Appendix II – SN-23, Figure 1). Differences between the 2013 operational surface water elevation readings and the 2007 baseline elevations were statistically significant for SN-23; the 2007 baseline elevations were higher than the 2013 elevations. No other statistically significant differences between the 2013 elevations and baseline elevations were observed. Based on a visual assessment using ground photographs and personal observation, it is unlikely that the difference in the 2013 operational surface water elevation readings and

2007 baseline elevations is biologically relevant due to the depth and relatively large surface area of SN-23.

Because the property owner has manipulated the bathymetric characteristics of this pond throughout baseline and operational monitoring, it is difficult to draw correlations between significant changes in pond elevation and changes in precipitation or groundwater elevation. Precipitation levels in 2013 generally correlated to the surface water elevation readings of SN-23, although the October pond level was lower than the precipitation readings would indicate (Appendix III, Section C). The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – SN-23, Figure 2). Throughout most of the monitoring period, pond level fluctuations remained relatively constant from year to year despite fluctuations in precipitation levels. In general, pond levels appear to be increasing slightly at SN-23. The trendline indicates that the average pond water level elevation is increasing slightly each year, although the R^2 value, 0.0008, indicates that the trendline is a weak predictor of change in water elevation.

4.5.5 Pond SN-24

SN-24 is located approximately two miles west of the Saunders County well field. Although SN-24 and SN-25 have been hydrologically connected during past monitoring years due to earthwork completed by the landowner, they were not connected in 2011, 2012, and 2013. No Project groundwater monitoring wells are located within 0.5 mile of SN-24. The surface area and volume of SN-24, as determined during baseline monitoring, were 4.50 acres and 21.71 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. The observed surface water elevation at SN-24 decreased from the high March reading (1,087.49 feet) to a 2013 low reading in October (1,086.76 feet) (Appendix II – SN-24, Figure 1). All 2013 monthly readings were between the minimum (1,086.21 feet) and maximum (1,088.82 feet) baseline surface water elevations (Appendix II – SN-24, Figure 1). Differences between the 2013 operational surface water elevation readings and 2007 baseline elevations were statistically significant for SN-24; the 2007 baseline elevations were higher than the 2013 elevations. No other statistically significant differences between the 2013 elevations and baseline elevations were observed. Based on a visual assessment using ground photographs and personal observation, it is unlikely that the difference in 2013 operational surface water elevation readings and 2007 baseline elevations is biologically relevant due to the depth and relatively large surface area of SN-24.

Because the property owner has manipulated the bathymetric characteristics of this pond throughout baseline and operational monitoring, it is difficult to draw correlations between significant changes in pond elevation and changes in precipitation or groundwater elevation. Precipitation levels in 2013 generally correlated to the surface water elevation readings of SN-24 (Appendix III, Section C). The high surface water elevation level in March was likely the result of runoff from spring snow melt; however, the precipitation data shows an increase in rainfall levels in October which is not reflected in the pond level readings. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – SN-24, Figure 2). Throughout most of the monitoring period, pond level fluctuations closely correlated with precipitation levels. The 2013 seasonal fluctuation of water elevations at SN-24 was not similar to seasonal fluctuations seen in baseline monitoring, and elevations show a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, although the R^2 value, 0.0084, indicates that the trendline is a weak predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.5.6 Pond SN-25

SN-25 is located approximately two miles west of the Saunders County well field. The surface area and volume of SN-25, as determined during baseline monitoring, were 2.11 acres and 5.46 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. Although SN-25 and SN-24 have been hydrologically connected in past monitoring years due to earthwork completed by the landowner, SN-25 and SN-24 were not hydrologically connected in 2011, 2012, 2013 (Figure 2-2). However, excavation performed by the landowner between the March and August 2013 monitoring events resulted in SN-25 becoming hydrologically connected to SN-26. No Project groundwater monitoring wells are located within 0.5 mile of SN-25. The observed surface water level at SN-25 decreased from a high March reading (1,087.71 feet) to a low reading in August (1,083.48 feet). Surface water elevation was recorded at 1,086.60 feet in September and 1,086.58 in October (Appendix II – SN-25, Figure 1). The 2013 surface water elevation readings were between the minimum (1,081.68 feet) and maximum (1,088.41 feet) baseline surface water elevations (Appendix II – SN-25, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for SN-25. Operational elevations could not be compared to 2007 baseline elevations due to months with missing data.

Because SN-25 has undergone numerous alterations since September 2004, trends in surface water elevation are difficult to accurately determine. Precipitation levels in 2013 did not correlate to the surface water elevation readings of SN-25; the high surface water elevation level in March was likely the result of runoff from spring snow melt. However, the increase in surface water elevation from August to

September is not accounted for in the precipitation data (Appendix III, Section C). The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – SN-25, Figure 2). Throughout most of the monitoring period, pond level elevations remained relatively constant from year to year despite fluctuations in precipitation levels. The 2013 seasonal fluctuation of water elevations at SN-25 was not similar to seasonal fluctuations seen in baseline monitoring, and pond level shows a general increasing trend. The trendline indicates that the average pond water level elevation is increasing slightly each year, although the R^2 value, 0.0456, indicates that the trendline is a weak predictor of change in water elevation.

4.5.7 Pond SN-26

SN-26 is hydrologically connected to SN-25 due to landowner alterations performed between August and September 2013 and is approximately two miles from the Saunders County well field (Figure 2-2). No Project groundwater monitoring wells are located within 0.5 mile of SN-26. The surface area and volume of SN-26, as determined during baseline monitoring, were 4.91 acres and 19.53 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. The highest surface water elevation reading in 2013 was observed in March (1,087.64 feet). The pond level decreased through August (1,087.18 feet) to the lowest recorded elevation in September (1,086.62 feet) then increased slightly in October to 1,086.62 feet (see Appendix II – SN-26, Figure 1). All of the 2013 readings at SN-26 were between the minimum (1,085.14 feet) and maximum (1,088.38 feet) baseline surface water elevations (Appendix II – SN-26, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for SN-26.

Because SN-26 has undergone alterations, trends in surface water elevation are difficult to accurately determine. Precipitation levels in 2013 did not directly correlate with the surface water elevation readings of SN-26 (Appendix III, Section C). The high surface water elevation level in March is likely the result of runoff from spring snow melt; however, the precipitation data shows an increase in rainfall levels from September to October which is not reflected in the pond level readings. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – SN-26, Figure 2). Throughout most of the monitoring period, pond level elevations remained relatively constant from year to year despite fluctuations in precipitation levels. The 2013 seasonal fluctuation of water elevations at SN-26 was not similar to seasonal fluctuations seen in baseline monitoring, and elevations show a general increasing trend. The trendline indicates that the average pond water level elevation is increasing slightly each year, although the R^2 value, 0.0066, indicates that the trendline is a weak predictor of change in water elevation. Operational elevations could not be compared to 2007 baseline elevations due to months with missing data.

4.5.8 Pond SN-27

SN-27 is a large, narrow pond located approximately 2.2 miles west of the Saunders County well field (Figure 2-2). No Project groundwater monitoring wells are located within 0.5 mile of SN-27. The surface area and volume of SN-27, as determined during baseline monitoring, were 13.94 acres and 73.98 acre-feet, respectively. Factors such as siltation, sedimentation, groundwater drawdown, and landowner alterations may have impacted these measurements. The pond had the highest water level elevation in August and October, both at 1,086.92 feet. The lowest level was in March at 1,086.16 feet. The surface water level was 1,086.27 feet in September (Appendix II – SN-27, Figure 1). All surface water elevations were between the minimum (1,085.78 feet) and maximum (1,088.83 feet) baseline surface water elevations (Appendix II – SN-27, Figure 1). Differences between the 2013 operational surface water elevation readings and baseline elevations were not statistically significant for SN-27.

Precipitation levels in 2013 did not correlate to the surface water elevation readings of SN-27 (Appendix III, Section C). Based on the overall size of the pond, it is likely that SN-27 receives considerable seasonal surface water runoff and is influenced by localized groundwater. The general trend for water level elevations, as they relate to precipitation, was graphed over time for the duration of baseline and operational monitoring (Appendix I – SN-27, Figure 2). Throughout most of the monitoring period, pond level elevations remained relatively constant from year to year despite fluctuations in precipitation levels. The 2013 seasonal fluctuation of water elevations at SN-27 was not similar to seasonal fluctuations seen in baseline monitoring, and the pond levels show a general downward trend. The trendline indicates that the average pond water level elevation is decreasing slightly each year, although the R^2 value, 0.0090, indicates that the trendline is a weak predictor of change in water elevation. This general trend could be related to the low water levels during the drought of 2012. Trendlines will be recalculated each year in order to capture annual variation.

4.6 HYDROLOGICAL MONITORING DATA

Several different types of hydrological data have been gathered and analyzed as part of the ongoing monitoring efforts. These hydrological data include groundwater monitoring wells, monthly average precipitation, monthly average ambient air temperature, and stream gauge data for the Platte and Elkhorn Rivers. A discussion of this hydrological data is included in the following sections.

4.6.1 Groundwater Monitoring Wells

The groundwater monitoring well data collected for 2013 are presented for each monitoring well in Figures 1 through 22 in Section A of Appendix III. In looking at the monitoring well data graphed over time, the elevations seem to be experiencing normal, seasonal fluctuation. Most of the monitored wells in Douglas County showed lower elevations in early spring 2013 and higher elevations in early summer compared to the same period in 2012. In Saunders County, most monitored wells showed an overall lower elevation compared to the same period in 2012. An exhaustive analysis of the monitoring well data has not been performed at this time. As impacts to ponds are identified and correlated to Project operation, the groundwater monitoring well data will continue to be used to assist in the hydrological evaluation of each pond.

4.6.2 Production Wells

The production well pumping rates for 2013 are presented for each production well in the Douglas and Saunders County well fields in Tables 1 and 2 in Section B of Appendix III.

The Platte West Well Field Production Wells operated throughout 2013, completing the fifth full year of operation. As in past years, pumping was well below regulated capacity. The rate of pumping during March 2013 was considerably higher than previous years (80 percent higher) due to a planned plant outage at one of the District's other production facilities.

Due to concerns from the lingering drought of 2012, the District planned self-imposed pumping restrictions during the months of April, May, June, August, and September. No restrictions were planned for July. The planned restrictions were a 25 percent reduction from average monthly flows (2009 through 2012) for all months except May which was a planned 33 percent reduction. The District achieved the planned target flows for April, May, and June averaging approximately 24.2 MGD (million gallons per day) of pumpage for this three-month period as compared to a 2009-2012 average of 36.9 MGD. Due to nearly normal river flows in August the self-imposed restrictions were lifted for August and September.

Annual production in 2013 (January through November) declined to 11,048 million gallons (MG) from the 2012 production 11,891 MG. Both 2012 and 2013 included several months of self-imposed pumping restrictions and were both significantly below the record high production year of 2011 (12,448 MG – January through November).

4.6.3 Precipitation and Temperature

The monthly precipitation from January 1 through November 2013 has little correlation the monthly historical averages (Appendix III, Section C). Overall, the January through November 2013 recorded precipitation total was 24.8 inches, while the annual historical average during the same period was 28.4 inches, indicating a drier than normal year (Weather Underground 2013). Historically, the amount of precipitation increases from January to a peak in June, declines to a plateau in late summer, and continues to decline through the end of the year. In 2013, however, the precipitation spiked May, August, and October.

Average ambient air temperature in 2013 fell within the expected monthly high and low temperature range based on historical averages (Appendix III, Section C). Average monthly temperatures ranged between 24 °F and 75 °F from January 1 through November 30, 2013.

4.6.4 Stream Gauges

Historically, stream elevations for the Platte River are highest in the spring and lowest in late summer and early fall (Appendix III, Section B). The stream elevations in 2013 followed this trend and were generally comparable to the historic averages (Appendix III, Section C).

Mean stream elevations in the Elkhorn River generally followed the pattern described above for the Platte River; the mean stream elevation throughout 2013 was below the historic mean stream elevation by a nearly a foot or more.

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5.0 SUMMARY AND RECOMMENDATIONS

The goal of pond monitoring within the Douglas County and Saunders County well fields and associated cones of depression is to evaluate the impact that Project operation may have on pond surface water elevations. To accomplish this goal, a standardized procedure for monitoring the ponds has been developed and implemented. Monitoring data collected between 2005 and the 2008 spring monitoring effort represents the baseline conditions prior to Project operation. Data collected since fall 2008 is considered post-operational. The 2013 data was evaluated and compared to the ranges and values established by the baseline surface water elevation data.

5.1 TRENDS IN POND SURFACE WATER ELEVATIONS

Three trends in surface water elevation were observed at the 45 ponds in the Project area in 2013; DG-11 is only photographically monitored. The grouping of ponds by trend was completed by analyzing the water level elevation graphs included in Appendix I.

The majority of monitored ponds (34 ponds in Douglas County and five ponds in Saunders County) show a general trend of decreasing pond level elevations throughout baseline and operational monitoring events. Of these ponds, seventeen ponds in Douglas County (DG-20, DG-20A, DG-20B, DG-20C, DG-20D, DG-20E, DG-20F, DG-20G, DG-21, DG-22, DG-23, DG-23A, DG-30, DG-31, DG-32, DG-34, and DG-52) and two ponds in Saunders County (SN-03 and SN-04) are located within one half mile of production wells. Given their proximity to the well fields, these ponds have the potential to be affected by groundwater drawdown resulting from pumping in the nearby well fields.

One pond in Douglas County (DG-19) and three ponds in Saunders County (SN-23, SN-25, and SN-26) have exhibited a general trend of increasing pond level. The three ponds in Saunders County are not located near any production wells; however, DG-19 is located near Production Wells PW 04-4 and PW 04-5. The increase in pond level at DG-19 is likely the result of water being added to the pond by an adjacent well. The increase in water elevations at SN-23, SN-25, and SN-26 is likely due to manipulations made by the landowner coupled with their location at the outer extent of the cone of depression.

Two ponds (DG- 27 and DG-43) in Douglas County exhibited pond level elevations similar to elevations measured during baseline monitoring and previous operational monitoring. The close proximity of these three ponds to the Platte River likely accounts for the stability in their water elevations.

As previously stated, DG-01, DG-03, DG-04, DG-04A, DG04B, DG-34, SN-16, SN-24, SN-25, and SN-26 were dredged or otherwise altered during this or previous monitoring years. These activities altered the volume and surface area of these ponds. Discussions with the District and Corps have not been initiated regarding bathymetric resurveying of these ponds.

5.2 STATISTICAL ANALYSIS

Statistical analyses were completed to determine whether any observed changes in the operational surface water elevation data from 2013 were significantly different from the natural fluctuation observed during baseline monitoring (August 2006 through March 2008). As previously mentioned, DG-11 is only photographically monitored, and baseline data for DG-02A is not available because it was not monitored prior to 2010. Statistical analysis for SN-03 and SN-04 was not completed due to lack of data from the August, September, and October 2013 monitoring events.

Two ponds in Saunders County (SN-23 and SN-24) showed a statistically significant difference in water elevations between the 2013 operational data and the 2007 baseline monitoring data. These ponds exhibited lower water levels in 2013 than were observed in 2007. Because of their depth and relatively large surface areas, it is unlikely that these differences signify a biologically relevant change. Both ponds have undergone extensive landowner alterations during both baseline and operational monitoring, and neither pond is in close proximity to production wells. Therefore, it is unlikely that the lower water elevations in 2013 are the result of groundwater drawdown due to pumping.

Using the repeated measured ANOVA, the number of statistically significant differences in pond elevations was higher in 2012 than in 2013. In 2012, ten ponds had statistically significant differences in pond elevations; all had significantly lower elevations. None of the ponds that were significantly different in 2012 are significantly different in 2013.

5.3 RECOMMENDATIONS

Continued monitoring at all of the ponds, with the exception of SN-03 and SN04, as well as continued evaluation of other hydrological data and pumping data will assist in determining the impacts, if any, of Project pumping within the cones of depression. It is recommended that pond monitoring efforts in 2014 continue without changes to the methodology at this time. These efforts are scheduled to take place in March, August, September, and October of 2014 at each of the 44 remaining ponds within the Project area. Data collected in 2014 and in future years will continue to be compared to the baseline data in an attempt to determine the effects, if any, of Project operation on local pond levels. All pond elevation data will continue to be provided to each landowner following each monitoring year.

* * * * *

6.0 REFERENCES

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APPENDICES

APPENDIX I – DOUGLAS COUNTY BATHYMETRIC MONITORING DATA

DG-01

BATHYMETRIC MONITORING DATA

DG-01-1

FIGURES

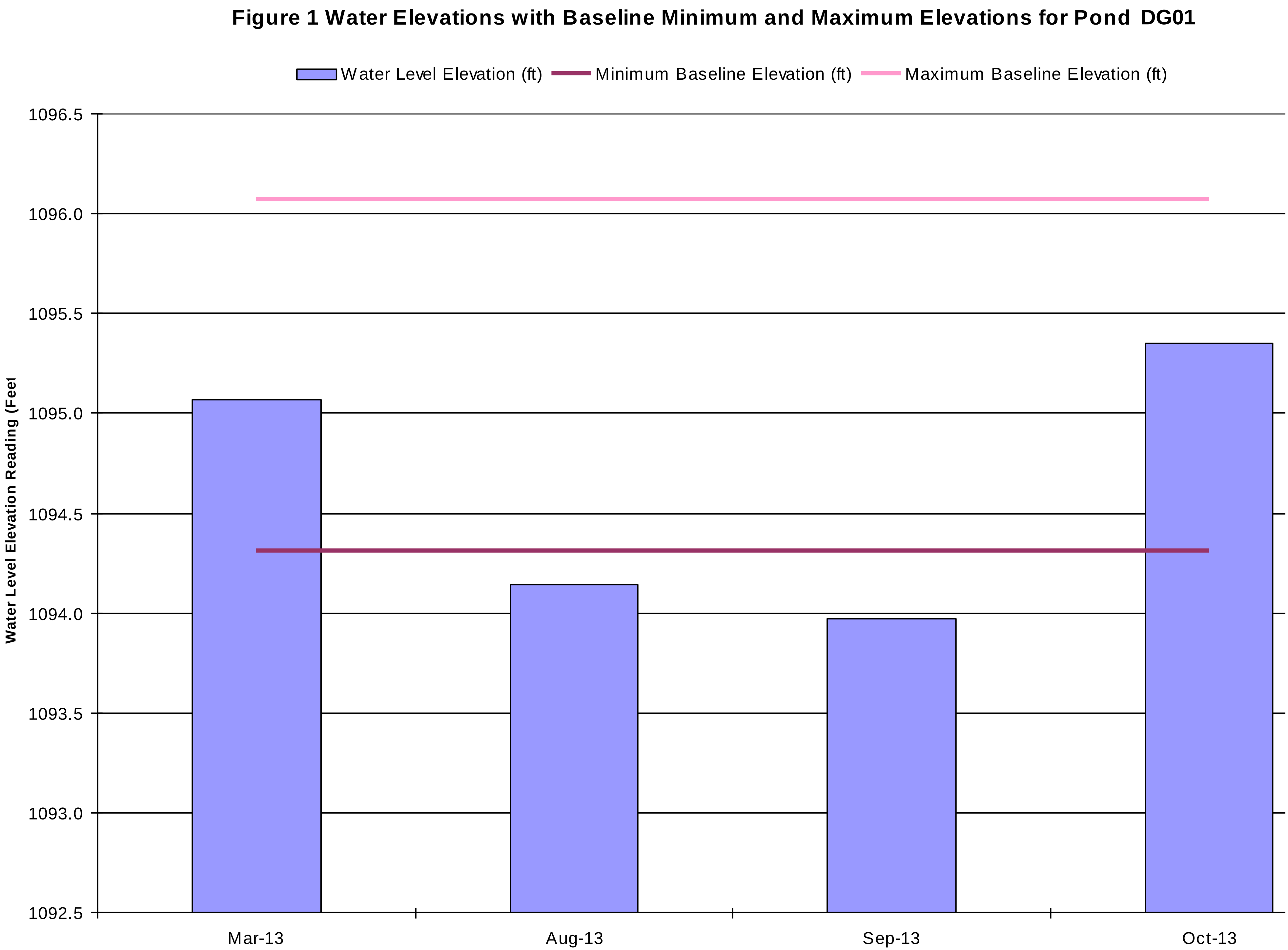
Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG01
Water Level Elevation (ft)
Minimum Baseline Elevation (ft)
Maximum Baseline Elevation (ft)
Water Level Elevation Reading (Feet
1096.5
1096.0
1095.5
1095.0
1094.5
1094.0
1093.5
1093.0
1092.5
Mar-13
Aug-13
Sep-13
Oct-13

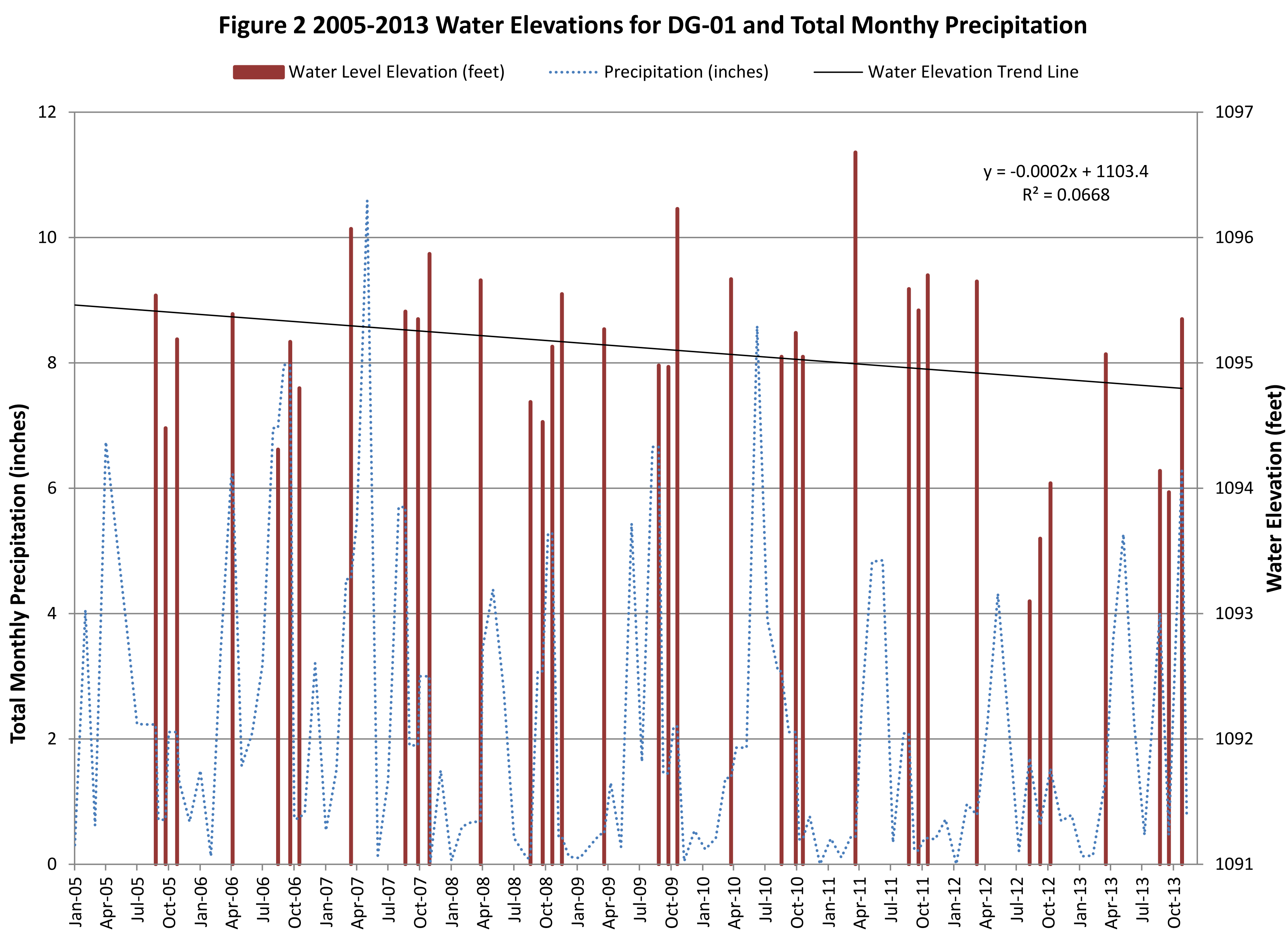

Figure 2 2005-2013 Water Elevations for DG-01 and Total Monthy Precipitation
Water Level Elevation (feet)
Precipitation (inches)
Water Elevation Trend Line
y = -0.0002x + 1103.4
R² = 0.0668
Total Monthly Precipitation (inches)
Water Elevation (feet)
0
2
4
6
8
10
12
1091
1092
1093
1094
1095
1096
1097
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Jan-07
Apr-07
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Oct-12
Jan-13
Apr-13
Jul-13
Oct-13

DG-01-2

POND DG-01 PHOTOGRAPHS

Photograph 1: View of DG-01 looking east, March 18, 2013.

Photograph 2: View of DG-01 looking south, March 18, 2013.

Photograph 3: View of DG-01 looking east, August 21, 2013.

Photograph 4: View of DG-01 looking south, August 21, 2013.

Photograph 5: View of DG-01 looking east, September 26, 2013.

Photograph 6: View of DG-01 looking south, September 26, 2013.

Photograph 7: View of DG-01 looking east, October 24, 2013.

Photograph 8: View of DG-01 looking south, October 24, 2013.

DG-01-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG01 **Permanent Benchmark Elevation (feet):** 1,104.97

Date	Water Level Elevation (feet)
3/18/2013	1,095.07
8/22/2013	1,094.14
9/17/2013	1,093.97
10/25/2013	1,095.35

DG-02

BATHYMETRIC MONITORING DATA

DG-02-1

FIGURES

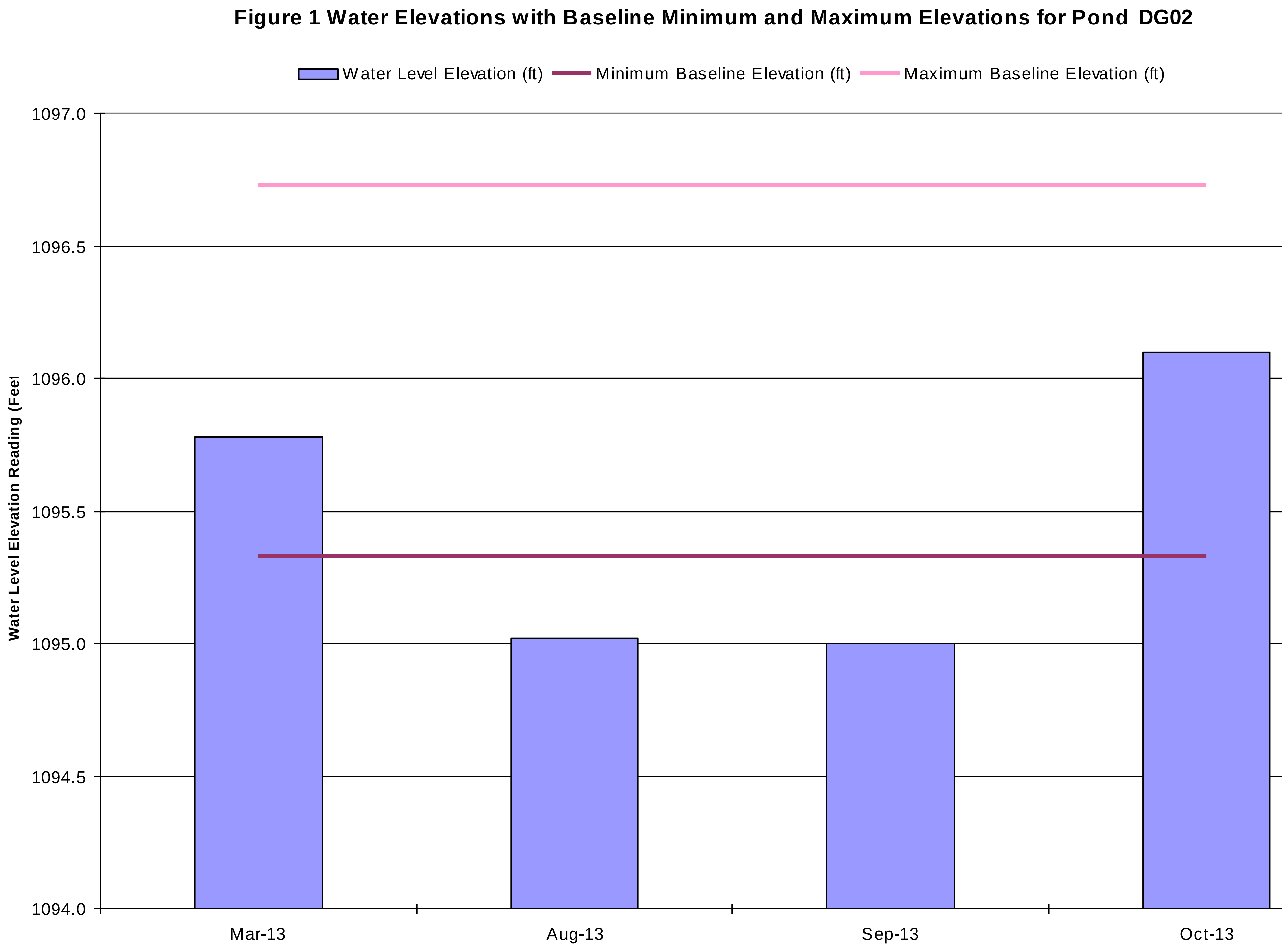
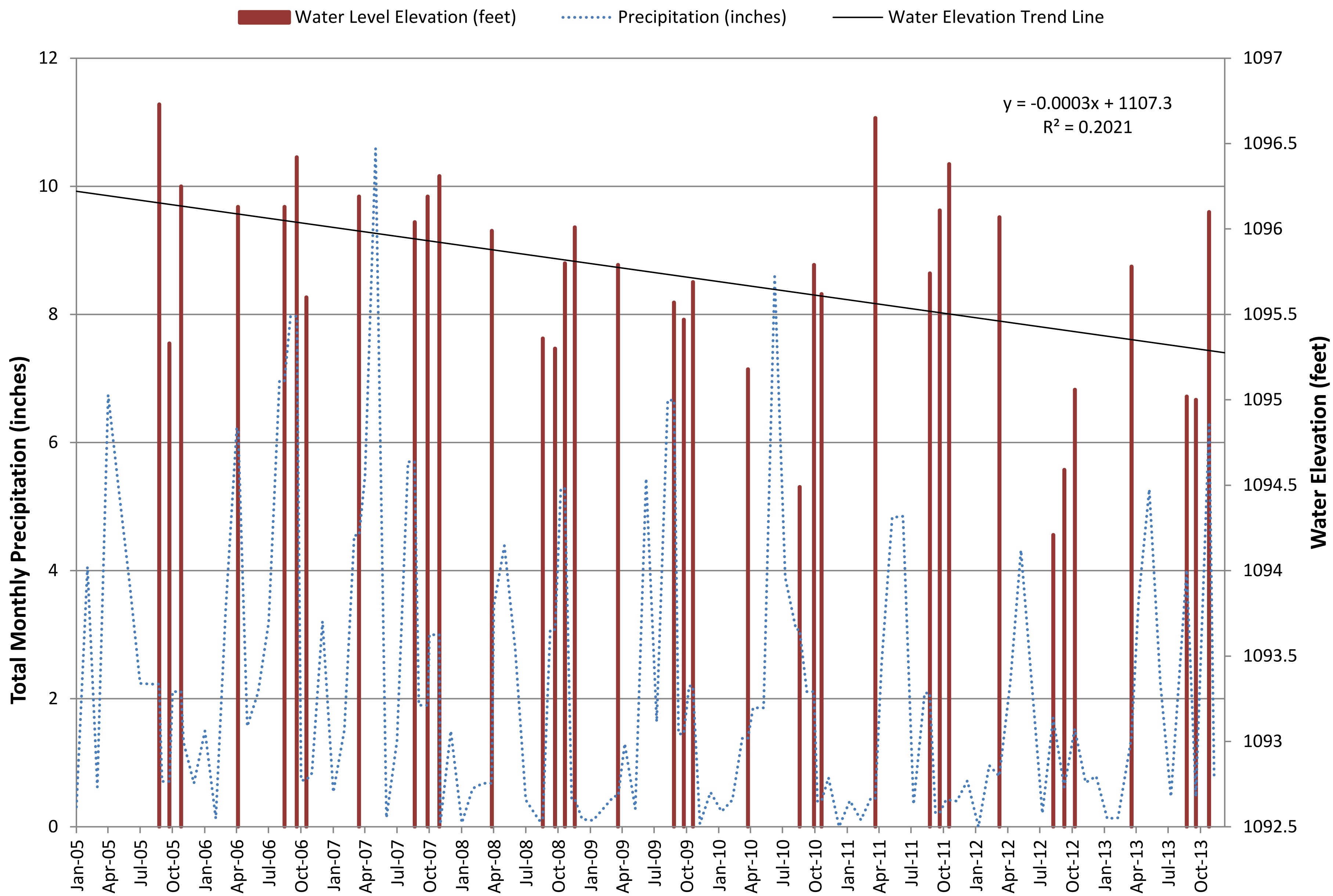


Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG02
Water Level Elevation (ft)
Minimum Baseline Elevation (ft)
Maximum Baseline Elevation (ft)
Water Level Elevation Reading (Feet
1097.0
1096.5
1096.0
1095.5
1095.0
1094.5
1094.0
Mar-13
Aug-13
Sep-13
Oct-13

Figure 2 2005-2013 Water Elevations for DG-02 and Total Monthly Precipitation



DG-02-2

POND DG-02 PHOTOGRAPHS

Photograph 1: View of DG-02 looking south, March 18, 2013.

Photograph 2: View of DG-02 looking west, March 18, 2013.

Photograph 3: View of DG-02 looking north, March 18, 2013.

Photograph 4: View of DG-02 looking south, August 21, 2013.

Photograph 5: View of DG-02 looking west, August 21, 2013.

Photograph 6: View of DG-02 looking north, August 21, 2013.

Photograph 7: View of DG-02 looking south, September 26, 2013.

Photograph 8: View of DG-02 looking west, September 26, 2013.

Photograph 9: View of DG-02 looking north, September 26, 2013.

Photograph 10: View of DG-02 looking south, October 24, 2013.

Photograph 11: View of DG-02 looking west, October 24, 2013.

Photograph 12: View of DG-02 looking north, October 24, 2013.

DG-02-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG02 **Permanent Benchmark Elevation (feet):** 1,104.97

Date	Water Level Elevation (feet)
3/18/2013	1,095.78
8/22/2013	1,095.02
9/17/2013	1,095.00
10/25/2013	1,096.10

DG-02A

BATHYMETRIC MONITORING DATA

DG-02A-1

FIGURES

Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG02A

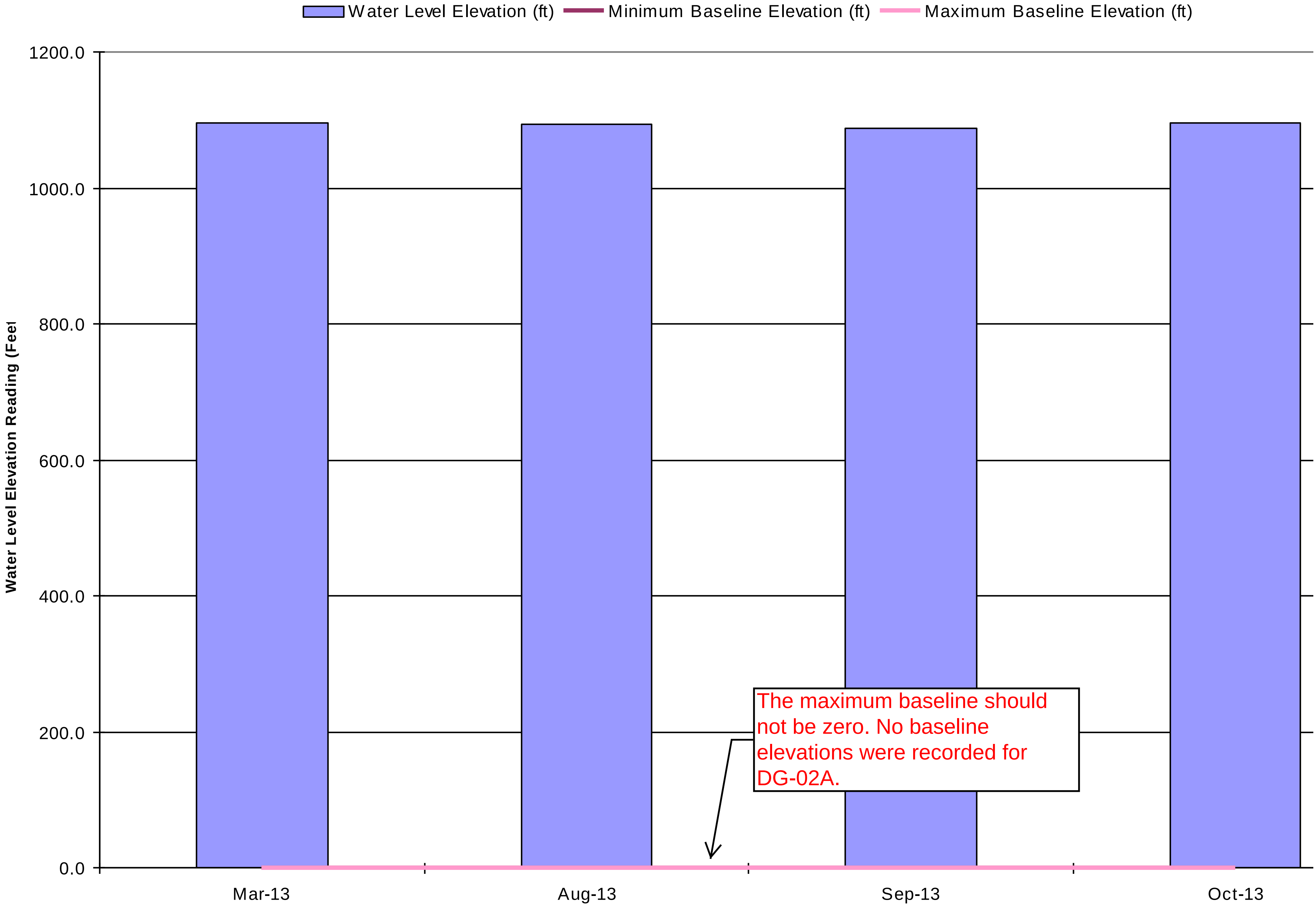
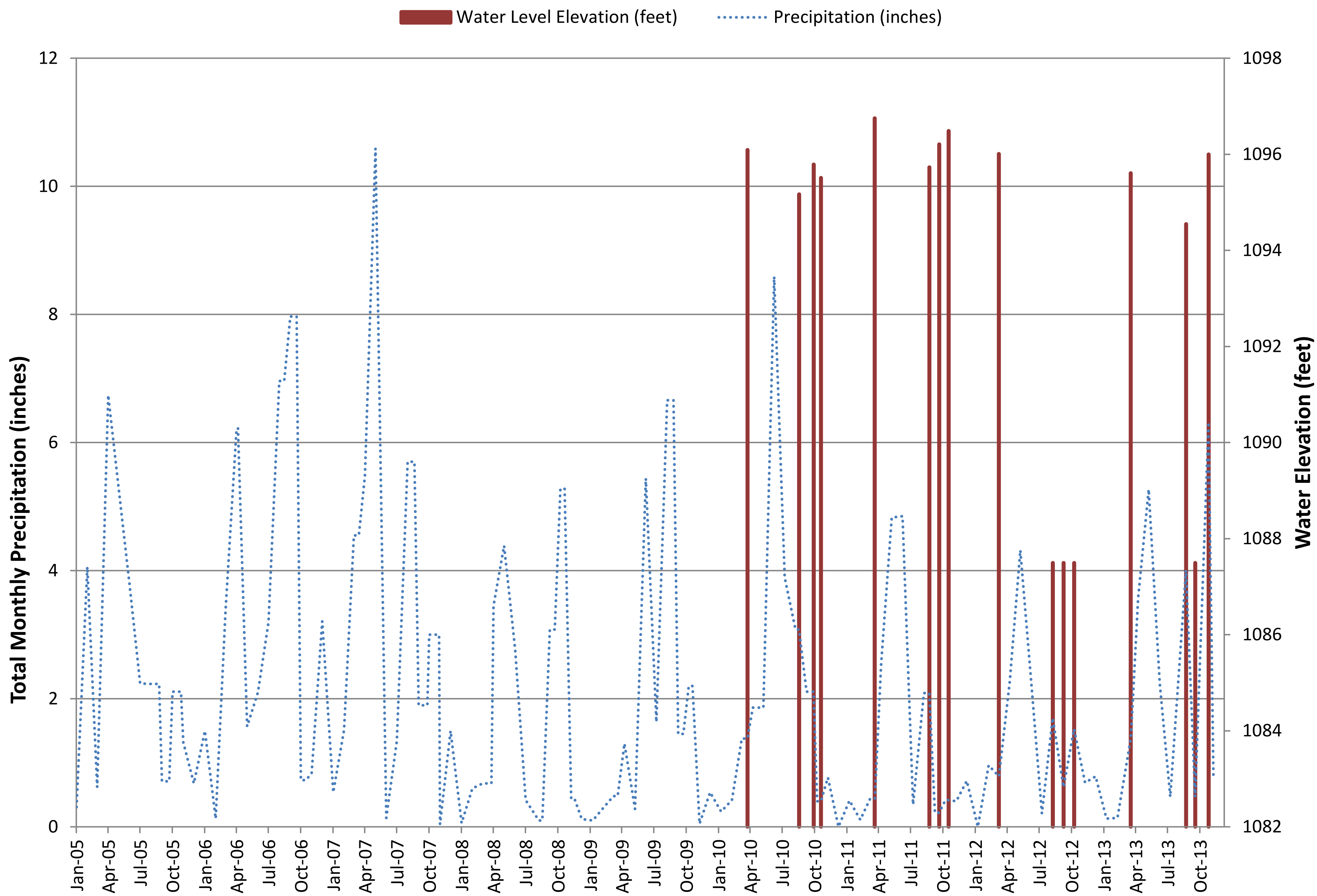


Figure 2 2005-2013 Water Elevations for DG-02A and Total Monthly Precipitation



DG-02A-2

POND DG-02A PHOTOGRAPHS

Photograph 1: View of DG-02A looking south, March 18, 2013.

Photograph 2: View of DG-02A looking west, March 18, 2013.

Photograph 3: View of DG-02A looking south, August 21, 2013.

Photograph 4: View of DG-02A looking west, August 21, 2013.


Photograph 5: View of DG-02A looking south, September 26, 2013.


Photograph 6: View of DG-02A looking west, September 26, 2013.

Photograph 7: View of DG-02A looking south, October 24, 2013.

Photograph 8: View of DG-02A looking west, October 24, 2013.

DG-02A-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG02A **Permanent Benchmark Elevation (feet):** 1,104.97

Date	Water Level Elevation (feet)
3/18/2013	1,095.61
8/22/2013	1,094.55
9/17/2013	
10/25/2013	1,096.00

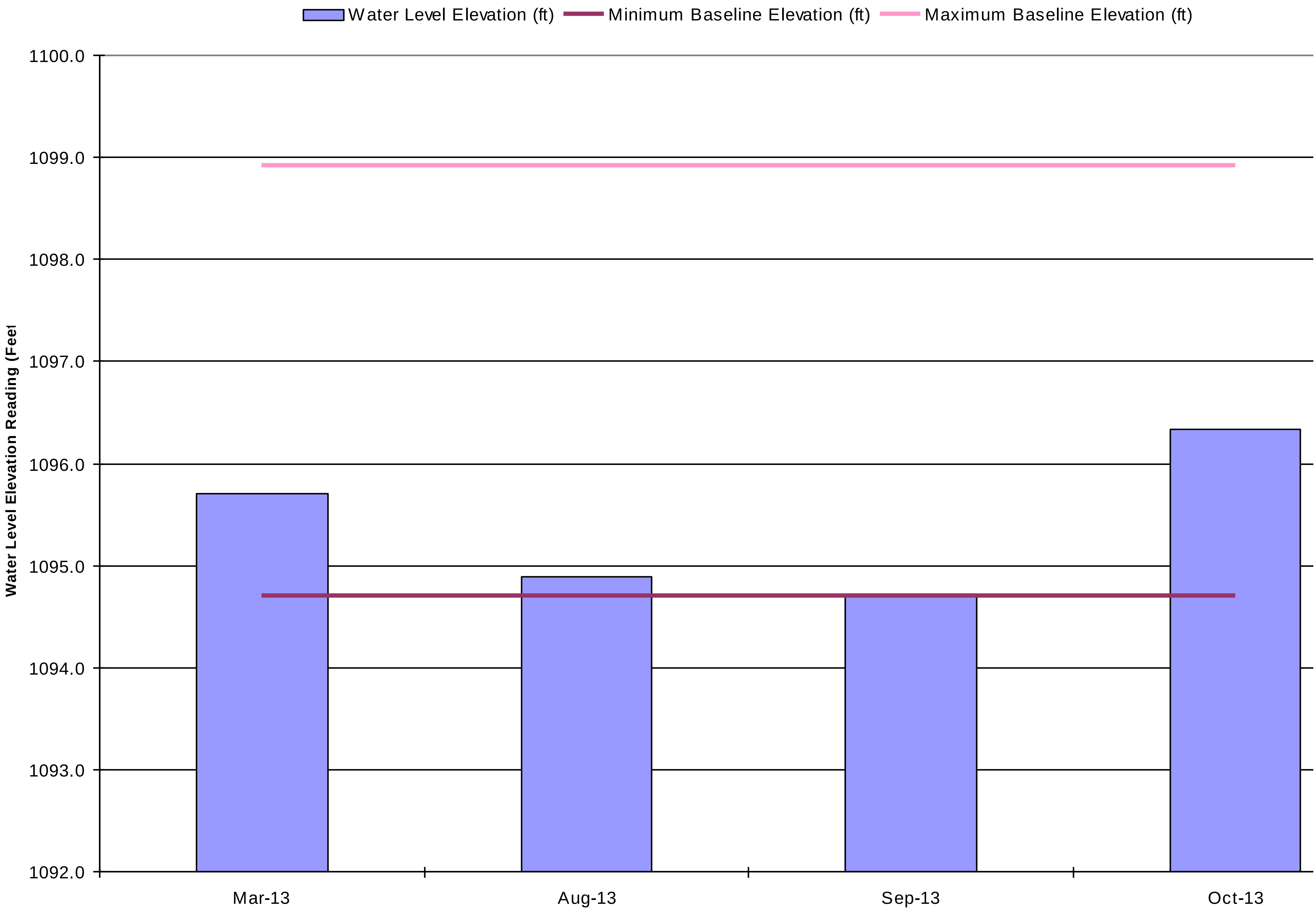
DG-03

BATHYMETRIC MONITORING DATA

DG-03-1

FIGURES

Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG03



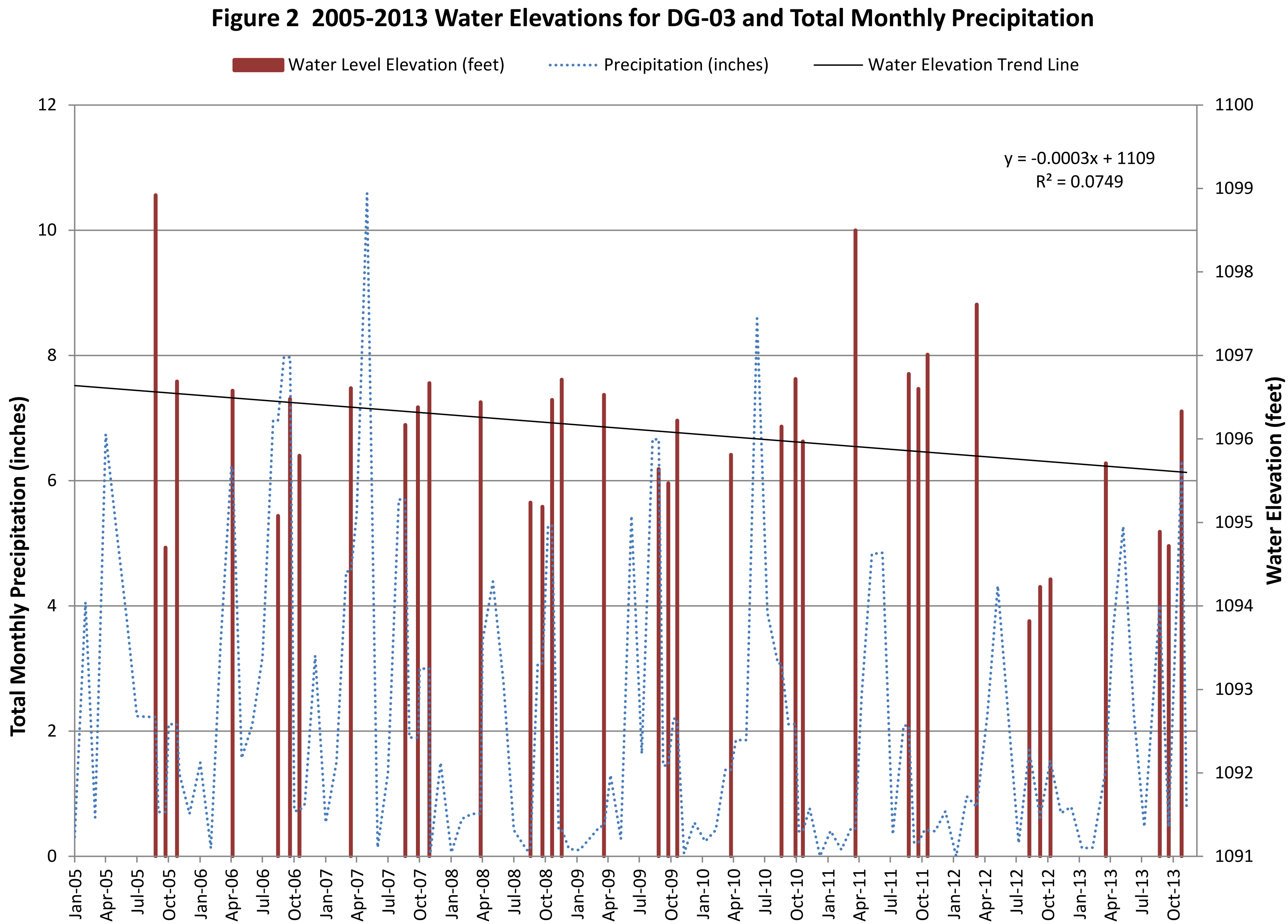


Figure 2 2005-2013 Water Elevations for DG-03 and Total Monthly Precipitation
Water Level Elevation (feet)
Precipitation (inches)
Water Elevation Trend Line
y = -0.0003x + 1109
R² = 0.0749
Total Monthly Precipitation (inches)
Water Elevation (feet)
0
2
4
6
8
10
12
1091
1092
1093
1094
1095
1096
1097
1098
1099
1100
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Jan-07
Apr-07
Jul-07
Oct-07
Jan-08
Apr-08
Jul-08
Oct-08
Jan-09
Apr-09
Jul-09
Oct-09
Jan-10
Apr-10
Jul-10
Oct-10
Jan-11
Apr-11
Jul-11
Oct-11
Jan-12
Apr-12
Jul-12
Oct-12
Jan-13
Apr-13
Jul-13
Oct-13

DG-03-2

POND DG-03 PHOTOGRAPHS

Photograph 1: View of DG-03 looking west, March 18, 2013.

Photograph 2: View of DG-03 looking north, March 18, 2013.

Photograph 3: View of DG-03 looking east, March 18, 2013.

Photograph 4: View of DG-03 looking northeast. Visible excavation from 2012. March 18, 2013.

Photograph 5: View of DG-03 looking west, August 21, 2013.

Photograph 6: View of DG-03 looking north, August 21, 2013.

Photograph 7: View of DG-03 looking east, August 21, 2013.

Photograph 8: View of DG-03 looking west, October 24, 2013.

Photograph 9: View of DG-03 looking north, October 24, 2013.

Photograph 10: View of DG-03 looking east, October 24, 2013.

DG-03-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG03 **Permanent Benchmark Elevation (feet):** 1,104.97

Date	Water Level Elevation (feet)
3/18/2013	1,095.71
8/22/2013	1,094.89
9/17/2013	1,094.72
10/25/2013	1,096.33

DG-04

BATHYMETRIC MONITORING DATA

DG-04-1

FIGURES

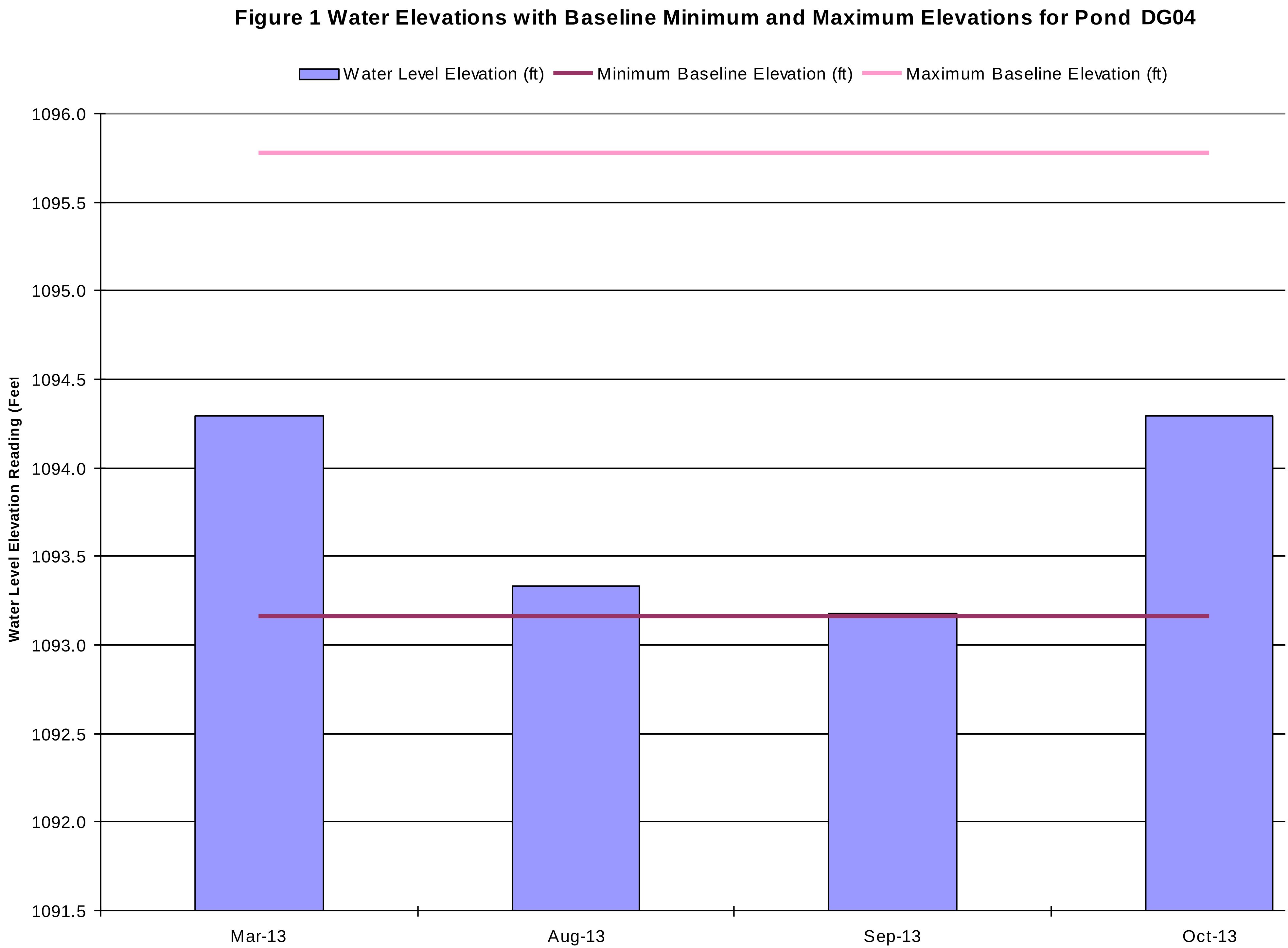
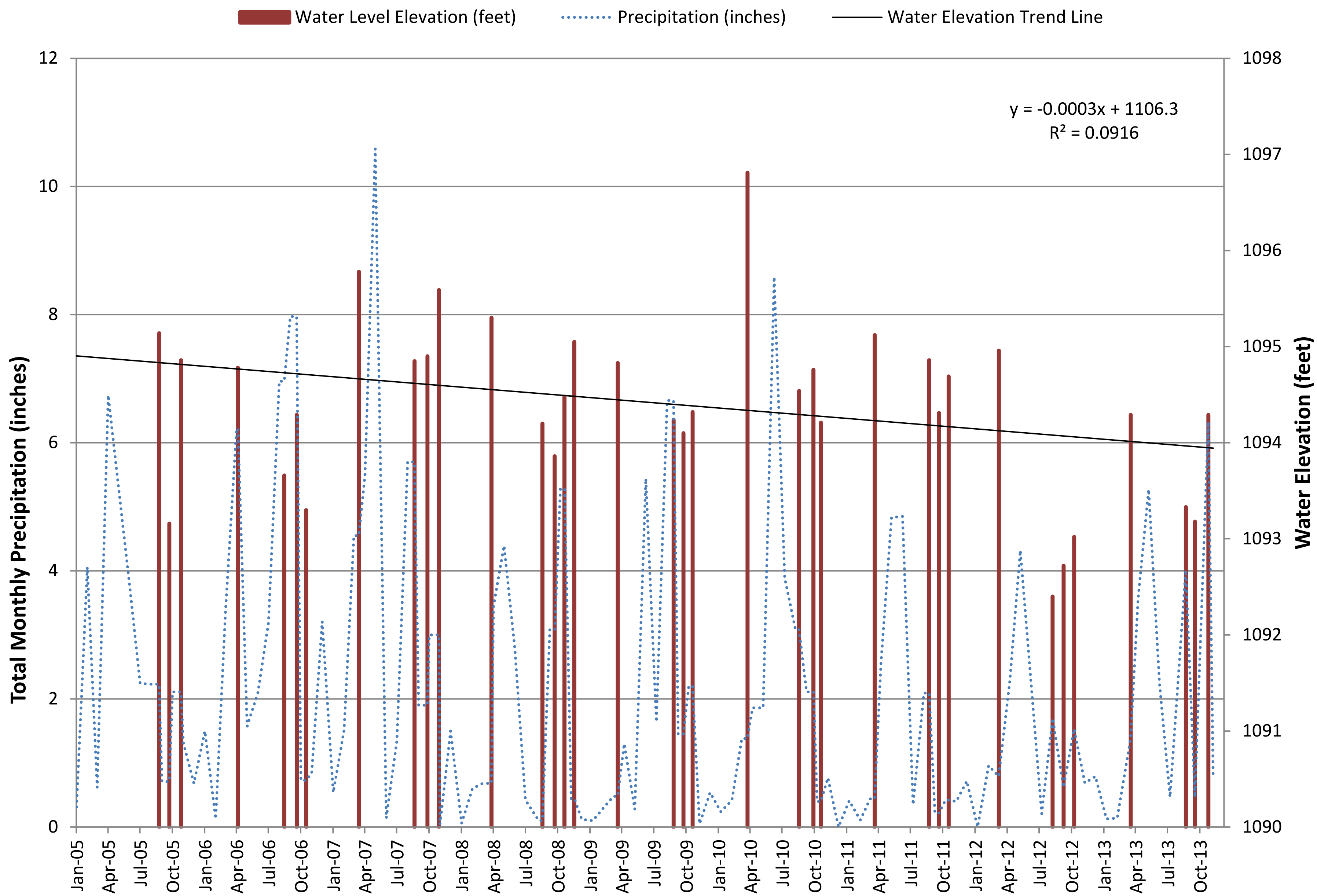


Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG04
Water Level Elevation (ft)
Minimum Baseline Elevation (ft)
Maximum Baseline Elevation (ft)
Water Level Elevation Reading (Feet
1096.0
1095.5
1095.0
1094.5
1094.0
1093.5
1093.0
1092.5
1092.0
1091.5
Mar-13
Aug-13
Sep-13
Oct-13

Figure 2 2005-2013 Water Elevations for DG-04 and Total Monthly Precipitation



DG-04-2

POND DG-04 PHOTOGRAPHS


Photograph 1: View of DG-04 looking east, March 18, 2013.


Photograph 2: View of DG-04 looking east, August 21, 2013.

Photograph 3: View of DG-04 looking east September 26, 2013.

Photograph 4: View of DG-04 looking east, October 24, 2013.

