



# **PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM**

## **Annual Data Summary Report**

**Platte River Water Quality Monitoring  
2010 Monitoring Season**

**Final**

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***Submitted to:***

Platte River Recovery Implementation Program  
3710 Central Avenue, Suite E  
Kearney, NE 68847

***Submitted by:***

EA Engineering, Science, and Technology, Inc.  
221 Sun Valley Blvd, Suite D  
Lincoln, NE 68521



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## I. INTRODUCTION

The Platte River Recovery Implementation Program (Program) was initiated on January 1, 2007 between Nebraska, Wyoming, Colorado, and the Department of the Interior to address endangered species issues in the central and lower Platte River Basin. The species considered in the Program, referred to as “target species”, are the whooping crane (*Grus americana*), piping plover (*Charadrius melodus*), interior least tern (*Sterna antillarum*), and pallid sturgeon (*Scaphirhynchus albus*).

Monitoring of central Platte River water quality near Program lands will be relevant to the productivity and diversity of native fish and other aquatic species supportive of the interior least tern, piping plover, and whooping crane. Ultimately, the baseline data will be used to assess Priority Hypotheses as described in Table 2 of the Adaptive Management Plan (AMP) (PRRIP 2006).

EA Engineering, Science, and Technology, Inc. (EA) was contracted by the Program to develop a Water Quality Monitoring Protocol (Protocol) and implement the Protocol in 2009 and 2010. This report presents the results of the water quality monitoring for the 2010 monitoring season (mid-March through late November). Data collected included: stage/discharge, water quality parameters (temperature, turbidity, dissolved oxygen, pH, and specific conductance), and representative water quality samples for metals (dissolved copper, dissolved lead, dissolved nickel, total selenium, total calcium, and total magnesium) and the bacterium *Escherichia coli* (*E. coli*).

### I.A. Purpose

The purpose of the Platte River water quality monitoring is to characterize the water quality in the central and lower Platte River during the thirteen-year First Increment (2007-2019), which will form the basis for assessing the influence of the Program and Program-covered activities on Platte River water quality.

The Protocol defined the data collection procedures to obtain scientifically credible data. The Protocol was developed for the collection of data to:

- Determine current baseline water quality conditions in the central and lower Platte River.
- Determine temporal variations in water quality.
- Determine variations in water quality in response to changes in discharge.
- Determine variations in water quality spatially along the central and lower Platte River.

Implementation of the Protocol included:

- Collection and evaluation of data.
- Summarization of results.



- Evaluation of variations due to temporal, discharge, and spatial differences.
- Development of recommendations for subsequent water quality monitoring and/or research.

### I.B. Program Activities

Program activities for 2010 include sediment augmentation at Cottonwood Ranch located between the Overton to Elm Creek, NE bridge segment and disking of islands between the Elm Creek to Odessa, NE bridge segment. Program activities took place between October 18, 2010 and October 29, 2010.

## II. METHODS AND PROCEDURES

Platte River water quality monitoring was designed to document water quality and detect water quality trends in the central and lower Platte River. The area of interest included the central Platte River (Lexington to Chapman, Nebraska) and the lower Platte River (Chapman to confluence with the Missouri River). Water quality was measured using *in-situ* continuous water quality sondes (sondes), discharge measurements from established gaging stations, and discrete water sample collection at monitoring locations.

### II.A. Monitoring Locations

Monitoring locations on the Platte River were selected to determine the range and variation of water quality parameters within the central and lower Platte River. The specific focus was on the central Platte River as the habitat-improvement activities of the Program are related to this river reach. The monitoring locations were selected because there are existing stream gaging stations maintained by the U.S. Geological Survey (USGS) and Nebraska Department of Natural Resources (NDNR). The monitoring locations are listed in Table 1 and illustrated on Figure 1. Sondes were co-located with the existing stream gaging stations.

**Table 1. Spatial Monitoring Matrix**

Monitoring Location No.	Platte River Locations	Discharge	Water Quality	Analytical
1	Lexington	NDNR	EA	EA
2	Overton	USGS	EA	EA
3	Odessa	NDNR	EA	EA
4	Kearney	USGS	EA	EA
5	Shelton	NDNR	EA	EA
6	Grand Island	USGS	EA	EA
7	Duncan	USGS	EA	EA
8	Louisville	USGS	EA	EA

Notes:

NDNR – Nebraska Department of Natural Resources  
USGS – United States Geological Survey  
EA – EA Engineering, Science, and Technology, Inc.



## II.B. Parameters of Interest

Water quality data collected was categorized into four groups:

- **Discharge** – Discharge is the measurement of stream flow and is expressed as the amount of water that passes a fixed point over time and is typically represented as cubic feet per second (cfs). River stage and/or gage height was collected (ft).
- **Continuous Water Quality Monitoring** – Continuous water quality data collected included: temperature, turbidity (optical sensor), dissolved oxygen by optical dissolved oxygen (ODO) and Luminescent Dissolved Oxygen (LDO) technology, pH, and specific conductance.
- **Discrete Water Quality Monitoring** – Representative, discrete water samples were collected and analyzed by TestAmerica of Cedar Falls, IA (a National Environmental Laboratory Accreditation Program (NELAP)-certified laboratory). Analyses included: dissolved copper, dissolved lead, dissolved nickel, total selenium, total calcium, and total magnesium.
- ***E. coli* Monitoring** - Representative, discrete water samples will be collected and analyzed for *E. coli*. Monitoring for *E. coli* will be performed to assess the potential for increased pathogens in the central Platte River resulting from concentrated populations of waterfowl using the central Platte River due to Program activities. Sampling events were performed during a period of peak waterfowl use (February through March) and the period of minimal waterfowl use (July through September).

### II.B.1. Frequency and Duration

The index period for the collection of continuous water quality monitoring data was from March 23, 2010 through November 24, 2010. The frequency and duration of data collection is listed below:

- **Discharge**
  - Existing gaging stations on the Platte River are operated continuously by the USGS and NDNR. River stage was measured continuously at these stations and discharge was estimated using rating curves. A data point was collected every 15 minutes at USGS gaging stations; Louisville, Duncan, Grand Island, Kearney, and Overton. NDNR gaging stations; Shelton, Odessa, and Lexington collected a data point every 30 minutes.
- **Continuous Water Quality Monitoring**
  - EA installed a sonde at Louisville, Duncan, Grand Island, Shelton, Kearney, Odessa, Overton, and Lexington and provided operation and maintenance from



March 23, 2010 through November 24, 2010. A data point was collected every 30 minutes.

- After installation, operation and maintenance of the sondes (including the downloading of data) was conducted approximately every one to two weeks from March through November (Table 2).

**Table 2. Date and Location of Operation and Maintenance Events**

Date	Sites	Date	Sites
March 23, 2010	Duncan, Grand Island, Shelton, Kearney, Odessa	July 20, 2010	Kearney, Odessa, Overton, Lexington
March 24, 2010	Overton, Lexington	July 27, 2010	Louisville, Duncan, Grand Island, Shelton
April 6, 2010	Duncan, Grand Island, Shelton	July 28, 2010	Kearney, Odessa, Overton, Lexington
April 7, 2010	Kearney, Odessa, Overton, Lexington	August 4, 2010	Louisville, Duncan, Grand Island, Shelton
April 20, 2010	Louisville, Duncan, Grand Island, Shelton	August 5, 2010	Shelton, Kearney, Odessa, Overton, Lexington
April 21, 2010	Kearney, Odessa, Overton, Lexington	August 11, 2010	Louisville, Duncan, Grand Island, Shelton
May 4, 2010	Louisville, Duncan, Grand Island, Shelton	August 12, 2010	Kearney, Odessa, Overton, Lexington
May 5, 2010	Kearney, Odessa, Overton, Lexington	August 13, 2010	Overton
May 12, 2010	Louisville, Duncan, Grand Island, Shelton	August 17, 2010	Louisville, Duncan, Grand Island, Shelton
May 13, 2010	Kearney, Odessa, Overton, Lexington	August 18, 2010	Kearney, Odessa, Overton, Lexington
May 19, 2010	Louisville, Duncan, Grand Island, Shelton	August 24, 2010	Louisville, Duncan, Grand Island, Shelton
May 20, 2010	Kearney, Odessa, Overton, Lexington	August 25, 2010	Kearney, Odessa, Overton, Lexington
May 27, 2010	Louisville, Duncan, Grand Island, Shelton	September 1, 2010	Louisville, Duncan, Grand Island, Shelton, Kearney
May 28, 2010	Kearney, Odessa, Overton, Lexington	September 2, 2010	Odessa, Overton, Lexington
June 1, 2010	Louisville, Duncan, Grand Island, Shelton, Kearney	September 8, 2010	Louisville, Duncan
June 2, 2010	Odessa, Overton, Lexington	September 9, 2010	Grand Island, Shelton, Kearney, Odessa
June 16, 2010	Louisville, Duncan, Grand Island, Shelton	September 10, 2010	Overton, Lexington
June 17, 2010	Kearney, Odessa, Overton, Lexington	September 16, 2010	Louisville, Duncan, Grand Island, Shelton, Kearney



Date	Sites	Date	Sites
June 22, 2010	Louisville, Duncan, Grand Island, Shelton, Kearney	September 17, 2010	Odessa, Overton, Lexington
June 23, 2010	Odessa, Overton, Lexington	September 29, 2010	Louisville, Duncan, Grand Island, Odessa
June 29, 2010	Louisville, Duncan, Grand Island, Shelton	September 30, 2010	Shelton, Kearney, Overton, Lexington
June 30, 2010	Kearney, Odessa, Overton, Lexington	October 11, 2010	Louisville, Duncan, Grand Island, Shelton
July 1, 2010	Louisville	October 12, 2010	Kearney, Odessa, Overton, Lexington
July 7, 2010	Duncan, Grand Island, Shelton	October 25, 2010	Louisville, Duncan, Grand Island, Shelton
July 8, 2010	Kearney, Odessa, Overton, Lexington	October 26, 2010	Kearney, Odessa, Overton, Lexington
July 12, 2010	Duncan, Grand Island, Shelton, Kearney	November 9, 2010	Louisville, Duncan, Grand Island, Shelton
July 13, 2010	Odessa, Overton, Lexington	November 10, 2010	Kearney, Odessa, Overton, Lexington
July 14, 2010	Louisville	November 23, 2010	Louisville, Duncan, Grand Island, Shelton
July 19, 2010	Louisville, Duncan, Grand Island, Shelton	November 24, 2010	Kearney, Odessa, Overton, Lexington

- **Discrete Water Quality Monitoring (Metals)**
  - The index period for the collection of discrete water quality data was from April through October.
  - Representative water samples for analytical analysis of metals were collected at the eight monitoring locations listed in Table 3 in April, June, August, and October during maintenance of sondes.

**Table 3. Date and Location of Discrete Water Quality Sampling Events**

Date	Sites	Date	Sites
April 20, 2010	Louisville, Duncan, Grand Island, Shelton	August 11, 2010	Louisville, Duncan, Grand Island, Shelton
April 21, 2010	Lexington, Overton, Odessa, Kearney	August 12, 2010	Lexington, Overton, Odessa, Kearney
June 16, 2010	Louisville, Duncan, Grand Island, Shelton	October 11, 2010	Louisville, Duncan, Grand Island, Shelton
June 17, 2010	Lexington, Overton, Odessa, Kearney	October 12, 2010	Lexington, Overton, Odessa, Kearney





- **Discrete Water Quality Monitoring (*E. coli*)**
  - The index period for the collection of discrete water quality data was from March through September.
  - Samples were collected from the Platte River during periods of concentrated waterfowl populations in February through March (peak period) and during periods with minimal waterfowl populations in July through September (non-peak period).
  - Representative water samples for *E. coli* were collected at Lexington, Kearney, and Grand Island on the dates listed in Table 4. One additional sampling event was conducted in the peak period due to the duration of the waterfowl migration.
  - A 20:1 dilution of the sterilized water with the sample was conducted at the laboratory to obtain counts of coliform and *E. coli* colonies in 100 mL of water with the exception of the samples collected at Grand Island on March 24, 2010.

**Table 4. Date and Location of *E. coli* Sampling Events**

Peak Period, Date	Non-Peak Period, Date
March 17, 2010	July 20, 2010
March 24, 2010	August 17, 2010
March 30, 2010	September 8, 2010

**II.C. Discharge and River Stage**

Platte River discharge and stage measurements were obtained from existing gaging stations maintained by the USGS and NDNR (Table 1). River stage was measured continuously at these gaging stations and discharge was estimated using rating curves. The rating curves are maintained by the owning agency (USGS or NDNR). Periodic measurements of depth and flow rate by the respective agencies are used to adjust the rating curves, as needed.

**II.D. Continuous Water Quality Monitoring**

A sonde was co-located at gaging stations as described in Table 1. The data and units of measure collected are listed in Table 5.



**Table 5. Continuous Water Quality Parameters**

Water Quality Parameter	Unit	Range	Resolution	Accuracy
Temperature	Degrees Celsius	-5 to +50°C	0.01 °C	± 0.10 °C
Turbidity	Nephelometric Turbidity Units	0 to 1,000 NTU	0.1 NTU from 0-400 NTU 1 NTU for >400 NTU	± 5% or 1 NTU
Luminescent Dissolved Oxygen	mg/L	0 to 60 mg/L	± 0.1 mg/L @ ≤ 8 mg/L ± 0.2 mg/L @ > 8 mg/L ± 10% mg/L @ > 20 mg/L	± 0.3 mg/L
pH	Standard Units	0 to 14 units	0.01 units	± 0.2 units
Specific Conductance	mS/cm	0 to 400 mS/cm	0.001 mS/cm	± 0.5% of reading + 0.001 mS/cm

### II.D.1. Continuous Water Quality Sonde Installation

Prior to installation, each sonde was calibrated following the manufacturer's specification using calibration standards and documented on the field data sheets (Appendix E). The sondes were installed by suspending the sondes on the downstream side of the bridge at the selected monitoring location. The datalogger, battery source, and sonde were housed in a section of PVC pipe and tethered to the bridge railing via heavy duty chain. The sonde was locked to the end of the chain and inserted into the PVC pipe. The cap for the PVC pipe had a hole big enough for the chain to pass through. The PVC pipe was attached to the chain by drilling a hole near the top of the PVC and inserting a bolt through the PVC pipe, passing through the chain. The submerged section of the PVC pipe containing the sonde was slotted and/or perforated with circular holes and the bottom was open to prevent sediment accumulation. A second bolt was placed at the very bottom of the PVC to prevent the sonde from falling out the bottom. A float was attached to the bottom of the PVC pipe to keep the sonde suspended just below the water surface (~6-inches) and minimize the burial of the sonde in sediment during decreasing flows and channel meandering. The sonde was





retrievable for maintenance and data transfer by pulling up the chain to the bridge deck. Ribbon or flagging was placed every five feet on the chain to enhance visibility. The heavy duty chain was attached to the railing by wrapping the chain around the railing and locking the chain to itself at seven of the monitoring locations Louisville, Duncan, Grand Island, Shelton, Odessa, Overton, and Lexington. At Kearney the chain was secured to a steel plate that was attached to unused light pole bolts on the bridge railing.

The sonde at Kearney could not be tethered to the bridge railing for the entire monitoring season due to meandering sandbars, so a secondary method was used for deployment. The sonde was deployed by installing two 4 foot screw anchors into the bed of the river and attaching the PVC pipe described above to each anchor. Stainless steel cable was used to attach and lock the PVC pipe and sonde to the screw anchors. A third screw anchor was installed on the bank or in the river bed and attached to the sonde for added security. The sonde was retrievable for maintenance and data transfer by wading in the river.

### **II.D.2. Continuous Water Quality Sonde Operation and Maintenance**

Each sonde was visited for maintenance, data transfer, and calibration approximately every one to two weeks depending on environmental conditions. During these visits, hand-held water quality meter measurements, sonde calibration records, and data transfer notes were recorded on the field data sheets.

Directions from the manufacturer for sonde calibration, maintenance, and data transfer were followed. Data was downloaded from the sonde to a field laptop on site before the data collected exceeded the memory capacity or battery life of the sonde. Files were named by Platte River Location as listed in Table 1, followed by numerical year, month, and day of data transfer (e.g., Odessa20100528). To ensure file integrity and provide backup, all files were saved to the laptop hard drive and a portable USB jump drive while in the field. Following the transfer process, files were opened and reviewed to ensure successful transfer of all data before resetting the sonde. While on site, data was reviewed for missing data, outlier data, and logging errors so corrections could be made immediately, if needed. A field data sheet was filled out for each monitoring location visit to document activities related to sonde maintenance, calibration, setup, and data transfer.





The process for maintenance, data transfer, and calibration of the sondes are listed below:

- **Measurement Using Hand-Held Meter** – Prior to retrieval of data from the sondes, the field crew collected and recorded duplicate water quality parameters using hand-held water quality meters. Also, a meter was used to collect and record the barometric pressure for calibration purposes.
- **Continuous Water Quality Sonde QA/QC** – Duplicate and known (spiked) parameter readings were taken for QC purposes. Duplicate water quality readings were collected by submerging hand-held meter probes in a five gallon bucket next to the sonde probes that were set to display real time readings and these values were recorded. Measurements of known (spiked) calibration standards were taken with the sonde during each maintenance visit to assess drift and/or accuracy of the sonde during the monitoring season. These QC measurements were recorded on the field data sheets.
- **Download Data From Continuous Sonde** – The field crew downloaded the data from the sonde to a laptop computer and a portable USB jump drive.
- **Review Continuous Water Quality Data** – After data transfer, data files were opened and reviewed for general data quality (i.e., proper logging interval, abnormal or missing data, data outliers, and missing parameters). If data recording issues were present, the deficiency was documented, the sonde adjusted/fixed, and the corrective action documented.
- **Re-deploy the Sonde** – As a final step, the field crew cleaned and calibrated the sonde following the manufacturer’s





specification using calibration standards and the calibration documented. The documentation included the drift of actual reading from the calibrated reading. Once calibrated, the datalogger was turned on and the sonde was re-deployed in the river.

### **II.D.3. Hand-Held Water Quality Instrument Operation**

As part of Quality Assurance (QA) and Quality Control (QC), a second set of hand-held water quality instruments (capable of reading temperature, dissolved oxygen, pH, specific conductance, and turbidity) were calibrated and maintained to enable the collection of duplicate water quality parameters at the time of site visits. Manufacturer directions for operation, calibration, and maintenance was followed and documented on the field data sheets. These instruments were calibrated at the beginning of each field day prior to monitoring.

The hand-held meter that was used for calibrating specific conductance was designated for checking the accuracy of the water temperature probe. The hand-held meter was checked for accuracy to a mercury-in-glass calibration thermometer that is traceable to the National Institute of Standards and Technology (NIST) certification of its accuracy (Service ID Number 31010C; NIST 1988). A hand-held meter was also used to collect barometric pressure.

### **II.E. Discrete Water Quality Monitoring**

#### **II.E.1. Discrete Water Sample Collection (Metals)**

One composite water sample was collected at each monitoring location for laboratory analysis of dissolved copper, dissolved lead, dissolved nickel, total calcium, total magnesium, and total selenium. The following procedures were used to collect representative samples during the discrete sampling events:

- Five grab samples that represented the bulk of the river flow were collected and composited at each monitoring location. The collection points were distributed evenly among multiple river channels or, when one channel existed, samples were taken near each bank and at three equidistant points between the banks. When more than five channels existed, the samples were collected from the five channels with the highest flows.
- Before a sample was collected at each site, site water was used to rinse out the sample container or Van Dorn bottle and compositing container at least three times.
- The samples were collected on the upstream side of the bridge.
- A sub-sample was collected at the first station at 1/3 of the water depth using a container. When water depth and/or the velocity was not safe for wading, the field crew lowered a Van Dorn water bottle from the bridge deck to obtain sub-samples. Subsequently, if low flow conditions existed, the samples were collected by carefully submerging a sampling container to avoid re-suspending sediments from the river bed. The sub-sample was



poured into the compositing container. Four additional samples were taken at equally spaced representative stations and composited in the composite container.

- Once all predetermined stations were sampled and composited, the composite container was shaken/swirled to mix the composited sample. Two sample containers were required for each sample. The total metals sample was collected by pouring directly from the composite container into a pre-acidified/pre-labeled sample container. The dissolved metals sample container was filled from the composite container via a peristaltic pump using a new in-line 0.45- $\mu$ m membrane filter capsule and tubing. Filtrate was discharged directly into the pre-acidified/pre-labeled sample container.
- The sample containers were placed in individual zip-seal bags and stored in a cooler with ice for shipment to the lab.

### II.E.2. Discrete Water Sample Collection (*E. Coli*)

*E. coli* samples were collected near the south bank or from the southern-most channel of the river to provide sampling consistency. The southern-most channel is the channel that has flowing water and is at least 6 inches deep. A single grab sample of water was collected in a sterilized container (obtained from the laboratory) for *E. coli* analysis at each of the identified monitoring location. The following procedures were used to collect representative samples for *E. coli* monitoring:

- The sample was collected by wading into the river with the sampler facing upstream. The sampler remained stationary to permit disturbed substrates to be washed away to provide “fresh” water to collect the sample. The sample was collected in a sterilized container using the following procedure:
  - Hold the sterilized container close to the water surface and remove the lid.
  - Partially submerge the sterilized sample container in the water column.
  - Remove the sample container from the water once it is filled and immediately replace the lid.
- Once the sample was processed, the Chain-of-Custody form was prepared as described in the Water Quality Protocol.
- Samples were hand-delivered to Ward Laboratories, Inc. at 4007 Cherry Ave., Kearney, NE for analysis within 6 hours of collection.

### II.E.3. Analytical Method

The analytical method, required containers, volume, preservative, and holding times are listed in Table 6.



**Table 6. Discrete Sampling Handling and Analytical Methods**

Analyte	Field Preparation	Method	Container	Holding Time	Method Detection Limit	Reporting Limit	Preservation
<b>Dissolved Metals</b>							
Copper	0.45 µm filtered water	*SW 7211	1000- mL Plastic w/Teflon lined cap	6 months	0.0015 mg/L	0.005 mg/L	Cool, 4°C HNO <sub>3</sub> to pH <2
Lead	0.45 µm filtered water	*SW 7421	1000- mL Plastic w/Teflon lined cap	6 months	0.001 mg/L	0.004 mg/L	Cool, 4°C HNO <sub>3</sub> to pH <2
Nickel	0.45 µm filtered water	*SW 7521	1000- mL Plastic w/Teflon lined cap	6 months	0.00435 mg/L	0.01 mg/L	Cool, 4°C HNO <sub>3</sub> to pH <2
<b>Total Metals</b>							
Selenium	Un-filtered Water	*SW 7740	1000- mL Plastic w/Teflon lined cap	6 months	0.00169 mg/L	0.005 mg/L	Cool, 4°C HNO <sub>3</sub> to pH <2
Calcium	Un-filtered Water	*SW 6010B	1000- mL Plastic w/Teflon lined cap	6 months	0.0195 mg/L	1.0 mg/L	Cool, 4°C HNO <sub>3</sub> to pH <2
Magnesium	Un-filtered Water	*SW 6010B	1000- mL Plastic w/Teflon lined cap	6 months	0.0104 mg/L	1.0 mg/L	Cool, 4°C HNO <sub>3</sub> to pH <2
<b>Bacteria</b>							
<i>E. coli</i>	None	**SM 9223C	100 ml Sterilized Bottle	6 hours	1 colony per 100 ml	1 - 2,419 colonies per 100 ml	Cool, 4°C

\* SW – Solid Waste

\*\*SM – Standard Methods

*E. coli* samples were analyzed utilizing IDEXX Quanti-Tray following Standard Methods 9223B: Chromogenic Substrate Coliform Test (APHA, 1995). *E. coli* counts were determined using Standard Methods 9221C: Estimation of Bacterial Density (APHA 1995).

**II.E.4. Sample Labels**

Every sample collected and submitted for analysis had a sample label uniquely identifying the sample and listing the parameters to be analyzed. Each label included the following information:

- Project Name – “PRRIP WQ Monitoring”



- Location Identification – e.g., Lex201004
  - Samples from the different monitoring locations were identified as follows:
    - Lexington – Lex
    - Overton – Ovr
    - Odessa – Ods
    - Kearney – Ker
    - Shelton – Shl
    - Grand Island – Gri
    - Duncan – Dun
    - Louisville – Lsv
  - Followed by the year and numerical abbreviation for the month sampled.  
e.g., 201004 – April 2010, 201005 – May 2010, etc.
- Date of sample collection
- Time of sample collection (military format)
- Analyses to be performed
- Preservative
- Samplers' initials

#### **II.E.5. QC Sample Collection and Documentation**

##### **Metals**

One duplicate water sample was collected at one randomly selected site during each discrete water quality sampling event. A sufficient volume of water was composited to fill a sample container for the environmental sample and concurrently for the duplicate sample. Duplicate samples were labeled as “Dup” followed by year and month sampled (e.g., Dup201004). An arbitrary sample time was placed on the container label and chain-of-custody. The actual location and sample time was recorded in the field book at the time of sampling.

One field blank was collected during each discrete water quality sampling event. Field blanks were labeled as “FB” followed by year and month sampled (e.g., FB201004). Field blanks were collected using the following procedures:

- The sampling container or Van Dorn bottle was rinsed three times with de-ionized water then rinsed one time with lab-grade water.
- The compositing container was rinsed three times with de-ionized water then rinsed one time with lab-grade water.
- Approximately 1.5 liters of lab-grade water was poured into the sampling container or Van Dorn bottle and then transferred to the composite container. The pre-acidified/pre-labeled total metals sample containers were then filled. For dissolved metals, the field





crew drew the lab-grade water from the compositing container through a new filter and tubing into the pre-acidified/pre-labeled sample container.

- The containers were sealed in zip-seal bags and stored in a cooler with ice.
- Field blank samples were processed in the same manner as the environmental samples.

### **E. Coli**

One field blank was collected for each sampling event for Quality Control using sterile water furnished by the lab to fill the sample container. The sampler filled the field blank container near a point on the river bank where the environmental sample was collected. The sample crew opened both containers simultaneously (sterile water and sample container), filled the sample container with sterile water and immediately replaced the lid. Field blank samples were labeled as “FB” followed by year and month sampled (e.g., FB201004) and handled the same as the environmental samples until delivered to the lab.

### **II.E.6. Chain-of-Custody**

Every suite of samples collected was tracked and documented via a chain-of-custody record. A chain-of-custody was completed as samples were collected and was submitted with the samples. Each chain-of-custody record included the following:

- Project name – “PRRIP WQ Monitoring”
- Sample identification code – e.g. Lex201004
- Sample date for all samples
- Sample times for all samples (military format)
- Sample type (e.g. composite or grab)
- Required analysis for containers
- Sampler signature for sample collection
- Signature, date, and time relinquished

### **II.E.7. Field Book**

The following information was documented in the field book or on the field data sheets:

- Date of sampling
- Field crew member names
- Location and sampling beginning and ending time
- Samples collected/work performed in field
- The rationale for choosing each composite location during discrete water sampling
- Duplicates or blanks collected with the location and sampling time
- Weather and site conditions
- Any irregularities encountered and lessons learned during the field effort



### **II.E.8. Sample Control and Handling**

Sample control and custody is critical to maintain sample integrity for analysis and to track sample from time of collection to time of analysis. The following procedures were followed to maintain sample integrity:

- The sample containers were appropriately labeled and filled with a representative composite or grab water samples.
- The containers were placed in a zip-seal bag in an upright position in a cooler containing ice. The field crew kept the cooler out of direct sunlight and secured in the vehicle to prevent loss of samples/cooler.
- After all samples were collected, the sample containers were cross-checked with the chain-of-custody to ensure required sample information matches.
- Aged ice and water was removed from the cooler and replaced with double-bagged fresh ice along with sample containers and a container labeled temperature blank.
- A completed chain-of-custody was placed in a zip-seal bag and taped to the inside of the cooler lid.
- The field crew placed signed and dated custody seals over the cooler opening prior to sealing with tape.

Once the cooler was sealed with tape, it was delivered to an overnight shipping company for delivery to the laboratory.

## **III. DATA SUMMARY**

The monitoring season for the 2010 water quality monitoring program was initiated March 23, 2010 and completed on November 24, 2010. Water quality was monitored at eight locations (Figure 1) and sondes were co-located near existing USGS or NDNR stage/discharge monitoring locations (gages).

### **III.A. Data Collected from USGS**

The USGS maintains the National Water Information System (NWIS) website that provides access to water data for locations throughout the United States. Data available has been acquired by USGS and can be downloaded as tables or graphs. EA accessed the website on a monthly basis from March through November to download stage/discharge data from gaging stations located on the Platte River for Louisville, Duncan, Grand Island, Kearney, and Overton. Data that was obtained from USGS is considered provisional data and is subject to revision.



### III.B. Data Collected from NDNR

NDNR collects and reports flow data for streams, canal and pump diversions, and storage in reservoirs at locations throughout Nebraska. The data is gathered through Field Offices and the program is coordinated through NDNR's Planning and Assistance Division. EA utilized information from gaging stations located on the Platte River near Shelton, Odessa, and Lexington. Data was collected in 30 minute increments and was provided to EA as a daily mean for gage height and discharge. Data was not collected at Shelton from September 10, 2010 through October 19, 2010 and Lexington from April 16, 2010 through April 23, 2010 and October 28, 2010 through November 4, 2010 due to malfunctioning equipment. Data that was obtained from NDNR is considered provisional data and is subject to revision.

### III.C. Data Collected by EA

EA installed Hydrolab MS5 sondes and initiated data collection on March 23-24, 2010 at Duncan, Grand Island, Shelton, Kearney, Odessa, Overton, and Lexington. EA installed a Eureka Manta 2 sonde at Louisville and initiated data collection on April 5, 2010. Temperature, pH, dissolved oxygen, specific conductance, and turbidity data was collected at 30-minute intervals.

Composite water samples were collected at the eight locations (Figure 1) four times during the monitoring season. Water samples were analyzed for dissolved copper, dissolved lead, dissolved nickel and total selenium, total calcium, and total magnesium.

Grab water samples were collected at the three locations six times during the monitoring season. Water samples were analyzed *E. Coli* bacteria and coliform bacteria.

As part of the data summarization process it was necessary to determine if water quality data collected was representative of river conditions. The field data sheets were reviewed to identify variables which may have affected data quality. Several of the field sheets described conditions which may have affected the sondes ability to collect representative water quality data. Issues which affected water quality data and was evident in the water quality values logged included:

- The measurement cell on the specific conductance probes were filling with sediments at the electrodes, even in high velocity areas of the river. This increased the areas resistivity resulting in depressed specific conductance readings.
- The reading of specific conductance on the Hydrolab sondes gradually decreased usually three to four days after deployment starting in April 2010. The manufacturer was contacted on multiple occasions to try and determine the cause of the malfunction. After trying several fixes and replacement sondes, the cause of the malfunction is unknown. It is possible that the design of the specific conductance probe allows air bubbles to gather inside the probe and interfere with the reading of the probe. The deployment in 2011 will be modified in an effort to correct the malfunction.



- Algal growth occluded the optical lenses on the turbidity and dissolved oxygen probes resulting in elevated turbidity and erratic dissolved oxygen readings.
- Aquatic insects of the Oder Trichoptera colonized on the probes affecting pH, specific conductance, dissolved oxygen, and turbidity.
- Parameter specific probes on the sondes would malfunction or fail resulting in no data being collected.
- Data was not collected at Louisville due to a lost sonde from through June 29, 2010 July 14, 2010.

An Annual Update was prepared to document the lessons learned during the 2010 monitoring season and the Protocol was updated for the 2011 monitoring season.

#### IV. SUMMARY STATISTICS

Summary statistics were completed after the data had been reviewed to ensure that data summarized was representative of water quality in the central and lower Platte River. Summary statistics were calculated using standard function formulas found in Microsoft® Excel spread sheets. Summarization included a tabular presentation of weekly and monthly observations (number (N), mean, maximum, minimum, and standard deviation) for each parameter. Data was graphed to present observed temporal, spatial and flow variations. Summary statistics are presented in Appendix A. Raw data from the sonde and flow data are presented on a CD referenced in Appendix F and G, respectively.

#### V. VARIATIONS

Variations in the water quality data (weekly means) were evaluated after raw data had been reviewed to ensure that the data was representative of water quality in the central and lower Platte River. Data was assessed for temporal, spatial, and flow variations:

##### V.A. Temporal Variation

Temporal variation of water quality parameters was assessed using line graphs showing all monitoring locations (i.e., X-axis presents time, Y-axis presents parameter value) and are presented in Appendix B, Figures B-1 through B-6.

- **Temperature** – Water temperature exhibited the same seasonal temporal trend at the eight locations during the monitoring season. Water temperatures trended upward when the monitoring program was initiated and peaked during the later summer months and trended downward with the onset of fall and cooler air temperatures to minimum observed temperatures.
- **Specific Conductance** – Specific conductance exhibited the same temporal trend at the eight locations during the monitoring season. The weekly mean of specific conductance remained stable during the monitoring season at seven of the eight monitoring location



and consistently ranged between 0.750 and 1.100 mS/cm. Specific conductance at the Louisville monitoring location was lower and ranged between 0.350 and 0.850 mS/cm.

- **pH** – pH concentrations exhibited the same temporal trend at the eight locations during the monitoring season. The pH consistently ranged between 7.5 and 8.9 pH units during the monitoring season. Variations within this range were associated with increases in discharge.
- **Turbidity** – Turbidity exhibited the same temporal trend at the eight locations during the monitoring season.
- **Dissolved Oxygen** – Dissolved Oxygen exhibited the same temporal trend at the eight locations during the monitoring season. Weekly mean concentrations of dissolved oxygen in the water were the highest during the cold water periods and lowest during the summer months when water temperatures were higher. This follows the inverse relationship that as temperature increases the solubility of gas in water decreases.
- **Discharge** – Weekly mean discharge (cfs) exhibited the same temporal trend at the eight locations during the monitoring season. Discharge peaked in mid June with the highest discharge recorded during the week June 21 at seven of the eight locations. Louisville had peaked the previous week June 14.

#### V.B. Discharge Variation

Water quality variation relative to discharge was assessed using line graphs for each monitoring location and each water quality parameter. (i.e., X-axis presents time, left Y-axis presents parameter value, and right Y-axis presents discharge value) and are presented in Appendix B, Figures B-7 through B-46.

- **Temperature** – Weekly mean temperature did not visually demonstrate a relationship to discharge during the monitoring season.
- **Specific Conductance** – An inverse relationship for weekly mean specific conductance and discharge was evident at Louisville, Duncan, Grand Island, Shelton, Kearney, and Odessa locations during the monitoring season. A relationship between discharge and specific conductance was not as visually evident at Overton and Lexington.
- **pH** – An inverse relationship for weekly mean pH and discharge was evident at the eight locations during the monitoring season.
- **Turbidity** – A direct relationship for weekly mean turbidity and discharge was evident at the Louisville, Grand Island, Shelton, Kearney, Odessa, Overton, and Lexington during the monitoring season.



- **Dissolved Oxygen** – An inverse relationship for weekly mean dissolved oxygen and discharge was evident at the eight locations during the monitoring season.

### V.C. Spatial Variation

Spatial variation was assessed using boxplots of the water quality parameters values for all monitoring locations (i.e., X-axis presents monitoring location, Y-axis presents parameter value). Box plots present minimum, 25<sup>th</sup> percentile, median, 75<sup>th</sup> percentile, and maximum values of the parameter. Boxplot figures for each water quality parameter monitored are presented in Appendix B, Figures B-47 through B-52.

- **Temperature** – No spatial variation was evident in the boxplots by monitoring location presenting water temperature at the eight monitoring locations. Temperature ranges (minimum and maximum) observed at the eight locations were essentially the same for the monitoring season.
- **Specific Conductance** – Spatial variation was evident in the boxplots by monitoring location presenting specific conductance for the monitoring season. Specific conductance at the Louisville monitoring location is significantly different than that of the other seven monitoring locations Duncan, Grand Island, Shelton, Kearney, Odessa, Overton, and Lexington; which are all similar.
- **pH** – Spatial variation was evident in the boxplots by monitoring location presenting pH at the eight locations monitored. The mid-value (25<sup>th</sup> to 75<sup>th</sup> percentile range) pH was higher at the Louisville monitoring location than the Kearney, Odessa, Overton, and Lexington monitoring locations. Data variability (minimum to maximum range) was greatest at the Lexington monitoring location and smallest at the Kearney monitoring location.
- **Turbidity** – Spatial variation was evident in the boxplots by monitoring location presenting turbidity for the monitoring season. Turbidity at the Louisville monitoring location was different than Duncan, Grand Island, Shelton, Kearney, Odessa, Overton, and Lexington monitoring locations, which were all similar.
- **Dissolved Oxygen** – No spatial variation was evident in the boxplots presenting dissolved oxygen at the eight locations monitored. Dissolved oxygen values at the 25<sup>th</sup> to 75<sup>th</sup> percentile range were similar.
- **Discharge** – Spatial variation was evident in the boxplots by monitoring location presenting discharge (cfs) for the monitoring season. Discharge at the Louisville monitoring location (downstream of other monitoring locations) is demonstrable higher than any of the other monitoring locations monitored. Data variability (minimum to maximum range) was similar at six locations; Duncan, Grand Island, Shelton, Kearney,



Odessa, and Overton while Lexington discharge was significantly lower than all the other locations.

**V.D. Water Quality During Program Activities**

The 2010 Program activities are described in section I.B. Observed water quality impacts downstream of Program activities are limited to increases in turbidity at the Odessa monitoring location with smaller increases at the Kearney monitoring location (Figure B-53 and B-54). Impacts were not observed at the Shelton monitoring location (approximately 41 miles downstream of Program activities).

Changes in temperature, specific conductance, pH, and dissolved oxygen due to Program activities listed above were not observed.

Limited Program activities were conducted in 2010 and water quality impacts of the Program activities were not observed downstream of the Kearney monitoring location. These limited Program activities do not appear to affect the water quality of the lower Platte River.

**VI. QUALITY CONTROL SUMMARY**

The Quality Control Summary describes the results of the data quality evaluation performed on the water quality parameters collected during the 2010 monitoring season. Data collected included: temperature, specific conductance, pH, turbidity, dissolved oxygen, and discharge. Analytical data collected included: dissolved copper, dissolved lead, dissolved nickel, total selenium, total calcium, total magnesium, and *E. Coli*. The quality of the data collected and analyzed was assessed using the elements of precision, accuracy, representativeness, completeness, and comparability.

**VI.A. Precision**

The measurement of precision was accomplished by collecting duplicate water quality readings and duplicate samples. The premise being that two samples collected simultaneously from the same location should yield similar results. The variation between duplicate samples that is accepted is a function of the monitoring objectives and the inherent variation around each parameter. Precision will be measured during the Protocol in terms of Relative Percent Difference (RPD) which is calculated using the following formula:

$$RPD = (X_1 - X_2) / [(X_1 + X_2) / 2]$$

$X_1$  and  $X_2$  = reported concentrations for each duplicate sample.

Data was considered acceptable if the RPD was less than or equal to 50% for each parameter.



**VI.A.1. Continuous Water Quality Data**

Duplicate water quality readings were collected for continuous water quality data using hand-held meters for temperature, specific conductance, pH, turbidity, and dissolved oxygen at each location during each sonde maintenance event. A summary of duplicate readings that exceeded the 50% RPD threshold is presented in Table 7 and all duplicate sample collection results are presented in Appendix C.

**Table 7. Relative Percent Difference (RPD) Exceedance for Duplicate Samples**

Parameter	Location	Date	Hand Held	Sonde	RPD
Dissolved Oxygen	Lexington	July 13, 2010	6.88	Malfunction	N/A
Dissolved Oxygen	Lexington	May 20, 2010	9.18	Malfunction	N/A
Dissolved Oxygen	Overton	August 25, 2010	8.25	Malfunction	N/A
Dissolved Oxygen	Shelton	July 20, 2010	8.98	4.23	72%
pH	Lexington	July 13, 2010	7.78	Malfunction	N/A
Specific Conductance	Ducan	November 23, 2010	Malfunction	0.830	N/A
Specific Conductance	Lexington	July 13, 2010	0.911	Malfunction	N/A
Specific Conductance	Louisville	November 23, 2010	0.658	Malfunction	N/A
Specific Conductance	Shelton	November 23, 2010	Malfunction	0.847	N/A
Temperature	Ducan	November 23, 2010	0.20	0.04	133%
Temperature	Lexington	July 13, 2010	23.40	Malfunction	N/A
Temperature	Lexington	November 24, 2010	2.50	1.37	58%
Turbidity	Ducan	April 20, 2010	10.83	18.60	53%
Turbidity	Ducan	May 27, 2010	17.10	7.50	78%
Turbidity	Ducan	June 1, 2010	18.90	8.00	81%
Turbidity	Ducan	June 29, 2010	14.00	2.40	141%
Turbidity	Grand Island	April 20, 2010	6.60	17.50	90%
Turbidity	Grand Island	May 12, 2010	8.19	1.90	125%
Turbidity	Grand Island	May 19, 2010	10.44	3.60	97%
Turbidity	Grand Island	June 1, 2010	4.72	2.60	58%
Turbidity	Grand Island	August 24, 2010	21.90	39.10	56%
Turbidity	Kearney	April 21, 2010	4.83	1.50	105%
Turbidity	Kearney	October 26, 2010	18.00	7.90	78%
Turbidity	Kearney	November 24, 2010	9.07	2.20	122%
Turbidity	Lexington	April 7, 2010	7.01	13.90	66%
Turbidity	Lexington	April 21, 2010	5.65	0.50	167%
Turbidity	Lexington	May 13, 2010	2.79	Malfunction	N/A
Turbidity	Lexington	May 20, 2010	5.47	434.00	195%
Turbidity	Lexington	June 30, 2010	15.30	191.30	170%
Turbidity	Lexington	July 13, 2010	Not Logged	Malfunction	N/A
Turbidity	Lexington	July 20, 2010	14.20	32.90	79%
Turbidity	Lexington	August 25, 2010	5.81	Malfunction	N/A
Turbidity	Lexington	September 17, 2010	5.33	2.40	76%
Turbidity	Lexington	October 12, 2010	8.52	4.70	58%
Turbidity	Lexington	October 26, 2010	12.20	5.10	82%





Parameter	Location	Date	Hand Held	Sonde	RPD
Turbidity	Lexington	November 10, 2010	5.33	0.80	148%
Turbidity	Lexington	November 24, 2010	7.05	4.06	54%
Turbidity	Louisville	June 29, 2010	75.3	Malfunction	N/A
Turbidity	Louisville	August 11, 2010	108.3	213.2	65%
Turbidity	Odessa	May 5, 2010	13.90	28.20	68%
Turbidity	Odessa	May 28, 2010	9.32	4.40	72%
Turbidity	Odessa	July 13, 2010	22.20	45.00	68%
Turbidity	Odessa	October 12, 2010	10.96	19.50	56%
Turbidity	Overton	April 7, 2010	4.77	10.10	72%
Turbidity	Overton	May 28, 2010	7.56	4.10	59%
Turbidity	Overton	June 2, 2010	7.43	3.30	77%
Turbidity	Overton	August 12, 2010	7.78	3.10	86%
Turbidity	Overton	September 10, 2010	7.46	4.30	54%
Turbidity	Overton	September 17, 2010	5.30	3.10	52%
Turbidity	Overton	September 30, 2010	6.87	3.50	65%
Turbidity	Overton	October 12, 2010	6.29	14.00	76%
Turbidity	Overton	October 26, 2010	13.40	2.30	141%
Turbidity	Overton	November 10, 2010	5.73	Malfunction	N/A
Turbidity	Shelton	May 12, 2010	14.00	8.00	55%
Turbidity	Shelton	May 19, 2010	9.52	4.00	82%
Turbidity	Shelton	June 29, 2010	5.68	0.30	180%
Turbidity	Shelton	July 19, 2010	34.90	66.60	62%
Turbidity	Shelton	October 25, 2010	Not Logged	13.10	N/A

N/A = Not Applicable

The procedure for collecting duplicate water samples was to retrieve the sonde from the river and immediately place it in a five gallon bucket of Platte River water in the shade. The handheld instruments used for the paired readings were then immersed in the same bucket with the sonde and permitted to equilibrate. During the equilibration period, the sonde was connected to the laptop and set to display live readings of the water quality parameters being measured. Once parameters were stabilized readings were recorded on the field data sheets.

- **Temperature** – Two-hundred four of the possible 205 duplicate readings were taken for temperature during the 2010 monitoring season. Two of the paired RPD readings ranged from 58.40% to 133.33% exceeded the 50% RPD for duplicate temperature readings. The minimum RPD was 0.00%. One duplicate reading was not completed because the temperature probe was malfunctioning at the time the sonde was removed from the river.
- **Specific Conductance** – Two-hundred one of the possible 205 duplicate readings were taken for specific conductance during the 2010 monitoring season. None of the paired readings exceeded the 50% RPD with a minimum RPD of 0.00% and maximum RPD of 41.05%. Two duplicate readings were not completed because the specific conductance probe was malfunctioning at the time the sonde was removed from the river and two



duplicate readings were not completed because the specific conductance probe on the hand held was malfunctioning.

- **pH** – Two-hundred four of the possible 205 duplicate readings were taken for pH during the 2010 monitoring season. None of the paired readings exceeded the 50% RPD for duplicate pH readings with a minimum RPD of 0.00% and maximum RPD of 8.11%. One duplicate reading was not completed because the pH probe was malfunctioning at the time the sonde was removed from the river.
- **Turbidity** – One-hundred ninety nine of the possible 205 duplicate readings were taken for turbidity during the 2010 monitoring season. Forty of the paired RPD readings ranged from 52.39% to 195.02% exceeding the 50% RPD for duplicate turbidity readings. The minimum RPD for turbidity was 0.00%. Five duplicate readings were not completed because the turbidity probe was malfunctioning at the time the sonde was removed from the river and one duplicate reading was not completed because the turbidity probe on the hand held was malfunctioning.
- **Dissolved Oxygen** – Two hundred two of the possible 205 duplicate readings were taken for dissolved oxygen during the 2010 monitoring season. One of the paired readings (71.92%) exceeded the 50% RPD for duplicate dissolved oxygen readings and the minimum RPD was 0.00%. Three duplicate readings were not completed because the dissolved oxygen probe was malfunctioning at the time the sonde was removed from the river.