DG-04-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG04 **Permanent Benchmark Elevation (feet):** 1,102.04

Date	Water Level Elevation (feet)
3/18/2013	1,094.29
8/22/2013	1,093.33
9/17/2013	1,093.18
10/25/2013	1,094.29

DG-04A

BATHYMETRIC MONITORING DATA

DG-04A-1

FIGURES

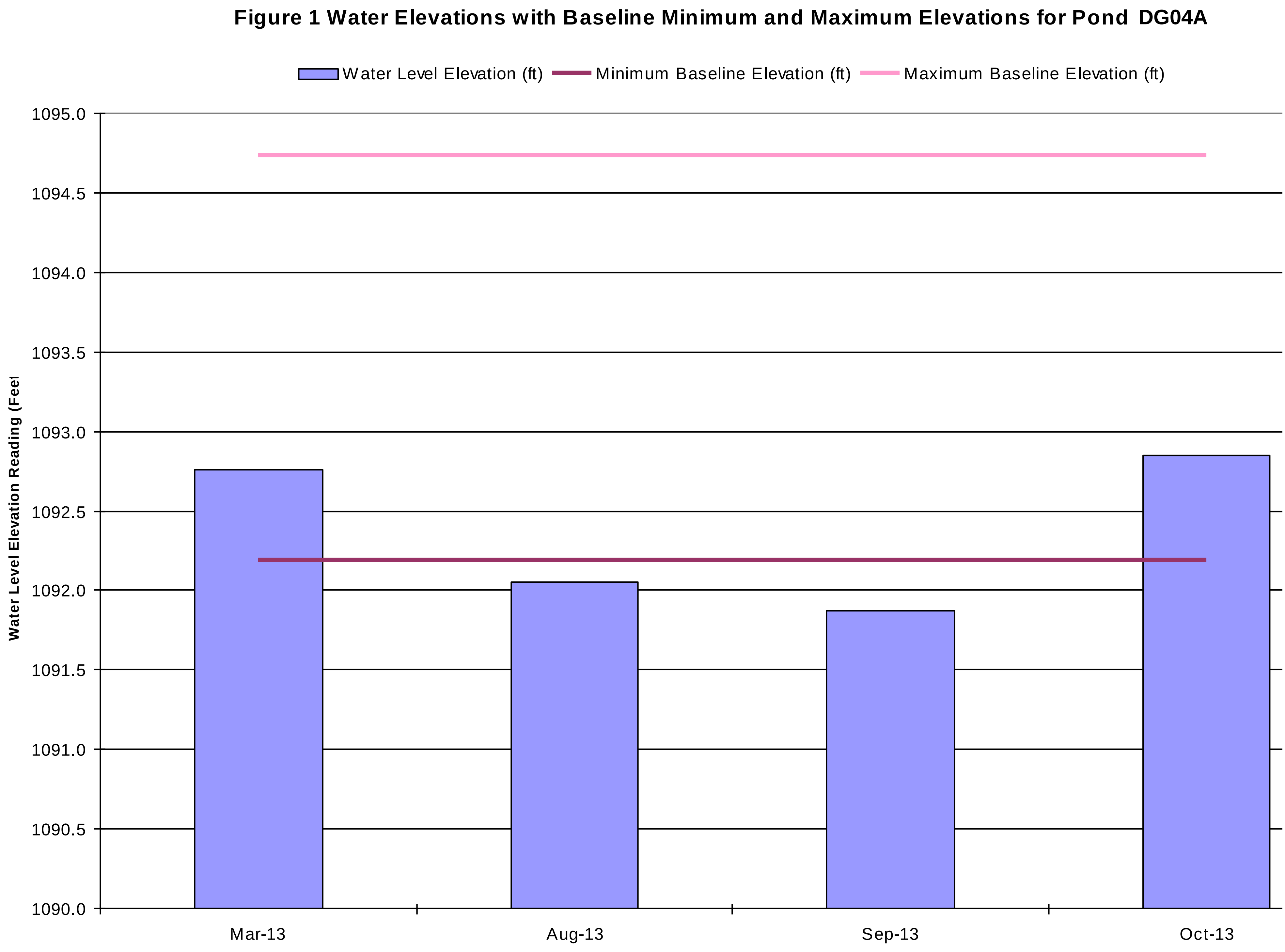


Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG04A
Water Level Elevation (ft)
Minimum Baseline Elevation (ft)
Maximum Baseline Elevation (ft)
Water Level Elevation Reading (Feet)
1095.0
1094.5
1094.0
1093.5
1093.0
1092.5
1092.0
1091.5
1091.0
1090.5
1090.0
Mar-13
Aug-13
Sep-13
Oct-13

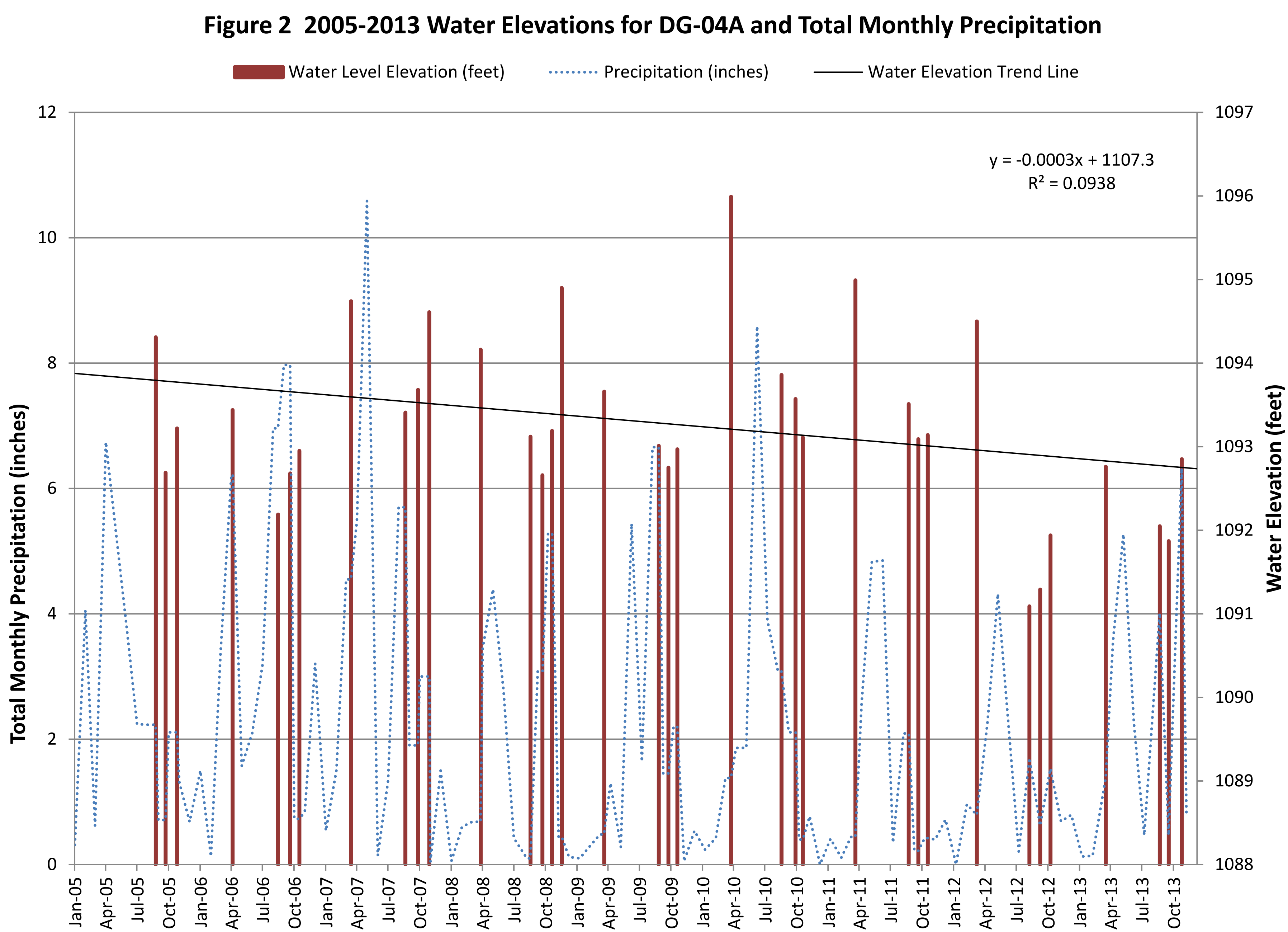


Figure 2 2005-2013 Water Elevations for DG-04A and Total Monthly Precipitation
Water Level Elevation (feet)
Precipitation (inches)
Water Elevation Trend Line
y = -0.0003x + 1107.3
R² = 0.0938
Total Monthly Precipitation (inches)
Water Elevation (feet)
0
2
4
6
8
10
12
1088
1089
1090
1091
1092
1093
1094
1095
1096
1097
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
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Apr-13
Jul-13
Oct-13

DG-04A-2

POND DG-04A PHOTOGRAPHS

Photograph 1: View of DG-04A looking northeast, March 18, 2013.

Photograph 2: View of DG-04A looking southeast, March 18, 2013.

Photograph 3: View of DG-04A looking northeast, August 21, 2013.

Photograph 4: View of DG-04A looking southeast, August 21, 2013.

Photograph 5: View of DG-04A looking northeast, September 26, 2013.

Photograph 6: View of DG-04A looking southeast, September 26, 2013.

Photograph 7: View of DG-04A looking northeast, October 24, 2013.

Photograph 8: View of DG-04A looking southeast, October 24, 2013.

DG-04A-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG04A **Permanent Benchmark Elevation (feet):** 1,100.08

Date	Water Level Elevation (feet)
3/18/2013	1,092.76
8/22/2013	1,092.05
9/17/2013	1,091.87
10/25/2013	1,092.85

DG-04B

BATHYMETRIC MONITORING DATA

DG-04B-1

FIGURES

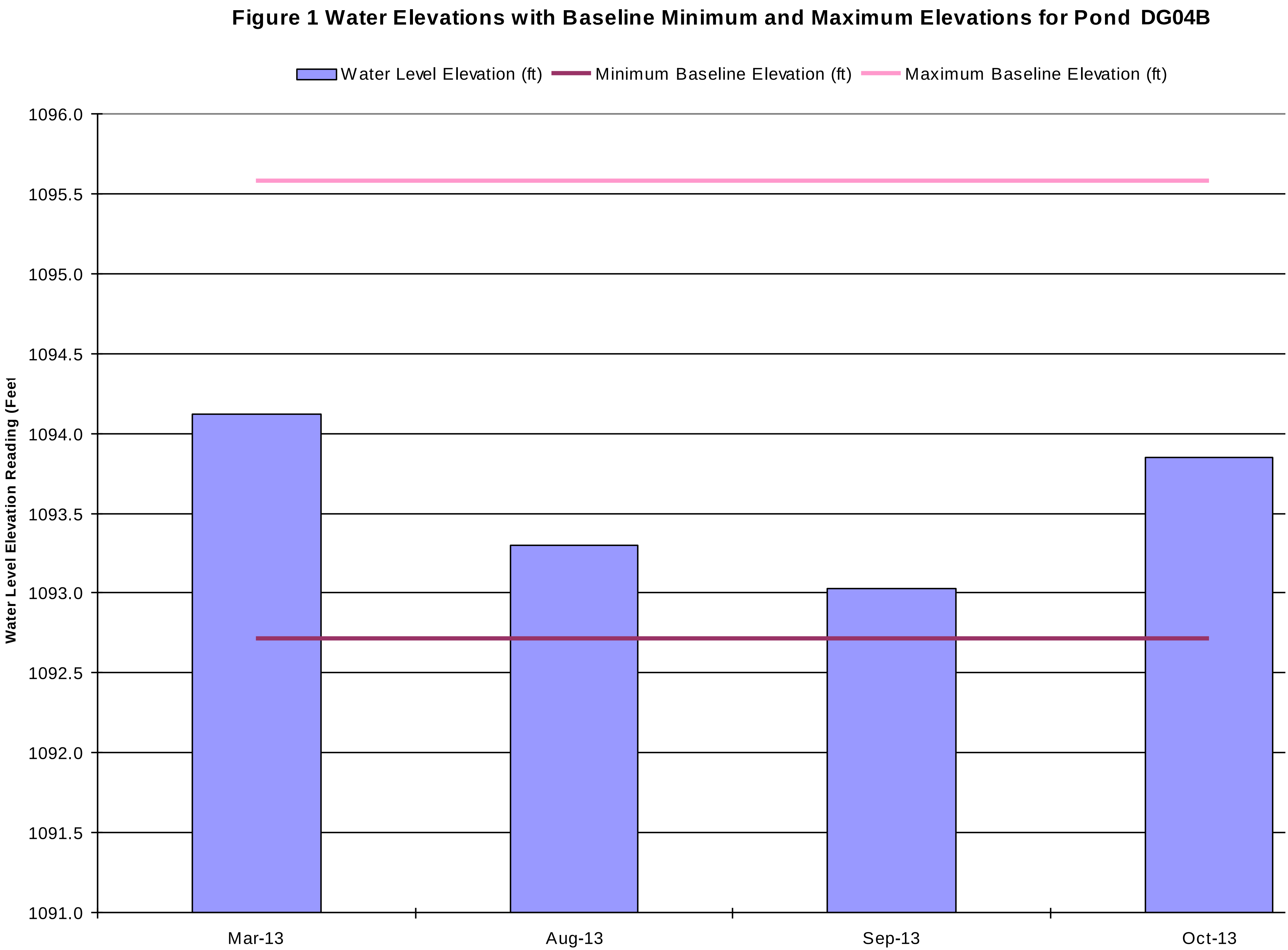

Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG04B
Water Level Elevation (ft)
Minimum Baseline Elevation (ft)
Maximum Baseline Elevation (ft)
Water Level Elevation Reading (Feet
1096.0
1095.5
1095.0
1094.5
1094.0
1093.5
1093.0
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1092.0
1091.5
1091.0
Mar-13
Aug-13
Sep-13
Oct-13

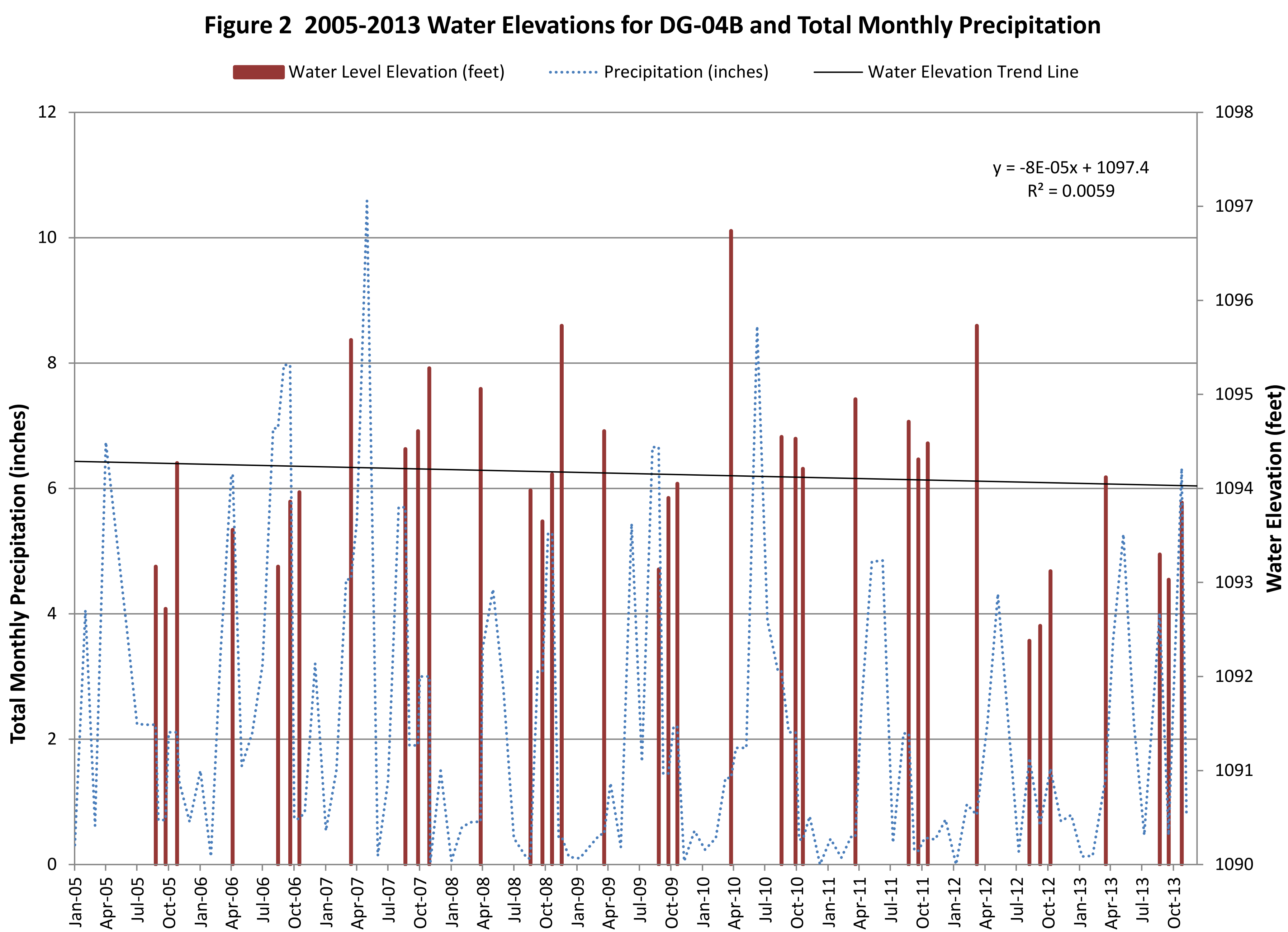

Figure 2 2005-2013 Water Elevations for DG-04B and Total Monthly Precipitation
Water Level Elevation (feet)
Precipitation (inches)
Water Elevation Trend Line
y = -8E-05x + 1097.4
R² = 0.0059
Total Monthly Precipitation (inches)
Water Elevation (feet)
0
2
4
6
8
10
12
1090
1091
1092
1093
1094
1095
1096
1097
1098
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
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Jul-12
Oct-12
Jan-13
Apr-13
Jul-13
Oct-13

DG-04B-2

POND DG-4B PHOTOGRAPHS

Photograph 1: View of DG-04B looking southeast, March 18, 2013.

Photograph 2: View of DG-04B looking southwest, March 18, 2013.

Photograph 3: View of DG-04B looking southeast, August 21, 2013.

Photograph 4: View of DG-04B looking southwest, August 21, 2013.

Photograph 7: View of DG-04B looking southeast, September 26, 2013.

Photograph 8: View of DG-04B looking southwest, September 26, 2013.

Photograph 9: View of DG-04B looking southeast, October 24, 2013.

Photograph 10: View of DG-04B looking southwest, October 24, 2013.

DG-04B-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG04B **Permanent Benchmark Elevation (feet):** 1,100.08

Date	Water Level Elevation (feet)
3/18/2013	1,094.12
8/22/2013	1,093.30
9/17/2013	1,093.03
10/25/2013	1,093.85

DG-05

BATHYMETRIC MONITORING DATA

DG-05-1

FIGURES

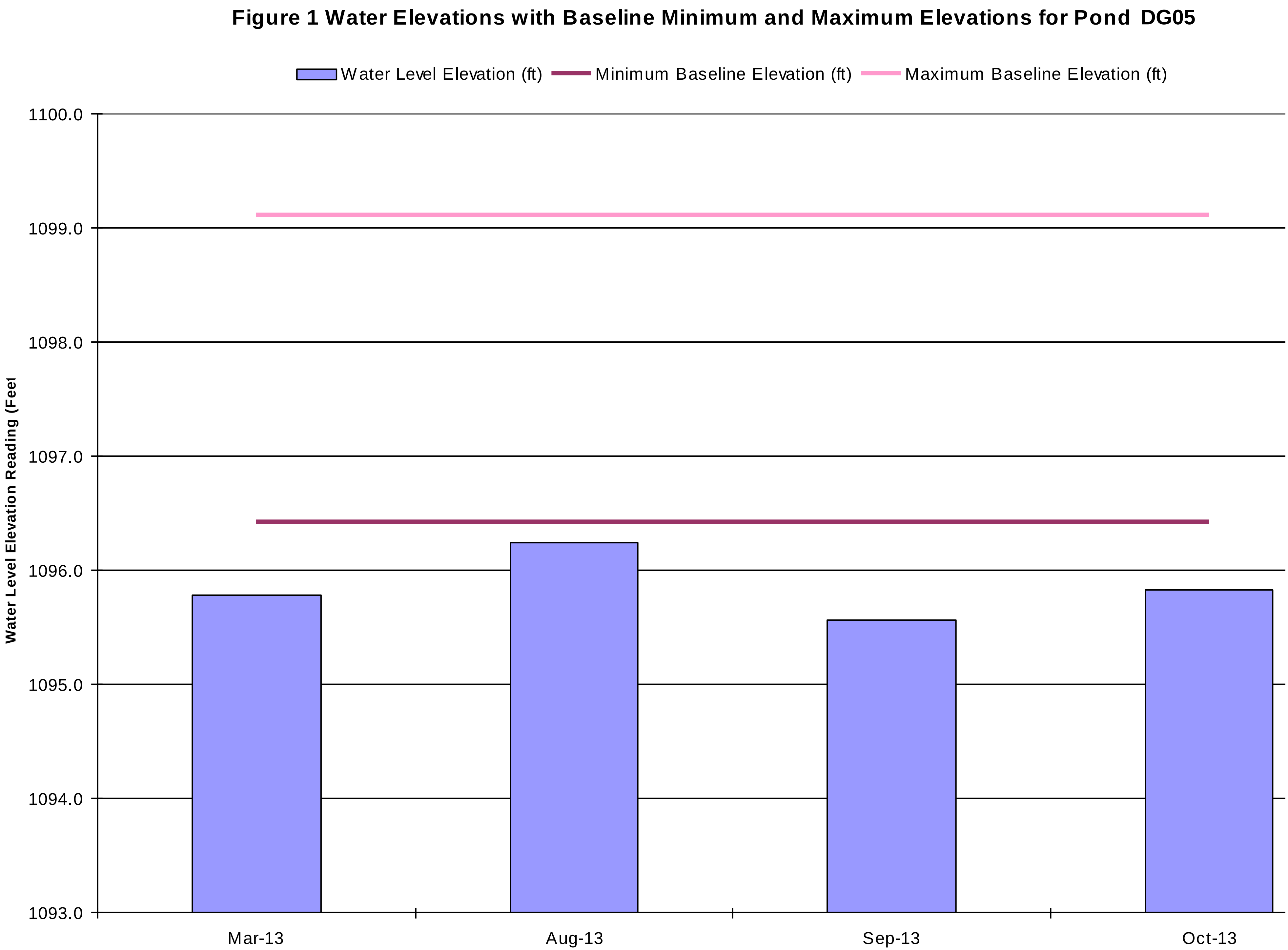
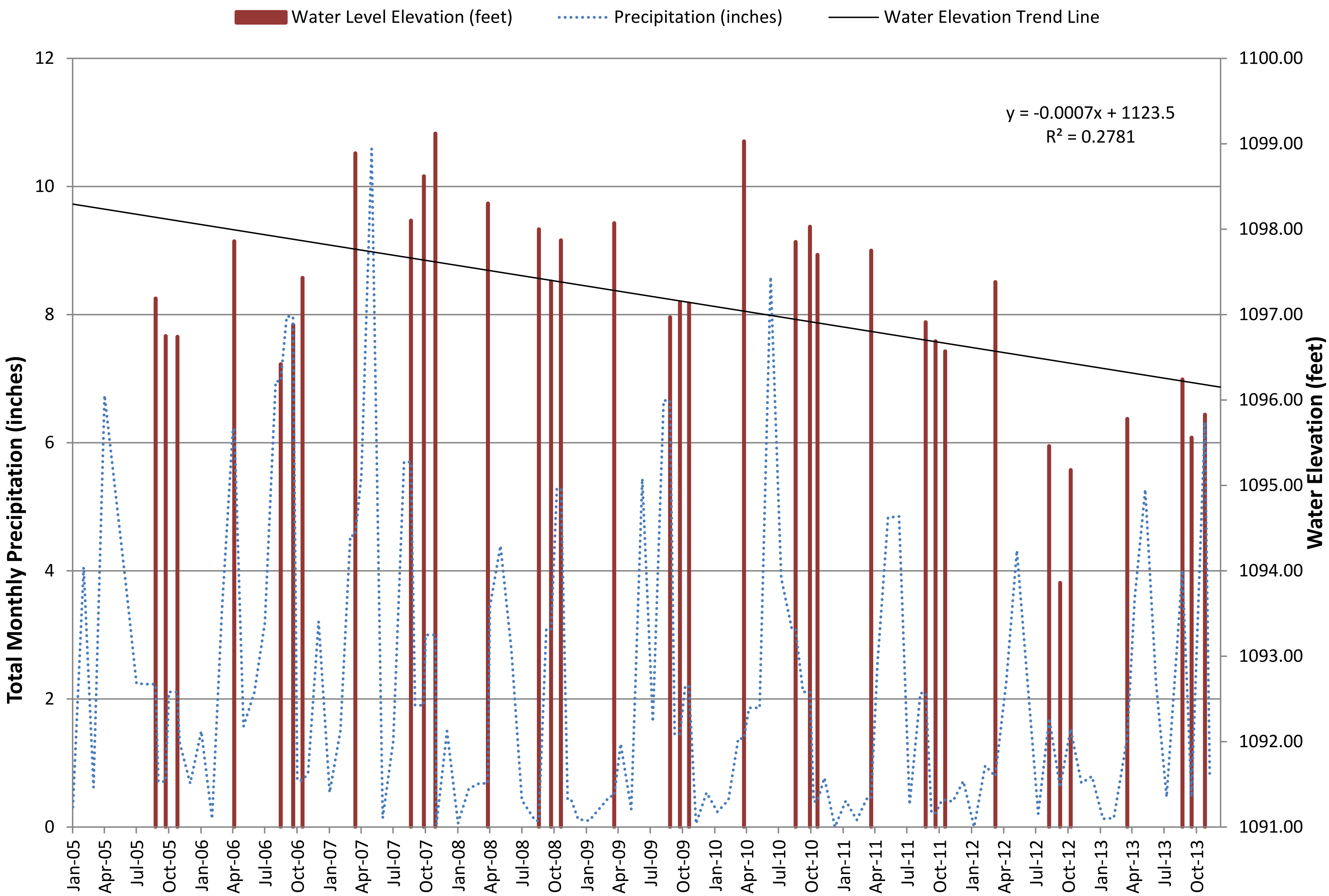


Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG05
Water Level Elevation (ft)
Minimum Baseline Elevation (ft)
Maximum Baseline Elevation (ft)
Water Level Elevation Reading (Feet
1100.0
1099.0
1098.0
1097.0
1096.0
1095.0
1094.0
1093.0
Mar-13
Aug-13
Sep-13
Oct-13

Figure 2 2005-2013 Water Elevations for DG-05 and Total Monthly Precipitation



DG-05-2

POND DG-05 PHOTOGRAPHS

Photograph 1: View of DG-05 looking east, March 18, 2013.

Photograph 2: View of DG-05 looking east, August 21, 2013.

Photograph 3: View of DG-05 looking east, September 26, 2013.

Photograph 4: View of DG-05 looking east, October 24, 2013.

DG-05-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG05 **Permanent Benchmark Elevation (feet):** 1,102.58

Date	Water Level Elevation (feet)
3/18/2013	1,095.78
8/21/2013	1,096.24
9/16/2013	1,095.56
10/24/2013	1,095.83

DG-09

BATHYMETRIC MONITORING DATA

DG-09-1

FIGURES

Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG09

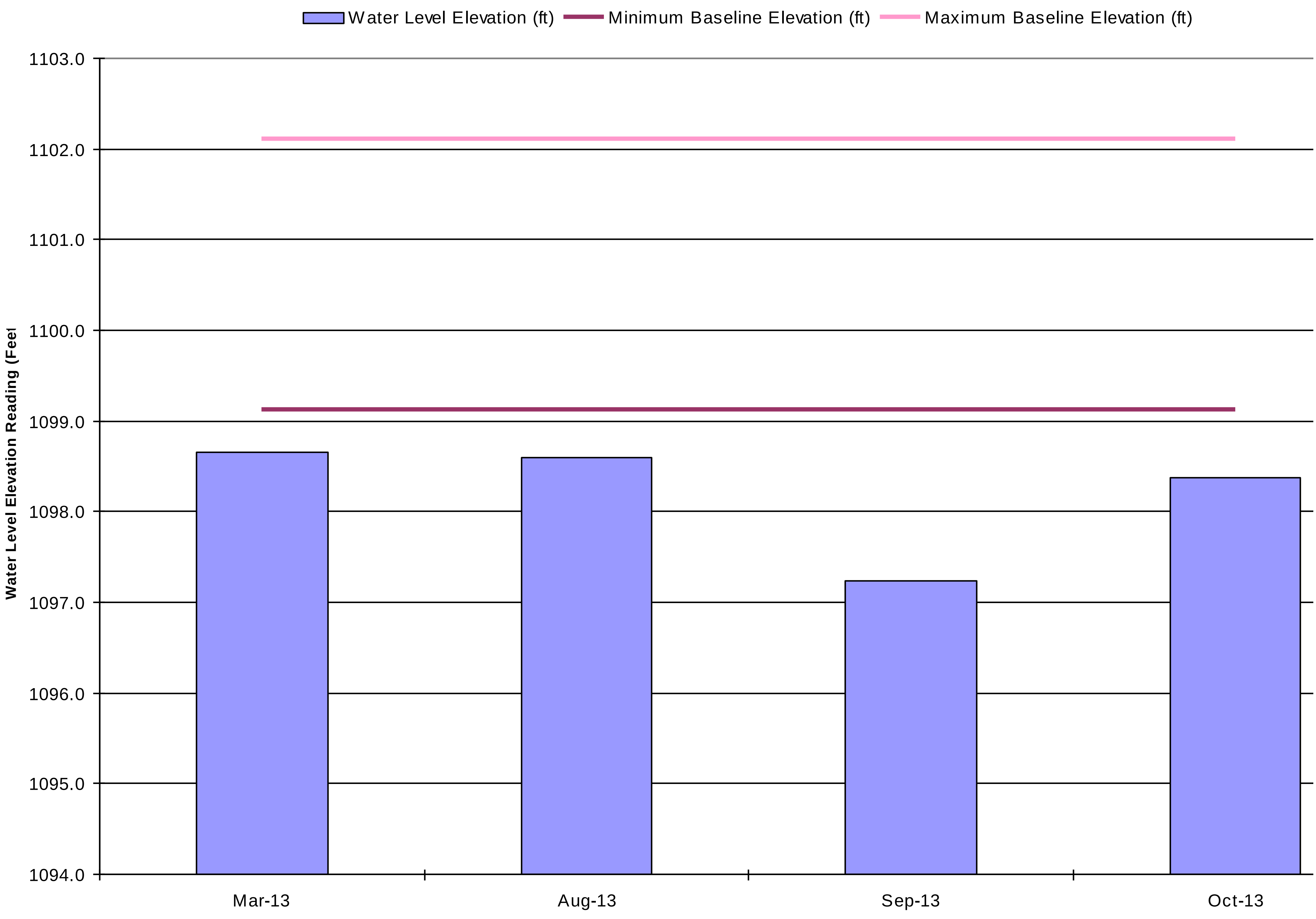
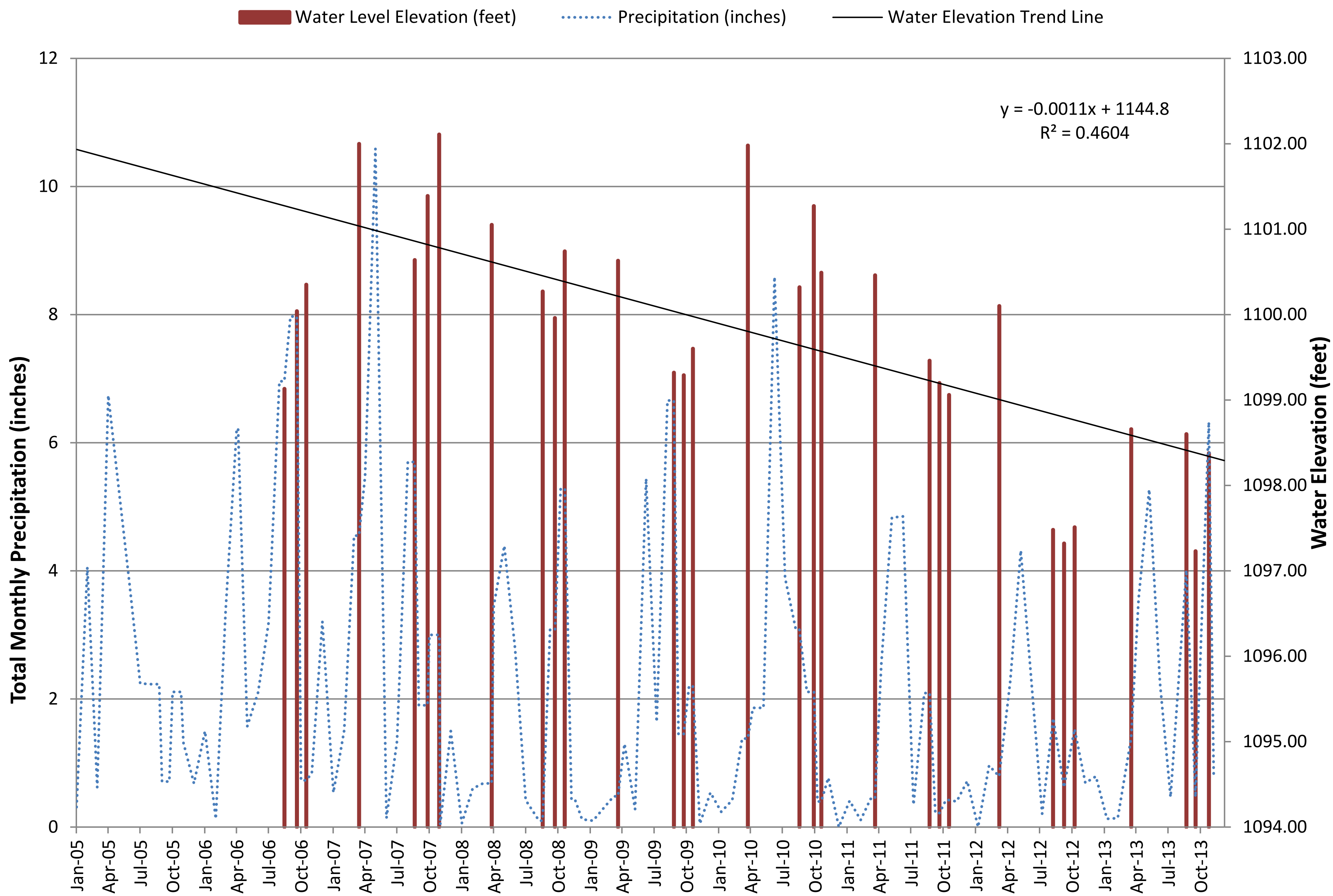


Figure 2 2005-2013 Water Elevations for DG-09 and Total Monthly Precipitation



DG-09-2

POND DG-09 PHOTOGRAPHS

Photograph 1: View of DG-09 looking west, March 18, 2013.

Photograph 2: View of DG-09 looking north, March 18, 2013.

Photograph 3: View of DG-09 looking east, March 18, 2013.

Photograph 4: View of DG-09 looking west, August 21, 2013.

Photograph 5: View of DG-09 looking north, August 21, 2013.

Photograph 6: View of DG-09 looking east, August 21, 2013.

Photograph 7: View of DG-09 looking west, September 26, 2013.

Photograph 8: View of DG-09 looking north, September 26, 2013.

Photograph 9: View of DG-09 looking east, September 26, 2013.

Photograph 10: View of DG-09 looking west, October 24, 2013.

Photograph 11: View of DG-09 looking north, October 24, 2013.

Photograph 12: View of DG-09 looking east, October 24, 2013.

DG-09-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG09 **Permanent Benchmark Elevation (feet):** 1,102.90

Date	Water Level Elevation (feet)
3/18/2013	1,098.66
8/21/2013	1,098.60
9/16/2013	1,097.23
10/24/2013	1,098.38

DG-11

BATHYMETRIC MONITORING DATA

DG-11-1

POND DG-11 PHOTOGRAPHS

Photograph 1: View of DG-11 looking south, March 18, 2013.

Photograph 2: View of DG-11 looking southwest, March 18, 2013.

Photograph 3: View of DG-11 looking west, March 18, 2013.

Photograph 4: View of DG-11 looking north, March 18, 2013.

Photograph 5: View of DG-11 looking south, August 21, 2013.

Photograph 6: View of DG-11 looking southwest, August 21, 2013.

Photograph 7: View of DG-11 looking west, August 21, 2013.

Photograph 8: View of DG-11 looking north, August 21, 2013.

Photograph 9: View of DG-11 looking south, September 26, 2013.

Photograph 10: View of DG-11 looking southwest, September 26, 2013.


Photograph 11: View of DG-11 looking west, September 26, 2013.


Photograph 12: View of DG-11 looking north, September 26, 2013.

Photograph 13: View of DG-11 looking south, October 24, 2013.

Photograph 14: View of DG-11 looking southwest, October 24, 2013.


Photograph 15: View of DG-11 looking west, October 24, 2013.


Photograph 16: View of DG-11 looking north, October 24, 2013.

DG-13

BATHYMETRIC MONITORING DATA

DG-13-1

FIGURES

Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG13

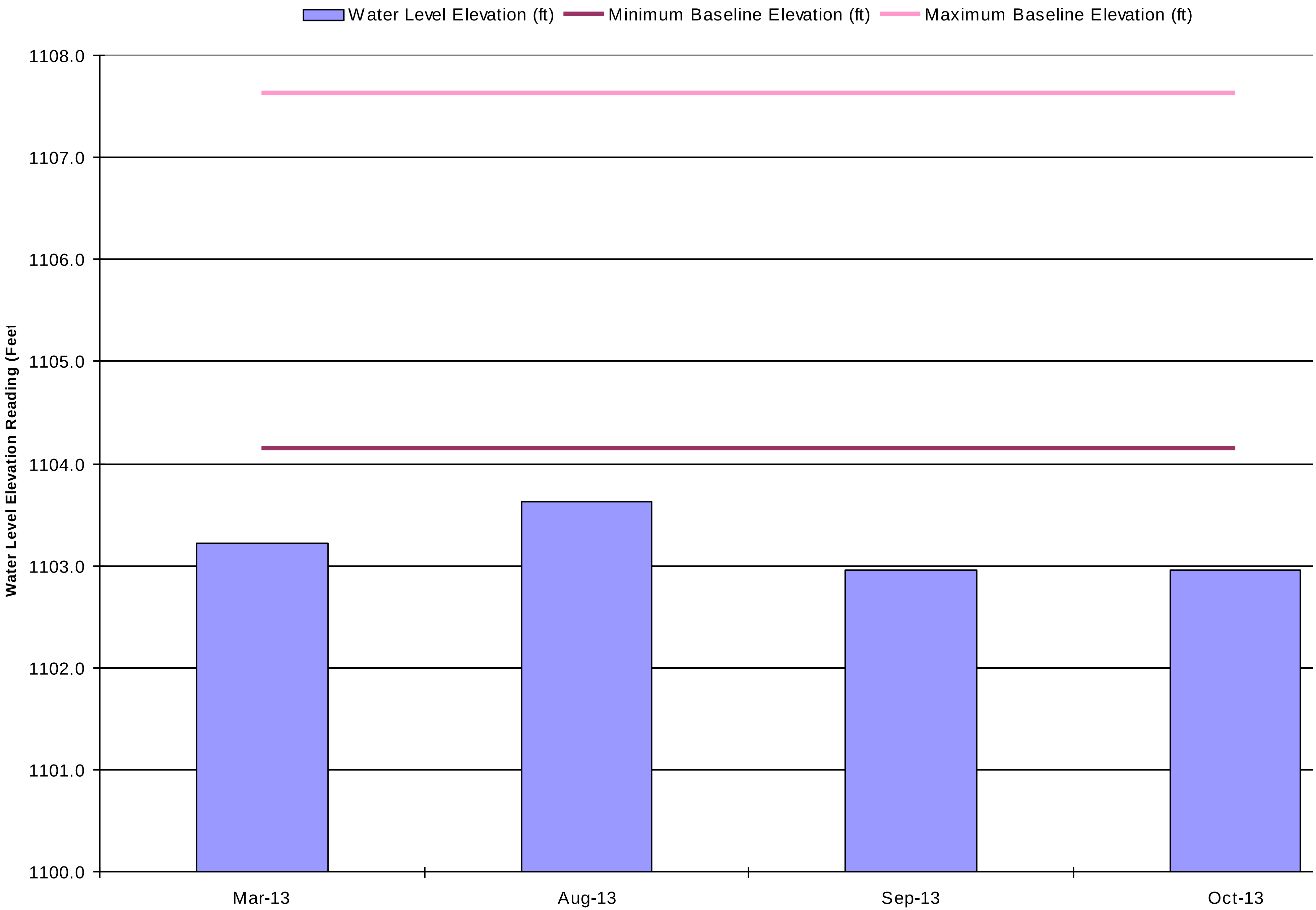
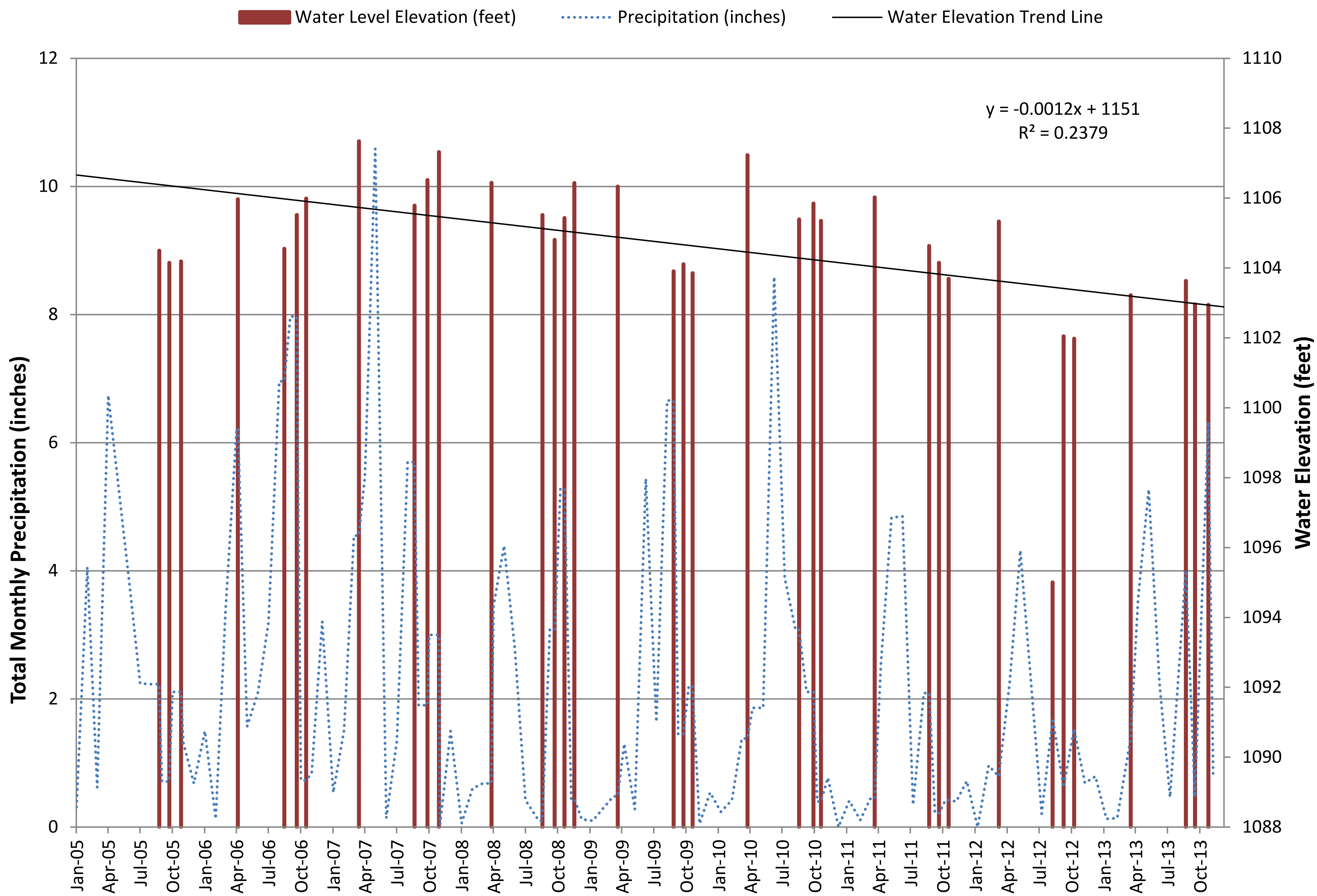


Figure 2 2005-2013 Water Elevations for DG-13 and Total Monthly Precipitation



DG-13-2

POND DG-13 PHOTOGRAPHS

Photograph 1: View of DG-13 looking northeast, March 18, 2013.

Photograph 2: View of DG-13 looking southeast, March 18, 2013.

Photograph 3: View of DG-13 looking northeast, August 21, 2013.

Photograph 4: View of DG-13 looking southeast, August 21, 2013.

Photograph 5: View of DG-13 looking northeast, September 26, 2013.

Photograph 6: View of DG-13 looking southeast, September 26, 2013.

Photograph 7: View of DG-13 looking northeast, October 24, 2013.

Photograph 8: View of DG-13 looking southeast, October 24, 2013.

DG-13-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG13 **Permanent Benchmark Elevation (feet):** 1,113.71

Date	Water Level Elevation (feet)
3/18/2013	1,103.22
8/21/2013	1,103.63
9/16/2013	1,102.96
10/24/2013	1,102.95

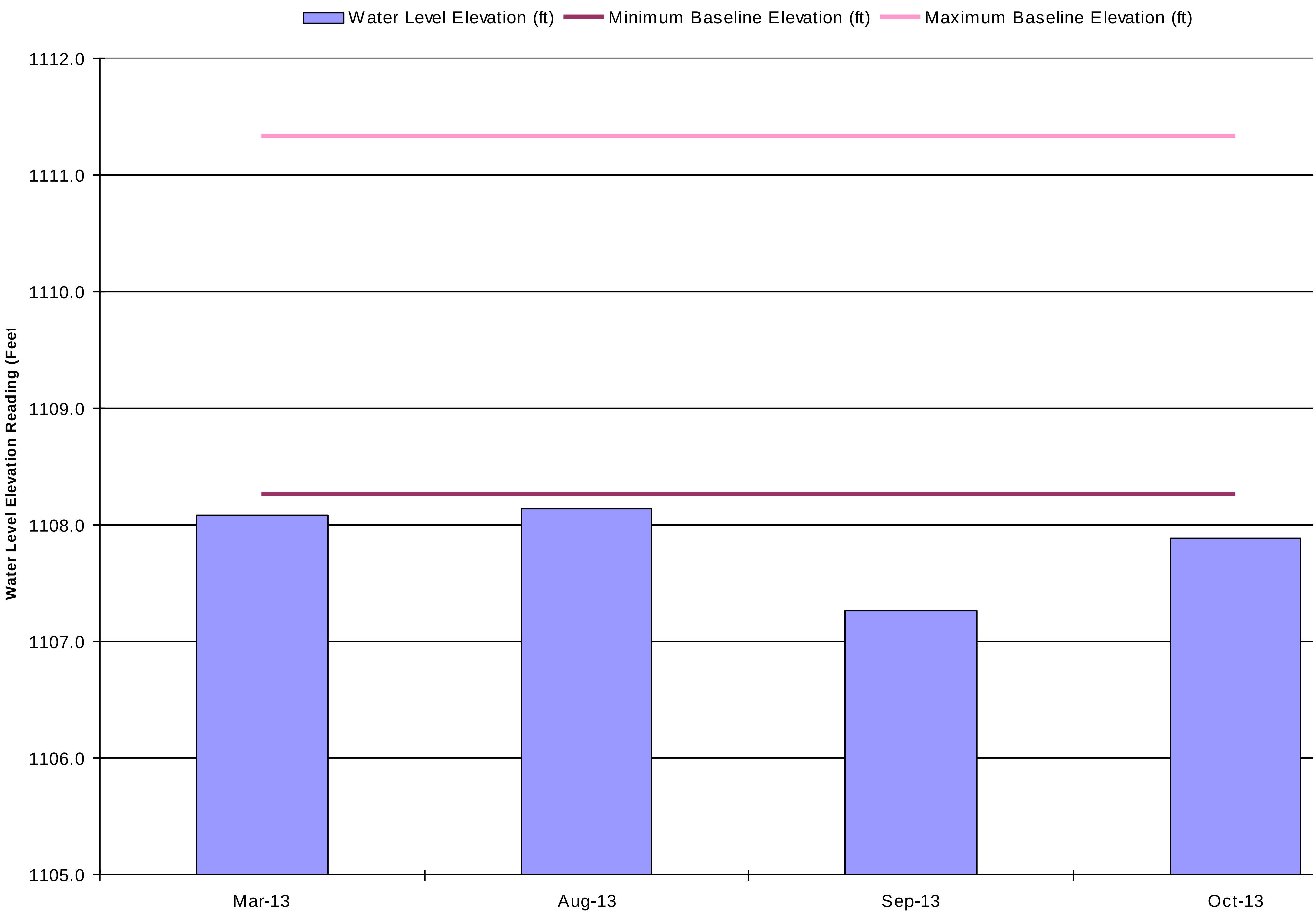
DG-15

BATHYMETRIC MONITORING DATA

DG-15-1

FIGURES

Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG15



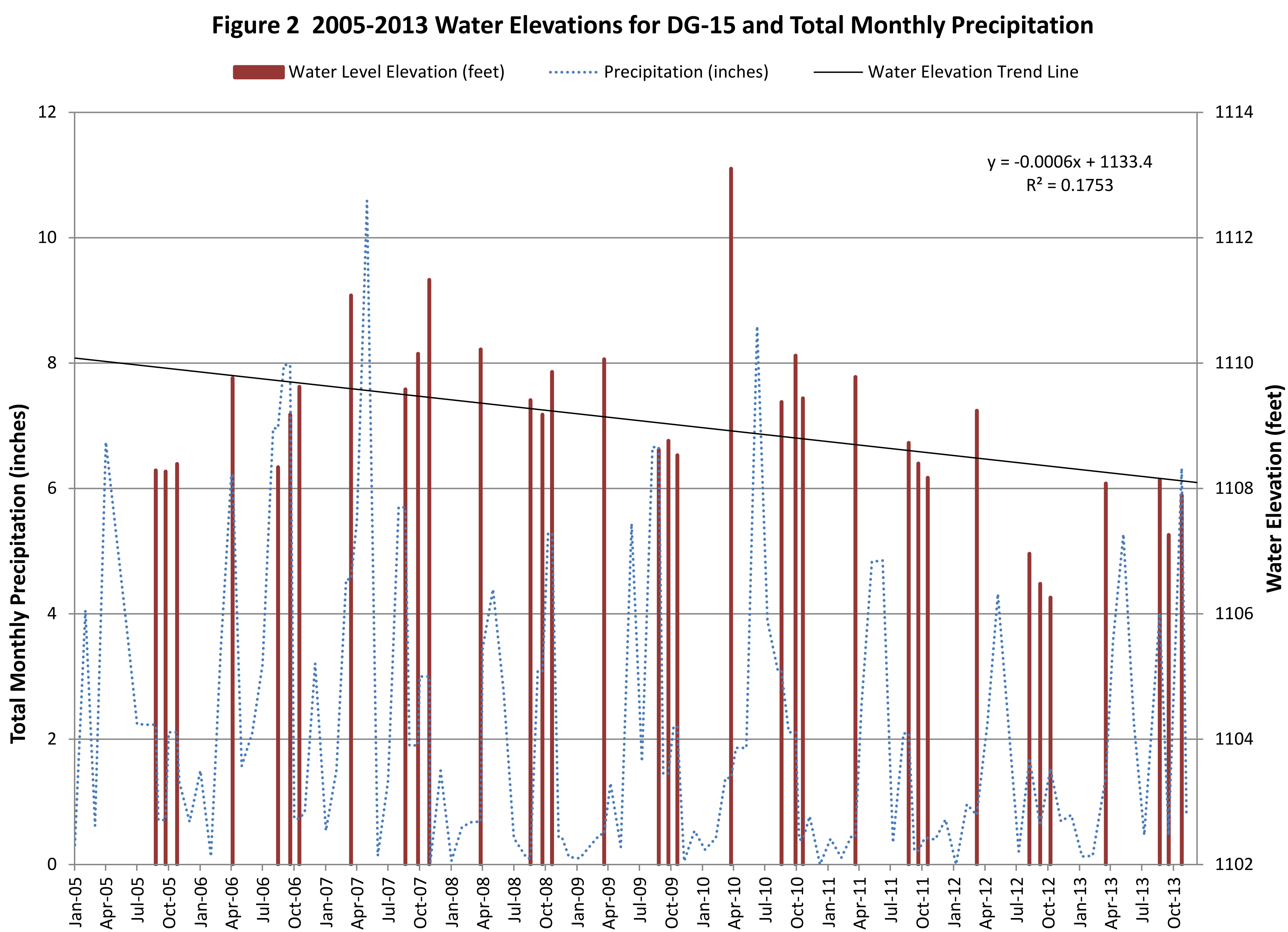


Figure 2 2005-2013 Water Elevations for DG-15 and Total Monthly Precipitation
Water Level Elevation (feet)
Precipitation (inches)
Water Elevation Trend Line
y = -0.0006x + 1133.4
R² = 0.1753
Total Monthly Precipitation (inches)
Water Elevation (feet)
0
2
4
6
8
10
12
1102
1104
1106
1108
1110
1112
1114
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Jan-07
Apr-07
Jul-07
Oct-07
Jan-08
Apr-08
Jul-08
Oct-08
Jan-09
Apr-09
Jul-09
Oct-09
Jan-10
Apr-10
Jul-10
Oct-10
Jan-11
Apr-11
Jul-11
Oct-11
Jan-12
Apr-12
Jul-12
Oct-12
Jan-13
Apr-13
Jul-13
Oct-13

DG-15-2

POND DG-15 PHOTOGRAPHS

Photograph 1: View of DG-15 looking south, March 18, 2013.

Photograph 2: View of DG-15 looking east, March 18, 2013.

Photograph 3: View of DG-15 looking south, August 21, 2013.

Photograph 4: View of DG-15 looking east, August 21, 2013.

Photograph 5: View of DG-15 looking south, September 26, 2013.

Photograph 6: View of DG-15 looking east, September 26, 2013.


Photograph 7: View of DG-15 looking south, October 24, 2013.


Photograph 8: View of DG-15 looking east, October 24, 2013.

DG-15-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG15 **Permanent Benchmark Elevation (feet):** 1,114.97

Date	Water Level Elevation (feet)
3/18/2013	1,108.08
8/21/2013	1,108.14
9/16/2013	1,107.26
10/24/2013	1,107.89

DG-17

BATHYMETRIC MONITORING DATA

DG-17-1

FIGURES

Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG17

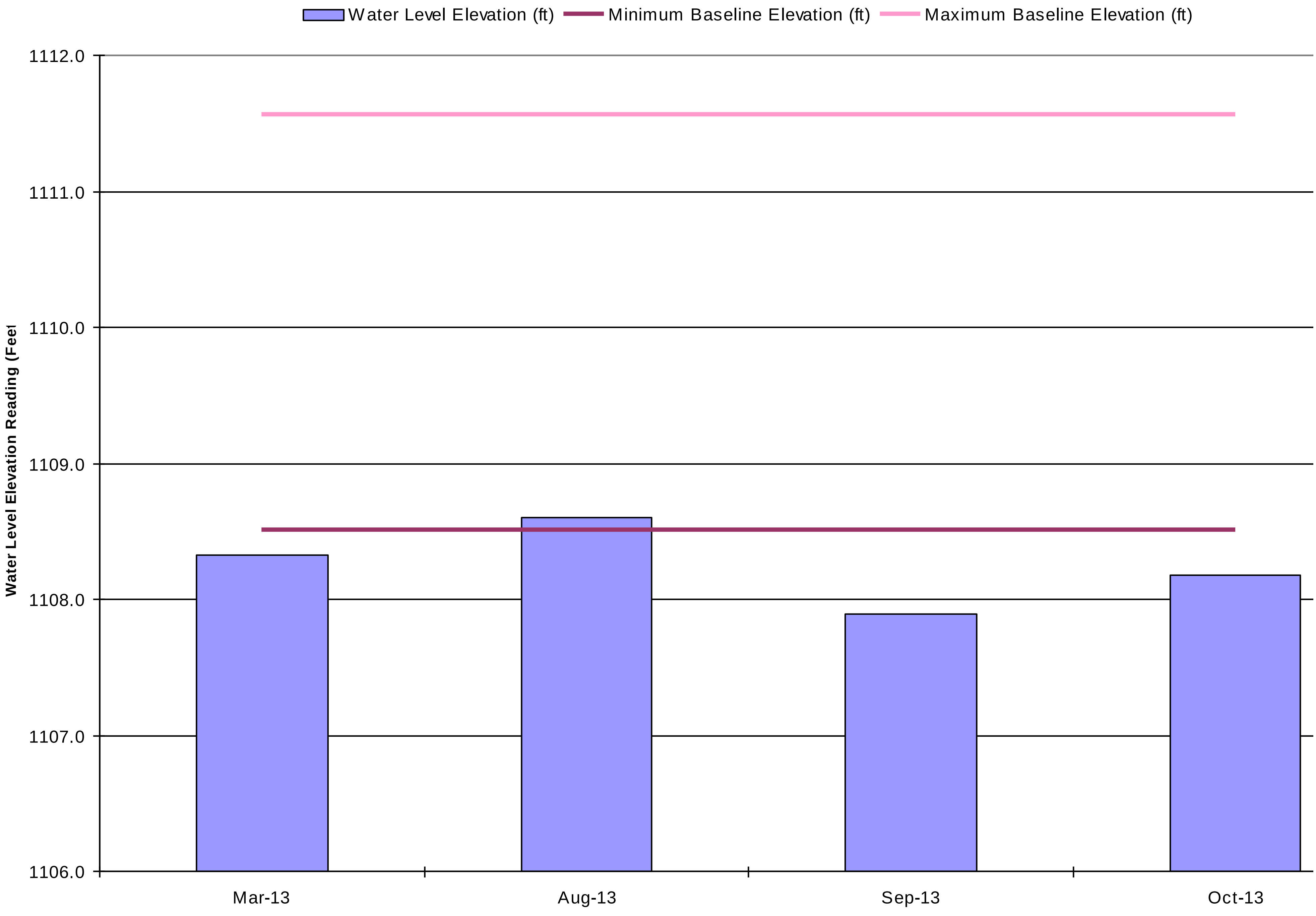
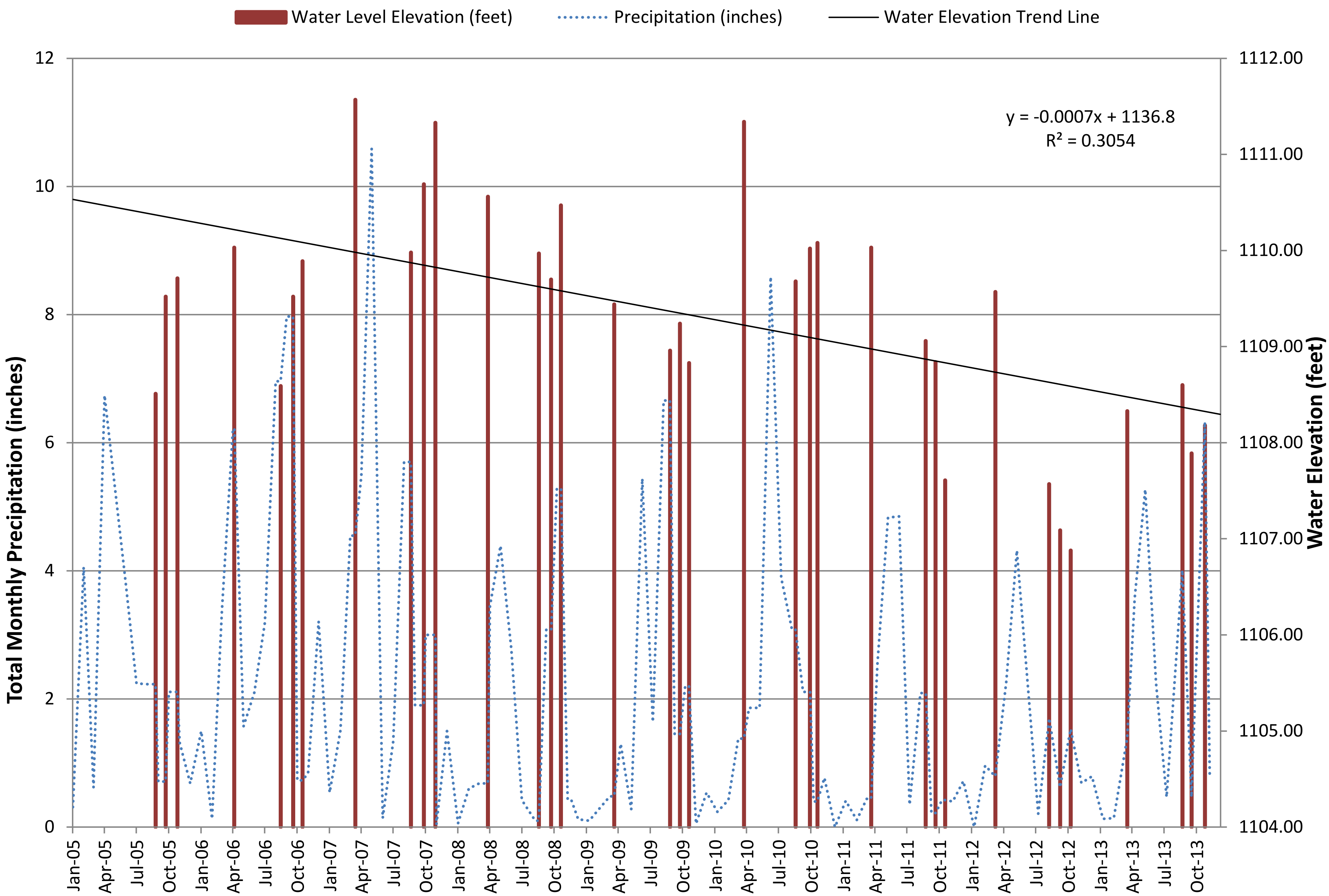


Figure 2 2005-2013 Water Elevations for DG-17 and Total Monthly Precipitation



DG-17-2

POND DG-17 PHOTOGRAPHS

Photograph 1: View of DG-17 looking northeast, March 18, 2013.

Photograph 2: View of DG-17 looking northeast, August 21, 2013.

Photograph 3: View of DG-17 looking southeast, August 21, 2013.

Photograph 4: View of DG-17 looking northeast, September 26, 2013.


Photograph 5: View of DG-17 looking southeast, September 26, 2013.


Photograph 6: View of DG-17 looking northeast, October 24, 2013.

Photograph 7: View of DG-17 looking southeast, October 24, 2013.

DG-17-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG17 **Permanent Benchmark Elevation (feet):** 1,117.83

Date	Water Level Elevation (feet)
3/18/2013	1,108.33
8/21/2013	1,108.60
9/16/2013	1,107.89
10/24/2013	1,108.18

DG-19

BATHYMETRIC MONITORING DATA

DG-19-1

FIGURES

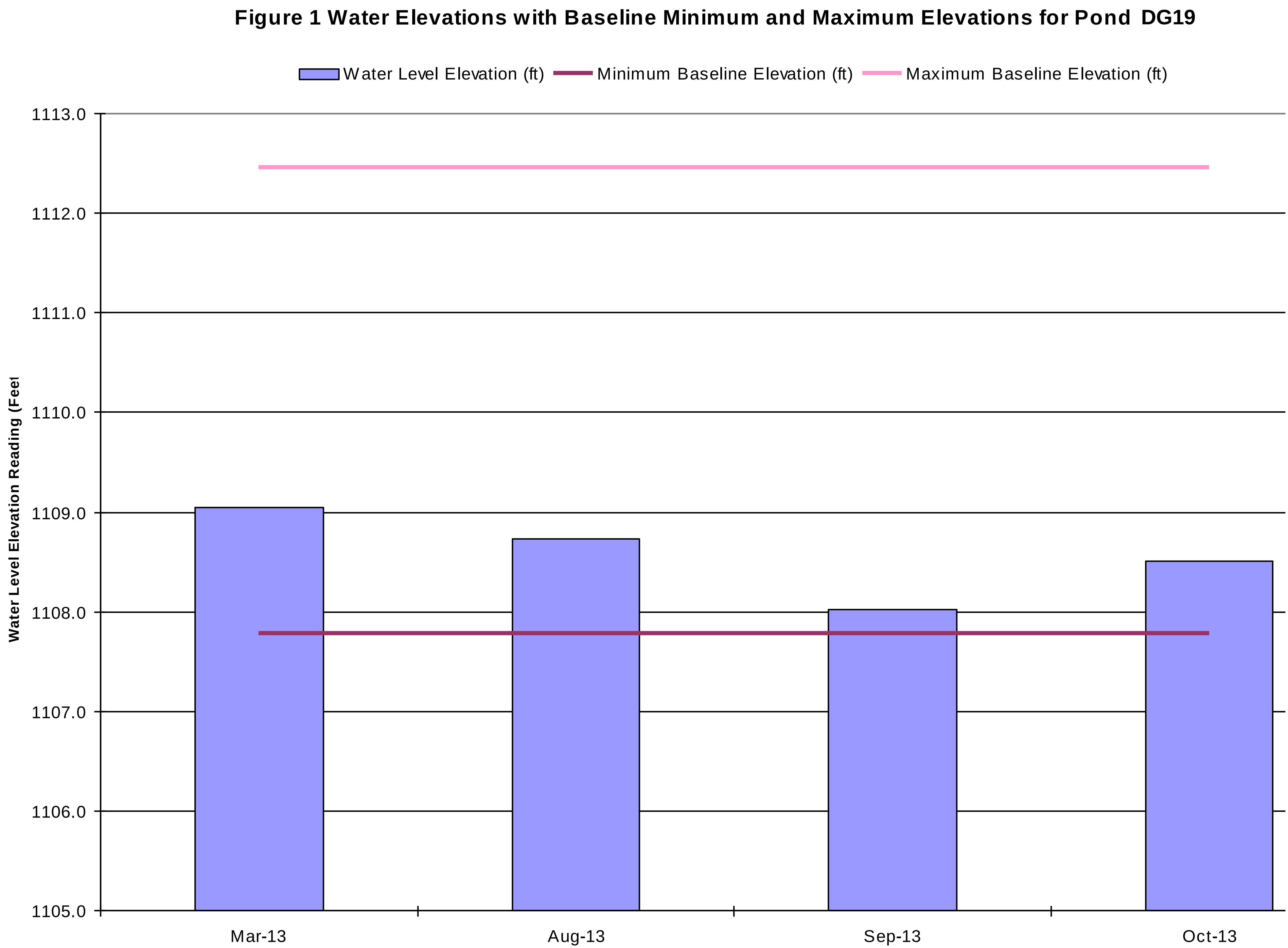
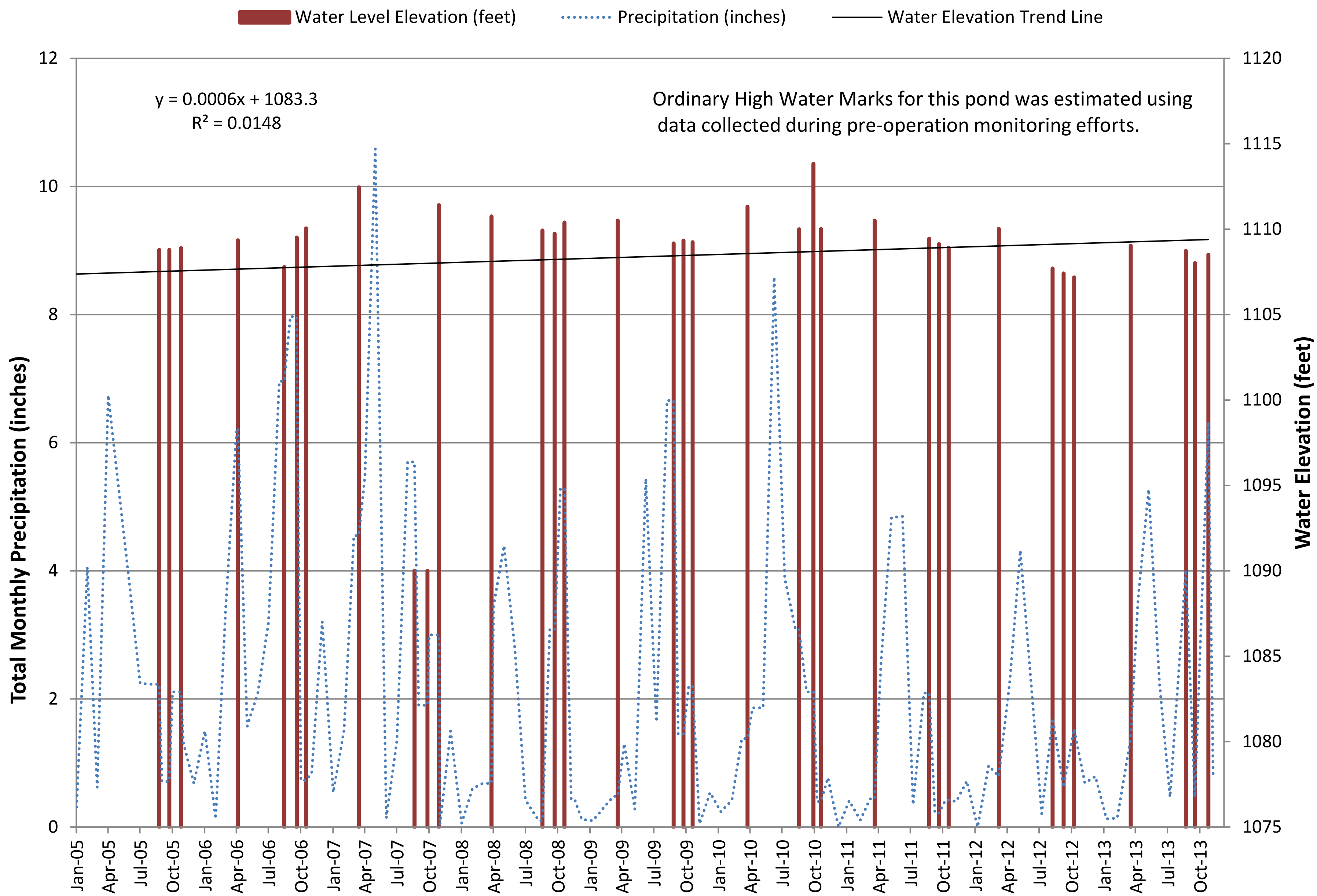


Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG19
Water Level Elevation (ft)
Minimum Baseline Elevation (ft)
Maximum Baseline Elevation (ft)
Water Level Elevation Reading (Feet
1113.0
1112.0
1111.0
1110.0
1109.0
1108.0
1107.0
1106.0
1105.0
Mar-13
Aug-13
Sep-13
Oct-13

Figure 2 2005-2013 Water Elevations for DG-19 and Total Monthly Precipitation



DG-19-2

POND DG-19 PHOTOGRAPHS

Photograph 1: View of DG-19 looking west, March 18, 2013.

Photograph 2: View of DG-19 looking north, March 18, 2013.

Photograph 3: View of DG-19 looking northeast, March 18, 2013.

Photograph 4: View of DG-19 looking west, August 21, 2013.

Photograph 5: View of DG-19 looking north, August 21, 2013.

Photograph 6: View of DG-19 looking northeast, August 21, 2013.


Photograph 7: View of DG-19 looking west, September 26, 2013.


Photograph 8: View of DG-19 looking north, September 26, 2013.

Photograph 9: View of DG-19 looking northeast, September 26, 2013.

Photograph 10: View of DG-19 looking west, October 24, 2013.

Photograph 11: View of DG-19 looking north, October 24, 2013.

Photograph 12: View of DG-19 looking northeast, October 24, 2013.

DG-19-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG19 **Permanent Benchmark Elevation (feet):** 1,116.62

Date	Water Level Elevation (feet)
3/18/2013	1,109.04
8/21/2013	1,108.73
9/16/2013	1,108.02
10/24/2013	1,108.51

DG-20

BATHYMETRIC MONITORING DATA

DG-20-1

FIGURES

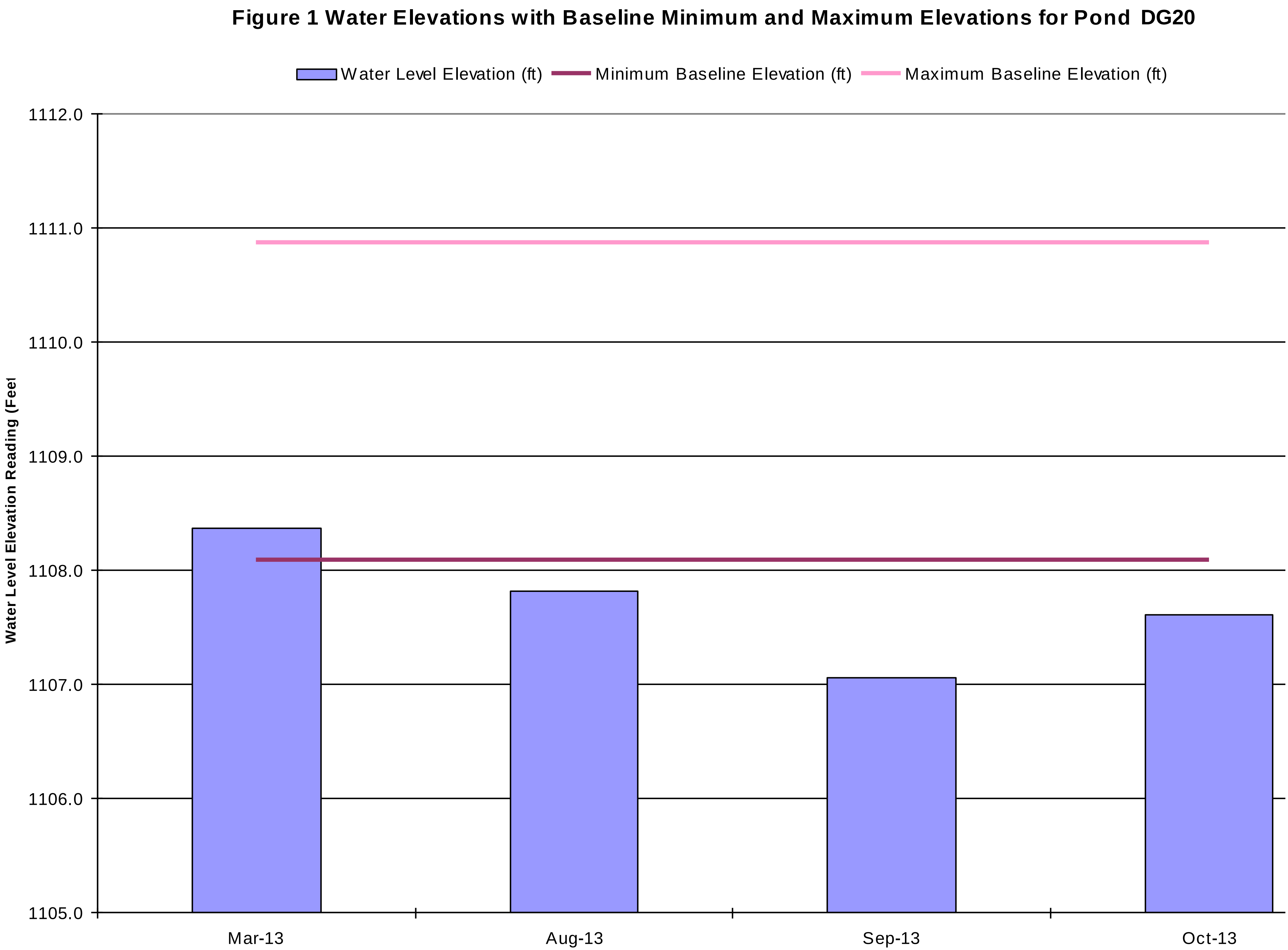


Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG20
Water Level Elevation (ft)
Minimum Baseline Elevation (ft)
Maximum Baseline Elevation (ft)
Water Level Elevation Reading (Feet
1112.0
1111.0
1110.0
1109.0
1108.0
1107.0
1106.0
1105.0
Mar-13
Aug-13
Sep-13
Oct-13

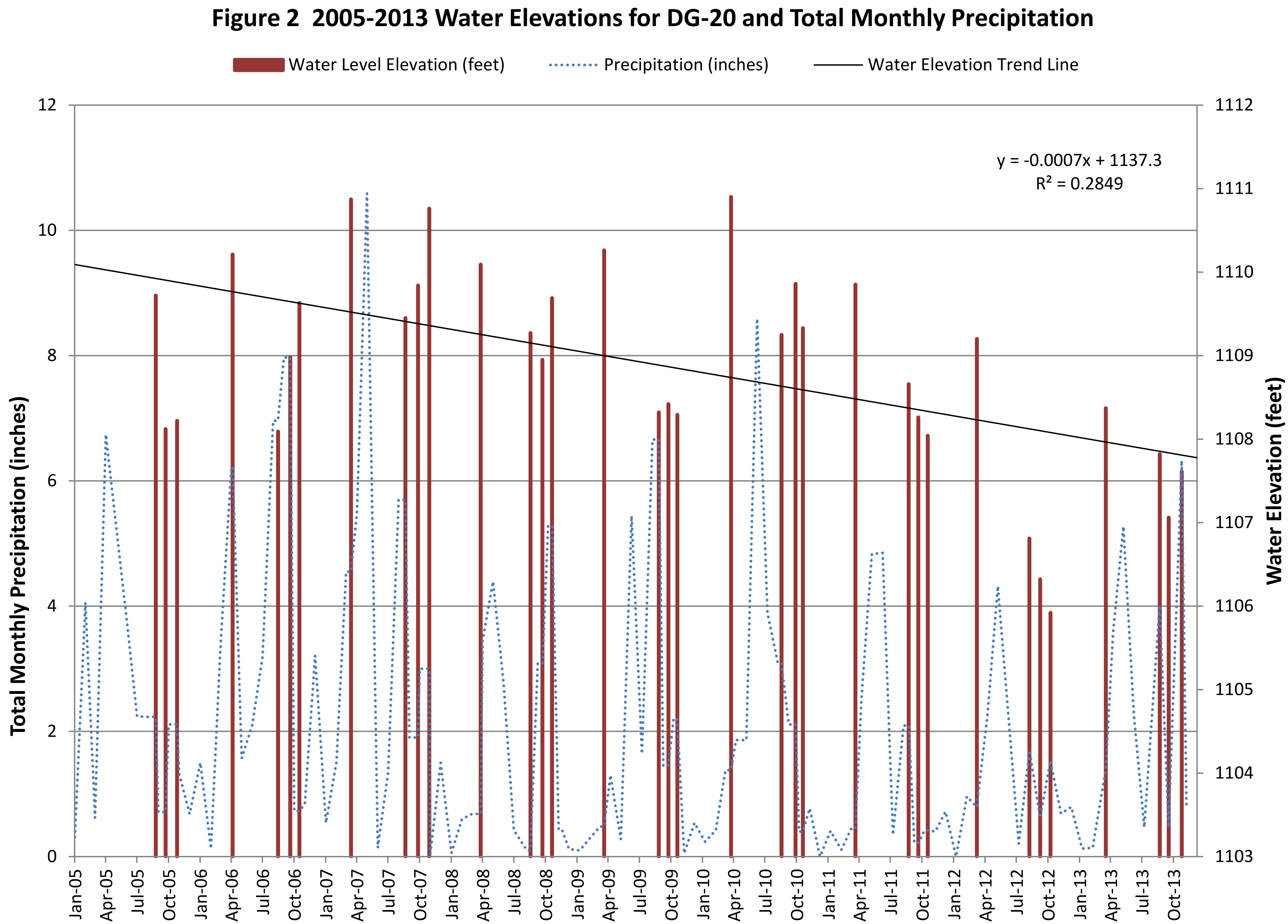


Figure 2 2005-2013 Water Elevations for DG-20 and Total Monthly Precipitation
Water Level Elevation (feet)
Precipitation (inches)
Water Elevation Trend Line
y = -0.0007x + 1137.3
R² = 0.2849
Total Monthly Precipitation (inches)
Water Elevation (feet)
0
2
4
6
8
10
12
1103
1104
1105
1106
1107
1108
1109
1110
1111
1112
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Jan-07
Apr-07
Jul-07
Oct-07
Jan-08
Apr-08
Jul-08
Oct-08
Jan-09
Apr-09
Jul-09
Oct-09
Jan-10
Apr-10
Jul-10
Oct-10
Jan-11
Apr-11
Jul-11
Oct-11
Jan-12
Apr-12
Jul-12
Oct-12
Jan-13
Apr-13
Jul-13
Oct-13

DG-20-2

POND DG-20 PHOTOGRAPHS

Photograph 1: View of DG-20 looking west, March 18, 2013.

Photograph 2: View of DG-20 looking north, March 18, 2013.

Photograph 3: View of DG-20 looking west, August 21, 2013.

Photograph 4: View of DG-20 looking north, August 21, 2013.

Photograph 1: View of DG-20 looking west, September 26, 2013.

Photograph 2: View of DG-20 looking north, September 26, 2013.

Photograph 3: View of DG-20 looking west, October 24, 2013.

Photograph 4: View of DG-20 looking north, October 24, 2013.

DG-20-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG20 **Permanent Benchmark Elevation (feet):** 1,115.45

Date	**Water Level Elevation (feet)**
3/18/2013	1,108.37
8/21/2013	1,107.82
9/16/2013	1,107.06
10/24/2013	1,107.61

DG-20A

BATHYMETRIC MONITORING DATA

DG-20A-1

FIGURES

Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG20A

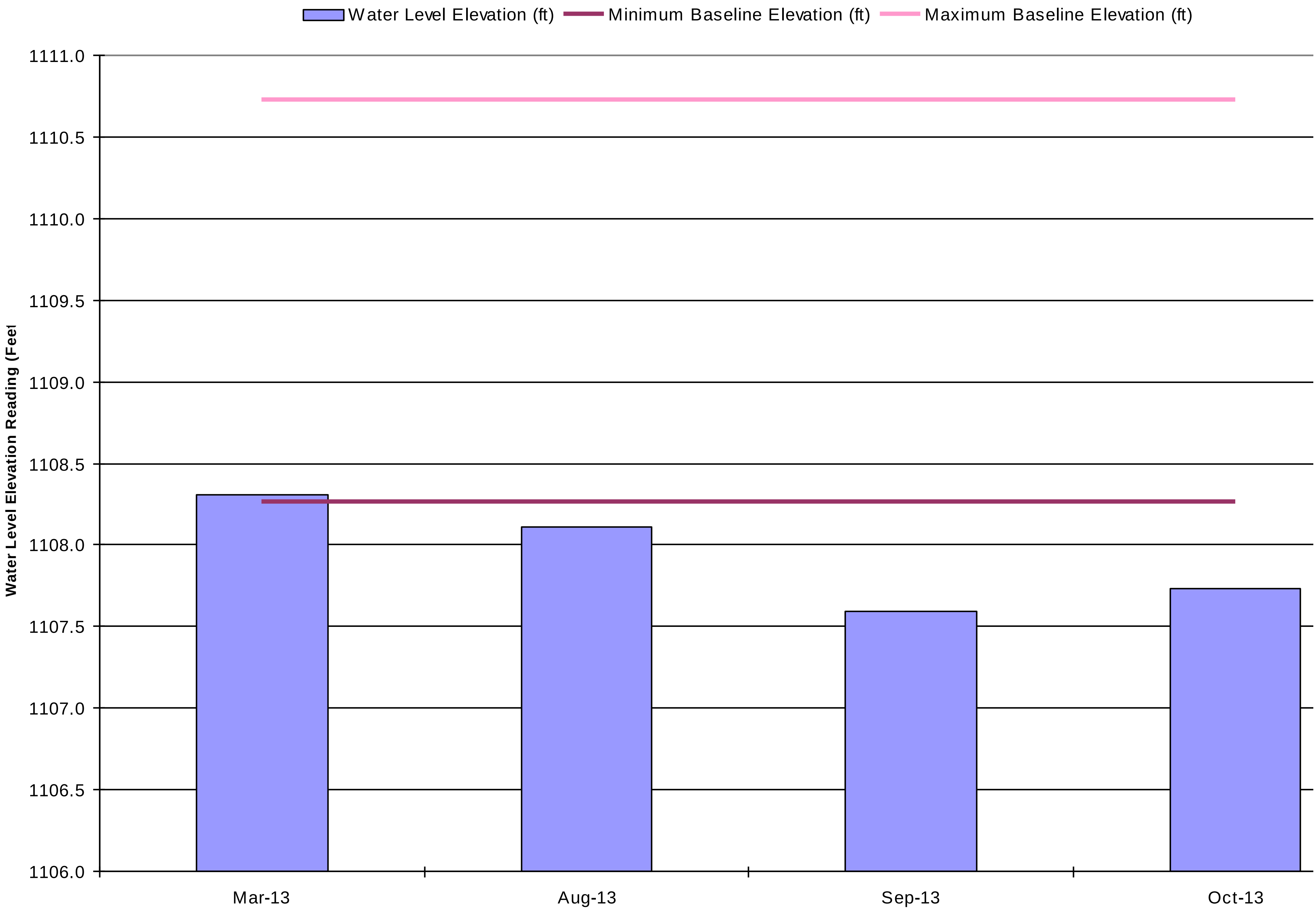
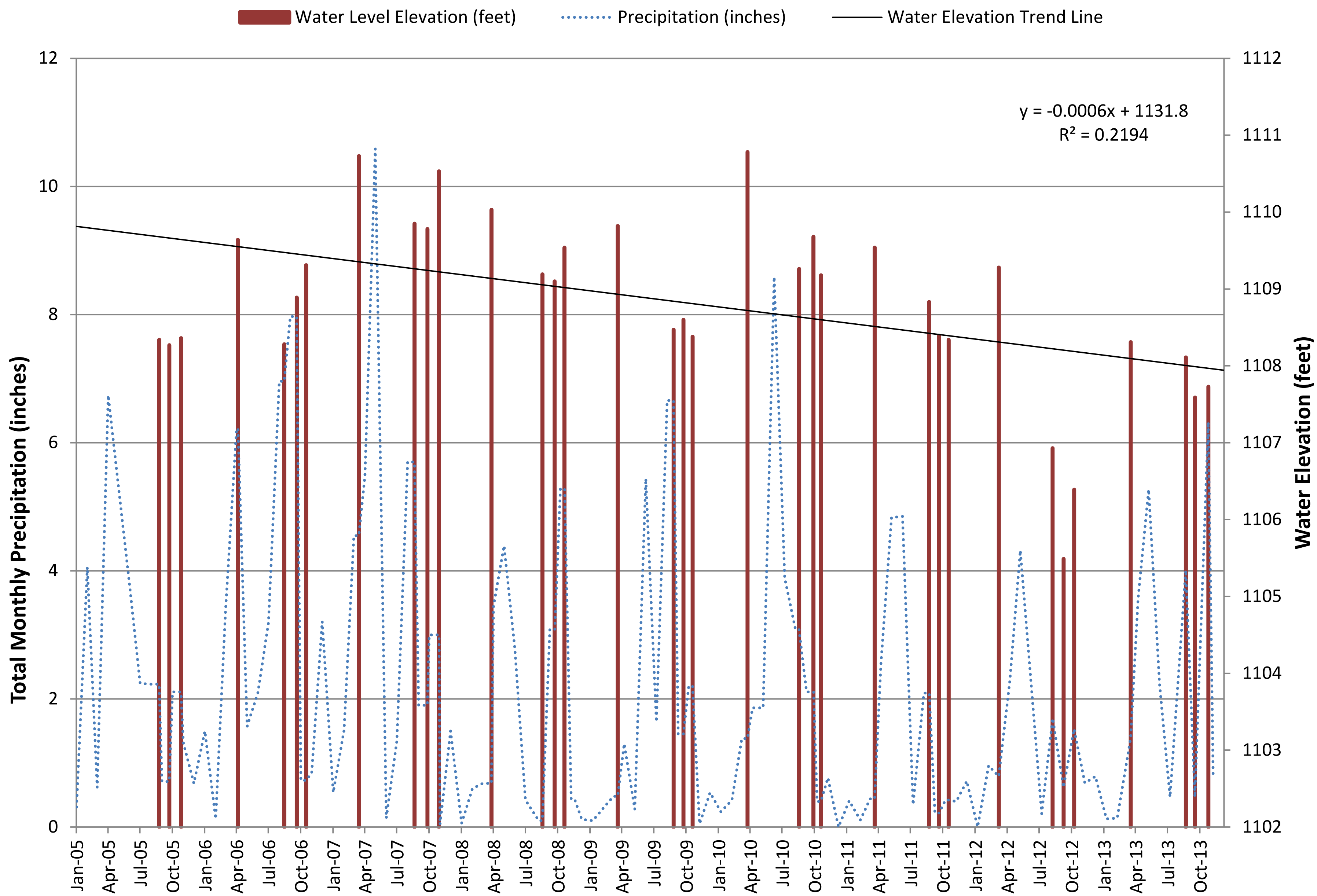


Figure 2 2005-2013 Water Elevations for DG-20A and Total Monthly Precipitation



DG-20A-2

POND DG-20A PHOTOGRAPHS

Photograph 1: View of DG-20A looking southeast, March 18, 2013.

Photograph 2: View of DG-20A looking northwest, March 18, 2013.

Photograph 3: View of DG-20A looking southeast, August 21, 2013.

Photograph 4: View of DG-20A looking northwest, August 21, 2013.

Photograph 5: View of DG-20A looking southeast, September 26, 2013.

Photograph 6: View of DG-20A looking northwest, September 26, 2013.

Photograph 7: View of DG-20A looking southeast, October 24, 2013.

Photograph 8: View of DG-20A looking northwest, October 24, 2013.

DG-20A-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG20A **Permanent Benchmark Elevation (feet):** 1,118.82

Date	Water Level Elevation (feet)
3/18/2013	1,108.31
8/21/2013	1,108.11
9/16/2013	1,107.59
10/24/2013	1,107.73

DG-20B

BATHYMETRIC MONITORING DATA

DG-20B-1

FIGURES

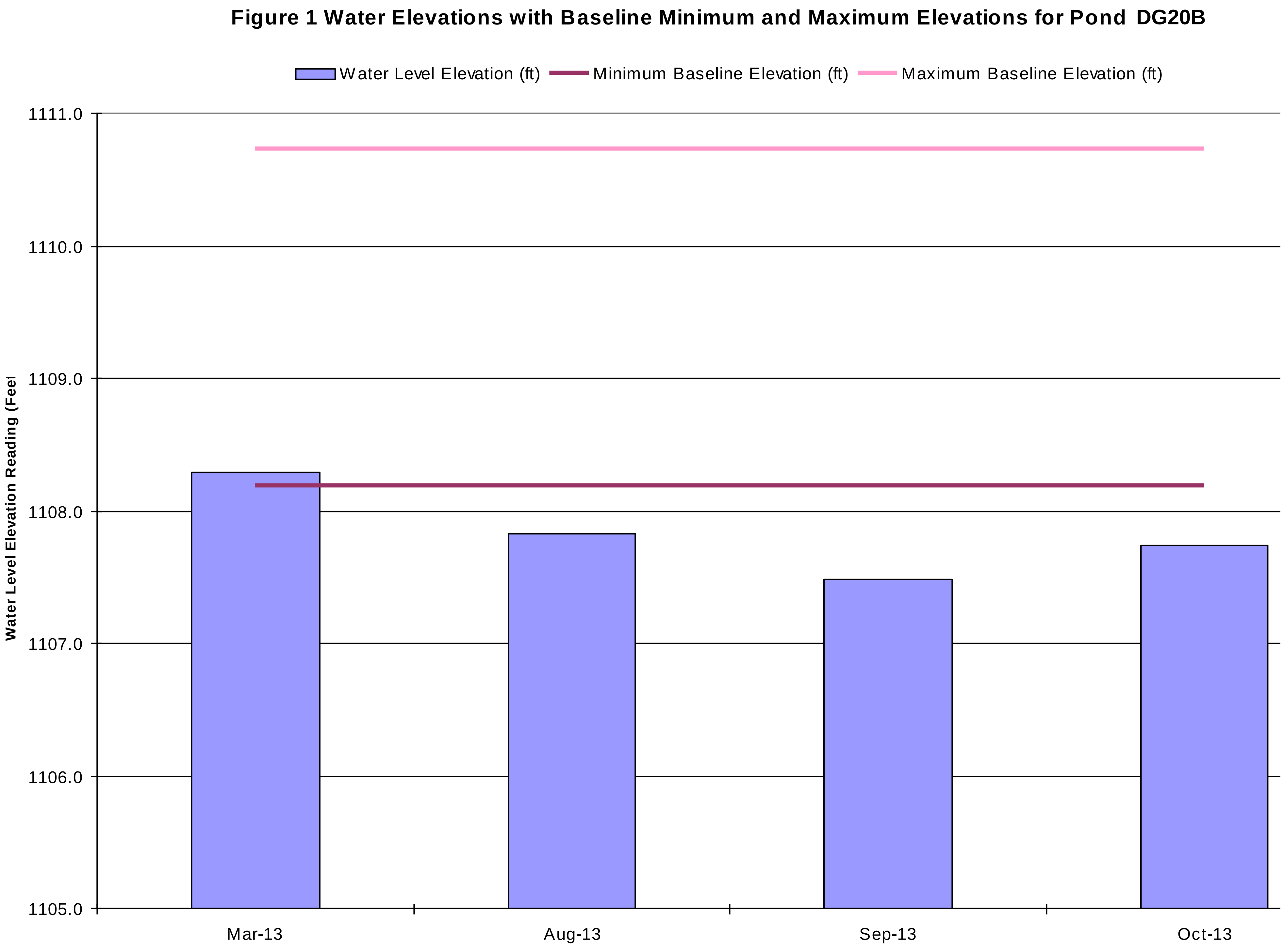


Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG20B
Water Level Elevation (ft)
Minimum Baseline Elevation (ft)
Maximum Baseline Elevation (ft)
Water Level Elevation Reading (Feet
1111.0
1110.0
1109.0
1108.0
1107.0
1106.0
1105.0
Mar-13
Aug-13
Sep-13
Oct-13

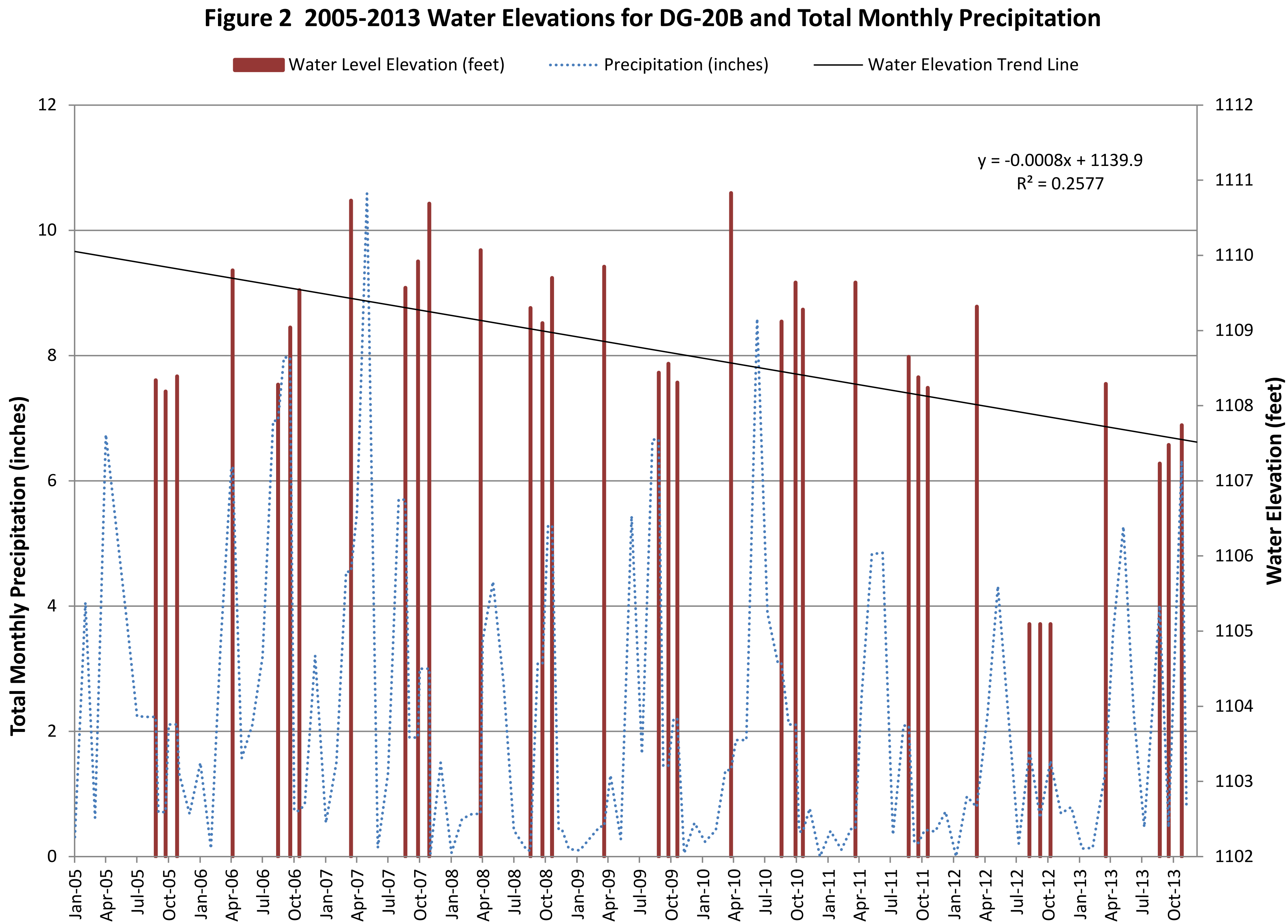


Figure 2 2005-2013 Water Elevations for DG-20B and Total Monthly Precipitation
Water Level Elevation (feet)
Precipitation (inches)
Water Elevation Trend Line
y = -0.0008x + 1139.9
R² = 0.2577
Total Monthly Precipitation (inches)
Water Elevation (feet)
0
2
4
6
8
10
12
1102
1103
1104
1105
1106
1107
1108
1109
1110
1111
1112
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Jan-07
Apr-07
Jul-07
Oct-07
Jan-08
Apr-08
Jul-08
Oct-08
Jan-09
Apr-09
Jul-09
Oct-09
Jan-10
Apr-10
Jul-10
Oct-10
Jan-11
Apr-11
Jul-11
Oct-11
Jan-12
Apr-12
Jul-12
Oct-12
Jan-13
Apr-13
Jul-13
Oct-13

DG-20B-2

POND DG-20B PHOTOGRAPHS

Photograph 1: View of DG-20B looking northwest, March 18, 2013.

Photograph 2: View of DG-20B looking northwest, August 21, 2013.

Photograph 3: View of DG-20B looking northwest, September 26, 2013.

Photograph 4: View of DG-20B looking northwest, October 24, 2013.

DG-20B-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG20B **Permanent Benchmark Elevation (feet):** 1,118.82

Date	Water Level Elevation (feet)
3/18/2013	1,108.29
8/21/2013	1,107.83
9/16/2013	1,107.48
10/24/2013	1,107.74

DG-20C

BATHYMETRIC MONITORING DATA

DG-20C-1

FIGURES

Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG20C

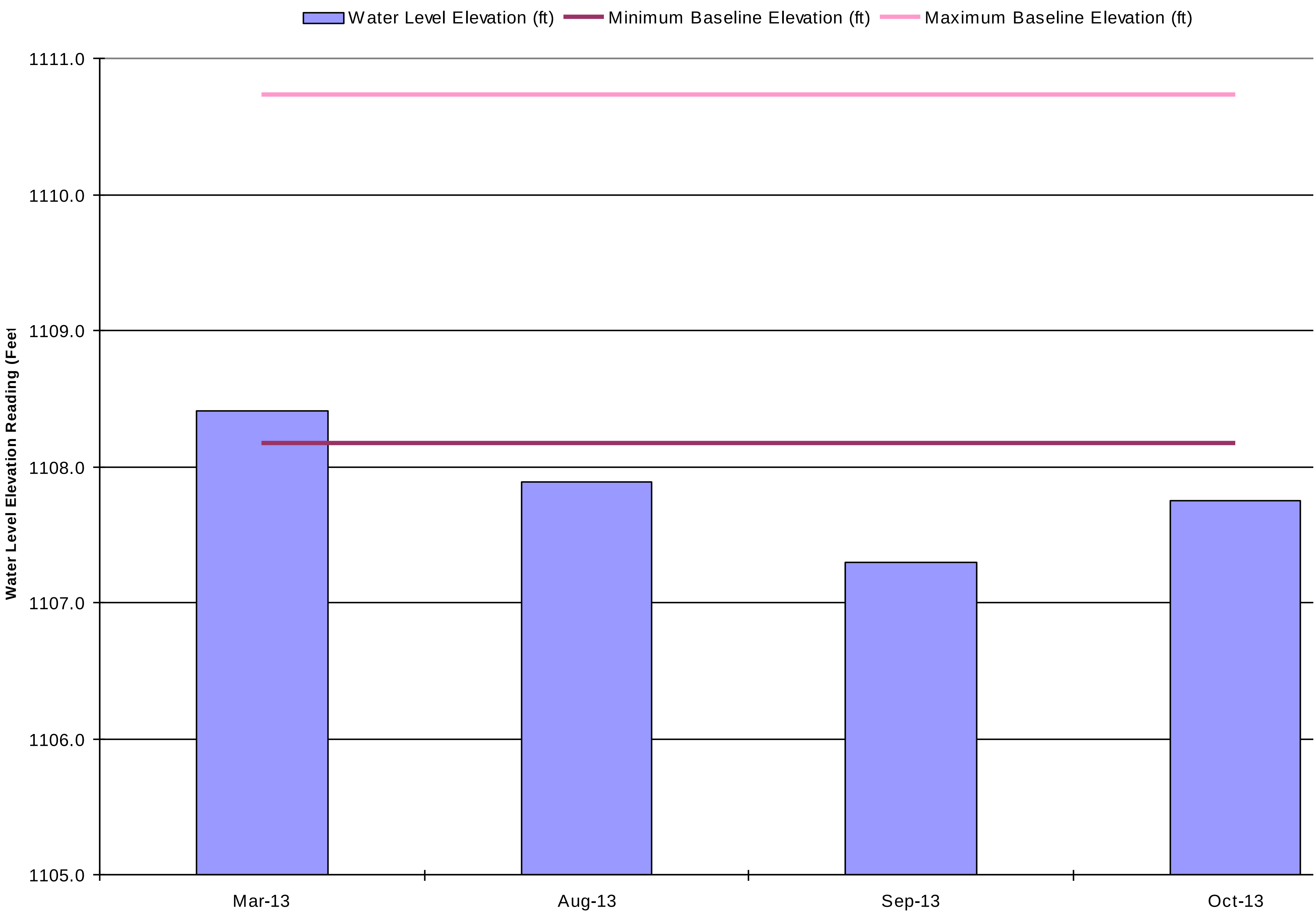
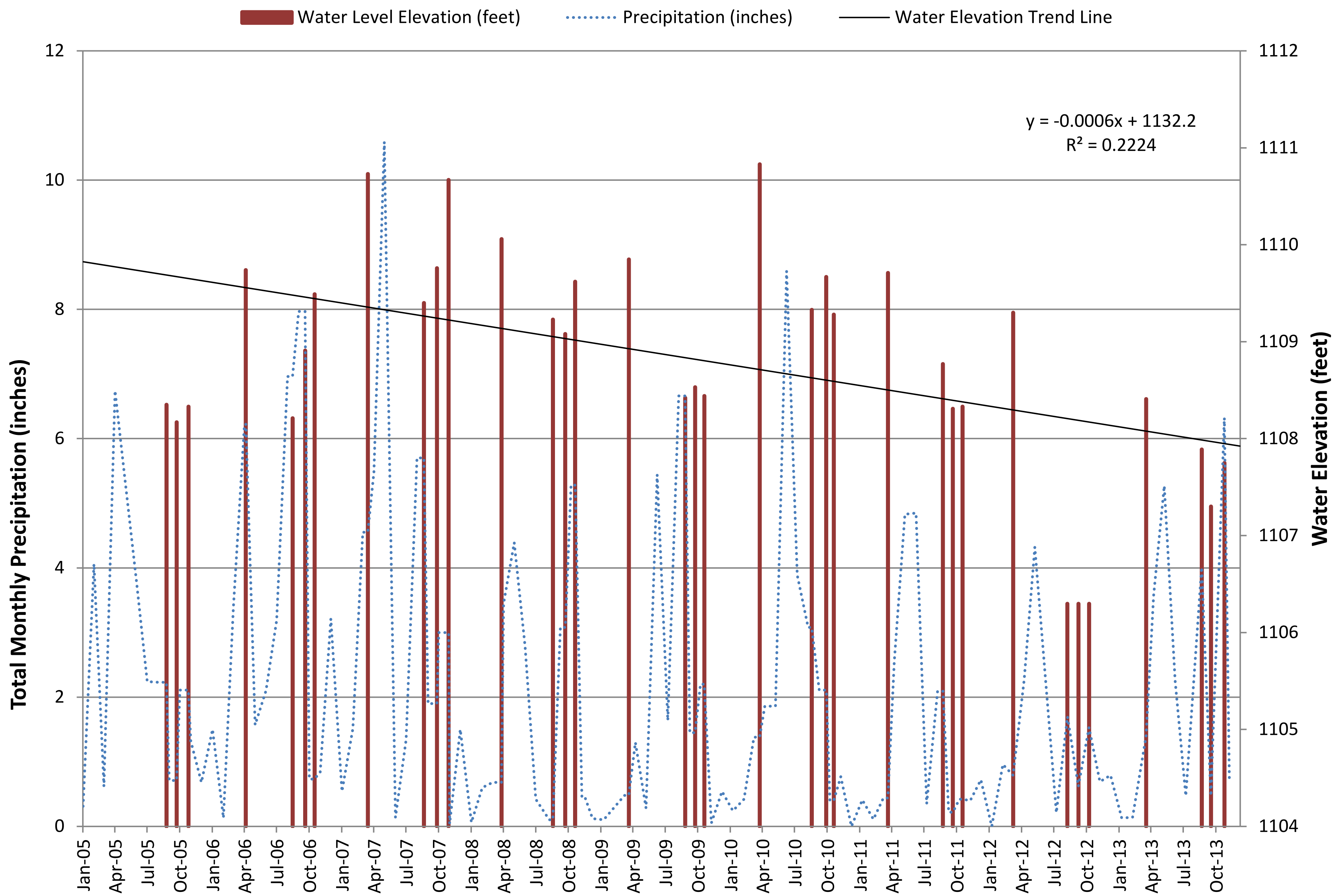


Figure 2 2005-2013 Water Elevations for DG-20C and Total Monthly Precipitation



DG-20C-2

POND DG-20C PHOTOGRAPHS

Photograph 1: View of DG-20C looking southeast, March 18, 2013.

Photograph 2: View of DG-20C looking southeast, August 21, 2013.

Photograph 3: View of DG-20C looking southeast, September 26, 2013.

Photograph 4: View of DG-20C looking southeast, October 24, 2013.

DG-20C-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG20C **Permanent Benchmark Elevation (feet):** 1,118.82

Date	Water Level Elevation (feet)
3/18/2013	1,108.41
8/21/2013	1,107.89
9/16/2013	1,107.30
10/24/2013	1,107.75

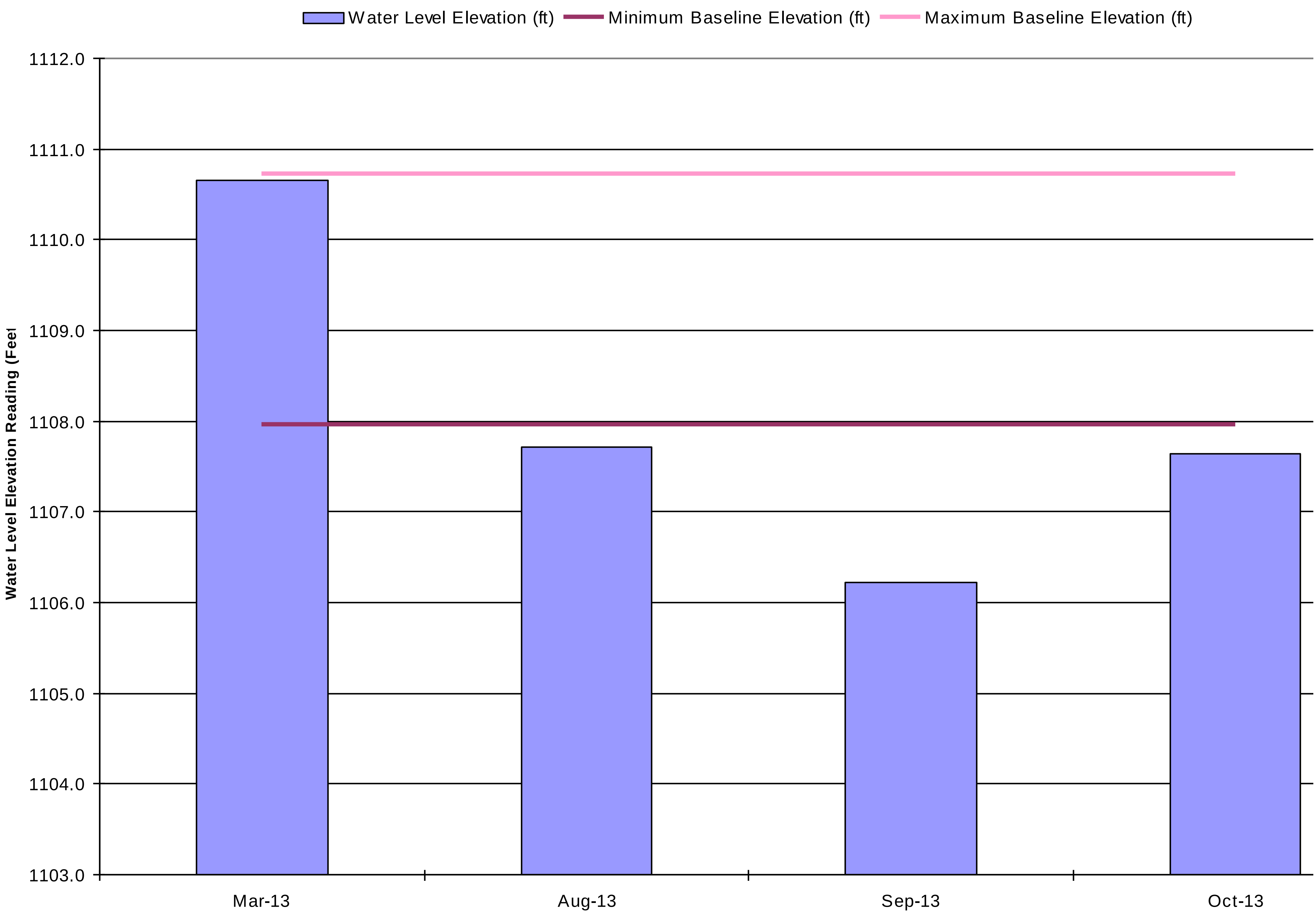
DG-20D

BATHYMETRIC MONITORING DATA

DG-20D-1

FIGURES

Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG20D



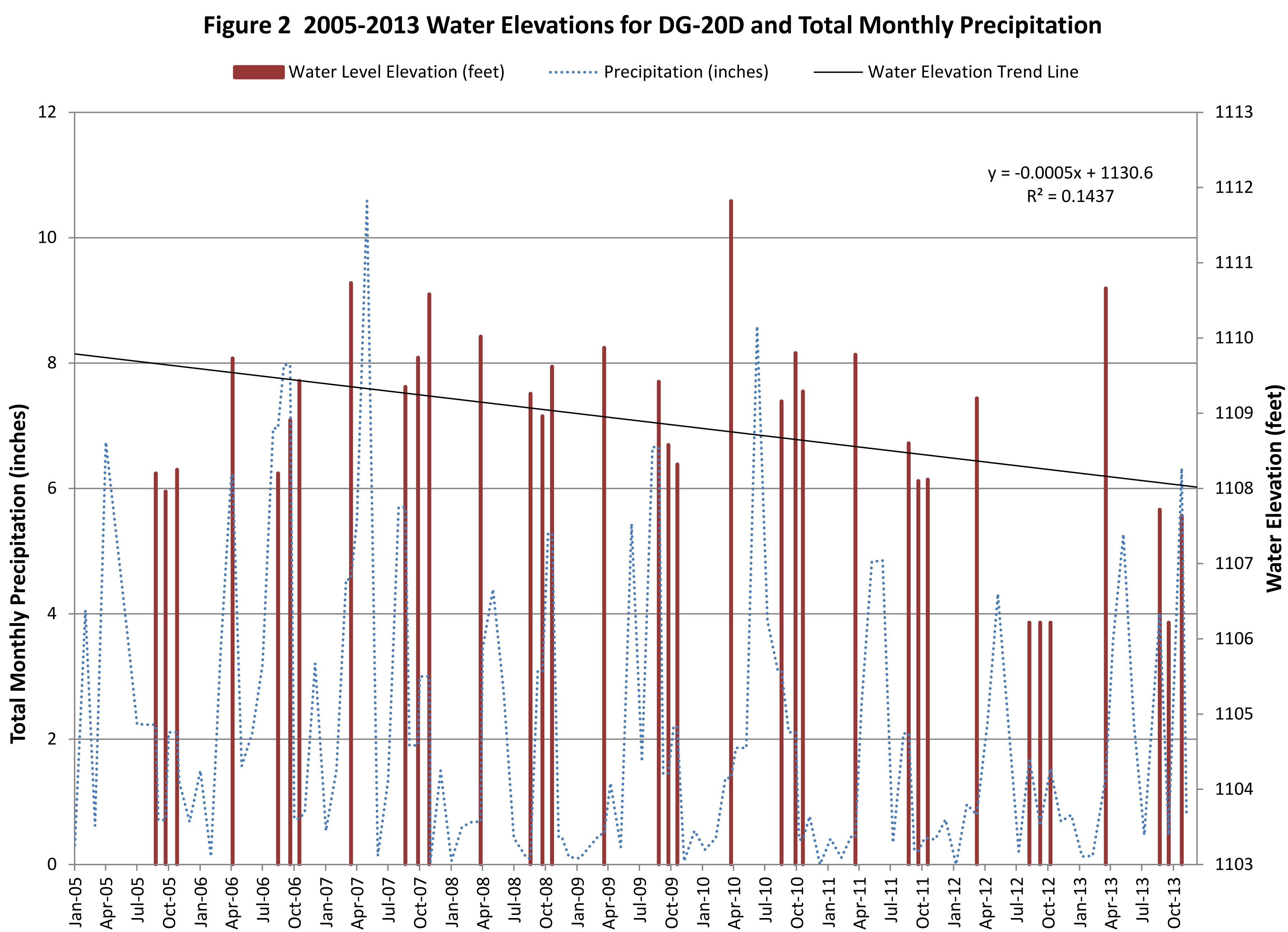


Figure 2 2005-2013 Water Elevations for DG-20D and Total Monthly Precipitation
Water Level Elevation (feet)
Precipitation (inches)
Water Elevation Trend Line
y = -0.0005x + 1130.6
R² = 0.1437
Total Monthly Precipitation (inches)
Water Elevation (feet)
0
2
4
6
8
10
12
1103
1104
1105
1106
1107
1108
1109
1110
1111
1112
1113
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Jan-07
Apr-07
Jul-07
Oct-07
Jan-08
Apr-08
Jul-08
Oct-08
Jan-09
Apr-09
Jul-09
Oct-09
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Jul-10
Oct-10
Jan-11
Apr-11
Jul-11
Oct-11
Jan-12
Apr-12
Jul-12
Oct-12
Jan-13
Apr-13
Jul-13
Oct-13

DG-20D-2

POND DG-20D PHOTOGRAPHS

Photograph 1: View of DG-20D looking southeast, March 18, 2013.

Photograph 2: View of DG-20D looking southeast, August 21, 2013.

Photograph 3: View of DG-20D looking southeast, September 26, 2013.

Photograph 4: View of DG-20D looking southeast, October 24, 2013.

DG-20D-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG20D **Permanent Benchmark Elevation (feet):** 1,118.82

Date	Water Level Elevation (feet)
3/18/2013	1,110.66
8/21/2013	1,107.72
9/16/2013	
10/24/2013	1,107.64

DG-20E

BATHYMETRIC MONITORING DATA

DG-20E-1

FIGURES

Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG20E

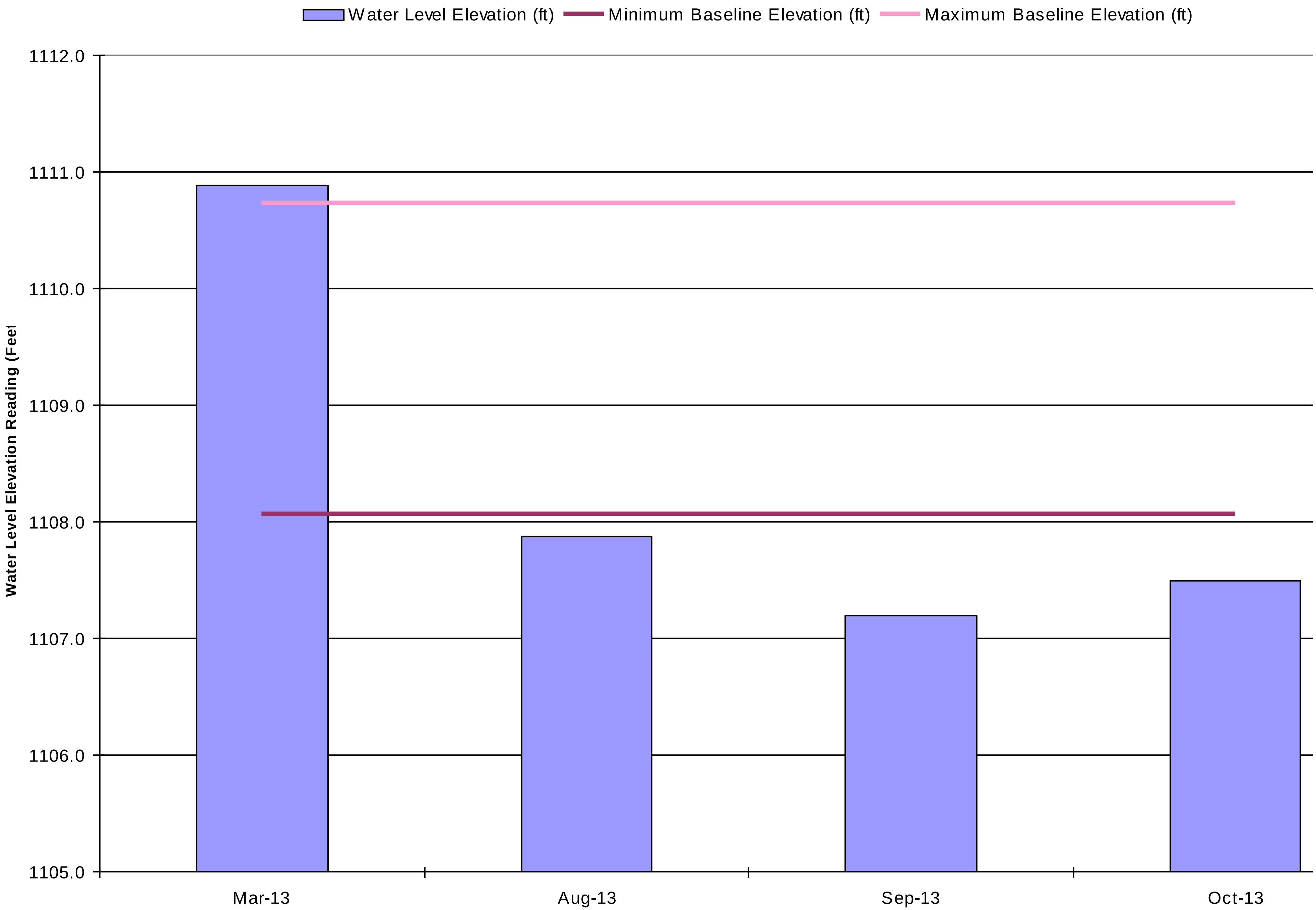
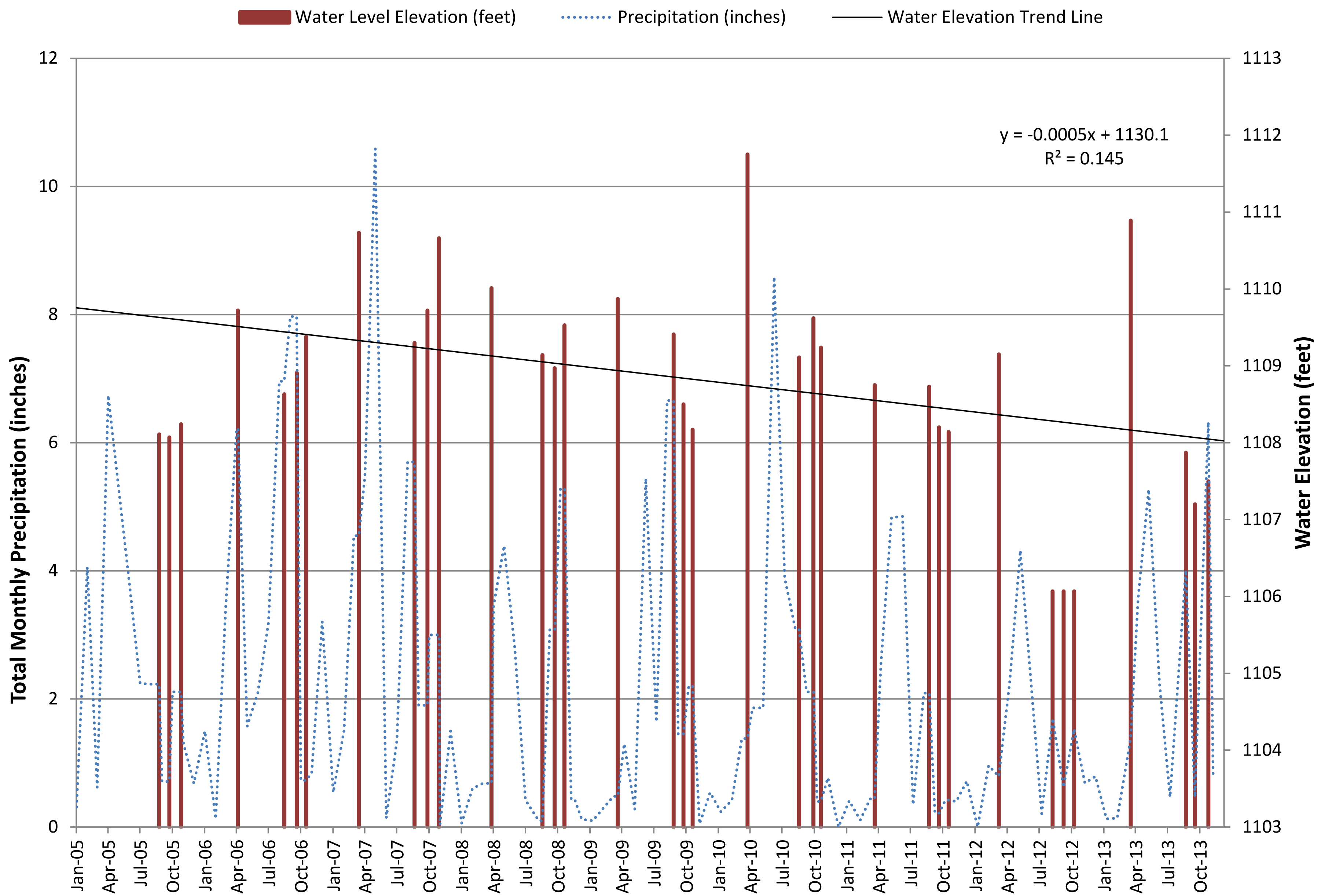


Figure 2 2005-2013 Water Elevations for DG-20E and Total Monthly Precipitation



DG-20E-2

POND DG-20E PHOTOGRAPHS

Photograph 1: View of DG-20E looking southeast, March 18, 2013.

Photograph 2: View of DG-20E looking southeast, August 21, 2013.

Photograph 3: View of DG-20E looking southeast, September 26, 2013.

Photograph 4: View of DG-20E looking southeast, October 24, 2013.

DG-20E-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG20E **Permanent Benchmark Elevation (feet):** 1,118.82

Date	Water Level Elevation (feet)
3/18/2013	1,110.89
8/21/2013	1,107.87
9/16/2013	1,107.20
10/24/2013	1,107.50

DG-20F

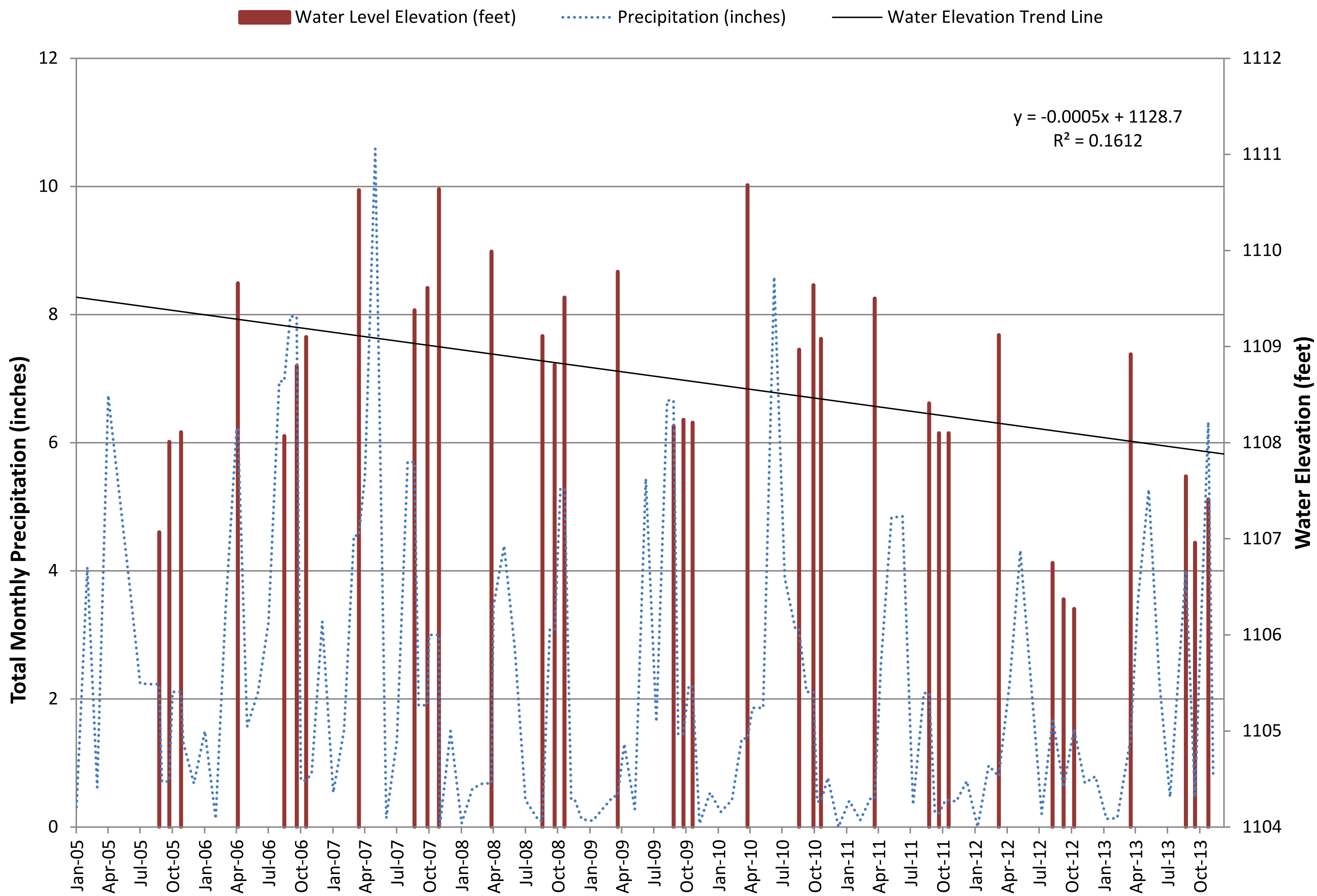
BATHYMETRIC MONITORING DATA

DG-20F-1

FIGURES

Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG20F

Figure 2 2005-2013 Water Elevations for DG-20F and Total Monthly Precipitation



DG-20F-2

POND DG-20F PHOTOGRAPHS


Photograph 1: View of DG-20F looking north, March 18, 2013.