#### VI.A.2. Discrete Water Quality Data

One duplicate water sample was collected for each discrete water sampling event. A summary of duplicate readings is described below and all duplicate sample collection results are presented in Appendix C.

- **Metals** – Four water sampling events were performed during the 2010 monitoring season for the collection and analysis of water samples. Water samples were analyzed for dissolved copper, dissolved lead, dissolved nickel, total selenium, total calcium, and total magnesium. A duplicate water sample was collected during each sampling event for precision analysis. RPD for the metal analysis were all less than 50% and ranged from a minimum of 0.11% to a maximum of 4.65%.
- ***E. Coli*** – Six water sampling events were performed during the 2010 monitoring season for the collection and analysis of water samples. Water samples were analyzed for coliform bacteria and *E. coli* bacteria. A duplicate water sample was collected during each sampling event for precision analysis. One sample exceeded 50% RPD for the *E. coli* analysis and ranged from a minimum of 0.00% to a maximum of 56.80%.



## VI.B. Accuracy

The measure of accuracy was accomplished by using internal laboratory spikes for metal analyses performed by the laboratory and readings of calibration standards taken from the sondes. Accuracy was quantified as the percent recovery from analysis of a known concentration. This was accomplished using internal lab spikes and calculated on a per batch basis and sonde measurement of calibration standards. The data quality objective for accuracy for all measurements in the Protocol is:

$$\% \text{Recovery} = 85\% \text{ to } 115\%$$

Other checks for accuracy were accomplished through close adherence to instrument calibration procedures. A summary of duplicate readings that were outside the percent range are presented in Table 8 and all duplicate sample collection results are presented in Appendix C for continuous data and Appendix F for discrete data.

**Table 8. Percent Recovery Exceedances for Spiked Sample Recoveries**

Parameter	Location	Date	Spike	Sonde	% Recovery
Turbidity	Grand Island	June 16, 2010	100	119.70	119.70%
Turbidity	Shelton	June 16, 2010	100	128.90	128.90%
Turbidity	Kearney	July 8, 2010	100	84.10	84.10%
Turbidity	Odessa	June 17, 2010	100	115.40	115.40%
Turbidity	Lexington	June 17, 2010	100	116.00	116.00%
Turbidity	Louisville	June 29, 2010	100	Malfunction	N/A
Turbidity	Louisville	July 1, 2010	100	152.10	152.10%
Turbidity	Louisville	July 14, 2010	100	140.50	140.50%
Turbidity	Louisville	October 25, 2010	100	119.50	119.50%
Dissolved Oxygen	Overton	August 18, 2010	N/A	0.25	2.92%
Dissolved Oxygen	Overton	September 2, 2010	N/A	9.95	116.92%

N/A = Not applicable

Accuracy readings were collected after duplicate readings had been taken and the sonde and probes were cleaned. The sonde was placed in known (spiked) standards and the sonde parameter reading in the standard (spike) was recorded on the field data sheets to measure accuracy.

- **Specific Conductance** – All of the possible 205 accuracy readings were taken for specific conductance during the 2010 monitoring season. None of the spiked specific conductance readings for accuracy exceeded the 85 to 115% recovery range.
- **pH** – All of the possible 205 accuracy readings were taken for pH during the 2010 monitoring season. None of the spiked pH readings for accuracy exceeded the 85 to 115% recovery range.



- **Turbidity** – Two-hundred-four of the possible 205 accuracy readings were taken for turbidity during the 2010 monitoring season. Eight of the spiked turbidity readings for accuracy exceeded the accuracy range of 85 to 115%. One accuracy reading for turbidity was not obtained due to a malfunctioning sonde.
- **Dissolved Oxygen** – All of the possible 205 accuracy readings were taken for dissolved oxygen during the 2010 monitoring season. Two of the spiked dissolved oxygen readings for accuracy exceeded the 85 to 115% recovery range.

#### VI.C. Representativeness

- **Continuous Water Quality Data**  
Representativeness was addressed by adhering to the Protocol procedures (e.g., collecting a composite sample), manufacturer calibration procedures, and a sampling plan which describes appropriate location, time, and conditions for data collection. Any condition that may result in a “non-representative sample” was noted on the field data sheet and was evaluated during the data review process. A review of the field data sheets (Appendix E) revealed several “conditions” which resulted in “non-representative” data points being collected.

Temperature and pH were found to be consistent and stable during the monitoring program and minimally affected by monitored environmental conditions of the river. Environmental conditions resulting in non-representative data being collected in the Platte River included: burial of the sonde in sediment, sediment accumulation in the specific conductance measurement cell, algal growth on the optical aperture of the dissolved oxygen and turbidity probes, and insect colonization on all the probes particularly the dissolved oxygen and turbidity probes. The raw data in combination with the field data sheets were reviewed to determine what data is “non-representative” of the Platte River. Any data that was non-representative was not included in the summary data.

- **Discrete Water Quality Data (Metals)**  
Representativeness, accuracy, and completeness were assessed by the collection of the field/equipment blanks during each of the four discrete water sampling events. The analytical results for the blanks were used to assess cleaning of sampling equipment between locations and container and preservative contamination. Four field/equipment blanks were collected and submitted for analytical analysis. No positive detections of analytes were reported in the field blanks (Appendix C).
- **Discrete Water Quality Data (*E. Coli*)**  
Representativeness, accuracy, and completeness were assessed by the collection of the field/equipment blanks during each of the four discrete water sampling events. The analytical results for the blanks were used to assess cleaning of sampling equipment



between locations and container and preservative contamination. Six field/equipment blanks were collected and submitted for analytical analysis. No positive detections of analytes were reported in the field blanks (Appendix C)

#### **VI.D. Comparability**

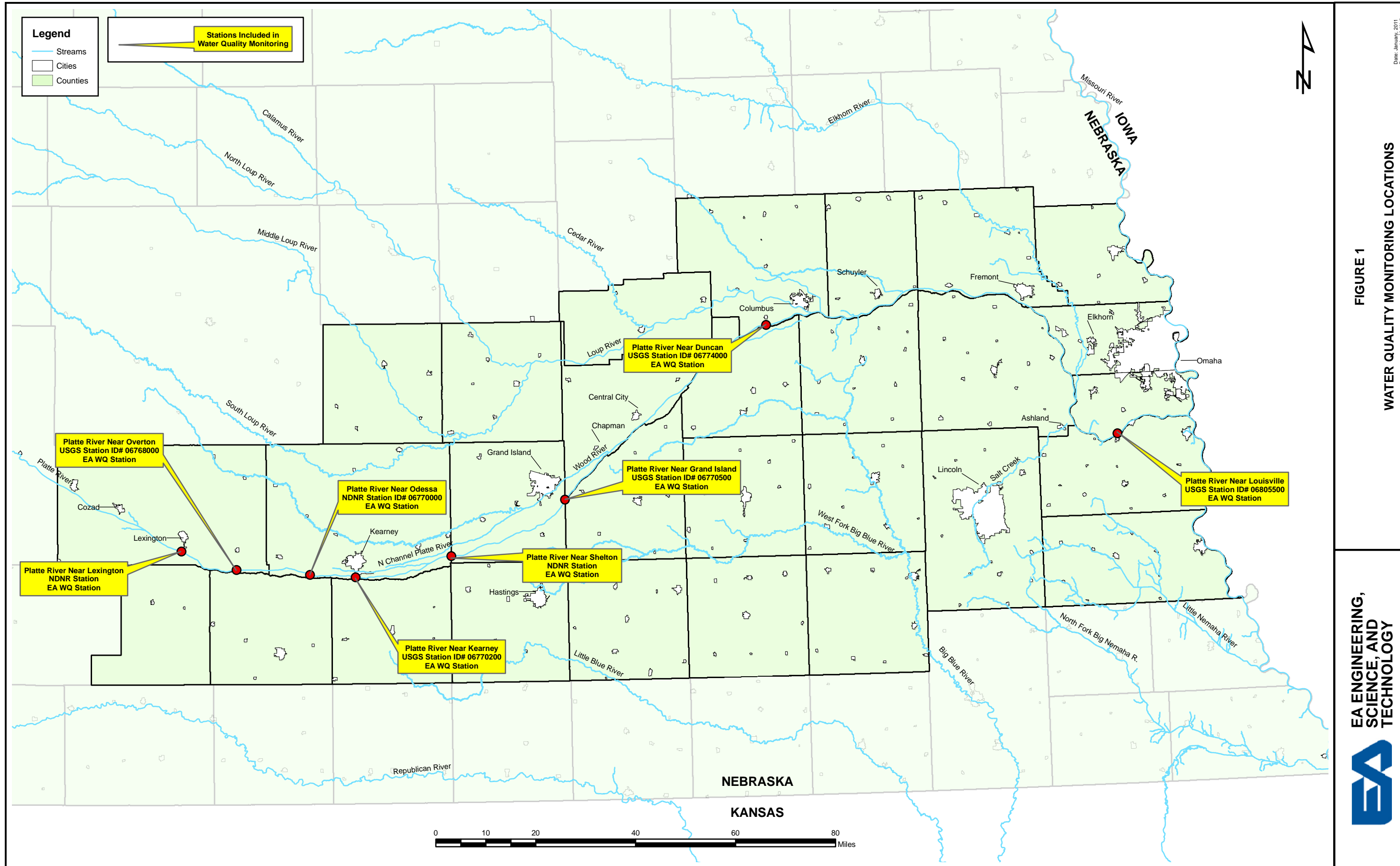
The comparability of the data can be affected by several factors including changes in sample locations, parameters, collection, or analytical techniques, etc. Quality assurance procedures were incorporated throughout the Protocol to help assure that comparable data was obtained. These quality assurance procedures included: written descriptions of all sample locations; assignment of sampling responsibilities to the same personnel or the appropriate training for new personnel; establishment of a set parameter list; and description of data collection, analysis, and assessment procedures. Adherence to these procedures was closely evaluated during the data quality review process.

#### **VI.E. Completeness**

Completeness refers to the amount of data necessary to meet the monitoring objectives. To help ensure that all of the designed monitoring data and water samples were collected, a sampling schedule was prepared and distributed. An inventory and a review process was implemented to maintain data collected, and routinely checked for potential errors, missing data, and missing information on field data sheets. It was the responsibility of the sample collector to make sure field data sheets were completely and accurately filled out and to report missing data from the sondes.

#### **VI.F. Deviations from Methods and Procedures**

No deviations were identified from the methods and procedures listed in the Water Quality Monitoring Protocol.



**FIGURE 1**  
**WATER QUALITY MONITORING LOCATIONS**



# **APPENDIX A**

## Tables



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<b>Acronym List</b>	
°C = degrees Celsius	Median = number that separates the highest half of a sample size from the lowest half
cfs = cubic feet per second	mg/L = Milligrams per liter
col/100mL = Colonies per 100 milliliters of water	Min = Minimum
DUN = Duncan	mS/cm = milliSiemens per centimeter
DUP = Duplicate	N = Sample Size
FB = Field Blank	NTU = Nephelometric Turbidity Units
GRI = Grand Island	ODS = Odessa
J = Indicates reported value is greater than Method Detection Limit but less than the Reporting Limit	OVR = Overton
KER = Kearney	RL = Reporting Limit
LEX = Lexington	RPD = Relative Percent Difference
LSV = Louisville	SHL = Shelton
Max = Maximum	STD = Standard Deviation
MDL = Method Detection Limit	TNTC = Too Numerous to Count
Mean = Average	



## **Continuous Water Quality Data, Weekly Average Platte River**



**Table A-1. Temperature, Weekly Average, Platte River, Louisville, NE**

Temperature, °C						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	--	--	--	--	--	--
3/29/2010	--	--	--	--	--	--
4/5/2010	12.2	8.2	16.2	12.1	309	1.9
4/12/2010	16.7	13.6	19.8	16.7	336	1.5
4/19/2010	16.1	13.8	18.4	16.1	332	0.9
4/26/2010	15.7	10.9	19.4	16.2	336	2.5
5/3/2010	16.2	11.4	20.3	16.5	333	2.2
5/10/2010	13.6	10.9	18.4	12.7	333	2.3
5/17/2010	19.2	15.4	26.1	18.7	333	2.7
5/24/2010	24.5	19.6	27.3	24.3	333	1.3
5/31/2010	24.0	20.7	27.8	23.9	334	1.8
6/7/2010	24.1	22.8	25.8	24.1	336	0.8
6/14/2010	22.0	21.0	23.0	22.0	114	0.6
6/21/2010	26.7	23.3	29.3	26.4	268	1.3
6/28/2010	27.3	26.1	28.6	27.3	67	0.8
7/5/2010	--	--	--	--	--	--
7/12/2010	28.2	24.6	31.6	28.3	207	1.9
7/19/2010	28.1	26.2	30.4	28.2	331	1.1
7/26/2010	28.9	26.9	31.5	28.8	333	1.2
8/2/2010	28.9	27.4	31.0	28.7	115	0.9
8/9/2010	30.2	26.4	33.2	30.3	220	1.7
8/16/2010	26.7	22.5	31.6	26.6	332	2.2
8/23/2010	25.5	22.0	30.6	25.4	333	2.0
8/30/2010	23.5	18.5	28.9	23.8	266	3.0
9/6/2010	20.8	18.7	24.0	20.6	334	1.2
9/13/2010	20.4	15.9	24.9	21.1	249	2.6
9/20/2010	20.1	15.6	24.1	20.1	335	2.1
9/27/2010	18.4	14.6	21.6	18.4	333	1.5
10/4/2010	16.9	13.1	20.5	17.0	336	1.9
10/11/2010	16.1	13.3	19.7	15.8	333	1.8
10/18/2010	13.9	11.6	17.0	13.8	336	1.3
10/25/2010	10.3	6.4	15.4	9.8	333	2.4
11/1/2010	8.5	5.9	11.0	8.6	335	1.2
11/8/2010	8.6	4.7	12.4	9.1	335	2.4
11/15/2010	5.1	3.1	7.7	5.2	336	1.2
11/22/2010	2.5	1.0	3.1	2.9	69	0.6



Table A-2. Specific Conductance, Weekly Average, Platte River, Louisville, NE

Specific Conductance, mS/cm						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	--	--	--	--	--	--
3/29/2010	--	--	--	--	--	--
4/5/2010	0.695	0.645	0.783	0.691	309	0.027
4/12/2010	0.728	0.645	0.855	0.720	336	0.047
4/19/2010	0.710	0.538	0.956	0.720	314	0.080
4/26/2010	0.705	0.597	0.953	0.707	331	0.051
5/3/2010	0.742	0.537	1.024	0.751	331	0.078
5/10/2010	0.773	0.630	1.025	0.767	333	0.076
5/17/2010	0.676	0.413	0.880	0.691	328	0.093
5/24/2010	0.660	0.488	0.762	0.650	332	0.055
5/31/2010	0.683	0.539	1.432	0.673	333	0.108
6/7/2010	0.562	0.372	0.816	0.580	336	0.133
6/14/2010	0.358	0.317	0.510	0.353	114	0.025
6/21/2010	0.553	0.363	0.737	0.519	268	0.098
6/28/2010	0.714	0.681	0.766	0.708	67	0.021
7/5/2010	--	--	--	--	--	--
7/12/2010	0.530	0.289	0.752	0.565	207	0.156
7/19/2010	0.700	0.586	0.883	0.699	331	0.060
7/26/2010	0.781	0.633	0.912	0.783	333	0.055
8/2/2010	0.726	0.526	0.969	0.705	333	0.086
8/9/2010	0.769	0.533	0.909	0.781	333	0.070
8/16/2010	0.774	0.532	0.923	0.806	332	0.093
8/23/2010	0.801	0.565	1.081	0.805	333	0.087
8/30/2010	0.769	0.620	0.969	0.771	225	0.080
9/6/2010	0.795	0.633	0.902	0.795	334	0.052
9/13/2010	0.747	0.613	0.936	0.752	249	0.076
9/20/2010	0.779	0.675	0.894	0.771	275	0.053
9/27/2010	0.771	0.628	0.853	0.783	332	0.046
10/4/2010	0.831	0.735	0.917	0.836	336	0.040
10/11/2010	0.820	0.706	0.919	0.826	333	0.048
10/18/2010	0.807	0.710	0.897	0.811	336	0.044
10/25/2010	0.771	0.547	0.863	0.776	333	0.055
11/1/2010	0.774	0.679	0.859	0.780	335	0.035
11/8/2010	0.794	0.682	0.957	0.799	314	0.058
11/15/2010	0.805	0.671	0.911	0.803	336	0.049
11/22/2010	0.856	0.766	0.922	0.872	69	0.053



Table A-3. pH, Platte River, Weekly Average, Louisville, NE

Date	pH					
	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	--	--	--	--	--	--
3/29/2010	--	--	--	--	--	--
4/5/2010	8.7	8.5	8.8	8.7	309	0.0
4/12/2010	8.7	8.6	8.9	8.7	336	0.1
4/19/2010	8.7	8.1	9.0	8.9	332	0.3
4/26/2010	8.4	8.0	8.6	8.4	336	0.1
5/3/2010	8.7	8.5	9.0	8.8	333	0.1
5/10/2010	8.6	8.2	8.8	8.6	333	0.1
5/17/2010	8.6	8.4	8.9	8.6	333	0.1
5/24/2010	8.5	8.2	8.8	8.5	333	0.2
5/31/2010	8.2	7.7	8.9	8.2	334	0.3
6/7/2010	7.8	7.5	8.3	7.9	336	0.3
6/14/2010	7.5	7.4	7.6	7.5	114	0.1
6/21/2010	7.8	7.4	8.1	7.7	268	0.2
6/28/2010	8.1	8.0	8.2	8.1	67	0.1
7/5/2010	--	--	--	--	--	--
7/12/2010	8.2	7.7	8.7	8.3	207	0.3
7/19/2010	8.4	8.2	8.5	8.4	331	0.1
7/26/2010	8.7	8.5	8.8	8.7	333	0.1
8/2/2010	8.6	8.3	8.9	8.6	333	0.1
8/9/2010	8.5	8.3	8.8	8.5	333	0.1
8/16/2010	8.7	8.6	8.9	8.7	332	0.1
8/23/2010	8.7	8.5	8.9	8.7	333	0.1
8/30/2010	8.7	8.6	8.9	8.8	256	0.1
9/6/2010	8.8	8.5	9.0	8.8	334	0.1
9/13/2010	8.7	8.1	8.9	8.8	249	0.2
9/20/2010	8.5	8.2	8.6	8.5	335	0.1
9/27/2010	8.9	8.6	9.1	8.9	333	0.1
10/4/2010	8.8	8.6	8.9	8.8	336	0.1
10/11/2010	8.9	8.7	9.1	8.9	333	0.1
10/18/2010	8.6	8.4	8.7	8.5	336	0.1
10/25/2010	8.4	8.3	8.6	8.4	333	0.1
11/1/2010	8.3	8.3	8.4	8.3	335	0.0
11/8/2010	8.4	8.2	8.7	8.4	335	0.1
11/15/2010	8.3	8.3	8.4	8.3	336	0.0
11/22/2010	8.3	8.3	8.3	8.3	69	0.0

**Table A-4. Turbidity, Platte River, Weekly Average, Louisville, NE**

Turbidity, NTU						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	--	--	--	--	--	--
3/29/2010	--	--	--	--	--	--
4/5/2010	55	24	119	56	292	14
4/12/2010	59	45	92	59	324	6
4/19/2010	96	36	570	54	332	101
4/26/2010	141	50	678	86	333	118
5/3/2010	61	35	90	63	330	12
5/10/2010	70	20	398	54	259	47
5/17/2010	69	25	360	67	271	27
5/24/2010	77	38	186	70	218	26
5/31/2010	270	32	702	244	302	165
6/7/2010	385	52	960	250	332	288
6/14/2010	761	444	1,666	690	111	265
6/21/2010	--	--	--	--	--	--
6/28/2010	--	--	--	--	--	--
7/5/2010	--	--	--	--	--	--
7/12/2010	876	215	2,526	569	207	658
7/19/2010	346	179	982	332	326	146
7/26/2010	139	84	224	138	332	31
8/2/2010	228	95	689	149	332	152
8/9/2010	141	89	208	135	320	31
8/16/2010	110	84	163	105	331	18
8/23/2010	135	93	233	126	332	29
8/30/2010	112	78	195	112	222	18
9/6/2010	103	78	174	100	331	16
9/13/2010	216	80	744	155	229	161
9/20/2010	214	127	508	186	329	83
9/27/2010	122	95	180	116	332	20
10/4/2010	92	76	113	93	336	8
10/11/2010	116	72	168	115	331	22
10/18/2010	92	65	128	91	336	12
10/25/2010	91	62	138	90	331	17
11/1/2010	78	59	129	76	334	11
11/8/2010	92	55	210	78	317	33
11/15/2010	69	51	117	67	335	12
11/22/2010	68	56	165	67	69	14



Table A-5. Dissolved Oxygen, Weekly Average, Platte River, Louisville, NE

Dissolved Oxygen, mg/L						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	--	--	--	--	--	--
3/29/2010	--	--	--	--	--	--
4/5/2010	11.0	10.2	12.0	11.0	306	0.5
4/12/2010	10.7	9.3	13.6	10.5	332	1.1
4/19/2010	10.3	7.3	13.6	9.9	330	1.6
4/26/2010	9.6	7.3	11.4	9.7	336	1.0
5/3/2010	10.9	8.7	14.0	10.8	332	1.5
5/10/2010	10.8	8.9	13.9	10.6	332	1.0
5/17/2010	10.1	5.2	13.5	9.9	321	1.8
5/24/2010	9.4	6.6	14.1	9.0	319	2.1
5/31/2010	7.8	5.6	13.0	7.4	312	1.6
6/7/2010	7.0	5.8	9.3	6.8	335	0.9
6/14/2010	6.7	5.6	7.1	6.9	114	0.4
6/21/2010	6.7	5.4	7.8	6.9	265	0.5
6/28/2010	7.5	7.0	8.5	7.3	67	0.4
7/5/2010	--	--	--	--	--	--
7/12/2010	6.4	4.7	9.3	6.4	206	1.2
7/19/2010	7.3	6.4	8.7	7.2	331	0.6
7/26/2010	8.5	6.5	12.1	8.2	333	1.5
8/2/2010	7.6	5.1	11.4	7.2	333	1.4
8/9/2010	7.6	5.1	10.4	7.1	332	1.4
8/16/2010	8.6	6.1	12.2	8.1	332	1.7
8/23/2010	8.5	5.5	11.6	8.2	333	1.6
8/30/2010	9.1	6.3	12.4	8.9	266	1.6
9/6/2010	9.7	7.5	13.1	9.3	334	1.6
9/13/2010	8.9	7.0	11.9	8.7	249	1.2
9/20/2010	9.1	7.5	11.2	8.9	335	0.9
9/27/2010	10.5	8.3	13.8	10.1	333	1.6
10/4/2010	11.2	8.8	14.8	10.7	335	1.8
10/11/2010	10.8	8.7	14.1	10.4	333	1.4
10/18/2010	10.7	9.4	12.3	10.5	336	0.7
10/25/2010	11.4	9.6	12.6	11.6	332	0.8
11/1/2010	11.9	11.5	12.6	11.9	335	0.3
11/8/2010	11.7	10.7	12.5	11.7	334	0.5
11/15/2010	12.8	12.1	13.5	12.9	335	0.5
11/22/2010	13.7	13.4	14.3	13.6	69	0.2





**Table A-6. Discharge, Platte River, Weekly Average, Louisville, NE**

Discharge, cfs						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	15,536	11,600	22,000	15,500	234	2,379
3/29/2010	11,544	8,980	13,900	11,400	173	1,450
4/5/2010	8,607	5,500	11,100	8,640	229	1,155
4/12/2010	6,894	4,740	10,400	6,760	271	1,212
4/19/2010	8,456	5,040	16,500	7,765	270	2,593
4/26/2010	11,281	7,440	15,300	11,100	255	1,733
5/3/2010	7,246	5,450	10,800	7,000	576	1,259
5/10/2010	9,407	5,840	13,600	9,270	663	1,787
5/17/2010	9,017	6,470	13,700	8,920	617	1,424
5/24/2010	9,360	7,140	12,700	9,210	670	1,492
5/31/2010	15,025	6,900	24,800	15,200	661	4,805
6/7/2010	50,317	12,800	117,000	40,000	669	31,619
6/14/2010	80,820	56,500	131,000	71,200	665	20,400
6/21/2010	60,851	26,800	97,900	64,400	672	22,934
6/28/2010	21,706	13,700	38,500	20,200	671	5,791
7/5/2010	13,551	9,210	25,900	13,100	672	3,184
7/12/2010	20,541	9,700	44,500	17,450	672	9,362
7/19/2010	12,382	7,840	17,500	12,400	664	2,410
7/26/2010	8,729	4,850	13,100	8,720	672	2,180
8/2/2010	10,919	5,200	22,200	8,800	672	4,852
8/9/2010	7,740	5,080	11,700	7,490	672	1,610
8/16/2010	6,537	4,700	9,640	6,405	672	1,192
8/23/2010	7,349	4,520	10,900	7,365	672	1,610
8/30/2010	6,539	3,870	23,400	5,500	669	3,887
9/6/2010	5,008	3,870	6,290	4,960	665	674
9/13/2010	6,719	4,240	12,400	6,470	671	1,834
9/20/2010	7,870	5,290	10,700	7,900	672	1,242
9/27/2010	7,728	5,450	10,100	7,690	672	1,117
10/4/2010	6,142	4,810	7,440	6,110	672	778
10/11/2010	6,658	4,890	8,640	6,660	664	918
10/18/2010	6,904	5,540	8,210	6,900	672	764
10/25/2010	7,582	5,540	9,330	7,690	672	855
11/1/2010	6,921	5,620	8,420	6,900	676	706
11/8/2010	8,174	5,970	11,000	8,100	672	1,317
11/15/2010	8,087	6,520	9,520	8,100	672	743
11/22/2010	8,547	7,140	9,890	8,555	288	785



Table A-7. Temperature, Weekly Average, Platte River, Duncan, NE

Temperature, °C						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	8.6	5.0	12.3	8.5	269	1.9
3/29/2010	13.0	7.6	17.1	13.1	336	2.4
4/5/2010	11.9	6.2	18.3	11.4	332	3.0
4/12/2010	16.4	10.3	22.6	16.7	336	2.6
4/19/2010	15.7	11.6	21.7	15.4	334	1.9
4/26/2010	15.6	8.9	22.6	15.8	336	3.6
5/3/2010	15.4	9.1	21.2	15.1	334	2.8
5/10/2010	13.9	9.4	20.7	12.8	334	3.1
5/17/2010	19.5	14.6	28.4	19.0	334	3.5
5/24/2010	24.5	20.9	29.5	24.2	333	2.3
5/31/2010	23.9	18.6	29.0	23.8	334	2.5
6/7/2010	24.0	20.0	28.7	23.8	336	1.9
6/14/2010	24.8	20.8	28.9	24.8	334	2.1
6/21/2010	26.5	22.2	30.6	26.7	334	1.9
6/28/2010	26.7	24.6	29.5	26.6	334	1.2
7/5/2010	26.1	22.7	30.2	25.8	334	1.9
7/12/2010	28.4	23.7	33.8	28.3	335	2.5
7/19/2010	28.3	25.2	32.6	28.2	333	1.9
7/26/2010	29.2	25.0	33.9	28.8	334	2.3
8/2/2010	28.9	25.0	34.3	28.6	333	2.4
8/9/2010	29.4	22.3	34.9	29.1	333	3.0
8/16/2010	26.6	21.2	32.2	26.4	333	2.9
8/23/2010	25.0	20.4	30.7	25.3	334	2.4
8/30/2010	22.9	16.7	30.0	22.8	334	3.1
9/6/2010	20.8	15.7	24.9	20.9	334	2.1
9/13/2010	20.7	13.5	27.0	21.2	334	3.7
9/20/2010	20.2	14.3	25.8	20.3	336	2.6
9/27/2010	18.0	12.8	22.1	17.8	334	2.2
10/4/2010	17.1	12.3	21.4	17.1	336	2.3
10/11/2010	15.4	11.5	19.5	15.3	334	2.0
10/18/2010	13.6	10.4	17.9	14.0	336	1.7
10/25/2010	10.0	5.4	15.1	9.6	334	2.4
11/1/2010	8.5	5.2	11.7	8.5	336	1.7
11/8/2010	8.2	4.2	13.0	8.2	335	2.4
11/15/2010	4.5	1.9	7.6	4.8	336	1.6
11/22/2010	1.4	0.0	2.8	1.6	75	0.9



Table A-8. Specific Conductance, Weekly Average, Platte River, Duncan, NE

Specific Conductance, mS/cm						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	1.060	1.004	1.084	1.066	267	0.016
3/29/2010	1.083	1.042	1.114	1.086	336	0.015
4/5/2010	1.051	0.976	1.111	1.046	332	0.038
4/12/2010	1.053	0.994	1.076	1.060	336	0.018
4/19/2010	1.011	0.951	1.066	1.017	292	0.030
4/26/2010	1.022	0.917	1.068	1.027	316	0.030
5/3/2010	1.011	0.970	1.058	1.010	330	0.018
5/10/2010	0.986	0.962	1.005	0.986	334	0.012
5/17/2010	1.006	0.951	1.046	1.006	319	0.017
5/24/2010	0.989	0.890	1.070	0.972	256	0.045
5/31/2010	0.956	0.854	1.009	0.975	205	0.039
6/7/2010	0.918	0.820	0.973	0.932	184	0.041
6/14/2010	0.798	0.734	0.873	0.804	231	0.040
6/21/2010	0.914	0.823	1.002	0.905	334	0.042
6/28/2010	1.053	0.993	1.096	1.055	333	0.022
7/5/2010	0.971	0.801	1.040	0.992	313	0.058
7/12/2010	0.956	0.874	1.010	0.974	23	0.048
7/19/2010	0.920	0.820	0.968	0.922	193	0.024
7/26/2010	0.946	0.904	0.965	0.945	144	0.009
8/2/2010	0.945	0.927	0.965	0.944	13	0.011
8/9/2010	0.946	0.885	0.978	0.950	175	0.024
8/16/2010	0.886	0.801	0.943	0.896	261	0.032
8/23/2010	0.900	0.864	0.942	0.901	294	0.018
8/30/2010	0.928	0.873	0.969	0.929	308	0.017
9/6/2010	0.925	0.888	0.948	0.926	327	0.010
9/13/2010	0.883	0.802	0.928	0.892	182	0.026
9/20/2010	0.900	0.838	0.929	0.895	336	0.021
9/27/2010	0.891	0.827	0.923	0.893	334	0.024
10/4/2010	0.850	0.810	0.897	0.849	229	0.018
10/11/2010	0.869	0.837	0.882	0.871	305	0.008
10/18/2010	0.863	0.801	0.897	0.871	335	0.027
10/25/2010	0.839	0.779	0.888	0.837	333	0.035
11/1/2010	0.753	0.716	0.803	0.746	336	0.023
11/8/2010	0.842	0.731	0.889	0.863	324	0.055
11/15/2010	0.863	0.822	0.880	0.865	320	0.012
11/22/2010	0.852	0.841	0.862	0.852	67	0.004



Table A-9. pH, Platte River, Weekly Average, Duncan, NE

Date	pH					
	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	8.6	8.4	8.6	8.6	269	0.0
3/29/2010	8.6	8.5	8.7	8.6	336	0.0
4/5/2010	8.5	8.4	8.7	8.4	332	0.1
4/12/2010	8.4	8.4	8.6	8.4	336	0.1
4/19/2010	8.5	8.3	8.7	8.4	334	0.1
4/26/2010	8.5	8.4	8.6	8.5	336	0.0
5/3/2010	8.7	8.4	9.0	8.7	334	0.2
5/10/2010	8.6	8.4	8.8	8.6	334	0.1
5/17/2010	8.6	8.4	8.8	8.6	334	0.1
5/24/2010	8.6	8.2	8.9	8.6	333	0.2
5/31/2010	8.5	8.2	8.9	8.5	334	0.2
6/7/2010	8.4	7.9	8.8	8.4	336	0.2
6/14/2010	8.0	7.8	8.4	8.0	334	0.1
6/21/2010	7.9	7.7	8.3	7.9	335	0.1
6/28/2010	8.2	7.9	8.5	8.2	334	0.2
7/5/2010	8.5	8.2	8.8	8.5	334	0.2
7/12/2010	8.4	8.1	8.9	8.5	335	0.2
7/19/2010	8.7	8.1	9.0	8.8	333	0.2
7/26/2010	8.7	8.2	9.0	8.7	334	0.2
8/2/2010	8.5	8.0	9.0	8.5	333	0.2
8/9/2010	8.6	8.0	9.1	8.6	333	0.3
8/16/2010	8.6	8.2	9.0	8.6	333	0.2
8/23/2010	8.6	8.3	8.9	8.7	334	0.2
8/30/2010	8.6	8.2	9.0	8.6	334	0.2
9/6/2010	8.7	8.5	8.9	8.7	334	0.1
9/13/2010	8.6	8.3	8.8	8.6	334	0.1
9/20/2010	8.3	8.2	8.4	8.3	336	0.1
9/27/2010	8.6	8.2	8.8	8.6	334	0.2
10/4/2010	8.6	8.4	8.8	8.6	336	0.1
10/11/2010	8.5	8.4	8.7	8.5	334	0.1
10/18/2010	8.5	8.4	8.5	8.5	336	0.0
10/25/2010	8.4	8.3	8.6	8.4	334	0.1
11/1/2010	8.3	8.2	8.3	8.3	336	0.0
11/8/2010	8.4	8.3	8.5	8.4	335	0.1
11/15/2010	8.3	8.2	8.3	8.3	336	0.0
11/22/2010	8.2	8.2	8.2	8.2	75	0.0



Table A-10. Turbidity, Platte River, Weekly Average, Duncan, NE

Turbidity, NTU						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	9	5	23	8	267	3
3/29/2010	11	5	26	11	335	4
4/5/2010	11	6	26	10	331	3
4/12/2010	19	9	50	16	326	8
4/19/2010	22	11	48	20	331	6
4/26/2010	25	13	45	24	333	7
5/3/2010	38	15	65	37	331	13
5/10/2010	21	14	42	19	334	6
5/17/2010	29	18	57	28	329	6
5/24/2010	51	32	76	50	332	7
5/31/2010	46	33	79	44	329	8
6/7/2010	45	18	75	51	328	14
6/14/2010	15	9	39	15	332	3
6/21/2010	9	5	22	9	329	2
6/28/2010	10	4	30	9	333	5
7/5/2010	29	20	43	29	328	4
7/12/2010	64	30	107	74	289	22
7/19/2010	94	73	124	93	330	12
7/26/2010	104	80	117	103	330	5
8/2/2010	118	79	160	113	330	21
8/9/2010	121	95	159	116	330	16
8/16/2010	113	76	154	115	333	16
8/23/2010	92	70	129	89	333	13
8/30/2010	77	45	106	73	334	17
9/6/2010	100	83	125	98	331	9
9/13/2010	100	81	115	101	333	7
9/20/2010	78	67	102	78	330	6
9/27/2010	65	53	79	65	298	4
10/4/2010	57	47	69	58	333	4
10/11/2010	52	42	74	52	333	6
10/18/2010	42	35	54	41	336	3
10/25/2010	37	19	55	40	334	10
11/1/2010	53	22	83	53	323	14
11/8/2010	38	33	47	38	334	2
11/15/2010	34	30	45	34	331	2
11/22/2010	32	24	45	32	75	4



**Table A-11. Dissolved Oxygen, Weekly Average, Platte River, Duncan, NE**

Dissolved Oxygen, mg/L						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	10.7	9.9	11.7	10.7	269	0.4
3/29/2010	9.8	8.6	11.6	9.7	336	0.7
4/5/2010	10.9	9.3	12.6	11.0	332	0.8
4/12/2010	10.5	9.0	12.3	10.4	336	0.9
4/19/2010	10.1	8.9	11.8	9.9	334	0.8
4/26/2010	10.1	8.5	11.8	10.2	336	0.9
5/3/2010	10.6	8.4	13.3	10.4	334	1.4
5/10/2010	10.8	8.7	12.7	10.7	334	1.2
5/17/2010	10.0	7.4	12.8	9.7	334	1.6
5/24/2010	9.6	6.6	15.4	8.8	333	2.5
5/31/2010	9.8	6.7	15.2	9.0	334	2.5
6/7/2010	9.3	6.5	14.7	8.6	336	2.4
6/14/2010	7.7	5.8	10.7	7.4	333	1.4
6/21/2010	6.5	4.9	8.6	6.3	335	1.0
6/28/2010	7.4	5.4	10.2	7.1	334	1.3
7/5/2010	8.6	6.0	13.5	8.0	334	2.0
7/12/2010	9.1	5.0	15.3	8.3	335	2.9
7/19/2010	8.3	5.3	12.5	7.6	333	2.2
7/26/2010	8.0	5.0	15.0	7.3	331	2.1
8/2/2010	8.4	5.0	12.8	7.7	327	2.4
8/9/2010	8.2	5.7	12.3	7.6	333	2.0
8/16/2010	9.1	6.2	13.8	8.2	333	2.4
8/23/2010	9.0	6.2	12.7	8.3	334	2.0
8/30/2010	9.6	6.7	13.6	8.7	334	2.2
9/6/2010	9.4	7.2	13.0	8.9	334	1.4
9/13/2010	9.3	7.4	11.8	9.3	334	1.3
9/20/2010	9.0	7.6	11.1	8.8	336	0.9
9/27/2010	9.7	8.2	11.7	9.3	334	1.1
10/4/2010	9.6	8.4	11.2	9.5	336	0.8
10/11/2010	9.8	8.5	11.1	9.7	334	0.7
10/18/2010	10.0	8.9	11.0	9.9	336	0.5
10/25/2010	10.8	9.4	12.3	10.9	334	0.7
11/1/2010	11.4	10.5	12.4	11.4	336	0.4
11/8/2010	11.4	10.1	12.6	11.4	335	0.7
11/15/2010	12.5	11.5	13.5	12.4	336	0.6
11/22/2010	13.6	13.2	14.4	13.5	75	0.4



Table A-12. Discharge, Platte River, Weekly Average, Duncan, NE

Discharge, cfs						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	2,941	2,240	3,620	3,040	672	455
3/29/2010	2,507	1,920	3,200	2,420	672	422
4/5/2010	2,113	1,720	2,940	1,980	672	384
4/12/2010	2,141	1,520	2,980	2,030	671	480
4/19/2010	2,151	1,670	2,940	2,010	672	357
4/26/2010	2,101	1,300	2,730	2,120	672	483
5/3/2010	1,858	1,350	2,640	1,790	671	367
5/10/2010	3,124	2,640	3,580	3,070	672	227
5/17/2010	2,635	2,270	2,940	2,670	672	188
5/24/2010	2,268	1,980	2,730	2,255	672	168
5/31/2010	2,439	1,820	2,910	2,480	672	249
6/7/2010	3,281	1,920	5,320	3,240	672	1,136
6/14/2010	7,532	5,320	10,700	7,710	672	1,137
6/21/2010	11,004	10,000	12,000	11,000	672	506
6/28/2010	6,752	3,690	10,000	7,215	672	1,842
7/5/2010	3,594	3,240	4,420	3,480	672	260
7/12/2010	2,488	1,640	3,800	2,180	672	693
7/19/2010	2,507	1,720	3,410	2,300	671	554
7/26/2010	2,614	1,740	3,370	2,550	671	482
8/2/2010	1,909	1,520	2,580	1,790	672	292
8/9/2010	2,388	1,500	2,820	2,610	672	415
8/16/2010	2,252	1,300	2,880	2,360	672	473
8/23/2010	2,292	1,260	3,110	2,420	658	626
8/30/2010	1,061	866	1,260	1,090	671	102
9/6/2010	1,273	1,030	1,520	1,240	672	153
9/13/2010	1,716	1,460	2,360	1,640	671	211
9/20/2010	2,282	2,010	2,790	2,330	672	219
9/27/2010	2,118	1,950	2,360	2,090	669	88
10/4/2010	2,150	2,030	2,300	2,150	667	59
10/11/2010	2,545	2,300	2,880	2,420	670	200
10/18/2010	2,618	2,420	2,790	2,640	671	92
10/25/2010	2,183	1,120	2,790	2,580	670	629
11/1/2010	2,221	1,140	2,820	2,360	676	449
11/8/2010	2,930	2,700	3,110	2,940	659	107
11/15/2010	2,951	2,640	3,310	2,910	672	199
11/22/2010	3,323	3,240	3,370	3,310	288	33



Table A-13. Temperature, Weekly Average, Platte River, Grand Island, NE

Temperature, °C						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	8.7	5.0	12.1	8.8	266	1.8
3/29/2010	12.8	7.9	16.4	12.9	336	2.1
4/5/2010	12.0	6.6	18.9	11.6	334	2.7
4/12/2010	16.0	10.1	20.5	16.1	336	2.3
4/19/2010	16.2	12.6	20.6	15.8	334	1.9
4/26/2010	15.5	9.7	22.1	15.4	336	2.7
5/3/2010	15.1	10.3	20.6	14.8	333	2.5
5/10/2010	14.0	8.7	21.3	13.4	334	3.1
5/17/2010	18.8	13.3	27.1	18.5	334	3.9
5/24/2010	24.0	19.9	29.6	23.9	334	2.3
5/31/2010	24.0	17.7	28.6	24.2	332	2.5
6/7/2010	23.7	19.6	28.6	23.5	336	2.1
6/14/2010	24.3	20.4	29.3	23.9	333	2.1
6/21/2010	25.8	20.8	30.6	25.6	334	2.2
6/28/2010	26.1	22.8	29.8	26.0	334	1.9
7/5/2010	25.4	21.1	30.7	24.9	332	2.4
7/12/2010	28.2	23.1	32.9	28.0	325	2.4
7/19/2010	27.9	24.2	33.0	27.6	298	2.1
7/26/2010	28.7	24.0	34.1	28.5	334	2.5
8/2/2010	28.8	24.9	33.5	28.6	334	2.3
8/9/2010	28.9	22.9	33.8	28.8	334	2.6
8/16/2010	25.9	20.1	31.8	25.6	333	3.2
8/23/2010	24.4	19.5	29.0	24.6	333	2.4
8/30/2010	23.0	16.3	30.7	22.9	334	3.3
9/6/2010	21.0	16.0	24.7	21.0	334	1.9
9/13/2010	20.5	13.7	27.4	20.9	334	3.5
9/20/2010	20.5	14.8	26.3	20.6	336	2.6
9/27/2010	18.1	12.3	22.2	18.0	334	2.3
10/4/2010	17.2	11.8	21.8	17.3	336	2.3
10/11/2010	15.1	11.4	18.1	15.2	334	1.6
10/18/2010	14.0	10.8	17.8	14.2	335	1.6
10/25/2010	10.3	5.6	16.0	10.0	333	2.4
11/1/2010	8.8	4.9	12.6	8.8	336	1.8
11/8/2010	8.3	4.0	13.7	8.0	337	2.5
11/15/2010	5.2	2.4	9.1	5.1	336	1.8
11/22/2010	2.2	0.1	4.0	2.1	79	1.0





**Table A-14. Specific Conductance, Weekly Average, Platte River, Grand Island, NE**

Specific Conductance, mS/cm						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	1.043	1.018	1.073	1.040	266	0.016
3/29/2010	1.069	1.009	1.097	1.071	335	0.016
4/5/2010	1.029	0.954	1.080	1.038	334	0.034
4/12/2010	0.992	0.887	1.072	0.982	141	0.055
4/19/2010	1.014	0.950	1.053	1.025	255	0.030
4/26/2010	0.997	0.920	1.054	1.014	242	0.039
5/3/2010	0.993	0.934	1.039	0.992	212	0.027
5/10/2010	0.994	0.937	1.022	0.999	208	0.015
5/17/2010	0.975	0.844	1.032	0.981	302	0.040
5/24/2010	0.965	0.921	1.019	0.958	34	0.028
5/31/2010	1.065	0.924	1.098	1.074	268	0.030
6/7/2010	1.024	0.930	1.088	1.029	274	0.033
6/14/2010	0.828	0.727	0.934	0.829	206	0.051
6/21/2010	0.798	0.546	0.987	0.865	332	0.136
6/28/2010	1.031	0.858	1.075	1.049	334	0.046
7/5/2010	1.004	0.934	1.042	1.007	331	0.022
7/12/2010	1.008	0.884	1.039	1.018	131	0.034
7/19/2010	0.965	0.860	1.011	0.972	239	0.034
7/26/2010	0.980	0.866	1.023	0.999	223	0.044
8/2/2010	0.970	0.930	0.995	0.970	137	0.015
8/9/2010	0.978	0.919	1.003	0.978	245	0.013
8/16/2010	0.949	0.875	0.978	0.954	193	0.022
8/23/2010	0.949	0.872	0.981	0.955	217	0.023
8/30/2010	0.961	0.928	1.015	0.955	324	0.019
9/6/2010	0.930	0.838	0.961	0.931	334	0.017
9/13/2010	0.899	0.823	0.939	0.913	334	0.032
9/20/2010	0.907	0.865	0.930	0.908	336	0.015
9/27/2010	0.905	0.852	0.929	0.909	213	0.015
10/4/2010	0.901	0.825	0.927	0.912	186	0.023
10/11/2010	0.880	0.868	0.886	0.880	301	0.004
10/18/2010	0.882	0.866	0.889	0.883	335	0.004
10/25/2010	0.904	0.875	0.943	0.896	333	0.017
11/1/2010	0.854	0.764	0.895	0.870	336	0.033
11/8/2010	0.873	0.801	0.897	0.874	116	0.014
11/15/2010	--	--	--	--	--	--
11/22/2010	--	--	--	--	--	--



**Table A-15. pH, Platte River, Weekly Average, Grand Island, NE**

Date	pH					
	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	8.6	8.4	8.6	8.6	266	0.0
3/29/2010	8.5	8.5	8.7	8.5	336	0.0
4/5/2010	8.5	8.3	8.6	8.5	334	0.1
4/12/2010	8.4	8.2	8.6	8.4	336	0.1
4/19/2010	8.5	8.3	8.7	8.5	334	0.1
4/26/2010	8.5	8.4	8.7	8.5	336	0.1
5/3/2010	8.5	8.1	8.8	8.6	333	0.1
5/10/2010	8.5	8.3	8.7	8.5	334	0.1
5/17/2010	8.4	8.2	8.7	8.4	334	0.1
5/24/2010	8.3	7.9	8.8	8.3	334	0.2
5/31/2010	8.3	8.0	8.7	8.3	332	0.2
6/7/2010	8.3	7.8	8.8	8.3	336	0.2
6/14/2010	7.8	7.5	8.2	7.7	333	0.2
6/21/2010	7.7	7.4	8.3	7.7	334	0.2
6/28/2010	8.2	7.8	8.7	8.2	334	0.2
7/5/2010	8.3	7.8	8.7	8.3	332	0.2
7/12/2010	8.4	8.0	8.8	8.4	325	0.2
7/19/2010	8.8	8.4	9.1	8.8	298	0.2
7/26/2010	8.4	7.8	9.0	8.5	334	0.3
8/2/2010	8.2	7.3	8.7	8.3	334	0.4
8/9/2010	8.5	8.2	8.7	8.5	334	0.1
8/16/2010	8.3	8.1	8.7	8.3	333	0.1
8/23/2010	8.4	8.1	8.7	8.5	333	0.1
8/30/2010	8.5	8.1	8.8	8.5	334	0.2
9/6/2010	8.2	7.7	8.6	8.3	334	0.2
9/13/2010	8.3	7.9	8.6	8.3	334	0.2
9/20/2010	8.1	7.6	8.4	8.1	336	0.2
9/27/2010	8.1	7.7	8.6	8.1	334	0.3
10/4/2010	8.0	7.6	8.4	8.0	336	0.2
10/11/2010	8.2	7.7	8.5	8.2	334	0.2
10/18/2010	8.1	7.8	8.4	8.1	335	0.1
10/25/2010	8.1	7.9	8.5	8.1	333	0.2
11/1/2010	7.9	7.6	8.3	7.9	336	0.2
11/8/2010	8.1	7.7	8.7	8.1	285	0.3
11/15/2010	--	--	--	--	--	--
11/22/2010	--	--	--	--	--	--



Table A-16. Turbidity, Platte River, Weekly Average, Grand Island, NE

Turbidity, NTU						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	15	5	37	13	266	6
3/29/2010	15	4	37	16	323	8
4/5/2010	10	4	26	8	331	4
4/12/2010	16	6	37	15	331	6
4/19/2010	16	5	89	12	286	11
4/26/2010	40	11	85	38	103	18
5/3/2010	29	10	59	29	325	9
5/10/2010	19	11	50	16	324	7
5/17/2010	20	10	39	20	251	6
5/24/2010	26	12	50	25	313	6
5/31/2010	22	8	44	24	322	8
6/7/2010	19	7	45	16	335	10
6/14/2010	25	7	74	15	331	21
6/21/2010	67	9	433	51	319	52
6/28/2010	11	5	30	8	334	6
7/5/2010	24	10	52	23	313	11
7/12/2010	71	18	110	72	321	24
7/19/2010	84	67	136	82	295	11
7/26/2010	76	62	100	74	261	8
8/2/2010	99	64	134	104	313	16
8/9/2010	93	67	128	94	330	9
8/16/2010	104	75	140	102	307	12
8/23/2010	70	35	140	70	321	18
8/30/2010	50	34	88	50	273	10
9/6/2010	79	53	96	82	294	9
9/13/2010	70	45	96	71	323	10
9/20/2010	60	45	98	58	137	10
9/27/2010	39	25	52	41	206	7
10/4/2010	34	23	52	34	336	6
10/11/2010	40	32	70	40	334	4
10/18/2010	51	34	79	49	155	11
10/25/2010	31	17	70	25	314	12
11/1/2010	43	28	75	39	334	11
11/8/2010	27	23	49	26	310	4
11/15/2010	27	20	37	27	324	3
11/22/2010	25	21	32	25	76	2



**Table A-17. Dissolved Oxygen, Weekly Average, Platte River, Grand Island, NE**

Dissolved Oxygen, mg/L						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	11.5	10.7	12.7	11.5	266	0.5
3/29/2010	10.6	9.4	11.8	10.5	335	0.6
4/5/2010	10.0	8.6	11.4	10.1	334	0.7
4/12/2010	9.1	7.7	10.4	9.1	336	0.7
4/19/2010	9.3	8.2	10.8	9.3	334	0.5
4/26/2010	9.7	7.3	11.3	9.7	336	0.9
5/3/2010	10.1	8.2	11.8	9.9	333	1.0
5/10/2010	10.3	8.4	12.1	10.3	334	1.0
5/17/2010	9.4	7.0	11.6	9.4	334	1.1
5/24/2010	8.9	6.0	13.3	8.5	334	2.0
5/31/2010	7.9	6.3	10.9	7.7	332	1.2
6/7/2010	8.0	6.4	12.0	7.6	336	1.4
6/14/2010	6.1	4.3	10.0	5.9	333	1.4
6/21/2010	5.6	3.5	9.0	5.3	334	1.4
6/28/2010	7.7	5.0	11.9	7.2	334	2.0
7/5/2010	8.3	5.5	11.5	7.8	332	1.9
7/12/2010	8.8	5.5	14.0	7.9	325	2.5
7/19/2010	8.9	5.8	13.6	8.3	298	2.4
7/26/2010	8.4	5.7	12.2	7.9	334	2.1
8/2/2010	8.2	5.5	12.5	7.6	334	2.0
8/9/2010	7.3	5.1	10.2	7.0	334	1.5
8/16/2010	7.7	5.8	10.0	7.7	333	1.1
8/23/2010	8.0	5.8	10.2	8.0	333	1.0
8/30/2010	8.5	7.2	10.0	8.4	334	0.8
9/6/2010	8.6	7.4	10.0	8.4	334	0.7
9/13/2010	8.9	7.5	10.4	9.0	334	0.9
9/20/2010	8.8	7.5	10.4	8.7	336	0.7
9/27/2010	9.3	8.1	10.9	9.3	334	0.8
10/4/2010	9.3	7.7	10.8	9.3	336	0.8
10/11/2010	9.6	7.7	10.9	9.6	334	0.7
10/18/2010	9.9	8.8	10.9	9.8	335	0.6
10/25/2010	10.8	9.1	12.2	10.9	333	0.8
11/1/2010	11.5	10.3	12.9	11.4	336	0.6
11/8/2010	11.6	9.8	13.5	11.7	337	1.0
11/15/2010	12.4	11.1	13.6	12.4	336	0.7
11/22/2010	13.3	12.7	14.2	13.2	79	0.5



**Table A-18. Discharge, Platte River, Weekly Average, Grand Island, NE**

Discharge, cfs						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	1,955	1,310	2,770	1,880	672	515
3/29/2010	1,693	1,160	2,480	1,580	672	432
4/5/2010	1,194	1,010	1,740	1,150	672	166
4/12/2010	1,493	1,080	2,300	1,330	672	396
4/19/2010	1,468	1,000	2,280	1,275	672	418
4/26/2010	1,560	1,010	2,280	1,370	672	462
5/3/2010	1,838	1,090	2,700	1,840	672	504
5/10/2010	2,622	2,060	3,160	2,720	672	321
5/17/2010	2,093	1,520	2,530	2,130	672	286
5/24/2010	2,743	2,240	3,050	2,750	665	200
5/31/2010	2,723	2,370	2,970	2,820	672	180
6/7/2010	3,005	2,420	4,310	2,820	672	503
6/14/2010	6,534	4,270	7,950	6,660	672	1,001
6/21/2010	7,614	6,220	8,210	7,750	672	414
6/28/2010	5,144	3,030	6,940	5,210	672	1,447
7/5/2010	3,402	2,920	3,600	3,430	671	169
7/12/2010	2,919	2,600	3,210	2,950	150	186
7/19/2010	2,356	1,900	2,700	2,440	460	206
7/26/2010	1,691	1,140	2,460	1,610	672	411
8/2/2010	1,550	1,090	2,060	1,440	626	307
8/9/2010	1,708	1,160	2,150	1,730	672	339
8/16/2010	1,726	1,090	2,130	1,740	631	299
8/23/2010	1,776	1,080	2,420	1,820	580	366
8/30/2010	1,152	963	1,280	1,190	668	83
9/6/2010	1,503	1,210	1,780	1,440	576	173
9/13/2010	1,857	1,650	2,040	1,880	768	109
9/20/2010	2,087	1,940	2,260	2,090	672	108
9/27/2010	2,078	1,940	2,210	2,060	672	63
10/4/2010	1,995	1,920	2,150	1,980	672	50
10/11/2010	2,192	1,960	2,370	2,210	672	117
10/18/2010	1,886	1,740	2,000	1,920	672	84
10/25/2010	1,436	938	1,980	1,260	672	412
11/1/2010	1,992	1,310	2,240	2,060	676	224
11/8/2010	2,145	2,020	2,240	2,150	672	50
11/15/2010	2,454	2,130	2,630	2,560	672	186
11/22/2010	2,584	2,480	2,630	2,600	288	24



**Table A-19. Temperature, Weekly Average, Platte River, Shelton, NE**

Temperature, °C						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	8.9	4.9	13.7	8.8	264	2.1
3/29/2010	12.5	7.5	16.8	12.4	336	2.4
4/5/2010	11.8	6.3	18.1	11.5	334	2.6
4/12/2010	15.7	10.0	20.7	15.6	336	2.3
4/19/2010	15.4	12.4	20.2	15.1	334	1.9
4/26/2010	15.1	9.3	23.0	14.7	336	2.9
5/3/2010	14.9	10.7	22.4	14.5	334	2.5
5/10/2010	13.7	8.9	20.0	13.4	334	2.6
5/17/2010	17.9	12.7	26.6	17.6	334	3.9
5/24/2010	23.2	19.6	27.5	23.1	334	1.8
5/31/2010	23.6	19.3	28.1	23.6	333	2.0
6/7/2010	23.0	20.0	26.5	22.7	336	1.7
6/14/2010	23.7	20.2	27.0	23.8	334	1.7
6/21/2010	25.8	21.6	29.4	25.9	334	1.8
6/28/2010	25.8	23.4	28.5	25.9	334	1.3
7/5/2010	25.0	21.6	29.7	24.5	334	2.0
7/12/2010	27.8	23.6	32.2	27.6	334	2.1
7/19/2010	27.5	24.3	31.2	27.3	294	1.8
7/26/2010	28.1	24.2	33.2	28.0	334	2.2
8/2/2010	28.8	24.8	33.0	28.5	332	2.1
8/9/2010	28.7	22.7	33.2	28.8	334	2.4
8/16/2010	25.7	21.4	30.6	25.7	334	2.5
8/23/2010	24.1	19.8	29.6	24.3	334	2.2
8/30/2010	22.5	17.4	28.2	22.6	334	2.4
9/6/2010	20.9	16.9	23.9	20.9	334	1.5
9/13/2010	20.5	14.6	26.0	20.9	328	3.0
9/20/2010	20.3	15.3	24.5	20.5	336	2.1
9/27/2010	18.1	13.4	21.8	18.1	334	1.9
10/4/2010	16.9	12.8	20.4	17.0	336	1.8
10/11/2010	15.0	11.9	17.7	15.1	334	1.3
10/18/2010	14.1	11.6	17.3	14.2	336	1.3
10/25/2010	10.5	6.0	15.2	10.3	333	2.1
11/1/2010	9.2	6.0	12.4	9.2	336	1.5
11/8/2010	8.4	5.2	12.6	7.9	336	2.0
11/15/2010	5.9	3.3	9.0	6.1	336	1.5
11/22/2010	3.3	1.7	5.3	3.2	81	1.0



Table A-20. Specific Conductance, Weekly Average, Platte River, Shelton, NE

Specific Conductance, mS/cm						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	1.082	1.035	1.132	1.080	264	0.015
3/29/2010	0.996	0.927	1.099	0.977	223	0.041
4/5/2010	1.012	0.897	1.123	1.015	253	0.034
4/12/2010	0.966	0.843	1.052	0.972	320	0.062
4/19/2010	1.004	0.924	1.049	1.024	284	0.042
4/26/2010	1.034	0.975	1.073	1.041	231	0.026
5/3/2010	0.988	0.918	1.042	0.990	207	0.029
5/10/2010	0.998	0.906	1.039	1.013	279	0.035
5/17/2010	1.024	0.959	1.060	1.031	305	0.026
5/24/2010	1.038	0.955	1.081	1.040	315	0.025
5/31/2010	1.074	0.960	1.096	1.082	254	0.026
6/7/2010	0.999	0.824	1.099	1.014	132	0.075
6/14/2010	0.889	0.748	1.020	0.888	203	0.084
6/21/2010	0.974	0.873	1.092	0.978	300	0.058
6/28/2010	1.084	0.995	1.112	1.091	217	0.027
7/5/2010	1.043	1.004	1.077	1.031	199	0.019
7/12/2010	1.028	0.990	1.086	1.023	125	0.023
7/19/2010	0.977	0.838	1.011	0.979	254	0.032
7/26/2010	1.016	0.951	1.048	1.018	311	0.017
8/2/2010	0.978	0.952	0.999	0.979	200	0.011
8/9/2010	0.971	0.869	0.990	0.974	334	0.017
8/16/2010	0.879	0.810	0.980	0.863	182	0.051
8/23/2010	0.930	0.800	0.988	0.962	207	0.057
8/30/2010	0.937	0.907	0.978	0.927	223	0.018
9/6/2010	0.913	0.840	0.945	0.916	183	0.015
9/13/2010	0.902	0.861	0.921	0.908	37	0.016
9/20/2010	0.883	0.816	0.921	0.890	240	0.020
9/27/2010	0.867	0.818	0.917	0.871	112	0.026
10/4/2010	0.874	0.837	0.894	0.874	149	0.010
10/11/2010	0.878	0.850	0.913	0.877	297	0.006
10/18/2010	0.871	0.824	0.891	0.876	309	0.012
10/25/2010	0.897	0.852	0.948	0.899	307	0.019
11/1/2010	0.876	0.846	0.881	0.876	336	0.004
11/8/2010	0.869	0.833	0.886	0.868	336	0.010
11/15/2010	0.857	0.837	0.870	0.856	336	0.006
11/22/2010	0.852	0.848	0.857	0.852	81	0.003



Table A-21. pH, Platte River, Weekly Average, Shelton, NE

Date	pH					
	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	8.4	8.2	8.4	8.4	264	0.0
3/29/2010	8.4	8.3	8.5	8.4	336	0.0
4/5/2010	8.3	8.1	8.4	8.3	334	0.1
4/12/2010	8.2	7.9	8.4	8.2	336	0.1
4/19/2010	8.2	7.7	8.5	8.3	334	0.2
4/26/2010	8.4	8.4	8.6	8.4	336	0.1
5/3/2010	8.5	8.4	8.6	8.5	334	0.1
5/10/2010	8.3	8.2	8.6	8.3	334	0.1
5/17/2010	8.2	8.1	8.4	8.2	334	0.1
5/24/2010	8.4	8.1	8.8	8.4	334	0.2
5/31/2010	8.3	8.1	8.6	8.2	333	0.1
6/7/2010	8.2	8.0	8.6	8.1	336	0.1
6/14/2010	7.9	7.7	8.1	7.9	334	0.1
6/21/2010	7.8	7.6	8.0	7.8	334	0.1
6/28/2010	8.2	7.8	8.8	8.2	334	0.3
7/5/2010	8.2	8.0	8.6	8.2	334	0.1
7/12/2010	8.2	7.9	8.4	8.2	334	0.1
7/19/2010	8.3	7.8	8.7	8.3	294	0.2
7/26/2010	8.4	8.1	8.6	8.4	334	0.1
8/2/2010	8.3	8.0	8.7	8.3	332	0.2
8/9/2010	8.2	8.0	8.5	8.3	334	0.1
8/16/2010	8.1	8.0	8.4	8.1	334	0.1
8/23/2010	8.4	7.9	8.6	8.5	334	0.2
8/30/2010	8.5	8.3	8.7	8.5	334	0.1
9/6/2010	8.4	8.3	8.6	8.4	334	0.1
9/13/2010	8.4	8.3	8.5	8.3	328	0.1
9/20/2010	8.3	8.2	8.5	8.3	336	0.1
9/27/2010	8.4	8.3	8.5	8.4	334	0.1
10/4/2010	8.4	8.3	8.5	8.4	336	0.0
10/11/2010	8.4	8.3	8.5	8.4	334	0.0
10/18/2010	8.4	8.3	8.5	8.4	336	0.0
10/25/2010	8.4	8.3	8.5	8.4	333	0.0
11/1/2010	8.4	8.3	8.4	8.4	336	0.0
11/8/2010	8.4	8.3	8.5	8.4	336	0.0
11/15/2010	8.4	8.3	8.5	8.4	336	0.0
11/22/2010	8.4	8.4	8.4	8.4	81	0.0





Table A-22. Turbidity, Platte River, Weekly Average, Shelton, NE

Turbidity, NTU						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	13	5	29	13	259	5
3/29/2010	13	4	34	13	311	6
4/5/2010	11	3	28	8	301	7
4/12/2010	15	5	39	14	321	7
4/19/2010	17	3	49	18	322	12
4/26/2010	24	8	68	22	275	13
5/3/2010	27	10	44	26	250	7
5/10/2010	20	17	30	20	321	2
5/17/2010	24	11	51	23	332	7
5/24/2010	26	18	89	23	270	10
5/31/2010	36	22	113	28	280	20
6/7/2010	45	29	104	41	238	13
6/14/2010	36	8	174	20	291	38
6/21/2010	14	6	37	12	332	8
6/28/2010	17	5	50	13	332	12
7/5/2010	40	31	71	38	271	8
7/12/2010	63	47	86	62	253	8
7/19/2010	70	55	87	70	282	4
7/26/2010	63	49	87	62	327	6
8/2/2010	72	49	101	72	328	9
8/9/2010	71	59	92	70	331	6
8/16/2010	78	59	107	79	330	11
8/23/2010	61	42	99	62	333	9
8/30/2010	67	50	98	63	334	12
9/6/2010	64	50	81	65	333	6
9/13/2010	54	39	74	54	319	7
9/20/2010	53	38	100	50	279	11
9/27/2010	59	32	190	42	263	36
10/4/2010	37	31	50	37	335	3
10/11/2010	31	26	46	31	333	3
10/18/2010	44	26	69	42	331	11
10/25/2010	47	21	103	43	305	18
11/1/2010	36	23	62	35	334	8
11/8/2010	24	16	53	22	332	5
11/15/2010	19	13	36	19	336	3
11/22/2010	17	14	38	16	81	4

**Table A-23. Dissolved Oxygen, Weekly Average, Platte River, Shelton, NE**

Dissolved Oxygen, mg/L						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	11.3	10.3	12.6	11.2	264	0.6
3/29/2010	10.4	9.2	12.0	10.3	336	0.7
4/5/2010	10.5	9.1	14.9	10.4	334	0.7
4/12/2010	9.9	8.4	12.0	9.7	336	0.9
4/19/2010	9.5	8.3	12.1	9.3	334	0.7
4/26/2010	9.7	8.2	11.4	9.6	336	0.8
5/3/2010	9.9	8.2	12.0	9.7	334	1.0
5/10/2010	10.1	8.6	12.0	10.1	334	0.9
5/17/2010	9.3	7.1	11.3	9.3	334	1.0
5/24/2010	9.2	6.4	13.7	8.8	334	2.1
5/31/2010	7.7	6.5	10.4	7.5	333	0.9
6/7/2010	7.4	6.0	10.3	7.3	336	0.8
6/14/2010	6.3	4.8	8.2	6.3	334	0.7
6/21/2010	5.7	4.5	7.2	5.7	334	0.7
6/28/2010	7.7	4.8	13.2	6.8	334	2.4
7/5/2010	7.3	5.7	11.9	6.9	334	1.5
7/12/2010	6.8	4.7	9.5	6.6	334	1.3
7/19/2010	7.8	4.6	11.1	7.3	294	1.6
7/26/2010	7.6	6.0	10.5	7.4	334	1.1
8/2/2010	7.1	5.2	9.4	6.9	332	1.1
8/9/2010	7.0	5.8	8.7	6.9	334	0.9
8/16/2010	7.2	6.0	8.4	7.1	334	0.6
8/23/2010	7.6	5.8	8.8	7.6	334	0.8
8/30/2010	8.2	7.3	9.3	8.1	334	0.5
9/6/2010	8.4	7.4	9.4	8.3	334	0.5
9/13/2010	8.5	7.6	9.7	8.5	326	0.6
9/20/2010	8.5	7.5	9.8	8.4	336	0.6
9/27/2010	9.0	8.0	10.1	9.0	334	0.6
10/4/2010	9.2	8.4	10.1	9.2	336	0.5
10/11/2010	9.5	8.7	10.5	9.5	334	0.5
10/18/2010	9.7	8.9	10.6	9.6	336	0.5
10/25/2010	10.5	9.1	11.7	10.6	333	0.6
11/1/2010	11.1	10.3	11.9	11.1	336	0.4
11/8/2010	11.1	10.0	12.2	11.2	336	0.6
11/15/2010	11.8	10.9	12.7	11.8	336	0.5
11/22/2010	12.7	12.3	13.5	12.5	81	0.4



**Table A-24. Discharge, Platte River, Weekly Average, Shelton, NE**

Discharge, cfs						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	1,814	1,043	2,761	1,742	336	599
3/29/2010	1,545	937	2,468	1,382	336	525
4/5/2010	1,366	997	2,632	1,158	336	440
4/12/2010	1,606	1,010	2,733	1,317	336	587
4/19/2010	1,563	878	2,544	1,352	336	594
4/26/2010	1,673	868	2,535	1,609	336	642
5/3/2010	2,167	1,016	2,900	2,411	336	611
5/10/2010	2,499	1,837	3,129	2,463	336	329
5/17/2010	1,945	1,111	2,431	1,991	336	371
5/24/2010	2,481	1,849	2,848	2,497	336	197
5/31/2010	2,461	1,861	2,801	2,560	336	233
6/7/2010	2,729	2,019	3,620	2,682	336	412
6/14/2010	6,514	3,639	8,128	6,838	336	1,360
6/21/2010	7,660	6,010	8,280	7,744	336	560
6/28/2010	5,148	3,051	7,812	4,634	336	1,814
7/5/2010	3,352	2,628	3,785	3,502	336	315
7/12/2010	2,399	1,997	2,762	2,450	336	193
7/19/2010	2,436	1,927	2,820	2,473	336	275
7/26/2010	1,767	1,153	2,629	1,623	336	441
8/2/2010	1,775	1,138	2,304	1,773	336	368
8/9/2010	1,574	948	2,248	1,660	336	426
8/16/2010	1,772	897	2,240	1,887	310	380
8/23/2010	1,458	868	2,290	1,547	336	355
8/30/2010	1,329	911	1,673	1,410	336	206
9/6/2010	1,561	1,151	1,840	1,566	207	177
9/13/2010	--	--	--	--	--	--
9/20/2010	--	--	--	--	--	--
9/27/2010	2,113	2,113	2,113	2,113	1	--
10/4/2010	--	--	--	--	--	--
10/11/2010	--	--	--	--	--	--
10/18/2010	3,027	2,652	3,510	2,955	256	269
10/25/2010	2,689	1,637	3,880	2,726	336	823
11/1/2010	3,283	1,684	4,632	4,040	336	1,287
11/8/2010	2,046	1,938	2,152	2,045	116	62
11/15/2010	2,675	2,352	2,852	2,679	265	97
11/22/2010	2,615	2,541	2,676	2,617	144	31



**Table A-25. Temperature, Weekly Average, Platte River, Kearney, NE**

Temperature, °C						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	8.6	5.2	12.1	8.6	259	1.7
3/29/2010	12.1	7.5	16.1	12.0	336	2.2
4/5/2010	11.6	6.0	16.5	11.6	334	2.2
4/12/2010	15.5	10.6	20.2	15.4	336	2.2
4/19/2010	14.8	12.1	19.3	14.5	334	1.7
4/26/2010	14.7	8.9	21.6	14.6	336	2.7
5/3/2010	14.5	10.5	20.0	14.2	334	2.2
5/10/2010	13.5	9.1	18.7	13.6	336	2.4
5/17/2010	17.3	12.3	25.5	17.0	335	3.8
5/24/2010	22.4	18.6	26.8	22.3	336	2.0
5/31/2010	23.3	19.0	27.3	23.3	334	1.9
6/7/2010	22.7	19.4	26.2	22.4	336	1.7
6/14/2010	23.4	19.8	27.1	23.5	334	1.9
6/21/2010	25.5	21.3	29.1	25.6	333	1.8
6/28/2010	25.6	23.2	28.5	25.5	334	1.4
7/5/2010	24.8	21.6	28.9	24.3	334	1.9
7/12/2010	27.2	23.5	30.9	27.1	334	1.9
7/19/2010	27.2	24.5	30.8	27.1	334	1.6
7/26/2010	27.6	24.2	32.0	27.5	334	2.0
8/2/2010	28.2	24.0	32.0	28.2	334	1.9
8/9/2010	28.0	22.4	32.2	28.0	334	2.4
8/16/2010	25.3	21.1	29.7	25.4	334	2.3
8/23/2010	23.8	19.5	28.3	24.0	334	2.1
8/30/2010	22.4	17.5	27.8	22.7	333	2.2
9/6/2010	20.9	16.8	24.2	20.9	334	1.6
9/13/2010	20.4	14.9	24.8	20.8	334	2.8
9/20/2010	20.1	16.0	23.9	20.3	336	1.8
9/27/2010	18.1	13.7	21.2	18.1	334	1.8
10/4/2010	16.7	13.2	19.5	16.7	336	1.5
10/11/2010	15.0	12.2	17.2	15.2	334	1.1
10/18/2010	14.1	11.8	16.6	14.3	336	1.1
10/25/2010	11.3	8.8	14.7	10.8	197	1.7
11/1/2010	9.4	6.4	11.6	9.4	336	1.3
11/8/2010	8.4	5.4	11.9	7.8	336	1.7
11/15/2010	6.0	3.7	8.3	6.3	336	1.4
11/22/2010	3.0	1.7	5.0	2.8	120	1.1



Table A-26. Specific Conductance, Weekly Average, Platte River, Kearney, NE

Specific Conductance, mS/cm						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	1.045	0.986	1.105	1.056	259	0.031
3/29/2010	1.050	0.936	1.111	1.054	311	0.030
4/5/2010	1.003	0.878	1.126	0.997	332	0.044
4/12/2010	1.026	0.969	1.125	1.027	336	0.028
4/19/2010	1.004	0.835	1.039	1.015	294	0.037
4/26/2010	1.000	0.911	1.034	1.004	195	0.025
5/3/2010	0.991	0.956	1.030	0.989	334	0.014
5/10/2010	1.011	0.983	1.045	1.009	334	0.011
5/17/2010	1.031	0.942	1.096	1.037	323	0.038
5/24/2010	1.046	0.983	1.075	1.046	336	0.018
5/31/2010	1.059	0.955	1.110	1.071	306	0.039
6/7/2010	0.998	0.818	1.094	1.001	336	0.062
6/14/2010	0.864	0.673	1.024	0.877	334	0.115
6/21/2010	0.983	0.873	1.093	0.989	333	0.064
6/28/2010	1.088	1.039	1.117	1.088	334	0.018
7/5/2010	1.027	0.986	1.076	1.023	334	0.025
7/12/2010	1.021	0.938	1.062	1.031	334	0.031
7/19/2010	0.979	0.906	1.018	0.991	334	0.032
7/26/2010	1.021	0.983	1.045	1.021	334	0.016
8/2/2010	0.964	0.872	1.017	0.963	319	0.031
8/9/2010	0.943	0.848	0.997	0.972	305	0.045
8/16/2010	0.938	0.890	0.999	0.935	333	0.024
8/23/2010	0.934	0.807	0.976	0.943	334	0.037
8/30/2010	0.923	0.903	0.955	0.921	333	0.012
9/6/2010	0.896	0.802	0.927	0.913	210	0.034
9/13/2010	0.885	0.843	0.900	0.890	194	0.014
9/20/2010	0.881	0.835	0.903	0.887	323	0.016
9/27/2010	0.864	0.830	0.887	0.870	158	0.013
10/4/2010	0.854	0.832	0.862	0.856	31	0.007
10/11/2010	0.862	0.853	0.873	0.861	260	0.005
10/18/2010	0.845	0.823	0.860	0.849	90	0.009
10/25/2010	0.861	0.840	0.885	0.861	83	0.011
11/1/2010	0.843	0.824	0.867	0.846	29	0.010
11/8/2010	0.846	0.836	0.854	0.847	212	0.004
11/15/2010	0.832	0.820	0.849	0.830	336	0.007
11/22/2010	0.812	0.800	0.826	0.810	74	0.008



Table A-27. pH, Platte River, Weekly Average, Kearney, NE

Date	pH					
	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	8.6	8.4	8.7	8.5	259	0.1
3/29/2010	8.6	8.5	8.8	8.5	336	0.1
4/5/2010	8.4	8.2	8.6	8.4	334	0.1
4/12/2010	8.3	8.1	8.5	8.3	336	0.1
4/19/2010	8.3	7.9	8.5	8.3	334	0.1
4/26/2010	8.3	7.9	8.6	8.3	336	0.1
5/3/2010	8.4	7.8	8.8	8.4	334	0.3
5/10/2010	8.5	8.3	8.7	8.5	336	0.1
5/17/2010	8.3	8.0	8.6	8.3	335	0.1
5/24/2010	8.3	8.0	8.6	8.3	336	0.2
5/31/2010	8.2	7.9	8.6	8.3	334	0.1
6/7/2010	8.0	7.8	8.5	8.0	336	0.1
6/14/2010	7.9	7.8	8.3	7.9	334	0.1
6/21/2010	7.9	7.7	8.1	7.9	333	0.1
6/28/2010	8.3	7.8	8.8	8.3	334	0.3
7/5/2010	8.3	8.0	8.6	8.3	334	0.1
7/12/2010	8.4	8.2	8.6	8.4	334	0.1
7/19/2010	8.4	8.2	8.7	8.4	334	0.1
7/26/2010	8.4	8.2	8.6	8.4	334	0.1
8/2/2010	8.2	7.9	8.6	8.2	334	0.2
8/9/2010	8.4	8.0	8.6	8.4	334	0.1
8/16/2010	8.3	8.2	8.5	8.3	334	0.1
8/23/2010	8.4	8.3	8.5	8.4	334	0.0
8/30/2010	8.4	8.4	8.6	8.4	333	0.0
9/6/2010	8.4	8.0	8.5	8.4	334	0.1
9/13/2010	8.3	8.1	8.5	8.4	334	0.1
9/20/2010	8.3	8.2	8.4	8.3	336	0.0
9/27/2010	8.2	7.9	8.5	8.2	334	0.2
10/4/2010	8.2	7.9	8.5	8.1	336	0.2
10/11/2010	8.3	7.8	8.5	8.4	334	0.2
10/18/2010	8.4	8.4	8.5	8.4	336	0.0
10/25/2010	8.3	8.3	8.4	8.4	197	0.0
11/1/2010	8.3	8.2	8.4	8.3	336	0.0
11/8/2010	8.3	8.3	8.4	8.3	336	0.0
11/15/2010	8.3	8.2	8.3	8.3	336	0.0
11/22/2010	8.3	8.2	8.3	8.3	120	0.0



Table A-28. Turbidity, Platte River, Weekly Average, Kearney, NE

Turbidity, NTU						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	8	3	29	7	256	4
3/29/2010	7	1	21	8	334	4
4/5/2010	10	1	33	10	321	7
4/12/2010	14	6	43	12	329	6
4/19/2010	14	3	48	12	330	9
4/26/2010	21	7	53	17	315	10
5/3/2010	21	8	47	18	306	8
5/10/2010	18	9	39	17	293	6
5/17/2010	20	2	45	19	317	8
5/24/2010	18	10	39	17	328	4
5/31/2010	23	16	48	21	275	6
6/7/2010	161	17	885	79	188	192
6/14/2010	43	2	895	21	315	71
6/21/2010	12	4	46	8	289	8
6/28/2010	15	4	83	9	204	15
7/5/2010	40	29	114	37	265	11
7/12/2010	52	33	78	49	326	9
7/19/2010	54	39	80	53	161	10
7/26/2010	49	39	77	48	211	7
8/2/2010	56	42	74	55	279	6
8/9/2010	50	34	65	50	330	5
8/16/2010	57	31	119	55	318	13
8/23/2010	45	19	164	37	304	25
8/30/2010	43	27	73	41	308	10
9/6/2010	46	34	63	46	290	5
9/13/2010	42	30	65	41	209	6
9/20/2010	34	28	48	33	315	3
9/27/2010	31	26	48	30	311	4
10/4/2010	33	26	53	31	260	5
10/11/2010	31	21	87	27	304	11
10/18/2010	39	21	80	34	333	14
10/25/2010	44	15	104	39	196	20
11/1/2010	30	16	66	28	330	9
11/8/2010	16	10	31	14	329	4
11/15/2010	12	8	23	12	329	3
11/22/2010	10	7	20	10	118	2

**Table A-29. Dissolved Oxygen, Weekly Average, Platte River, Kearney, NE**

Dissolved Oxygen, mg/L						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	11.4	9.9	14.7	11.1	259	1.1
3/29/2010	10.5	8.6	14.5	10.2	336	1.2
4/5/2010	10.4	8.7	13.2	10.3	334	0.9
4/12/2010	9.7	8.1	14.0	9.3	336	1.4
4/19/2010	9.7	8.2	14.3	9.4	334	1.3
4/26/2010	9.9	8.0	14.9	9.4	336	1.6
5/3/2010	10.0	8.0	14.6	9.4	334	1.8
5/10/2010	9.8	7.8	13.3	9.4	336	1.5
5/17/2010	9.2	6.5	12.7	8.9	335	1.6
5/24/2010	8.9	5.8	12.9	8.4	336	2.2
5/31/2010	7.8	5.9	12.3	7.7	334	1.1
6/7/2010	7.4	6.3	9.6	7.4	336	0.7
6/14/2010	6.6	5.0	9.5	6.6	334	1.0
6/21/2010	6.1	4.2	9.2	5.9	331	1.2
6/28/2010	8.0	4.6	14.1	7.4	328	2.5
7/5/2010	8.0	6.1	11.6	7.6	334	1.3
7/12/2010	7.9	6.1	10.8	7.6	334	1.3
7/19/2010	7.8	6.1	10.3	7.5	334	1.2
7/26/2010	7.7	6.5	9.4	7.5	334	0.9
8/2/2010	7.6	6.4	9.7	7.3	334	0.9
8/9/2010	7.5	6.3	9.2	7.4	334	0.8
8/16/2010	7.7	6.8	8.9	7.6	334	0.6
8/23/2010	7.8	6.8	9.1	7.7	334	0.5
8/30/2010	8.0	7.0	9.1	8.0	333	0.6
9/6/2010	8.4	7.3	9.4	8.2	334	0.5
9/13/2010	8.5	7.6	9.6	8.6	334	0.6
9/20/2010	8.5	7.6	9.6	8.5	336	0.5
9/27/2010	9.0	8.0	10.1	9.0	334	0.6
10/4/2010	9.3	8.5	10.1	9.2	336	0.5
10/11/2010	9.3	7.4	10.7	9.2	326	0.4
10/18/2010	9.4	8.8	10.2	9.3	336	0.4
10/25/2010	10.0	8.8	11.3	10.2	197	0.7
11/1/2010	11.1	10.4	12.0	11.1	336	0.4
11/8/2010	11.3	10.2	12.3	11.4	336	0.6
11/15/2010	12.0	11.1	12.9	12.0	336	0.5
11/22/2010	12.9	12.4	13.6	12.9	120	0.4





Table A-30. Discharge, Platte River, Weekly Average, Kearney, NE

Discharge, cfs						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	1,764	934	2,790	1,650	672	682
3/29/2010	1,465	867	2,530	1,130	672	589
4/5/2010	1,285	795	2,660	917	672	614
4/12/2010	1,456	811	2,660	1,140	672	636
4/19/2010	1,253	582	2,460	942	672	672
4/26/2010	1,431	705	2,310	1,355	672	606
5/3/2010	1,940	772	2,690	2,110	672	629
5/10/2010	2,125	1,290	2,690	2,130	672	396
5/17/2010	1,579	595	2,260	1,720	671	504
5/24/2010	2,205	1,490	2,580	2,260	672	229
5/31/2010	1,969	1,230	2,520	1,980	672	266
6/7/2010	2,177	1,470	3,530	2,220	671	370
6/14/2010	6,868	3,570	8,280	7,195	670	1,288
6/21/2010	7,921	5,920	8,360	8,110	669	499
6/28/2010	4,460	1,900	8,210	3,710	671	2,206
7/5/2010	2,687	1,590	3,240	2,840	672	437
7/12/2010	1,852	1,380	2,310	1,890	672	224
7/19/2010	1,960	1,280	2,570	1,910	672	376
7/26/2010	1,343	705	2,150	1,195	666	388
8/2/2010	1,838	1,010	2,520	1,800	668	495
8/9/2010	1,550	671	2,530	1,660	672	600
8/16/2010	1,794	631	2,370	1,965	672	499
8/23/2010	1,396	568	2,070	1,575	672	495
8/30/2010	1,202	560	1,660	1,240	672	253
9/6/2010	1,546	946	1,710	1,580	672	140
9/13/2010	1,983	1,610	2,230	2,035	672	174
9/20/2010	2,153	1,980	2,240	2,160	672	43
9/27/2010	2,024	1,570	2,190	2,010	672	109
10/4/2010	2,023	1,910	2,130	2,030	616	59
10/11/2010	1,968	1,800	2,100	1,980	728	83
10/18/2010	1,672	1,510	1,820	1,700	672	111
10/25/2010	985	394	1,770	835	672	537
11/1/2010	1,526	1,440	1,670	1,500	676	63
11/8/2010	1,532	1,450	1,630	1,490	672	61
11/15/2010	2,173	1,610	2,400	2,320	672	268
11/22/2010	2,393	2,370	2,470	2,400	288	18



Table A-31. Temperature, Weekly Average, Platte River, Odessa, NE

Temperature, °C						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	8.6	4.7	12.8	8.4	255	2.1
3/29/2010	11.9	7.3	16.9	11.9	336	2.5
4/5/2010	11.6	6.2	16.7	11.5	334	2.4
4/12/2010	15.6	10.7	20.7	15.3	336	2.5
4/19/2010	14.9	11.7	19.5	14.5	334	2.0
4/26/2010	14.8	9.1	23.0	14.4	336	3.0
5/3/2010	14.6	10.3	20.9	14.2	333	2.4
5/10/2010	13.4	9.4	19.2	13.4	334	2.3
5/17/2010	17.3	12.1	26.2	16.7	334	3.8
5/24/2010	22.3	18.2	27.2	22.2	334	2.2
5/31/2010	23.3	18.7	27.6	23.3	334	2.2
6/7/2010	22.7	19.3	26.5	22.4	327	1.9
6/14/2010	24.7	22.2	27.9	24.4	165	1.5
6/21/2010	25.7	20.9	29.7	25.8	334	2.0
6/28/2010	25.6	22.9	29.2	25.5	334	1.6
7/5/2010	24.8	21.3	29.4	24.4	333	2.0
7/12/2010	27.0	23.1	31.6	26.9	334	2.1
7/19/2010	27.2	24.3	31.2	27.0	334	1.8
7/26/2010	27.6	24.1	32.6	27.4	334	2.2
8/2/2010	28.1	24.1	32.2	27.9	334	2.1
8/9/2010	28.0	22.3	32.3	27.8	334	2.5
8/16/2010	25.4	21.5	29.9	25.2	334	2.3
8/23/2010	23.7	19.3	28.8	23.9	334	2.3
8/30/2010	22.4	17.4	28.1	22.6	334	2.3
9/6/2010	20.9	16.9	24.6	20.8	334	1.7
9/13/2010	20.4	15.4	24.8	20.5	334	2.6
9/20/2010	19.7	16.2	22.6	20.1	92	2.1
9/27/2010	17.6	13.7	21.0	17.4	200	1.9
10/4/2010	16.7	13.1	20.1	16.7	336	1.7
10/11/2010	15.2	12.2	17.9	15.4	334	1.3
10/18/2010	14.1	11.3	16.5	14.2	336	1.2
10/25/2010	10.4	5.4	14.5	10.3	334	2.1
11/1/2010	9.5	6.4	12.4	9.5	336	1.5
11/8/2010	8.5	5.2	12.5	8.2	336	1.7
11/15/2010	6.2	3.9	8.9	6.3	336	1.4
11/22/2010	3.2	1.7	5.6	2.8	118	1.1



**Table A-32. Specific Conductance, Weekly Average, Platte River, Odessa, NE**

Specific Conductance, mS/cm						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	1.063	0.971	1.114	1.075	218	0.039
3/29/2010	1.066	1.016	1.174	1.075	336	0.033
4/5/2010	1.042	0.970	1.082	1.049	251	0.035
4/12/2010	1.040	0.971	1.169	1.039	331	0.031
4/19/2010	1.042	0.984	1.070	1.043	229	0.018
4/26/2010	1.014	0.995	1.027	1.014	60	0.006
5/3/2010	0.999	0.946	1.058	1.000	302	0.021
5/10/2010	1.004	0.974	1.044	1.001	331	0.012
5/17/2010	1.057	0.956	1.130	1.054	334	0.036
5/24/2010	1.035	0.987	1.076	1.030	322	0.021
5/31/2010	1.087	1.033	1.122	1.084	334	0.023
6/7/2010	1.080	0.900	1.128	1.094	317	0.042
6/14/2010	0.962	0.824	1.037	0.985	165	0.066
6/21/2010	1.004	0.883	1.123	1.005	334	0.069
6/28/2010	1.101	1.017	1.136	1.099	310	0.026
7/5/2010	1.039	0.984	1.085	1.039	324	0.027
7/12/2010	1.017	0.950	1.072	1.023	293	0.029
7/19/2010	1.007	0.954	1.038	1.009	110	0.013
7/26/2010	1.017	0.949	1.042	1.020	312	0.017
8/2/2010	0.937	0.838	0.977	0.959	264	0.040
8/9/2010	0.963	0.943	0.972	0.965	334	0.006
8/16/2010	0.929	0.878	0.982	0.923	282	0.021
8/23/2010	0.881	0.807	0.953	0.881	239	0.039
8/30/2010	0.909	0.893	0.923	0.909	165	0.007
9/6/2010	0.904	0.882	0.919	0.904	196	0.006
9/13/2010	0.886	0.859	0.907	0.884	112	0.011
9/20/2010	0.882	0.870	0.888	0.883	92	0.004
9/27/2010	0.883	0.871	0.895	0.883	200	0.003
10/4/2010	0.845	0.792	0.884	0.843	261	0.024
10/11/2010	--	--	--	--	--	--
10/18/2010	--	--	--	--	--	--
10/25/2010	0.861	0.812	0.931	0.865	154	0.019
11/1/2010	--	--	--	--	--	--
11/8/2010	0.845	0.838	0.852	0.845	206	0.003
11/15/2010	0.825	0.800	0.845	0.826	237	0.011
11/22/2010	0.809	0.801	0.815	0.809	28	0.004



Table A-33. pH, Platte River, Weekly Average, Odessa, NE

Date	pH					
	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	8.6	8.4	8.7	8.6	255	0.1
3/29/2010	8.6	8.5	8.8	8.6	336	0.1
4/5/2010	8.5	8.2	8.7	8.5	334	0.1
4/12/2010	8.4	8.3	8.5	8.4	336	0.0
4/19/2010	8.4	8.3	8.6	8.4	334	0.0
4/26/2010	8.5	8.3	8.6	8.4	336	0.1
5/3/2010	8.4	7.9	8.8	8.5	333	0.2
5/10/2010	8.5	8.3	8.7	8.5	334	0.1
5/17/2010	8.3	8.2	8.5	8.3	334	0.1
5/24/2010	8.4	8.1	8.7	8.4	334	0.2
5/31/2010	8.2	8.1	8.5	8.2	334	0.1
6/7/2010	8.1	7.8	8.4	8.1	327	0.1
6/14/2010	7.9	7.6	8.2	7.9	165	0.2
6/21/2010	7.7	7.5	8.1	7.7	334	0.1
6/28/2010	8.2	7.6	8.8	8.2	334	0.3
7/5/2010	8.3	8.1	8.6	8.3	333	0.1
7/12/2010	8.4	8.2	8.6	8.4	334	0.1
7/19/2010	8.4	8.2	8.6	8.4	334	0.1
7/26/2010	8.4	8.3	8.6	8.4	334	0.1
8/2/2010	8.3	8.1	8.6	8.3	334	0.1
8/9/2010	8.4	8.2	8.5	8.4	334	0.1
8/16/2010	8.3	8.2	8.6	8.3	334	0.1
8/23/2010	8.4	8.3	8.5	8.4	334	0.0
8/30/2010	8.4	8.4	8.6	8.4	334	0.0
9/6/2010	8.4	8.2	8.5	8.4	334	0.1
9/13/2010	8.3	8.2	8.5	8.3	334	0.1
9/20/2010	8.3	8.2	8.4	8.3	92	0.0
9/27/2010	8.4	8.3	8.5	8.4	200	0.0
10/4/2010	8.4	8.3	8.5	8.4	336	0.0
10/11/2010	8.4	8.3	8.5	8.4	334	0.1
10/18/2010	8.5	8.4	8.5	8.5	336	0.0
10/25/2010	8.4	8.3	8.5	8.4	334	0.1
11/1/2010	8.4	8.3	8.4	8.4	336	0.0
11/8/2010	8.4	8.3	8.4	8.4	336	0.0
11/15/2010	8.4	8.3	8.4	8.4	336	0.0
11/22/2010	8.3	8.3	8.4	8.4	118	0.0