Photograph 2: View of DG-20F looking north, August 21, 2013.

Photograph 3: View of DG-20F looking north, September 26, 2013.

Photograph 4: View of DG-20F looking north, October 24, 2013.

DG-20F-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG20F **Permanent Benchmark Elevation (feet):** 1,118.82

Date	Water Level Elevation (feet)
3/18/2013	1,108.92
8/21/2013	1,107.65
9/16/2013	1,106.95
10/24/2013	1,107.41

DG-20G

BATHYMETRIC MONITORING DATA

DG-20G-1

FIGURES

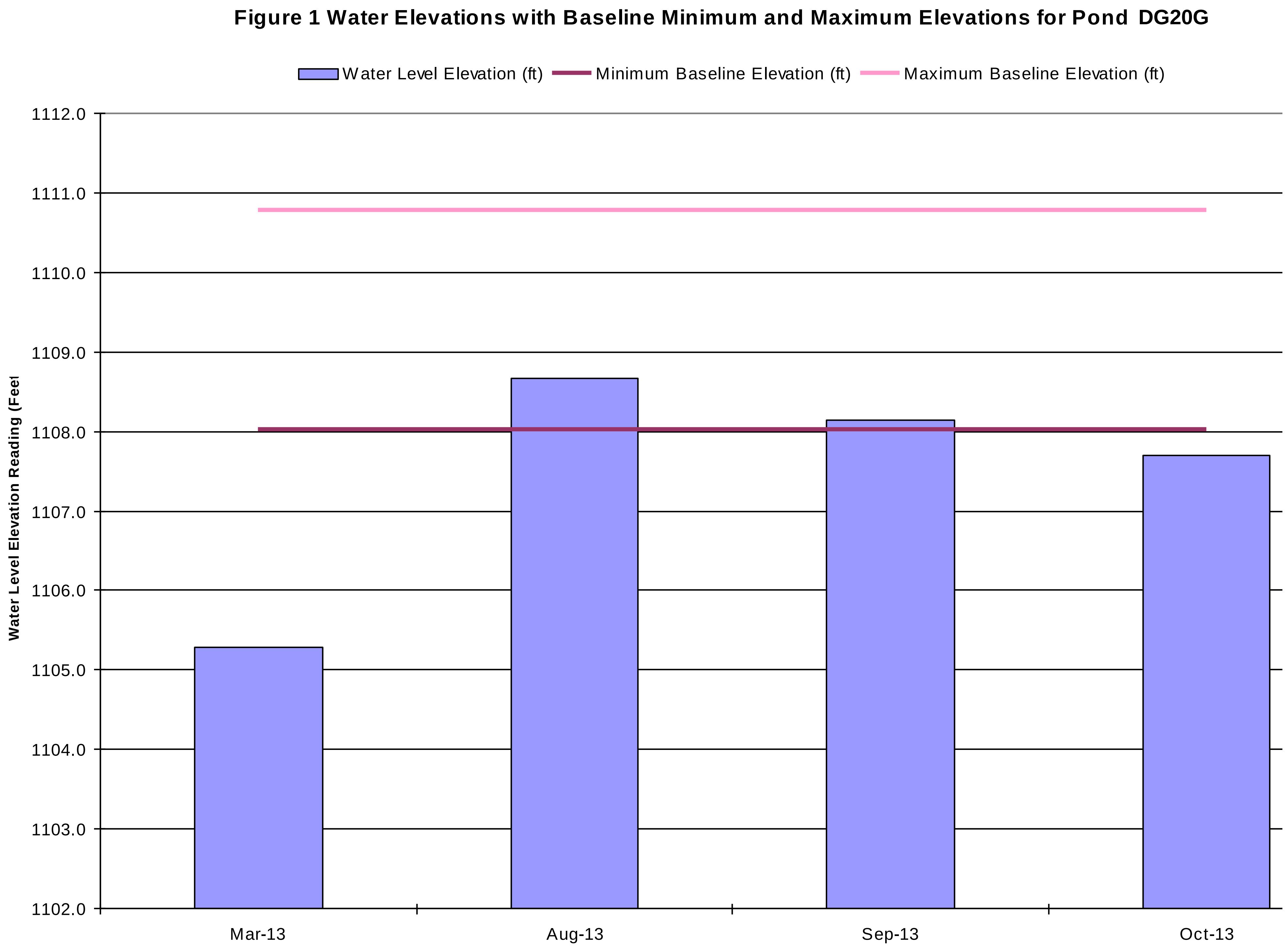
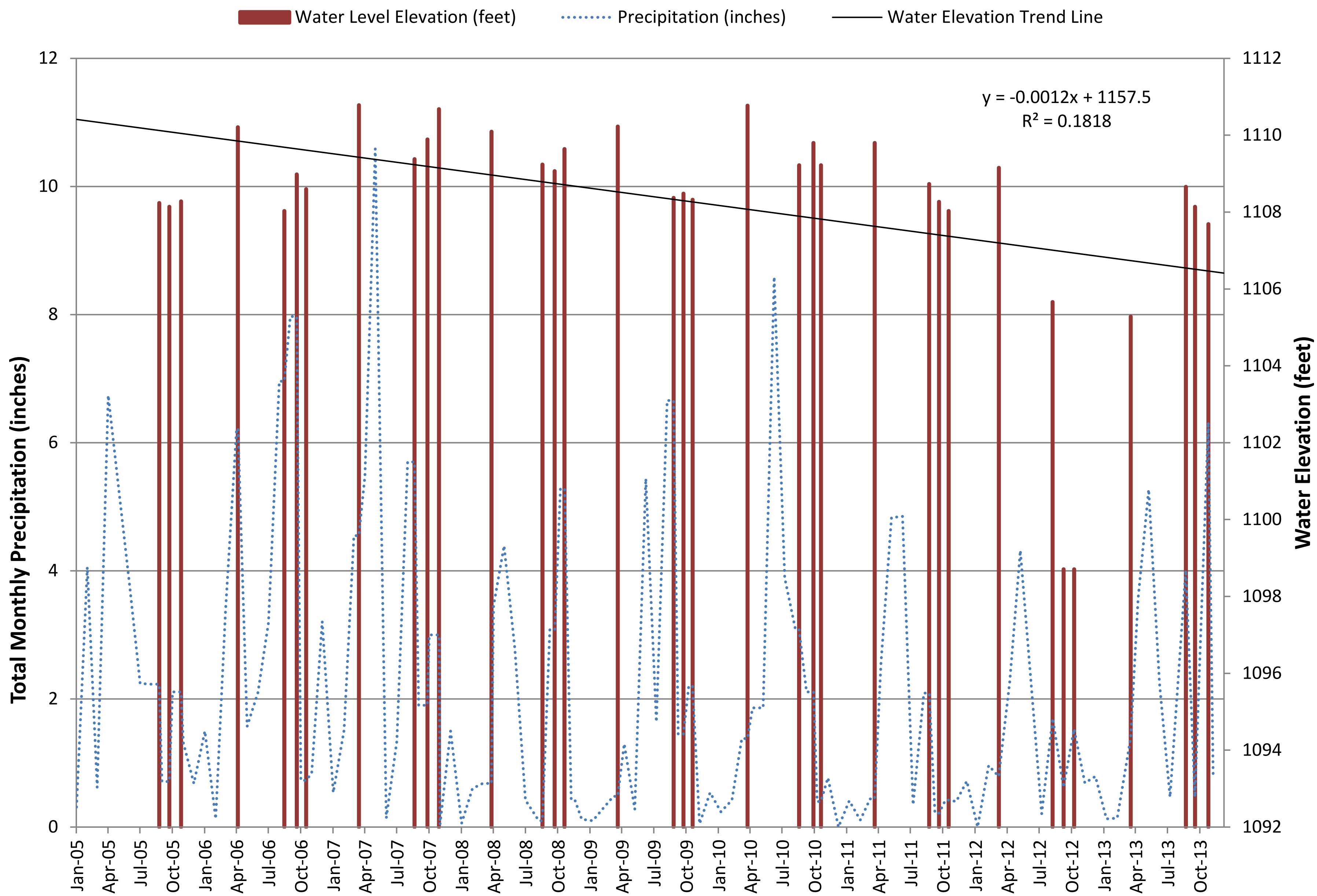


Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG20G
Water Level Elevation (ft)
Minimum Baseline Elevation (ft)
Maximum Baseline Elevation (ft)
Water Level Elevation Reading (Feet
1112.0
1111.0
1110.0
1109.0
1108.0
1107.0
1106.0
1105.0
1104.0
1103.0
1102.0
Mar-13
Aug-13
Sep-13
Oct-13

Figure 2 2005-2013 Water Elevations for DG-20G and Total Monthly Precipitation



DG-20G-2

POND DG-20G PHOTOGRAPHS

Photograph 1: View of DG-20G looking west, March 18, 2013.

Photograph 2: View of DG-20G looking east, March 18, 2013.

Photograph 3: View of DG-20G looking west, August 21, 2013.

Photograph 4: View of DG-20G looking east, August 21, 2013.

Photograph 5: View of DG-20G looking west, September 26, 2013.

Photograph 6: View of DG-20G looking east, September 26, 2013.

Photograph 7: View of DG-20G looking west, October 24, 2013.

Photograph 8: View of DG-20G looking east, October 24, 2013.

DG-20G-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG20G **Permanent Benchmark Elevation (feet):** 1,115.45

Date	Water Level Elevation (feet)
3/18/2013	1,105.28
8/21/2013	1,108.66
9/16/2013	1,108.14
10/24/2013	1,107.69

DG-21

BATHYMETRIC MONITORING DATA

DG-21-1

FIGURES

Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG21

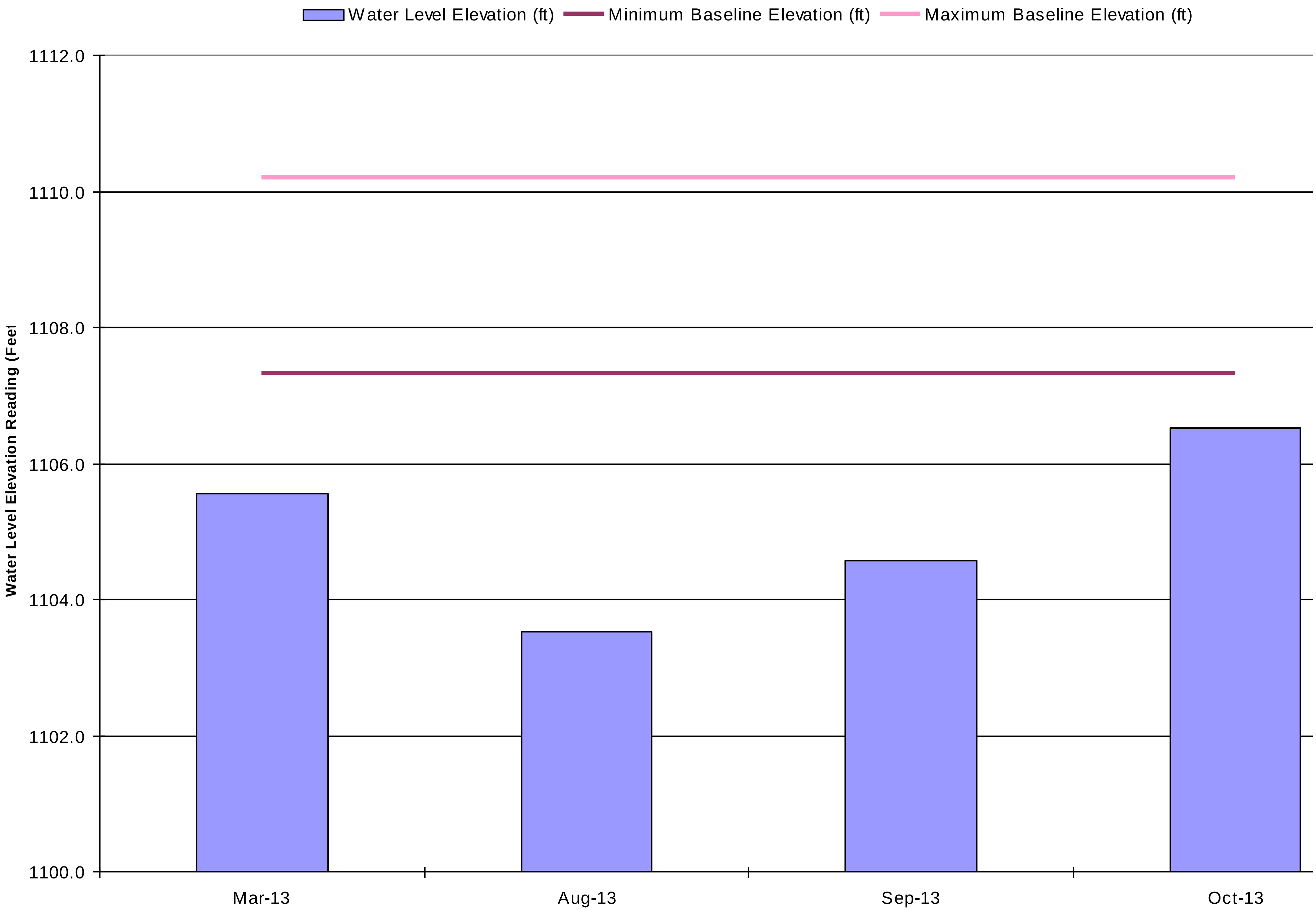
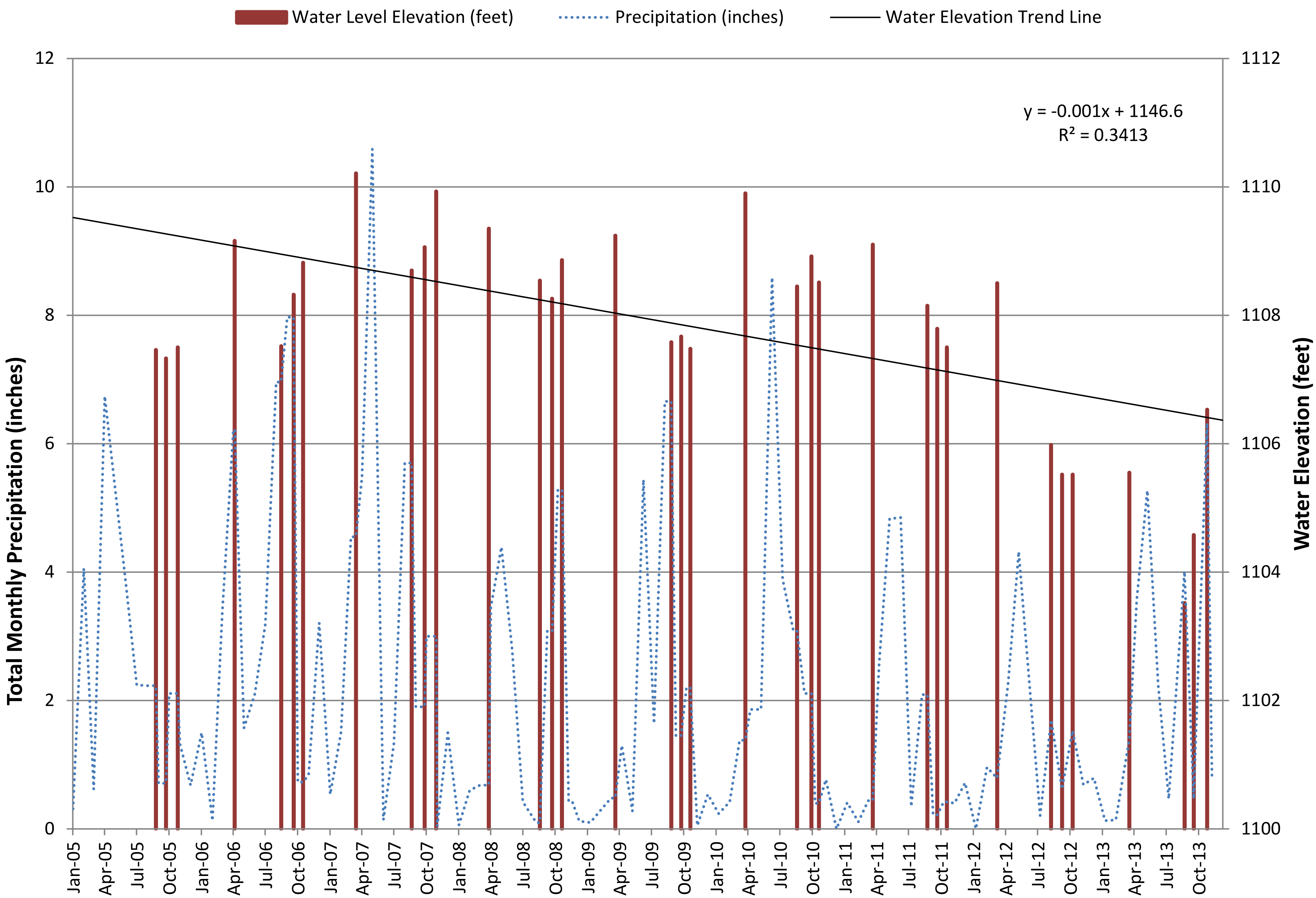


Figure 2 2005-2013 Water Elevations for DG-21 and Total Monthly Precipitation



DG-21-2

POND DG-21 PHOTOGRAPHS

Photograph 1: View of DG-21 looking southeast, March 18, 2013.

Photograph 2: View of DG-21 looking southeast, August 21, 2013.

Photograph 3: View of DG-21 looking southeast, September 26, 2013.

Photograph 4: View of DG-21 looking southeast, October 24, 2013.

DG-21-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG21 **Permanent Benchmark Elevation (feet):** 1,114.92

Date	Water Level Elevation (feet)
3/18/2013	1,105.55
8/21/2013	1,103.52
9/16/2013	1,104.58
10/24/2013	1,106.53

DG-22

BATHYMETRIC MONITORING DATA

DG-22-1

FIGURES

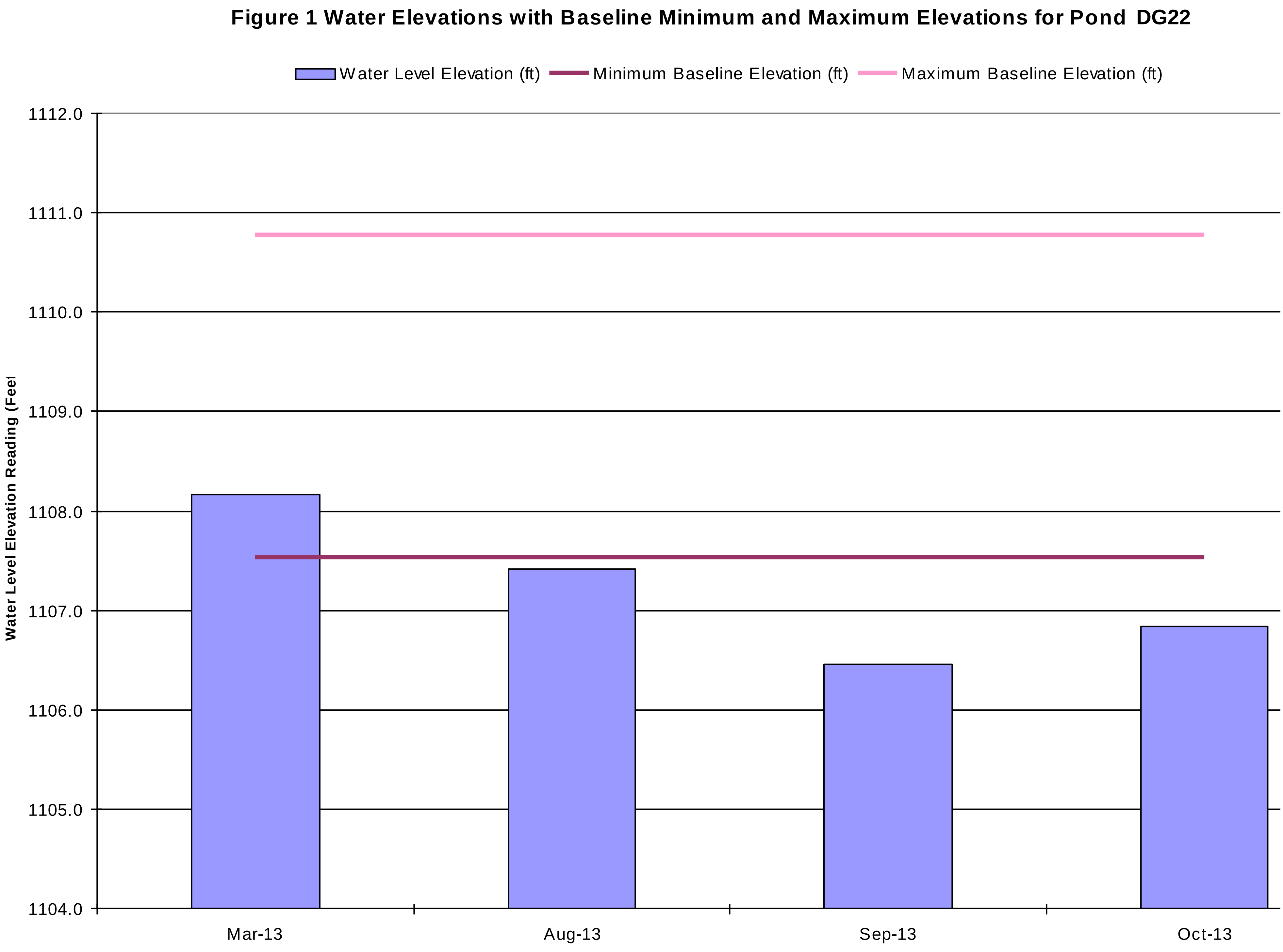
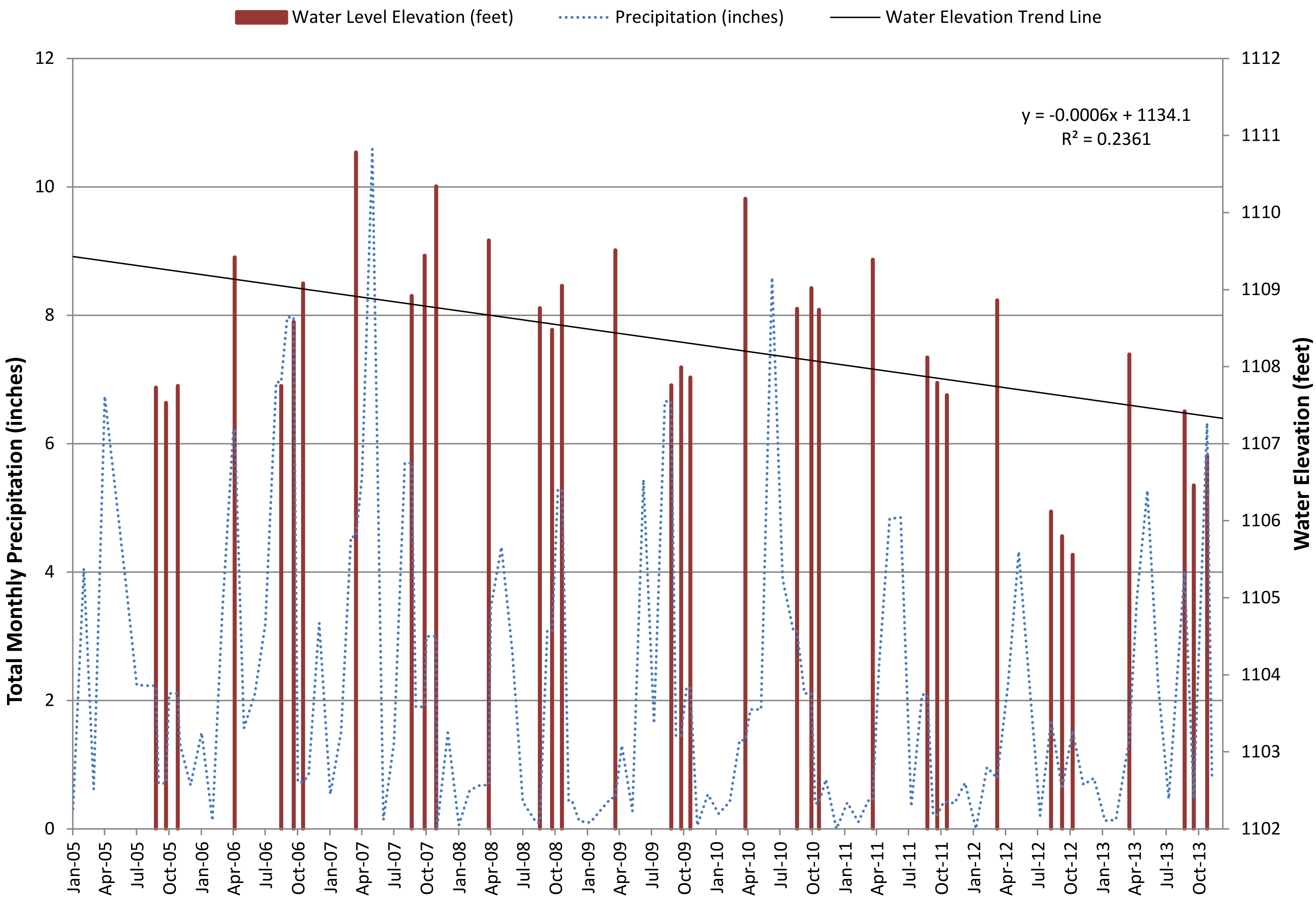


Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG22
Water Level Elevation (ft)
Minimum Baseline Elevation (ft)
Maximum Baseline Elevation (ft)
Water Level Elevation Reading (Feet
1112.0
1111.0
1110.0
1109.0
1108.0
1107.0
1106.0
1105.0
1104.0
Mar-13
Aug-13
Sep-13
Oct-13

Figure 2 2005-2013 Water Elevations for DG-22 and Total Monthly Precipitation



DG-22-2

POND DG-22 PHOTOGRAPHS

Photograph 1: View of DG-22 looking north, March 18, 2013.

Photograph 2: View of DG-22 looking north, August 21, 2013.

Photograph 3: View of DG-22 looking north, September 26, 2013.

Photograph 4: View of DG-22 looking north, October 24, 2013.

DG-22-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG22 **Permanent Benchmark Elevation (feet):** 1,114.92

Date	Water Level Elevation (feet)
3/18/2013	1,108.16
8/21/2013	1,107.42
9/16/2013	1,106.46
10/24/2013	1,106.84

DG-23

BATHYMETRIC MONITORING DATA

DG-23-1

FIGURES

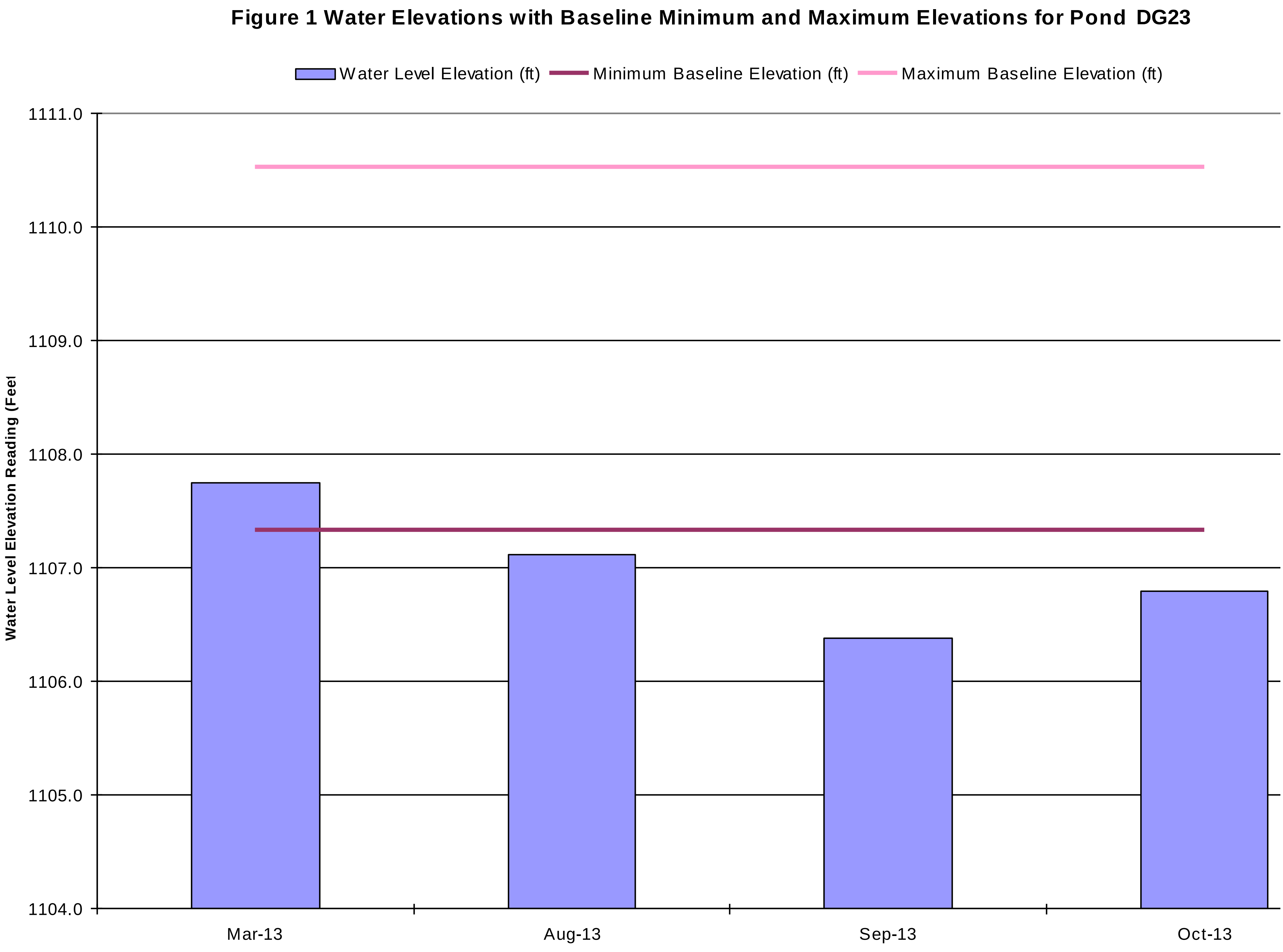


Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG23
Water Level Elevation (ft)
Minimum Baseline Elevation (ft)
Maximum Baseline Elevation (ft)
Water Level Elevation Reading (Feet
1111.0
1110.0
1109.0
1108.0
1107.0
1106.0
1105.0
1104.0
Mar-13
Aug-13
Sep-13
Oct-13

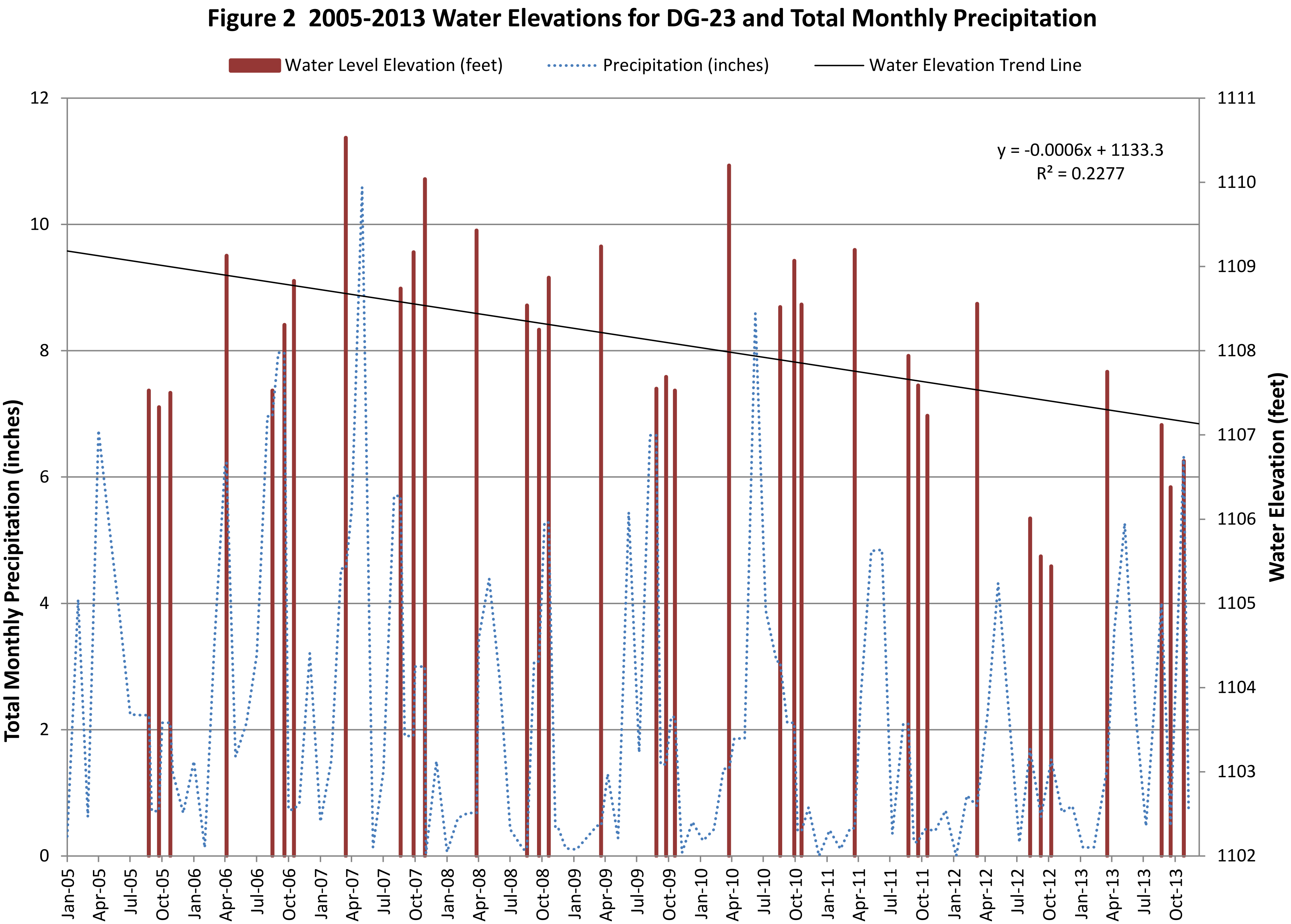


Figure 2 2005-2013 Water Elevations for DG-23 and Total Monthly Precipitation
Water Level Elevation (feet)
Precipitation (inches)
Water Elevation Trend Line
y = -0.0006x + 1133.3
R² = 0.2277
Total Monthly Precipitation (inches)
Water Elevation (feet)
12
10
8
6
4
2
0
1111
1110
1109
1108
1107
1106
1105
1104
1103
1102
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Jan-07
Apr-07
Jul-07
Oct-07
Jan-08
Apr-08
Jul-08
Oct-08
Jan-09
Apr-09
Jul-09
Oct-09
Jan-10
Apr-10
Jul-10
Oct-10
Jan-11
Apr-11
Jul-11
Oct-11
Jan-12
Apr-12
Jul-12
Oct-12
Jan-13
Apr-13
Jul-13
Oct-13

DG-23-2

POND DG-23 PHOTOGRAPHS

Photograph 1: View of DG-23 looking east, March 18, 2013.

Photograph 2: View of DG-23 looking south, March 18, 2013.

Photograph 3: View of DG-23 looking east, August 21, 2013.

Photograph 4: View of DG-23 looking south, August 21, 2013.

Photograph 5: View of DG-23 looking east, September 26, 2013.

Photograph 6: View of DG-23 looking south, September 26, 2013.

Photograph 7: View of DG-23 looking east, October 24, 2013.

Photograph 8: View of DG-23 looking south, October 24, 2013.

DG-23-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG23 **Permanent Benchmark Elevation (feet):** 1,114.92

Date	Water Level Elevation (feet)
3/18/2013	1,107.75
8/21/2013	1,107.12
9/16/2013	1,106.38
10/24/2013	1,106.79

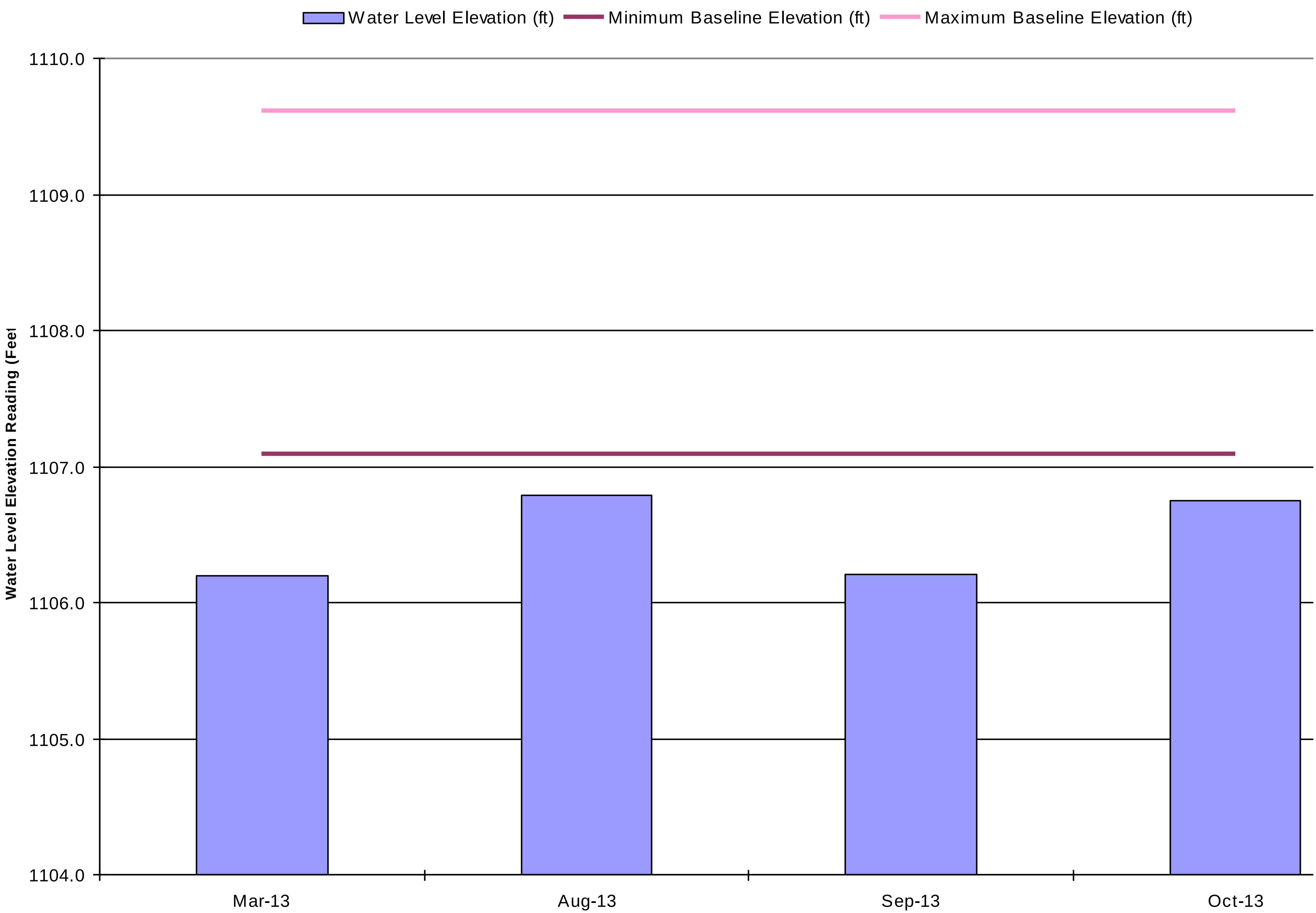
DG-23A

BATHYMETRIC MONITORING DATA

DG-23A-1

FIGURES

Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG23A



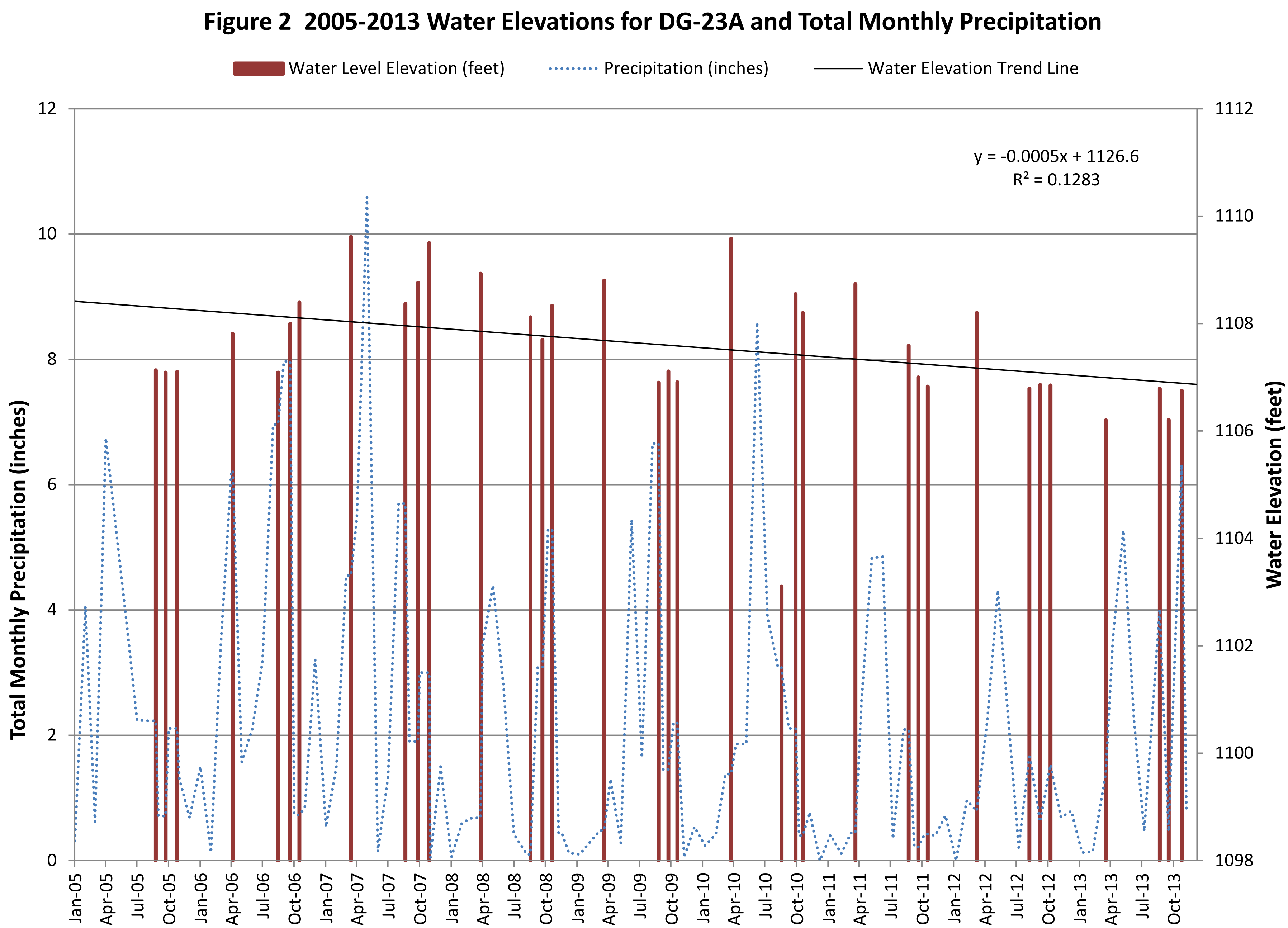


Figure 2 2005-2013 Water Elevations for DG-23A and Total Monthly Precipitation
Water Level Elevation (feet)
Precipitation (inches)
Water Elevation Trend Line
y = -0.0005x + 1126.6
R² = 0.1283
Total Monthly Precipitation (inches)
Water Elevation (feet)
0
2
4
6
8
10
12
1098
1100
1102
1104
1106
1108
1110
1112
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Jan-07
Apr-07
Jul-07
Oct-07
Jan-08
Apr-08
Jul-08
Oct-08
Jan-09
Apr-09
Jul-09
Oct-09
Jan-10
Apr-10
Jul-10
Oct-10
Jan-11
Apr-11
Jul-11
Oct-11
Jan-12
Apr-12
Jul-12
Oct-12
Jan-13
Apr-13
Jul-13
Oct-13

DG-23A-2

POND DG-23A PHOTOGRAPHS

Photograph 1: View of DG-23A looking northeast, March 18, 2013.

Photograph 2: View of DG-23A looking east, March 18, 2013.

Photograph 3: View of DG-23A looking northeast, August 21, 2013.

Photograph 4: View of DG-23A looking east, August 21, 2013.

Photograph 5: View of DG-23A looking northeast, September 26, 2013.

Photograph 6: View of DG-23A looking east, September 26, 2013.


Photograph 7: View of DG-23A looking northeast, October 24, 2013.


Photograph 8: View of DG-23A looking east, October 24, 2013.

DG-23A-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading
Data Sheets

Pond #: DG23A **Permanent Benchmark Elevation (feet):** 1,113.60

Date	Water Level Elevation (feet)
3/18/2013	1,106.20
8/21/2013	1,106.79
9/16/2013	1,106.21
10/24/2013	1,106.75

DG-26

BATHYMETRIC MONITORING DATA

DG-26-1

FIGURES

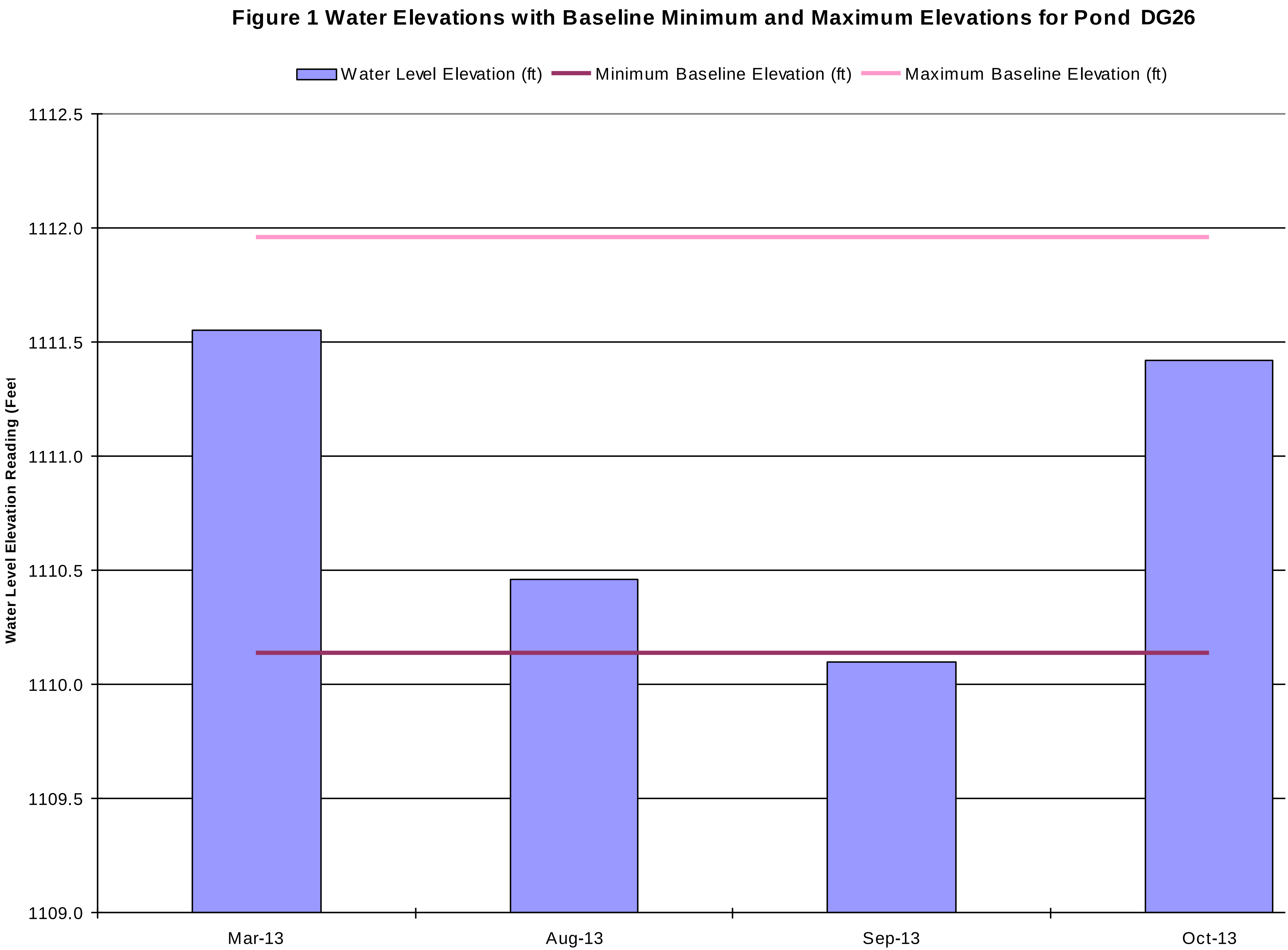
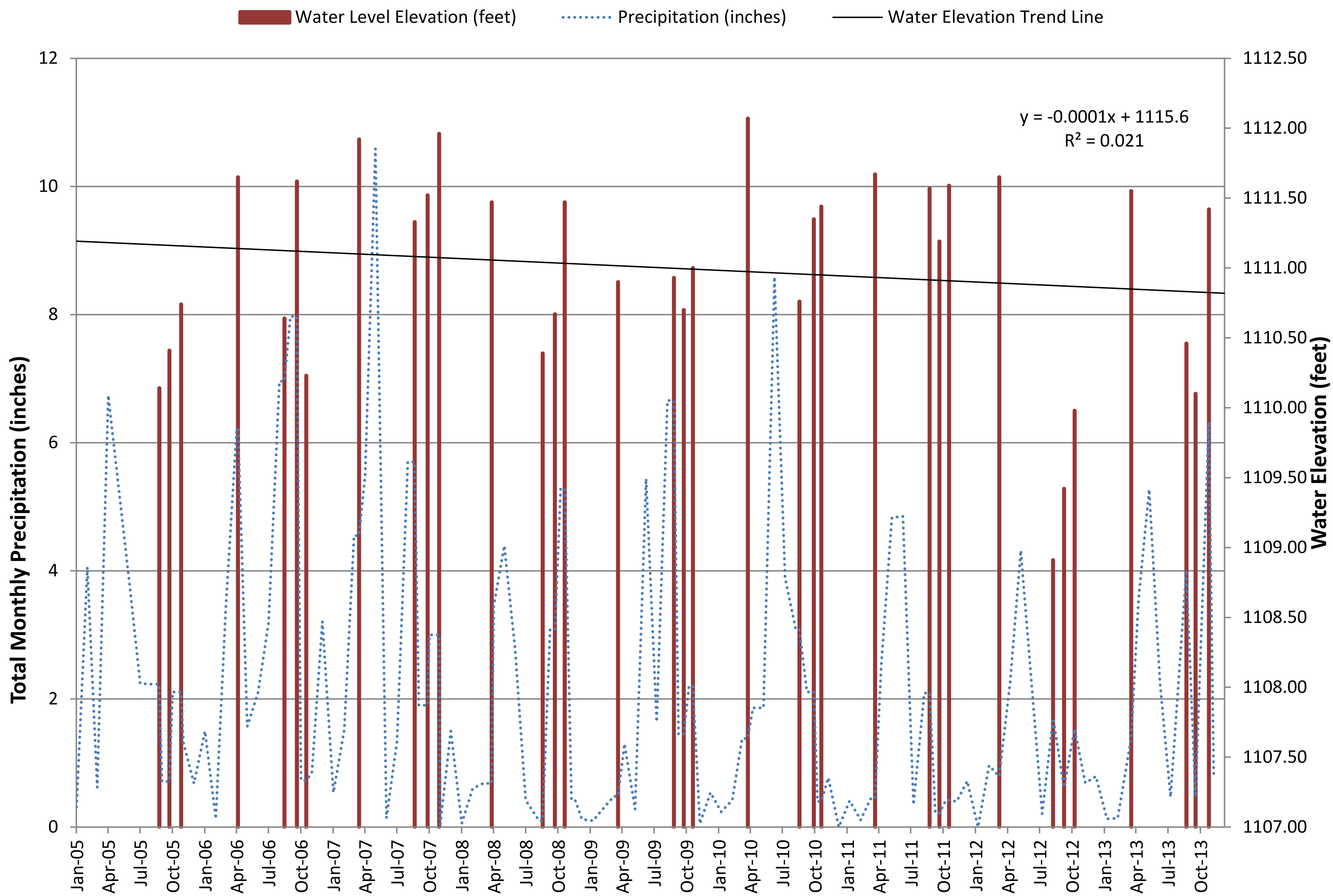


Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG26
Water Level Elevation (ft)
Minimum Baseline Elevation (ft)
Maximum Baseline Elevation (ft)
Water Level Elevation Reading (Feet
1112.5
1112.0
1111.5
1111.0
1110.5
1110.0
1109.5
1109.0
Mar-13
Aug-13
Sep-13
Oct-13

Figure 2 2005-2013 Water Elevations for DG-26 and Total Monthly Precipitation



DG-26-2

POND DG-26 PHOTOGRAPHS

Photograph 1: View of DG-26 looking northwest, March 18, 2013.

Photograph 2: View of DG-26 looking northeast, March 18, 2013.

Photograph 3: View of DG-26 looking northwest, August 21, 2013.

Photograph 4: View of DG-26 looking northeast, August 21, 2013.

Photograph 5: View of DG-26 looking northwest, September 26, 2013.

Photograph 6: View of DG-26 looking northeast, September 26, 2013.

Photograph 7: View of DG-26 looking northwest, October 25, 2013.

Photograph 8: View of DG-26 looking northeast, October 25, 2013.

DG-26-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG26 **Permanent Benchmark Elevation (feet):** 1,113.45

Date	Water Level Elevation (feet)
3/19/2013	1,111.55
8/22/2013	1,110.46
9/17/2013	1,110.10
10/25/2013	1,111.42

DG-27

BATHYMETRIC MONITORING DATA

DG-27-1

FIGURES

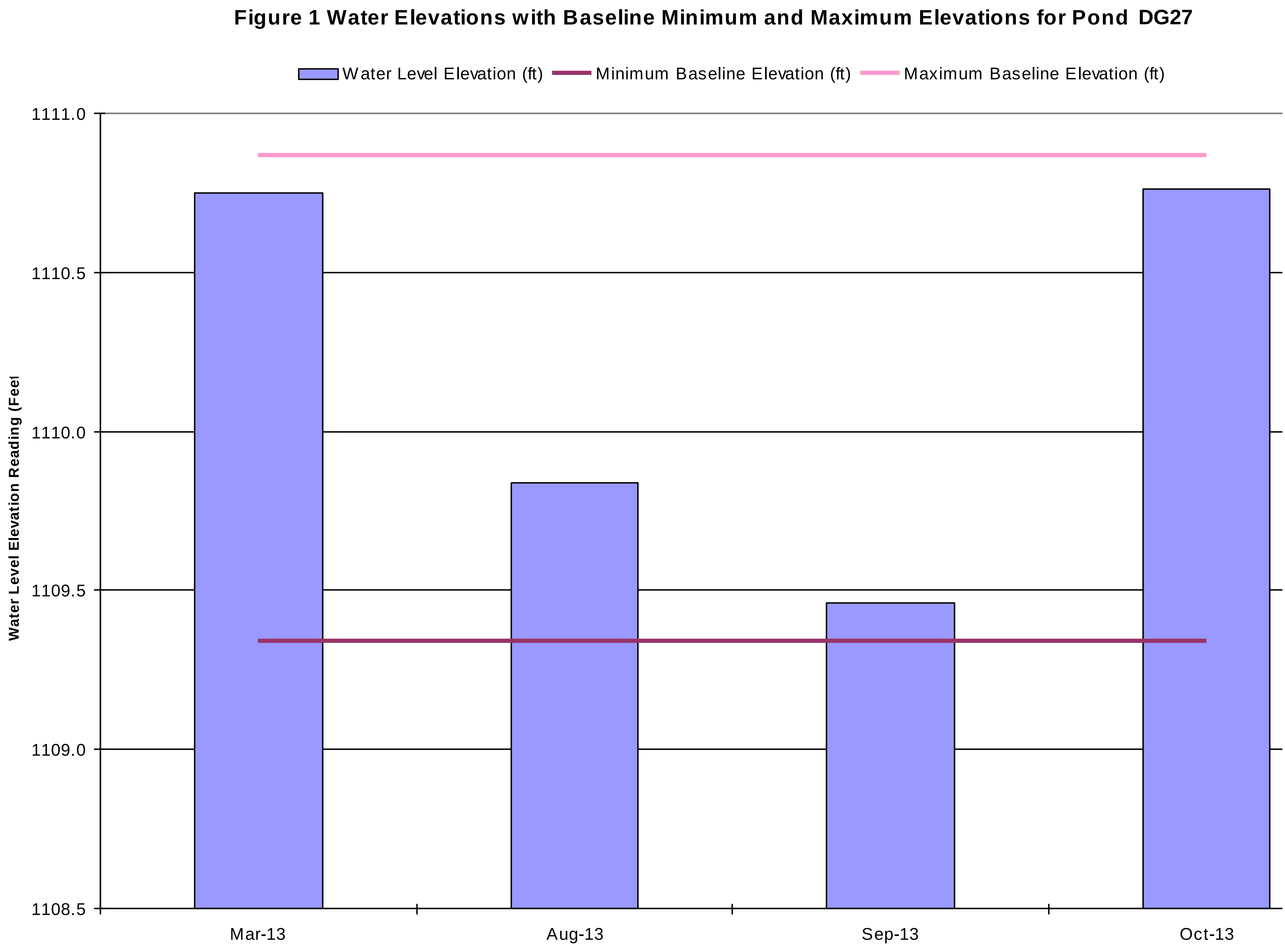


Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG27
Water Level Elevation (ft)
Minimum Baseline Elevation (ft)
Maximum Baseline Elevation (ft)
Water Level Elevation Reading (Feet
1111.0
1110.5
1110.0
1109.5
1109.0
1108.5
Mar-13
Aug-13
Sep-13
Oct-13

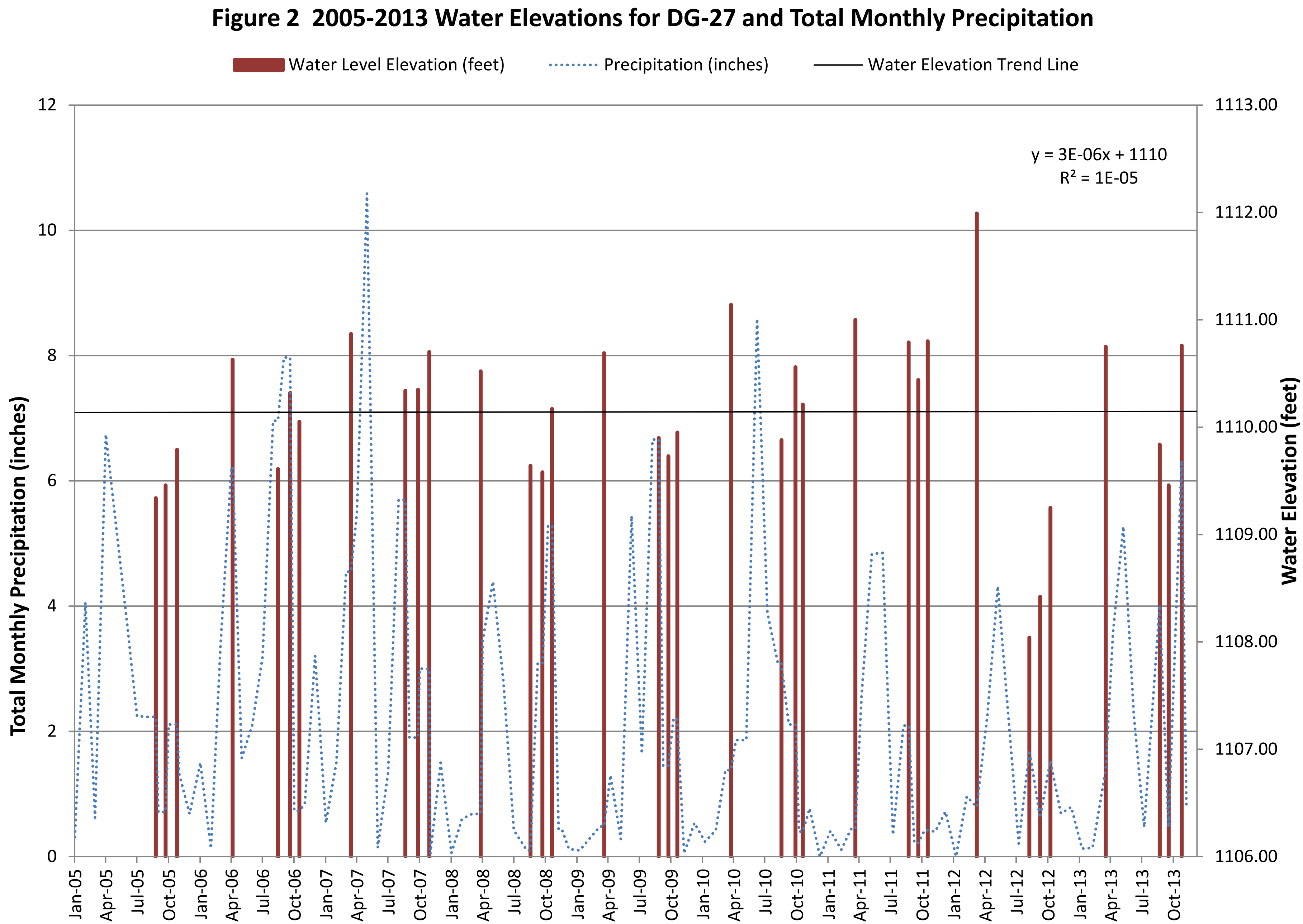


Figure 2 2005-2013 Water Elevations for DG-27 and Total Monthly Precipitation
Water Level Elevation (feet)
Precipitation (inches)
Water Elevation Trend Line
y = 3E-06x + 1110
R² = 1E-05
Total Monthly Precipitation (inches)
Water Elevation (feet)
12
10
8
6
4
2
0
1113.00
1112.00
1111.00
1110.00
1109.00
1108.00
1107.00
1106.00
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Jan-07
Apr-07
Jul-07
Oct-07
Jan-08
Apr-08
Jul-08
Oct-08
Jan-09
Apr-09
Jul-09
Oct-09
Jan-10
Apr-10
Jul-10
Oct-10
Jan-11
Apr-11
Jul-11
Oct-11
Jan-12
Apr-12
Jul-12
Oct-12
Jan-13
Apr-13
Jul-13
Oct-13

DG-27-2

POND DG-27 PHOTOGRAPHS

Photograph 1: View of DG-27 looking southwest, March 18, 2013.