**Table A-34. Turbidity, Platte River, Weekly Average, Odessa, NE**

Turbidity, NTU						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	16	8	32	16	248	4
3/29/2010	14	6	31	14	311	5
4/5/2010	16	6	39	16	288	7
4/12/2010	17	8	39	15	320	7
4/19/2010	19	7	43	17	328	11
4/26/2010	29	14	56	27	335	10
5/3/2010	28	13	54	26	330	7
5/10/2010	25	17	37	25	332	3
5/17/2010	26	11	50	25	326	8
5/24/2010	22	15	54	21	329	6
5/31/2010	27	20	46	25	324	6
6/7/2010	47	23	99	44	318	15
6/14/2010	16	7	32	14	165	5
6/21/2010	24	5	89	18	334	18
6/28/2010	25	7	48	24	307	11
7/5/2010	42	37	54	42	318	3
7/12/2010	53	37	82	51	330	9
7/19/2010	56	48	77	55	332	4
7/26/2010	50	35	93	49	332	10
8/2/2010	58	39	78	58	329	7
8/9/2010	56	37	74	56	328	5
8/16/2010	56	38	82	55	328	10
8/23/2010	39	23	55	39	332	6
8/30/2010	45	33	80	43	332	8
9/6/2010	47	33	67	47	262	6
9/13/2010	37	30	59	37	256	4
9/20/2010	--	--	--	--	--	--
9/27/2010	28	23	36	27	196	3
10/4/2010	28	22	54	27	329	4
10/11/2010	30	23	56	27	327	6
10/18/2010	50	24	126	39	314	25
10/25/2010	48	15	136	37	239	28
11/1/2010	38	24	73	35	270	11
11/8/2010	22	17	35	22	325	3
11/15/2010	20	13	30	19	332	3
11/22/2010	17	14	28	17	117	2



**Table A-35. Dissolved Oxygen, Weekly Average, Platte River, Odessa, NE**

Dissolved Oxygen, mg/L						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	11.1	10.0	12.7	11.0	255	0.6
3/29/2010	10.2	9.0	12.1	10.1	336	0.7
4/5/2010	10.4	9.3	12.1	10.3	334	0.6
4/12/2010	9.7	8.6	11.9	9.5	336	0.8
4/19/2010	9.6	8.8	11.6	9.5	334	0.7
4/26/2010	9.8	8.3	12.5	9.8	336	0.9
5/3/2010	9.7	8.4	12.1	9.3	333	1.1
5/10/2010	9.8	8.4	12.2	9.7	334	0.9
5/17/2010	9.1	7.2	11.0	9.2	334	0.8
5/24/2010	8.9	6.2	12.8	8.6	334	1.9
5/31/2010	7.8	6.6	10.1	7.6	334	1.0
6/7/2010	7.7	6.6	9.5	7.5	327	0.7
6/14/2010	6.8	3.7	9.9	6.6	138	1.7
6/21/2010	7.3	4.3	10.5	7.1	181	1.4
6/28/2010	8.3	4.1	13.6	7.6	314	2.4
7/5/2010	7.8	5.8	11.4	7.4	333	1.4
7/12/2010	7.9	6.0	10.2	7.6	334	1.2
7/19/2010	7.8	6.5	9.9	7.5	334	1.0
7/26/2010	7.6	6.5	9.2	7.4	334	0.8
8/2/2010	7.3	5.8	9.0	7.1	334	0.8
8/9/2010	7.5	6.3	8.9	7.5	334	0.7
8/16/2010	7.8	6.9	9.0	7.7	334	0.6
8/23/2010	7.9	7.1	8.9	7.8	334	0.5
8/30/2010	8.1	7.3	9.2	8.1	334	0.5
9/6/2010	8.4	7.5	9.3	8.3	334	0.5
9/13/2010	8.4	7.6	9.4	8.5	334	0.5
9/20/2010	8.6	8.6	8.6	8.6	3	0.0
9/27/2010	8.9	8.1	9.8	8.9	200	0.5
10/4/2010	9.1	8.4	9.9	9.1	336	0.4
10/11/2010	9.4	8.7	10.3	9.3	334	0.5
10/18/2010	9.6	9.0	10.4	9.5	336	0.4
10/25/2010	10.5	9.0	11.8	10.7	334	0.7
11/1/2010	11.1	7.6	12.0	11.1	336	0.4
11/8/2010	11.3	10.4	12.3	11.5	336	0.5
11/15/2010	11.9	11.1	12.8	11.9	336	0.4
11/22/2010	12.9	12.4	13.6	12.9	118	0.4



**Table A-36. Discharge, Platte River, Weekly Average, Odessa, NE**

Discharge, cfs						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	1,525	747	2,733	1,332	336	677
3/29/2010	1,147	605	2,270	896	336	558
4/5/2010	1,060	533	2,454	624	336	665
4/12/2010	1,283	727	2,434	986	336	606
4/19/2010	1,253	638	2,426	873	336	655
4/26/2010	1,375	633	2,278	1,284	336	629
5/3/2010	2,019	790	2,871	2,169	336	675
5/10/2010	2,081	1,099	2,836	2,002	336	472
5/17/2010	1,588	602	2,237	1,784	336	536
5/24/2010	2,323	1,196	2,941	2,455	336	334
5/31/2010	2,077	1,028	2,891	2,044	336	425
6/7/2010	2,183	1,178	3,911	2,191	336	541
6/14/2010	5,954	3,901	8,091	5,949	336	1,339
6/21/2010	8,118	4,188	9,150	8,346	336	957
6/28/2010	3,756	1,126	8,911	2,777	336	2,553
7/5/2010	2,570	1,385	3,842	2,489	336	552
7/12/2010	2,000	1,316	2,737	1,995	336	393
7/19/2010	2,239	1,357	3,069	2,277	336	471
7/26/2010	1,325	842	2,079	1,183	336	336
8/2/2010	1,829	1,082	3,040	1,857	336	474
8/9/2010	1,637	789	4,167	1,654	336	567
8/16/2010	1,838	725	2,380	2,039	336	451
8/23/2010	1,512	751	2,224	1,587	336	473
8/30/2010	1,217	768	1,517	1,256	336	150
9/6/2010	1,692	928	1,898	1,774	336	194
9/13/2010	2,081	1,877	2,302	2,076	336	109
9/20/2010	2,379	2,025	2,594	2,397	336	127
9/27/2010	2,048	1,609	2,311	2,048	336	192
10/4/2010	2,010	1,754	2,258	2,036	336	158
10/11/2010	2,182	2,011	2,375	2,162	336	98
10/18/2010	1,936	1,705	2,218	1,907	336	167
10/25/2010	1,204	354	2,284	1,024	336	675
11/1/2010	2,037	1,698	2,281	2,044	336	137
11/8/2010	1,944	1,740	2,223	1,895	336	131
11/15/2010	2,771	1,787	3,188	3,042	336	451
11/22/2010	3,006	2,783	3,178	3,000	144	94



**Table A-37. Temperature, Weekly Average, Platte River, Overton, NE**

Temperature, °C						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	9.1	6.0	13.1	9.0	220	1.9
3/29/2010	12.3	7.8	16.1	12.3	336	2.2
4/5/2010	12.0	7.0	17.0	11.8	334	2.3
4/12/2010	15.7	10.2	20.3	15.7	336	2.3
4/19/2010	14.7	11.5	18.6	14.3	334	1.7
4/26/2010	14.5	8.0	21.1	14.6	336	2.8
5/3/2010	14.7	10.8	19.9	14.5	334	2.1
5/10/2010	13.3	8.9	18.3	13.5	334	2.2
5/17/2010	17.2	11.9	25.4	16.8	334	3.8
5/24/2010	23.1	19.1	27.7	22.9	333	2.1
5/31/2010	23.6	19.5	27.8	23.5	334	2.0
6/7/2010	22.2	18.7	26.1	21.9	336	2.0
6/14/2010	23.0	18.9	27.1	23.3	334	2.2
6/21/2010	25.6	21.1	29.4	25.7	334	1.9
6/28/2010	25.5	22.6	28.8	25.4	334	1.6
7/5/2010	24.3	20.5	29.1	23.8	334	2.0
7/12/2010	27.0	23.1	31.8	26.8	333	2.1
7/19/2010	27.2	24.3	31.5	27.1	334	1.8
7/26/2010	27.4	23.7	31.9	27.4	333	2.2
8/2/2010	28.0	23.7	32.6	27.9	334	2.2
8/9/2010	27.3	21.5	32.5	27.3	193	2.7
8/16/2010	25.3	21.6	30.2	25.1	334	2.4
8/23/2010	23.6	18.8	28.0	23.7	333	2.2
8/30/2010	22.4	17.2	27.5	22.6	333	2.3
9/6/2010	20.7	17.4	24.2	20.5	333	1.5
9/13/2010	20.2	15.0	24.7	20.5	333	2.6
9/20/2010	20.4	15.6	24.7	20.5	336	2.0
9/27/2010	18.4	14.3	22.3	18.3	334	1.9
10/4/2010	16.9	13.2	20.6	16.9	316	1.8
10/11/2010	14.8	12.1	17.8	14.8	265	1.4
10/18/2010	13.9	11.7	15.9	13.8	336	1.0
10/25/2010	10.0	5.1	14.2	10.0	334	2.1
11/1/2010	9.4	5.5	12.5	9.4	336	1.7
11/8/2010	8.5	5.3	12.8	8.0	336	1.7
11/15/2010	6.1	3.6	8.5	6.2	336	1.4
11/22/2010	2.9	1.6	5.4	2.6	117	1.0





**Table A-38. Specific Conductance, Weekly Average, Platte River, Overton, NE**

Specific Conductance, mS/cm						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	0.929	0.898	0.983	0.923	220	0.023
3/29/2010	0.892	0.836	0.942	0.895	336	0.021
4/5/2010	0.856	0.807	0.893	0.860	334	0.020
4/12/2010	0.860	0.761	0.905	0.865	303	0.025
4/19/2010	0.933	0.858	0.967	0.942	132	0.027
4/26/2010	0.959	0.892	0.996	0.963	308	0.012
5/3/2010	0.981	0.884	1.038	0.992	320	0.043
5/10/2010	0.963	0.905	1.021	0.968	334	0.028
5/17/2010	0.973	0.888	1.036	0.978	334	0.030
5/24/2010	0.938	0.837	1.003	0.943	228	0.046
5/31/2010	0.973	0.817	1.032	0.974	309	0.020
6/7/2010	0.987	0.869	1.076	1.000	277	0.050
6/14/2010	0.929	0.804	1.000	0.946	174	0.052
6/21/2010	1.011	0.920	1.110	0.999	334	0.046
6/28/2010	1.065	0.953	1.111	1.070	328	0.036
7/5/2010	0.897	0.848	0.951	0.901	334	0.033
7/12/2010	0.924	0.859	0.971	0.933	332	0.029
7/19/2010	0.883	0.848	0.969	0.874	332	0.022
7/26/2010	0.906	0.840	0.979	0.903	333	0.031
8/2/2010	0.844	0.801	0.885	0.846	205	0.012
8/9/2010	0.863	0.827	0.916	0.863	149	0.019
8/16/2010	0.855	0.808	0.930	0.845	246	0.034
8/23/2010	0.908	0.907	0.909	0.908	2	0.001
8/30/2010	0.869	0.848	0.906	0.864	168	0.015
9/6/2010	0.892	0.834	0.922	0.896	229	0.013
9/13/2010	0.844	0.831	0.871	0.843	184	0.008
9/20/2010	0.831	0.800	0.860	0.833	231	0.013
9/27/2010	0.844	0.800	0.862	0.850	209	0.017
10/4/2010	0.839	0.827	0.861	0.838	315	0.006
10/11/2010	0.843	0.820	0.857	0.843	265	0.009
10/18/2010	0.846	0.822	0.858	0.848	336	0.009
10/25/2010	0.829	0.807	0.845	0.826	334	0.009
11/1/2010	0.829	0.801	0.846	0.834	81	0.011
11/8/2010	0.824	0.816	0.835	0.823	217	0.004
11/15/2010	0.806	0.792	0.826	0.804	224	0.006
11/22/2010	0.788	0.753	0.804	0.791	49	0.011



**Table A-39. pH, Platte River, Weekly Average, Overton, NE**

Date	pH					
	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	8.6	8.5	8.7	8.5	220	0.1
3/29/2010	8.5	8.5	8.7	8.5	336	0.1
4/5/2010	8.4	8.2	8.6	8.5	334	0.1
4/12/2010	8.3	8.1	8.5	8.3	336	0.1
4/19/2010	8.3	7.8	8.5	8.3	334	0.1
4/26/2010	8.4	8.3	8.6	8.4	336	0.1
5/3/2010	8.3	8.2	8.5	8.3	334	0.1
5/10/2010	8.3	8.1	8.5	8.3	334	0.1
5/17/2010	8.3	8.2	8.5	8.3	334	0.1
5/24/2010	8.4	8.1	8.7	8.3	333	0.1
5/31/2010	8.2	8.1	8.6	8.2	334	0.1
6/7/2010	7.9	7.5	8.2	8.0	336	0.2
6/14/2010	7.8	7.4	8.2	7.8	334	0.2
6/21/2010	7.8	7.6	8.1	7.8	334	0.1
6/28/2010	8.3	7.7	8.8	8.3	334	0.3
7/5/2010	8.2	8.0	8.6	8.2	334	0.1
7/12/2010	8.3	8.1	8.6	8.3	333	0.1
7/19/2010	8.3	8.0	8.7	8.3	334	0.1
7/26/2010	8.3	8.1	8.6	8.3	333	0.1
8/2/2010	8.2	7.9	8.5	8.2	334	0.1
8/9/2010	8.3	8.1	8.5	8.3	193	0.1
8/16/2010	8.2	8.0	8.5	8.2	334	0.1
8/23/2010	8.3	8.0	8.5	8.3	333	0.1
8/30/2010	8.4	8.1	8.6	8.4	333	0.1
9/6/2010	8.4	8.2	8.5	8.4	333	0.1
9/13/2010	8.2	8.0	8.4	8.2	333	0.1
9/20/2010	8.0	7.7	8.3	8.0	336	0.1
9/27/2010	8.1	7.7	8.4	8.1	334	0.2
10/4/2010	8.2	8.1	8.4	8.2	316	0.1
10/11/2010	8.5	8.4	8.7	8.5	265	0.1
10/18/2010	8.2	7.6	8.7	8.1	336	0.3
10/25/2010	8.4	7.6	8.6	8.5	334	0.3
11/1/2010	8.3	7.7	8.6	8.4	336	0.2
11/8/2010	8.4	7.7	8.6	8.5	336	0.2
11/15/2010	8.5	8.4	8.6	8.5	336	0.0
11/22/2010	8.5	8.4	8.6	8.5	117	0.0



Table A-40. Turbidity, Platte River, Weekly Average, Overton, NE

Turbidity, NTU						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	9	7	20	9	218	2
3/29/2010	10	5	19	9	315	3
4/5/2010	12	5	28	12	327	3
4/12/2010	15	7	64	12	254	8
4/19/2010	11	1	38	10	306	6
4/26/2010	21	2	169	13	247	28
5/3/2010	21	5	47	22	277	8
5/10/2010	14	7	63	12	272	8
5/17/2010	25	8	79	20	197	14
5/24/2010	24	11	58	22	243	9
5/31/2010	15	11	34	15	333	2
6/7/2010	41	12	100	31	187	27
6/14/2010	30	10	107	15	328	27
6/21/2010	12	9	23	12	334	2
6/28/2010	28	9	50	30	328	9
7/5/2010	26	16	47	23	325	9
7/12/2010	16	7	36	13	329	7
7/19/2010	18	10	47	17	308	6
7/26/2010	20	11	56	16	259	10
8/2/2010	23	14	42	23	318	5
8/9/2010	22	17	45	21	153	3
8/16/2010	23	15	43	21	319	7
8/23/2010	17	10	30	17	328	3
8/30/2010	14	4	37	13	275	5
9/6/2010	23	6	39	23	321	4
9/13/2010	18	13	31	17	324	3
9/20/2010	18	14	33	17	297	3
9/27/2010	18	13	33	17	297	4
10/4/2010	--	--	--	--	--	--
10/11/2010	13	10	19	12	264	2
10/18/2010	20	12	44	17	230	6
10/25/2010	16	8	35	15	291	5
11/1/2010	14	4	80	11	292	11
11/8/2010	11	5	20	11	313	2
11/15/2010	13	10	19	13	333	1
11/22/2010	14	11	20	14	112	1



Table A-41. Dissolved Oxygen, Weekly Average, Platte River, Overton, NE

Dissolved Oxygen, mg/L						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	11.3	10.3	12.3	11.3	220	0.5
3/29/2010	10.6	9.2	12.6	10.4	306	0.9
4/5/2010	10.4	9.0	11.8	10.3	334	0.8
4/12/2010	9.5	7.9	11.4	9.5	336	1.0
4/19/2010	9.3	8.3	10.8	9.2	334	0.5
4/26/2010	9.5	8.1	10.8	9.4	336	0.7
5/3/2010	9.7	6.2	11.8	9.6	334	1.1
5/10/2010	10.0	8.8	11.7	10.0	334	0.7
5/17/2010	9.3	7.6	11.2	9.4	334	0.9
5/24/2010	9.1	6.5	13.6	8.4	333	2.1
5/31/2010	7.9	6.8	10.6	7.7	334	0.9
6/7/2010	7.8	6.8	9.1	7.6	336	0.6
6/14/2010	6.7	5.3	10.0	6.4	334	1.2
6/21/2010	6.1	3.9	11.9	6.0	308	1.4
6/28/2010	8.1	4.5	13.8	7.3	333	2.5
7/5/2010	7.5	5.4	11.8	7.1	334	1.5
7/12/2010	7.9	5.3	12.8	7.2	333	2.0
7/19/2010	7.5	5.3	11.2	7.0	334	1.8
7/26/2010	7.6	5.9	10.4	7.2	333	1.4
8/2/2010	7.1	5.5	11.8	6.5	334	1.3
8/9/2010	7.3	5.5	10.5	7.1	191	1.3
8/16/2010	8.7	6.7	13.0	8.1	153	1.7
8/23/2010	7.9	6.8	9.8	7.7	215	0.7
8/30/2010	7.6	6.0	9.7	7.6	333	1.0
9/6/2010	8.2	7.1	9.6	8.1	281	0.6
9/13/2010	8.5	7.0	9.8	8.7	120	0.8
9/20/2010	7.9	6.9	9.5	7.7	336	0.7
9/27/2010	8.4	7.0	9.9	8.3	334	0.7
10/4/2010	8.9	7.8	10.1	8.8	316	0.7
10/11/2010	9.8	8.8	11.2	9.5	265	0.8
10/18/2010	10.0	9.0	11.8	9.6	336	0.8
10/25/2010	10.6	9.0	12.5	10.6	334	0.8
11/1/2010	11.1	10.1	12.5	11.0	336	0.6
11/8/2010	11.4	9.9	12.7	11.5	336	0.7
11/15/2010	12.1	10.8	13.4	12.1	336	0.6
11/22/2010	13.2	12.5	14.1	13.2	117	0.4



Table A-42. Discharge, Platte River, Weekly Average, Overton, NE

Discharge, cfs						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	1,413	654	2,550	1,130	336	718
3/29/2010	1,261	560	2,420	1,010	334	725
4/5/2010	1,250	531	2,530	676	336	793
4/12/2010	1,251	560	2,470	1,005	336	699
4/19/2010	1,088	489	2,270	668	336	670
4/26/2010	1,237	420	2,090	1,340	336	699
5/3/2010	2,177	480	3,130	2,590	335	909
5/10/2010	2,252	787	3,080	2,280	336	572
5/17/2010	1,509	425	2,150	1,895	334	639
5/24/2010	2,486	709	2,910	2,710	335	504
5/31/2010	2,265	837	2,720	2,240	336	346
6/7/2010	2,410	818	3,650	2,400	336	489
6/14/2010	5,994	3,480	7,000	6,050	336	835
6/21/2010	6,899	5,370	7,530	6,930	336	432
6/28/2010	3,566	1,780	7,230	2,920	336	1,467
7/5/2010	2,583	1,480	3,100	2,710	336	472
7/12/2010	1,898	721	2,560	1,920	336	371
7/19/2010	1,859	818	2,300	1,800	335	300
7/26/2010	1,443	526	2,150	1,380	336	372
8/2/2010	2,247	834	2,800	2,260	336	524
8/9/2010	1,747	651	2,720	1,540	336	558
8/16/2010	2,240	584	2,890	2,410	336	481
8/23/2010	1,551	397	2,250	1,510	336	484
8/30/2010	1,660	471	2,260	1,680	336	347
9/6/2010	2,160	672	2,370	2,210	336	221
9/13/2010	2,555	2,370	2,760	2,560	336	90
9/20/2010	2,733	2,400	2,830	2,720	336	75
9/27/2010	2,607	1,500	2,720	2,620	336	131
10/4/2010	2,658	2,420	2,800	2,700	336	110
10/11/2010	2,645	2,500	2,820	2,630	336	82
10/18/2010	2,393	2,200	2,580	2,405	336	118
10/25/2010	1,531	526	2,520	1,640	336	779
11/1/2010	2,316	2,230	2,450	2,320	338	39
11/8/2010	2,338	2,250	2,420	2,330	336	35
11/15/2010	2,767	2,400	2,910	2,825	336	131
11/22/2010	2,830	2,700	2,910	2,840	144	44



Table A-43. Temperature, Weekly Average, Platte River, Lexington, NE

Temperature, °C						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	9.3	6.0	12.9	9.4	222	1.7
3/29/2010	12.3	7.6	15.9	12.5	336	2.0
4/5/2010	12.0	7.3	16.7	11.8	333	2.1
4/12/2010	15.5	10.1	19.9	15.5	336	2.3
4/19/2010	14.2	10.6	18.1	13.8	333	1.6
4/26/2010	14.1	7.5	21.4	13.9	336	3.1
5/3/2010	14.5	10.7	19.7	14.2	334	2.1
5/10/2010	13.2	8.6	18.1	13.3	333	2.2
5/17/2010	17.4	11.6	26.6	16.7	334	4.3
5/24/2010	23.0	19.3	27.8	22.8	334	2.1
5/31/2010	23.4	19.4	28.0	23.1	333	2.1
6/7/2010	21.4	16.8	25.9	20.9	336	2.3
6/14/2010	22.8	18.7	26.3	23.3	332	2.2
6/21/2010	25.4	21.8	28.6	25.5	333	1.6
6/28/2010	25.3	22.4	28.0	25.2	330	1.5
7/5/2010	23.7	19.8	28.5	23.3	332	2.0
7/12/2010	26.3	22.3	31.5	26.0	333	2.2
7/19/2010	26.7	23.8	31.0	26.5	334	1.8
7/26/2010	26.9	23.1	32.1	26.7	334	2.4
8/2/2010	27.6	23.5	32.4	27.3	334	2.1
8/9/2010	27.3	21.1	32.0	27.3	334	2.6
8/16/2010	24.9	20.3	29.8	24.7	334	2.5
8/23/2010	22.8	17.8	27.6	22.8	333	2.8
8/30/2010	22.4	17.2	27.3	22.5	334	2.6
9/6/2010	20.5	14.6	26.0	20.5	333	2.3
9/13/2010	20.1	13.7	25.4	20.5	334	3.1
9/20/2010	20.0	14.4	25.2	20.2	336	2.4
9/27/2010	17.8	12.4	22.3	17.7	334	2.3
10/4/2010	16.6	11.6	21.2	16.7	336	2.2
10/11/2010	14.6	10.8	18.1	14.8	334	1.7
10/18/2010	13.4	10.4	16.3	13.2	336	1.4
10/25/2010	10.1	5.7	13.8	10.0	334	2.0
11/1/2010	9.5	5.4	13.2	9.5	336	1.9
11/8/2010	8.3	4.3	13.8	7.6	335	2.2
11/15/2010	5.9	2.7	8.9	6.1	336	1.7
11/22/2010	2.0	0.5	4.7	1.6	114	1.2



Table A-44. Specific Conductance, Weekly Average, Platte River, Lexington, NE

Specific Conductance, mS/cm						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	0.855	0.843	0.878	0.844	3	0.020
3/29/2010	--	--	--	--	--	--
4/5/2010	0.878	0.821	0.905	0.881	204	0.022
4/12/2010	0.909	0.853	0.986	0.908	232	0.026
4/19/2010	0.944	0.888	0.974	0.946	235	0.017
4/26/2010	0.915	0.846	0.995	0.926	238	0.039
5/3/2010	0.972	0.850	1.023	0.985	315	0.043
5/10/2010	0.948	0.870	0.989	0.957	333	0.029
5/17/2010	0.975	0.911	1.022	0.970	165	0.024
5/24/2010	0.997	0.959	1.022	1.002	113	0.018
5/31/2010	0.968	0.935	1.013	0.962	219	0.017
6/7/2010	0.957	0.826	1.030	0.969	187	0.052
6/14/2010	0.926	0.847	0.985	0.934	126	0.035
6/21/2010	1.049	0.833	1.122	1.043	201	0.047
6/28/2010	1.081	0.968	1.124	1.072	269	0.032
7/5/2010	0.916	0.884	0.945	0.915	164	0.015
7/12/2010	0.908	0.841	0.938	0.921	273	0.027
7/19/2010	0.894	0.875	0.904	0.894	11	0.011
7/26/2010	0.889	0.826	0.932	0.898	221	0.033
8/2/2010	0.839	0.821	0.850	0.838	237	0.006
8/9/2010	0.847	0.804	0.878	0.850	333	0.015
8/16/2010	0.816	0.704	0.894	0.815	303	0.037
8/23/2010	0.885	0.842	0.938	0.883	218	0.022
8/30/2010	0.862	0.821	0.931	0.851	221	0.026
9/6/2010	0.897	0.828	0.928	0.911	286	0.030
9/13/2010	0.824	0.799	0.844	0.823	270	0.011
9/20/2010	0.781	0.720	0.807	0.785	277	0.018
9/27/2010	0.821	0.774	0.853	0.826	333	0.019
10/4/2010	0.810	0.774	0.829	0.811	187	0.011
10/11/2010	0.831	0.785	0.865	0.829	247	0.019
10/18/2010	0.806	0.800	0.826	0.804	13	0.007
10/25/2010	0.807	0.800	0.810	0.807	26	0.003
11/1/2010	--	--	--	--	--	--
11/8/2010	0.823	0.801	0.845	0.823	169	0.011
11/15/2010	0.794	0.752	0.817	0.795	147	0.013
11/22/2010	0.778	0.742	0.799	0.776	105	0.012



Table A-45. pH, Platte River, Weekly Average, Lexington, NE

Date	pH					
	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	8.4	8.3	8.5	8.4	222	0.1
3/29/2010	8.4	8.3	8.6	8.5	336	0.1
4/5/2010	8.4	8.1	8.5	8.4	333	0.1
4/12/2010	8.3	8.2	8.4	8.3	336	0.1
4/19/2010	8.2	8.1	8.3	8.3	333	0.1
4/26/2010	8.3	8.0	8.3	8.3	336	0.1
5/3/2010	8.0	7.4	8.4	8.0	334	0.2
5/10/2010	8.0	6.7	8.4	8.1	333	0.4
5/17/2010	8.2	7.9	8.5	8.2	334	0.1
5/24/2010	8.3	8.0	8.7	8.3	334	0.2
5/31/2010	8.1	7.8	8.4	8.1	333	0.1
6/7/2010	7.7	7.2	8.0	7.8	336	0.2
6/14/2010	7.6	7.1	8.1	7.7	332	0.3
6/21/2010	7.6	7.4	7.9	7.6	333	0.1
6/28/2010	8.1	7.5	8.7	8.2	330	0.3
7/5/2010	8.1	7.7	8.5	8.2	332	0.2
7/12/2010	8.3	8.1	8.6	8.3	333	0.1
7/19/2010	8.2	7.9	8.6	8.2	334	0.1
7/26/2010	8.1	7.9	8.3	8.1	334	0.1
8/2/2010	8.0	7.6	8.3	8.1	334	0.2
8/9/2010	8.2	8.0	8.4	8.2	334	0.1
8/16/2010	8.1	7.9	8.3	8.1	334	0.1
8/23/2010	8.2	8.1	8.4	8.2	333	0.1
8/30/2010	8.2	8.0	8.4	8.2	334	0.1
9/6/2010	8.2	8.0	8.4	8.2	333	0.1
9/13/2010	8.2	8.0	8.4	8.2	334	0.1
9/20/2010	8.1	7.7	8.3	8.1	336	0.1
9/27/2010	8.0	7.7	8.2	8.1	334	0.1
10/4/2010	8.0	7.7	8.2	8.0	336	0.1
10/11/2010	8.0	7.3	8.3	8.1	334	0.3
10/18/2010	7.8	7.6	8.1	7.8	336	0.1
10/25/2010	8.0	7.3	8.2	8.0	334	0.2
11/1/2010	8.0	7.9	8.2	8.0	336	0.1
11/8/2010	8.1	7.9	8.2	8.1	335	0.1
11/15/2010	8.0	7.9	8.1	8.0	336	0.1
11/22/2010	7.8	7.7	7.9	7.8	114	0.0



**Table A-46. Turbidity, Platte River, Weekly Average, Lexington, NE**

Turbidity, NTU						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	6	3	13	6	222	1
3/29/2010	6	2	16	6	335	1
4/5/2010	8	3	18	8	329	3
4/12/2010	9	4	18	8	263	2
4/19/2010	11	3	29	10	243	5
4/26/2010	7	4	18	6	166	3
5/3/2010	20	8	44	18	172	7
5/10/2010	8	4	23	7	200	3
5/17/2010	12	5	34	11	148	5
5/24/2010	11	6	32	10	303	4
5/31/2010	9	5	25	9	291	2
6/7/2010	41	8	129	23	334	34
6/14/2010	44	13	137	32	299	31
6/21/2010	23	16	58	21	82	7
6/28/2010	30	24	48	30	217	3
7/5/2010	27	17	50	25	329	7
7/12/2010	23	16	51	20	320	8
7/19/2010	23	18	38	22	326	3
7/26/2010	23	17	52	20	278	7
8/2/2010	34	19	69	31	284	9
8/9/2010	21	15	45	19	325	5
8/16/2010	20	8	44	16	304	9
8/23/2010	12	5	30	11	307	4
8/30/2010	10	5	24	10	301	3
9/6/2010	12	4	28	13	238	5
9/13/2010	14	9	26	13	277	2
9/20/2010	22	12	47	19	300	7
9/27/2010	14	5	33	13	307	5
10/4/2010	12	7	23	11	190	3
10/11/2010	12	5	25	12	255	3
10/18/2010	13	7	26	11	324	4
10/25/2010	18	9	36	17	329	6
11/1/2010	12	5	30	12	319	4
11/8/2010	10	6	20	10	324	2
11/15/2010	13	8	25	13	327	3
11/22/2010	15	10	27	15	111	3



**Table A-47. Dissolved Oxygen, Weekly Average, Platte River, Lexington, NE**

Dissolved Oxygen, mg/L						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	11.2	10.2	12.0	11.1	222	0.5
3/29/2010	10.4	9.2	11.7	10.4	336	0.7
4/5/2010	10.2	8.7	11.5	10.2	333	0.8
4/12/2010	9.1	7.9	10.3	9.1	336	0.7
4/19/2010	9.1	8.3	9.9	9.1	333	0.4
4/26/2010	9.1	8.2	10.5	9.1	336	0.5
5/3/2010	9.9	7.9	12.2	9.6	334	1.1
5/10/2010	9.9	7.2	11.9	9.7	333	0.7
5/17/2010	9.2	7.3	11.7	9.4	256	0.9
5/24/2010	9.2	6.3	14.5	8.4	334	2.5
5/31/2010	7.9	6.8	9.8	7.7	333	0.9
6/7/2010	7.6	6.6	8.8	7.6	336	0.5
6/14/2010	6.8	5.8	9.3	6.5	332	0.8
6/21/2010	6.2	4.7	7.9	6.3	333	0.9
6/28/2010	8.5	5.4	14.2	7.8	330	2.3
7/5/2010	7.8	6.5	11.4	7.5	332	1.0
7/12/2010	8.1	6.0	14.3	7.6	333	1.9
7/19/2010	7.0	5.4	10.7	6.8	303	1.2
7/26/2010	6.8	4.9	11.0	6.5	334	1.4
8/2/2010	6.9	5.4	9.5	6.9	334	0.8
8/9/2010	7.4	6.3	8.9	7.4	334	0.7
8/16/2010	7.8	7.0	8.7	7.8	334	0.5
8/23/2010	8.1	7.3	9.3	8.0	332	0.4
8/30/2010	8.1	7.1	9.5	8.0	328	0.6
9/6/2010	8.4	7.2	10.1	8.3	311	0.6
9/13/2010	8.6	7.6	10.0	8.5	323	0.7
9/20/2010	8.5	7.5	9.6	8.5	336	0.5
9/27/2010	8.9	8.1	10.1	8.9	334	0.5
10/4/2010	9.1	7.8	10.3	9.2	332	0.6
10/11/2010	9.7	9.1	10.5	9.6	269	0.4
10/18/2010	9.8	9.2	10.8	9.7	336	0.4
10/25/2010	10.4	9.2	11.6	10.4	334	0.6
11/1/2010	10.7	9.9	11.7	10.6	319	0.4
11/8/2010	11.2	9.3	12.5	11.6	334	0.9
11/15/2010	12.0	11.2	13.0	11.9	336	0.5
11/22/2010	13.3	12.7	14.0	13.2	114	0.4



Table A-48. Discharge, Platte River, Weekly Average, Lexington, NE

Discharge, cfs						
Date	Weekly					
	Mean	Min	Max	Median	N	STD
3/22/2010	524	446	617	506	336	53
3/29/2010	405	356	446	413	336	31
4/5/2010	493	355	613	525	336	88
4/12/2010	512	442	550	515	202	25
4/19/2010	413	295	453	410	127	29
4/26/2010	326	297	379	323	336	17
5/3/2010	873	337	1,324	862	336	332
5/10/2010	662	365	1,164	592	336	266
5/17/2010	342	242	558	330	336	81
5/24/2010	916	563	1,108	952	336	146
5/31/2010	557	257	817	584	336	181
6/7/2010	598	248	3,208	381	336	580
6/14/2010	4,457	3,296	5,564	4,342	336	726
6/21/2010	5,920	3,755	7,436	6,245	336	1,091
6/28/2010	2,073	803	5,572	1,457	336	1,323
7/5/2010	1,068	581	1,554	1,056	336	310
7/12/2010	1,853	611	2,963	2,078	336	1,057
7/19/2010	666	559	1,061	660	305	81
7/26/2010	414	277	662	401	336	107
8/2/2010	743	431	933	785	336	159
8/9/2010	536	298	823	538	336	126
8/16/2010	505	246	721	528	336	141
8/23/2010	255	199	396	225	336	55
8/30/2010	271	207	302	280	336	23
9/6/2010	240	182	326	238	336	41
9/13/2010	360	285	438	353	336	35
9/20/2010	517	424	591	538	296	50
9/27/2010	424	331	521	425	336	53
10/4/2010	402	352	486	406	336	29
10/11/2010	384	310	541	387	336	50
10/18/2010	328	298	374	320	334	19
10/25/2010	419	365	516	412	145	37
11/1/2010	332	292	378	327	166	20
11/8/2010	306	278	333	305	257	9
11/15/2010	353	317	387	348	336	16
11/22/2010	386	368	405	385	144	11



## **Continuous Water Quality Data, Monthly Average Platte River**



**Table A-49. Temperature, Platte River, Monthly Average, Louisville, NE**

Temperature, °C						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	--	--	--	--	--	--
April 2010	15.1	8.2	19.8	15.6	1,217	2.5
May 2010	18.5	10.9	27.3	17.7	1,476	4.5
June 2010	24.7	20.7	29.3	24.6	1,071	2.0
July 2010	28.4	24.6	31.6	28.4	823	1.4
August 2010	27.3	22.0	33.2	27.4	1,144	2.6
September 2010	20.4	15.6	27.1	20.4	1,277	2.1
October 2010	14.6	6.4	20.8	14.8	1,482	3.2
November 2010	7.1	1.0	12.4	6.9	1,075	2.6

**Table A-50. Specific Conductance, Platte River, Monthly Average, Louisville, NE**

Specific Conductance, mS/cm						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	--	--	--	--	--	--
April 2010	0.713	0.538	0.956	0.709	1,194	0.056
May 2010	0.710	0.413	1.025	0.716	1,468	0.087
June 2010	0.578	0.317	1.432	0.604	1,070	0.143
July 2010	0.685	0.289	0.893	0.711	823	0.133
August 2010	0.771	0.526	1.081	0.784	1,475	0.086
September 2010	0.768	0.613	0.969	0.772	1,175	0.066
October 2010	0.806	0.547	0.919	0.816	1,482	0.051
November 2010	0.795	0.671	0.957	0.793	1,054	0.053

**Table A-51. pH, Platte River, Monthly Average, Louisville, NE**

pH						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	--	--	--	--	--	--
April 2010	8.6	8.0	9.0	8.7	1,217	0.2
May 2010	8.6	8.2	9.0	8.6	1,476	0.2
June 2010	7.9	7.4	8.7	7.9	1,071	0.3
July 2010	8.4	7.7	8.8	8.5	823	0.3
August 2010	8.6	8.3	8.9	8.7	1,475	0.1
September 2010	8.7	8.1	9.0	8.7	1,267	0.2
October 2010	8.7	8.3	9.1	8.7	1,482	0.2
November 2010	8.3	8.2	8.7	8.3	1,075	0.1



**Table A-52. Turbidity, Platte River, Monthly Average, Louisville, NE**

Turbidity, NTU						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	--	--	--	--	--	--
April 2010	82	24	678	60	1,185	83
May 2010	78	20	398	66	1,210	48
June 2010	409	32	1666	318	709	291
July 2010	410	89	2526	242	817	446
August 2010	149	78	689	122	1,459	88
September 2010	161	78	744	134	1,203	98
October 2010	99	62	168	97	1,478	18
November 2010	79	51	210	73	1,055	23

**Table A-53. Dissolved Oxygen, Platte River, Monthly Average, Louisville, NE**

Dissolved Oxygen, mg/L						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	--	--	--	--	--	--
April 2010	10.5	7.3	13.6	10.5	1,208	1.2
May 2010	10.3	5.2	14.1	10.3	1,428	1.8
June 2010	7.0	5.4	11.7	7.0	1,065	0.9
July 2010	7.5	4.7	12.1	7.2	822	1.4
August 2010	8.1	5.1	12.2	7.7	1,474	1.6
September 2010	9.4	6.3	13.3	9.0	1,277	1.4
October 2010	11.0	8.6	14.8	10.8	1,480	1.3
November 2010	12.2	10.7	14.3	12.2	1,073	0.7

**Table A-54. Discharge, Platte River, Monthly Average, Louisville, NE**

Discharge, cfs						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	14,529	10,400	22,000	14,200	329	2,631
April 2010	8,780	4,740	16,500	8,470	1,033	2,360
May 2010	8,875	5,450	14,100	8,750	2,692	1,781
June 2010	50,769	7,090	131,000	43,200	2,859	31,449
July 2010	14,564	4,960	44,500	13,200	2,967	6,413
August 2010	7,871	3,970	22,200	7,140	2,976	3,167
September 2010	6,863	3,870	23,400	6,470	2,869	2,448
October 2010	6,841	4,810	9,330	6,850	2,968	968
November 2010	7,828	5,620	11,000	7,740	2,308	1,117



**Table A-55. Temperature, Platte River, Monthly Average, Duncan, NE**

Temperature, °C						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	10.0	5.0	16.9	9.4	413	2.9
April 2010	14.6	6.2	22.6	14.8	1434	3.2
May 2010	18.3	9.1	29.5	17.7	1479	5.0
June 2010	25.1	20.0	30.6	25.2	1432	2.3
July 2010	27.7	22.7	33.9	27.4	1480	2.4
August 2010	27.5	20.4	34.9	27.4	1477	3.2
September 2010	20.6	13.5	27.0	20.6	1432	2.8
October 2010	14.3	5.4	21.4	14.6	1484	3.4
November 2010	6.7	0.0	13.0	6.7	1082	2.9

**Table A-56. Specific Conductance, Platte River, Monthly Average, Duncan, NE**

Specific Conductance, mS/cm						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	1.067	1.004	1.107	1.070	411	0.020
April 2010	1.042	0.917	1.114	1.041	1372	0.038
May 2010	1.001	0.890	1.070	1.001	1383	0.029
June 2010	0.912	0.734	1.084	0.909	1048	0.084
July 2010	0.975	0.801	1.096	0.964	864	0.062
August 2010	0.909	0.801	0.978	0.909	836	0.034
September 2010	0.907	0.802	0.969	0.913	1250	0.026
October 2010	0.860	0.779	0.923	0.866	1346	0.030
November 2010	0.820	0.716	0.889	0.853	1047	0.058

**Table A-57. pH, Platte River, Monthly Average, Duncan, NE**

pH						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	8.6	8.4	8.6	8.6	413	0.0
April 2010	8.5	8.3	8.7	8.5	1434	0.1
May 2010	8.6	8.2	9.0	8.6	1479	0.2
June 2010	8.2	7.7	8.8	8.2	1433	0.3
July 2010	8.6	8.0	9.0	8.6	1480	0.2
August 2010	8.6	8.0	9.1	8.6	1477	0.2
September 2010	8.5	8.2	9.0	8.6	1432	0.2
October 2010	8.5	8.3	8.8	8.5	1484	0.1
November 2010	8.3	8.2	8.5	8.3	1082	0.1



**Table A-58. Turbidity, Platte River, Monthly Average, Duncan, NE**

Turbidity, NTU						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	10	5	23	9	411	3
April 2010	18	5	50	17	1417	9
May 2010	34	13	76	31	1466	14
June 2010	26	4	79	16	1415	19
July 2010	64	5	124	78	1424	36
August 2010	108	45	160	108	1466	22
September 2010	88	51	125	90	1386	15
October 2010	48	19	74	48	1480	11
November 2010	41	22	83	37	1063	11

**Table A-59. Dissolved Oxygen, Platte River, Monthly Average, Duncan, NE**

Dissolved Oxygen, mg/L						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	10.4	9.0	11.7	10.5	413	0.6
April 2010	10.4	8.5	12.6	10.3	1434	0.9
May 2010	10.2	6.6	15.4	10.1	1479	1.7
June 2010	8.1	4.9	15.2	7.5	1432	2.3
July 2010	8.4	5.0	15.3	7.7	1478	2.3
August 2010	8.7	5.0	13.8	8.0	1470	2.3
September 2010	9.4	7.0	13.6	8.9	1432	1.4
October 2010	10.0	8.4	12.3	10.0	1484	0.9
November 2010	11.9	10.1	14.4	11.9	1082	0.9

**Table A-60. Discharge, Platte River, Monthly Average, Duncan, NE**

Discharge, cfs						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	2,931	2,240	3,620	3,010	960	407
April 2010	2,181	1,520	2,980	2,060	2,879	384
May 2010	2,403	1,300	3,580	2,390	2,975	560
June 2010	6,429	1,820	12,000	6,790	2,880	3,433
July 2010	3,172	1,640	7,450	3,200	2,974	1,188
August 2010	2,128	883	3,110	2,150	2,961	554
September 2010	1,694	866	2,790	1,620	2,879	497
October 2010	2,346	1,120	2,880	2,420	2,963	386
November 2010	2,777	1,140	3,370	2,880	2,295	467





**Table A-61. Temperature, Platte River, Monthly Average, Grand Island, NE**

Temperature, °C						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	10.1	5.0	16.2	10.0	410	2.7
April 2010	14.6	6.6	22.1	14.8	1,436	3.0
May 2010	18.0	8.7	29.6	17.2	1,479	4.9
June 2010	24.7	19.6	30.6	24.6	1,429	2.4
July 2010	27.2	21.1	34.1	27.0	1,433	2.7
August 2010	27.0	19.5	33.8	27.1	1,478	3.2
September 2010	20.7	13.7	27.4	20.7	1,432	2.7
October 2010	14.4	5.6	21.8	14.7	1,482	3.2
November 2010	7.0	0.1	13.7	7.0	1,088	2.9

**Table A-62. Specific Conductance, Platte River, Monthly Average, Grand Island, NE**

Specific Conductance, mS/cm						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	1.049	1.018	1.083	1.049	410	0.017
April 2010	1.022	0.887	1.097	1.030	1,139	0.045
May 2010	0.986	0.844	1.054	0.994	783	0.033
June 2010	0.940	0.546	1.098	0.999	1,219	0.141
July 2010	0.995	0.858	1.074	1.002	1,116	0.043
August 2010	0.964	0.872	1.015	0.968	878	0.023
September 2010	0.918	0.823	0.986	0.920	1,371	0.028
October 2010	0.892	0.825	0.943	0.885	1,239	0.018
November 2010	0.859	0.764	0.897	0.872	452	0.031

**Table A-63. pH, Platte River, Monthly Average, Grand Island, NE**

pH						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	8.5	8.4	8.6	8.6	410	0.0
April 2010	8.5	8.2	8.7	8.5	1,436	0.1
May 2010	8.4	7.9	8.8	8.5	1,479	0.2
June 2010	8.0	7.4	8.8	8.0	1,429	0.3
July 2010	8.5	7.8	9.1	8.5	1,433	0.3
August 2010	8.3	7.3	8.7	8.4	1,478	0.3
September 2010	8.2	7.6	8.8	8.2	1,432	0.3
October 2010	8.1	7.6	8.5	8.1	1,482	0.2
November 2010	8.0	7.6	8.7	8.0	621	0.2