Photograph 2: View of DG-27 looking northwest, March 18, 2013.

Photograph 3: View of DG-27 looking southwest, August 21, 2013.

Photograph 4: View of DG-27 looking northwest, August 21, 2013.

Photograph 5: View of DG-27 looking southwest, September 26, 2013.

Photograph 6: View of DG-27 looking northwest, September 26, 2013.

Photograph 7: View of DG-27 looking southwest, October 25, 2013.

Photograph 8: View of DG-27 looking northwest, October 25, 2013.

DG-27-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG27 **Permanent Benchmark Elevation (feet):** 1,115.90

Date	Water Level Elevation (feet)
3/19/2013	1,110.75
8/22/2013	1,109.84
9/17/2013	1,109.46
10/25/2013	1,110.76

DG-28

BATHYMETRIC MONITORING DATA

DG-28-1

FIGURES

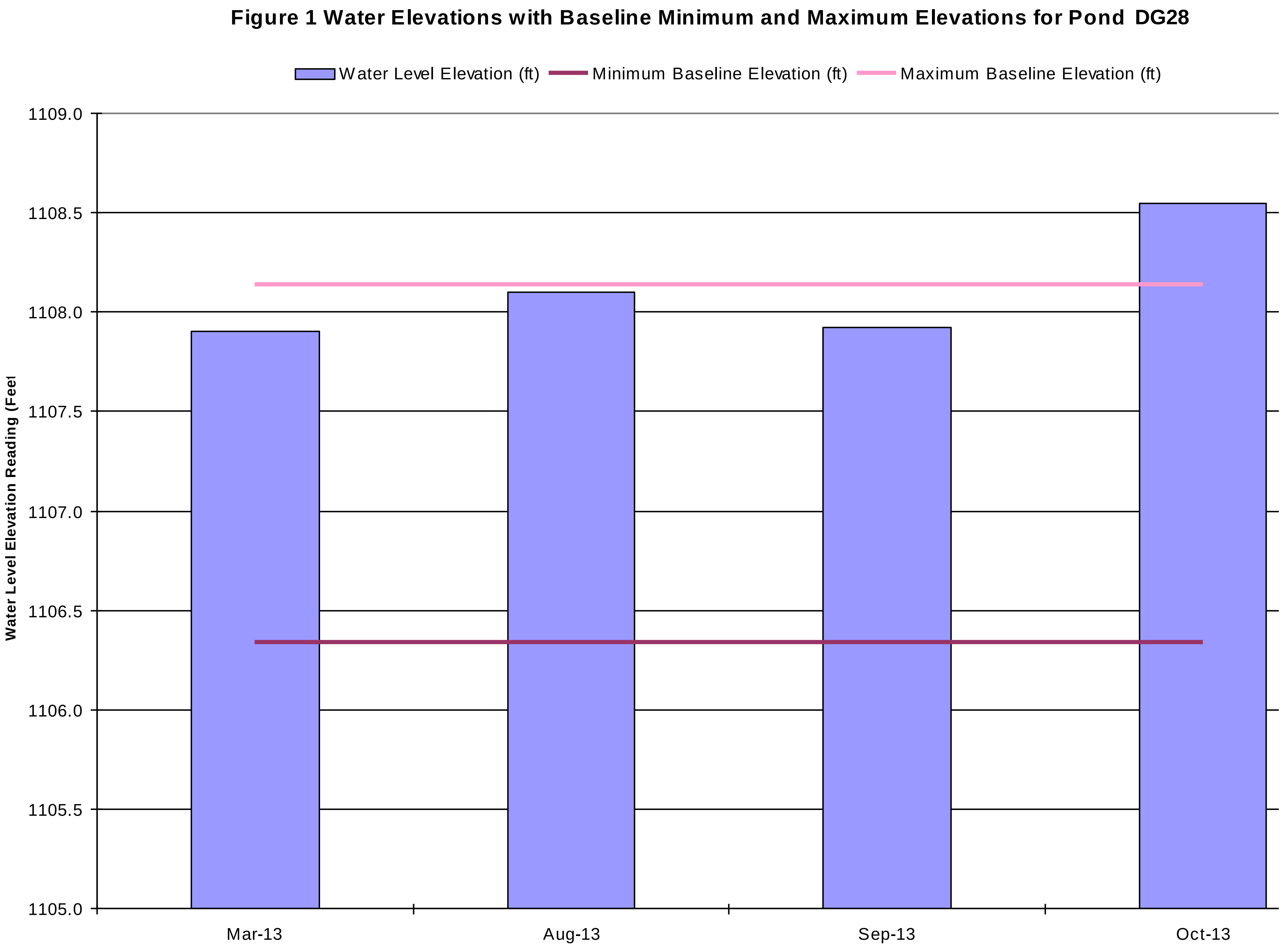


Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG28
Water Level Elevation (ft)
Minimum Baseline Elevation (ft)
Maximum Baseline Elevation (ft)
Water Level Elevation Reading (Feet
1109.0
1108.5
1108.0
1107.5
1107.0
1106.5
1106.0
1105.5
1105.0
Mar-13
Aug-13
Sep-13
Oct-13

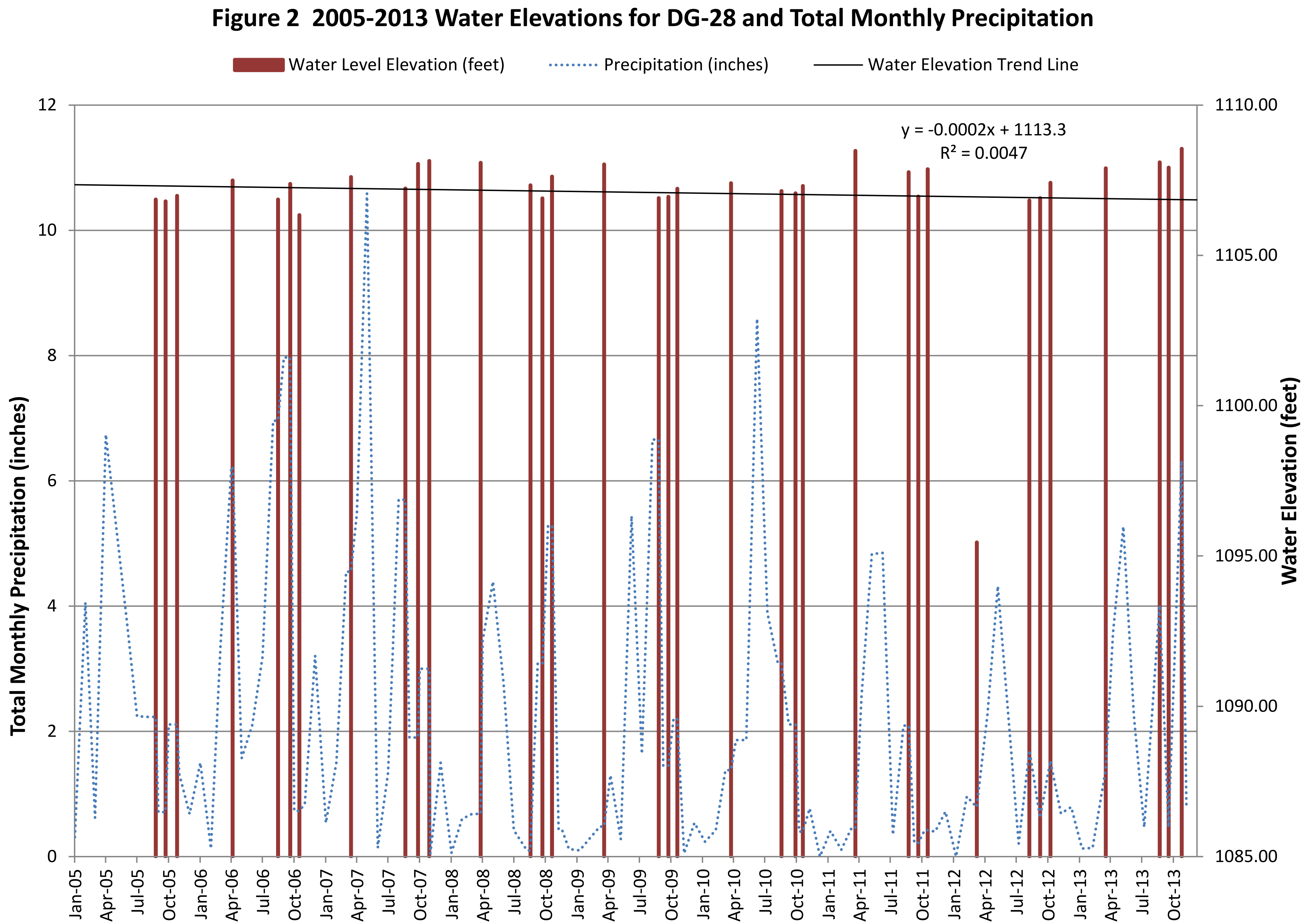


Figure 2 2005-2013 Water Elevations for DG-28 and Total Monthly Precipitation
Water Level Elevation (feet)
Precipitation (inches)
Water Elevation Trend Line
y = -0.0002x + 1113.3
R² = 0.0047
Total Monthly Precipitation (inches)
Water Elevation (feet)
0
2
4
6
8
10
12
1085.00
1090.00
1095.00
1100.00
1105.00
1110.00
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Jan-07
Apr-07
Jul-07
Oct-07
Jan-08
Apr-08
Jul-08
Oct-08
Jan-09
Apr-09
Jul-09
Oct-09
Jan-10
Apr-10
Jul-10
Oct-10
Jan-11
Apr-11
Jul-11
Oct-11
Jan-12
Apr-12
Jul-12
Oct-12
Jan-13
Apr-13
Jul-13
Oct-13

DG-28-2

POND DG-28 PHOTOGRAPHS

Photograph 1: View of DG-28 looking southeast, March 18, 2013.

Photograph 2: View of DG-28 looking northeast, March 18, 2013.

Photograph 3: View of DG-28 looking southeast, August 21, 2013.

Photograph 4: View of DG-28 looking northeast, August 21, 2013.

Photograph 5: View of DG-28 looking southeast, September 26, 2013.

Photograph 6: View of DG-28 looking northeast, September 26, 2013.

Photograph 7: View of DG-28 looking southeast, October 25, 2013.

Photograph 8: View of DG-28 looking northeast, October 25, 2013.


Photograph 9: View of DG-28 looking south, October 25, 2013.

DG-28-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG28 **Permanent Benchmark Elevation (feet):** 1,115.90

Date	Water Level Elevation (feet)
3/19/2013	1,107.90
8/22/2013	1,108.10
9/17/2013	1,107.92
10/25/2013	1,108.55

DG-29

BATHYMETRIC MONITORING DATA

DG-29-1

FIGURES

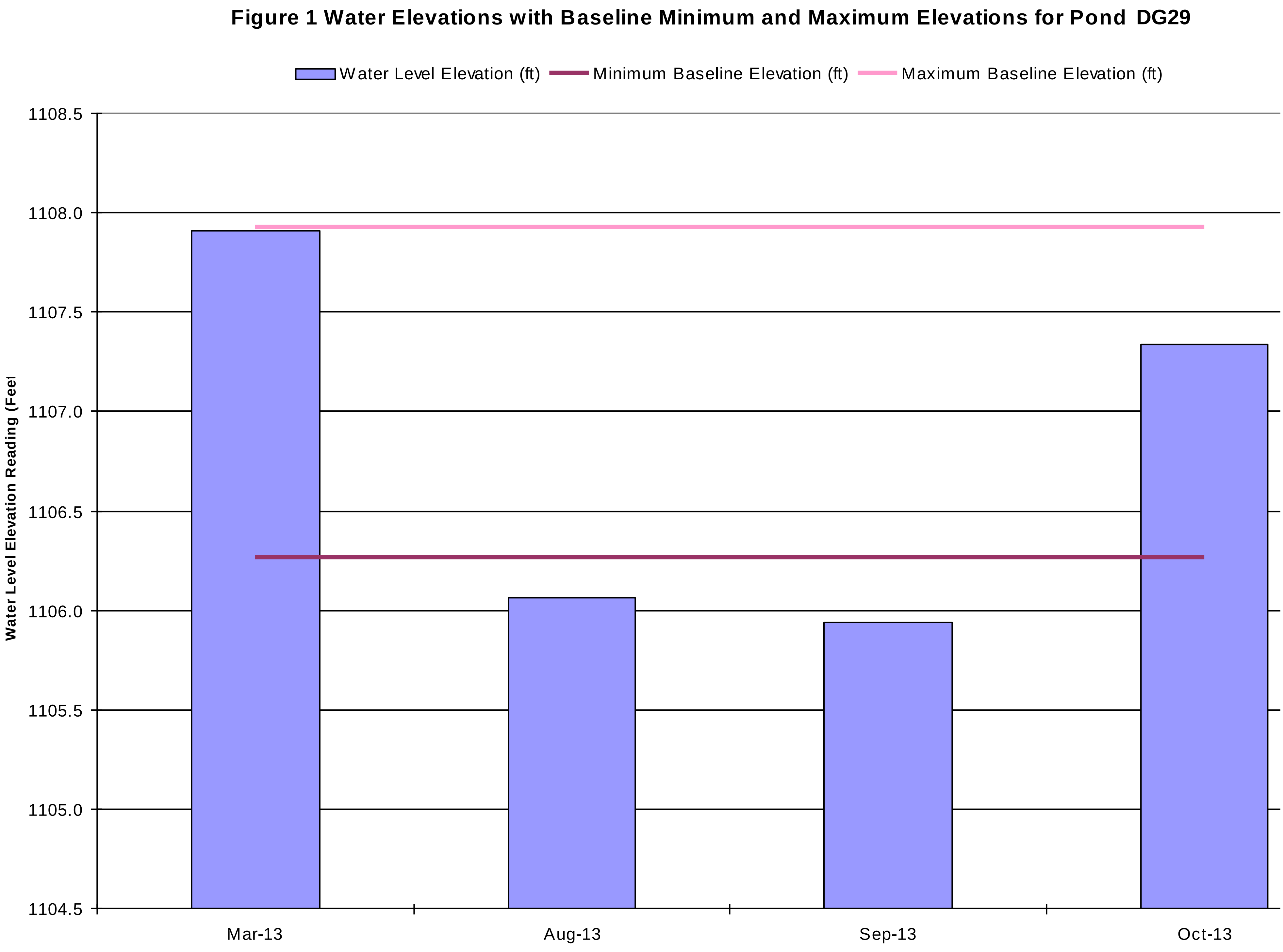


Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG29
Water Level Elevation (ft)
Minimum Baseline Elevation (ft)
Maximum Baseline Elevation (ft)
Water Level Elevation Reading (Feet
1108.5
1108.0
1107.5
1107.0
1106.5
1106.0
1105.5
1105.0
1104.5
Mar-13
Aug-13
Sep-13
Oct-13

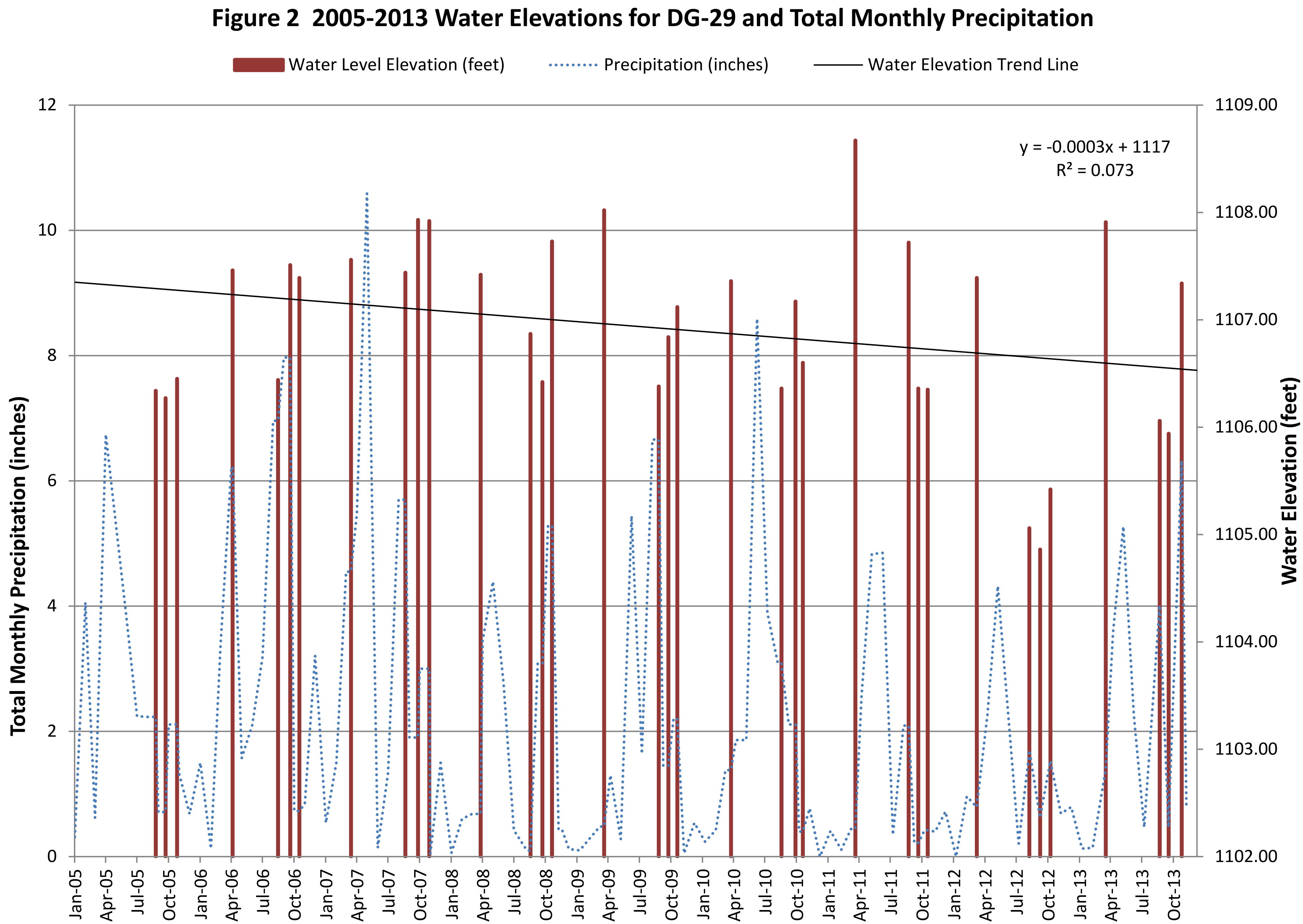


Figure 2 2005-2013 Water Elevations for DG-29 and Total Monthly Precipitation
Water Level Elevation (feet)
Precipitation (inches)
Water Elevation Trend Line
y = -0.0003x + 1117
R² = 0.073
Total Monthly Precipitation (inches)
Water Elevation (feet)
0
2
4
6
8
10
12
1102.00
1103.00
1104.00
1105.00
1106.00
1107.00
1108.00
1109.00
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Jan-07
Apr-07
Jul-07
Oct-07
Jan-08
Apr-08
Jul-08
Oct-08
Jan-09
Apr-09
Jul-09
Oct-09
Jan-10
Apr-10
Jul-10
Oct-10
Jan-11
Apr-11
Jul-11
Oct-11
Jan-12
Apr-12
Jul-12
Oct-12
Jan-13
Apr-13
Jul-13
Oct-13

DG-29-2

POND DG-29 PHOTOGRAPHS

Photograph 1: View of DG-29 looking north, March 18, 2013.

Photograph 2: View of DG-29 looking southeast, March 18, 2013.

Photograph 3: View of DG-29 looking north, August 21, 2013.

Photograph 4: View of DG-29 looking southeast, August 21, 2013.

Photograph 5: View of DG-29 looking north, September 26, 2013.

Photograph 6: View of DG-29 looking southeast, September 26, 2013.

Photograph 7: View of DG-29 looking north, October 25, 2013.

Photograph 8: View of DG-29 looking southeast, October 25, 2013.

DG-29-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG29 **Permanent Benchmark Elevation (feet):** 1,112.95

Date	Water Level Elevation (feet)
3/19/2013	1,107.91
8/22/2013	1,106.06
9/17/2013	1,105.94
10/25/2013	1,107.34

DG-30

BATHYMETRIC MONITORING DATA

DG-30-1

FIGURES

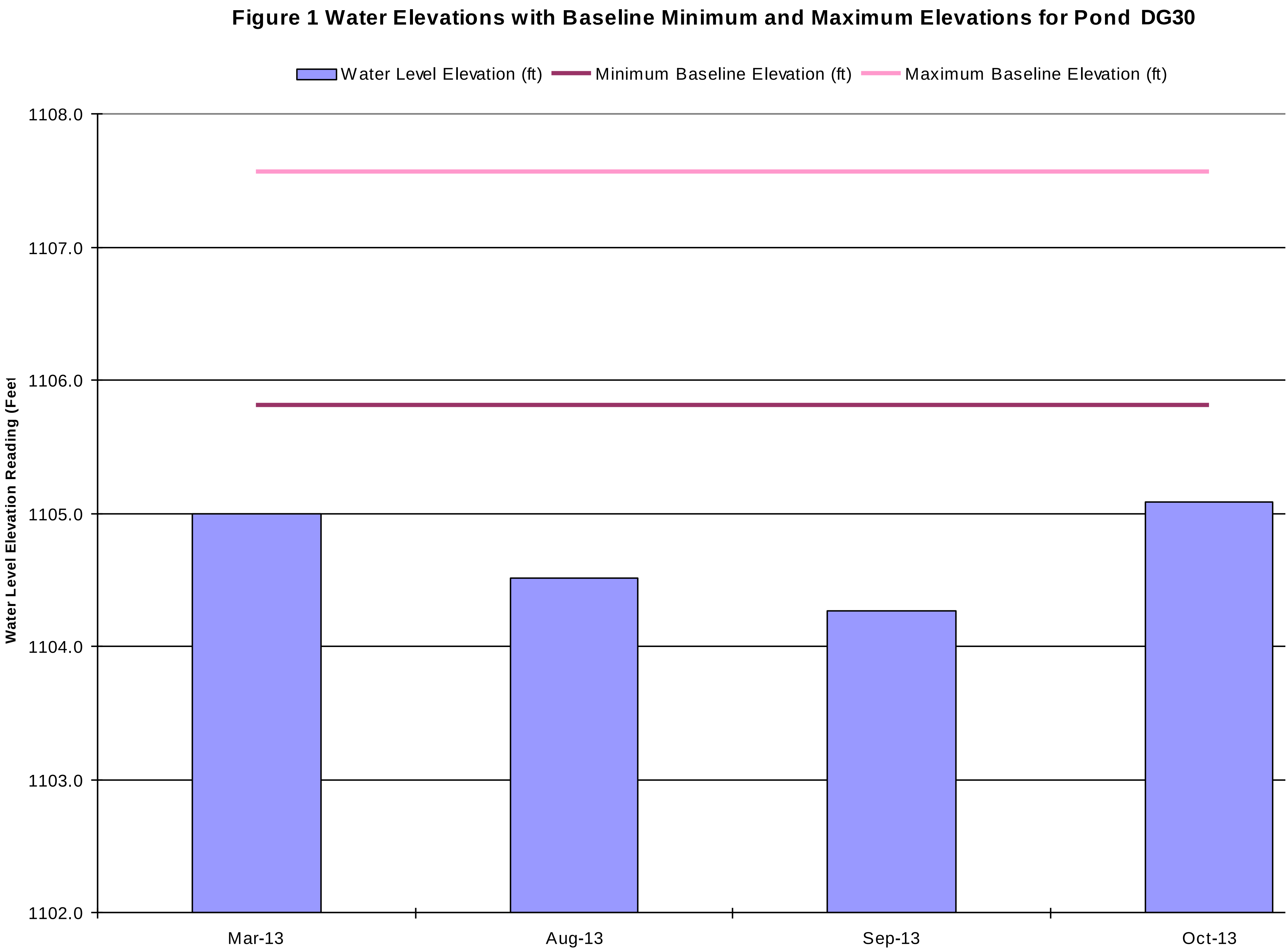
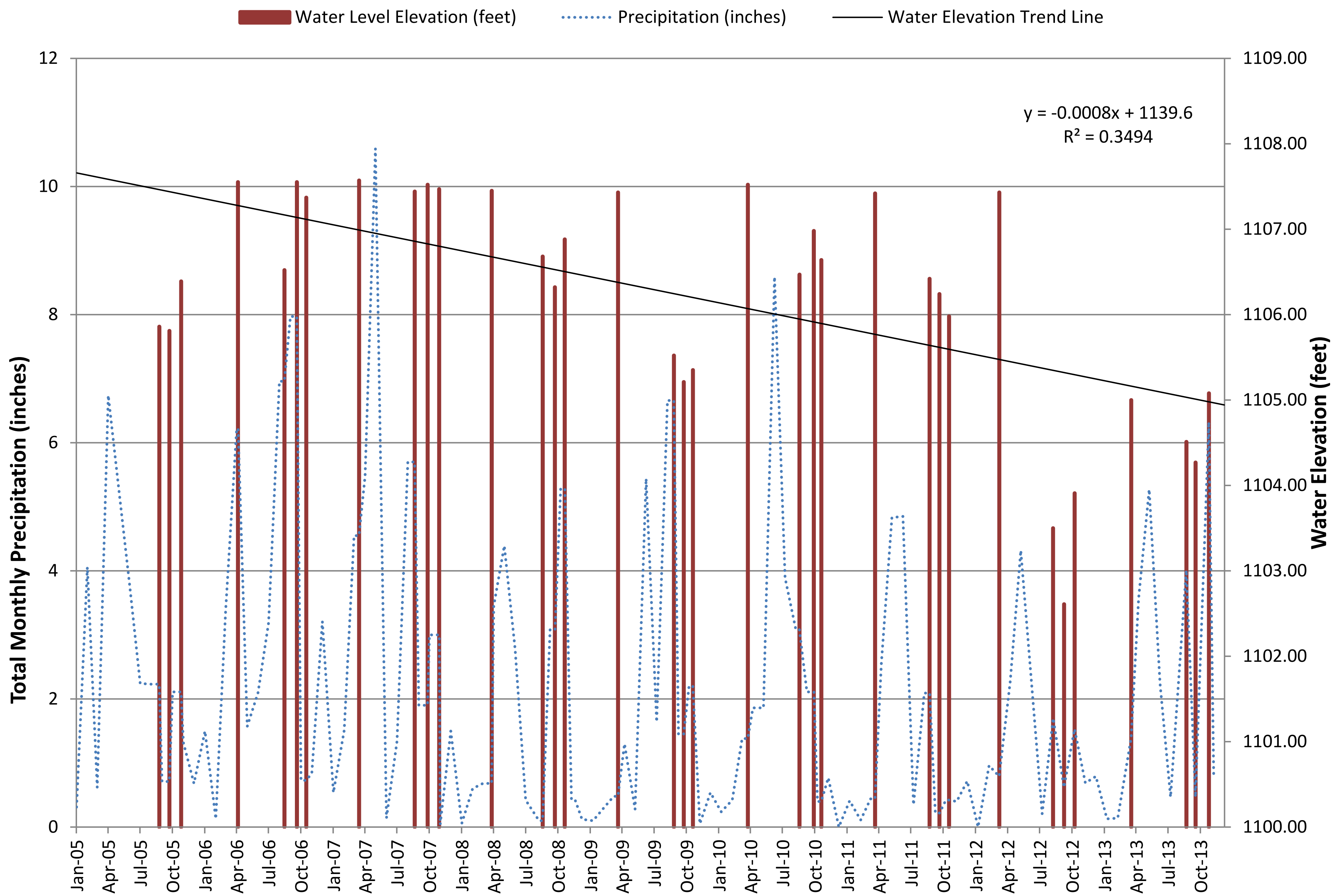


Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG30
Water Level Elevation (ft)
Minimum Baseline Elevation (ft)
Maximum Baseline Elevation (ft)
Water Level Elevation Reading (Feet
1108.0
1107.0
1106.0
1105.0
1104.0
1103.0
1102.0
Mar-13
Aug-13
Sep-13
Oct-13

Figure 2 2005-2013 Water Elevations for DG-30 and Total Monthly Precipitation



DG-30-2

POND DG-30 PHOTOGRAPHS

Photograph 1: View of DG-30 looking north, March 18, 2013.

Photograph 2: View of DG-30 looking southeast, March 18, 2013.

Photograph 3: View of DG-30 looking north, August 21, 2013.

Photograph 4: View of DG-30 looking southeast, August 21, 2013.

Photograph 5: View of DG-30 looking north, September 26, 2013.

Photograph 6: View of DG-30 looking southeast, September 26, 2013.

Photograph 7: View of DG-30 looking north, October 25, 2013.

Photograph 8: View of DG-30 looking southeast, October 25, 2013.

DG-30-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG30 **Permanent Benchmark Elevation (feet):** 1,111.43

Date	**Water Level Elevation (feet)**
3/19/2013	1,105.00
8/22/2013	1,104.51
9/17/2013	1,104.27
10/25/2013	1,105.08

DG-31

BATHYMETRIC MONITORING DATA

DG-31-1

FIGURES

Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG31

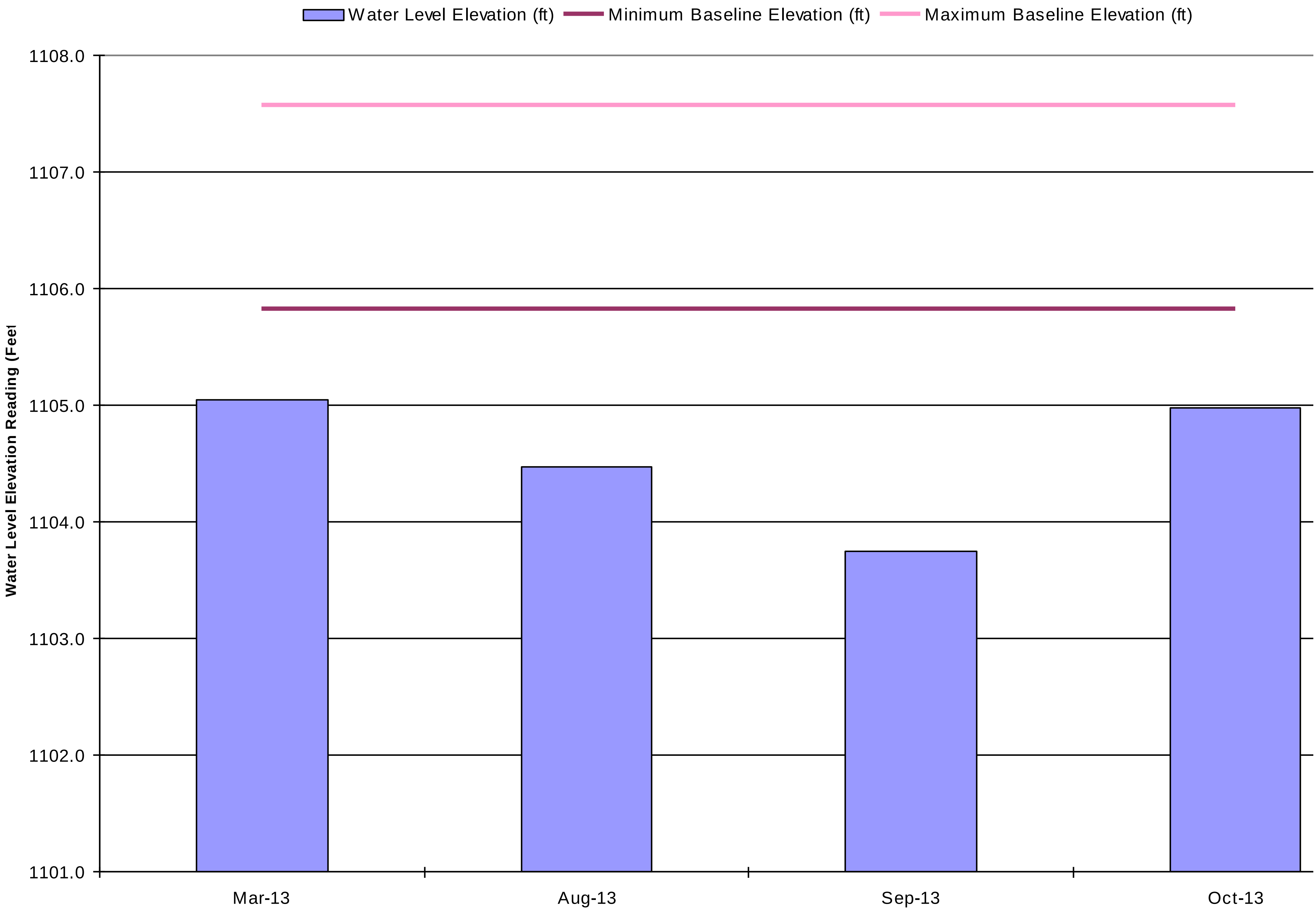
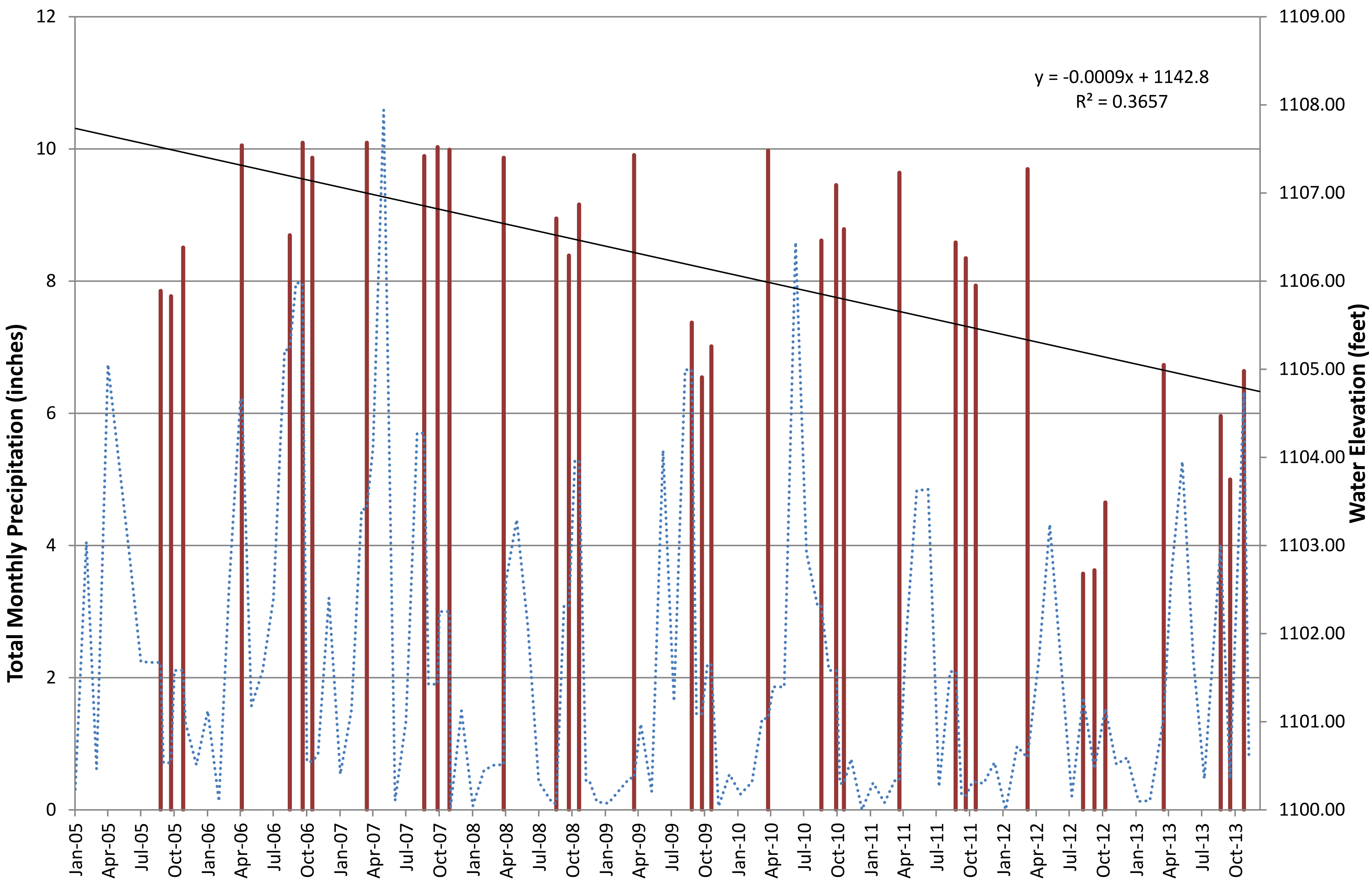


Figure 2 2005-2013 Water Elevations for DG-31 and Total Monthly Precipitation



DG-31-2

POND DG-31 PHOTOGRAPHS

Photograph 1: View of DG-31 looking east, March 18, 2013.

Photograph 2: View of DG-31 looking south, March 18, 2013.


Photograph 3: View of DG-31 looking east, August 21, 2013.


Photograph 4: View of DG-31 looking south, August 21, 2013.

Photograph 5: View of DG-31 looking east, September 26, 2013.

Photograph 6: View of DG-31 looking south, September 26, 2013.

Photograph 7: View of DG-31 looking east, October 25, 2013.

Photograph 8: View of DG-31 looking south, October 25, 2013.

DG-31-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG31 **Permanent Benchmark Elevation (feet):** 1,111.43

Date	Water Level Elevation (feet)
3/19/2013	1,105.05
8/22/2013	1,104.47
9/17/2013	1,103.75
10/25/2013	1,104.98

DG-32

BATHYMETRIC MONITORING DATA

DG-32-1

FIGURES

Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG32

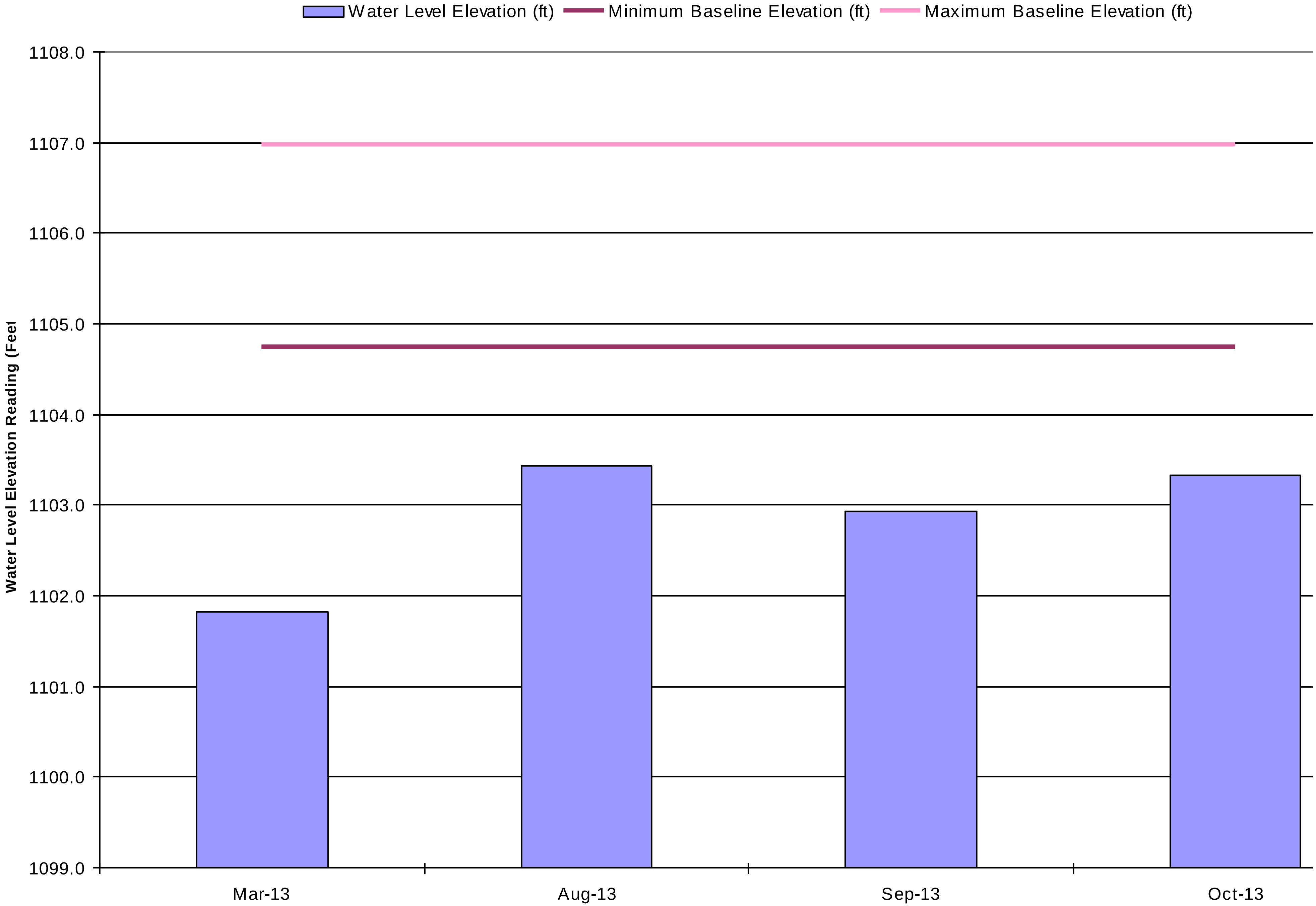
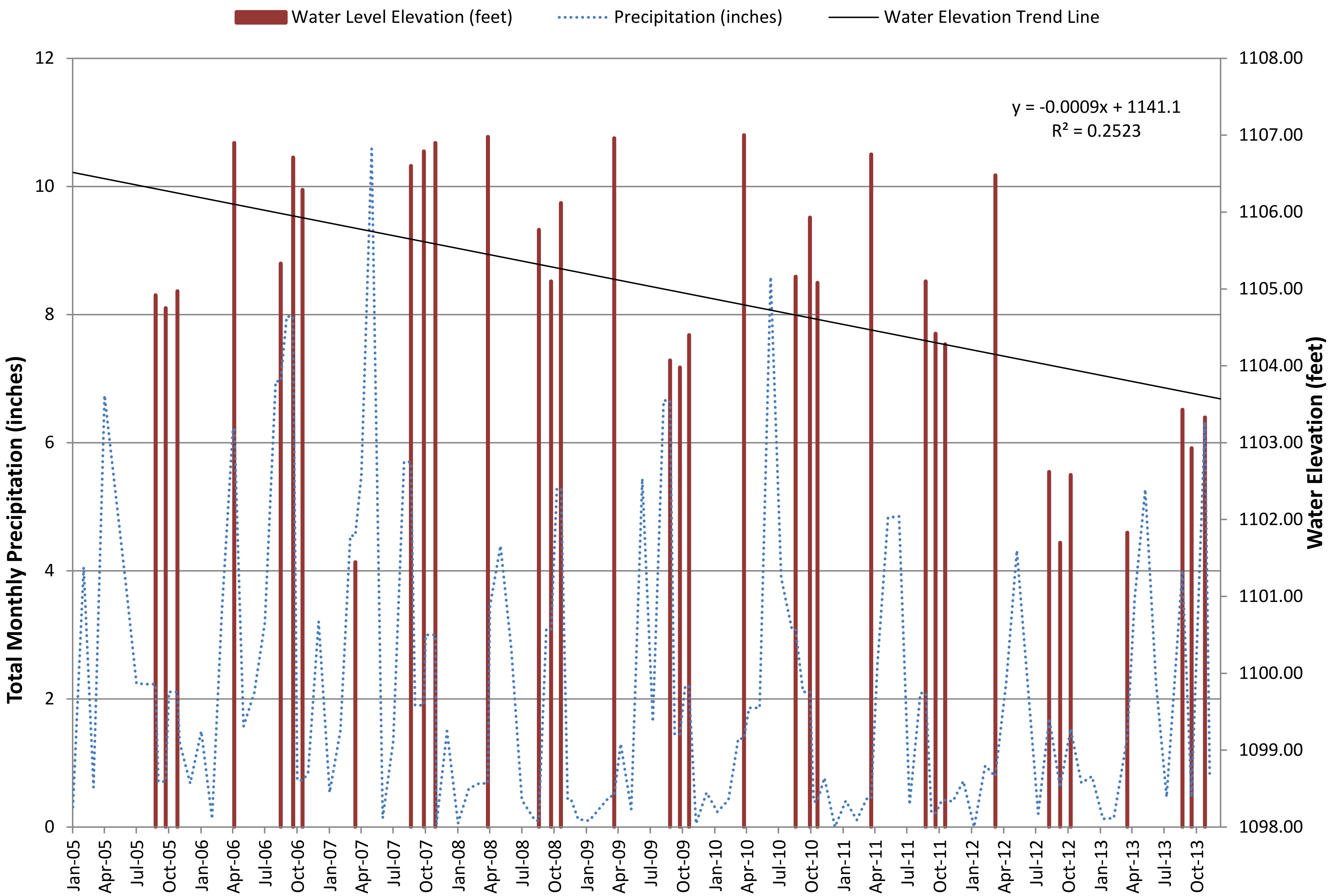


Figure 2 2005-2013 Water Elevations for DG-32 and Total Monthly Precipitation



DG-32-2

POND DG-32 PHOTOGRAPHS

Photograph 1: View of DG-32 looking southwest, March 18, 2013.

Photograph 2: View of DG-32 looking northwest, March 18, 2013.

Photograph 3: View of DG-32 looking southwest, August 21, 2013.

Photograph 4: View of DG-32 looking northwest, August 21, 2013.

Photograph 5: View of DG-32 looking southwest, September 26, 2013.

Photograph 6: View of DG-32 looking northwest, September 26, 2013.

Photograph 7: View of DG-32 looking southwest, October 25, 2013.

Photograph 8: View of DG-32 looking northwest, October 25, 2013.

DG-32-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG32 **Permanent Benchmark Elevation (feet):** 1,109.94

Date	Water Level Elevation (feet)
3/19/2013	1,101.83
8/22/2013	1,103.43
9/17/2013	1,102.93
10/25/2013	1,103.33

DG-34

BATHYMETRIC MONITORING DATA

DG-34-1

FIGURES

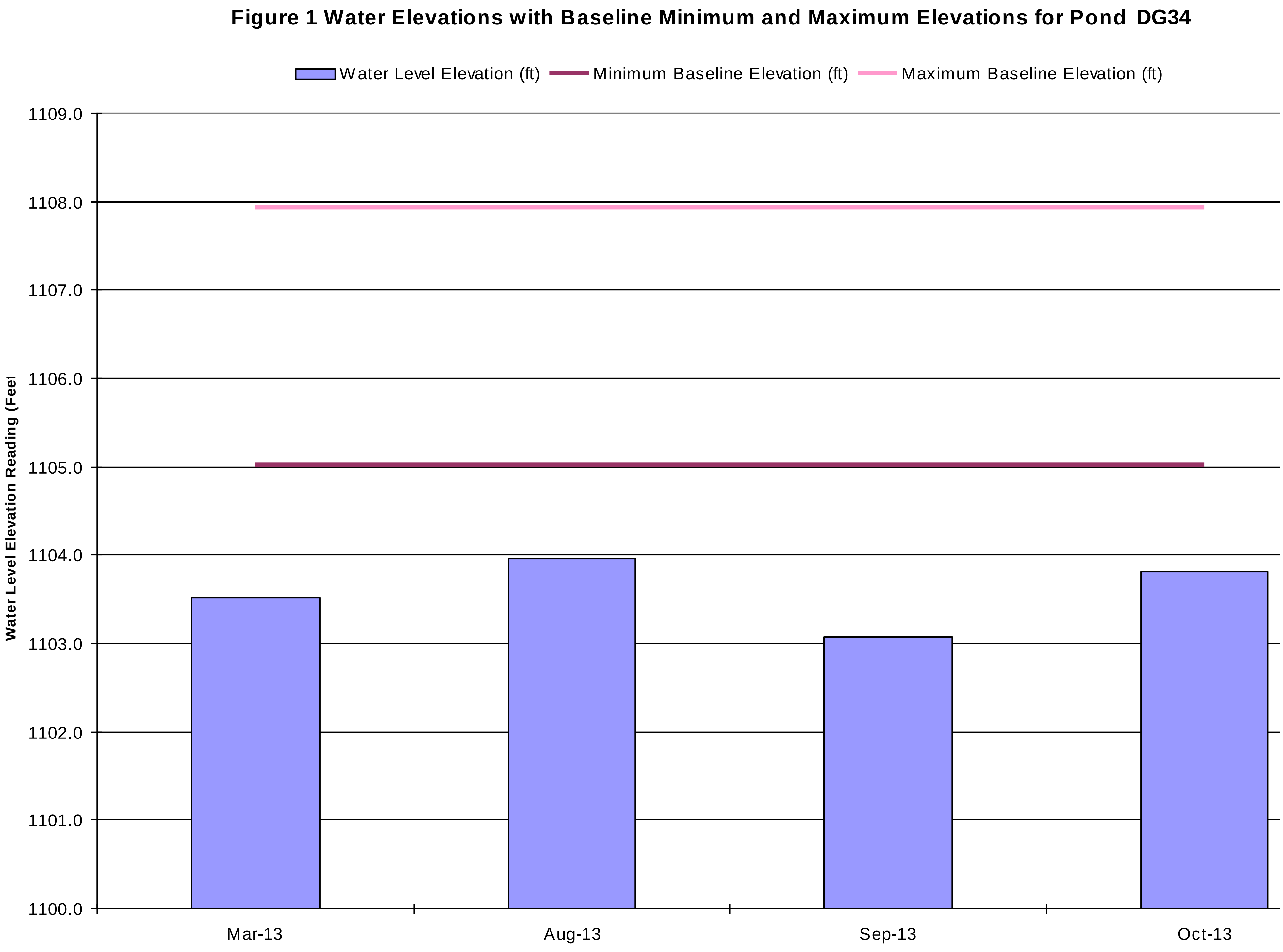
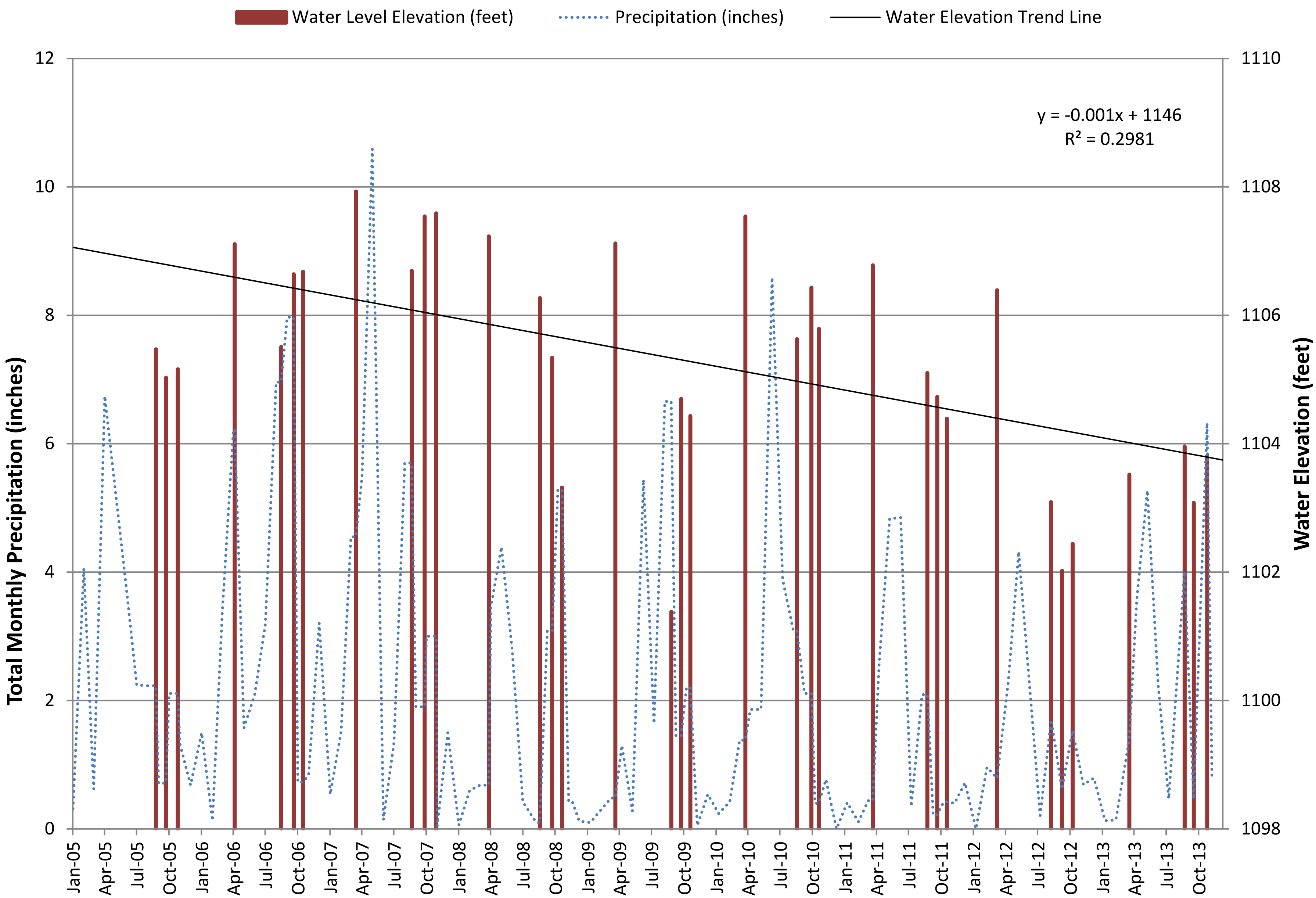


Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG34
Water Level Elevation (ft)
Minimum Baseline Elevation (ft)
Maximum Baseline Elevation (ft)
Water Level Elevation Reading (Feet
1109.0
1108.0
1107.0
1106.0
1105.0
1104.0
1103.0
1102.0
1101.0
1100.0
Mar-13
Aug-13
Sep-13
Oct-13

Figure 2 2005-2013 Water Elevations for DG-34 and Total Monthly Precipitation



DG-34-2

POND DG-34 PHOTOGRAPHS

Photograph 1: View of DG-34 looking east, March 18, 2013.

Photograph 2: View of DG-34 looking west, March 18, 2013.

Photograph 3: View of DG-34 looking east, August 21, 2013.

Photograph 4: View of DG-34 looking west, August 21, 2013.

Photograph 5: View of DG-34 looking east, September 26, 2013.

Photograph 6: View of DG-34 looking west, September 26, 2013.

Photograph 7: View of DG-34 looking east, October 24, 2013.

Photograph 8: View of DG-34 looking west, October 24, 2013.

DG-34-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG34 **Permanent Benchmark Elevation (feet):** 1,111.42

Date	**Water Level Elevation (feet)**
3/18/2013	1,103.52
8/21/2013	1,103.96
9/16/2013	1,103.08
10/24/2013	1,103.81

DG-34-4

STATISTICAL ANALYSIS

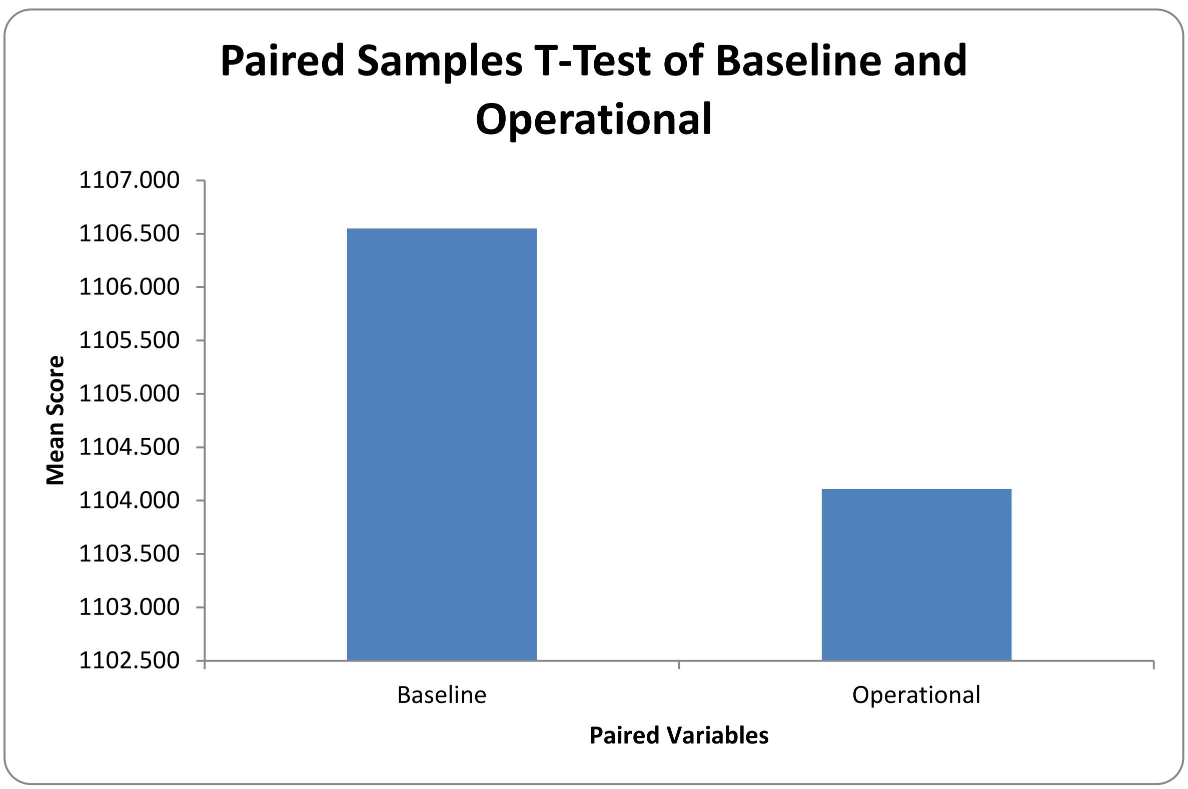
EZAnalyze Results Report - Paired T-Test of Baseline with Operational for DG34

	Baseline	Operational
Mean:	1106.548	1104.109
Std. Dev.:	1.013	1.461
N Pairs:	12	
Mean Difference:	2.439	
SE of Diff.:	.663	
Eta Squared:	.530	
T-Score:	3.678	
P:	.004	

Raw Data:

Baseline	Operational
1105.47	1106.78
1105.03	1105.10
1105.16	1104.73
1107.11	1104.39
1105.51	1106.39
1106.64	1103.09
1106.68	1102.02
1107.93	1102.44
1106.69	1103.52
1107.54	1103.96
1107.59	1103.08
1107.23	1103.81

The difference between Baseline and Operational is significant



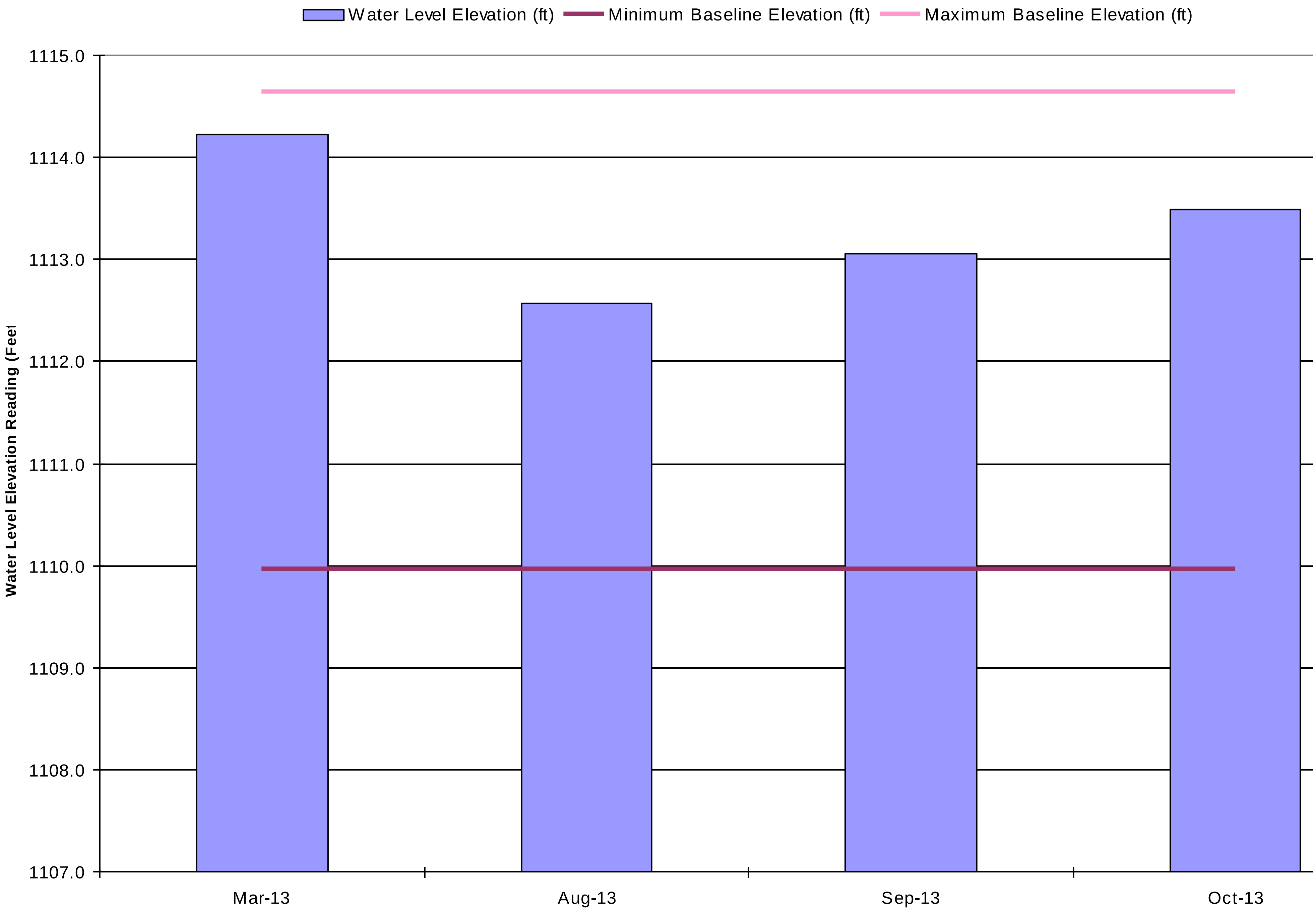
DG-43

BATHYMETRIC MONITORING DATA

DG-43-1

FIGURES

Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG43



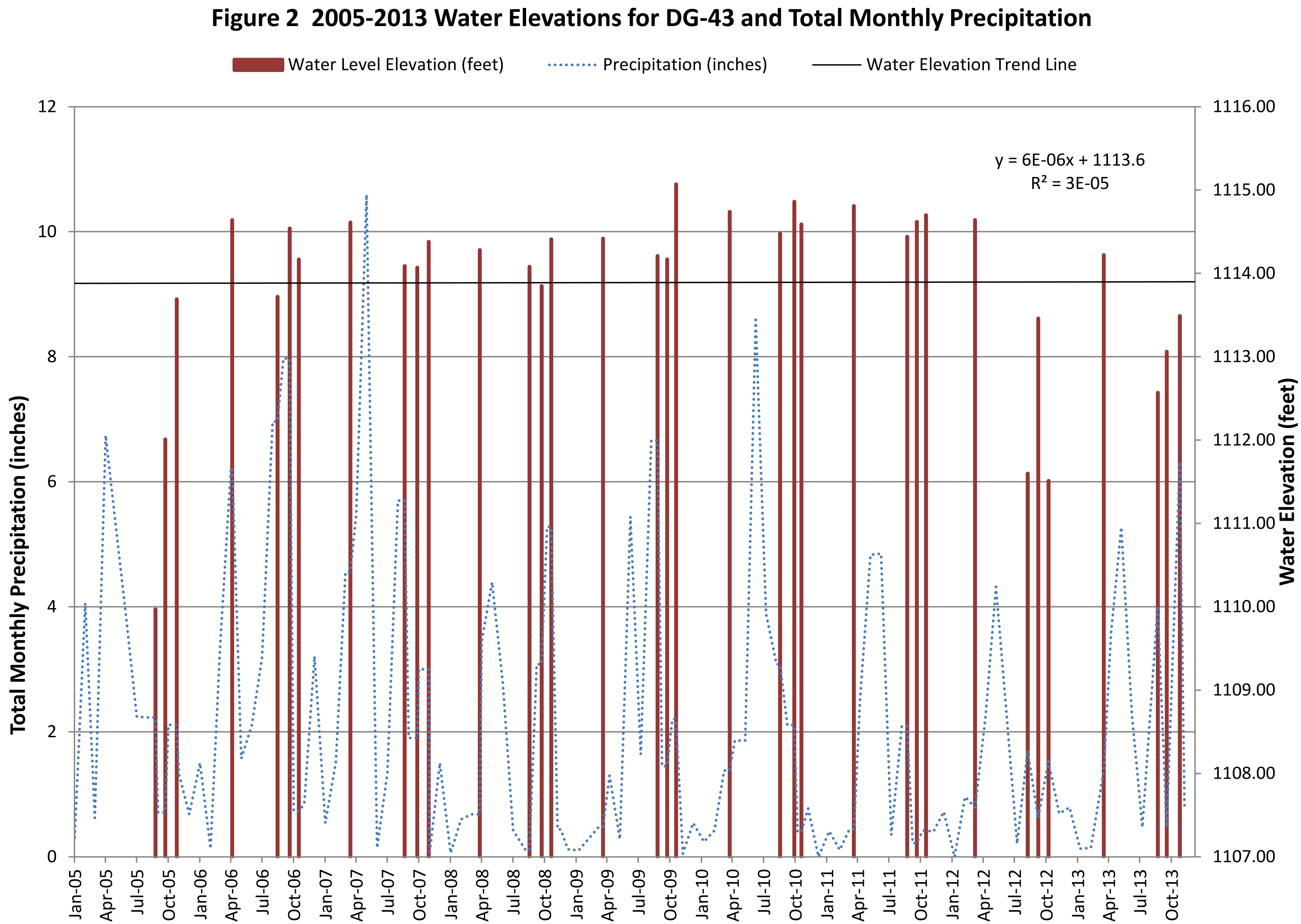


Figure 2 2005-2013 Water Elevations for DG-43 and Total Monthly Precipitation
Water Level Elevation (feet)
Precipitation (inches)
Water Elevation Trend Line
y = 6E-06x + 1113.6
R² = 3E-05
Total Monthly Precipitation (inches)
Water Elevation (feet)
0
2
4
6
8
10
12
1107.00
1108.00
1109.00
1110.00
1111.00
1112.00
1113.00
1114.00
1115.00
1116.00
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Jan-07
Apr-07
Jul-07
Oct-07
Jan-08
Apr-08
Jul-08
Oct-08
Jan-09
Apr-09
Jul-09
Oct-09
Jan-10
Apr-10
Jul-10
Oct-10
Jan-11
Apr-11
Jul-11
Oct-11
Jan-12
Apr-12
Jul-12
Oct-12
Jan-13
Apr-13
Jul-13
Oct-13

DG-43-2

POND DG-43 PHOTOGRAPHS

Photograph 1: View of DG-43 looking east, March 18, 2013.

Photograph 2: View of DG-43 looking east, August 21, 2013.

Photograph 3: View of DG-43 looking east, September 26, 2013.

Photograph 4: View of DG-43 looking east, October 24, 2013.

DG-43-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG43 **Permanent Benchmark Elevation (feet):** 1,125.06

Date	Water Level Elevation (feet)
3/18/2013	1,114.22
8/21/2013	1,112.57
9/26/2013	1,113.06
10/24/2013	1,113.49

DG-45

BATHYMETRIC MONITORING DATA

DG-45-1

FIGURES

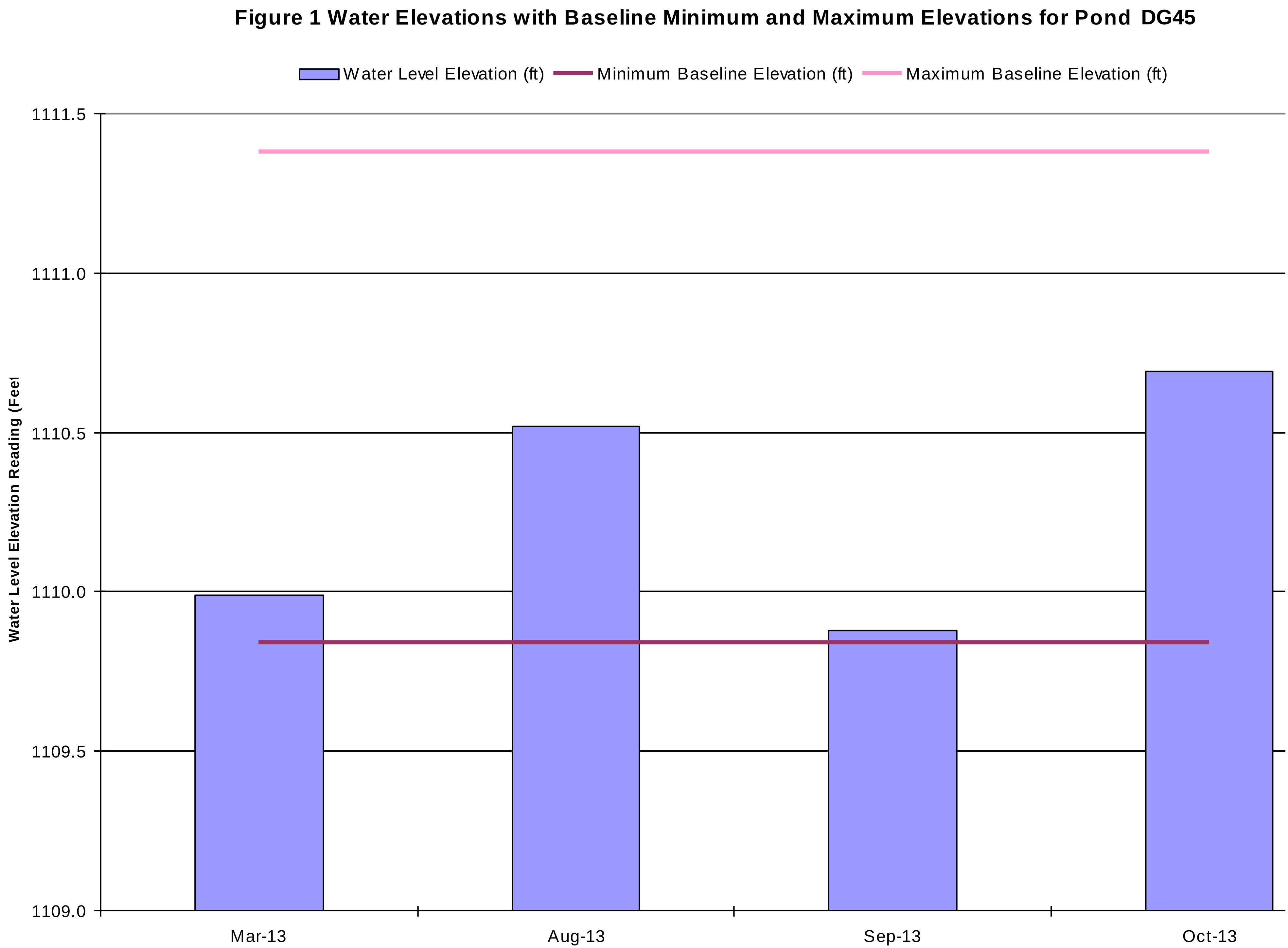


Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG45
Water Level Elevation (ft)
Minimum Baseline Elevation (ft)
Maximum Baseline Elevation (ft)
Water Level Elevation Reading (Fee
1111.5
1111.0
1110.5
1110.0
1109.5
1109.0
Mar-13
Aug-13
Sep-13
Oct-13

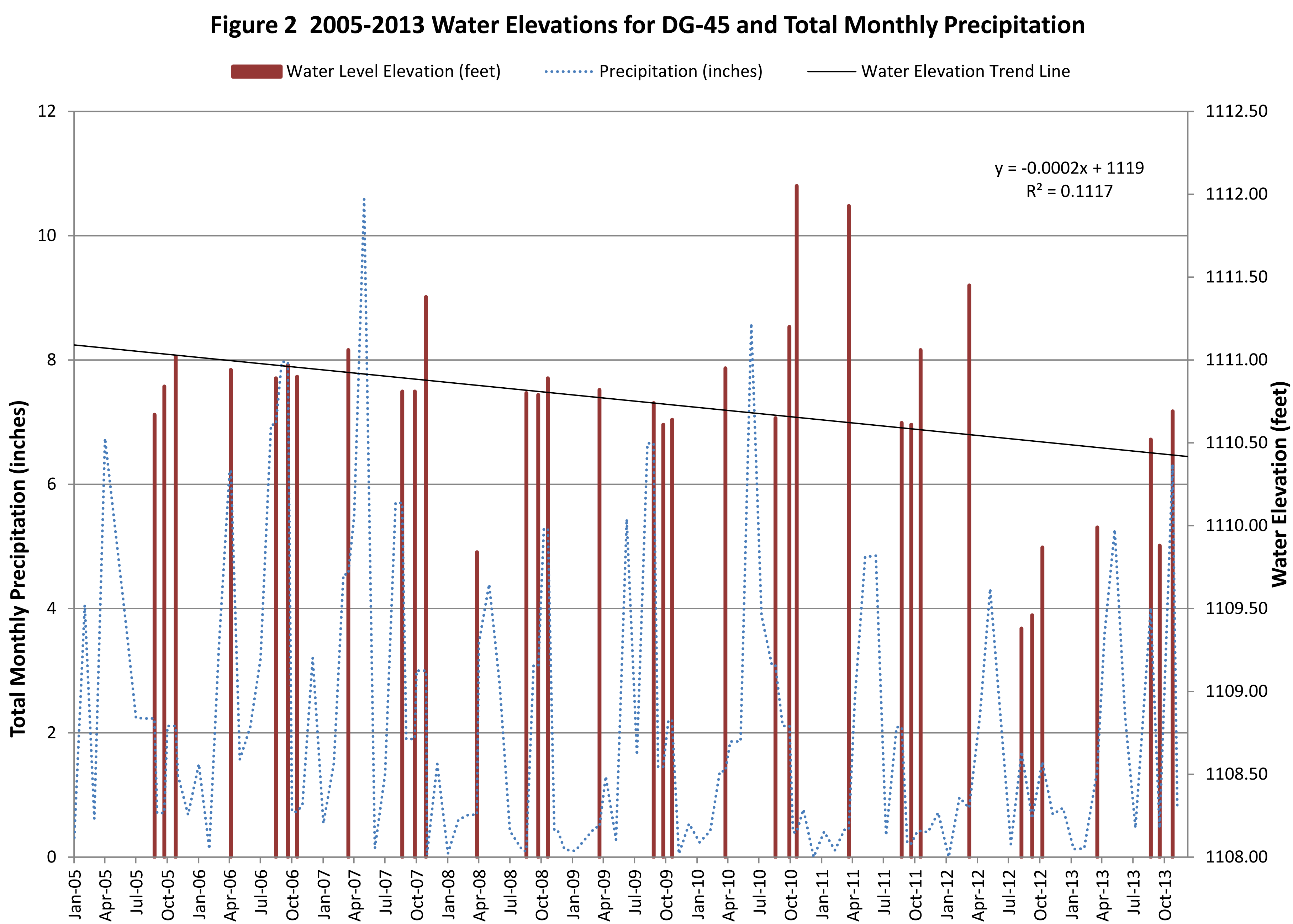


Figure 2 2005-2013 Water Elevations for DG-45 and Total Monthly Precipitation
Water Level Elevation (feet)
Precipitation (inches)
Water Elevation Trend Line
y = -0.0002x + 1119
R² = 0.1117
Total Monthly Precipitation (inches)
Water Elevation (feet)
0
2
4
6
8
10
12
1108.00
1108.50
1109.00
1109.50
1110.00
1110.50
1111.00
1111.50
1112.00
1112.50
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Jan-07
Apr-07
Jul-07
Oct-07
Jan-08
Apr-08
Jul-08
Oct-08
Jan-09
Apr-09
Jul-09
Oct-09
Jan-10
Apr-10
Jul-10
Oct-10
Jan-11
Apr-11
Jul-11
Oct-11
Jan-12
Apr-12
Jul-12
Oct-12
Jan-13
Apr-13
Jul-13
Oct-13

DG-45-2

POND DG-45 PHOTOGRAPHS

Photograph 1: View of DG-45 looking north, March 18, 2013.

Photograph 2: View of DG-45 looking southwest, March 18, 2013.

Photograph 3: View of DG-45 looking north, August 21, 2013.

Photograph 4: View of DG-45 looking southwest, August 21, 2013.

Photograph 5: View of DG-45 looking north, September 26, 2013.

Photograph 6: View of DG-45 looking southwest, September 26, 2013.

Photograph 7: View of DG-45 looking north, October 24, 2013.

Photograph 8: View of DG-45 looking southwest, October 24, 2013.

DG-45-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG45 **Permanent Benchmark Elevation (feet):** 1,114.02

Date	Water Level Elevation (feet)
3/18/2013	1,109.99
8/21/2013	1,110.52
9/16/2013	1,109.88
10/24/2013	1,110.69

DG-46

BATHYMETRIC MONITORING DATA

DG-46-1

FIGURES

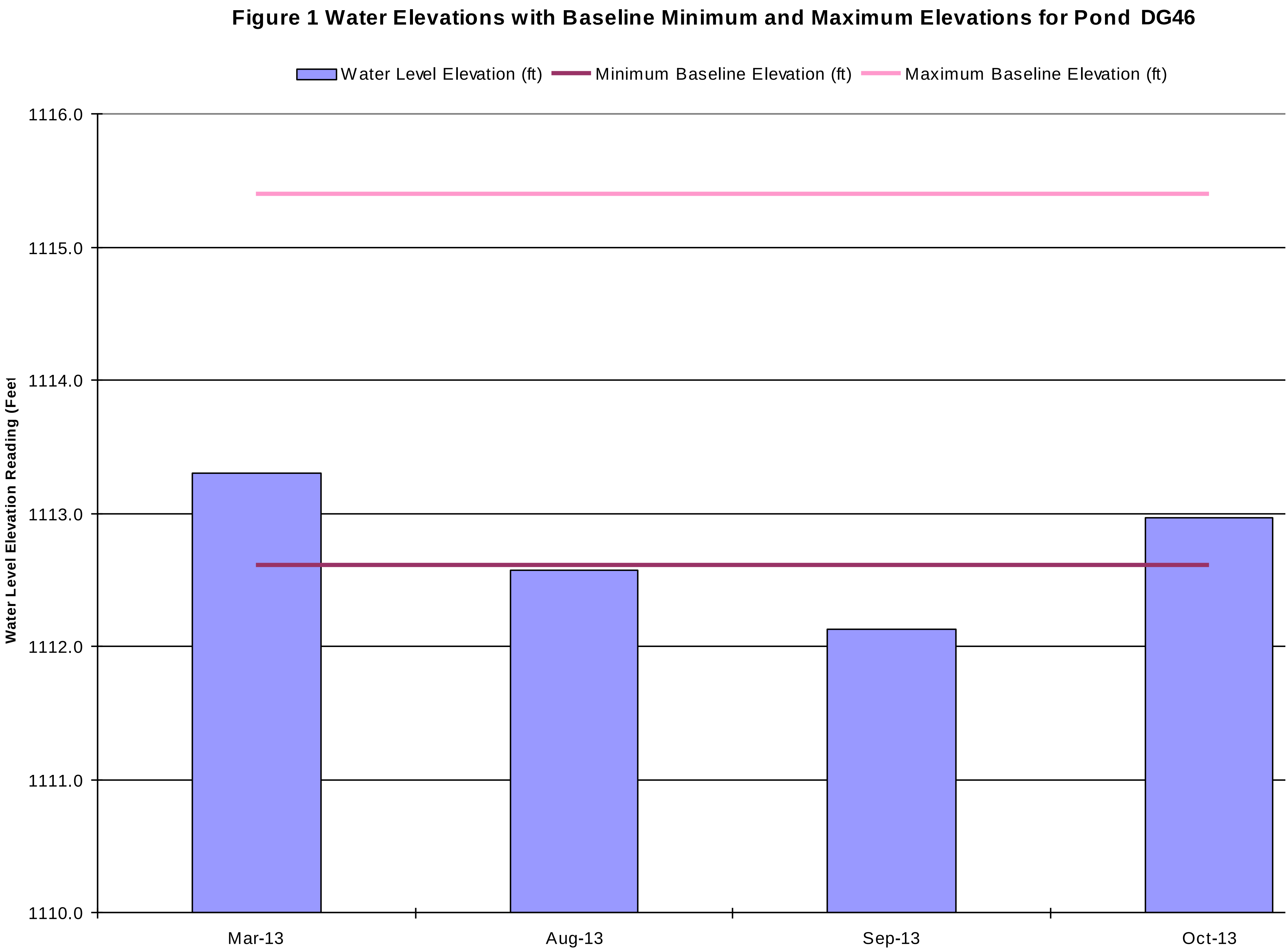
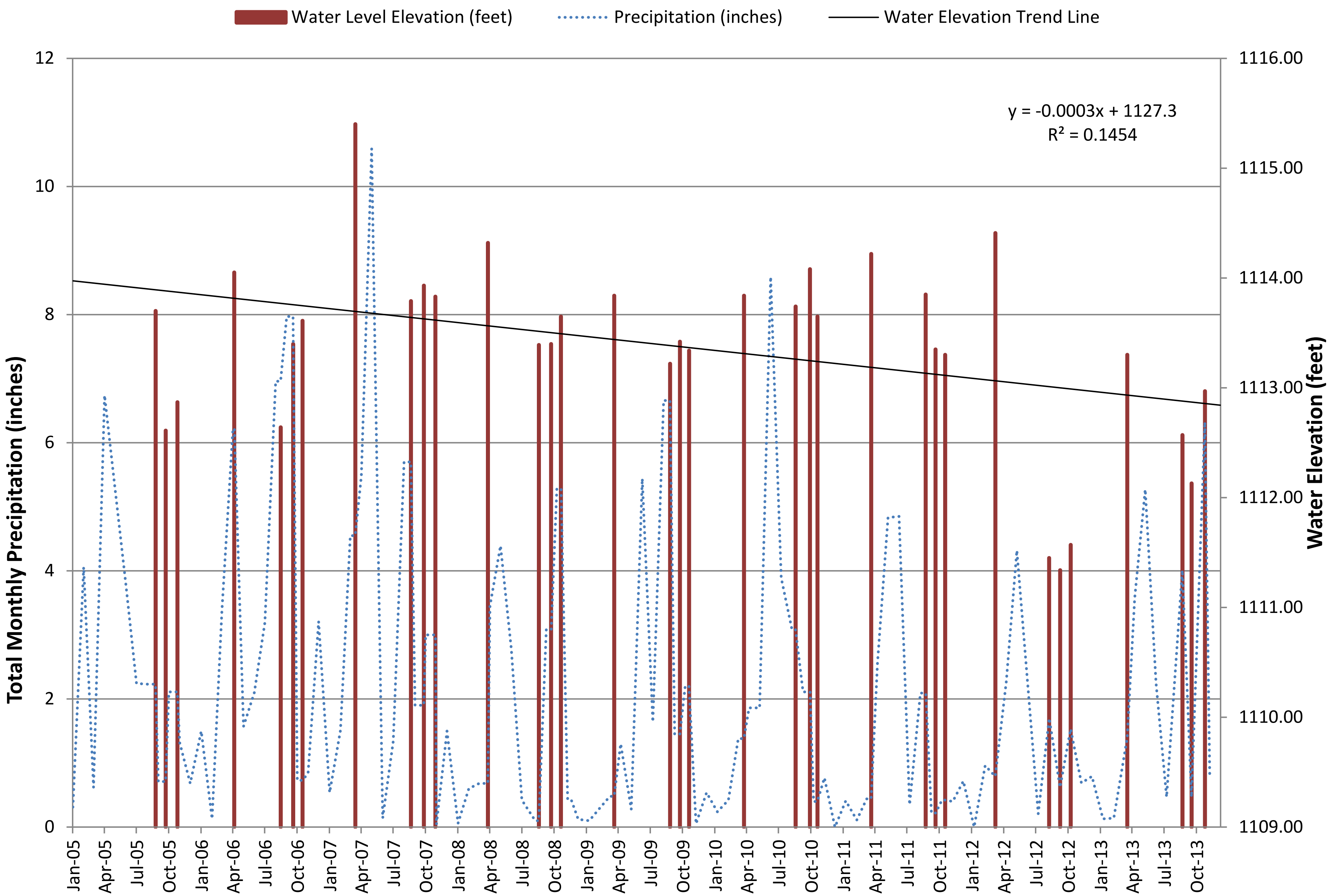


Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG46
Water Level Elevation (ft)
Minimum Baseline Elevation (ft)
Maximum Baseline Elevation (ft)
Water Level Elevation Reading (Feet
1116.0
1115.0
1114.0
1113.0
1112.0
1111.0
1110.0
Mar-13
Aug-13
Sep-13
Oct-13

Figure 2 2005-2013 Water Elevations for DG-46 and Total Monthly Precipitation



DG-46-2

POND DG-46 PHOTOGRAPHS

Photograph 1: View of DG-46 looking southeast, March 18, 2013.

Photograph 2: View of DG-46 looking northeast, March 18, 2013.

Photograph 3: View of DG-46 looking southwest, March 18, 2013.

Photograph 4: View of DG-46 looking southeast, August 21, 2013.

Photograph 5: View of DG-46 looking northeast, August 21, 2013.

Photograph 6: View of DG-46 looking southwest, August 21, 2013.

Photograph 7: View of DG-46 looking southeast, September 26, 2013.

Photograph 8: View of DG-46 looking northeast, September 26, 2013.

Photograph 9: View of DG-46 looking southwest, September 26, 2013.

Photograph 10: View of DG-46 looking southeast, October 24, 2013.

Photograph 11: View of DG-46 looking northeast, October 24, 2013.

Photograph 12: View of DG-46 looking southwest, October 22, 2012.

DG-46-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG46 **Permanent Benchmark Elevation (feet):** 1,116.60

Date	Water Level Elevation (feet)
3/18/2013	1,113.30
8/21/2013	1,112.57
9/16/2013	1,112.13
10/24/2013	1,112.97

DG-52

BATHYMETRIC MONITORING DATA

DG-52-1

FIGURES

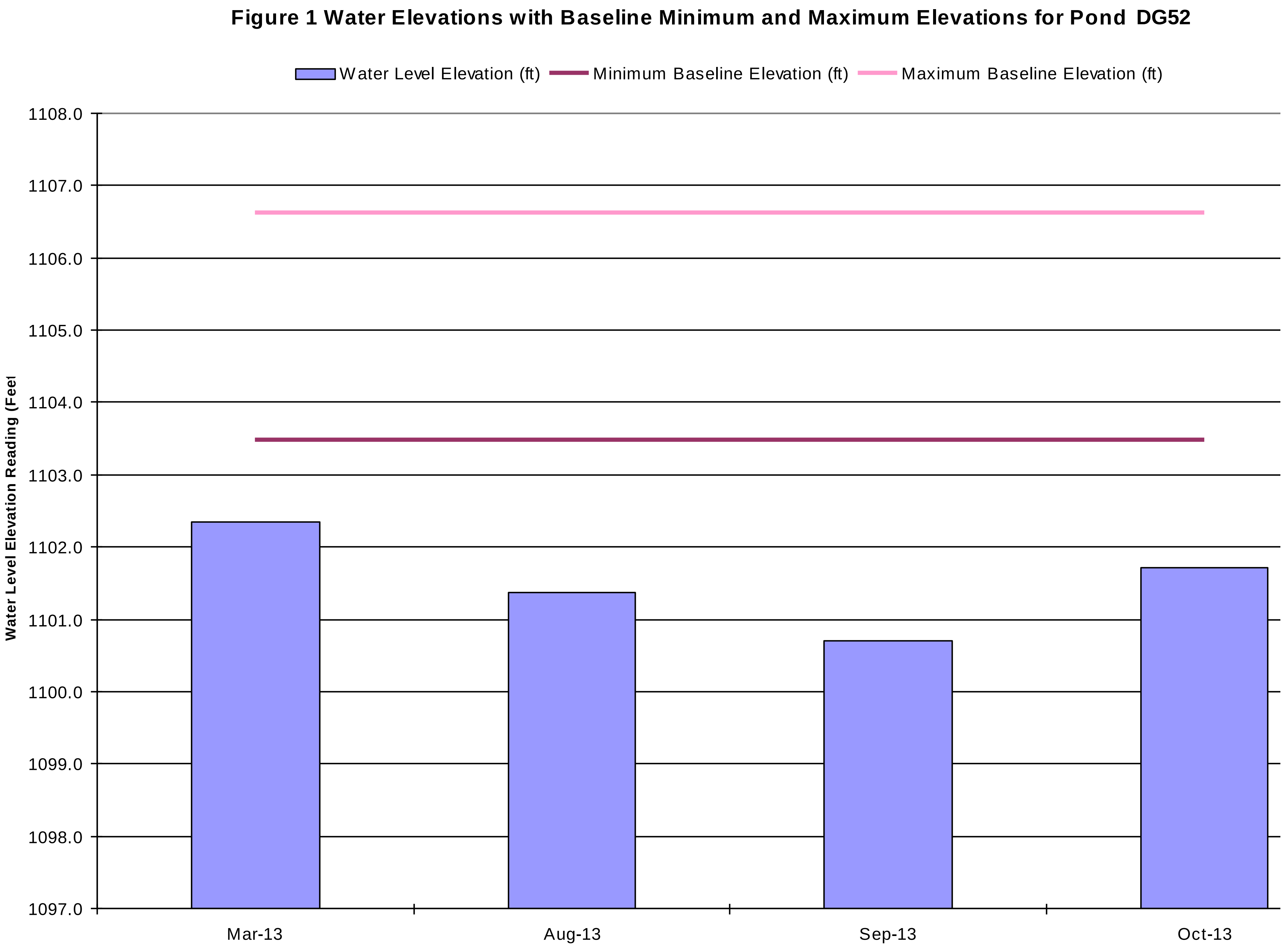
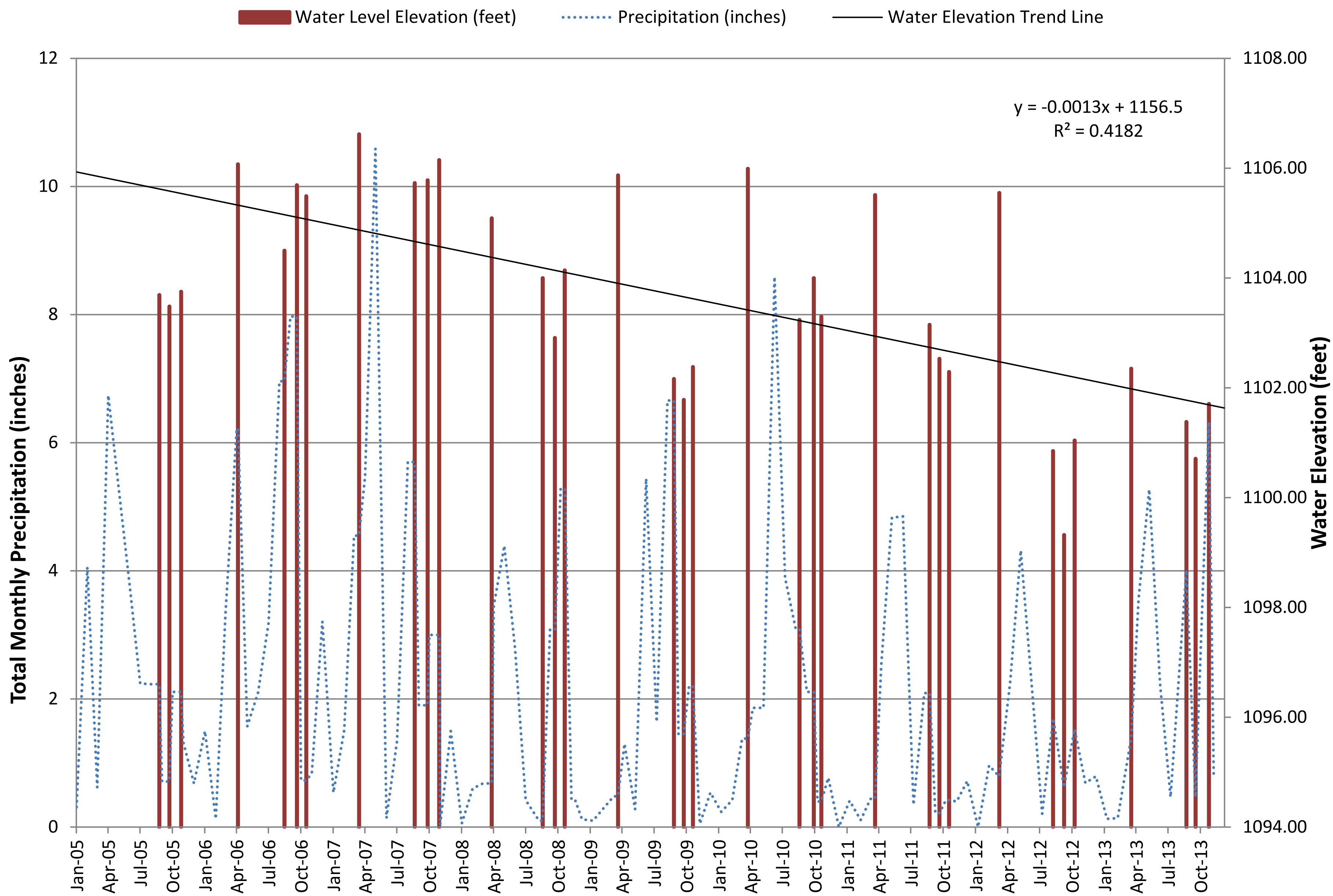


Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond DG52
Water Level Elevation (ft)
Minimum Baseline Elevation (ft)
Maximum Baseline Elevation (ft)
Water Level Elevation Reading (Feet
1108.0
1107.0
1106.0
1105.0
1104.0
1103.0
1102.0
1101.0
1100.0
1099.0
1098.0
1097.0
Mar-13
Aug-13
Sep-13
Oct-13

Figure 2 2005-2013 Water Elevations for DG-52 and Total Monthly Precipitation



DG-52-2

POND DG-52 PHOTOGRAPHS

Photograph 1: View of DG-52 looking west, March 18, 2013.

Photograph 2: View of DG-52 looking southwest, March 18, 2013.

Photograph 3: View of DG-52 looking northwest, March 18, 2013.

Photograph 4: View of DG-52 looking west, August 21, 2013.

Photograph 5: View of DG-52 looking southwest, August 21, 2013.

Photograph 6: View of DG-52 looking northwest, August 21, 2013.

Photograph 7: View of DG-52 looking west, September 26, 2013.

Photograph 8: View of DG-52 looking southwest, September 26, 2013.


Photograph 9: View of DG-52 looking northwest, September 26, 2013.


Photograph 10: View of DG-52 looking west, October 25, 2013.

Photograph 11: View of DG-52 looking southwest, October 25, 2013.

Photograph 12: View of DG-52 looking northwest, October 25, 2013.

DG-52-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: DG52 **Permanent Benchmark Elevation (feet):** 1,111.40

Date	Water Level Elevation (feet)
3/18/2013	1,102.35
8/22/2013	1,101.38
9/27/2013	1,100.71
10/25/2013	1,101.71

APPENDIX II – SAUNDERS COUNTY BATHYMETRIC MONITORING DATA

SN-03

BATHYMETRIC MONITORING DATA

SN-03-1

FIGURES

Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond SN03

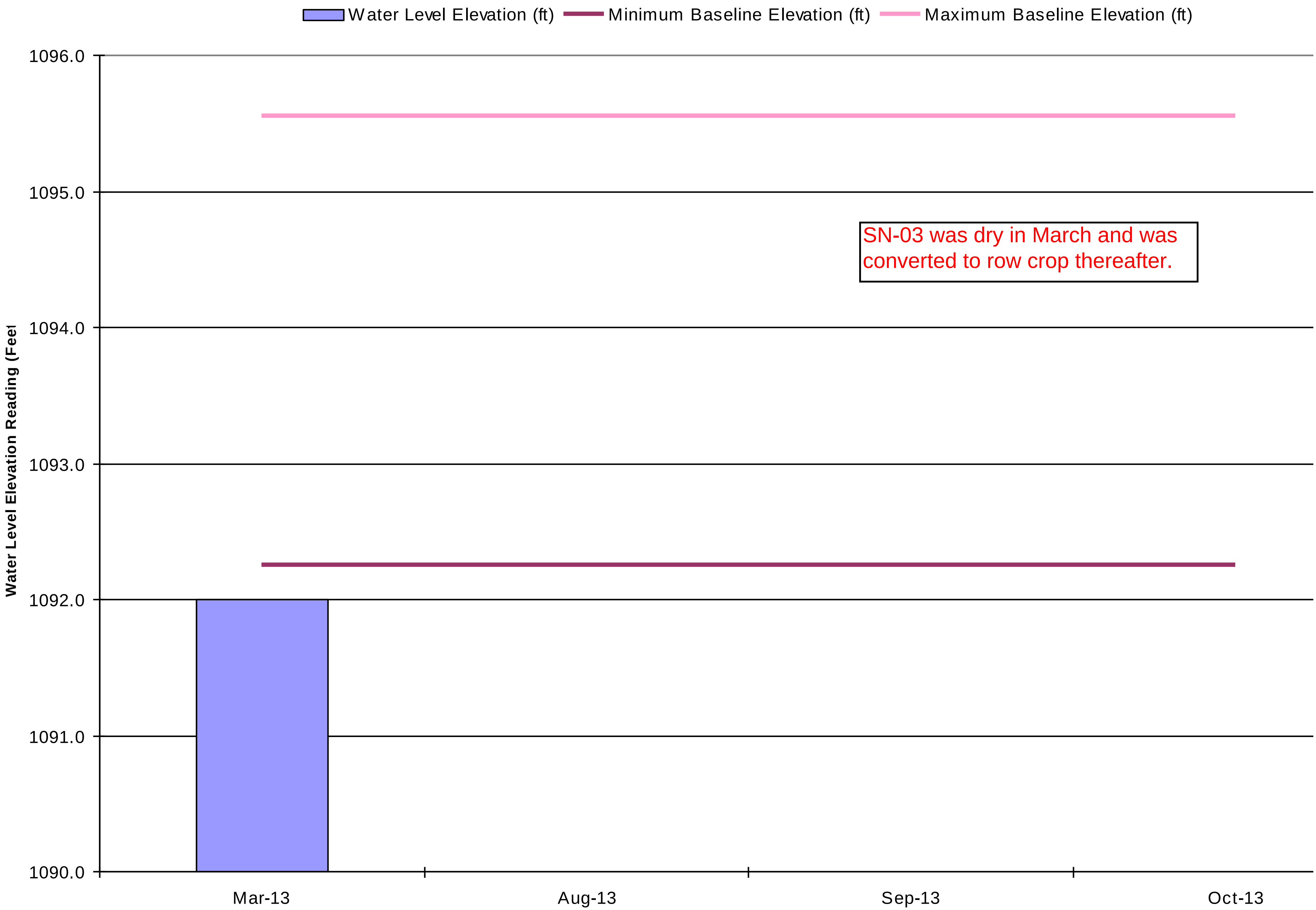
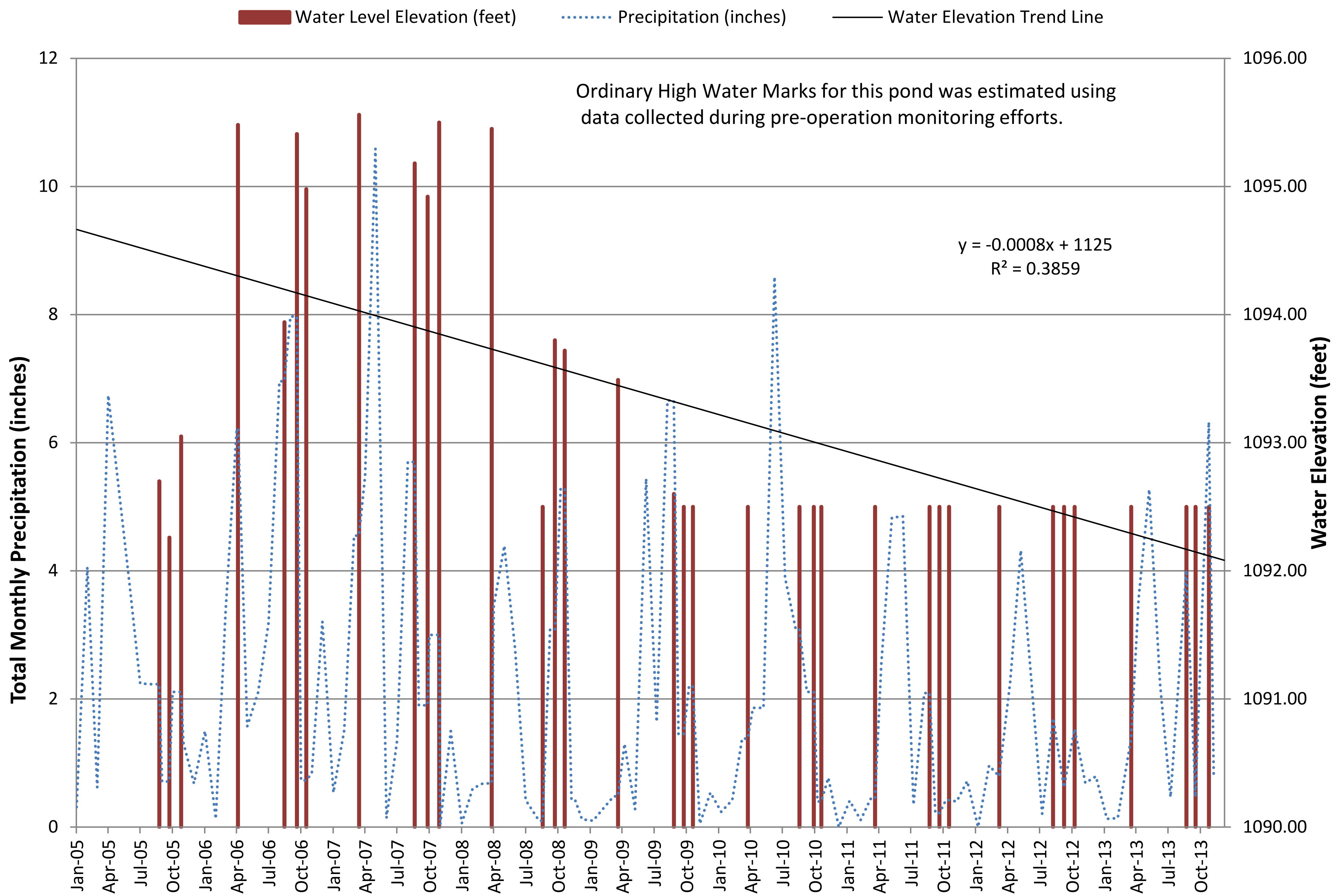


Figure 2 2005-2013 Water Elevations for SN-03 and Total Monthly Precipitation



SN-03-2

POND SN-03 PHOTOGRAPHS

Photograph 1: View of SN-03 looking north, March 18, 2013.

Photograph 2: View near SN-03 looking southeast, August 21, 2013. No photos available for September and October, 2013

SN-03-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: SN03 **Permanent Benchmark Elevation (feet):** 1,097.70

Date	**Water Level Elevation (feet)**
3/18/2013	
8/21/2013	
9/26/2013	
10/24/2013	

SN-04

BATHYMETRIC MONITORING DATA

SN-04-1

FIGURES

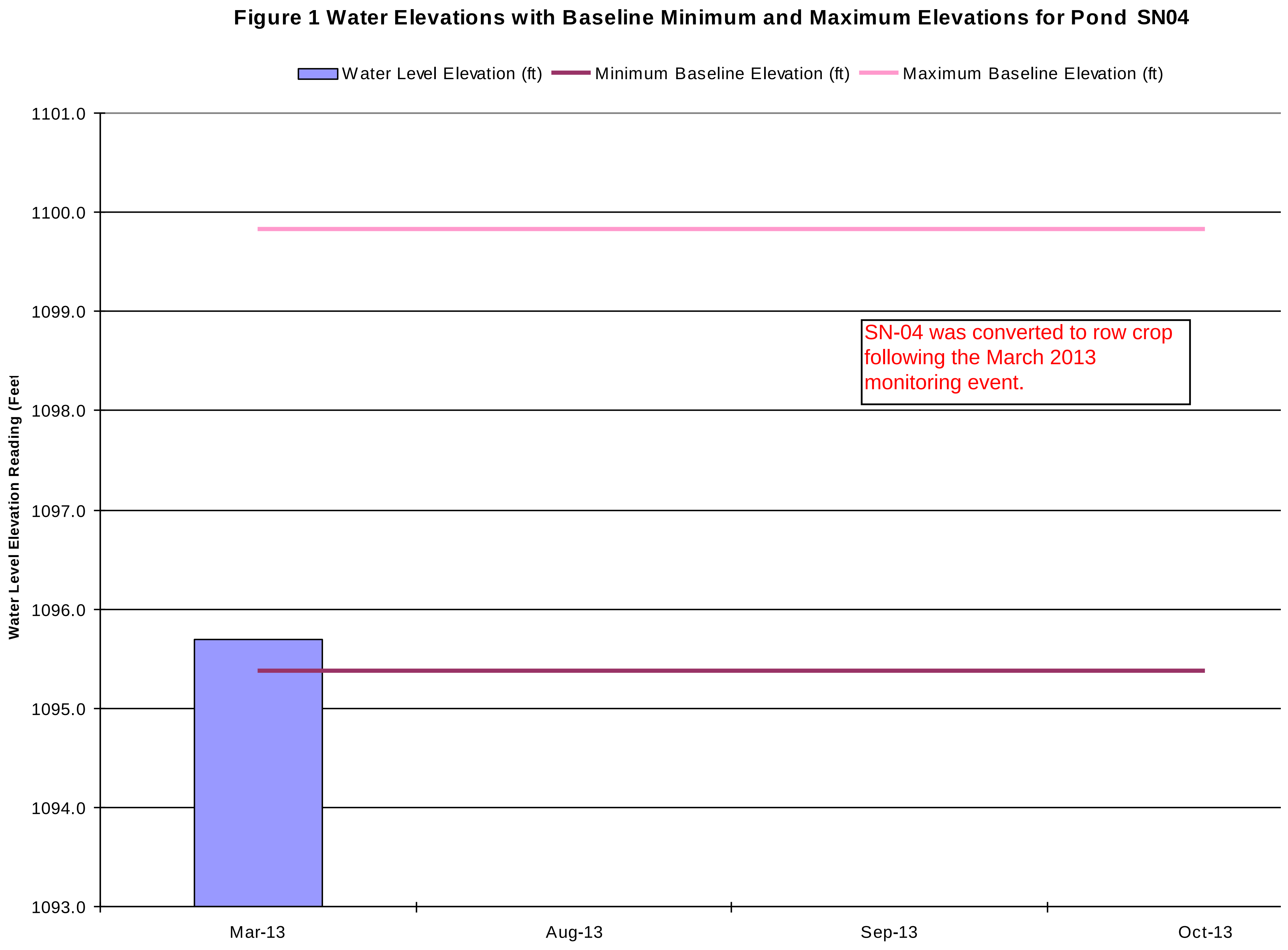
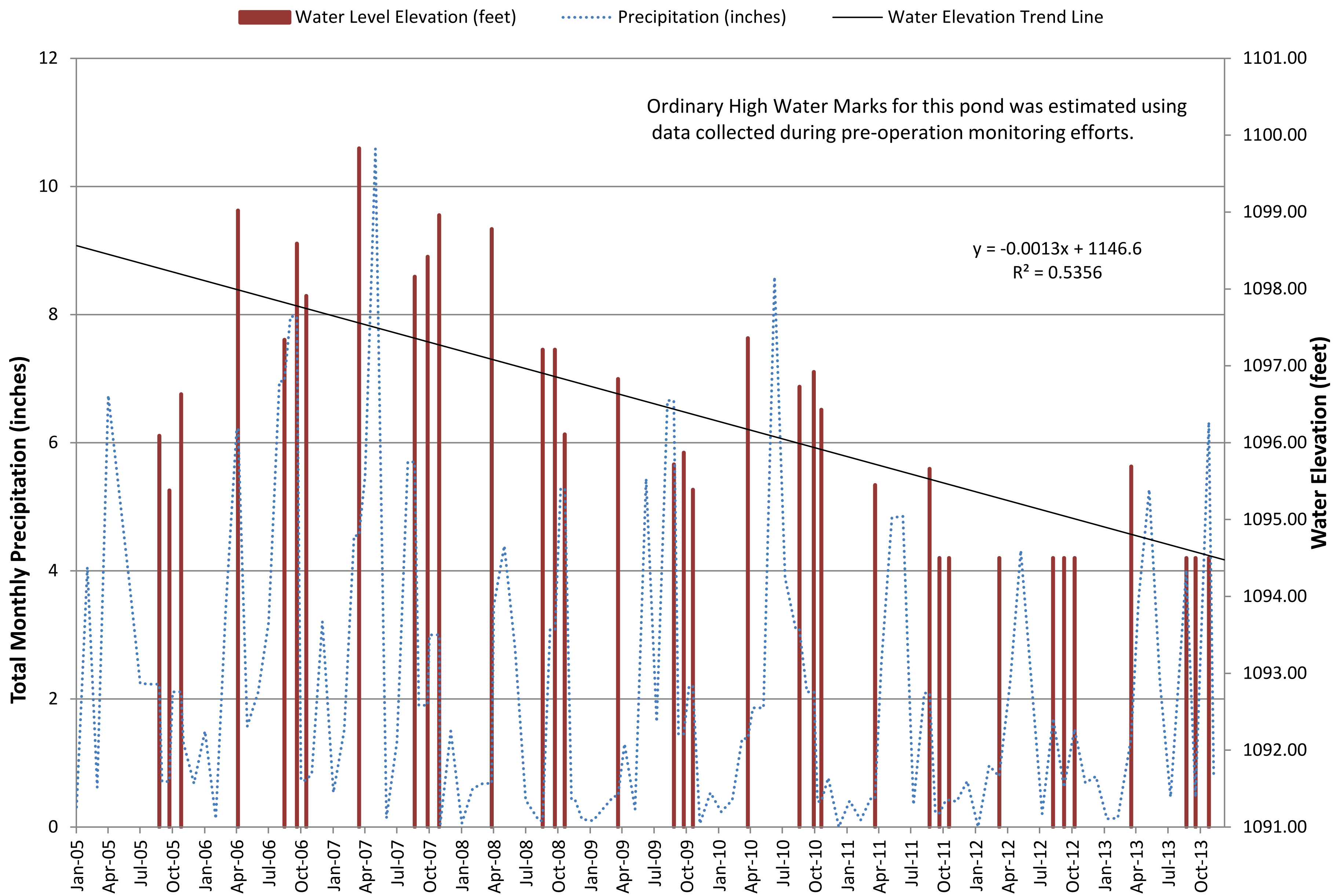


Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond SN04
Water Level Elevation (ft)
Minimum Baseline Elevation (ft)
Maximum Baseline Elevation (ft)
Water Level Elevation Reading (Feet
1101.0
1100.0
1099.0
1098.0
1097.0
1096.0
1095.0
1094.0
1093.0
Mar-13
Aug-13
Sep-13
Oct-13
SN-04 was converted to row crop following the March 2013 monitoring event.

Figure 2 2005-2013 Water Elevations for SN-04 and Total Monthly Precipitation



SN-04-2

POND SN-04 PHOTOGRAPHS

Photograph 1: View of SN-04 looking southeast, March 18, 2013.

Photograph 2: View near SN-04 looking north, August 21, 2013. No photos available for September and October, 2013

SN-04-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: SN04 **Permanent Benchmark Elevation (feet):** 1,101.80

Date	Water Level Elevation (feet)
3/18/2013	1,095.69
8/21/2013	
9/16/2013	
10/24/2013	

SN-16

BATHYMETRIC MONITORING DATA

SN-16-1

FIGURES

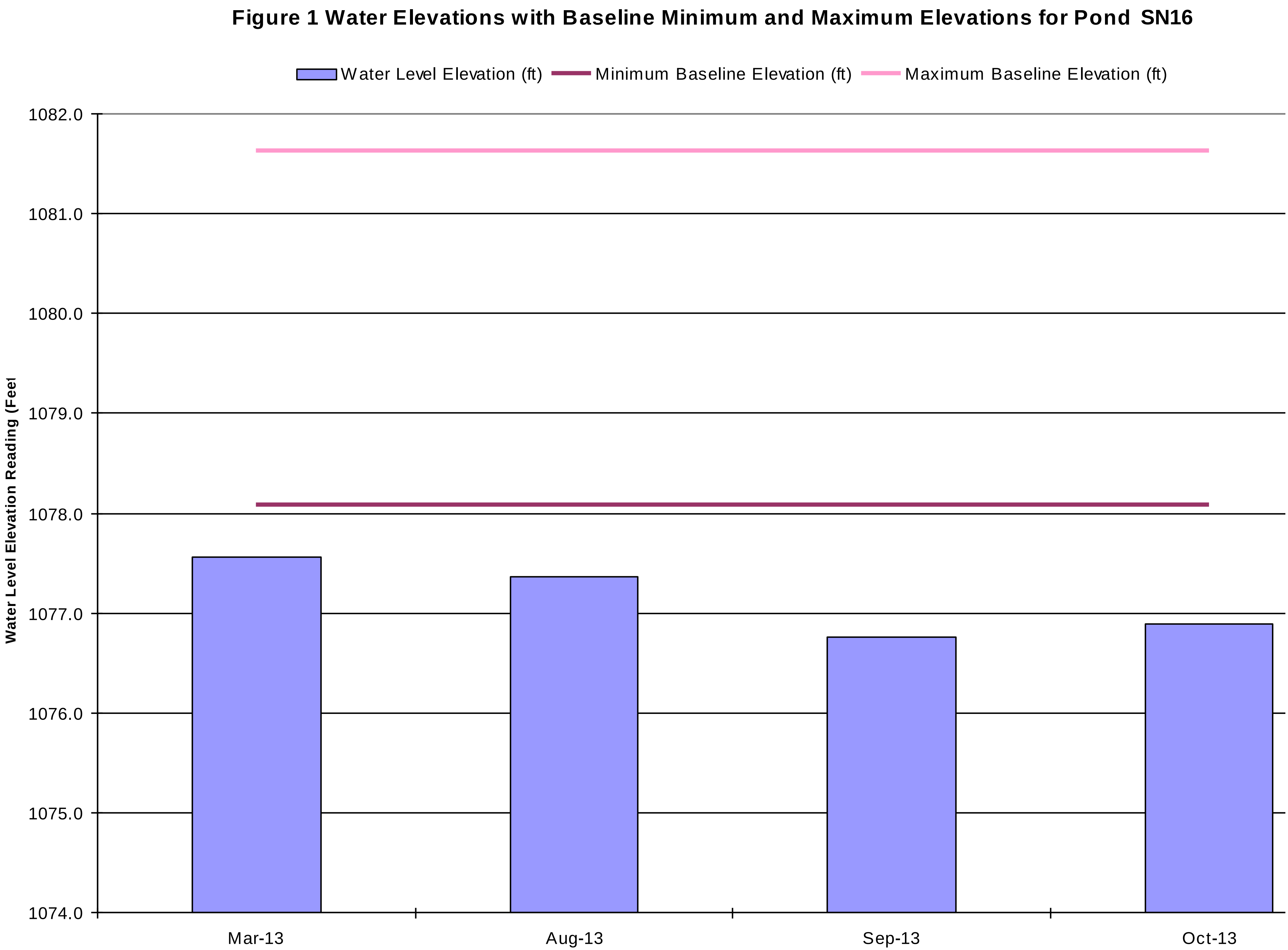
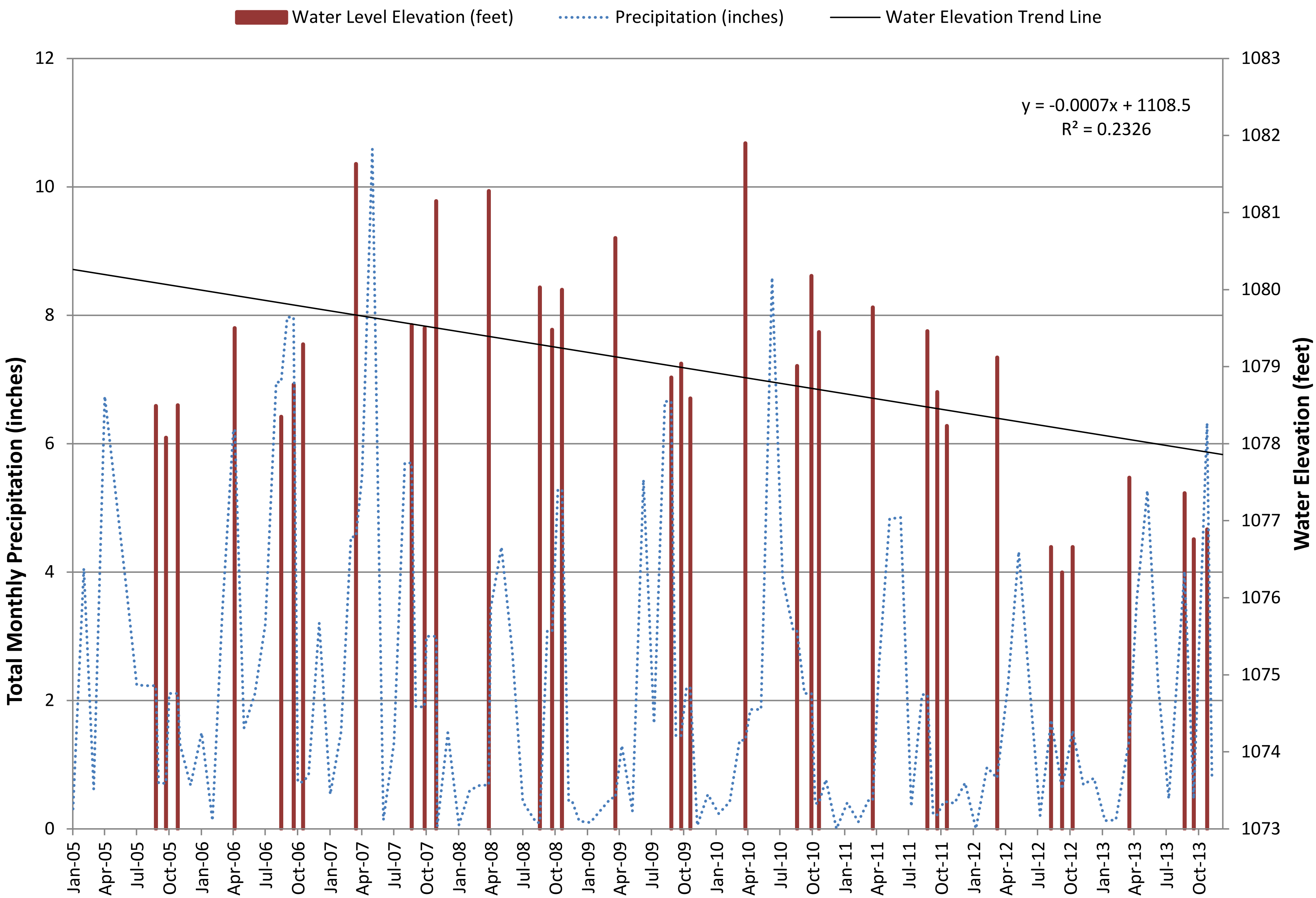


Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond SN16
Water Level Elevation (ft)
Minimum Baseline Elevation (ft)
Maximum Baseline Elevation (ft)
Water Level Elevation Reading (Feet
1082.0
1081.0
1080.0
1079.0
1078.0
1077.0
1076.0
1075.0
1074.0
Mar-13
Aug-13
Sep-13
Oct-13

Figure 2 2005-2013 Water Elevations for SN-16 and Total Monthly Precipitation



SN-16-2

POND SN-16 PHOTOGRAPHS

Photograph 1: View of SN-16 looking south, March 18, 2013.

Photograph 2: View of SN-16 looking southwest, March 18, 2013.

Photograph 3: View of SN-16 looking northwest, March 18, 2013.

Photograph 4: View of SN-16 looking south, August 21, 2013.

Photograph 5: View of SN-16 looking southwest, August 21, 2013.

Photograph 6: View of SN-16 looking northwest, August 21, 2013.

Photograph 7: View of SN-16 looking south, September 26, 2013.

Photograph 8: View of SN-16 looking southwest, September 26, 2013.

Photograph 9: View of SN-16 looking northwest, September 26, 2013.

Photograph 10: View of SN-16 looking south, October 24, 2013.


Photograph 11: View of SN-16 looking southwest, October 24, 2013.


Photograph 12: View of SN-16 looking northwest, October 24, 2013.

SN-16-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: SN16 **Permanent Benchmark Elevation (feet):** 1,089.78

Date	Water Level Elevation (feet)
3/18/2013	1,077.56
8/21/2013	1,077.36
9/16/2013	1,076.76
10/24/2013	1,076.89

SN-23

BATHYMETRIC MONITORING DATA

SN-23-1

FIGURES

Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond SN23

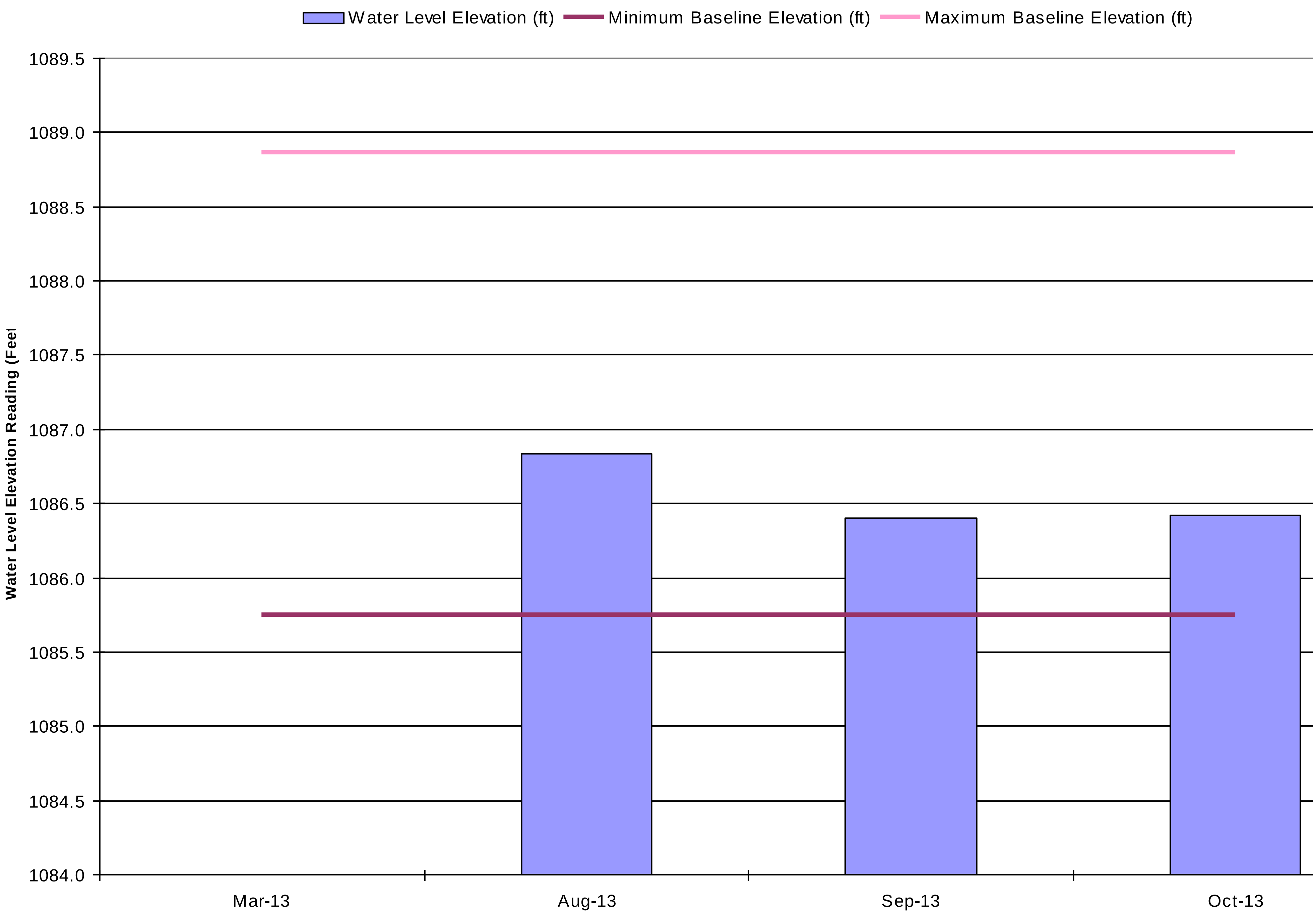
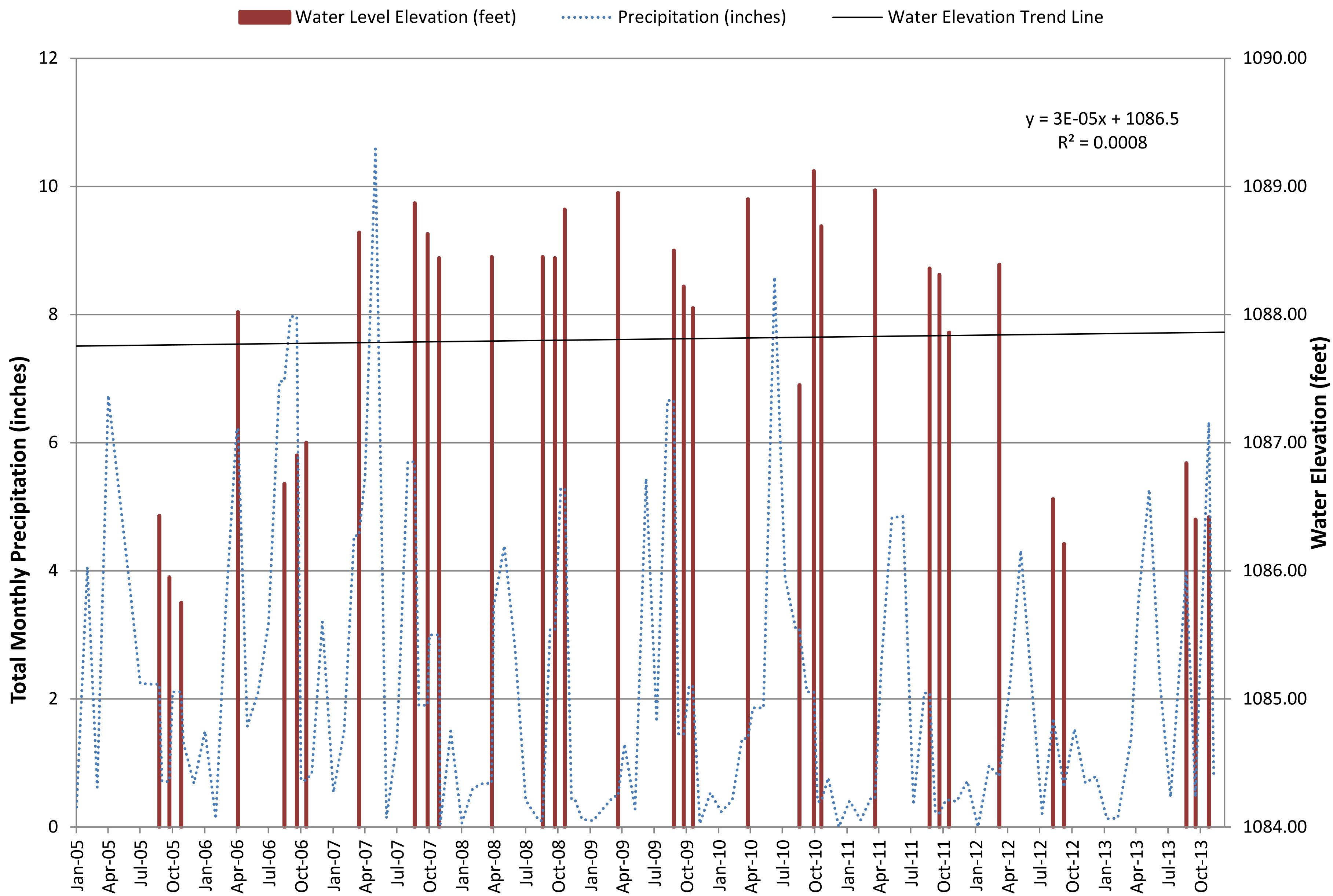


Figure 2 2005-2013 Water Elevations for SN-23 and Total Monthly Precipitation



SN-23-2

POND SN-23 PHOTOGRAPHS

Photograph 1: View of SN-23 looking south, March 18, 2013.