**Table A-64. Turbidity, Platte River, Monthly Average, Grand Island, NE**

Turbidity, NTU						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	13	4	37	11	409	6
April 2010	16	4	89	13	1,184	11
May 2010	24	8	59	23	1,304	9
June 2010	32	5	433	23	1,405	34
July 2010	55	5	136	68	1,350	32
August 2010	88	34	140	91	1,398	22
September 2010	67	40	98	67	995	14
October 2010	37	17	79	38	1,282	10
November 2010	32	20	75	28	1,044	10

**Table A-65. Dissolved Oxygen, Platte River, Monthly Average, Grand Island, NE**

Dissolved Oxygen, mg/L						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	11.2	9.7	12.7	11.2	409	0.7
April 2010	9.7	7.7	11.8	9.6	1,436	0.8
May 2010	9.6	6.0	13.3	9.7	1,479	1.5
June 2010	6.9	3.5	12.0	6.8	1,429	1.7
July 2010	8.5	5.5	14.0	7.9	1,433	2.3
August 2010	7.8	5.1	12.5	7.7	1,478	1.5
September 2010	8.8	7.4	10.5	8.7	1,432	0.8
October 2010	9.9	7.7	12.2	9.8	1,482	0.9
November 2010	11.9	9.8	14.2	11.9	1,088	0.9

**Table A-66. Discharge, Platte River, Monthly Average, Grand Island, NE**

Discharge, cfs						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	1,887	1,170	2,770	1,780	960	521
April 2010	1,478	1,000	2,300	1,300	2,880	411
May 2010	2,265	1,010	3,160	2,370	2,969	573
June 2010	5,207	2,370	8,210	5,880	2,880	2,169
July 2010	2,842	1,140	5,840	2,950	2,241	920
August 2010	1,629	963	2,420	1,630	2,797	368
September 2010	1,764	988	2,260	1,880	2,876	351
October 2010	1,892	938	2,370	1,960	2,976	340
November 2010	2,245	1,310	2,630	2,180	2,308	273

**Table A-67. Temperature, Platte River, Monthly Average, Shelton, NE**

Temperature, °C						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	10.2	4.9	16.8	10.0	408	2.9
April 2010	14.2	6.3	23.0	14.2	1,436	2.9
May 2010	17.4	8.9	27.5	16.4	1,480	4.5
June 2010	24.4	20.0	29.4	24.4	1,431	2.1
July 2010	26.8	21.6	33.2	26.5	1,440	2.4
August 2010	26.7	19.8	33.2	26.8	1,478	3.0
September 2010	20.5	14.6	26.0	20.7	1,426	2.2
October 2010	14.4	6.0	20.6	14.7	1,483	2.9
November 2010	7.5	1.7	12.6	7.5	1,089	2.4

**Table A-68. Specific Conductance, Platte River, Monthly Average, Shelton, NE**

Specific Conductance, mS/cm						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	1.065	0.957	1.132	1.073	383	0.034
April 2010	0.997	0.843	1.123	1.010	1,192	0.050
May 2010	1.015	0.906	1.081	1.018	1,110	0.035
June 2010	0.994	0.748	1.112	1.012	942	0.092
July 2010	1.022	0.838	1.106	1.022	1,016	0.040
August 2010	0.949	0.800	1.048	0.970	1,052	0.051
September 2010	0.897	0.816	0.945	0.899	699	0.027
October 2010	0.881	0.824	0.948	0.878	1,062	0.017
November 2010	0.866	0.833	0.886	0.867	1,089	0.011

**Table A-69. pH, Platte River, Monthly Average, Shelton, NE**

pH						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	8.4	8.2	8.4	8.4	408	0.0
April 2010	8.3	7.7	8.5	8.3	1,436	0.2
May 2010	8.4	8.1	8.8	8.4	1,480	0.1
June 2010	8.0	7.6	8.6	8.0	1,431	0.2
July 2010	8.3	7.8	8.8	8.3	1,440	0.2
August 2010	8.3	7.9	8.7	8.3	1,478	0.2
September 2010	8.4	8.2	8.6	8.4	1,426	0.1
October 2010	8.4	8.3	8.5	8.4	1,483	0.0
November 2010	8.4	8.3	8.5	8.4	1,089	0.0



**Table A-70. Turbidity, Platte River, Monthly Average, Shelton, NE**

Turbidity, NTU						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	11	4	29	10	381	5
April 2010	15	3	49	15	1,347	8
May 2010	26	10	113	22	1,273	13
June 2010	27	5	174	23	1,243	24
July 2010	54	10	87	61	1,276	17
August 2010	70	42	107	69	1,466	11
September 2010	62	34	190	59	1,289	17
October 2010	40	21	103	36	1,447	12
November 2010	26	13	62	22	1,083	9

**Table A-71. Dissolved Oxygen, Platte River, Monthly Average, Shelton, NE**

Dissolved Oxygen, mg/L						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	10.9	9.3	12.6	10.9	408	0.7
April 2010	10.0	8.2	14.9	9.9	1,436	0.9
May 2010	9.6	6.4	13.7	9.6	1,480	1.4
June 2010	6.7	4.5	10.4	6.7	1,431	1.1
July 2010	7.6	4.6	13.2	7.1	1,440	1.7
August 2010	7.3	5.2	9.4	7.4	1,478	0.9
September 2010	8.5	7.3	9.8	8.4	1,424	0.6
October 2010	9.7	8.4	11.7	9.6	1,483	0.7
November 2010	11.4	10.0	13.5	11.4	1,089	0.7

**Table A-72. Discharge, Platte River, Monthly Average, Shelton, NE**

Discharge, cfs						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	1,620	937	2,761	1,324	480	613
April 2010	1,580	868	2,733	1,311	1,440	585
May 2010	2,247	1,016	3,129	2,362	1,488	481
June 2010	5,138	1,861	8,280	5,483	1,440	2,397
July 2010	2,682	1,153	5,148	2,575	1,488	732
August 2010	1,593	868	2,304	1,612	1,462	417
September 2010	1,499	1,151	2,113	1,477	448	153
October 2010	2,835	1,637	3,880	2,906	592	666
November 2010	2,818	1,684	4,632	2,635	861	909



**Table A-73. Temperature, Platte River, Monthly Average, Kearney, NE**

Temperature, °C						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	10.0	5.2	16.1	9.9	403	2.7
April 2010	13.8	6.0	21.6	13.8	1,436	2.8
May 2010	17.0	9.1	26.8	16.0	1,485	4.3
June 2010	24.0	19.4	29.1	24.0	1,431	2.2
July 2010	26.5	21.6	32.0	26.3	1,480	2.1
August 2010	26.2	19.5	32.2	26.3	1,480	2.8
September 2010	20.5	14.9	25.1	20.6	1,431	2.1
October 2010	14.9	8.8	20.2	15.0	1,347	2.3
November 2010	7.4	1.7	11.9	7.4	1,128	2.5

**Table A-74. Specific Conductance, Platte River, Monthly Average, Kearney, NE**

Specific Conductance, mS/cm						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	1.040	0.936	1.111	1.044	378	0.031
April 2010	1.018	0.835	1.126	1.020	1,296	0.040
May 2010	1.017	0.942	1.096	1.012	1,428	0.031
June 2010	0.987	0.673	1.117	1.011	1,403	0.107
July 2010	1.019	0.906	1.092	1.019	1,480	0.038
August 2010	0.947	0.807	1.045	0.945	1,435	0.039
September 2010	0.893	0.802	0.930	0.894	999	0.025
October 2010	0.859	0.823	0.887	0.860	587	0.011
November 2010	0.835	0.800	0.867	0.837	651	0.012

**Table A-75. pH, Platte River, Monthly Average, Kearney, NE**

pH						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	8.5	8.4	8.7	8.5	403	0.1
April 2010	8.4	7.9	8.8	8.3	1,436	0.1
May 2010	8.3	7.8	8.8	8.4	1,485	0.2
June 2010	8.0	7.7	8.6	8.0	1,431	0.2
July 2010	8.4	8.0	8.8	8.4	1,480	0.1
August 2010	8.3	7.9	8.6	8.4	1,480	0.1
September 2010	8.3	7.9	8.5	8.4	1,431	0.1
October 2010	8.3	7.8	8.5	8.4	1,347	0.2
November 2010	8.3	8.2	8.4	8.3	1,128	0.0



**Table A-76. Turbidity, Platte River, Monthly Average, Kearney, NE**

Turbidity, NTU						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	7	1	29	6	398	4
April 2010	13	1	50	12	1,408	8
May 2010	20	2	53	18	1,369	8
June 2010	46	2	895	19	1,163	100
July 2010	48	4	114	47	981	12
August 2010	51	19	164	50	1,367	15
September 2010	39	27	67	39	1,199	8
October 2010	35	15	104	31	1,235	13
November 2010	18	7	66	14	1,106	10

**Table A-77. Dissolved Oxygen, Platte River, Monthly Average, Kearney, NE**

Dissolved Oxygen, mg/L						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	11.0	9.2	14.7	10.8	403	1.1
April 2010	10.0	8.0	14.9	9.8	1,436	1.4
May 2010	9.4	5.8	14.6	9.1	1,485	1.8
June 2010	6.9	4.2	12.3	7.0	1,423	1.3
July 2010	8.0	6.0	14.1	7.6	1,480	1.5
August 2010	7.7	6.3	9.7	7.6	1,480	0.7
September 2010	8.5	7.0	9.7	8.4	1,431	0.6
October 2010	9.4	7.4	11.3	9.3	1,339	0.6
November 2010	11.6	10.2	13.6	11.5	1,128	0.7

**Table A-78. Discharge, Platte River, Monthly Average, Kearney, NE**

Discharge, cfs						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	1,539	867	2,790	1,190	960	668
April 2010	1,394	582	2,660	1,090	2,880	660
May 2010	1,957	595	2,690	2,050	2,975	514
June 2010	5,009	1,230	8,360	5,620	2,873	2,749
July 2010	2,095	705	4,320	2,020	2,970	640
August 2010	1,575	560	2,530	1,630	2,972	570
September 2010	1,821	946	2,240	1,970	2,880	340
October 2010	1,692	394	2,130	1,890	2,976	482
November 2010	1,824	1,440	2,470	1,610	2,308	387



**Table A-79. Temperature, Platte River, Monthly Average, Odessa, NE**

Temperature, °C						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	10.0	4.7	16.9	9.7	399	3.0
April 2010	13.8	6.2	23.0	13.7	1,436	3.0
May 2010	17.0	9.4	27.2	15.9	1,479	4.4
June 2010	24.4	19.3	29.7	24.4	1,254	2.3
July 2010	26.4	21.3	32.6	26.2	1,479	2.3
August 2010	26.2	19.3	32.3	26.2	1,480	2.9
September 2010	20.7	15.4	25.7	20.7	1,054	2.3
October 2010	14.4	5.4	21.0	14.8	1,484	2.9
November 2010	7.6	1.7	12.5	7.6	1,126	2.5

**Table A-80. Specific Conductance, Platte River, Monthly Average, Odessa, NE**

Specific Conductance, mS/cm						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	1.058	0.971	1.174	1.069	362	0.036
April 2010	1.048	0.970	1.169	1.045	1,003	0.033
May 2010	1.025	0.946	1.130	1.019	1,397	0.033
June 2010	1.052	0.824	1.136	1.078	1,244	0.072
July 2010	1.032	0.949	1.109	1.027	1,181	0.033
August 2010	0.932	0.807	1.027	0.947	1,145	0.042
September 2010	0.897	0.859	0.923	0.901	621	0.014
October 2010	0.859	0.792	0.931	0.866	559	0.024
November 2010	0.833	0.800	0.852	0.838	471	0.014

**Table A-81. pH, Platte River, Monthly Average, Odessa, NE**

pH						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	8.6	8.4	8.7	8.5	399	0.1
April 2010	8.5	8.2	8.8	8.4	1,436	0.1
May 2010	8.4	7.9	8.8	8.4	1,479	0.2
June 2010	8.0	7.5	8.5	8.0	1,254	0.2
July 2010	8.4	7.7	8.8	8.4	1,479	0.1
August 2010	8.4	8.1	8.6	8.4	1,480	0.1
September 2010	8.4	8.2	8.5	8.4	1,054	0.1
October 2010	8.4	8.3	8.5	8.4	1,484	0.1
November 2010	8.4	8.3	8.4	8.4	1,126	0.0



**Table A-82. Turbidity, Platte River, Monthly Average, Odessa, NE**

Turbidity, NTU						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	15	6	32	14	385	5
April 2010	19	6	56	18	1,349	9
May 2010	26	11	54	25	1,461	8
June 2010	28	5	99	23	1,235	17
July 2010	49	22	93	49	1,430	10
August 2010	51	23	82	52	1,458	11
September 2010	42	23	67	41	812	8
October 2010	37	15	136	29	1,349	20
November 2010	25	13	73	21	1,044	10

**Table A-83. Dissolved Oxygen, Platte River, Monthly Average, Odessa, NE**

Dissolved Oxygen, mg/L						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	10.7	9.1	12.7	10.6	399	0.8
April 2010	10.0	8.3	12.5	9.8	1,436	0.8
May 2010	9.4	6.2	12.8	9.3	1,479	1.3
June 2010	7.6	3.7	12.0	7.4	1,055	1.4
July 2010	7.9	5.8	13.6	7.5	1,478	1.4
August 2010	7.7	5.8	9.0	7.7	1,480	0.7
September 2010	8.4	7.4	9.5	8.3	965	0.5
October 2010	9.6	8.2	11.8	9.5	1,484	0.7
November 2010	11.6	7.6	13.6	11.5	1,126	0.7

**Table A-84. Discharge, Platte River, Monthly Average, Odessa, NE**

Discharge, cfs						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	1,308	675	2,733	961	480	660
April 2010	1,228	533	2,454	892	1,440	646
May 2010	2,014	602	2,941	2,114	1,488	580
June 2010	4,812	1,028	9,150	4,331	1,440	2,721
July 2010	2,046	848	3,842	1,920	1,488	609
August 2010	1,645	725	4,167	1,684	1,488	521
September 2010	1,933	822	2,594	2,043	1,441	414
October 2010	1,838	354	2,375	2,024	1,487	495
November 2010	2,345	1,698	3,188	2,115	1,152	503





**Table A-85. Temperature, Platte River, Monthly Average, Overton, NE**

Temperature, °C						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	10.6	6.0	16.1	10.4	364	2.8
April 2010	13.9	7.0	21.1	13.9	1,436	2.8
May 2010	17.1	8.9	27.7	15.8	1,479	4.5
June 2010	23.9	18.7	29.4	24.0	1,432	2.4
July 2010	26.3	20.5	31.9	26.1	1,478	2.4
August 2010	25.8	18.8	32.6	25.9	1,338	2.9
September 2010	20.5	15.0	25.9	20.5	1,429	2.2
October 2010	14.2	5.1	21.2	14.4	1,395	3.1
November 2010	7.5	1.6	12.8	7.5	1,125	2.5

**Table A-86. Specific Conductance, Platte River, Monthly Average, Overton, NE**

Specific Conductance, mS/cm						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	0.916	0.861	0.983	0.907	364	0.025
April 2010	0.889	0.761	0.996	0.877	1,173	0.045
May 2010	0.966	0.837	1.038	0.970	1,359	0.038
June 2010	0.995	0.804	1.111	0.982	1,189	0.061
July 2010	0.921	0.848	1.076	0.911	1,469	0.056
August 2010	0.855	0.801	0.930	0.850	650	0.026
September 2010	0.856	0.800	0.922	0.850	877	0.028
October 2010	0.840	0.807	0.862	0.840	1,394	0.011
November 2010	0.815	0.753	0.846	0.817	571	0.014

**Table A-87. pH, Platte River, Monthly Average, Overton, NE**

pH						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	8.6	8.5	8.7	8.5	364	0.1
April 2010	8.4	7.8	8.7	8.4	1,436	0.1
May 2010	8.3	8.1	8.7	8.3	1,479	0.1
June 2010	7.9	7.4	8.6	7.9	1,432	0.2
July 2010	8.3	8.0	8.8	8.3	1,478	0.2
August 2010	8.3	7.9	8.6	8.3	1,338	0.1
September 2010	8.2	7.7	8.6	8.2	1,429	0.2
October 2010	8.3	7.6	8.7	8.3	1,395	0.2
November 2010	8.4	7.7	8.6	8.5	1,125	0.2



**Table A-88. Turbidity, Platte River, Monthly Average, Overton, NE**

Turbidity, NTU						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	9	5	20	8	358	2
April 2010	13	1	88	11	1,258	9
May 2010	21	5	169	19	1,088	15
June 2010	22	9	107	14	1,276	20
July 2010	22	7	56	18	1,359	10
August 2010	21	9	45	19	1,260	6
September 2010	19	4	39	18	1,287	5
October 2010	16	8	44	15	918	5
November 2010	13	4	80	12	1,050	6

**Table A-89. Dissolved Oxygen, Platte River, Monthly Average, Overton, NE**

Dissolved Oxygen, mg/L						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	11.0	9.2	12.3	11.0	364	0.8
April 2010	9.8	7.9	12.6	9.7	1,406	0.9
May 2010	9.5	6.2	13.6	9.5	1,479	1.3
June 2010	7.1	3.9	11.9	7.2	1,406	1.4
July 2010	7.8	5.3	13.8	7.2	1,477	1.9
August 2010	7.5	5.5	13.0	7.4	1,037	1.4
September 2010	8.1	6.0	9.8	8.0	1,164	0.8
October 2010	9.7	7.7	12.5	9.5	1,395	1.0
November 2010	11.7	9.9	14.1	11.7	1,125	0.9

**Table A-90. Discharge, Platte River, Monthly Average, Overton, NE**

Discharge, cfs						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	1,274	627	2,550	1,020	480	672
April 2010	1,199	420	2,530	750	1,438	740
May 2010	2,110	425	3,130	2,200	1,484	738
June 2010	4,508	818	7,530	4,770	1,440	2,094
July 2010	2,042	526	3,260	2,030	1,487	559
August 2010	1,887	397	2,890	1,940	1,488	602
September 2010	2,383	672	2,830	2,540	1,440	389
October 2010	2,333	526	2,820	2,540	1,488	585
November 2010	2,518	2,230	2,910	2,360	1,154	240

**Table A-91. Temperature, Platte River, Monthly Average, Lexington, NE**

Temperature, °C						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	10.8	6.0	15.8	10.5	366	2.5
April 2010	13.7	7.3	21.4	13.5	1,434	2.7
May 2010	17.0	8.6	27.8	15.6	1,479	4.7
June 2010	23.5	16.8	28.6	23.9	1,424	2.6
July 2010	25.7	19.8	32.1	25.5	1,477	2.4
August 2010	25.5	17.8	32.4	25.7	1,479	3.1
September 2010	20.3	13.7	27.2	20.3	1,431	2.7
October 2010	13.9	5.7	21.2	14.0	1,484	3.1
November 2010	7.3	0.5	13.8	7.3	1,121	3.0

**Table A-92. Specific Conductance, Platte River, Monthly Average, Lexington, NE**

Specific Conductance, mS/cm						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	0.855	0.843	0.878	0.844	3	0.020
April 2010	0.910	0.821	0.995	0.909	850	0.035
May 2010	0.966	0.846	1.023	0.967	1,005	0.036
June 2010	1.001	0.826	1.124	0.986	850	0.073
July 2010	0.934	0.841	1.081	0.920	753	0.059
August 2010	0.844	0.704	0.938	0.842	1,183	0.032
September 2010	0.835	0.720	0.931	0.826	1,199	0.048
October 2010	0.825	0.774	0.865	0.823	617	0.018
November 2010	0.802	0.742	0.845	0.802	421	0.022

**Table A-93. pH, Platte River, Monthly Average, Lexington, NE**

pH						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	8.4	8.3	8.6	8.4	366	0.1
April 2010	8.3	8.1	8.6	8.3	1,434	0.1
May 2010	8.1	6.7	8.7	8.2	1,479	0.3
June 2010	7.7	7.1	8.5	7.8	1,424	0.3
July 2010	8.2	7.7	8.7	8.2	1,477	0.2
August 2010	8.1	7.6	8.4	8.1	1,479	0.1
September 2010	8.1	7.7	8.4	8.2	1,431	0.1
October 2010	8.0	7.3	8.3	8.0	1,484	0.2
November 2010	8.0	7.7	8.2	8.0	1,121	0.1



**Table A-94. Turbidity, Platte River, Monthly Average, Lexington, NE**

Turbidity, NTU						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	6	2	16	6	366	1
April 2010	8	3	29	8	1,192	3
May 2010	12	4	44	10	845	6
June 2010	32	6	137	20	1,009	30
July 2010	24	16	51	22	1,412	7
August 2010	21	5	69	18	1,334	10
September 2010	15	4	47	14	1,215	6
October 2010	14	5	36	12	1,225	5
November 2010	12	5	30	12	1,081	4

**Table A-95. Dissolved Oxygen, Platte River, Monthly Average, Lexington, NE**

Dissolved Oxygen, mg/L						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	10.9	9.3	12.0	10.9	366	0.7
April 2010	9.6	7.9	11.7	9.4	1,434	0.9
May 2010	9.5	6.3	14.5	9.4	1,401	1.5
June 2010	7.2	4.7	11.8	7.1	1,424	1.1
July 2010	7.7	4.9	14.3	7.3	1,446	1.8
August 2010	7.5	5.4	9.5	7.6	1,477	0.8
September 2010	8.5	7.2	10.1	8.4	1,393	0.6
October 2010	9.7	7.8	11.6	9.6	1,415	0.7
November 2010	11.5	9.3	14.0	11.6	1,103	1.0

**Table A-96. Discharge, Platte River, Monthly Average, Lexington, NE**

Discharge, cfs						
Date	Monthly					
	Mean	Min	Max	Median	N	STD
March 2010	498	420	617	491	480	60
April 2010	431	295	613	409	1,097	90
May 2010	677	242	1,324	643	1,488	320
June 2010	2,998	248	7,436	3,505	1,440	2,383
July 2010	1,043	277	2,963	732	1,457	743
August 2010	491	199	933	472	1,488	212
September 2010	363	182	591	346	1,401	114
October 2010	377	298	541	373	1,294	47
November 2010	341	278	405	339	903	31



## **Discrete Water Quality Data Platte River**



**Table A-97. Discrete Water Quality Data, Total and Dissolved Metals, April, Platte River, NE**

Sample ID: Date Sampled:		MDL/RL	LSV201004 4/20/2010	DUN201004 4/20/2010	GRI201004 4/20/2010	SHL201004 4/20/2010	KER201004 4/21/2010	ODS201004 4/21/2010	OVR201004 4/21/2010	LEX201004 4/21/2010
<b>Dissolved Metals</b>	<b>Units</b>									
Copper	mg/L	0.00150/0.00500	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150
Lead	mg/L	0.00100/0.00400	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
Nickel	mg/L	0.00435/0.0100	<0.00435	<0.00435	<0.00435	<0.00435	<0.00435	<0.00435	<0.00435	<0.00435
<b>Total Metals</b>	<b>Units</b>									
Calcium	mg/L	0.0195/1.00	<b>68.9</b>	<b>94.6</b>	<b>81.2</b>	<b>88.2</b>	<b>85.4</b>	<b>98.7</b>	<b>89.5</b>	<b>92.1</b>
Magnesium	mg/L	0.0104/1.00	<b>18.1</b>	<b>28.7</b>	<b>27.2</b>	<b>29.3</b>	<b>27.0</b>	<b>31.1</b>	<b>27.1</b>	<b>27.6</b>
Selenium	mg/L	0.00169/0.00500	<b>0.00298 J</b>	<0.00169	<0.00169	<0.00169	<0.00169	<0.00169	<0.00169	<0.00169

**Table A-98. Discrete Water Quality Data, Total and Dissolved Metals, June, Platte River, NE**

Sample ID: Date Sampled:		MDL/RL	LSV201006 6/1/2010	DUN201006 6/1/2010	GRI201006 6/1/2010	SHL201006 6/1/2010	KER201006 6/1/2010	ODS201006 6/2/2010	OVR201006 6/2/2010	LEX201006 6/2/2010
<b>Dissolved Metals</b>	<b>Units</b>									
Copper	mg/L	0.00150/0.00500	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150
Lead	mg/L	0.00100/0.00400	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<b>0.00417</b>	<0.00100	<0.00100
Nickel	mg/L	0.00435/0.0100	<0.00435	<0.00435	<b>0.00645 J</b>	<0.00435	<0.00435	<0.00435	<0.00435	<0.00435
<b>Total Metals</b>	<b>Units</b>									
Calcium	mg/L	0.0195/1.00	<b>60.9</b>	<b>76.7</b>	<b>86.6</b>	<b>84.8</b>	<b>82.2</b>	<b>81.1</b>	<b>79.4</b>	<b>82.0</b>
Magnesium	mg/L	0.0104/1.00	<b>18.8</b>	<b>27.4</b>	<b>28.3</b>	<b>28.8</b>	<b>28.7</b>	<b>30.0</b>	<b>30.4</b>	<b>25.0</b>
Selenium	mg/L	0.00169/0.00500	<b>0.00414 J</b>	<b>0.00206 J</b>	<b>0.00177 J</b>	<0.00169	<b>0.00217 J</b>	<b>0.00222 J</b>	<0.00169	<b>0.00213 J</b>



**Table A-99. Discrete Water Quality Data, Total and Dissolved Metals, August, Platte River, NE**

Sample ID: Date Sampled:		MDL/RL	LSV201008 8/11/2010	DUN201008 8/11/2010	GRI201008 8/21/2010	SHL201008 8/11/2010	KER201008 8/12/2010	ODS201008 8/12/2010	OVR201008 8/12/2010	LEX201008 8/12/2010
<b>Dissolved Metals</b>	<b>Units</b>									
Copper	mg/L	0.00150/0.00500	<b>0.00191 J</b>	<b>0.00172 J</b>	<b>0.00221 J</b>	<0.00150	<b>0.00153 J</b>	<0.00150	<b>0.00163 J</b>	<0.00150
Lead	mg/L	0.00100/0.00400	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
Nickel	mg/L	0.00435/0.0100	<0.00435	<0.00435	<0.00435	<0.00435	<0.00435	<0.00435	<0.00435	<0.00435
<b>Total Metals</b>	<b>Units</b>									
Calcium	mg/L	0.0195/1.00	<b>65.3</b>	<b>78.4</b>	<b>77.1</b>	<b>73.5</b>	<b>72.6</b>	<b>77.1</b>	<b>71.6</b>	<b>66.6</b>
Magnesium	mg/L	0.0104/1.00	<b>17.6</b>	<b>27.8</b>	<b>26.8</b>	<b>26.2</b>	<b>26.6</b>	<b>26.7</b>	<b>27.3</b>	<b>22.3</b>
Selenium	mg/L	0.00169/0.00500	<b>0.00193 J</b>	<0.00169	<0.00169	<0.00169	<0.00169	<0.00169	<0.00169	<0.00169

**Table A-100. Discrete Water Quality Data, Total and Dissolved Metals, October, Platte River, NE**

Sample ID: Date Sampled:		MDL/RL	LSV201010 10/11/2010	DUN201010 10/11/2010	GRI201010 10/11/2010	SHL201010 10/11/2010	KER201010 10/12/2010	ODS201010 10/12/2010	OVR201010 10/12/2010	LEX201010 10/12/2010
<b>Dissolved Metals</b>	<b>Units</b>									
Copper	mg/L	0.00150/0.00500	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150
Lead	mg/L	0.00100/0.00400	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
Nickel	mg/L	0.00435/0.0100	<0.00435	<0.00435	<0.00435	<0.00435	<0.00435	<0.00435	<0.00435	<0.00435
<b>Total Metals</b>	<b>Units</b>									
Calcium	mg/L	0.0195/1.00	<b>67.7</b>	<b>68.5</b>	<b>58.9</b>	<b>62.0</b>	<b>57.9</b>	<b>60.6</b>	<b>54.8</b>	<b>62.4</b>
Magnesium	mg/L	0.0104/1.00	<b>18.7</b>	<b>24.0</b>	<b>21.2</b>	<b>22.5</b>	<b>21.1</b>	<b>22.0</b>	<b>19.4</b>	<b>19.3</b>
Selenium	mg/L	0.00169/0.00500	<b>0.00191 J</b>	<0.00169	<0.00169	<0.00169	<0.00169	<0.00169	<0.00169	<0.00169

**Table A-101. Discrete Water Quality Data, Coliform Bacteria, Platte River, NE**

Date	Lexington	Kearney	Grand Island
	Coliform Bacteria, col/100mL	Coliform Bacteria, col/100mL	Coliform Bacteria, col/100mL
March 17, 2010	296	456	2,324
March 24, 2010	270	613	2,419
March 30, 2010	828	2,666	10,344
July 20, 2010	>48,384	>48,384	20,222
August 17, 2010	9,990	11,876	48,383
September 10, 2010	5,702	14,540	11,588

**Table A-102. Discrete Water Quality Data, *E. coli* Bacteria, Platte River, NE**

Date	Lexington	Kearney	Grand Island
	<i>E. coli</i> Bacteria, col/100mL	<i>E. coli</i> Bacteria, col/100mL	<i>E. coli</i> Bacteria, col/100mL
March 17, 2010	0	104	1,248
March 24, 2010	68	261	1,553
March 30, 2010	82	1,202	5,510
July 20, 2010	194	194	216
August 17, 2010	917	974	1,240
September 10, 2010	374	196	82





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## Temporal Variations



**Figure B-1. Temporal Variation, Temperature, Weekly Mean, Platte River, NE**

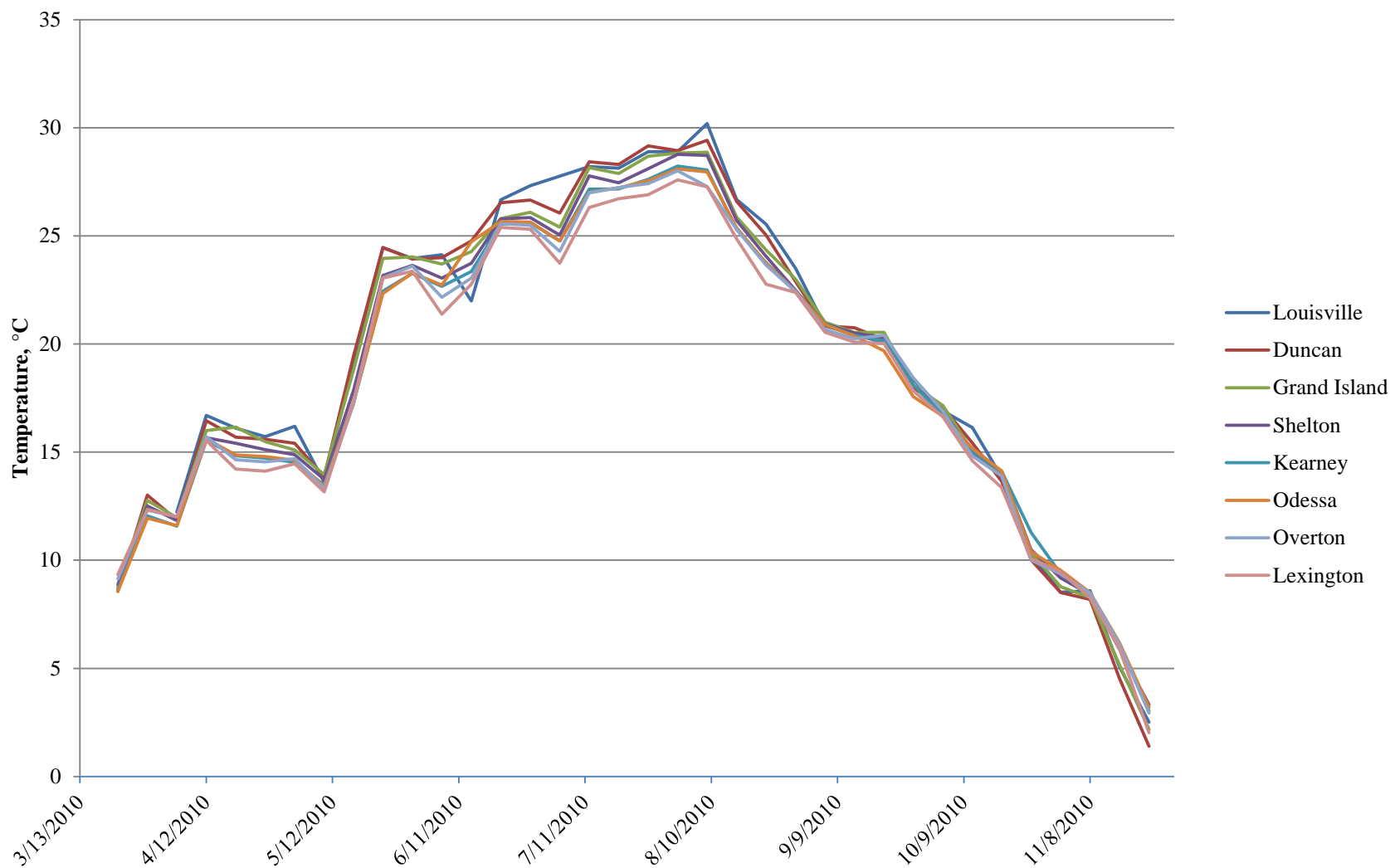




Figure B-2. Temporal Variation, Specific Conductance, Weekly Mean, Platte River, NE

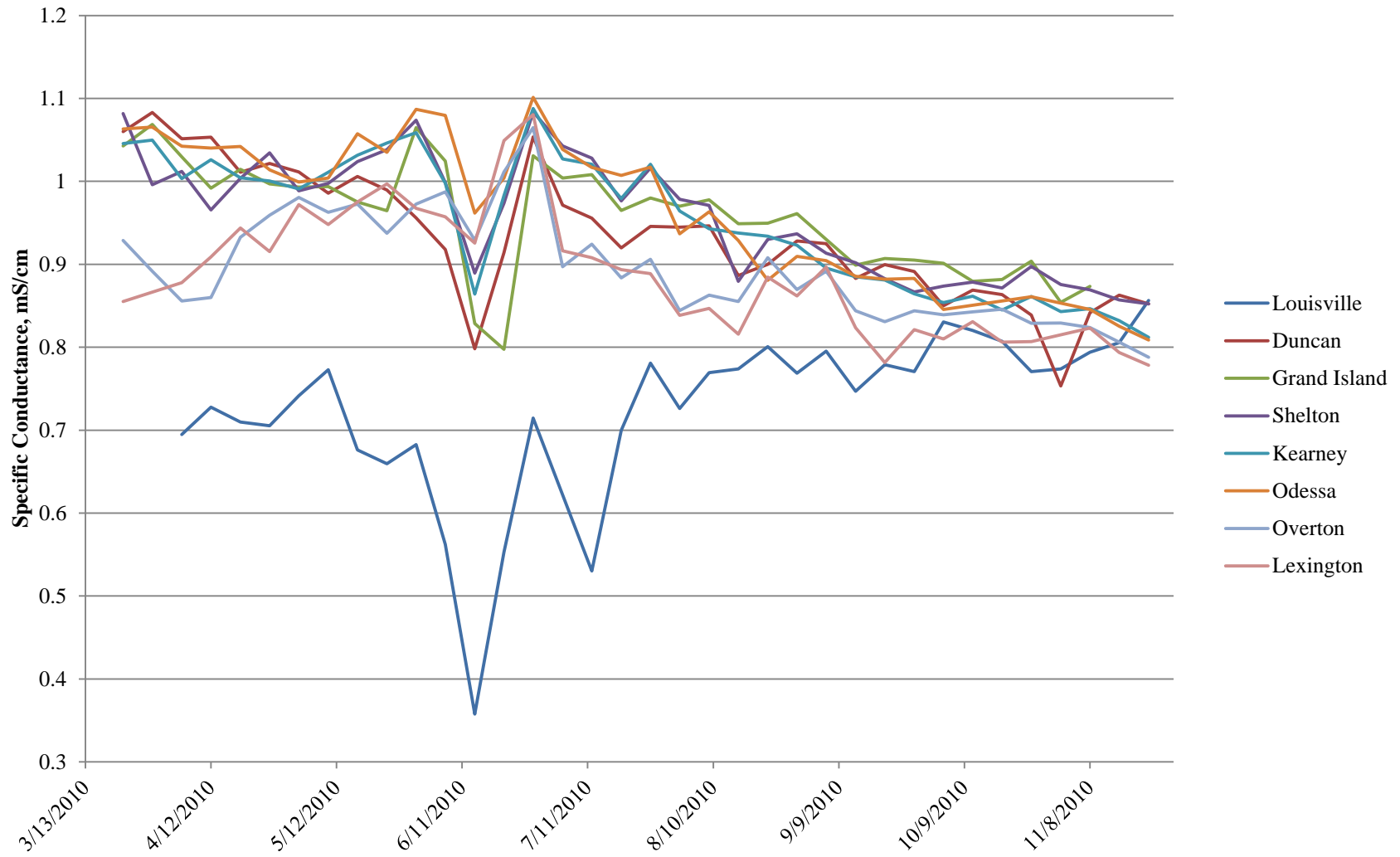




Figure B-3. Temporal Variation, pH, Weekly Mean, Platte River, NE

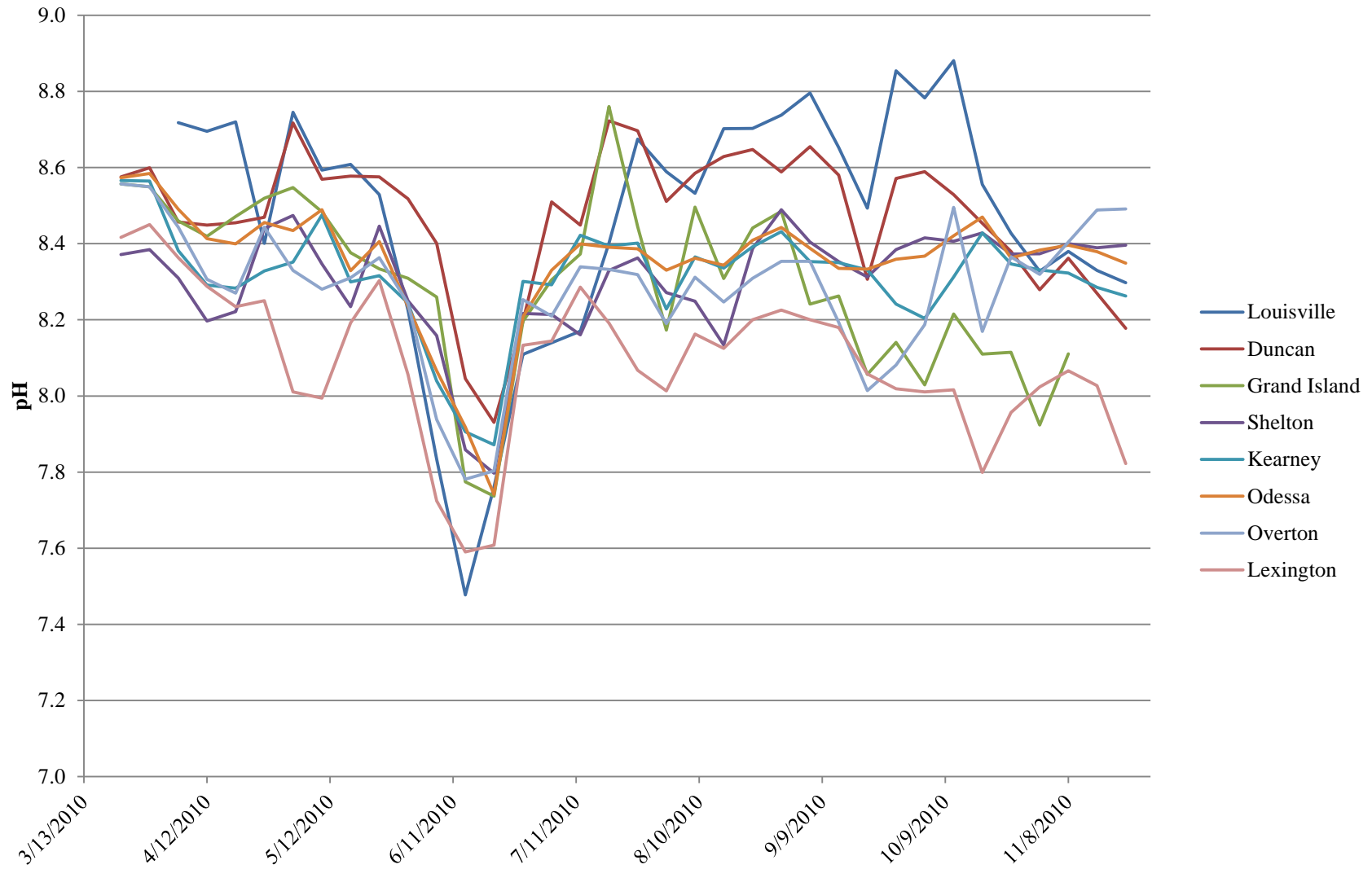




Figure B-4. Temporal Variation, Turbidity, Weekly Mean, Platte River, NE

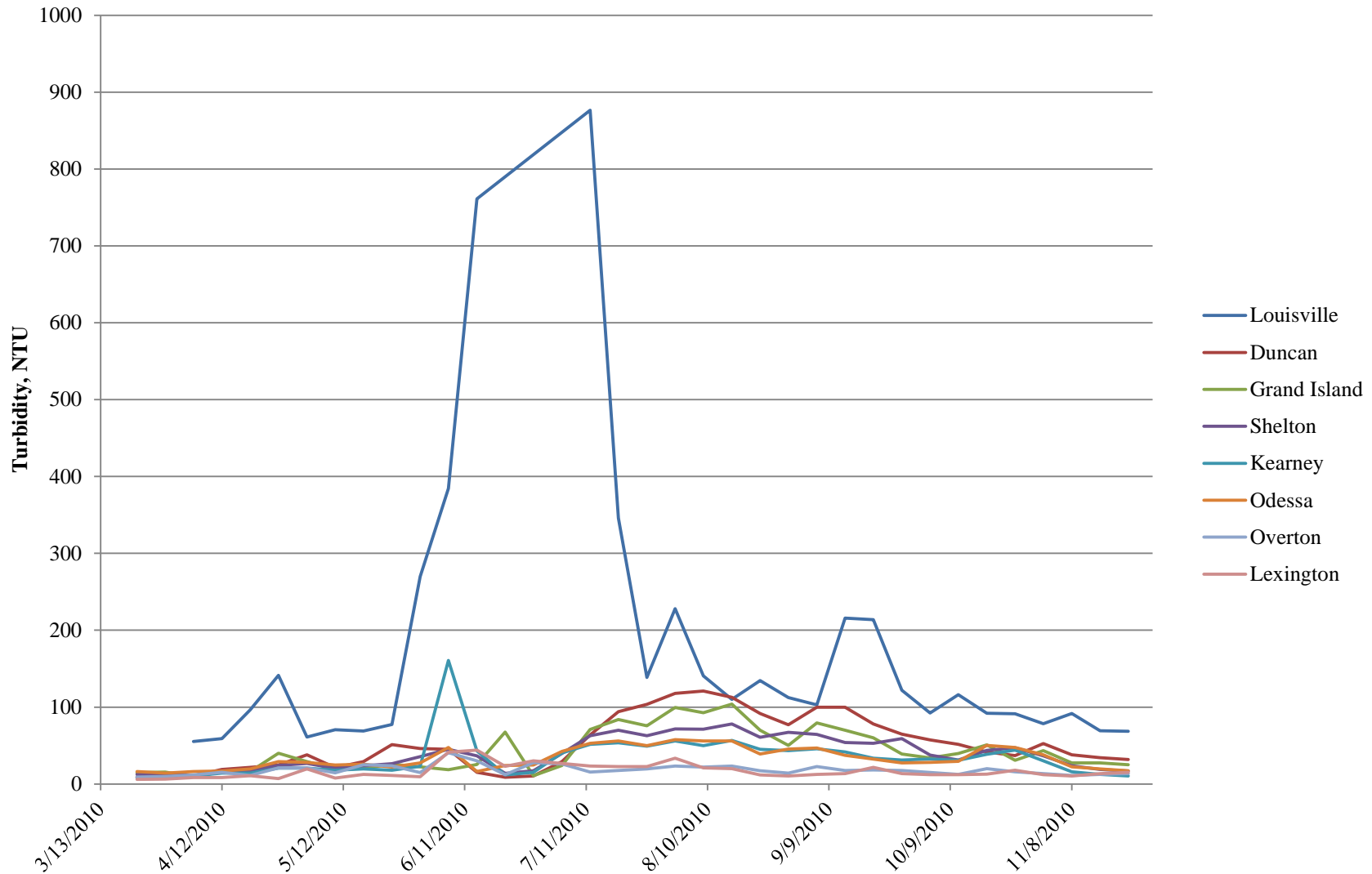






Figure B-5. Temporal Variation, Dissolved Oxygen, Weekly Mean, Platte River, NE

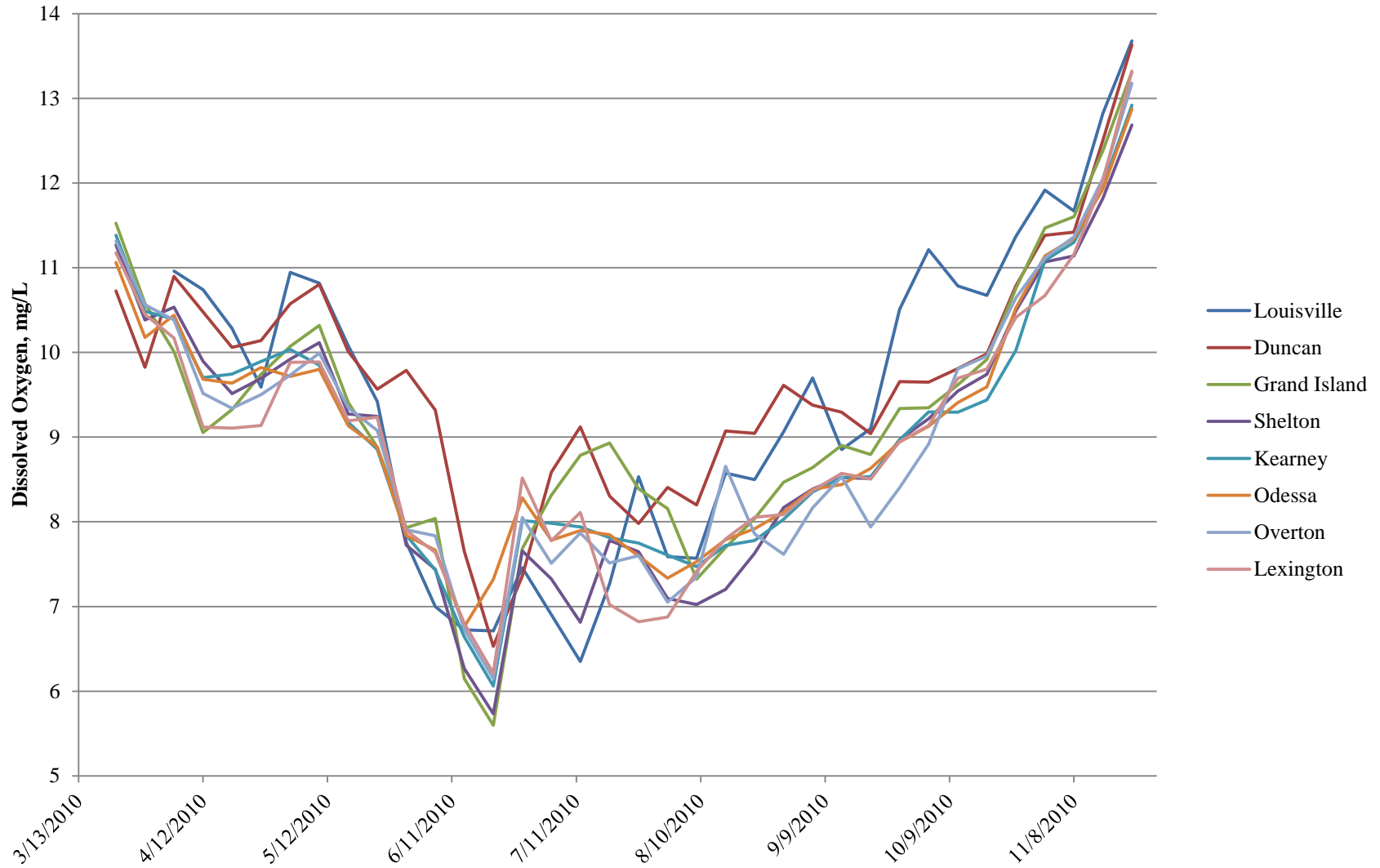
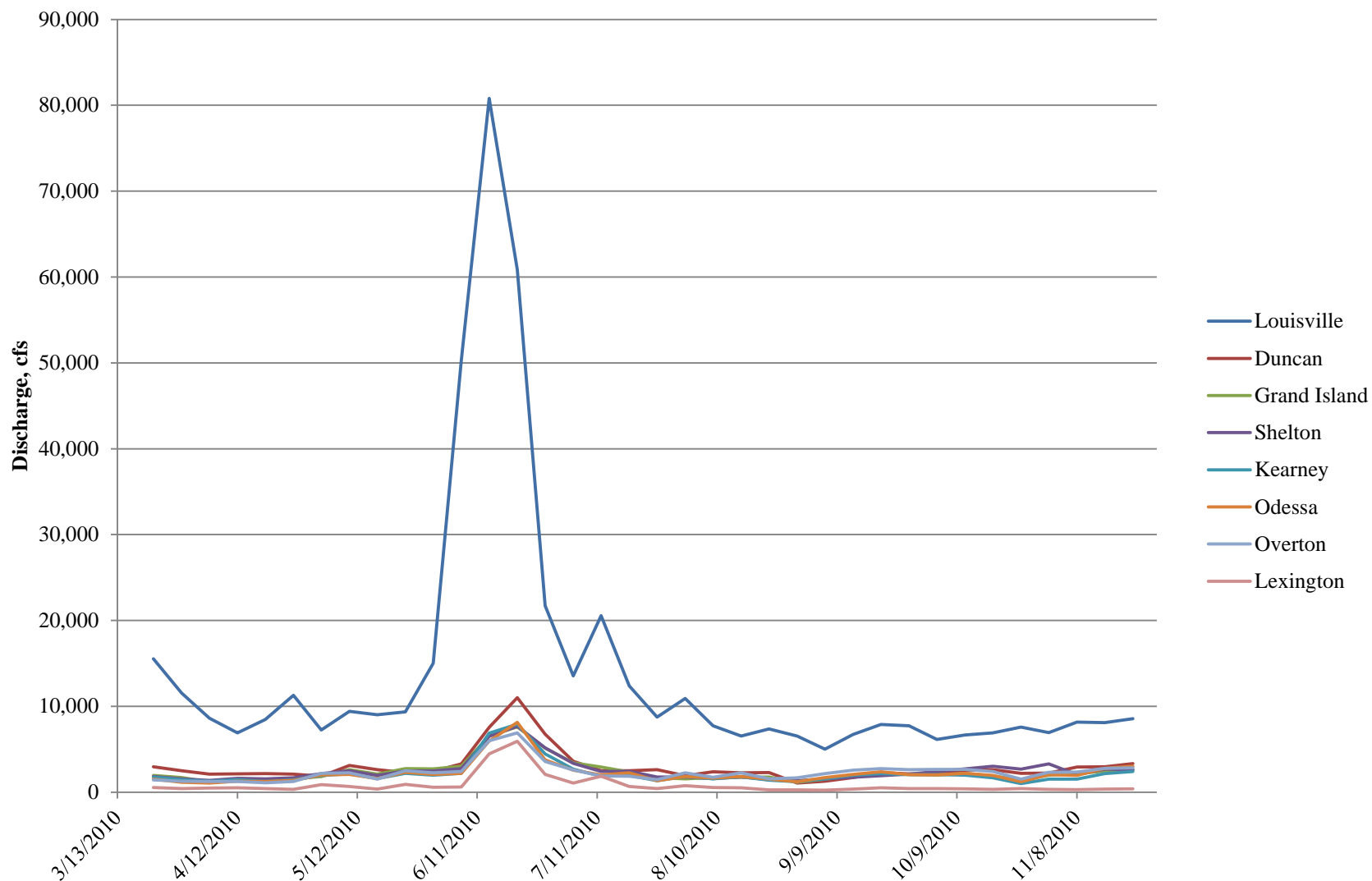