Photograph 2: View of SN-23 looking east, March 18, 2013.

Photograph 3: View of SN-23 looking south, August 21, 2013.

Photograph 4: View of SN-23 looking east, August 21, 2013.

Photograph 5: View of SN-23 looking south, September 26, 2013.

Photograph 6: View of SN-23 looking east, September 26, 2013.

Photograph 7: View of SN-23 looking south, October 24, 2013.

Photograph 8: View of SN-23 looking east, October 24, 2013.

SN-23-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: SN23 **Permanent Benchmark Elevation (feet):** 1,093.17

Date	Water Level Elevation (feet)
3/18/2013	
8/21/2013	1,086.84
9/16/2013	1,086.40
10/24/2013	1,086.42

SN-24

BATHYMETRIC MONITORING DATA

SN-24-1

FIGURES

Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond SN24

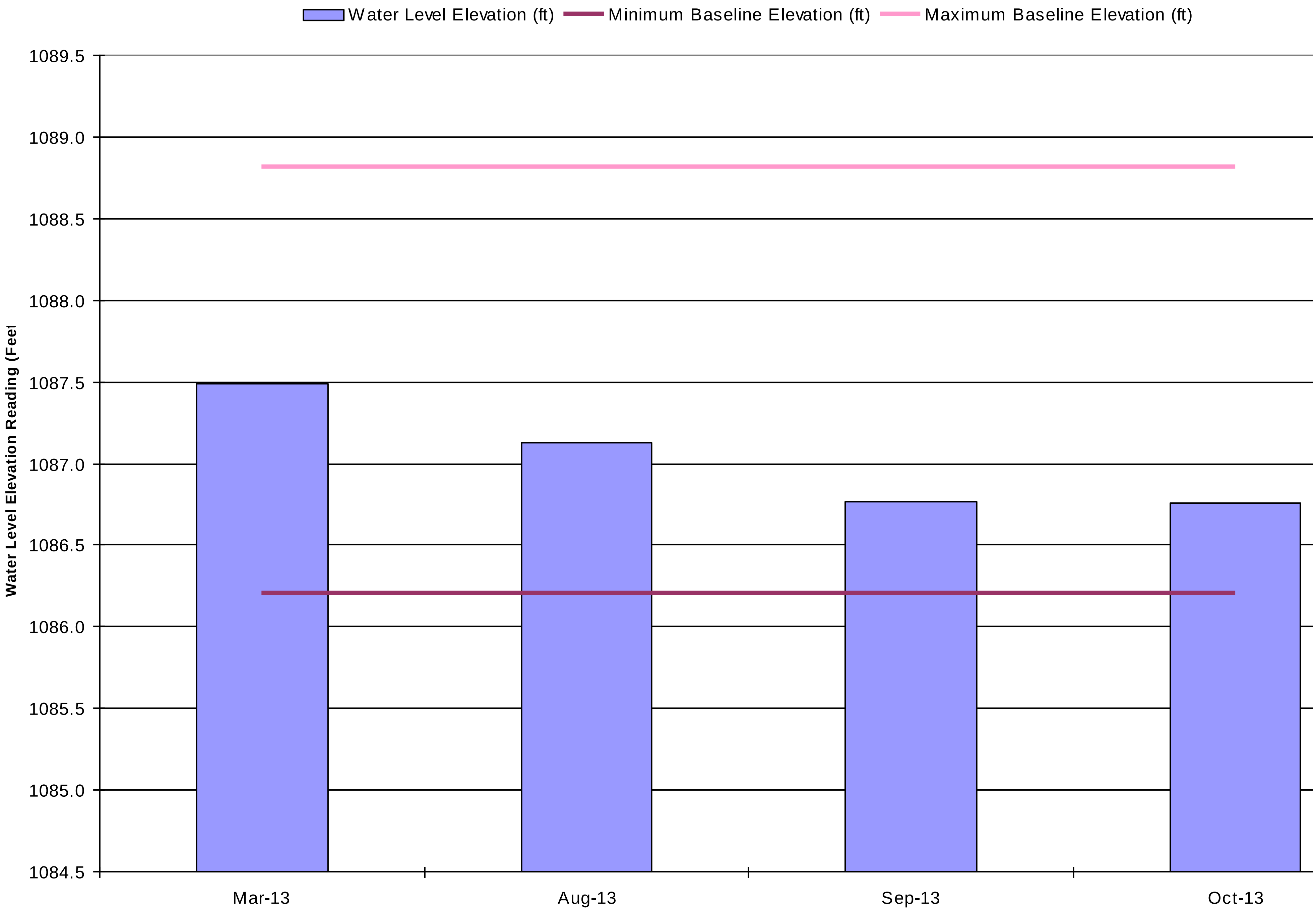
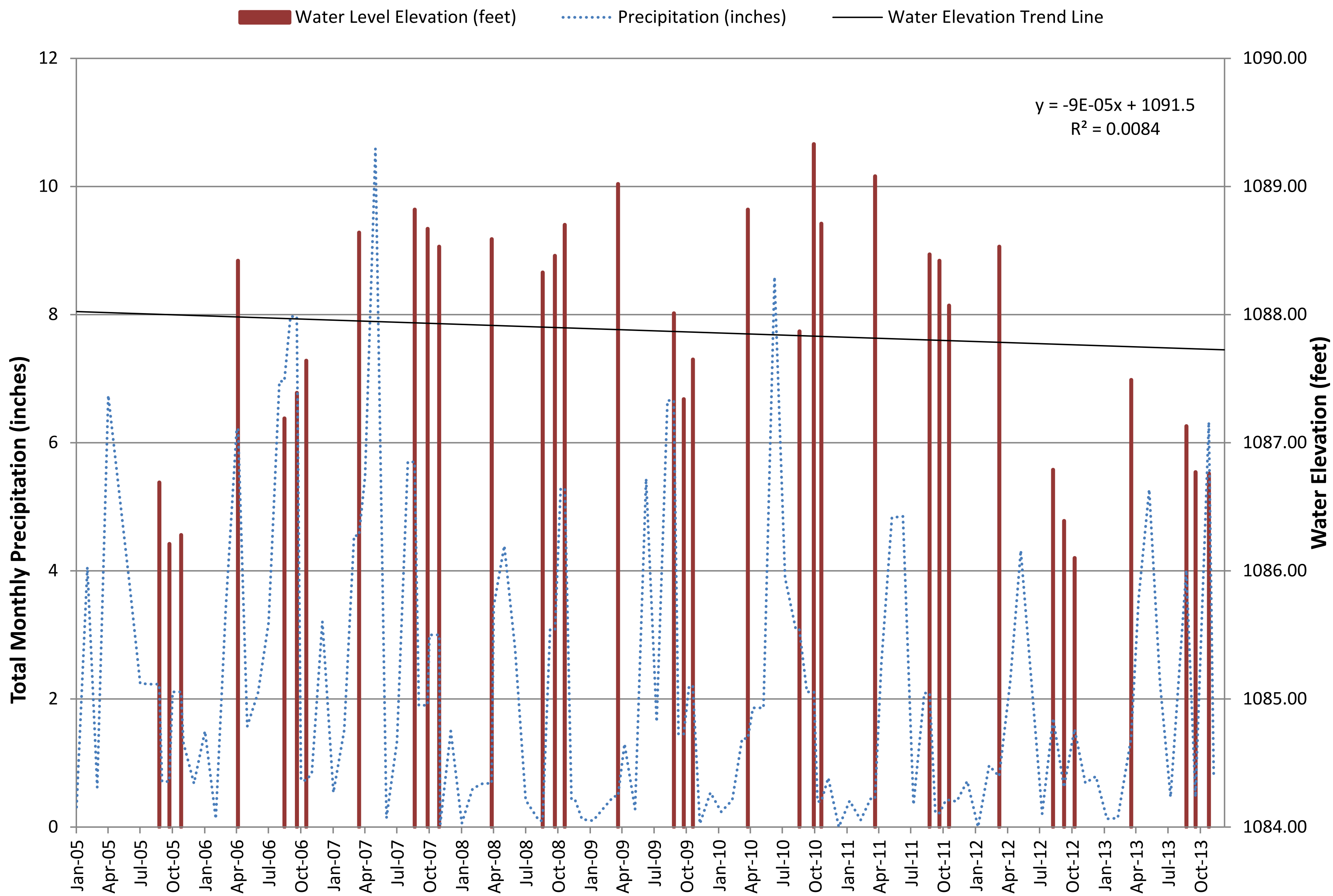


Figure 2 2005-2013 Water Elevations for SN-24 and Total Monthly Precipitation



SN-24-2

POND SN-24 PHOTOGRAPHS

Photograph 1: View of SN-24 looking northeast, March 18, 2013.

Photograph 2: View of SN-24 looking southeast, March 18, 2013.


Photograph 3: View of SN-24 looking northeast, August 21, 2013.


Photograph 4: View of SN-24 looking southeast, August 21, 2013.

Photograph 5: View of SN-24 looking northeast, September 26, 2013.

Photograph 6: View of SN-24 looking southeast, September 26, 2013.

Photograph 7: View of SN-24 looking northeast, October 24, 2013.

Photograph 8: View of SN-24 looking southeast, October 24, 2013.

SN-24-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: SN24 **Permanent Benchmark Elevation (feet):** 1,093.03

Date	Water Level Elevation (feet)
3/18/2013	1,087.49
8/21/2013	1,087.13
9/16/2013	1,086.77
10/24/2013	1,086.76

SN-25

BATHYMETRIC MONITORING DATA

SN-25-1

FIGURES

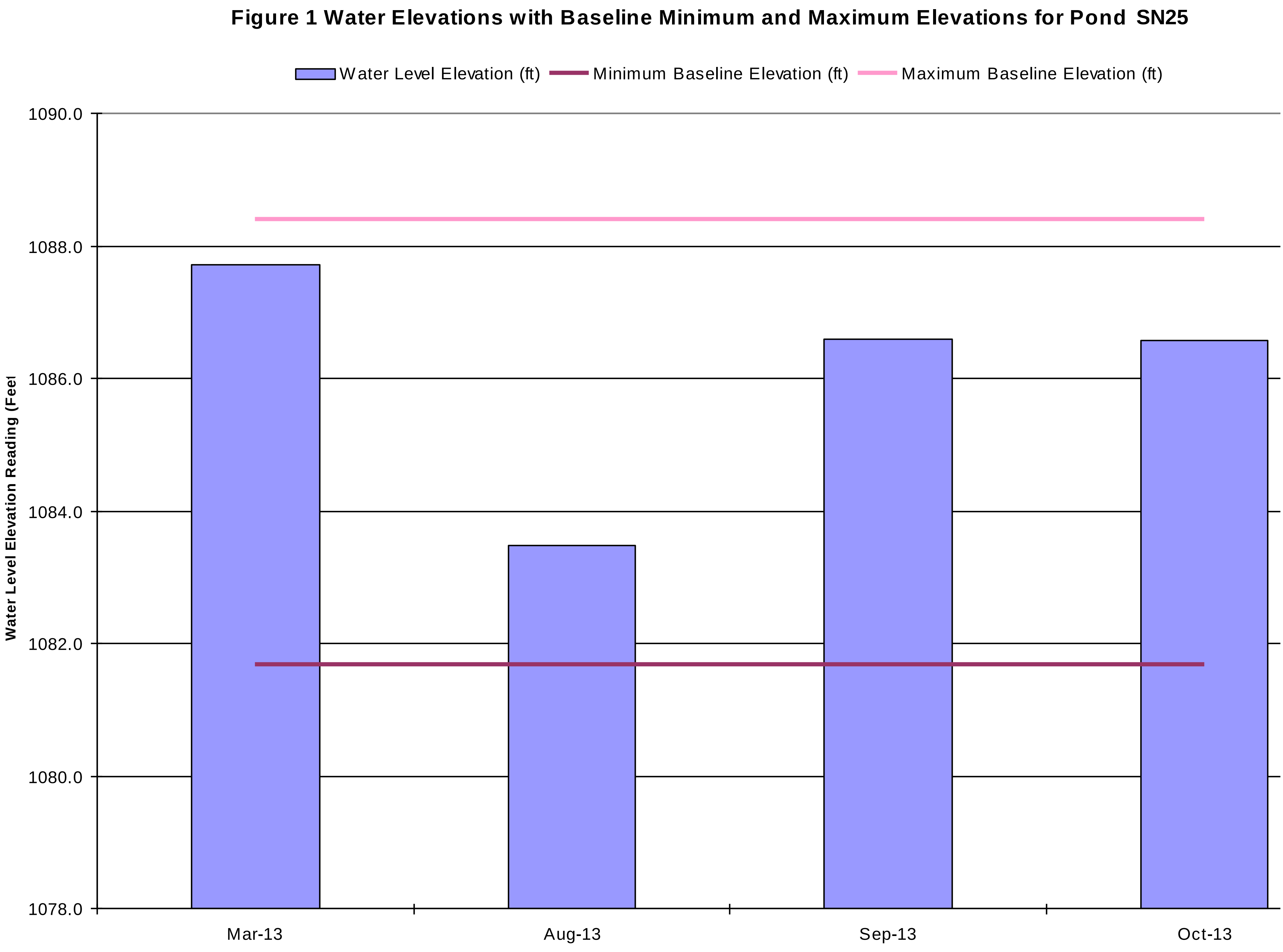


Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond SN25
Water Level Elevation (ft)
Minimum Baseline Elevation (ft)
Maximum Baseline Elevation (ft)
Water Level Elevation Reading (Feet
1090.0
1088.0
1086.0
1084.0
1082.0
1080.0
1078.0
Mar-13
Aug-13
Sep-13
Oct-13

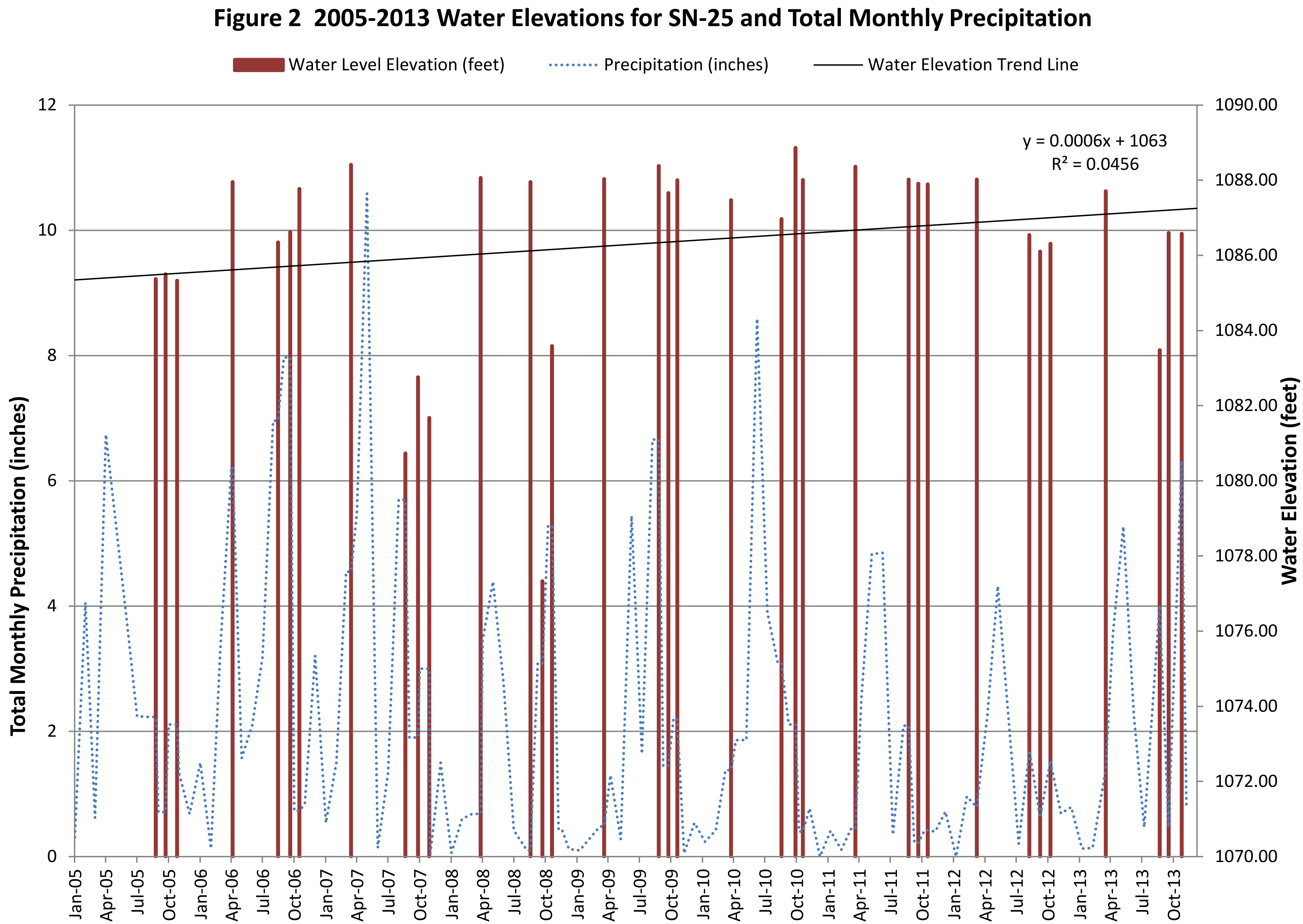


Figure 2 2005-2013 Water Elevations for SN-25 and Total Monthly Precipitation
Water Level Elevation (feet)
Precipitation (inches)
Water Elevation Trend Line
y = 0.0006x + 1063
R² = 0.0456
Total Monthly Precipitation (inches)
Water Elevation (feet)
0
2
4
6
8
10
12
1070.00
1072.00
1074.00
1076.00
1078.00
1080.00
1082.00
1084.00
1086.00
1088.00
1090.00
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Jan-07
Apr-07
Jul-07
Oct-07
Jan-08
Apr-08
Jul-08
Oct-08
Jan-09
Apr-09
Jul-09
Oct-09
Jan-10
Apr-10
Jul-10
Oct-10
Jan-11
Apr-11
Jul-11
Oct-11
Jan-12
Apr-12
Jul-12
Oct-12
Jan-13
Apr-13
Jul-13
Oct-13

SN-25-2

POND SN-25 PHOTOGRAPHS

Photograph 1: View of SN-25 looking north, March 18, 2013.

Photograph 2: View of SN-25 looking northwest, March 18, 2013.

Photograph 3: View of SN-25 looking north, August 21, 2013.

Photograph 4: View of SN-25 looking northwest, August 21, 2013

Photograph 5: View of SN-25 looking north, September 26, 2013.

Photograph 6: View of SN-25 looking northwest, September 26, 2013.

Photograph 7: View of SN-25 looking north, October 24, 2013.

Photograph 8: View of SN-25 looking northwest, October 24, 2013.

SN-25-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: SN25 **Permanent Benchmark Elevation (feet):** 1,089.81

Date	Water Level Elevation (feet)
3/18/2013	1,087.71
8/21/2013	1,083.48
9/16/2013	1,086.60
10/24/2013	1,086.58

SN-26

BATHYMETRIC MONITORING DATA

SN-26-1

FIGURES

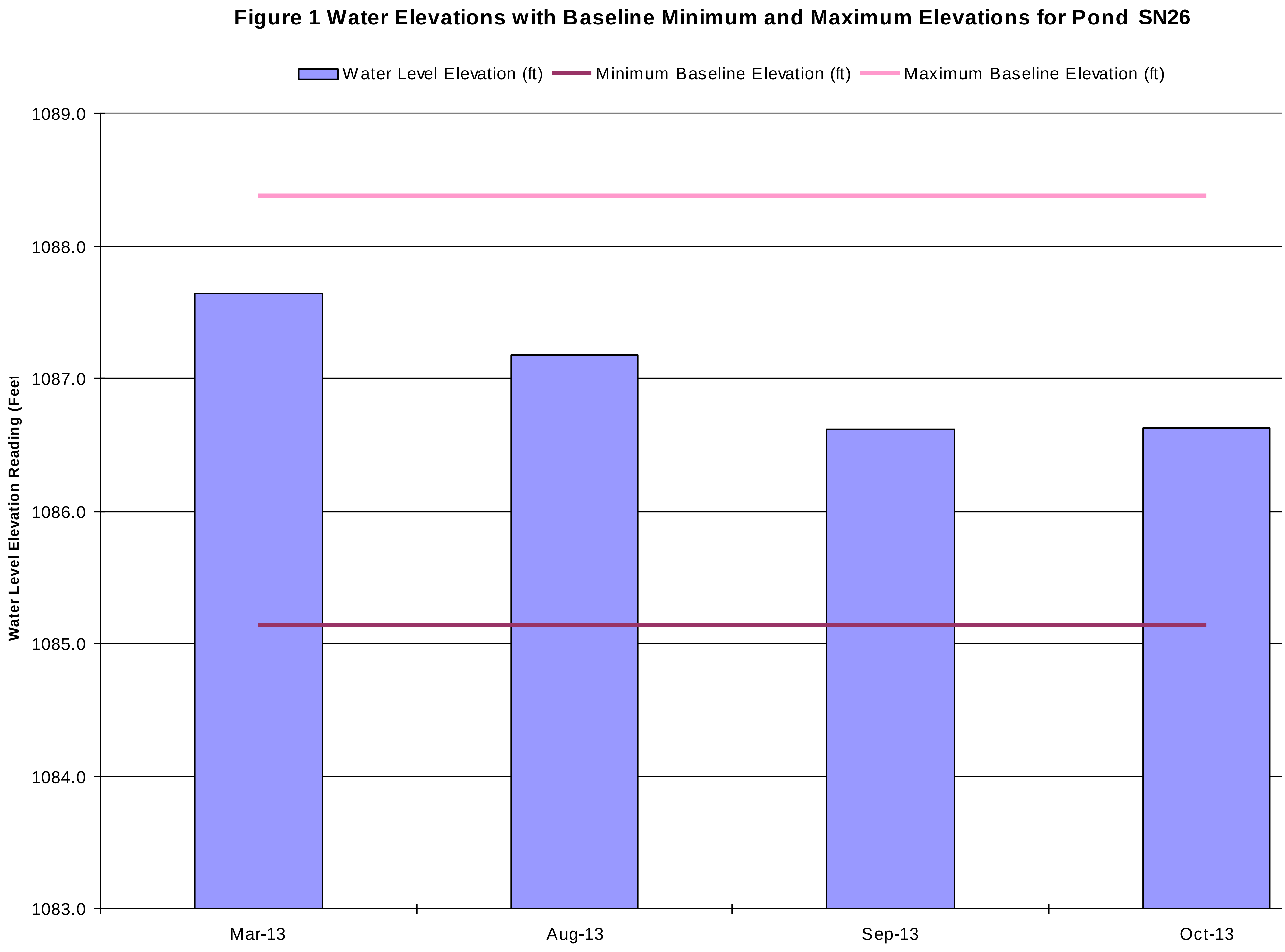
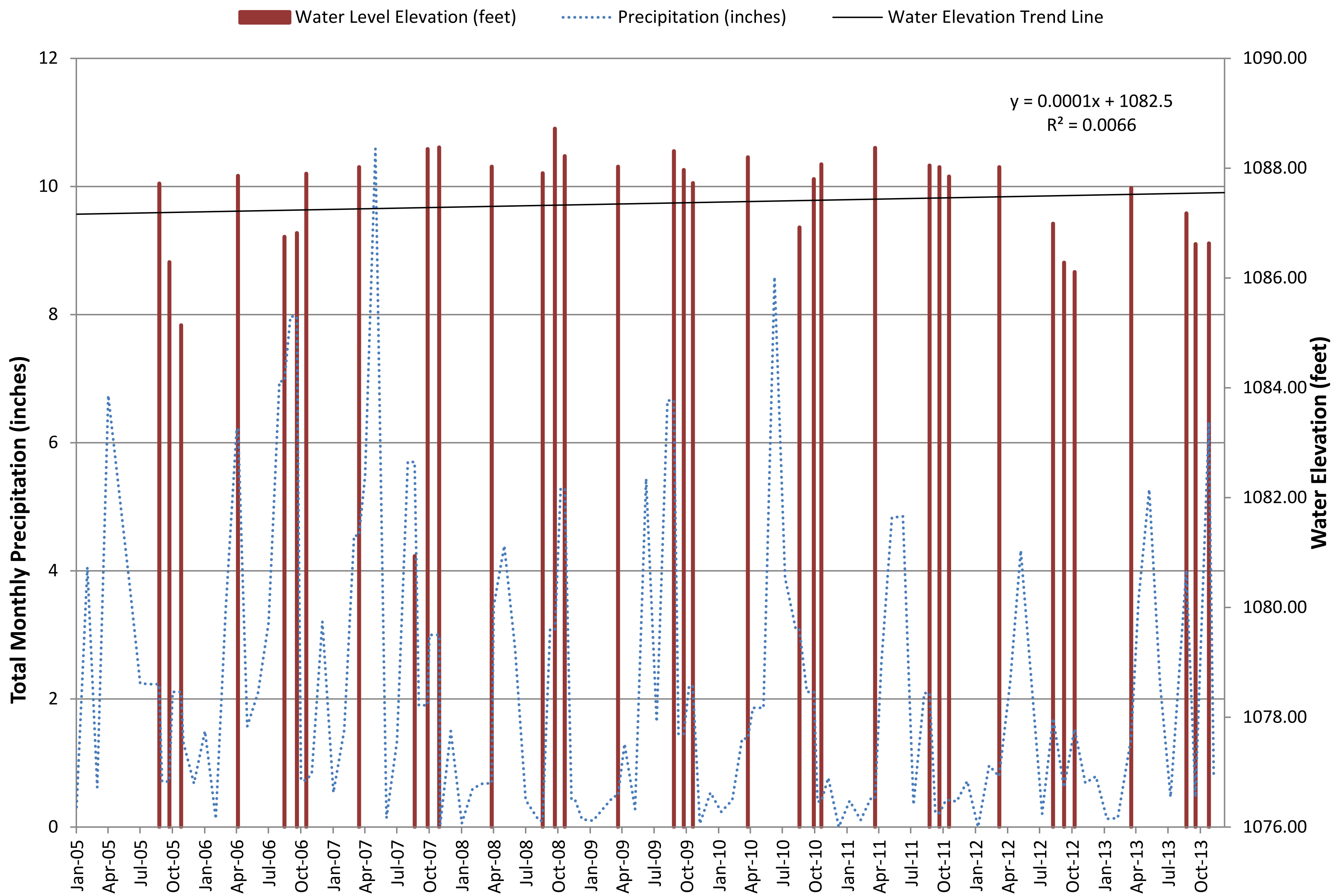


Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond SN26
Water Level Elevation (ft)
Minimum Baseline Elevation (ft)
Maximum Baseline Elevation (ft)
Water Level Elevation Reading (Feet
1089.0
1088.0
1087.0
1086.0
1085.0
1084.0
1083.0
Mar-13
Aug-13
Sep-13
Oct-13

Figure 2 2005-2013 Water Elevations for SN-26 and Total Monthly Precipitation



SN-26-2

POND SN-26 PHOTOGRAPHS

Photograph 1: View of SN-26 looking west, March 18, 2013.

Photograph 2: View of SN-26 looking west, August 21, 2013.

Photograph 3: View of SN-26 looking west, September 26, 2013.

Photograph 4: View of SN-26 looking west, October 24, 2013.

SN-26-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: SN26 **Permanent Benchmark Elevation (feet):** 1,089.81

Date	Water Level Elevation (feet)
3/18/2013	1,087.64
8/21/2013	1,087.18
9/16/2013	1,086.62
10/24/2013	1,086.63

SN-27

BATHYMETRIC MONITORING DATA

SN-27-1

FIGURES

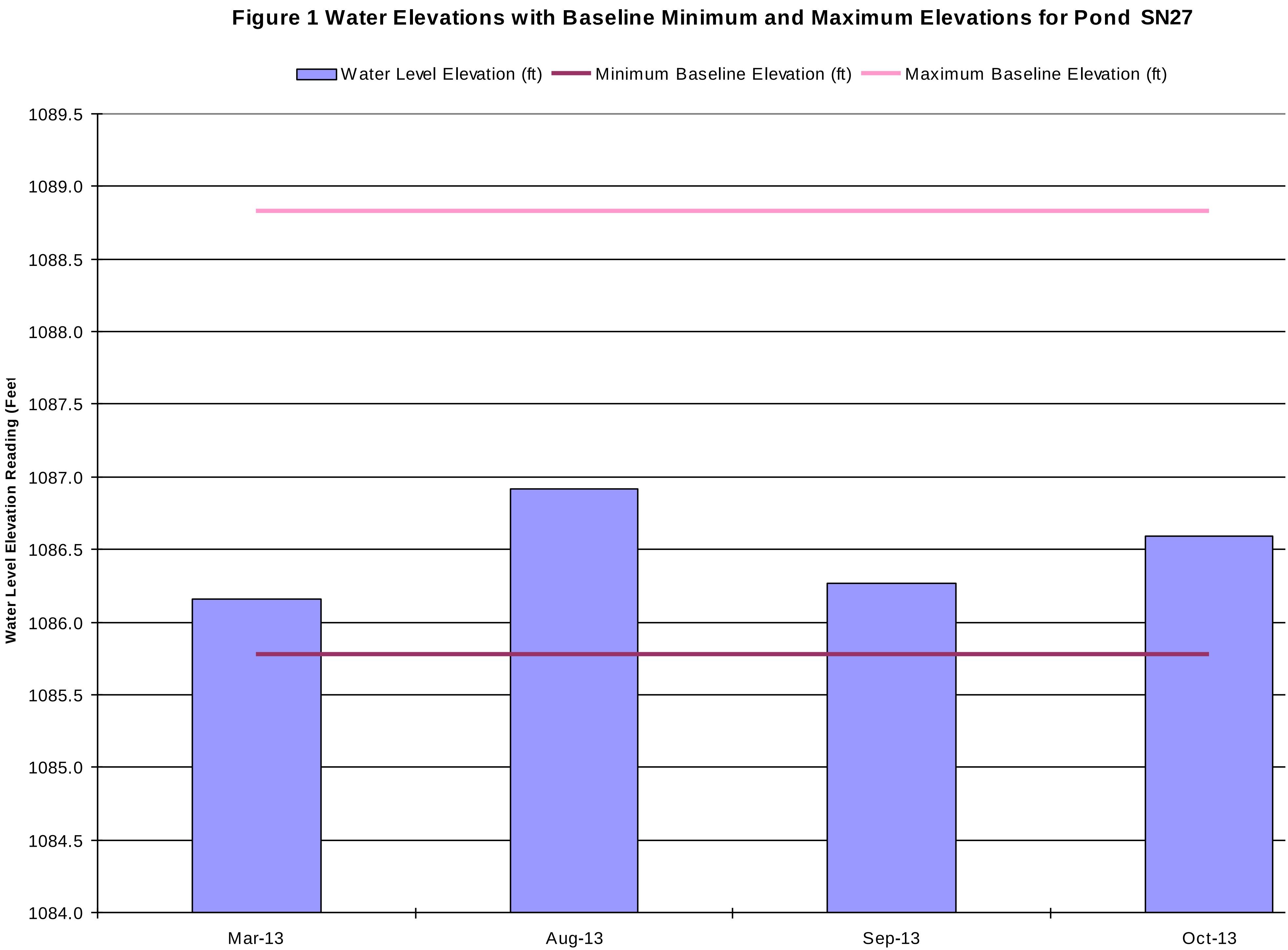
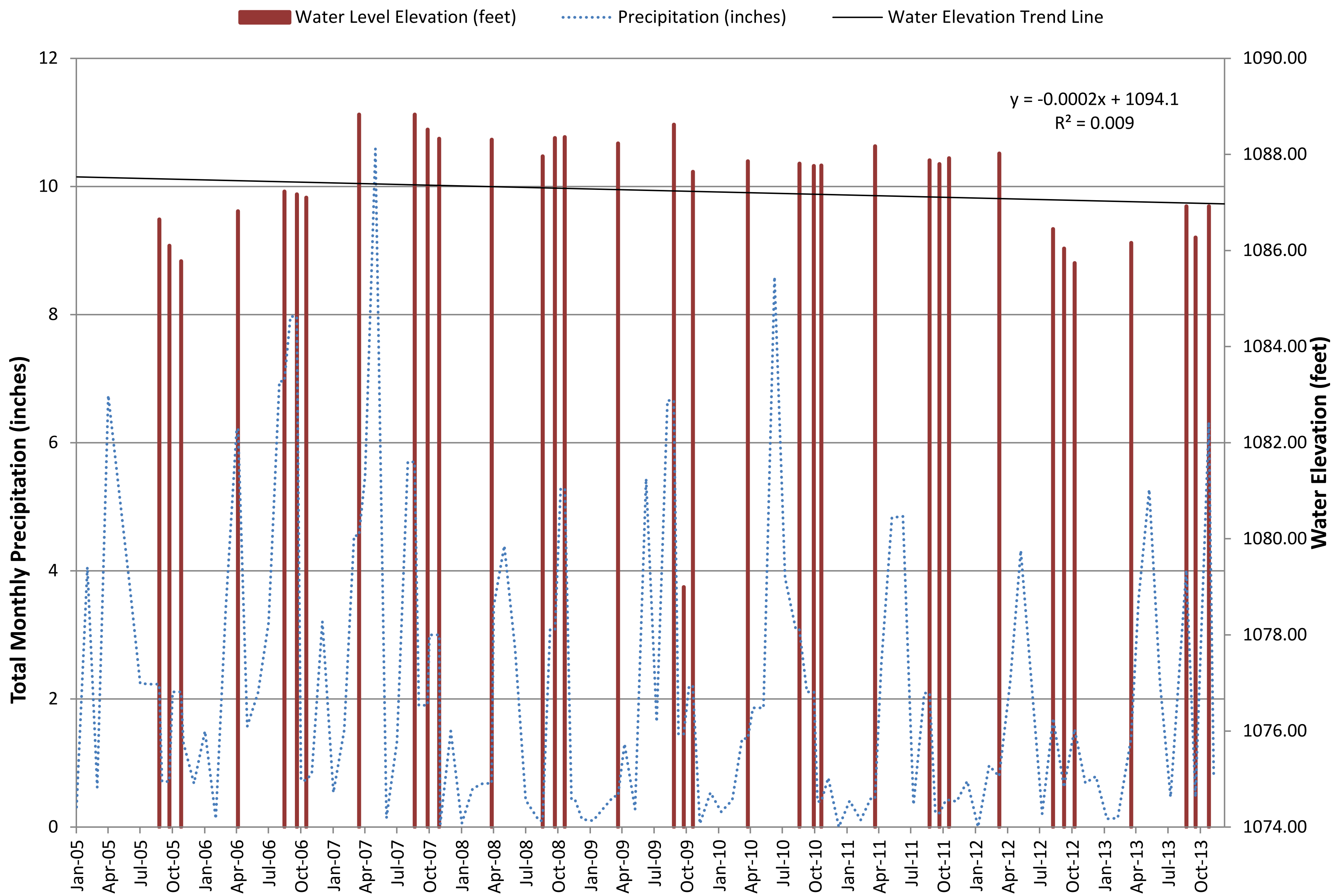


Figure 1 Water Elevations with Baseline Minimum and Maximum Elevations for Pond SN27
Water Level Elevation (ft)
Minimum Baseline Elevation (ft)
Maximum Baseline Elevation (ft)
Water Level Elevation Reading (Feet
1089.5
1089.0
1088.5
1088.0
1087.5
1087.0
1086.5
1086.0
1085.5
1085.0
1084.5
1084.0
Mar-13
Aug-13
Sep-13
Oct-13

Figure 2 2005-2013 Water Elevations for SN-27 and Total Monthly Precipitation



SN-27-2

POND SN-27 PHOTOGRAPHS

Photograph 1: View of SN-27 looking south, March 18, 2013.

Photograph 2: View of SN-27 looking northwest, March 18, 2013.

Photograph 3: View of SN-27 looking south, August 21, 2013.

Photograph 4: View of SN-27 looking northwest, August 21, 2013.

Photograph 5: View of SN-27 looking south, September 26, 2013.

Photograph 6: View of SN-27 looking northwest, September 26, 2013.

Photograph 7: View of SN-27 looking south, October 24, 2013.

Photograph 8: View of SN-27 looking northwest, October 24, 2013.

SN-27-3

POND WATER LEVEL READING DATA SHEETS

Pond Water Level Reading Data Sheets

Pond #: SN27 **Permanent Benchmark Elevation (feet):** 1,093.14

Date	Water Level Elevation (feet)
3/18/2013	1,086.16
8/21/2013	1,086.92
9/26/2013	1,086.27
10/24/2013	1,086.92

APPENDIX III – HYDROLOGICAL DATA

APPENDIX III - SECTION A

GROUNDWATER MONITORING WELLS

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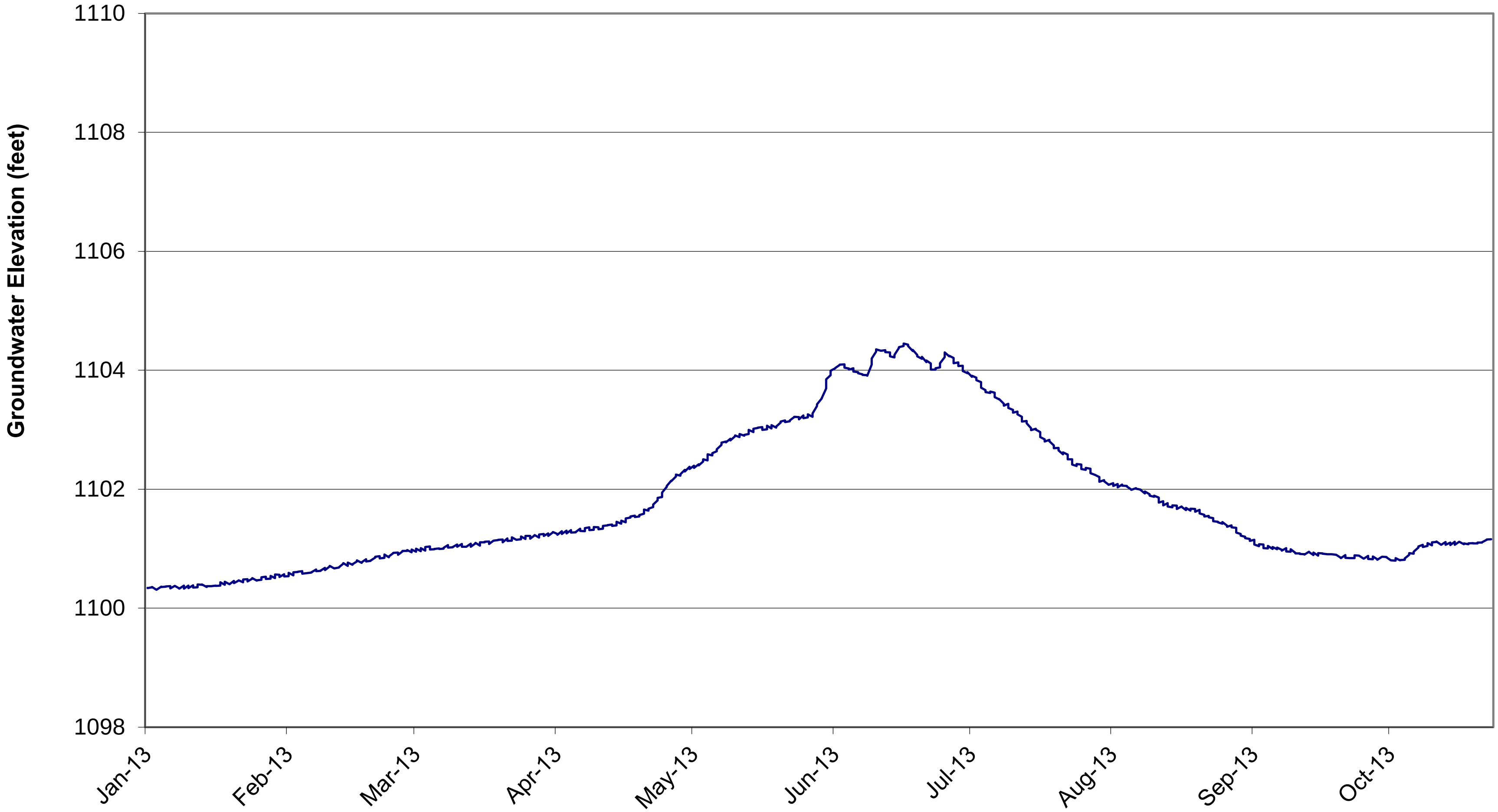
Figure 1 Monitoring Well Readings fro MW 90-05 in Douglas County
(January 1, 2013 thru October 23, 2013)

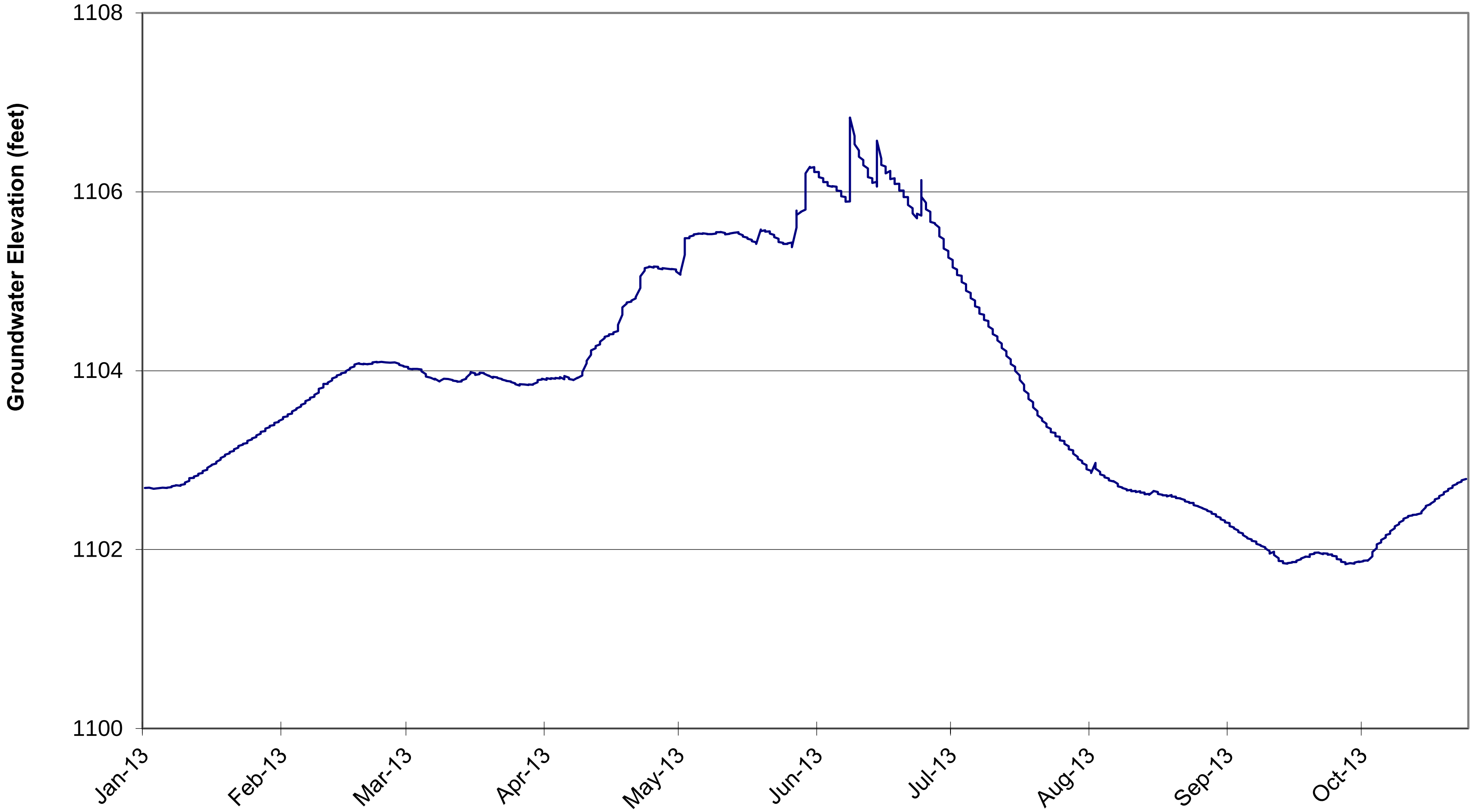
Note: Data obtained from Metropolitan Utilities District, Omaha, Nebraska

Figure 2 Monitoring Well Readings for MW 90-06 in Douglas County
(January 1, 2013 thru October 23, 2013)



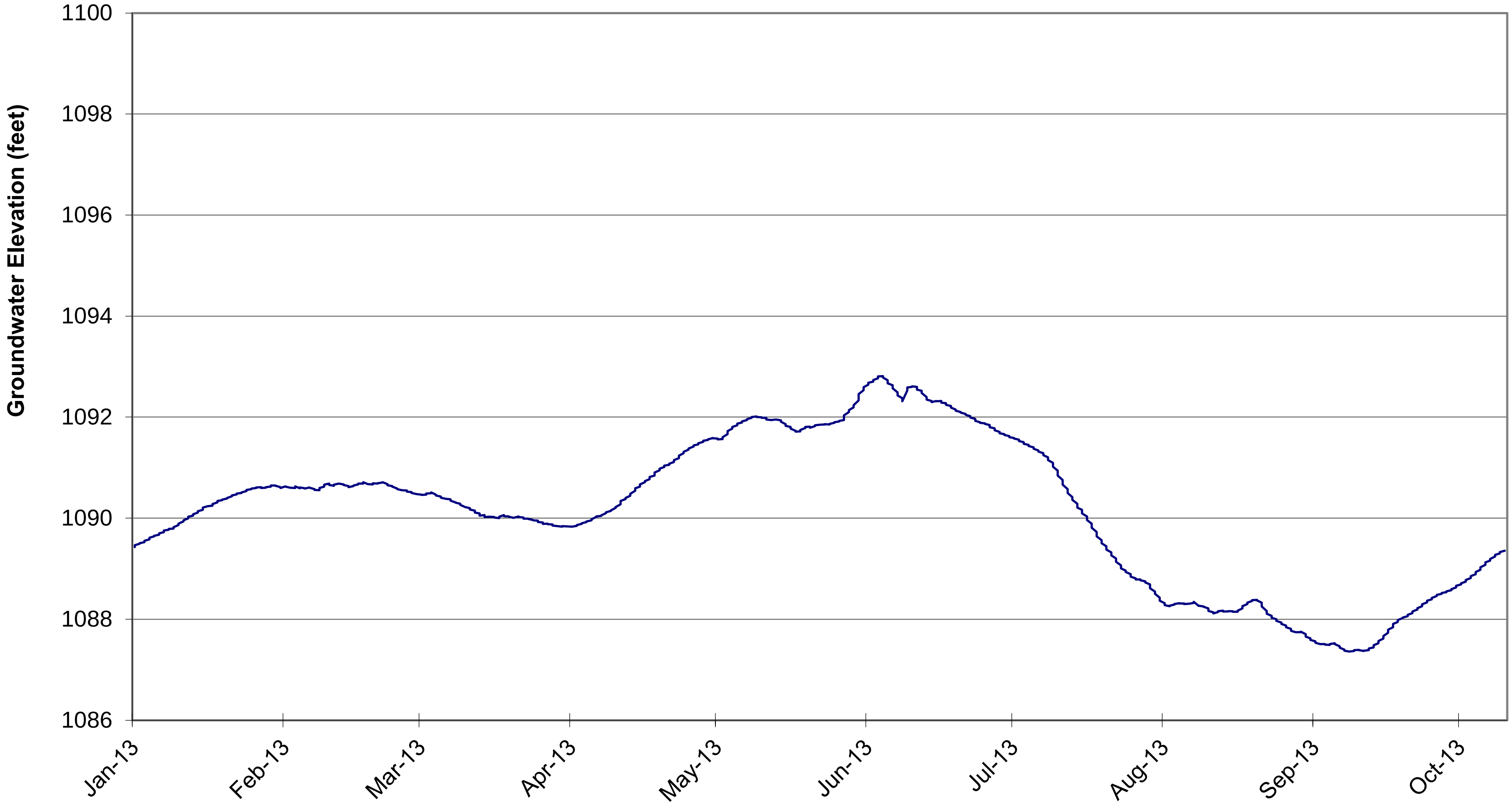
Note: Data obtained from Metropolitan Utilities District, Omaha, Nebraska

Figure 3 Monitoring Well Readings for MW 90-07 in Douglas County
(January 1, 2013 thru October 24, 2013)



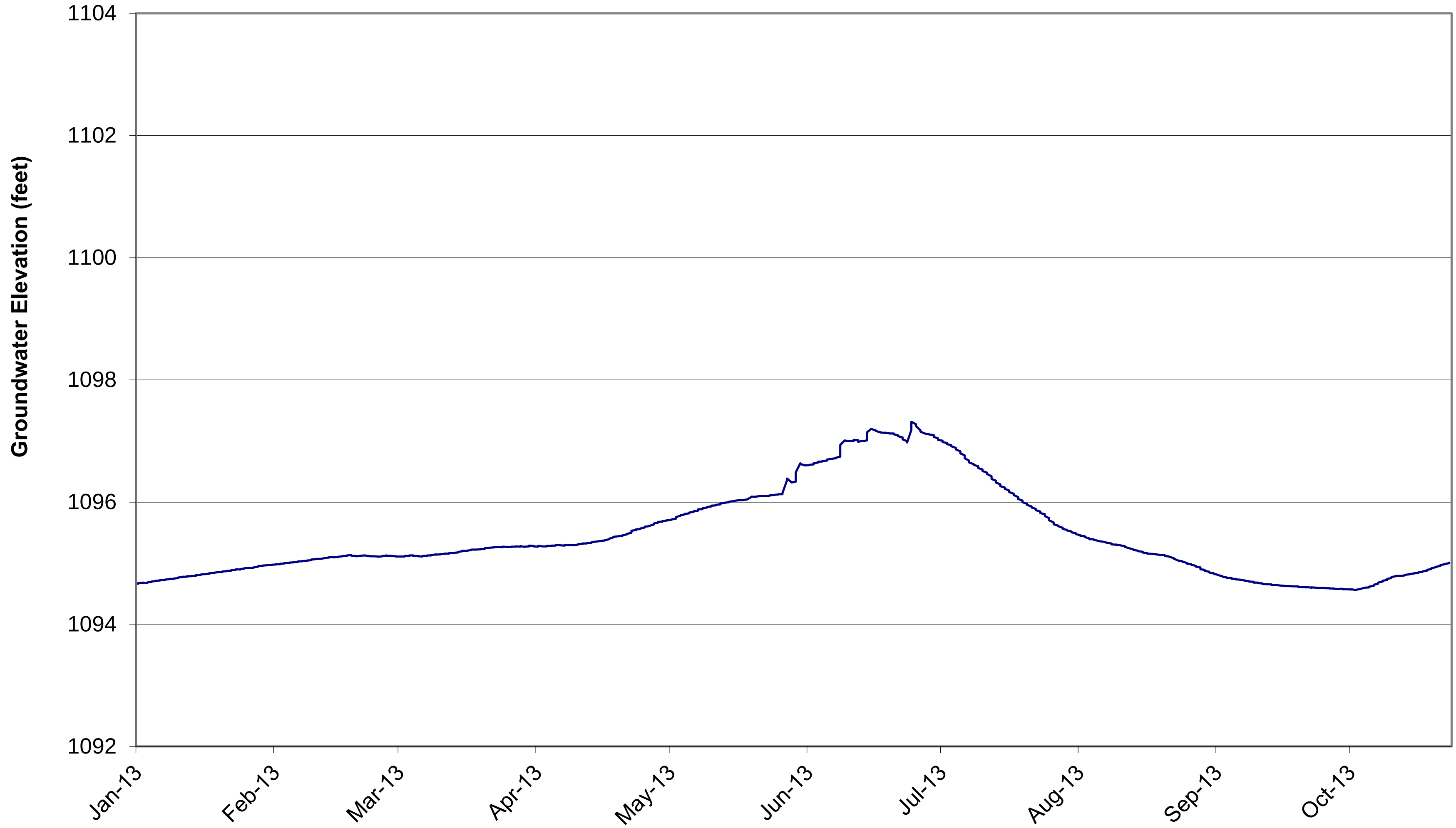
Note: Data obtained from Metropolitan Utilities District, Omaha, Nebraska

Figure 4 Monitoring Well Reaings for MW 90-10 in Saunders County
(January 1, 2013 thru October 10, 2013)



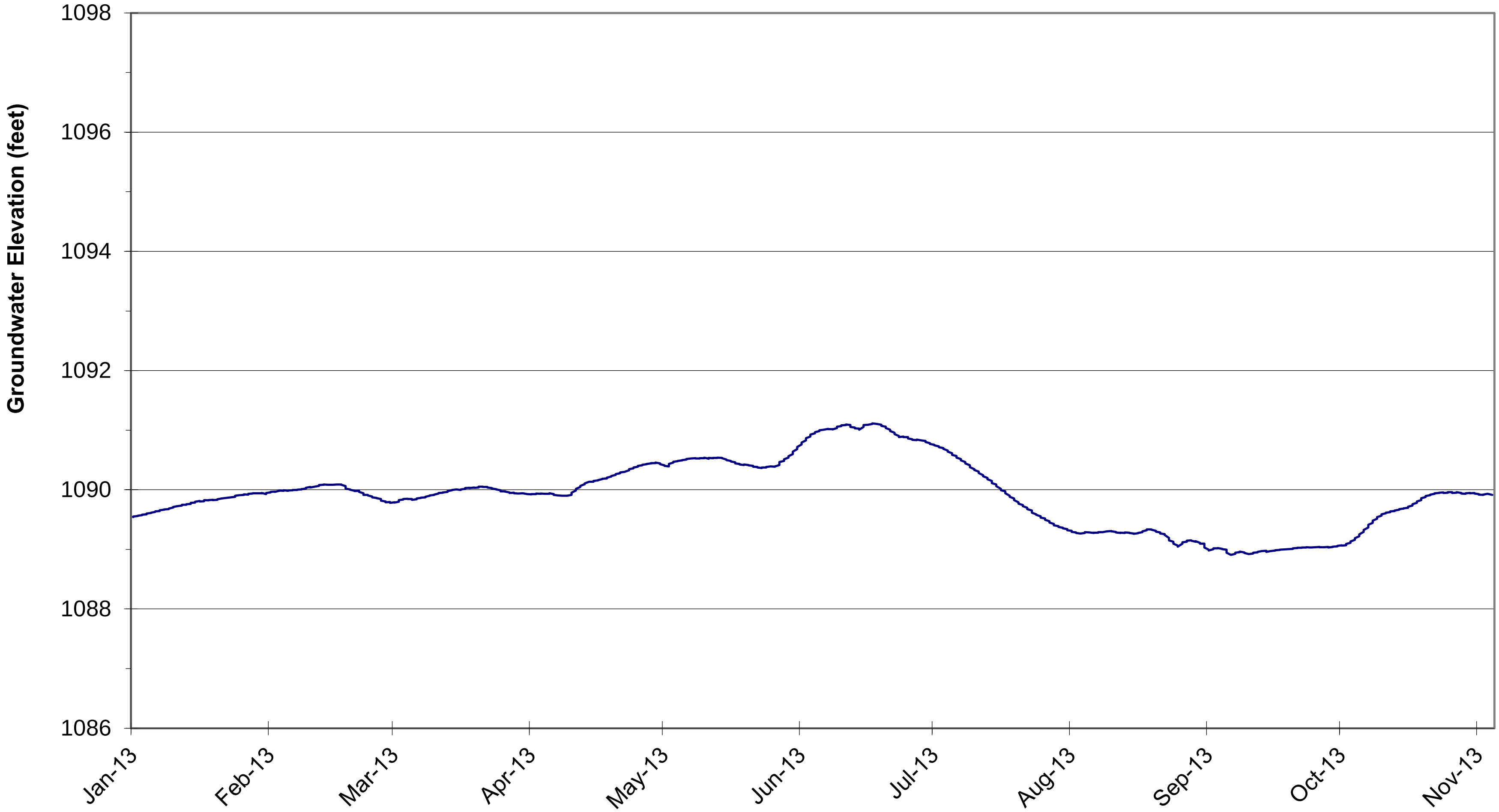
Note: Data obtained from Metropolitan Utilities District, Omaha, Nebraska

Figure 5 Monitoring Well Readings for MW 90-12 in Douglas County
(January 1, 2013 thru October 23, 2013)



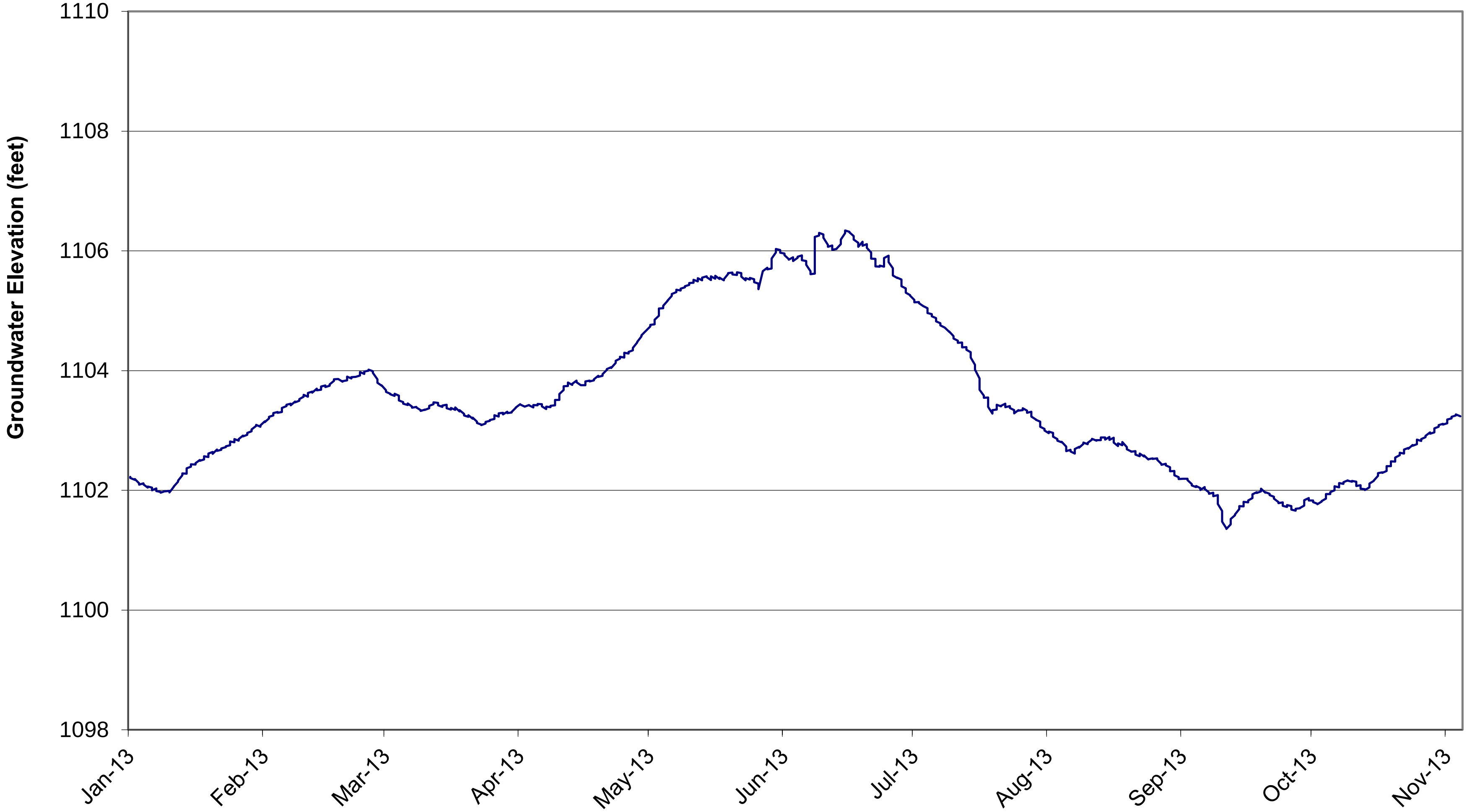
Note: Data obtained from Metropolitan Utilities District, Omaha, Nebraska