Figure B-6. Temporal Variation, Discharge, Weekly Mean, Platte River, NE

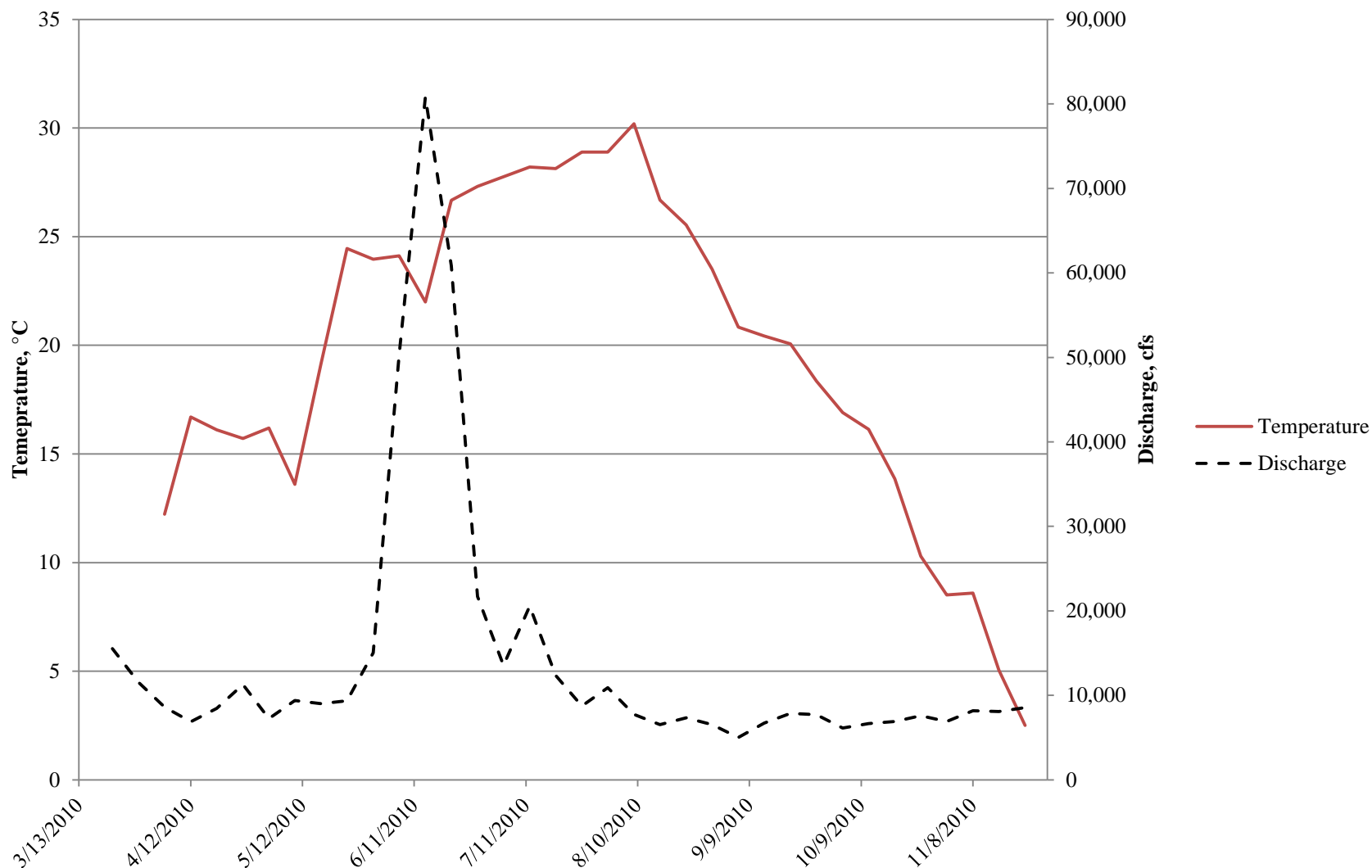




## **Water Quality and Discharge Variations**



**Figure B-7. Temperature and Discharge, Weekly Mean, Platte River, Louisville, NE**





**Figure B-8. Specific Conductance and Discharge, Weekly Mean, Platte River, Louisville, NE**

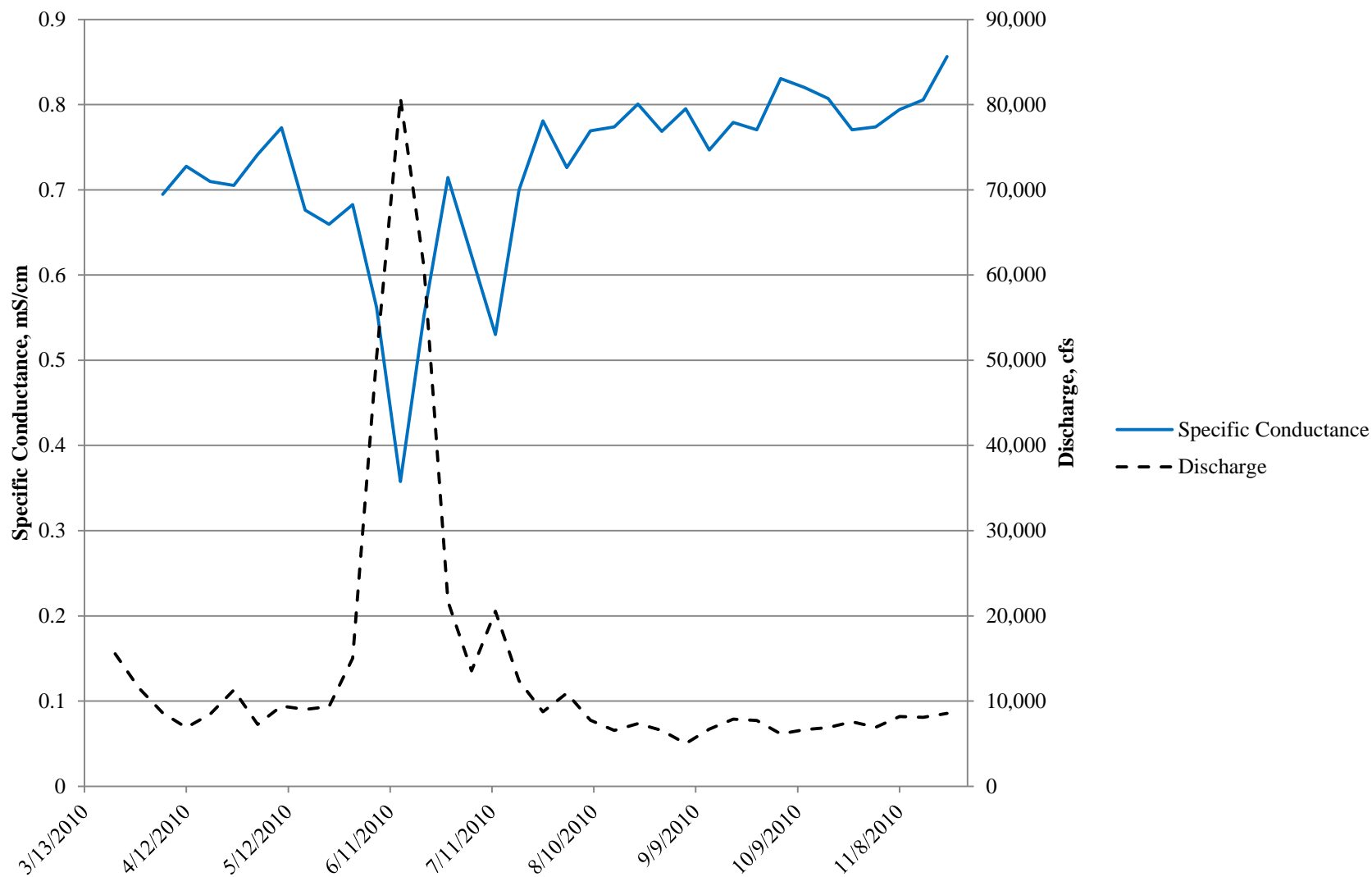
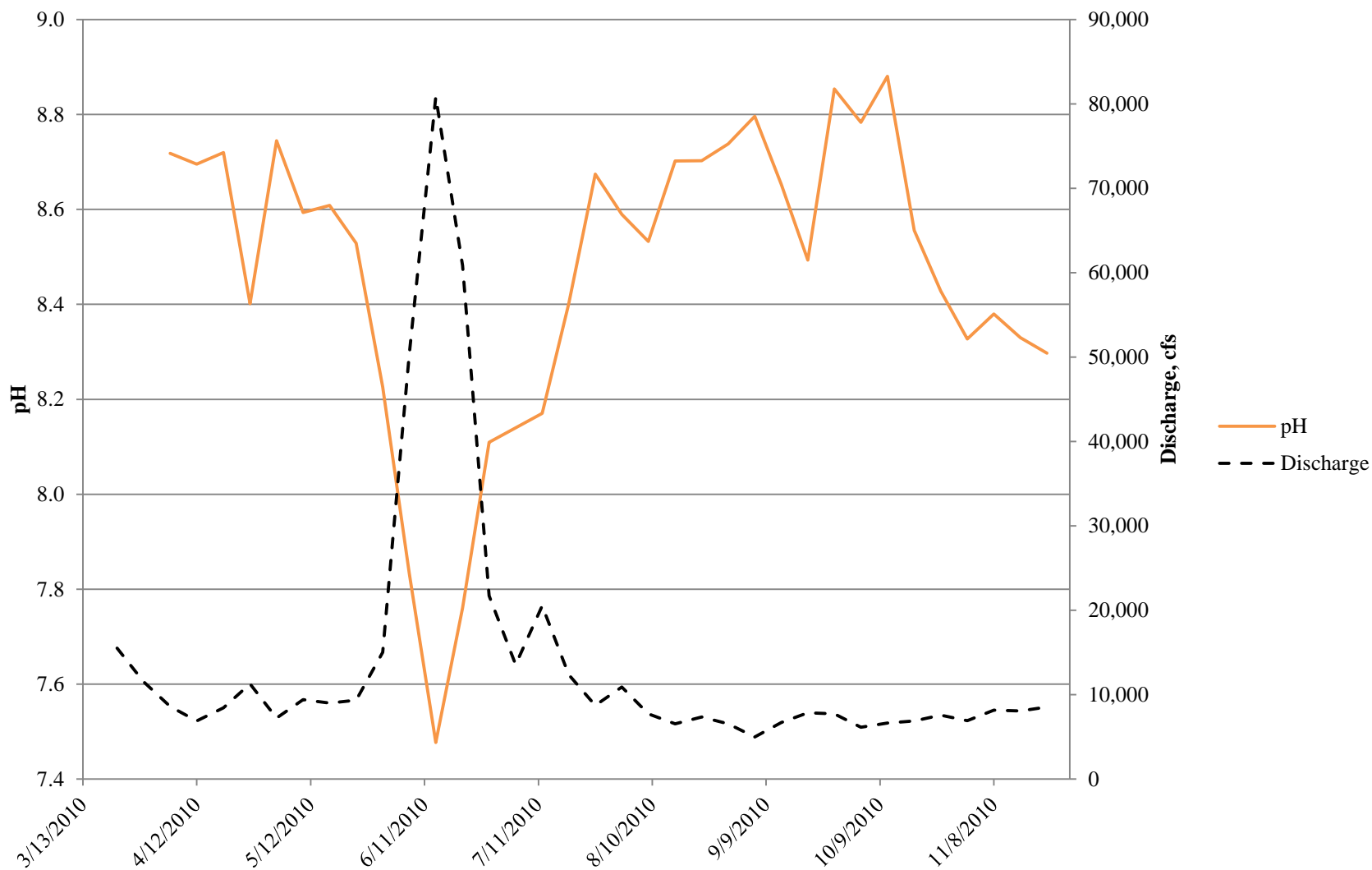




Figure B-9. pH and Discharge, Weekly Mean, Platte River, Louisville, NE





**Figure B-10. Turbidity and Discharge, Weekly Mean, Platte River, Louisville, NE**

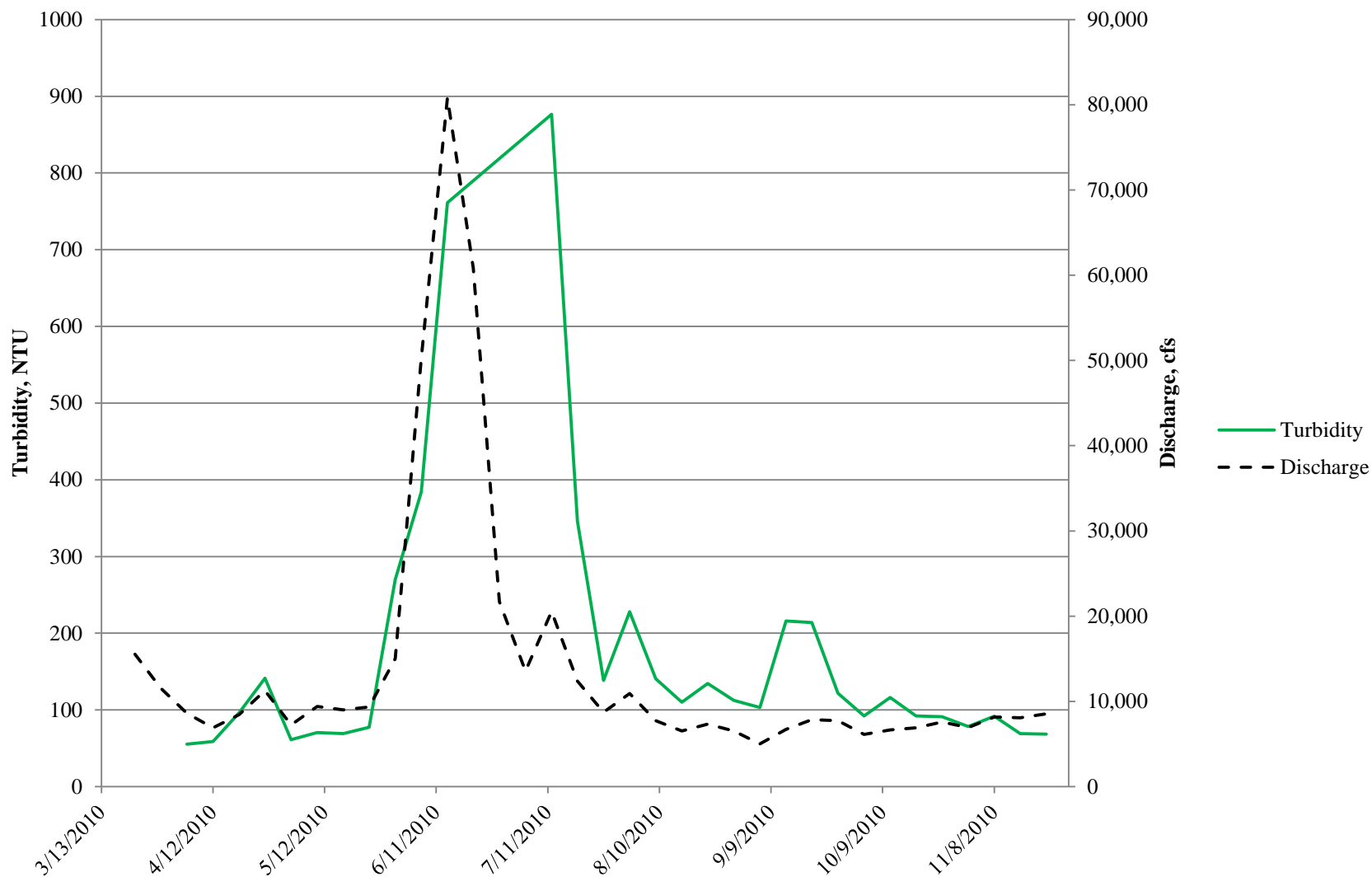




Figure B-11. Dissolved Oxygen and Discharge, Weekly Mean, Platte River, Louisville, NE

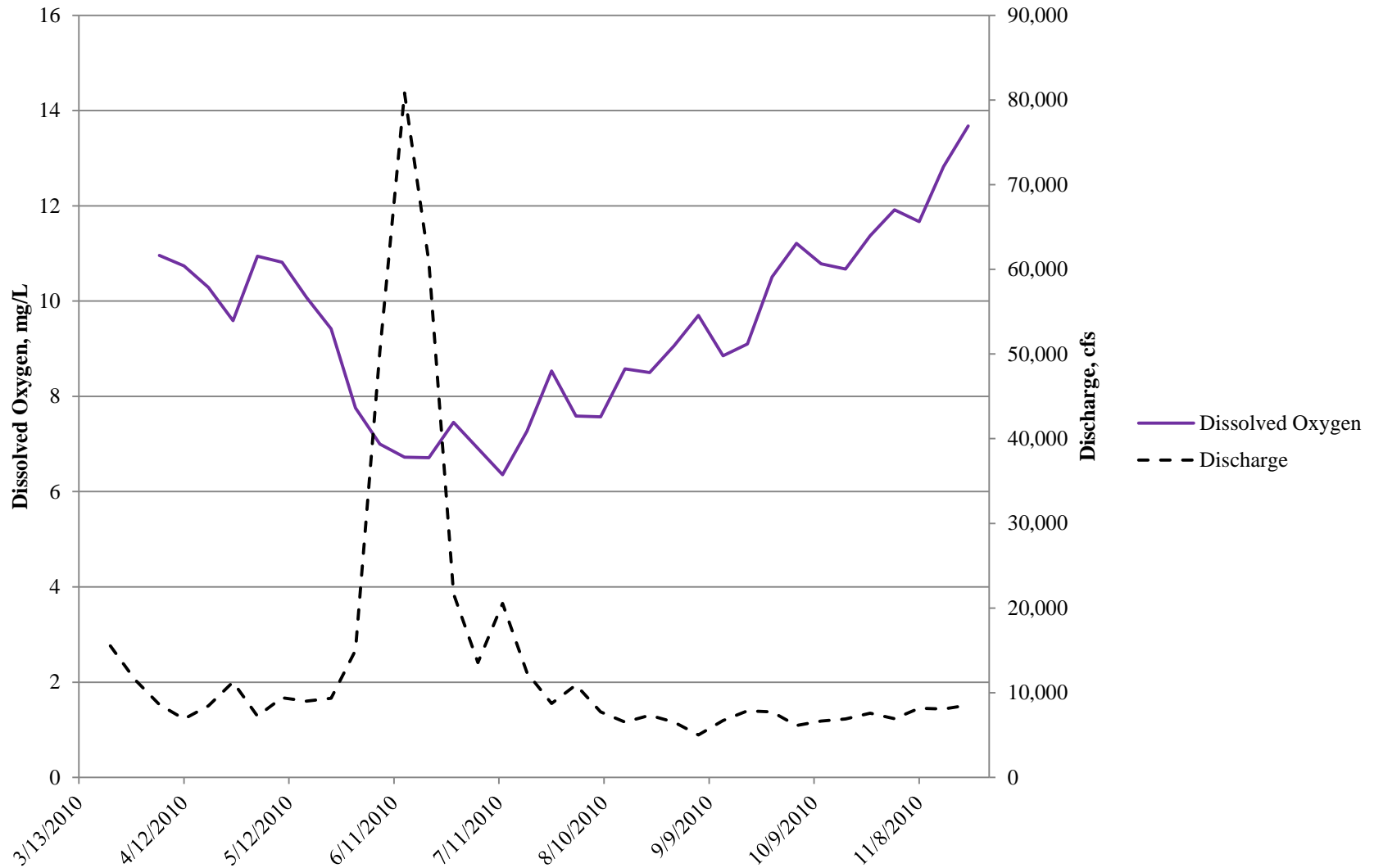
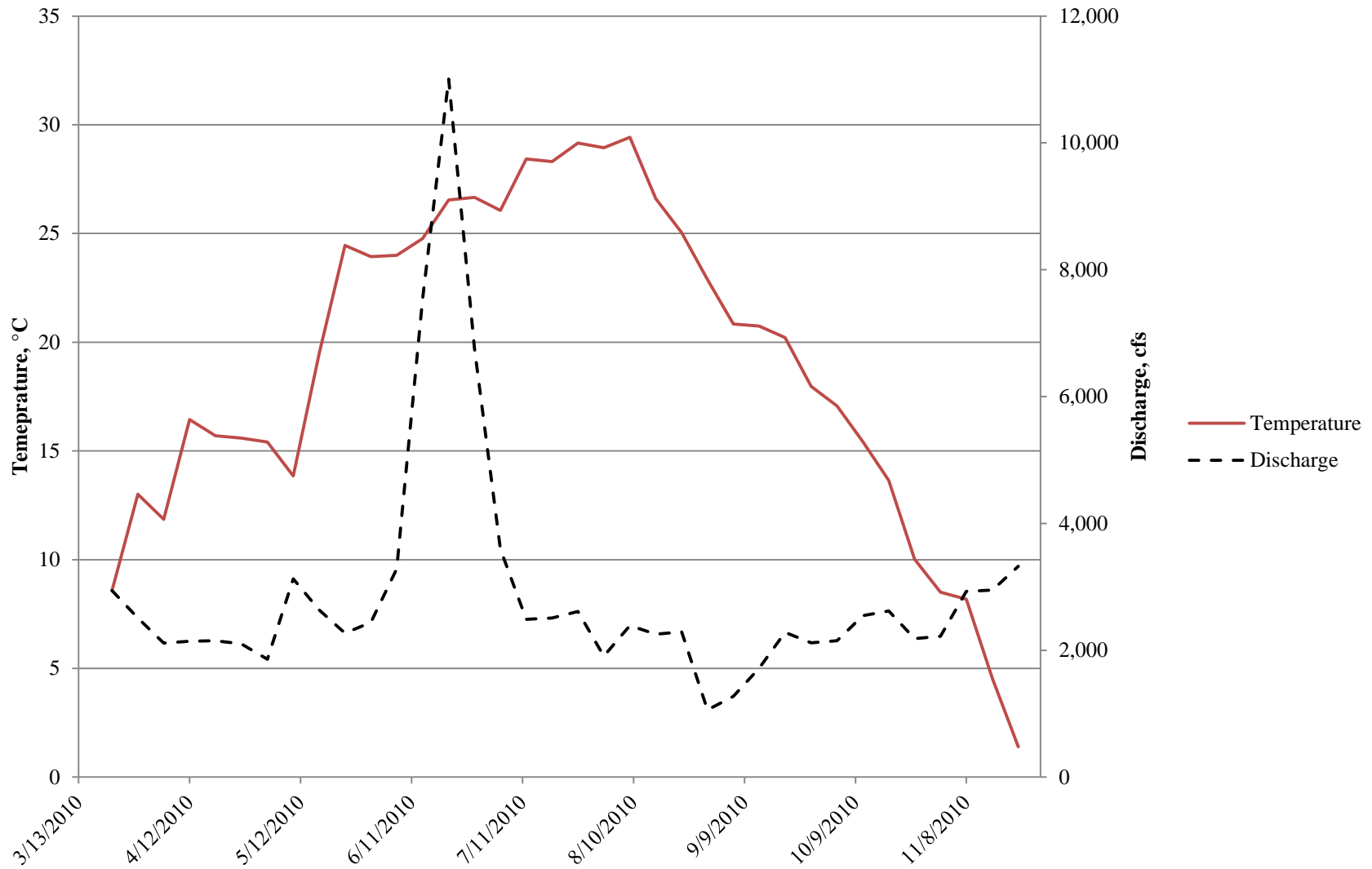






Figure B-12. Temperature and Discharge, Weekly Mean, Platte River, Duncan, NE





**Figure B-13. Specific Conductance and Discharge, Weekly Mean, Platte River, Duncan, NE**

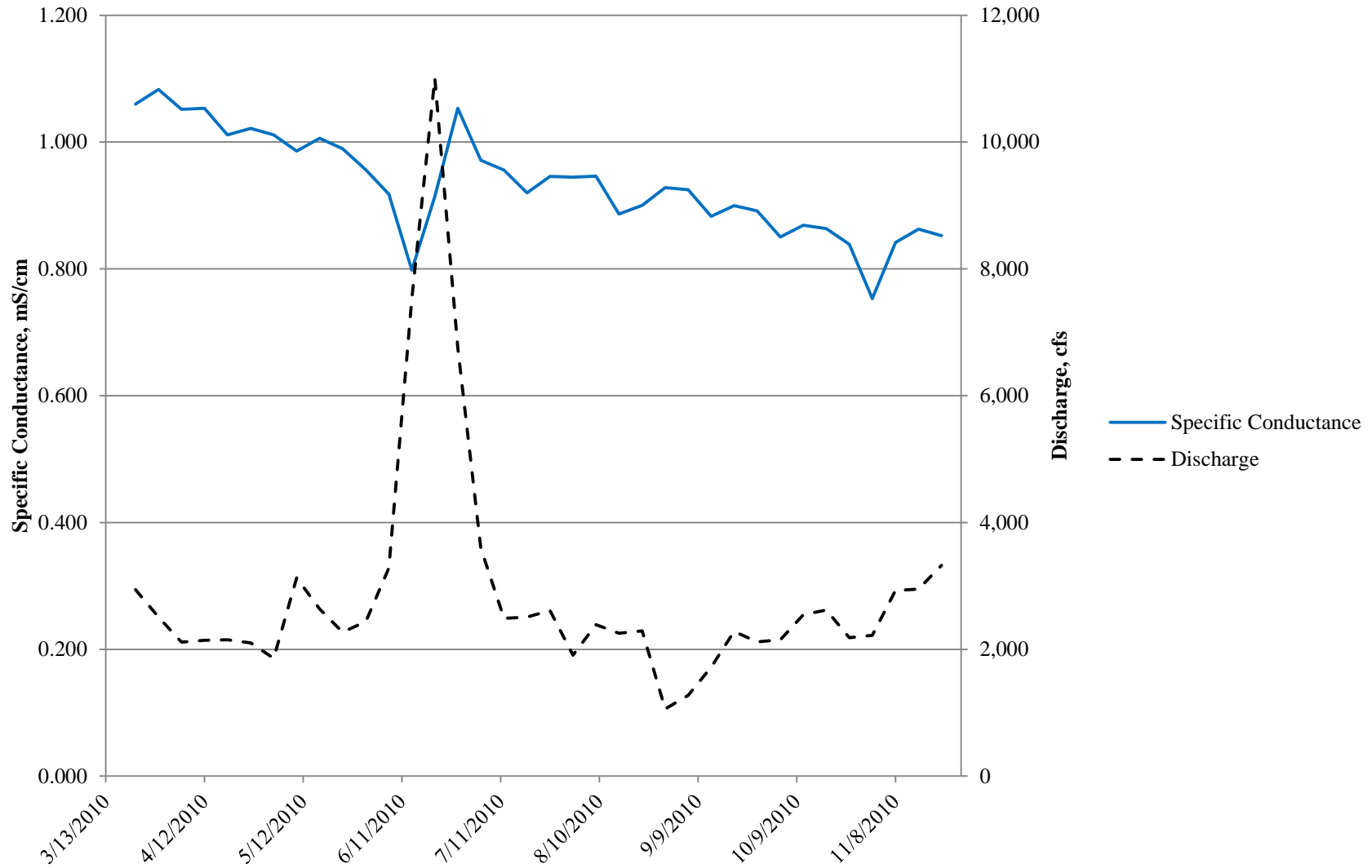




Figure B-14. pH and Discharge, Weekly Mean, Platte River, Duncan, NE

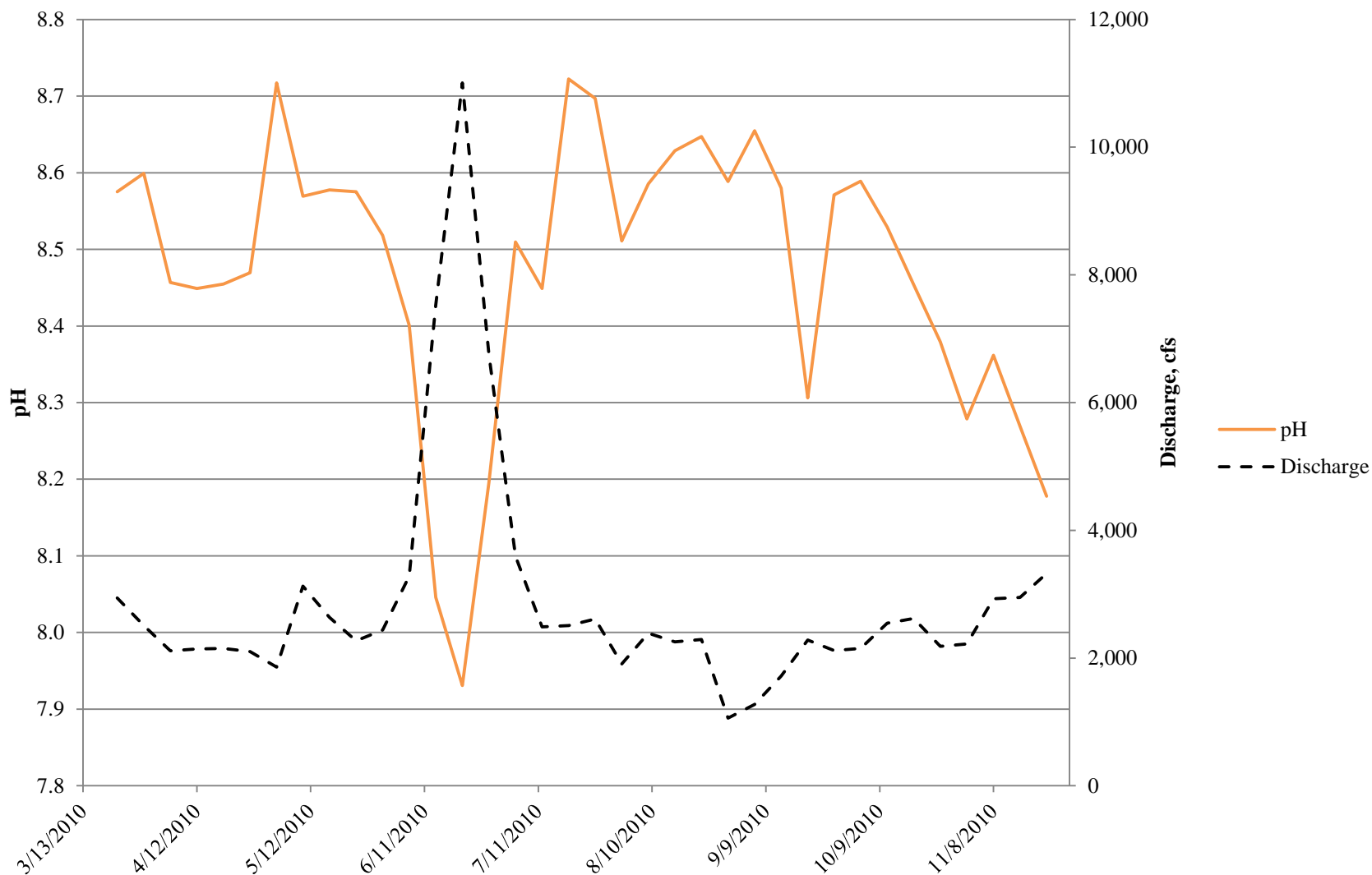




Figure B-15. Turbidity and Discharge, Weekly Mean, Platte River, Duncan, NE

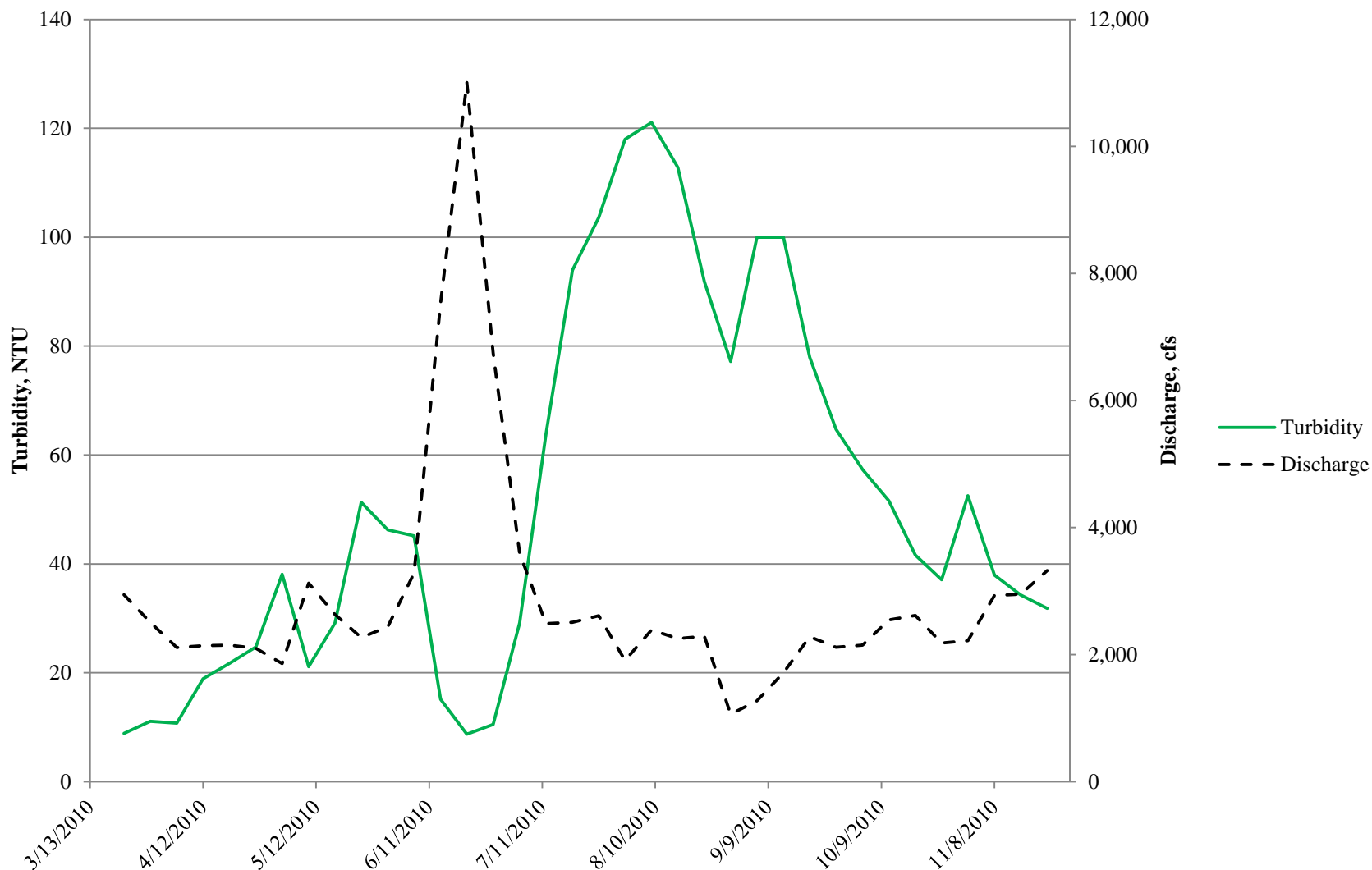




Figure B-16. Dissolved Oxygen and Discharge, Weekly Mean, Platte River, Duncan, NE

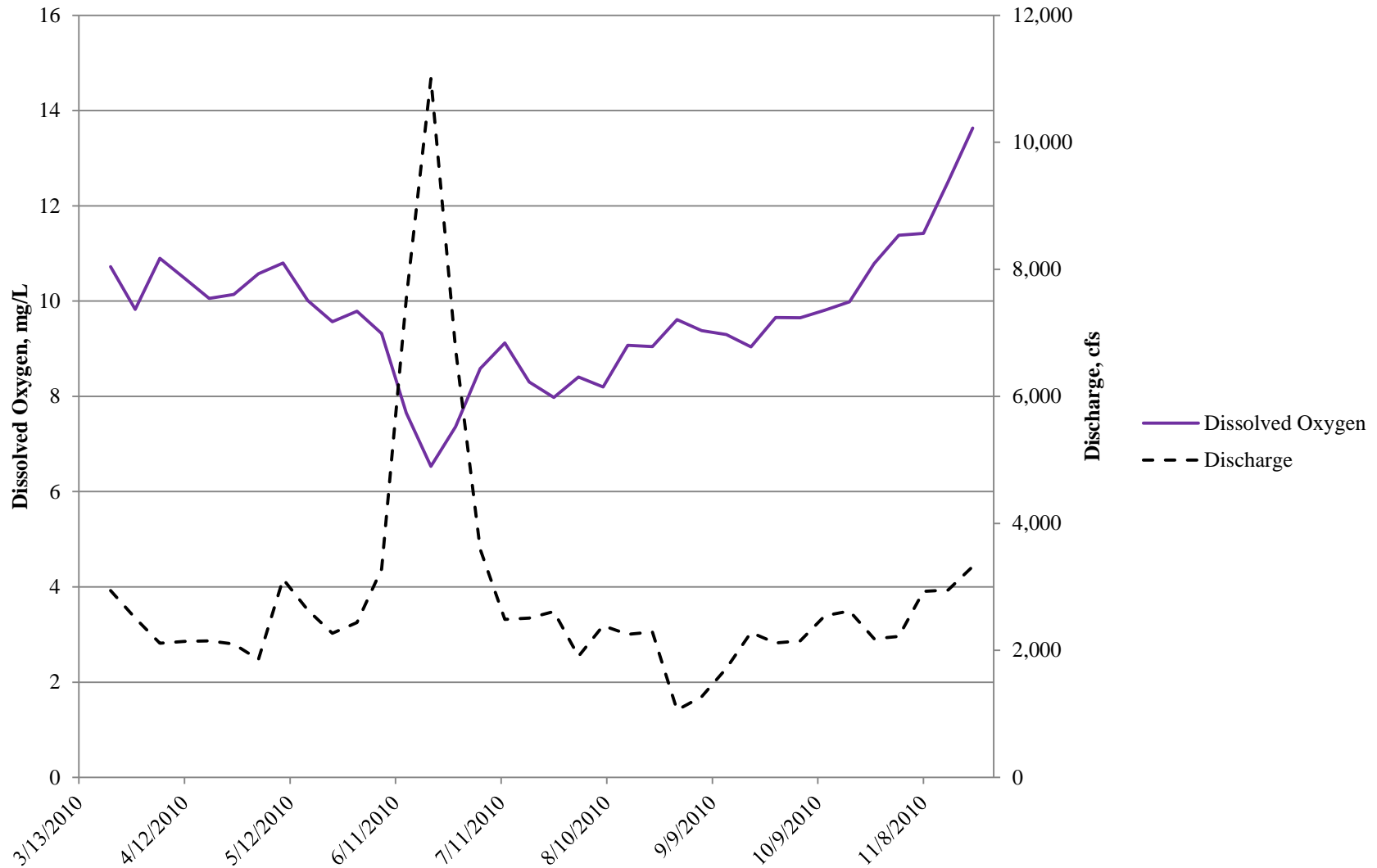




Figure B-17. Temperature and Discharge, Weekly Mean, Platte River, Grand Island, NE

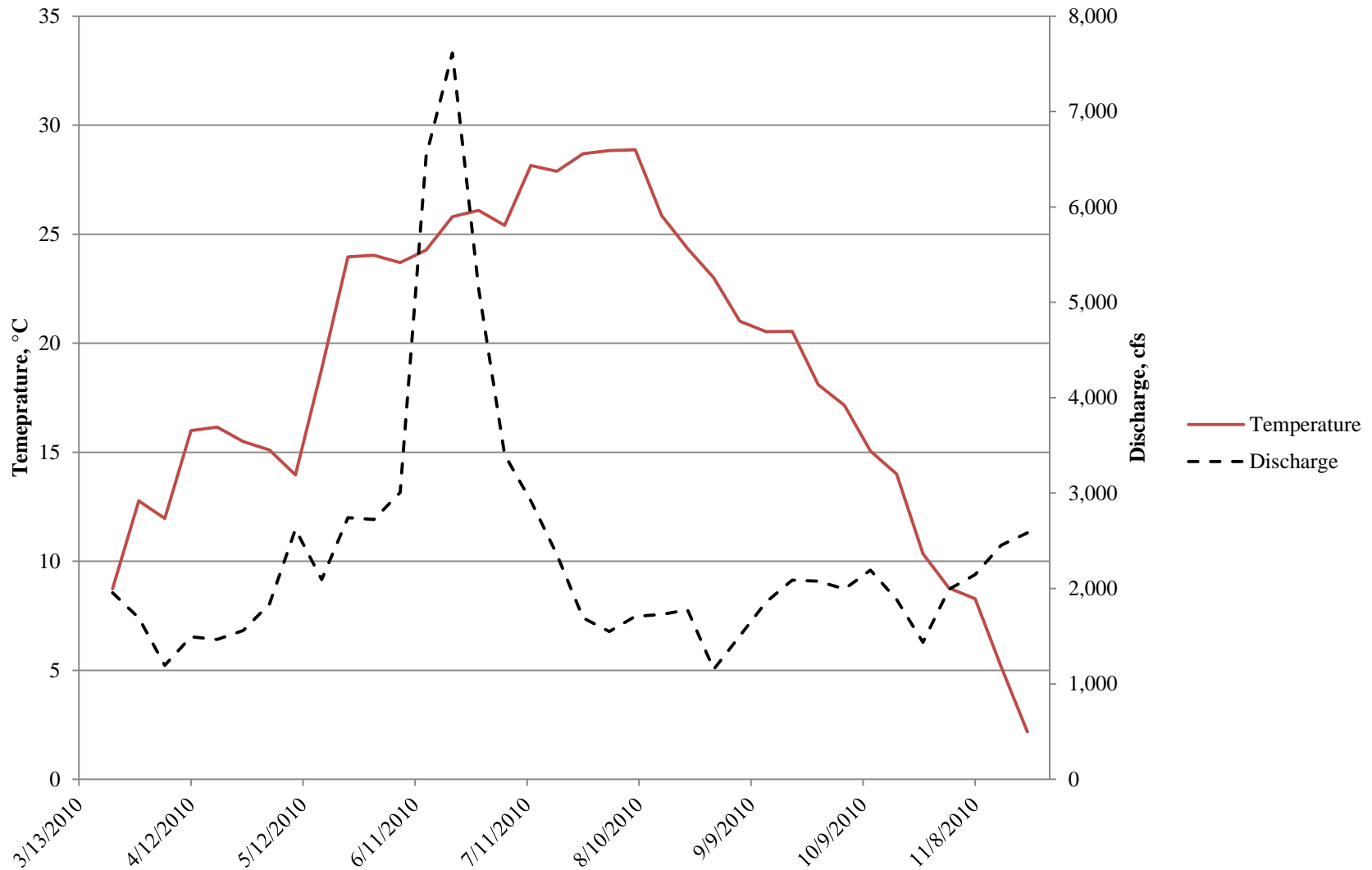




Figure B-18. Specific Conductance and Discharge, Weekly Mean, Platte River, Grand Island, NE

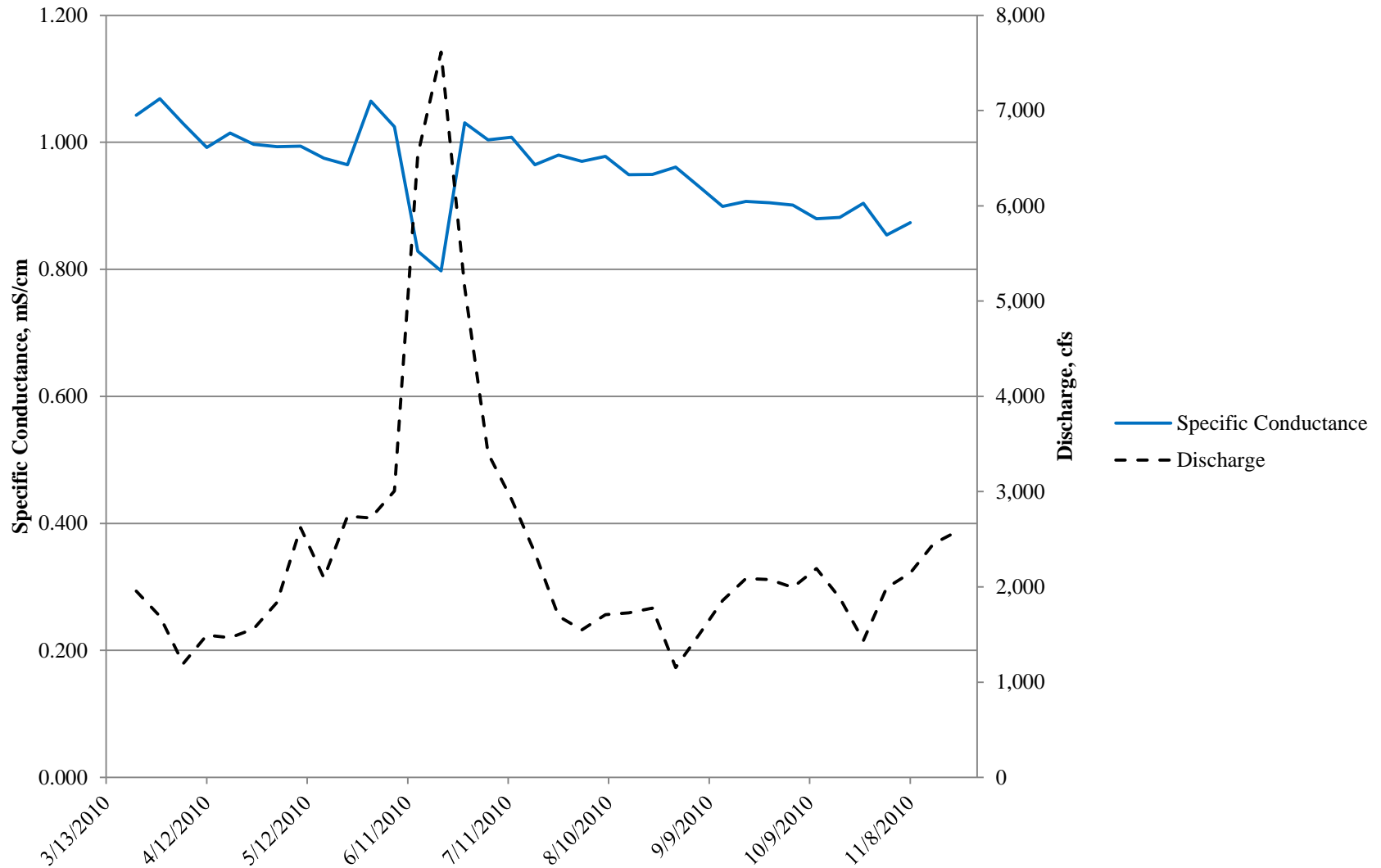




Figure B-19. pH and Discharge, Weekly Mean, Platte River, Grand Island, NE

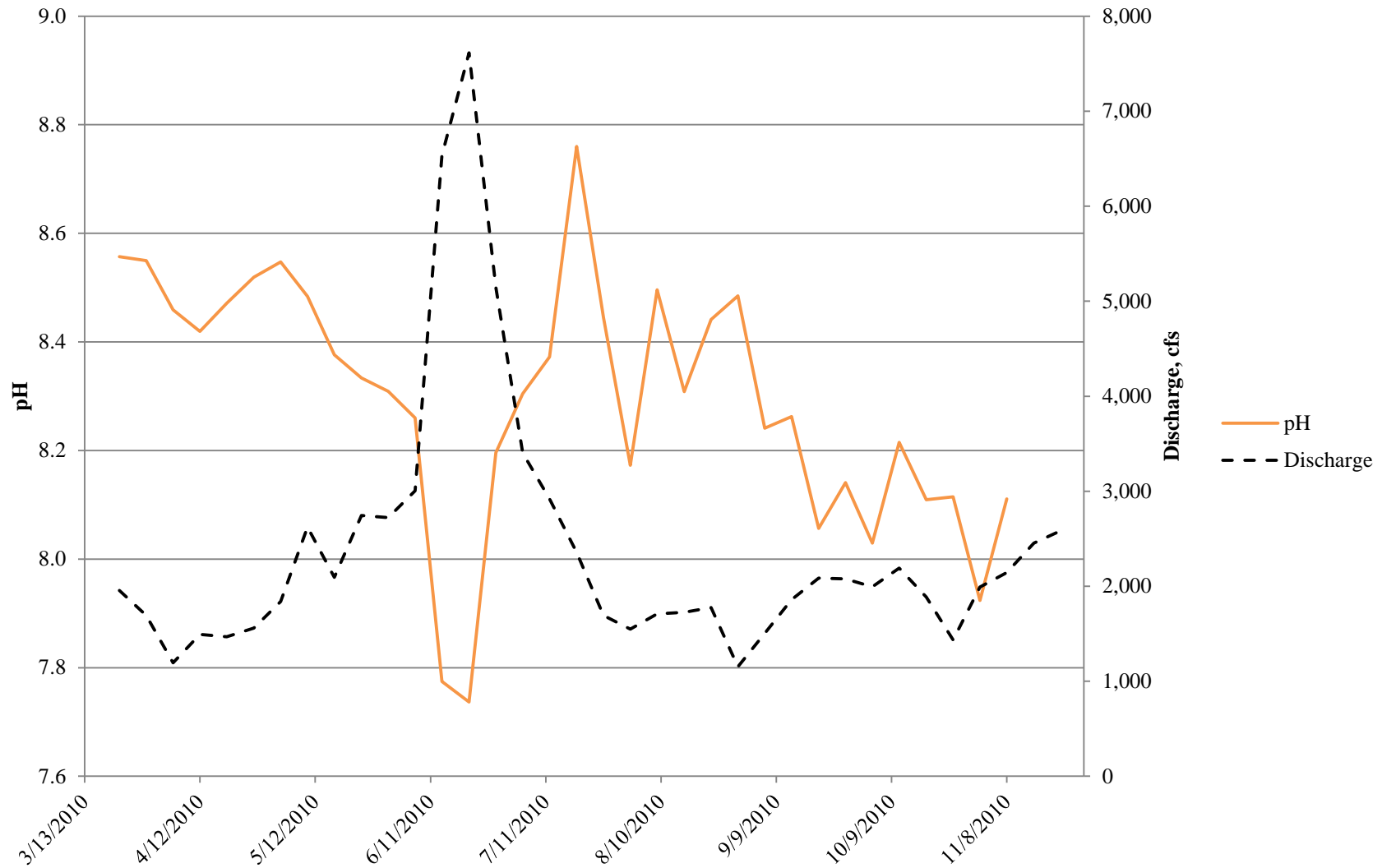






Figure B-20. Turbidity and Discharge, Weekly Mean, Platte River, Grand Island, NE

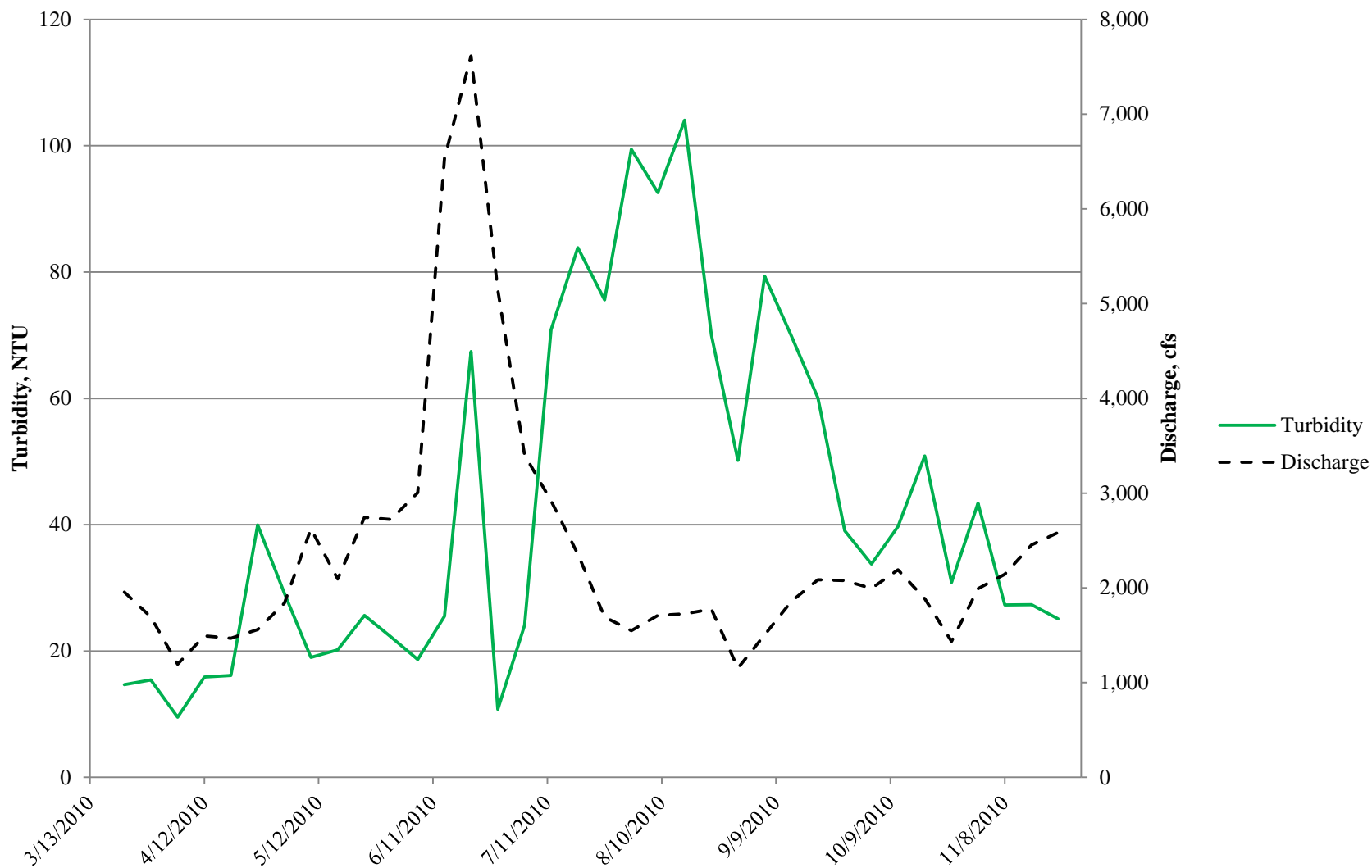




Figure B-21. Dissolved Oxygen and Discharge, Weekly Mean, Platte River, Grand Island, NE

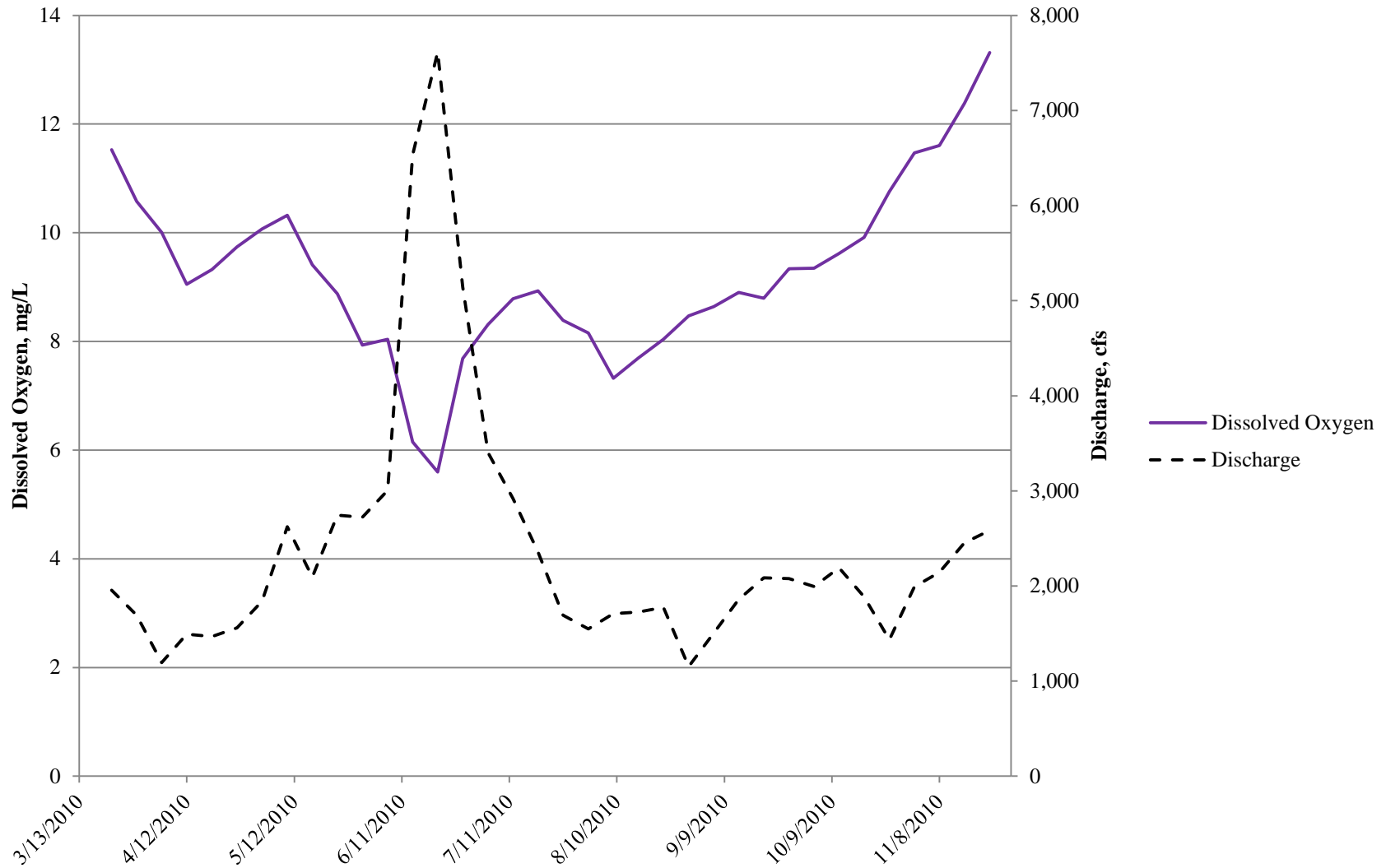




Figure B-22. Temperature and Discharge, Weekly Mean, Platte River, Shelton, NE

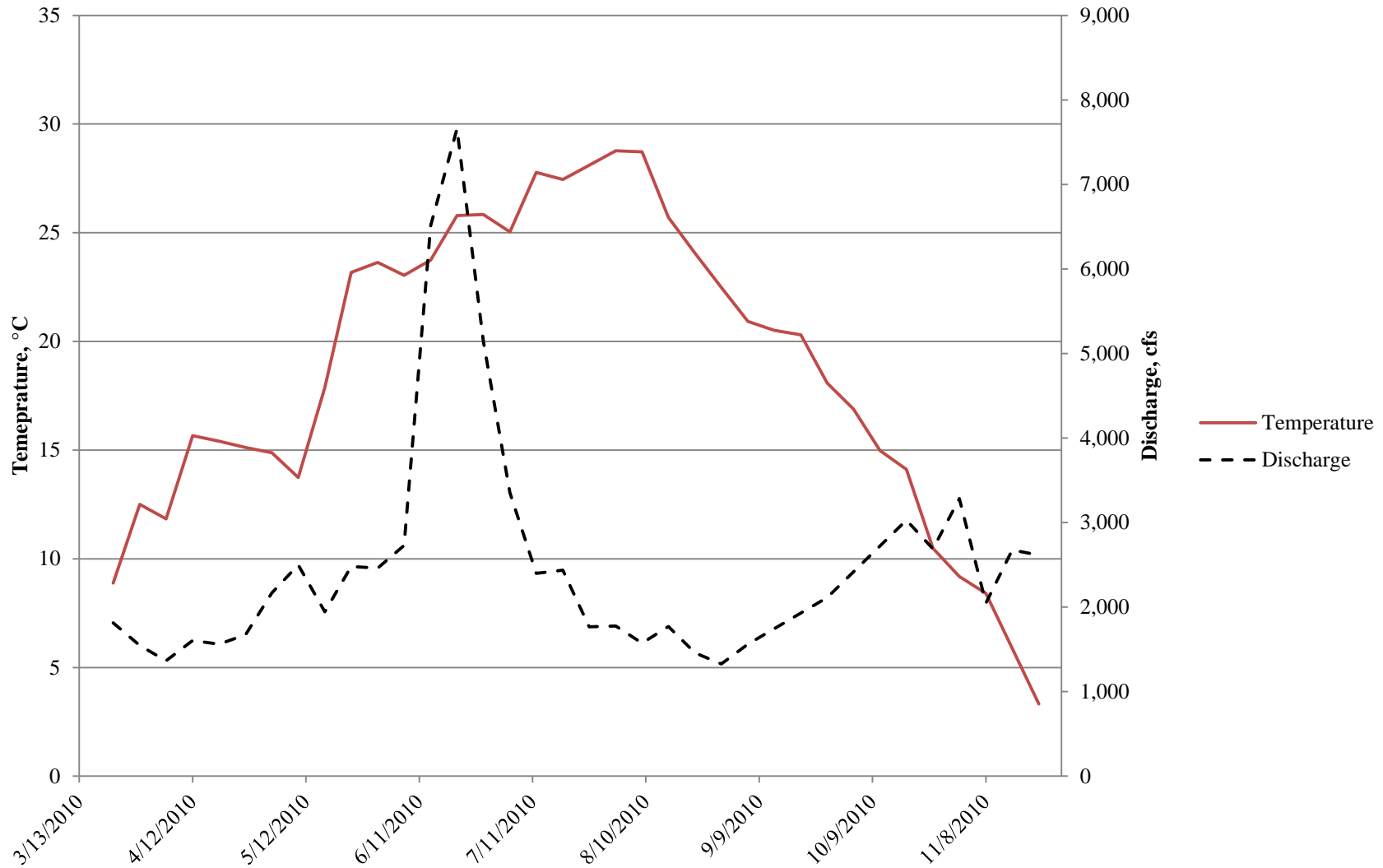




Figure B-23. Specific Conductance and Discharge, Weekly Mean, Platte River, Shelton, NE

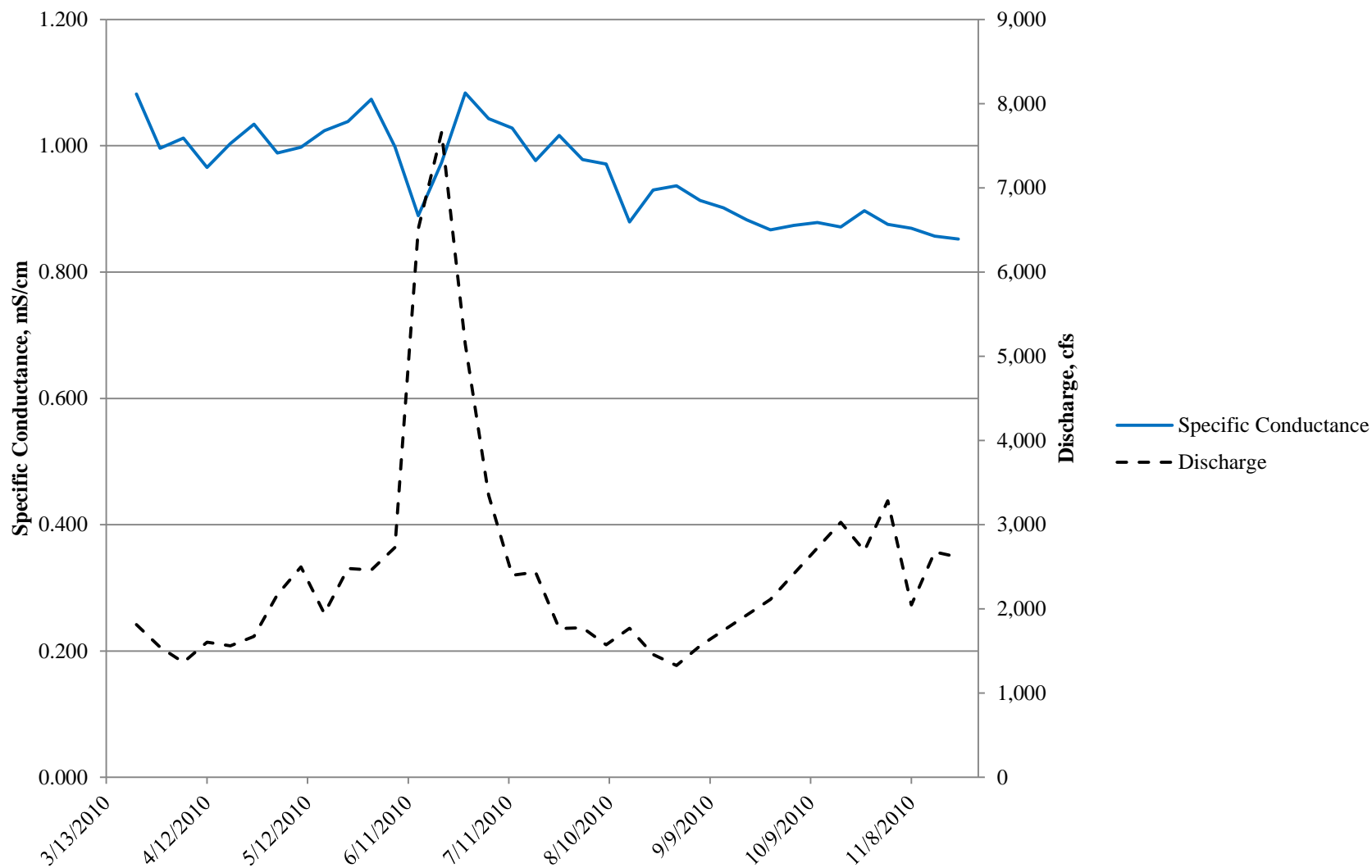




Figure B-24. pH and Discharge, Weekly Mean, Platte River, Shelton, NE

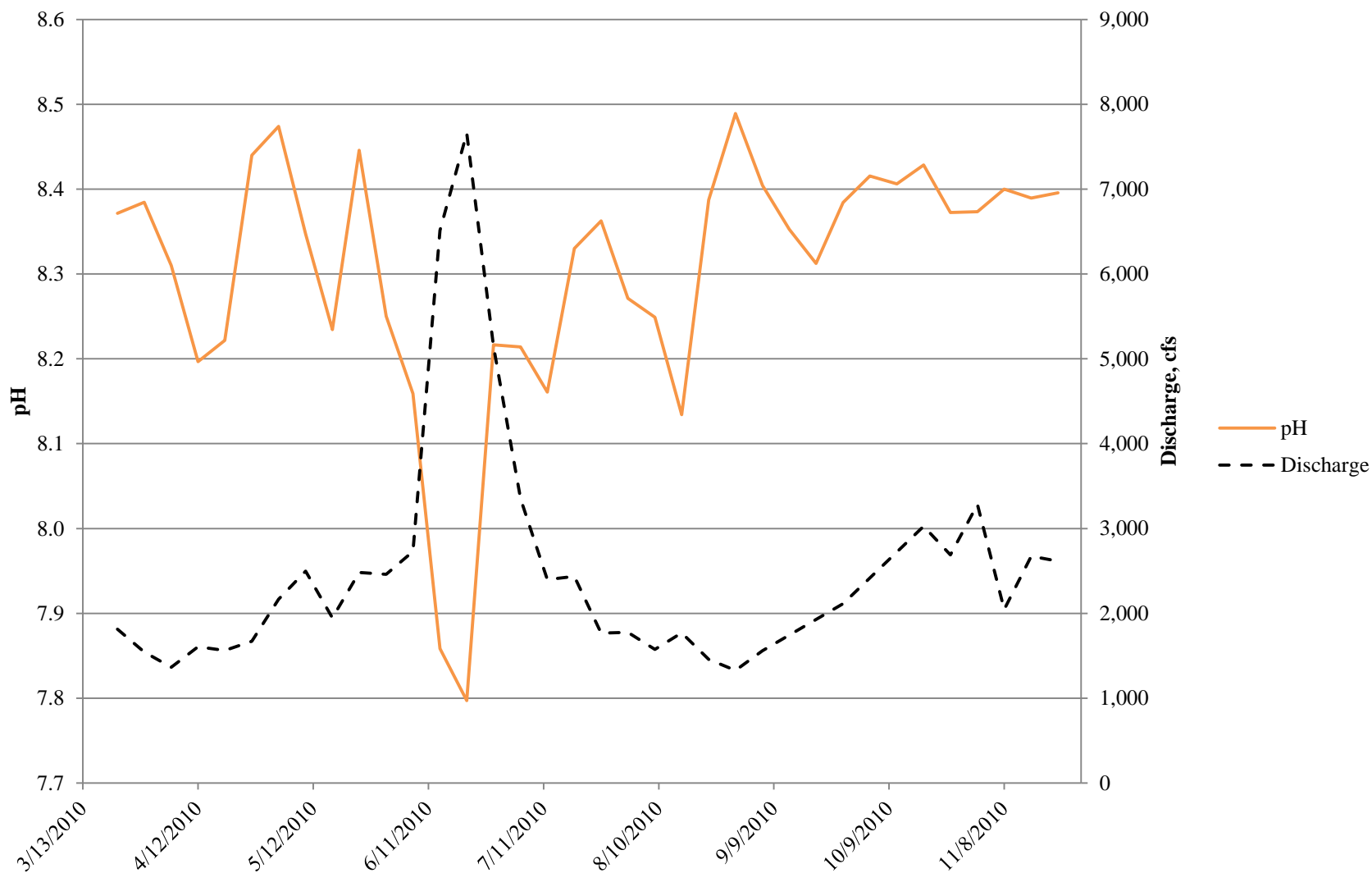




Figure B-25. Turbidity and Discharge, Weekly Mean, Platte River, Shelton, NE

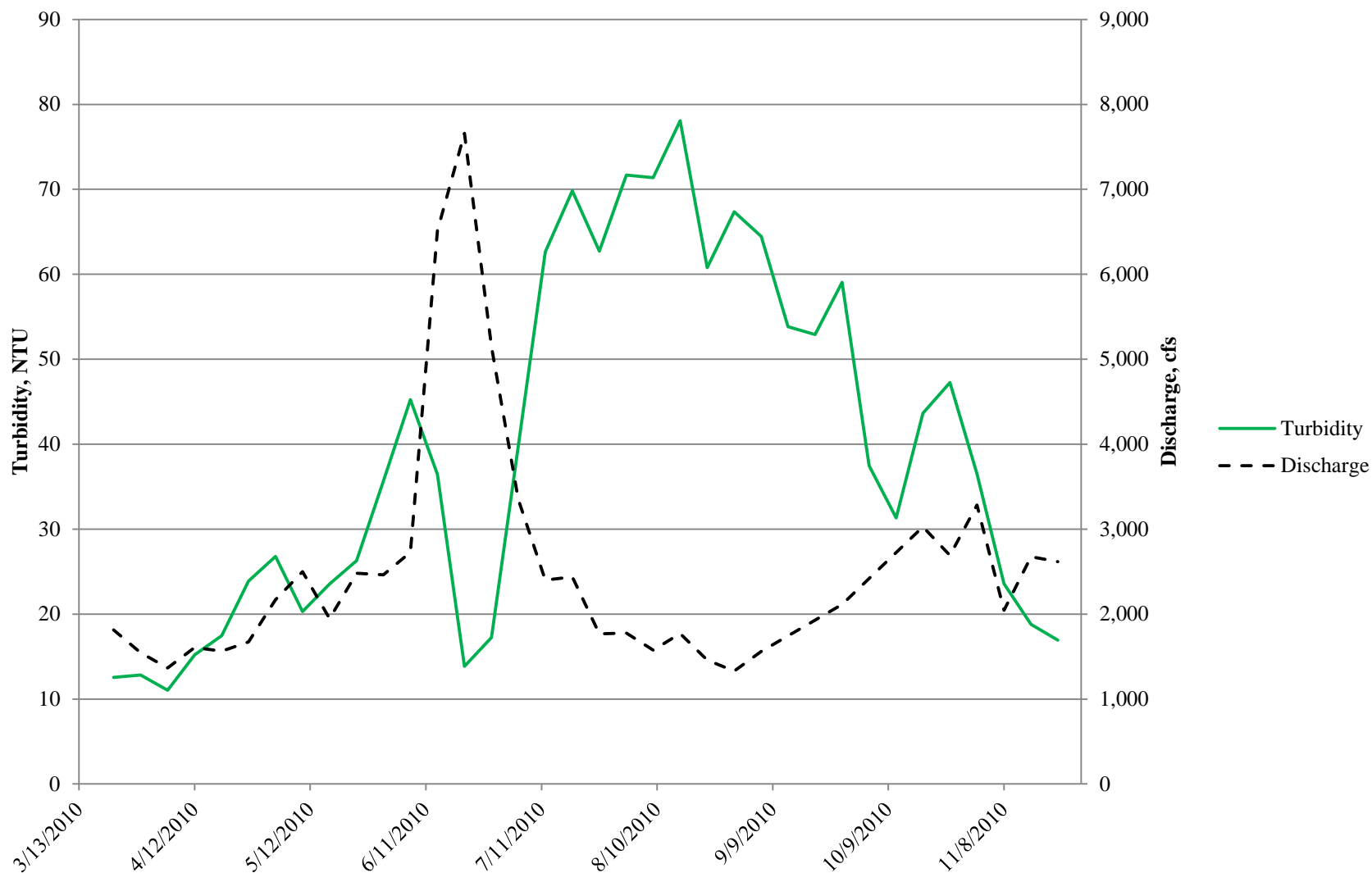




Figure B-26. Dissolved Oxygen and Discharge, Weekly Mean, Platte River, Shelton, NE

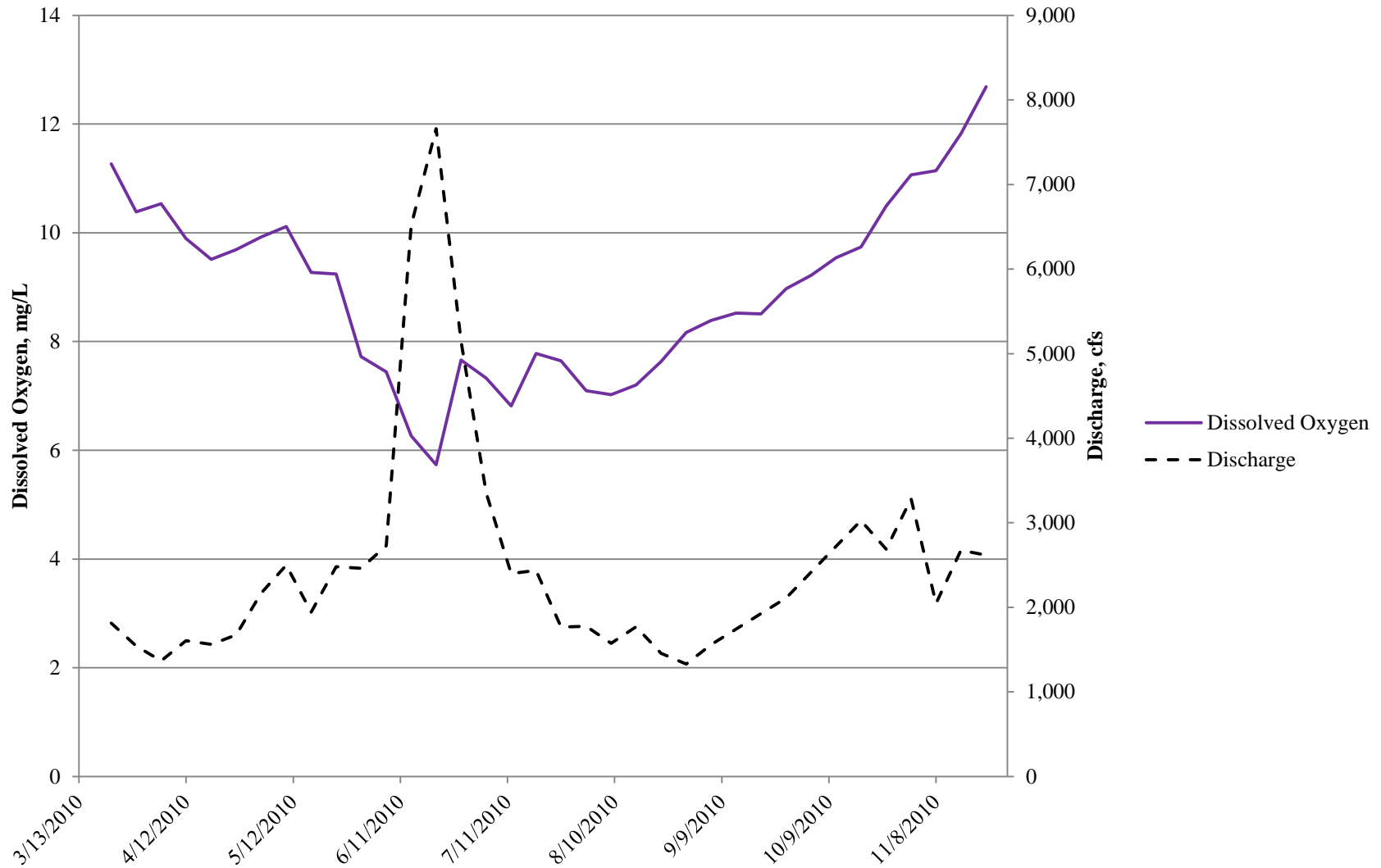




Figure B-27. Temperature and Discharge, Weekly Mean, Platte River, Kearney, NE

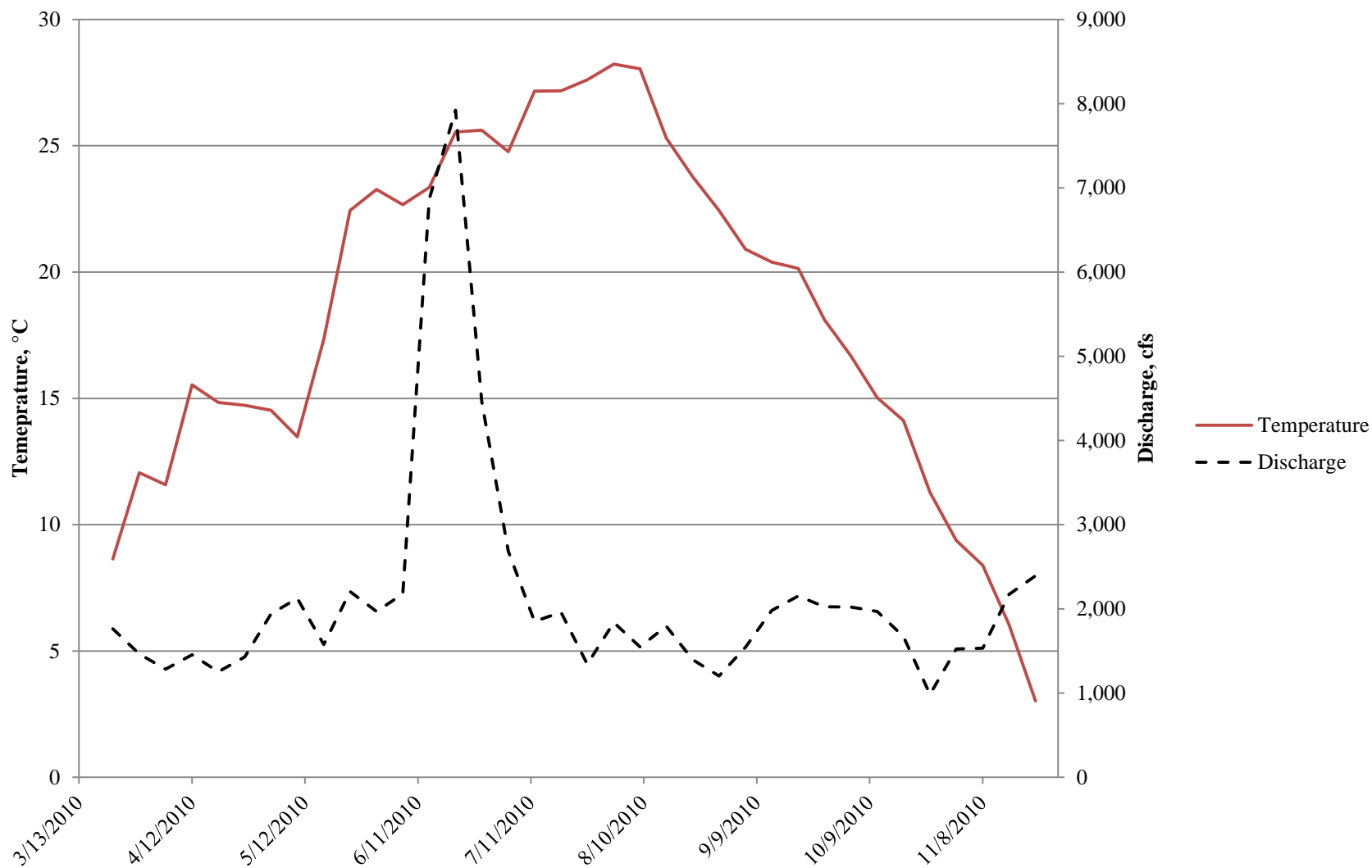






Figure B-28. Specific Conductance and Discharge, Weekly Mean, Platte River, Kearney, NE