Figure 6 Monitoring Well Readings for MW 90-13 in Douglas County
(January 1, 2013 thru November 4, 2013)



Note: Data obtained from Metropolitan Utilities District, Omaha, Nebraska

Figure 7 Monitoring Well Readings for MW 94-01 in Douglas County
(January 1, 2013 thru November 4, 2013)

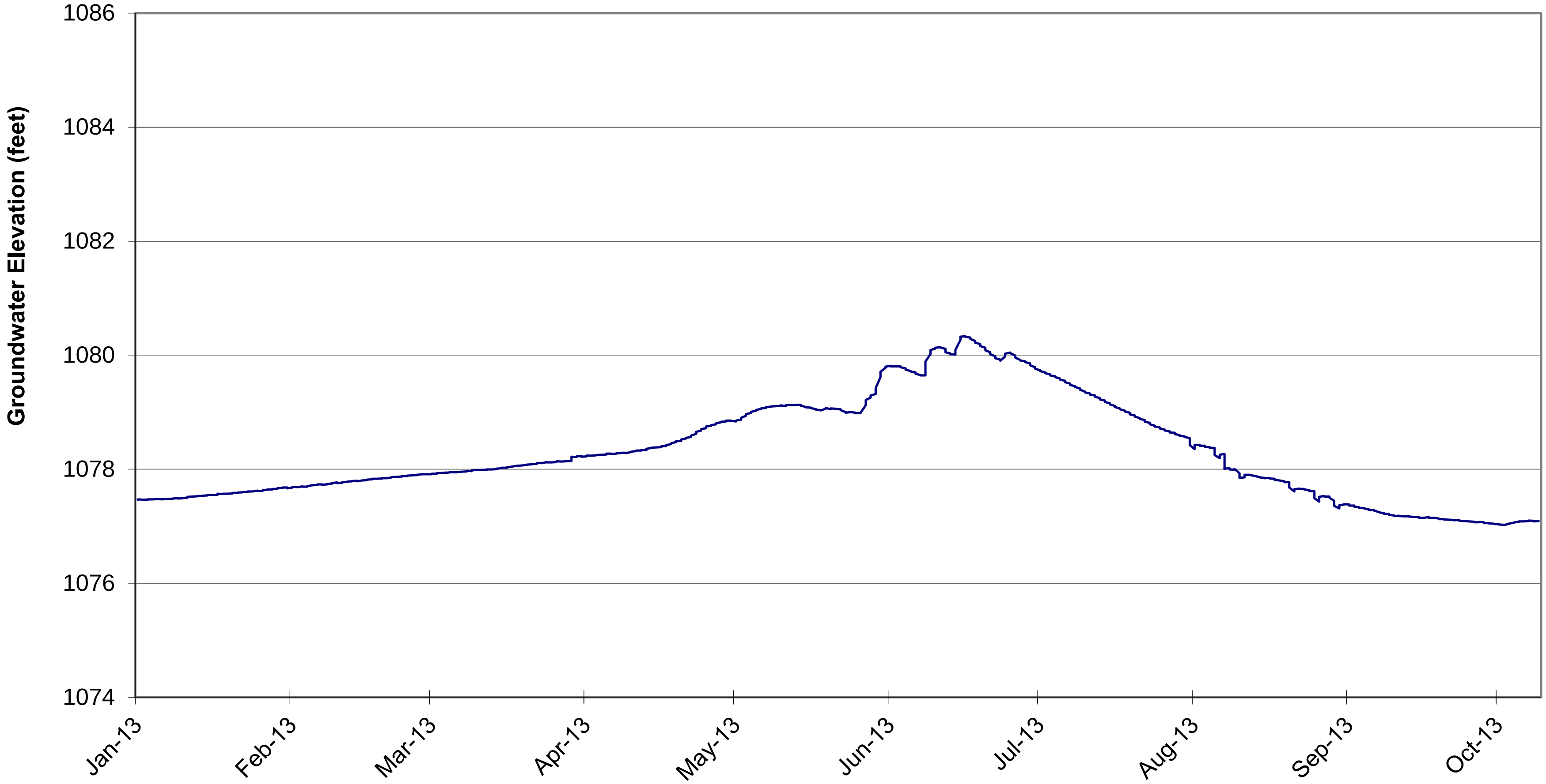


Note: Data obtained from Metropolitan Utilities District, Omaha, Nebraska

Figure 8 Monitoring Well Readings for MW 94-02 in Douglas County
(May 31, 2013 thru October 24, 2013)

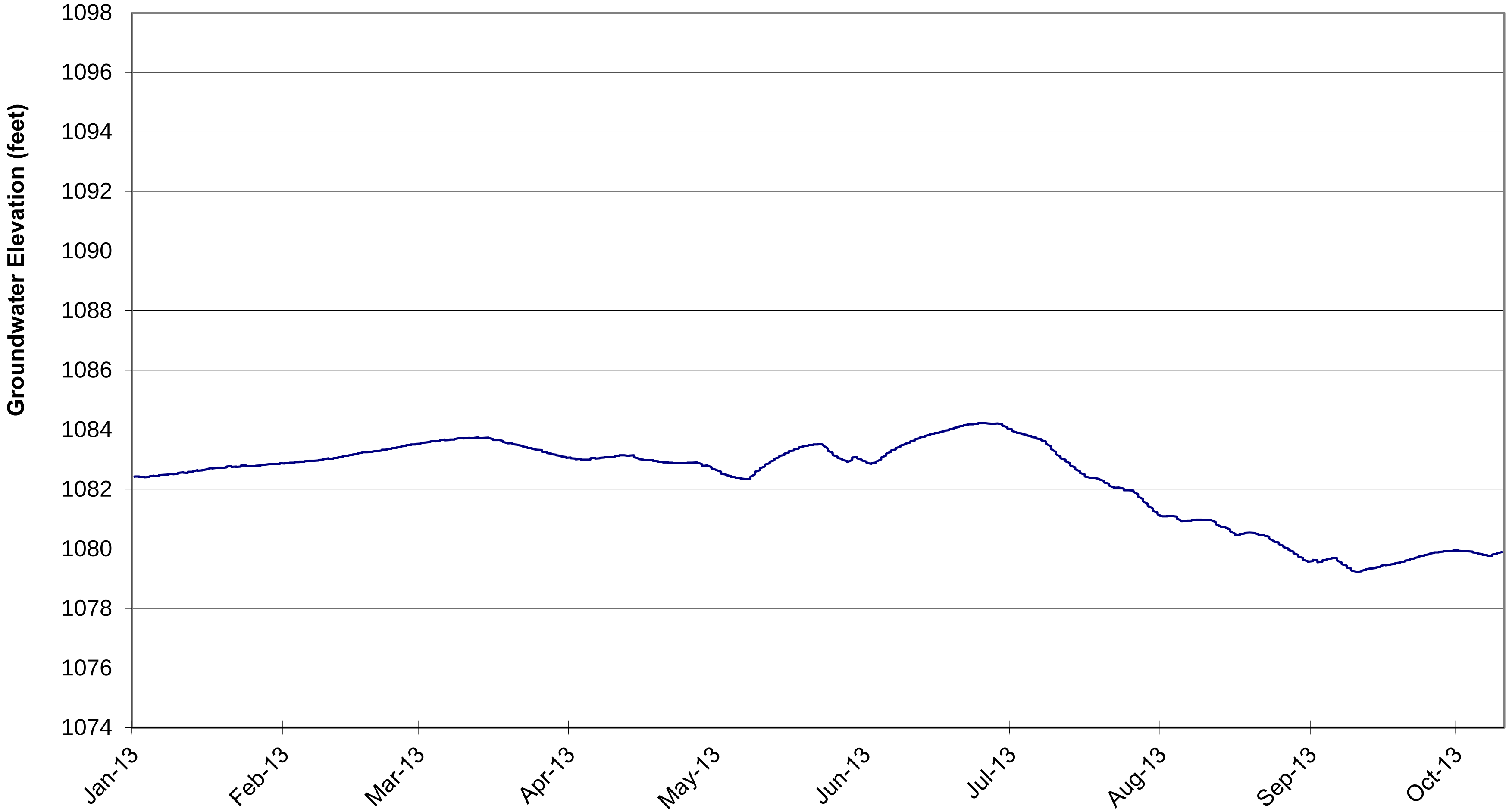
Note: Data obtained from Metropolitan Utilities District, Omaha, Nebraska

Figure 9 Monitoring Well Readings for MW 94-03 in Saunders County
(January 1, 2013 thru October 9, 2013)



Note: Data obtained from Metropolitan Utilities District, Omaha, Nebraska

Figure 10 Monitoring Well Readings for MW 94-04 in Saunders County
(January 1, 2013 thru October 10, 2013)

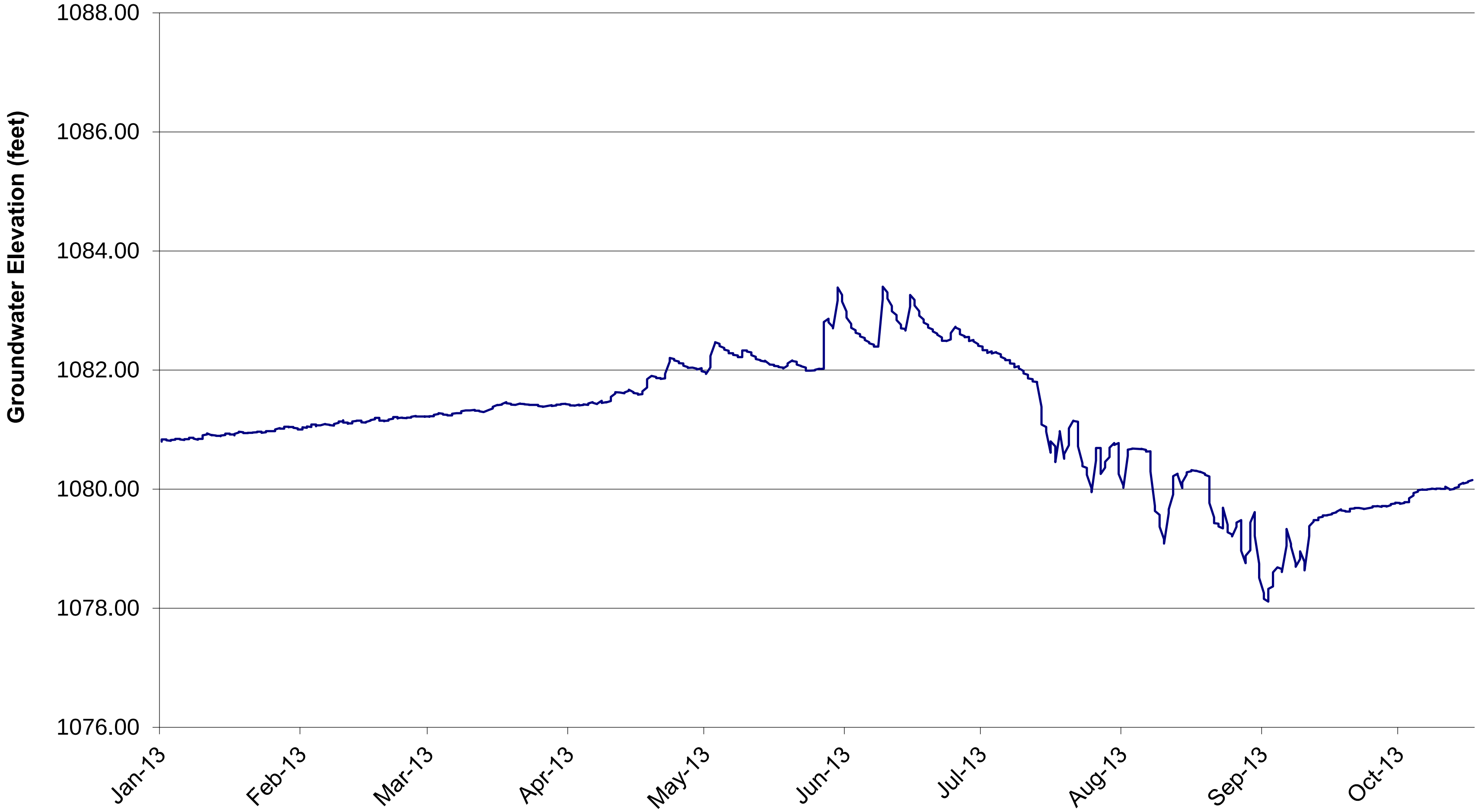


Note: Data obtained from Metropolitan Utilities District, Omaha, Nebraska

Figure 11 Monitoring Well Readings for MW 94-05 in Saunders County
(January 1, 2013 thru October 17, 2013)

Note: Data obtained from Metropolitan utilities District, Omaha, Nebraska

Figure 12 Monitoring Well Readings from MW 94-06 in Saunders County
(January 1, 2013 thru October 17, 2013)

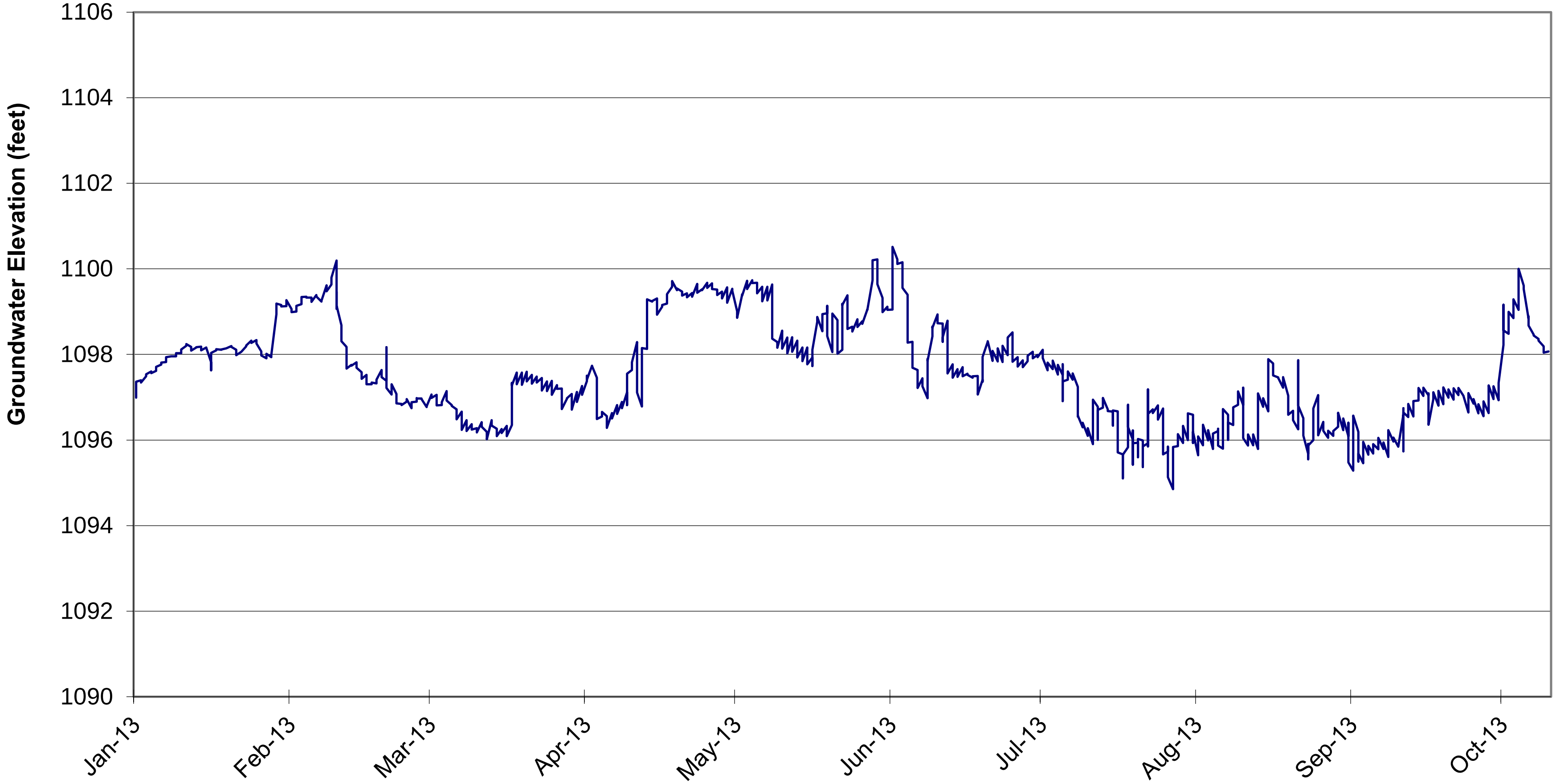


Note: Data obtained from Metropolitan Utilities District, Omaha, Nebraska

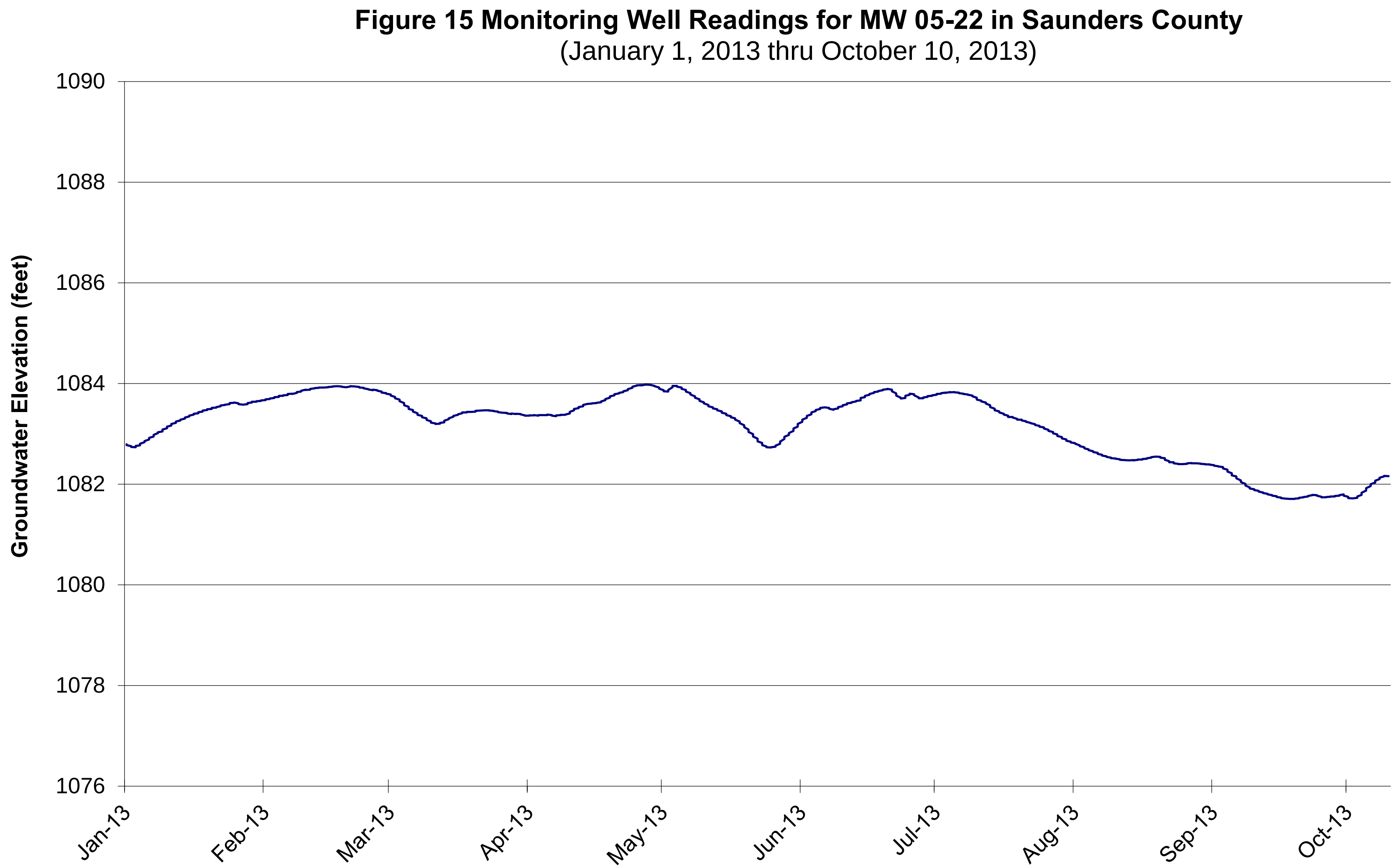
Figure 13 Monitoring Well Readings for MW 94-07 in Saunders County
(January 1, 2013 thru October 9, 2013)

Note: Data obtained from Metropolitan Utilities District, Omaha, Nebraska

Figure 14 Monitoring Well Readings for MW 04-17 in Saunders County
(January 1, 2013 thru October 10, 2013)

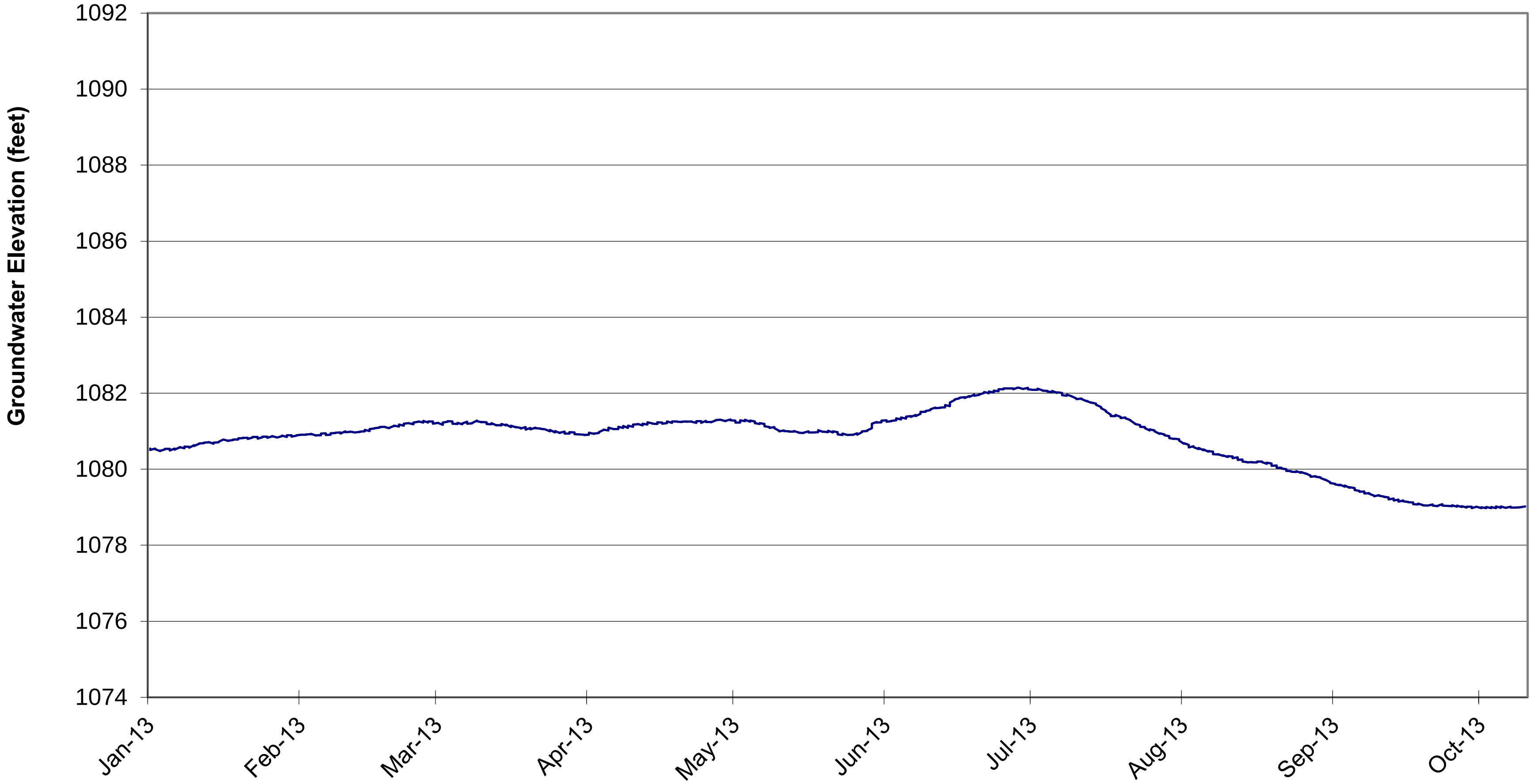


Note: Data obtained from Metropolitan Utilities District, Omaha, Nebraska



Note: Data obtained from Metropolitan Utilities District, Omaha, Nebraska

Figure 16 Monitoring Well Readings for MW 05-23 in Saunders County
(January 1, 2013 thru October 10, 2013)

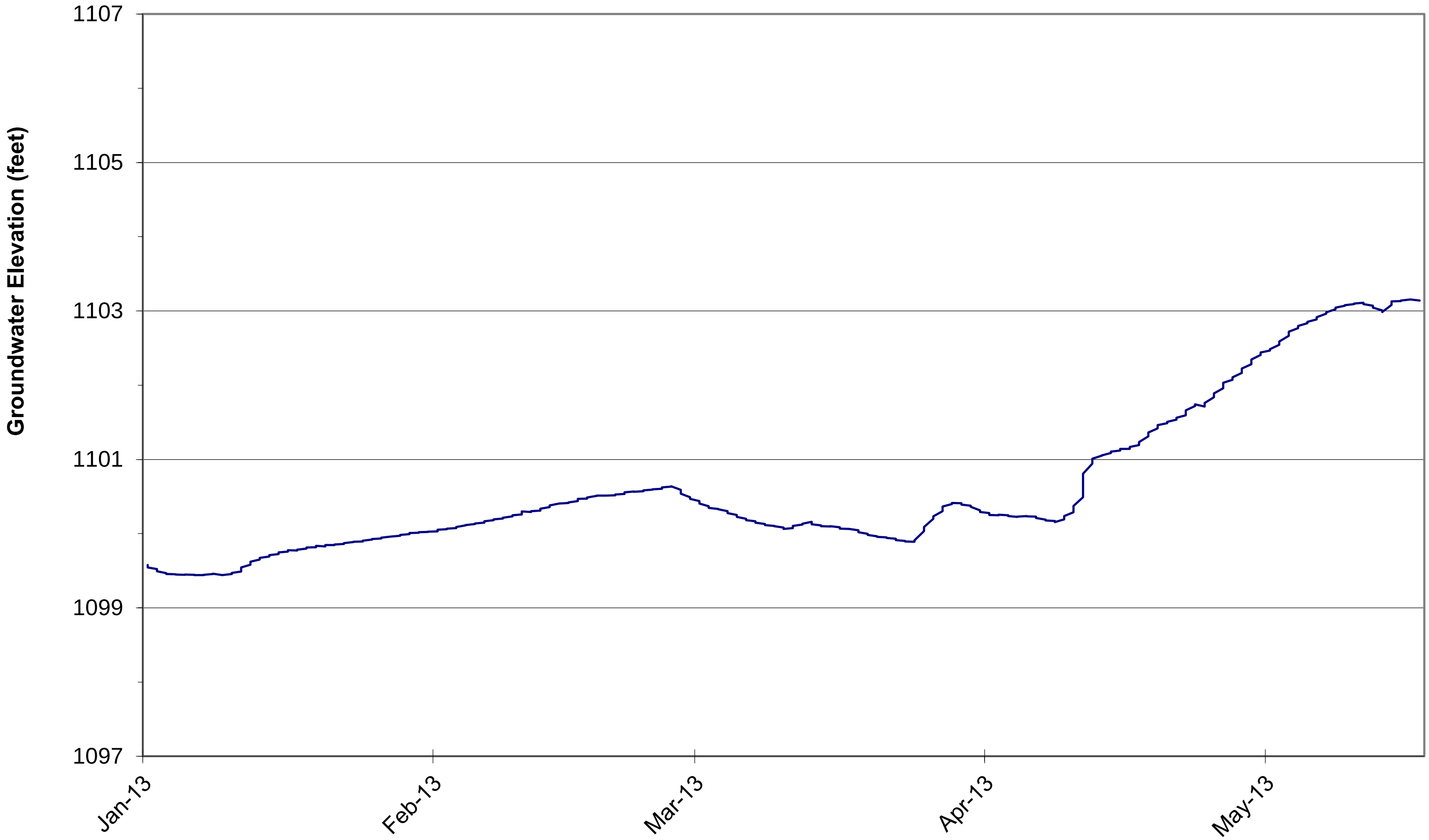


Note: Data obtained from Metropolitan Utilities District, Omaha, Nebraska

Figure 17 Monitoring Well Readings from MW 05-24 in Douglas County
(January 1, 2013 thru October 24, 2013)

Note: Data obtained from Metropolitan Utilities District, Omaha, Nebraska

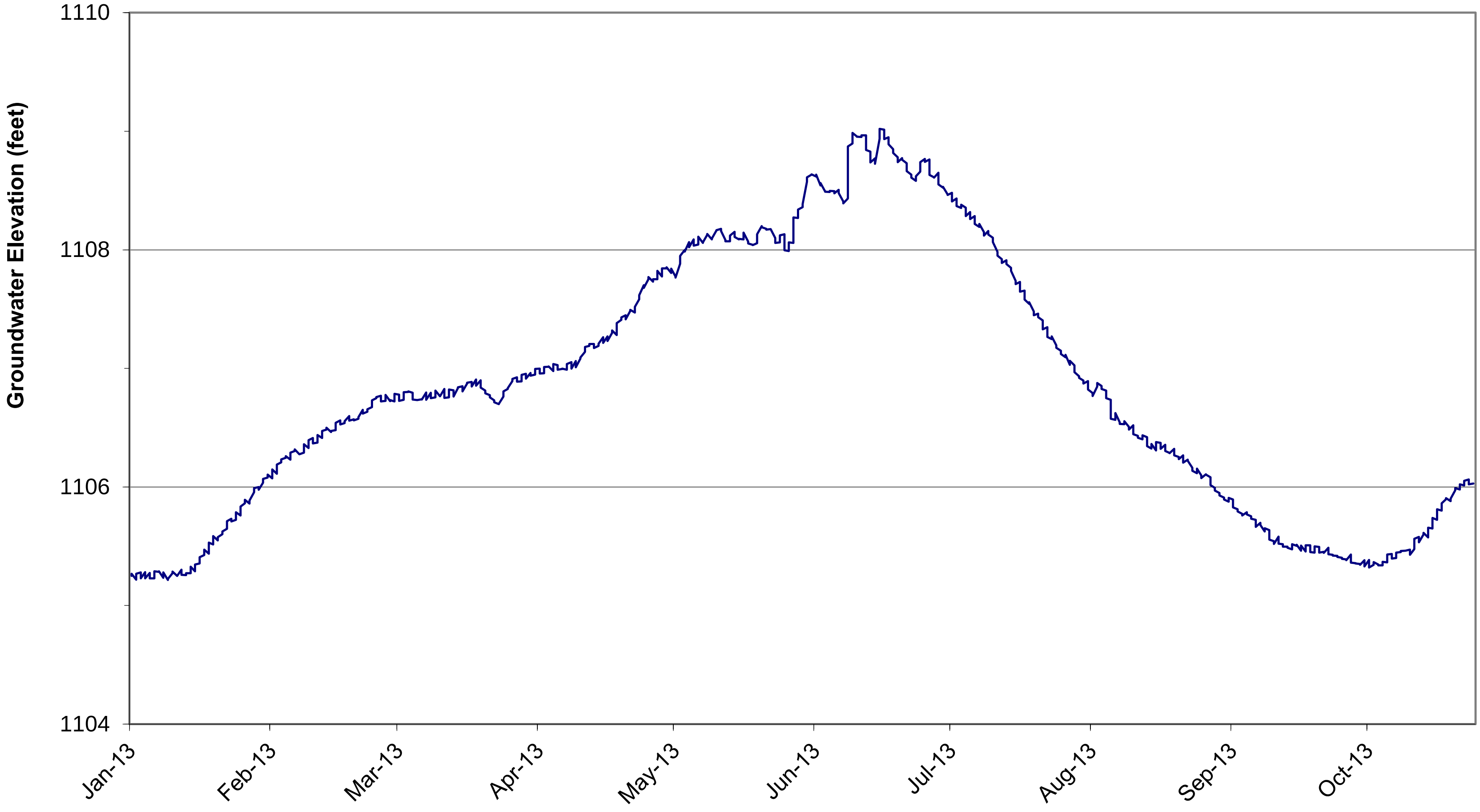
Figure 18 Monitoring Well Readings for MW 05-25 in Douglas County
(January 1, 2013 thru May 17, 2013)



Note: Data obtained from Metropolitan Utilities District, Omaha, Nebraska

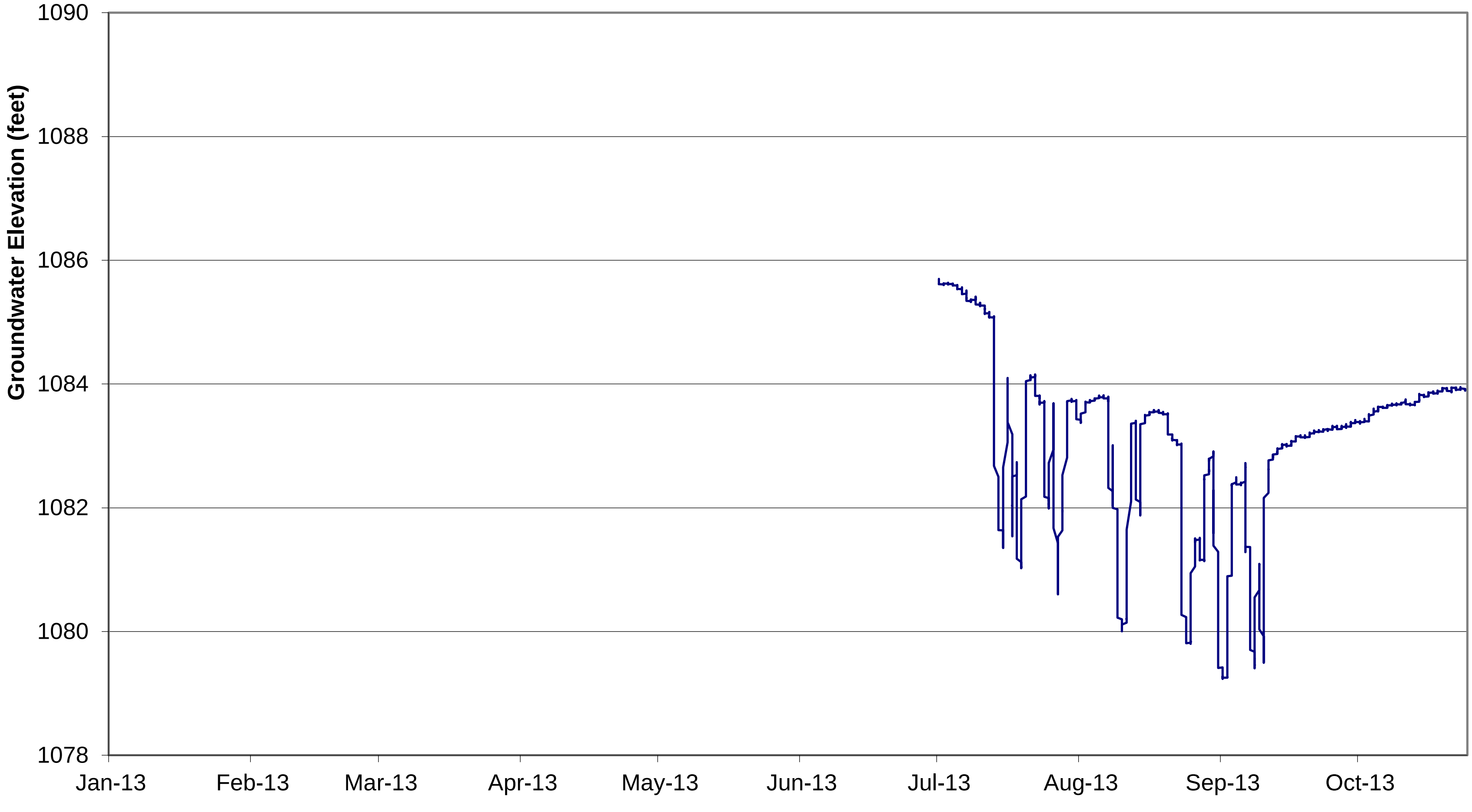
Figure 19 Monitoring Well Readings for MW 05-26 in Douglas County

(January 1, 2013 thru October 24, 2012)



Note: Data obtained from Metropolitan Utilities District, Omaha, Nebraska

Figure 20 Monitoring Well Readings for MW 06-18 in Saunders County
(July 1, 2013 thru October 24, 2013)

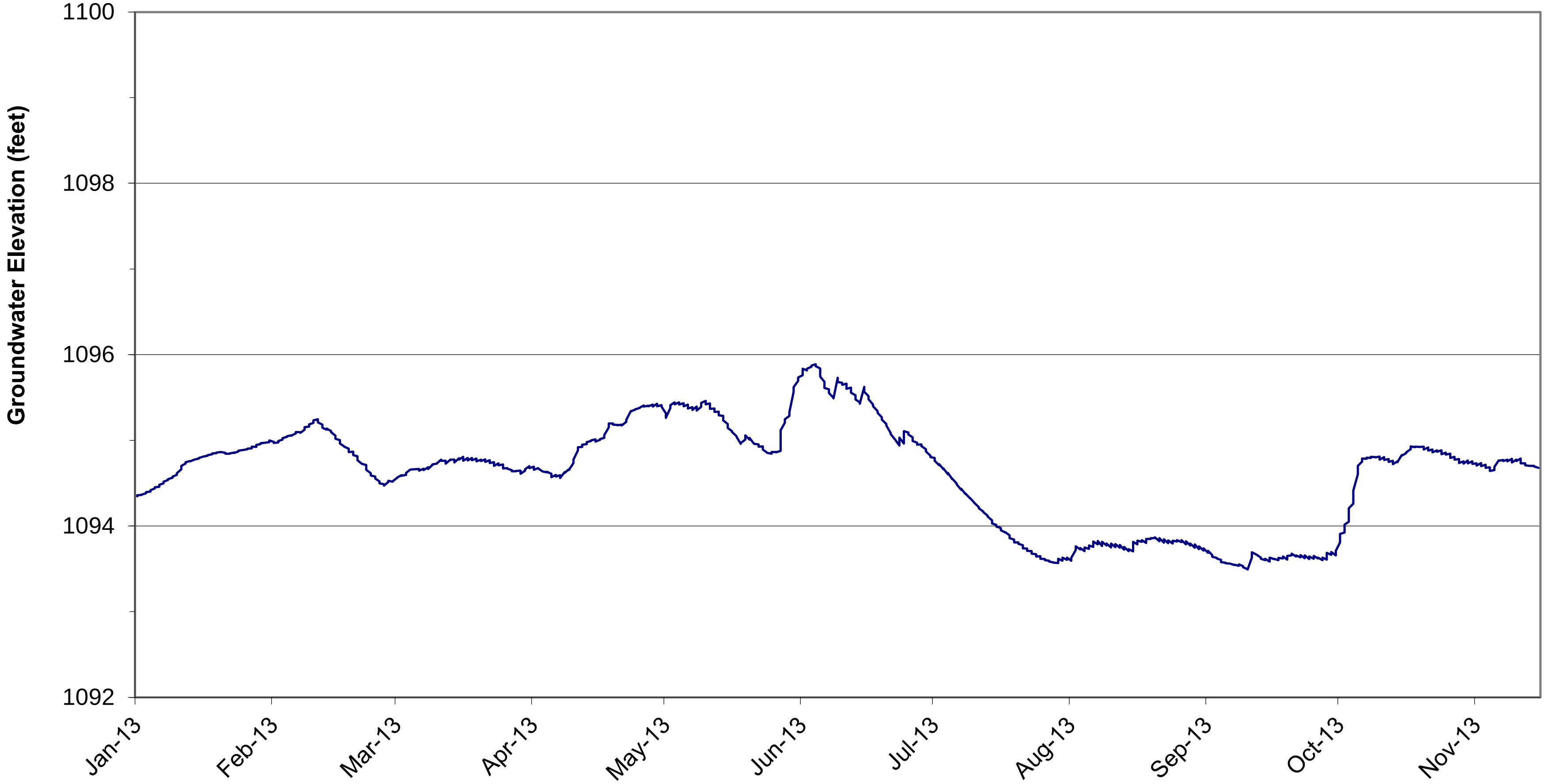


Note: Data obtained from Metropolitan Utilities District, Omaha, Nebraska

Figure 21 Monitoring Well Readings for MW 06-28 in Douglas County
(January 1, 2013 thru October 10, 2013)

Note: Data obtained from Metropolitan Utilities District, Omaha, Nebraska

Figure 22 Monitoring Well Readings for MW 06-29 in Douglas County
(January 1, 2013 thru November 24, 2013)



Note: Data obtained from Metropolitan Utilities District, Omaha, Nebraska

APPENDIX III - SECTION B

PRODUCTION WELL DATA

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Table 1 2013 Production Well Pumping Rates, Total Million Gallons Per Day (MGD) - Douglas County Wellfield

WELL # (PW)	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	YEARLY WELL DATA
94-2	108.37	97.72	105.73	45.77	0.00	90.93	99.90	101.23	85.86	65.78	19.96	821.25
91-3	0.00	0.00	0.00	0.00	0.00	0.00	15.43	1.89	9.58	0.00	0.00	26.90
04-4	0.00	0.00	0.00	0.00	1.53	0.00	0.00	0.00	0.17	0.00	0.00	1.70
04-5	0.00	0.00	0.00	0.00	1.28	0.00	0.00	0.00	0.13	0.00	0.00	1.41
04-6	32.27	8.65	88.32	74.89	0.00	39.49	83.45	49.80	52.72	22.87	71.58	524.04
04-7	0.00	0.00	0.00	0.00	0.00	6.44	0.00	0.00	0.11	0.00	0.00	6.55
04-8	0.00	0.00	0.00	0.00	25.09	27.17	47.24	32.37	5.36	0.00	0.00	137.23
04-9	0.00	0.00	0.00	0.00	0.00	0.00	11.86	3.02	10.42	1.22	0.00	26.52
04-10	68.63	89.92	98.07	24.85	48.92	53.05	69.66	42.33	20.65	0.00	0.00	516.08
04-11	0.00	0.00	53.86	11.12	25.70	32.63	93.11	95.69	95.55	97.23	25.08	529.97
04-12	0.00	0.00	0.00	0.00	0.00	0.00	56.28	92.99	78.69	98.04	22.87	348.87
04-13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
04-14	0.00	0.00	16.45	0.00	0.00	28.05	12.26	20.26	10.01	0.00	0.00	87.03
04-15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.07	8.07
04-16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04-17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Monthly Totals, MG	209.27	196.29	362.43	156.63	102.52	277.76	489.19	439.58	369.30	285.14	147.56	
Daily Averages, MGD	6.75	6.77	11.69	5.22	3.31	9.26	15.78	14.18	12.31	9.20	4.92	

Table 2 2013 Production Well Pumping Rates, Total Million Gallons Per Day (MGD) - Saunders County Wellfield

WELL # (PW)	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	YEARLY WELL DATA
91-30	5.31	0.00	0.00	9.32	30.77	60.60	33.19	40.81	39.50	4.52	3.17	227.19
94-31	0.00	23.77	55.55	8.14	53.03	10.70	48.76	36.92	34.12	6.59	16.80	294.38
94-32	97.85	0.00	41.97	54.77	0.00	0.00	29.03	15.56	7.91	2.23	0.00	249.32
94-33	101.25	91.56	60.01	25.02	0.00	45.18	38.99	33.14	53.12	44.69	73.80	566.76
94-34	98.82	88.22	2.79	0.00	0.00	2.72	57.39	76.25	70.49	22.07	0.00	418.75
94-35	0.00	0.00	65.92	0.00	40.09	35.53	88.80	28.02	13.09	71.26	24.66	367.37
94-36	122.39	70.04	78.88	0.00	45.20	24.44	75.82	51.30	39.03	52.02	5.90	565.02
94-37	24.76	65.76	79.26	15.62	0.00	39.62	68.25	52.97	55.85	24.46	28.64	455.19
04-38	0.00	7.18	103.19	1.14	4.79	87.00	96.09	37.18	29.75	76.55	2.13	445.00
04-39	92.66	33.67	0.00	6.65	27.70	37.08	27.71	48.20	49.73	67.56	45.87	436.83
04-40	0.00	29.79	56.20	31.91	9.50	2.15	33.62	80.46	54.19	0.00	16.43	314.25
04-41	0.00	0.00	0.00	0.00	0.00	0.00	13.00	10.45	2.62	0.00	60.34	86.41
04-42	0.00	0.00	10.84	0.00	0.00	0.00	66.15	31.35	80.95	73.02	15.86	278.17
04-43	0.03	0.00	0.00	27.75	46.92	64.74	62.15	78.01	7.33	4.61	0.00	291.54
04-44	31.06	70.23	44.82	9.64	3.76	28.22	18.73	21.84	26.63	27.03	66.89	348.85
04-45	3.75	0.00	14.03	30.35	19.51	39.85	81.55	70.79	54.86	5.94	2.16	322.79
04-46	0.00	0.57	28.93	0.00	32.96	83.54	60.21	56.88	66.27	15.72	18.32	363.40
04-47	0.00	8.09	1.71	0.00	57.49	1.01	28.15	27.57	31.44	10.91	24.88	191.25
04-48	9.18	0.00	31.64	0.62	29.33	22.84	6.49	4.41	15.14	23.17	2.04	144.86
04-49	0.00	0.00	84.20	99.34	24.80	16.98	51.70	70.28	27.87	43.61	6.89	425.67
04-50	0.00	0.00	53.02	0.00	13.17	5.15	11.09	16.62	8.51	13.75	36.39	157.70
04-51	0.00	0.00	0.00	32.34	18.49	0.58	37.33	30.47	37.03	60.62	26.71	243.57
04-52	46.75	35.00	1.63	12.38	25.27	25.61	63.34	63.21	43.58	16.73	1.79	335.29
04-53	0.00	0.00	87.42	47.65	23.03	0.00	0.00	0.00	0.00	0.00	0.00	158.10
04-54	0.00	0.00	0.00	7.59	43.07	6.55	47.19	35.62	13.18	0.00	26.65	179.85
04-55	0.00	0.00	0.00	45.85	0.00	8.11	34.14	13.29	6.86	14.99	21.70	144.94
Monthly Totals, MG	633.81	523.88	902.01	466.08	548.88	648.20	1178.87	1031.60	869.05	682.05	528.02	
Daily Averages, MGD	20.45	18.06	29.10	15.54	17.71	21.61	38.03	33.28	28.97	22.00	17.60	

APPENDIX III - SECTION C

OTHER HYDROLOGICAL DATA

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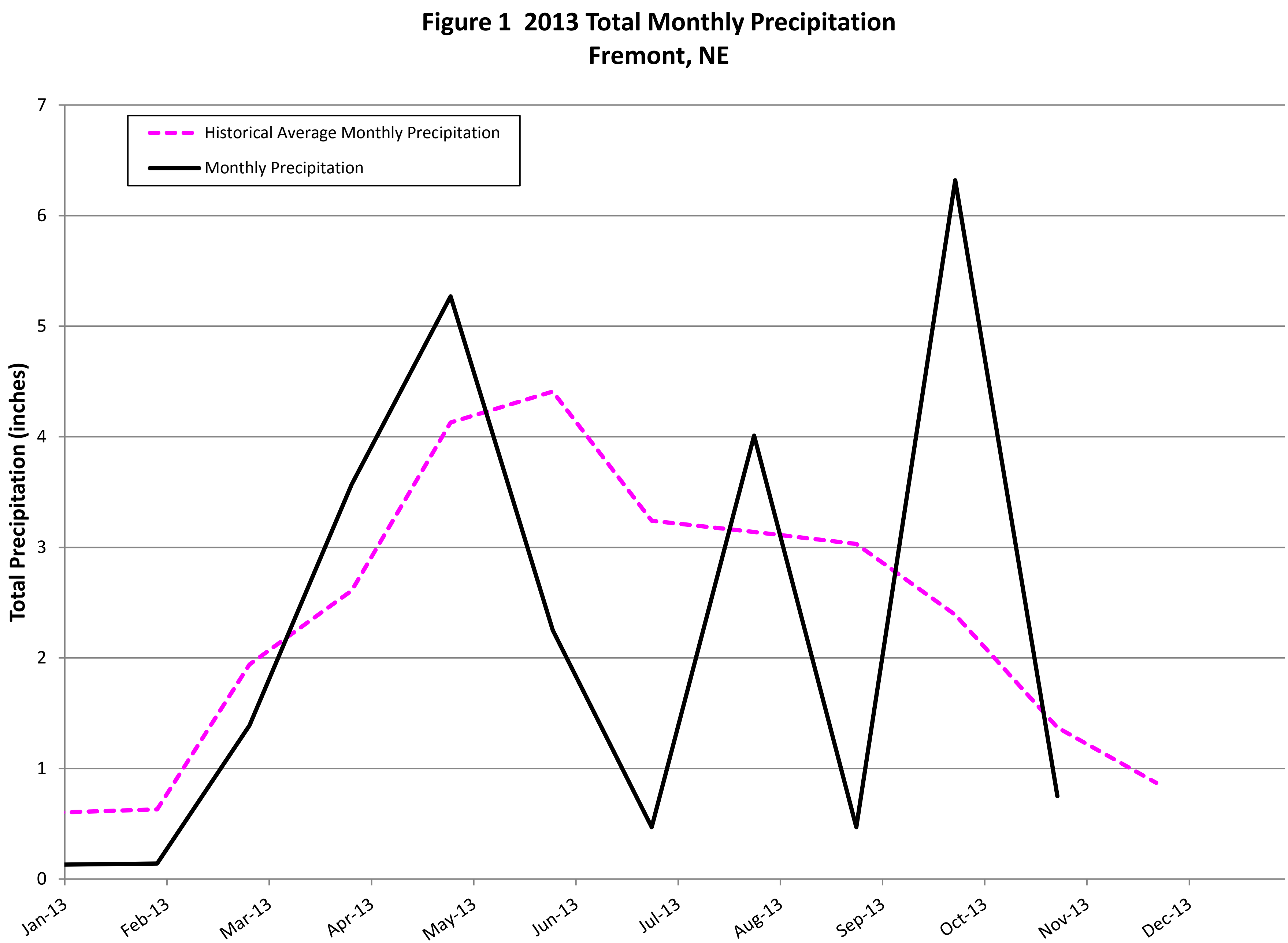


Figure 1 2013 Total Monthly Precipitation
Fremont, NE
Historical Average Monthly Precipitation
Monthly Precipitation
Total Precipitation (inches)
0
1
2
3
4
5
6
7
Jan-13
Feb-13
Mar-13
Apr-13
May-13
Jun-13
Jul-13
Aug-13
Sep-13
Oct-13
Nov-13
Dec-13

Figure 2 2013 Monthly Average Ambient Air Temperature
Fremont, NE

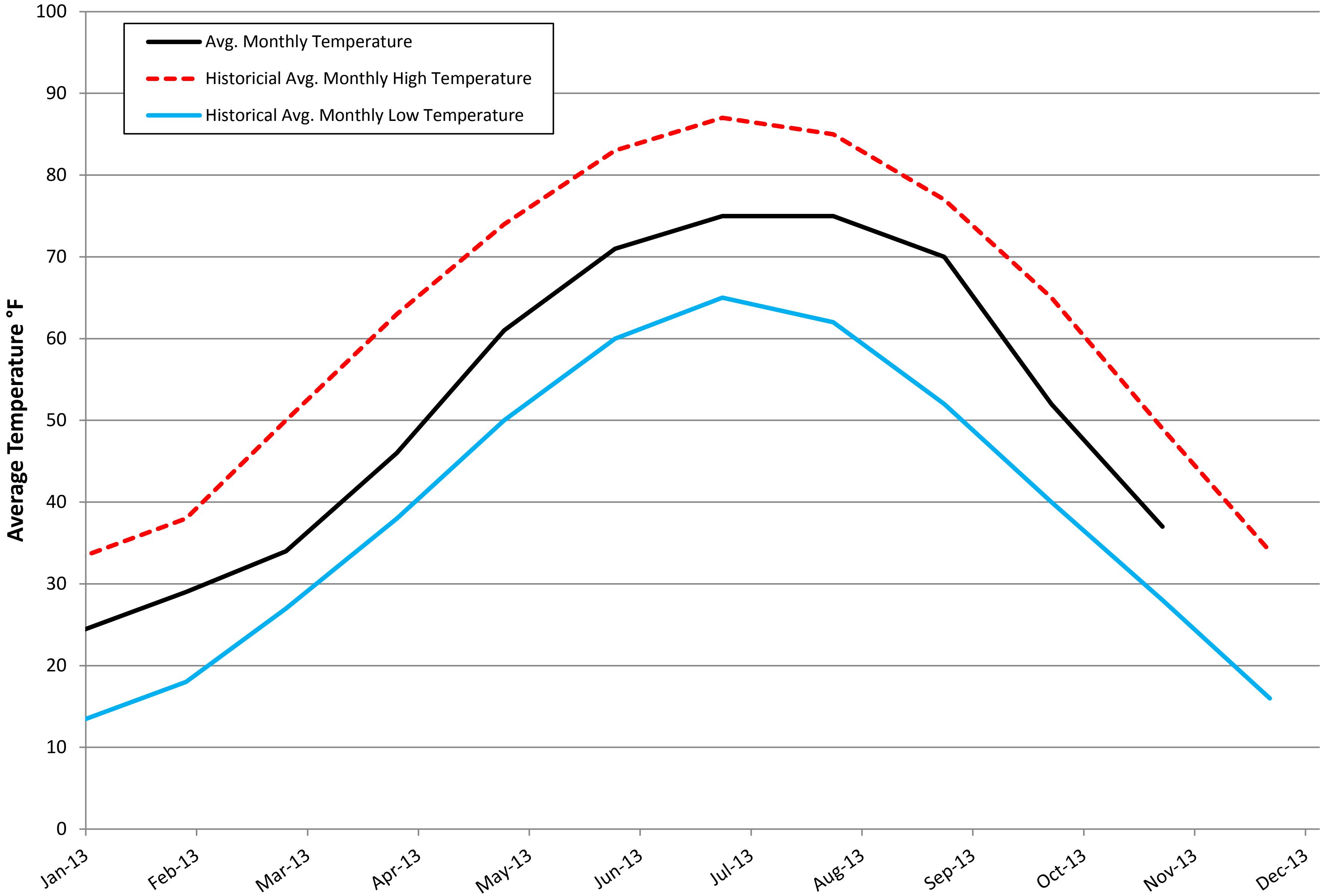
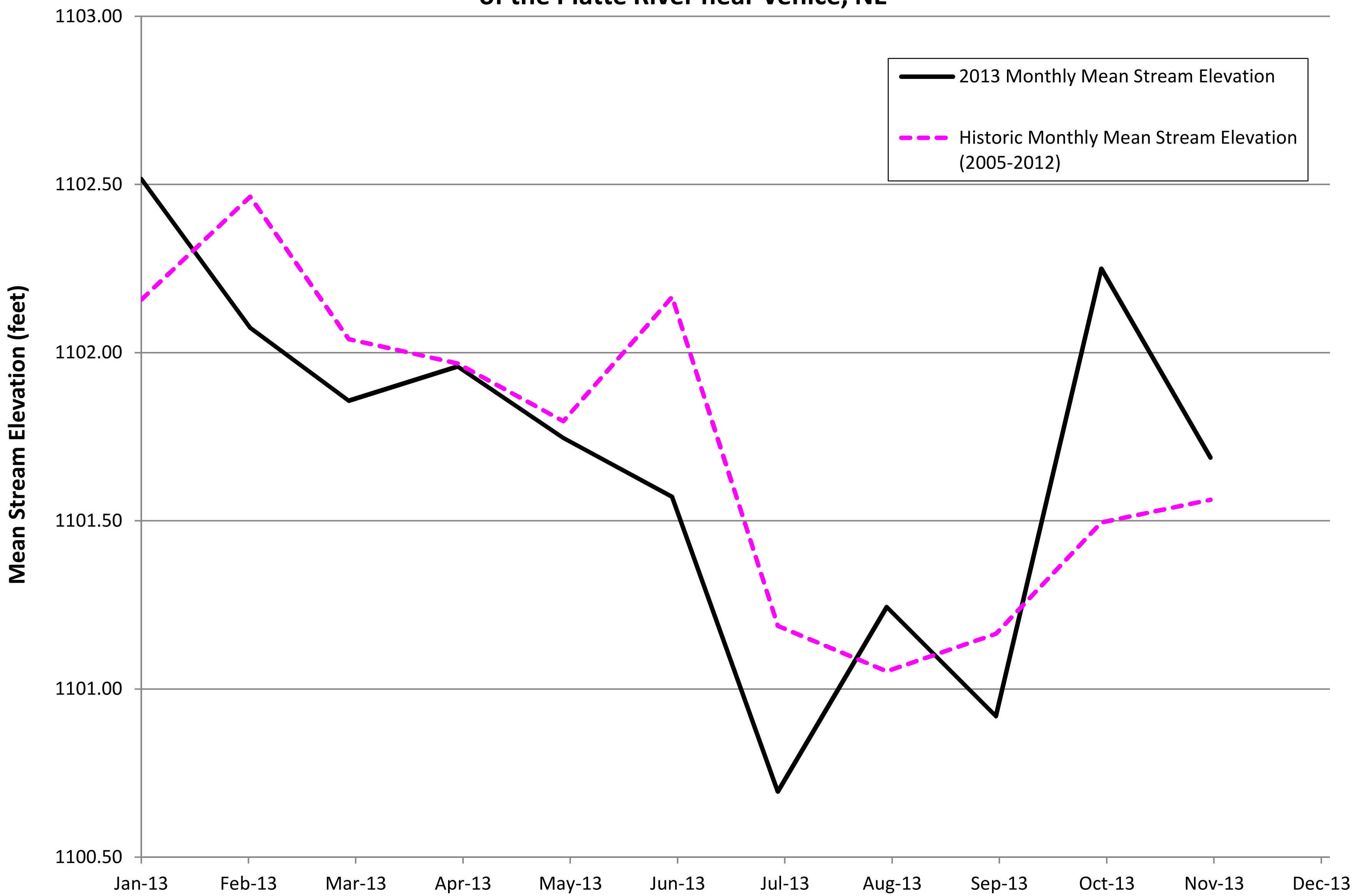
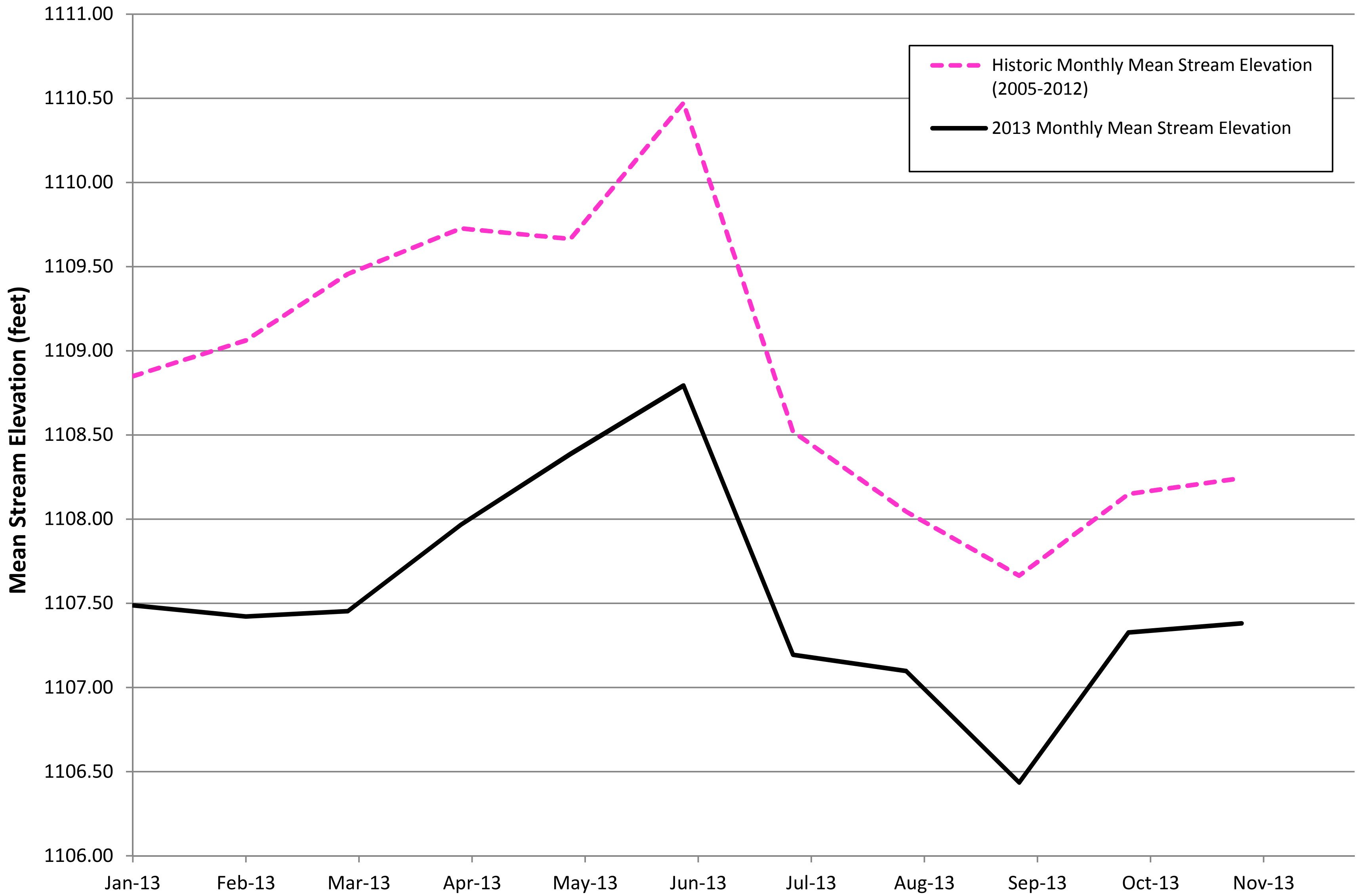


Figure 3 2013 Monthly Mean Stream Elevation of the Platte River near Venice, NE



Source: USGS. 2013b. National Water Information System: Platte River near Venice, Nebraska 06796550.

Figure 4 2013 Monthly Mean Stream Elevation of the Elkhorn River at Waterloo, NE



Source: USGS. 2013a. National Water Information System: Elkhorn River at Waterloo, Nebraska 06800500.

Burns & McDonnell World Headquarters
9400 Ward Parkway
Kansas City, MO 64114
Phone: 816-333-9400
Fax: 816-333-3690
www.burnsmcd.com