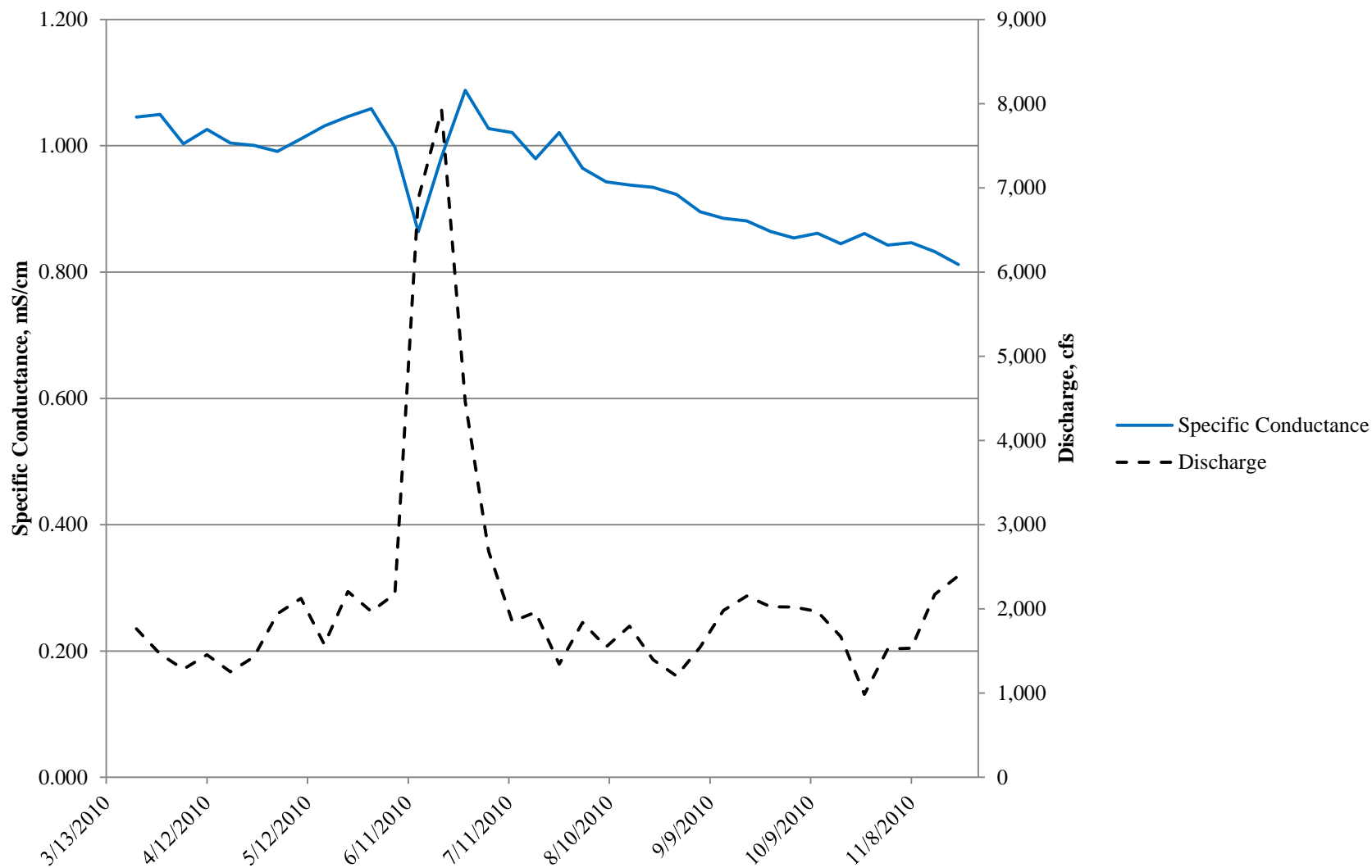




Figure B-29. pH and Discharge, Weekly Mean, Platte River, Kearney, NE

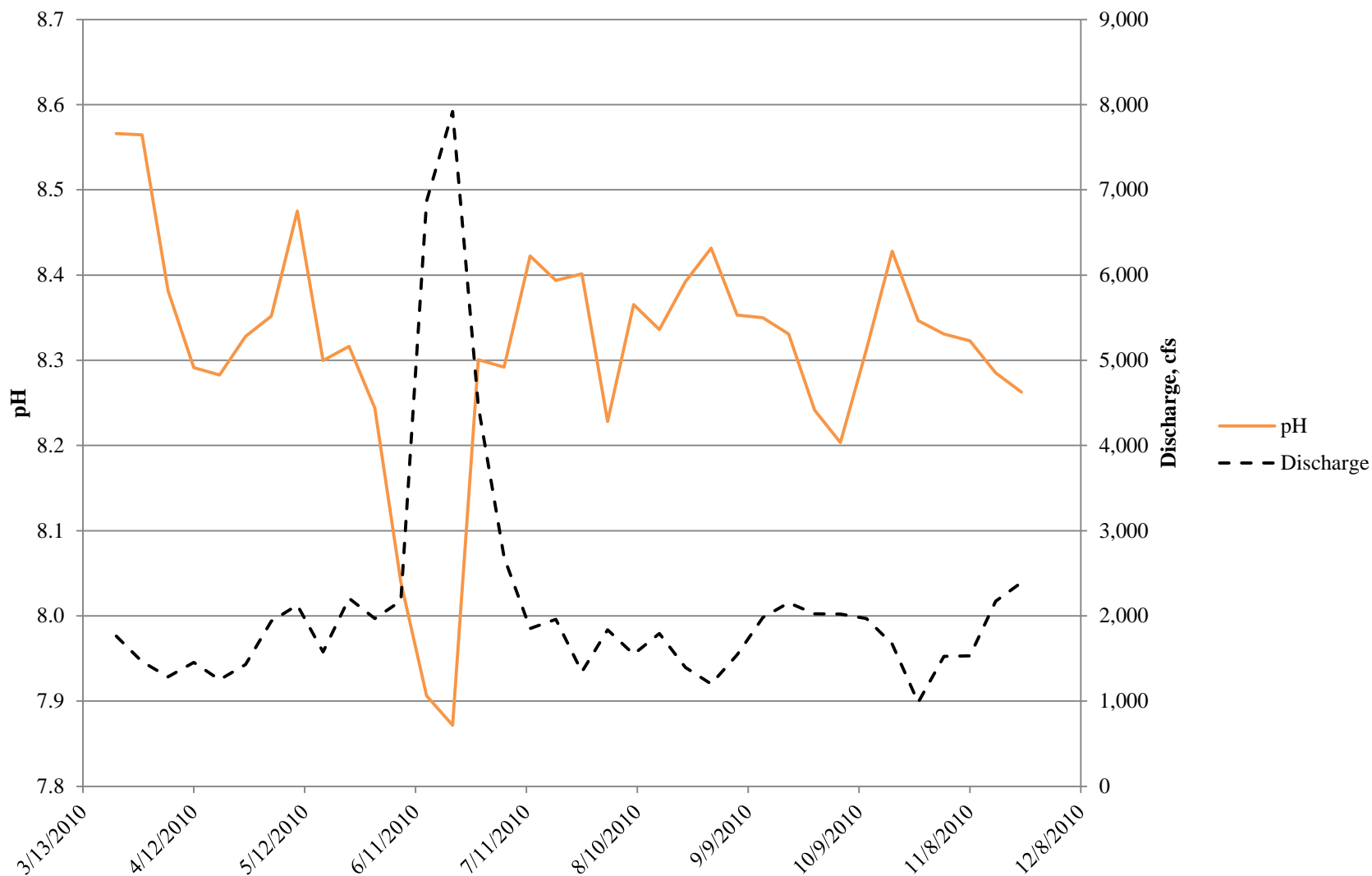




Figure B-30. Turbidity and Discharge, Weekly Mean, Platte River, Kearney, NE

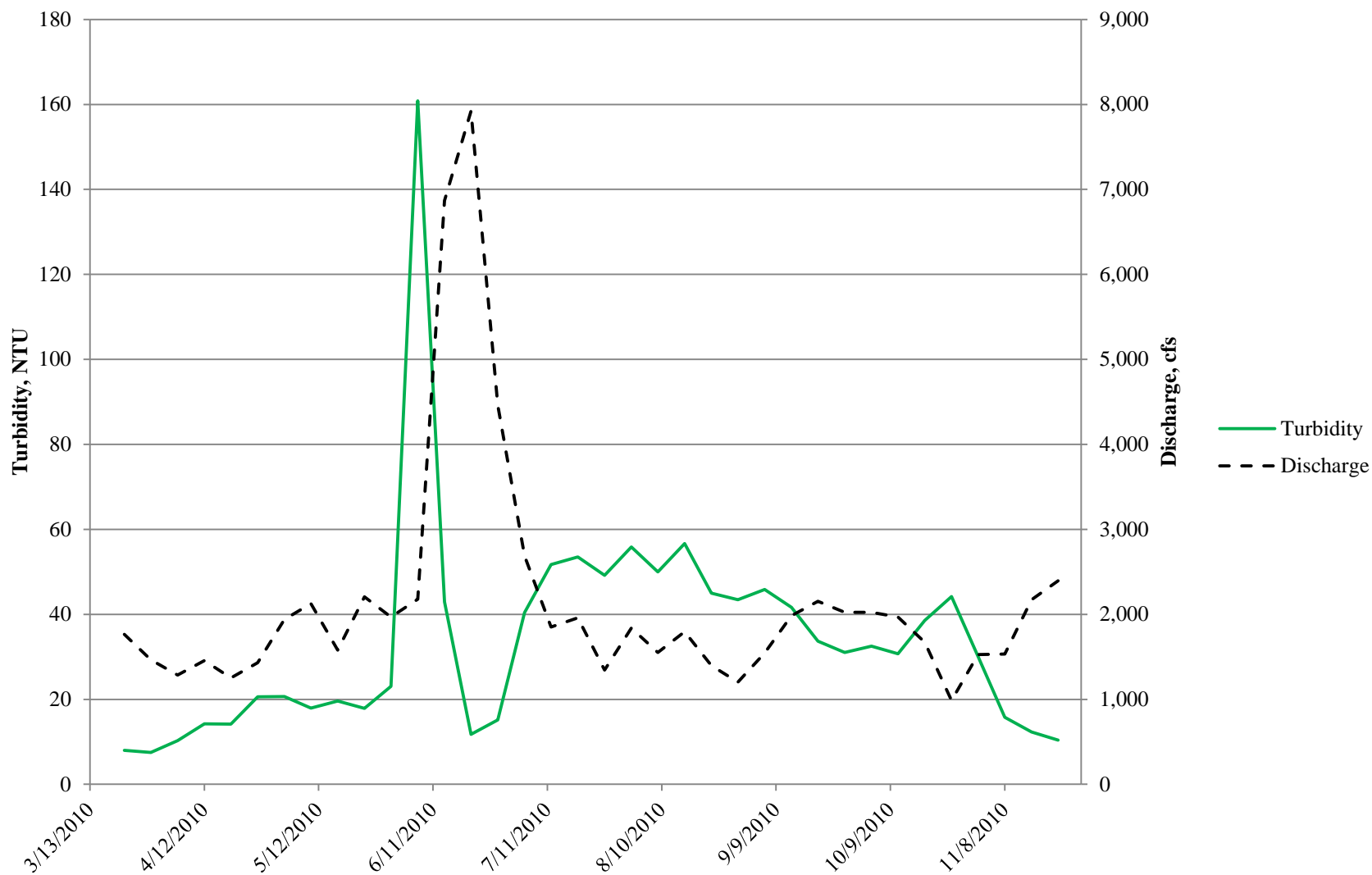




Figure B-31. Dissolved Oxygen and Discharge, Weekly Mean, Platte River, Kearney, NE

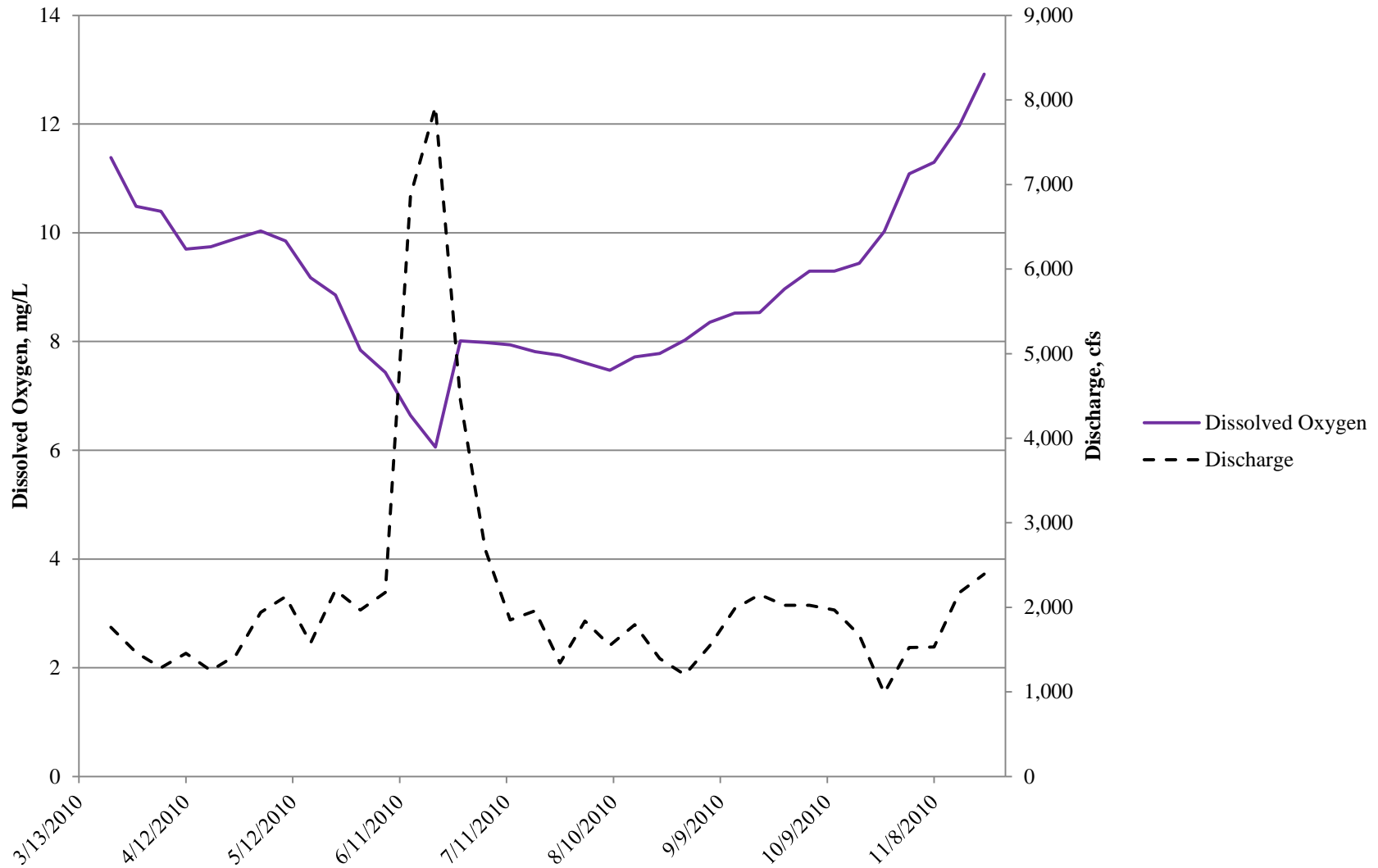
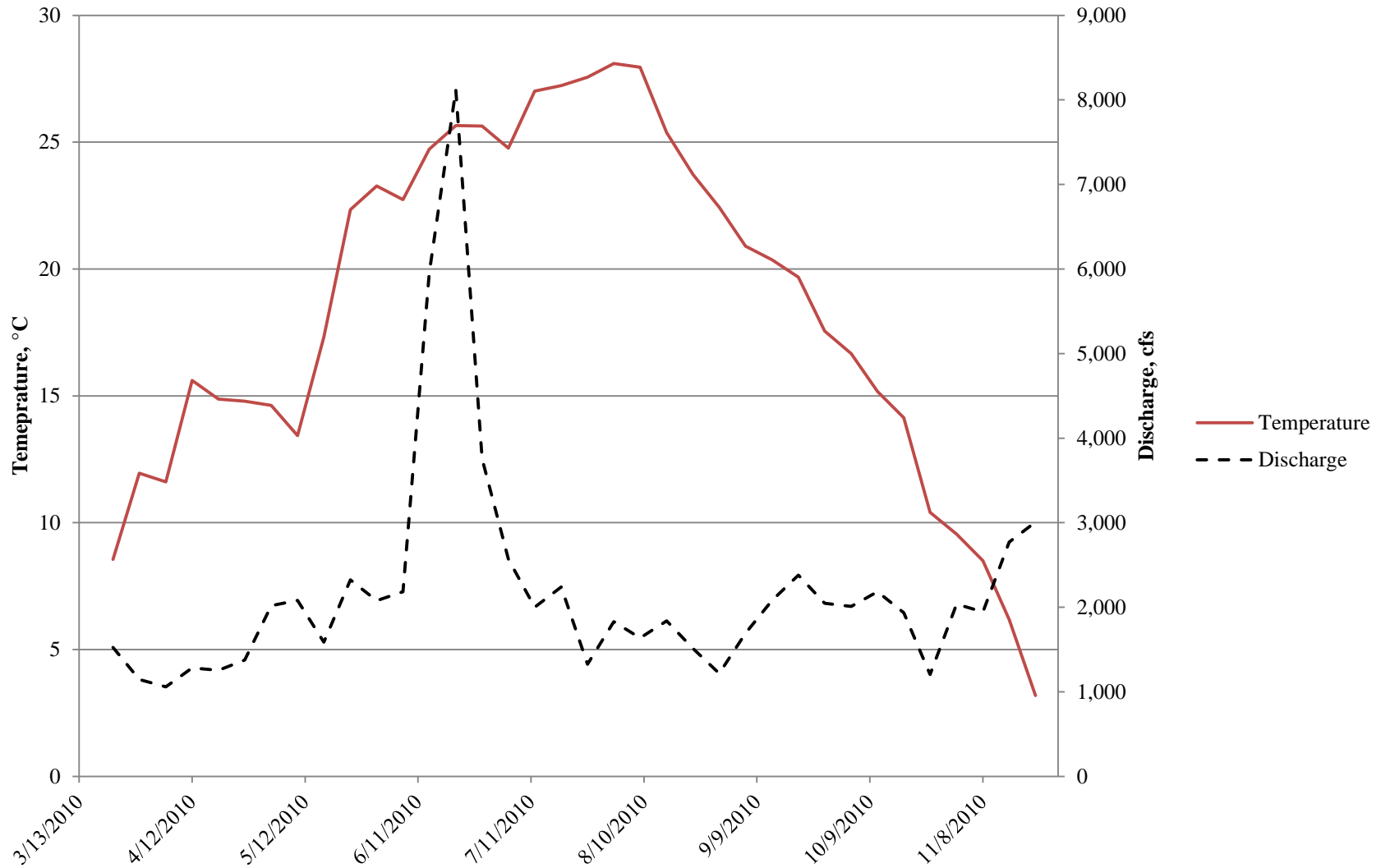




Figure B-32. Temperature and Discharge, Weekly Mean, Platte River, Odessa, NE





**Figure B-33. Specific Conductance and Discharge, Weekly Mean, Platte River, Odessa, NE**

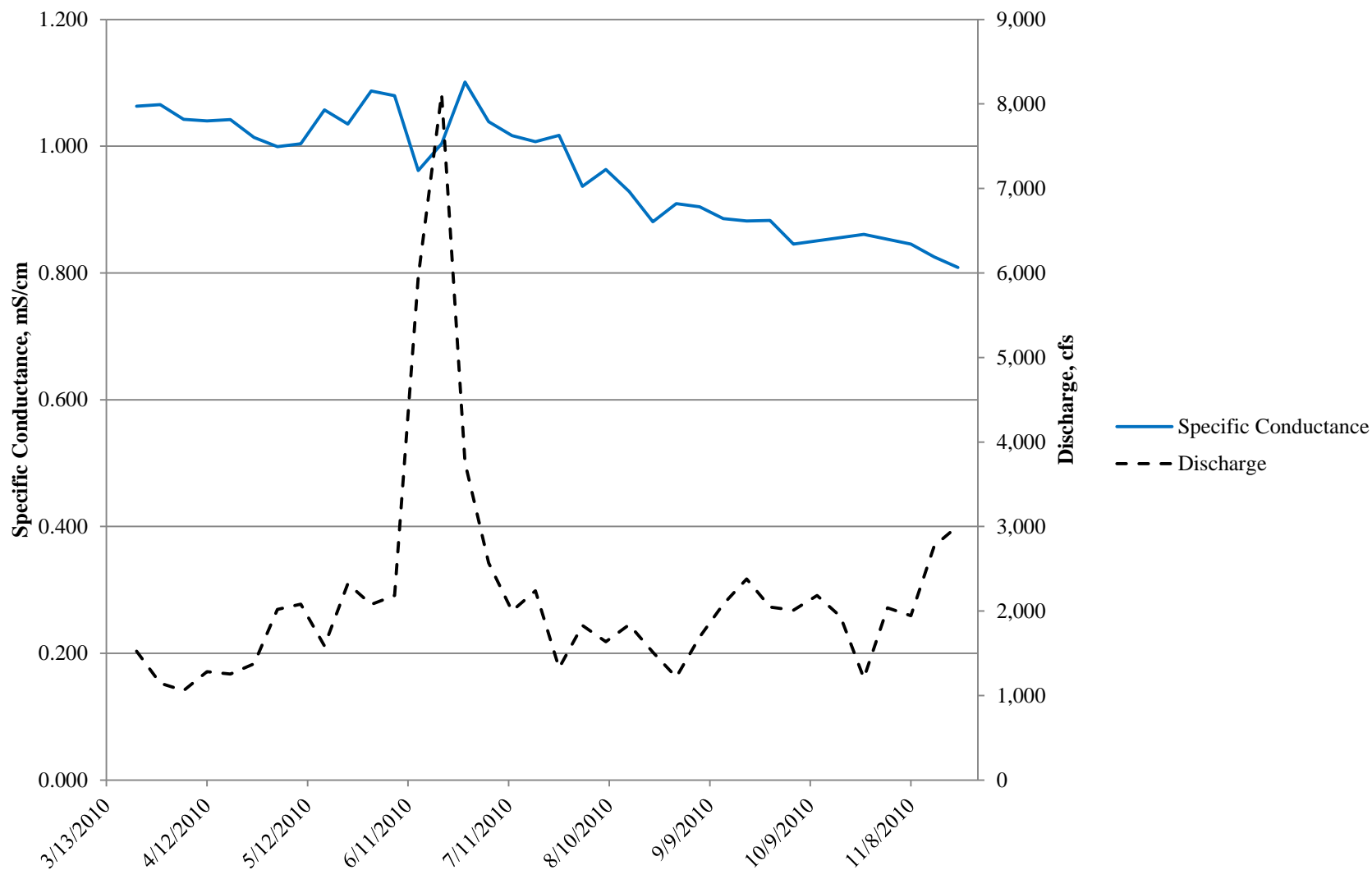




Figure B-34. pH and Discharge, Weekly Mean, Platte River, Odessa, NE

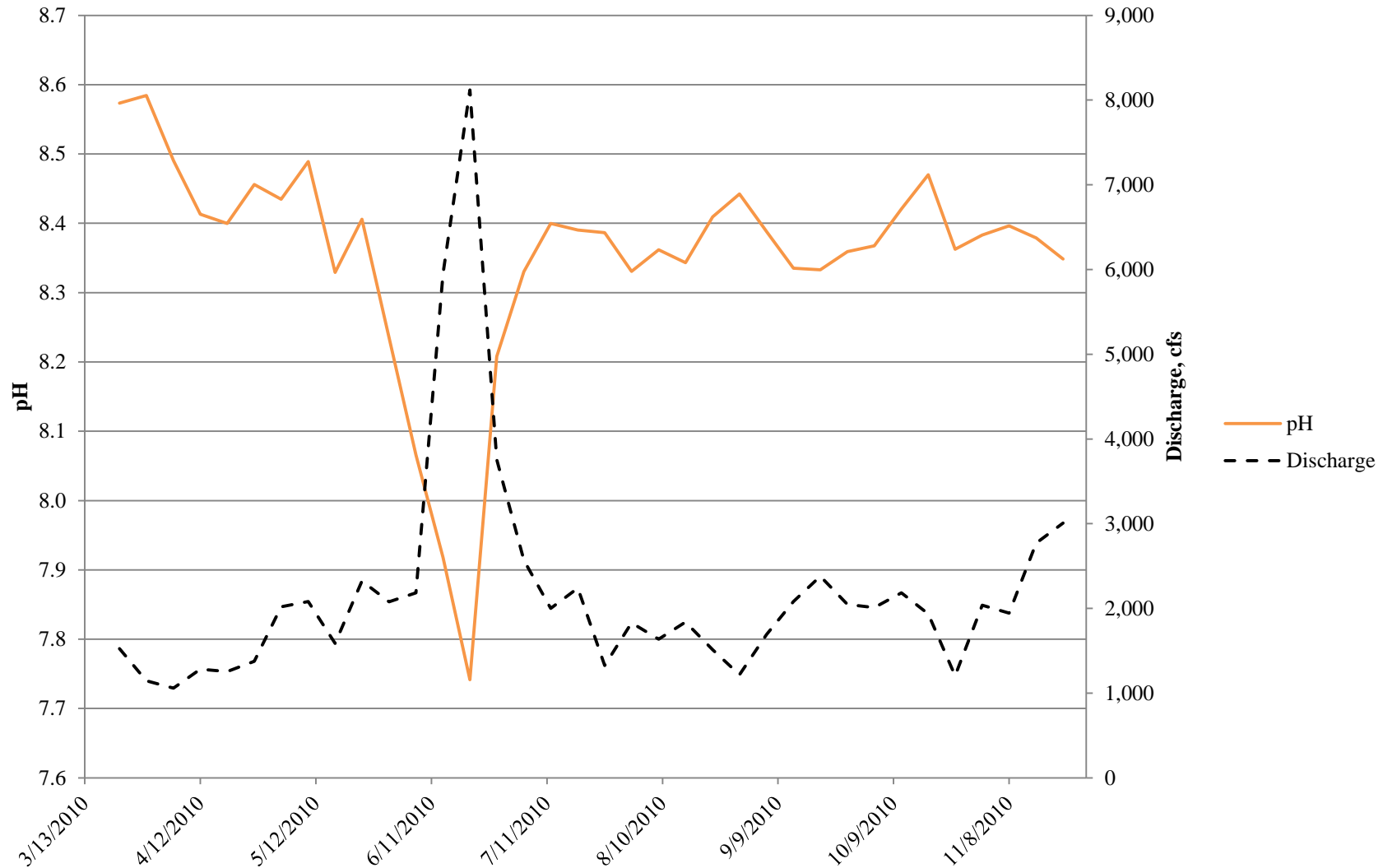




Figure B-35. Turbidity and Discharge, Weekly Mean, Platte River, Odessa, NE

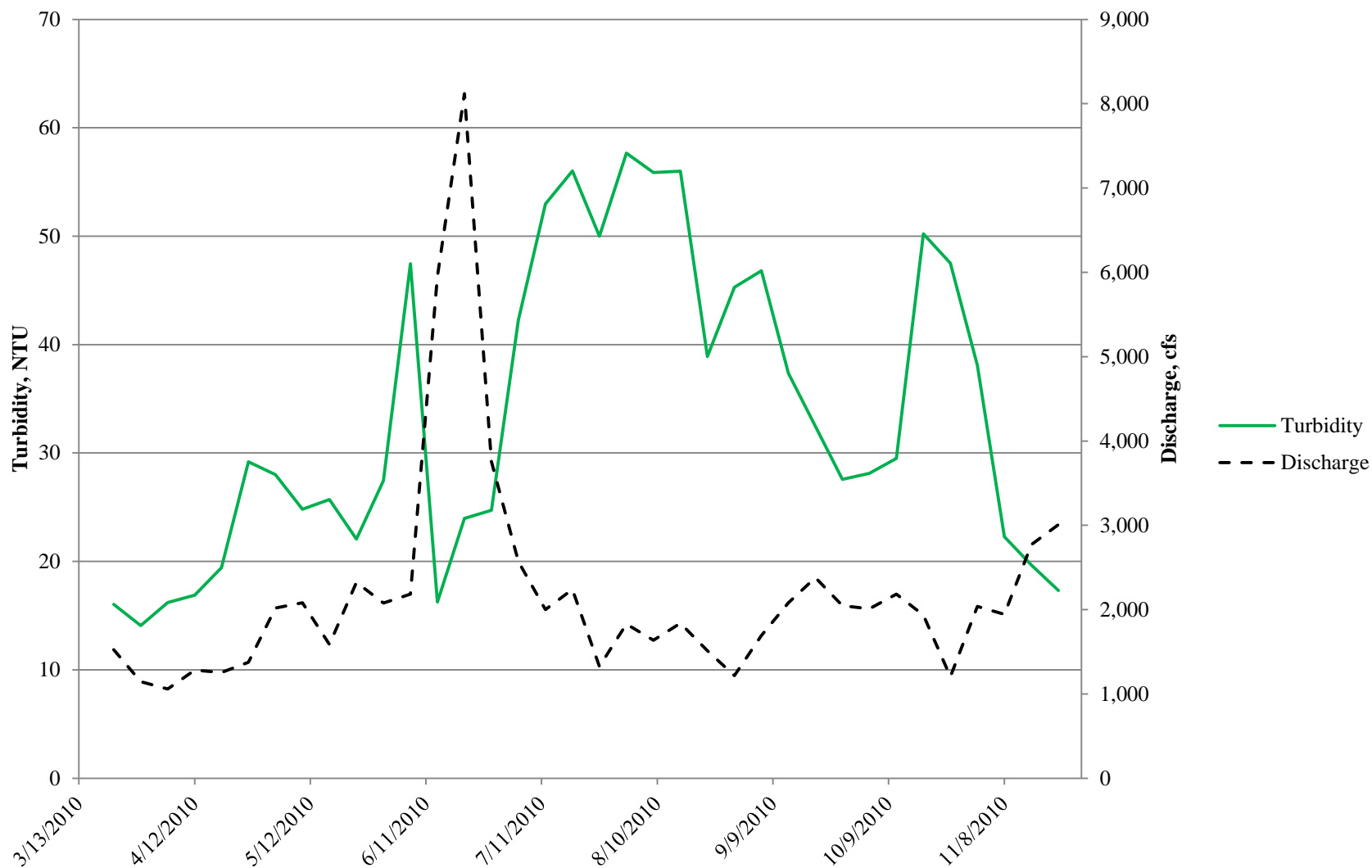






Figure B-36. Dissolved Oxygen and Discharge, Weekly Mean, Platte River, Odessa, NE

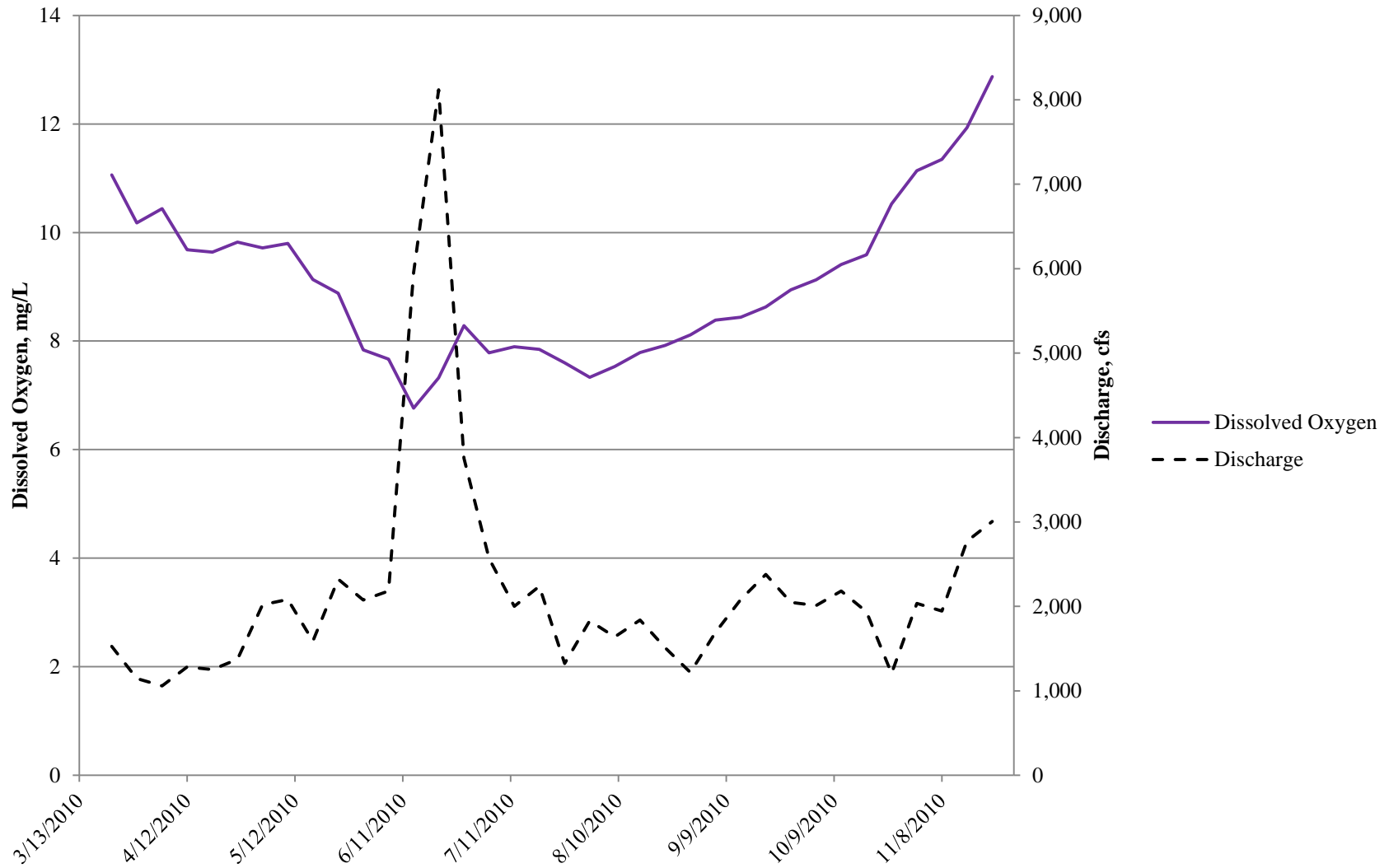




Figure B-37. Temperature and Discharge, Weekly Mean, Platte River, Overton, NE





**Figure B-38. Specific Conductance and Discharge, Weekly Mean, Platte River, Overton, NE**

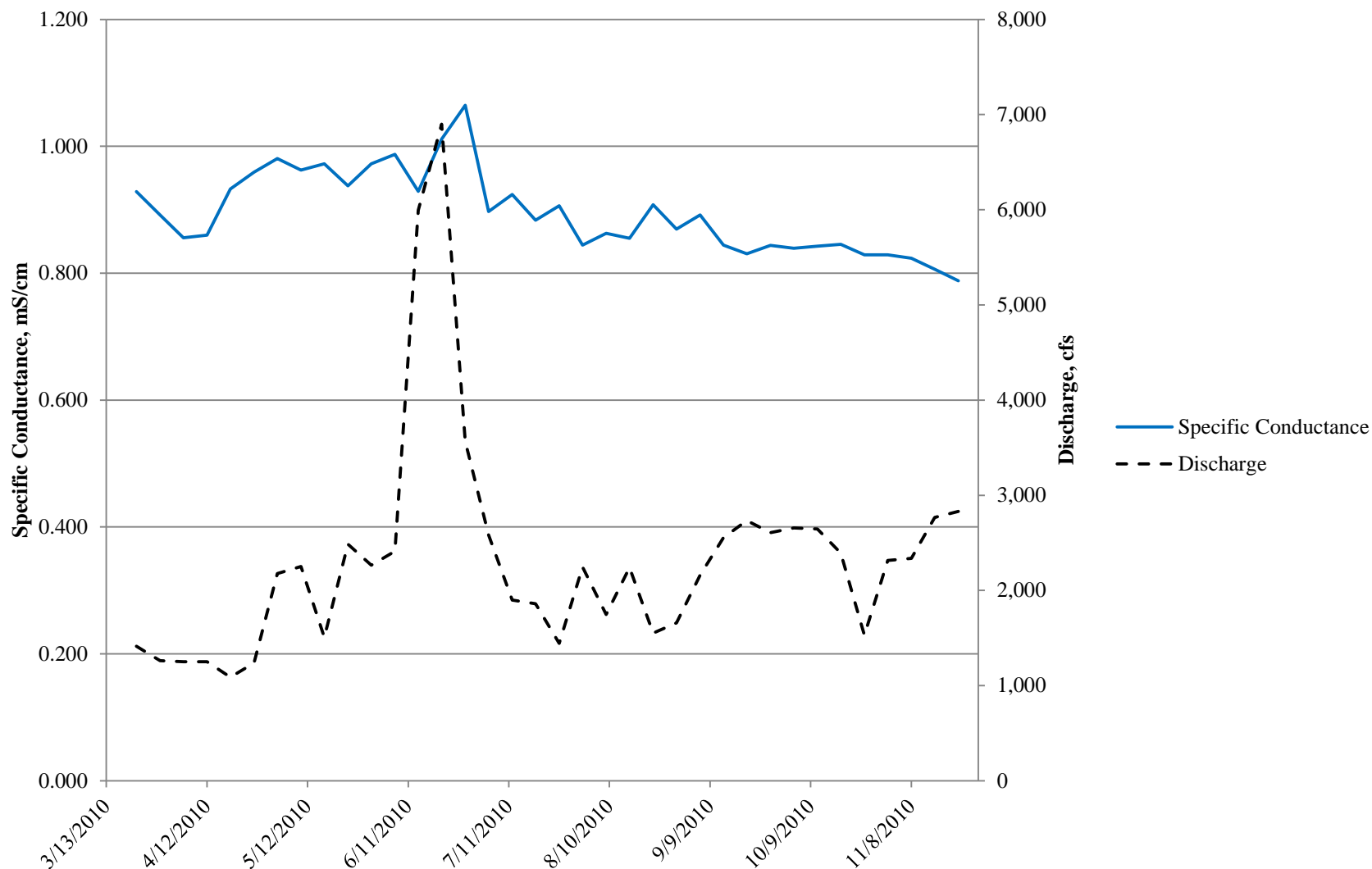




Figure B-39. pH and Discharge, Weekly Mean, Platte River, Overton, NE

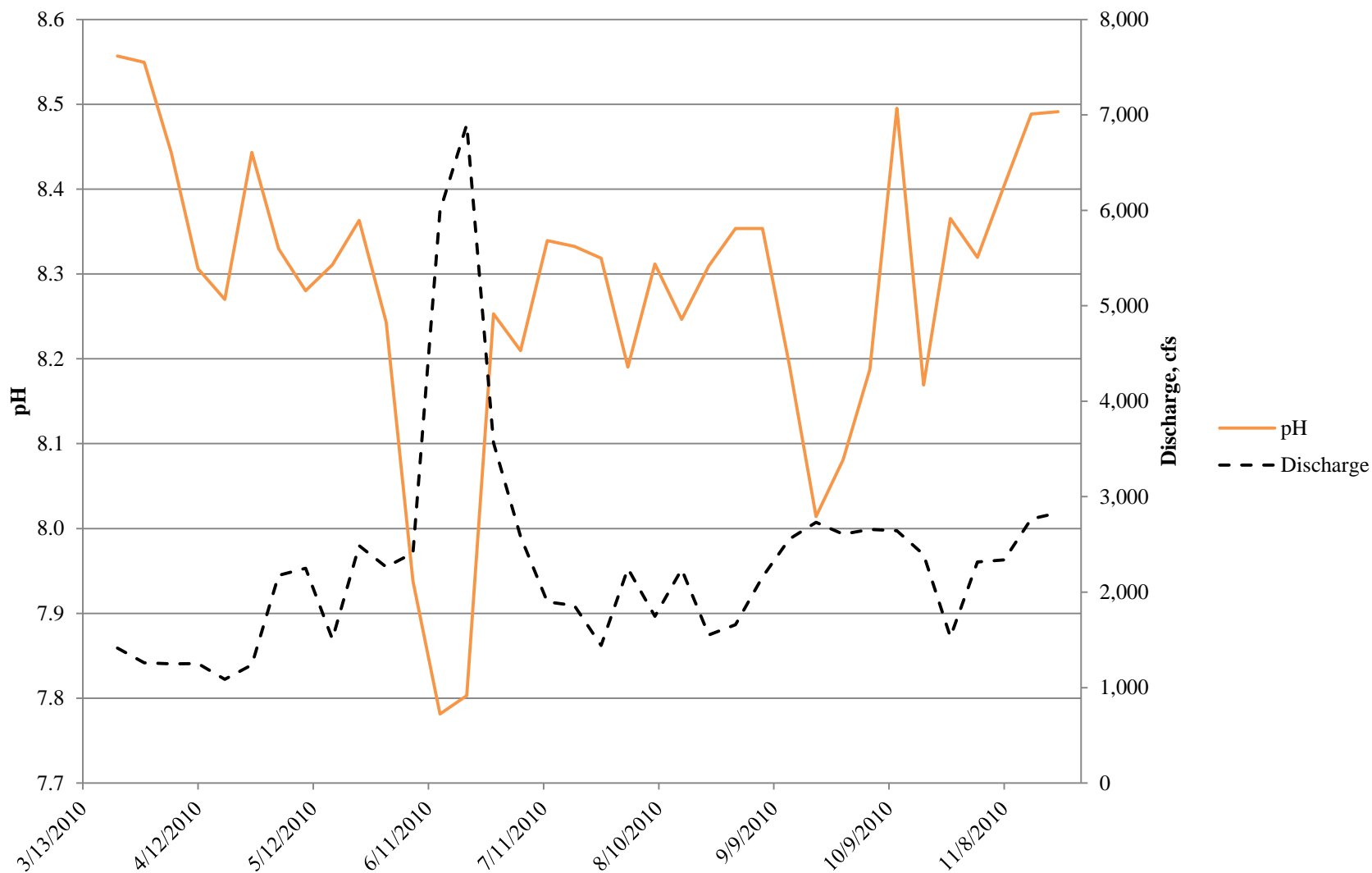




Figure B-40. Turbidity and Discharge, Weekly Mean, Platte River, Overton, NE

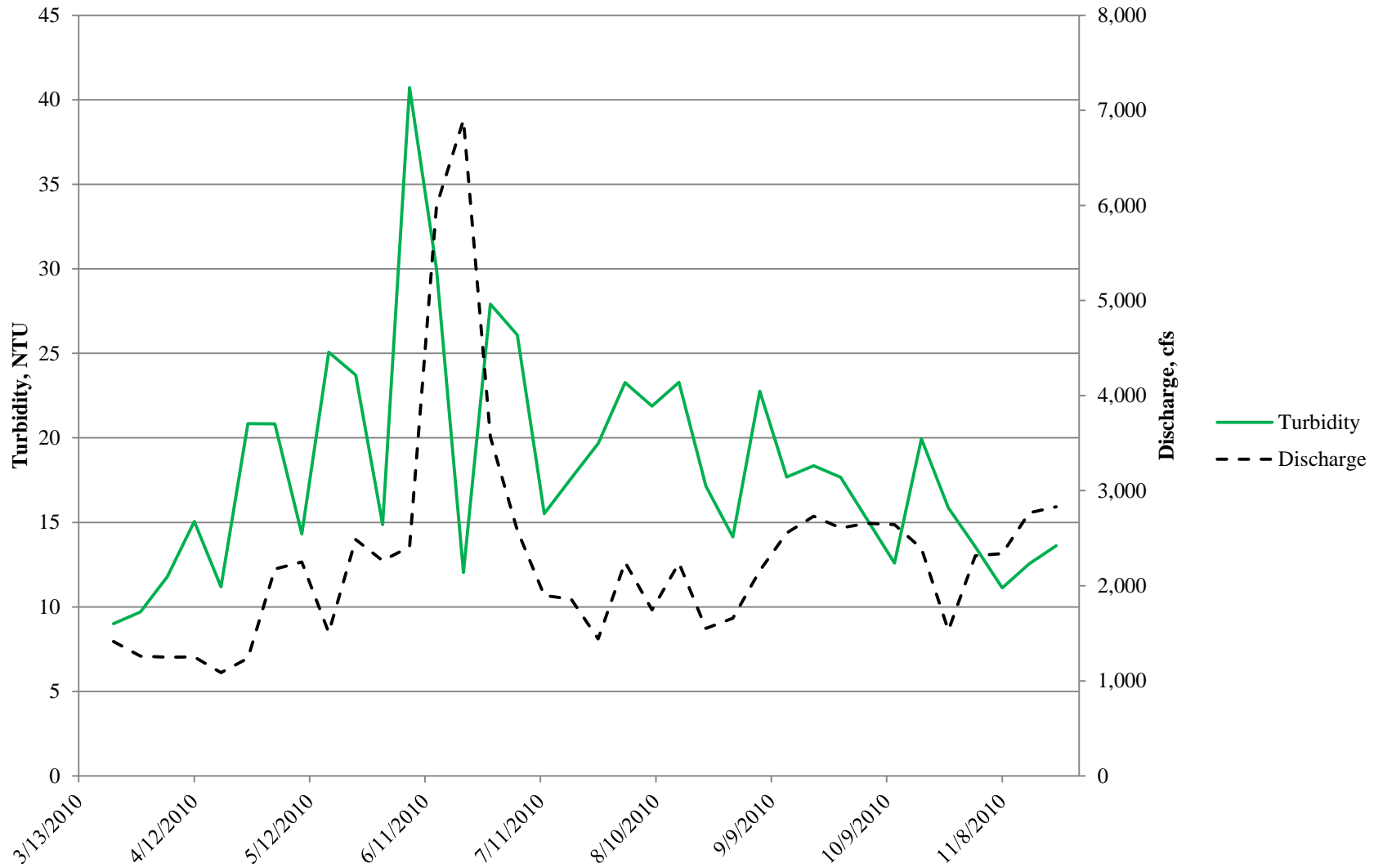




Figure B-41. Dissolved Oxygen and Discharge, Weekly Mean, Platte River, Overton, NE

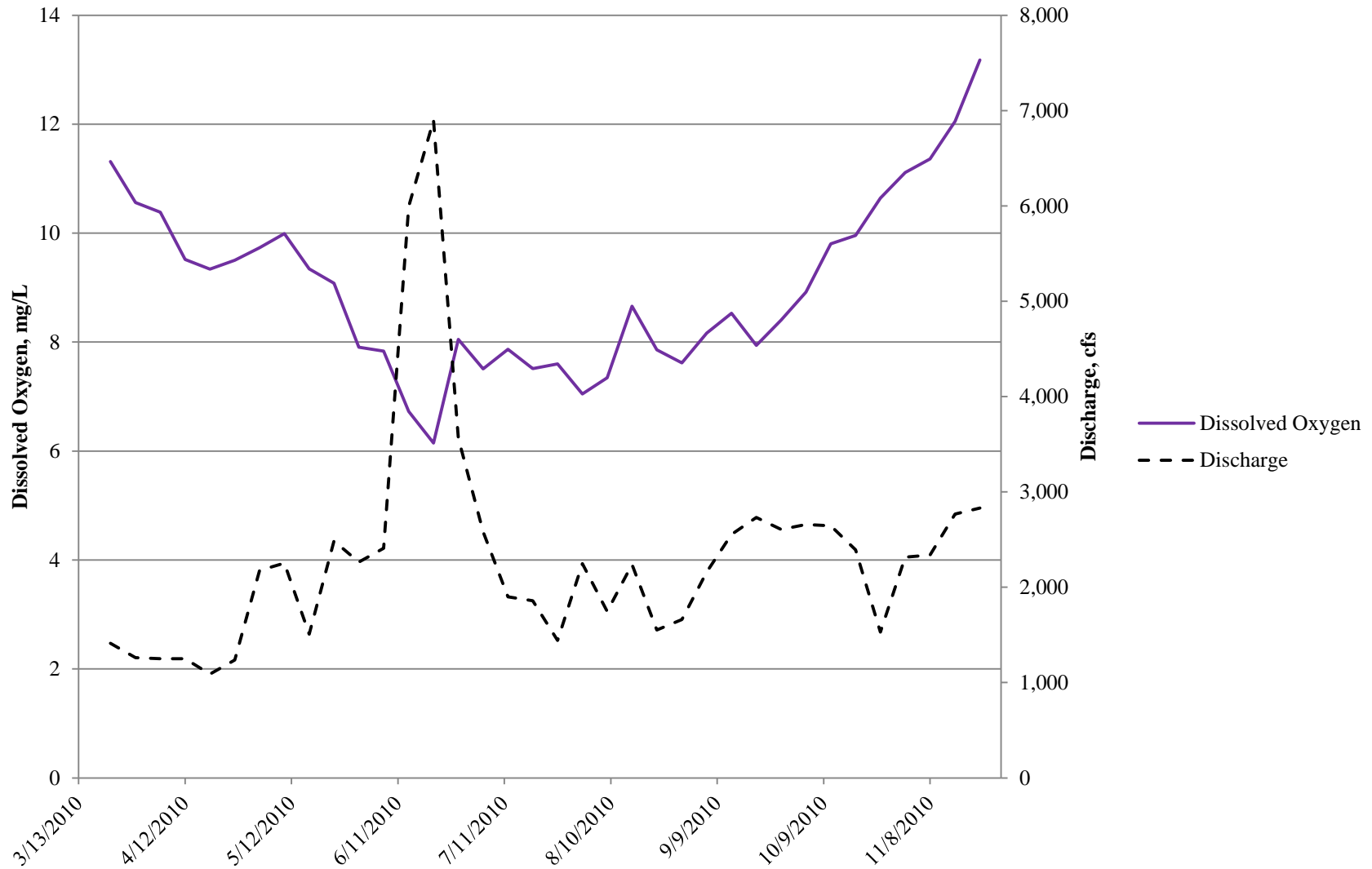




Figure B-42. Temperature and Discharge, Weekly Mean, Platte River, Lexington, NE

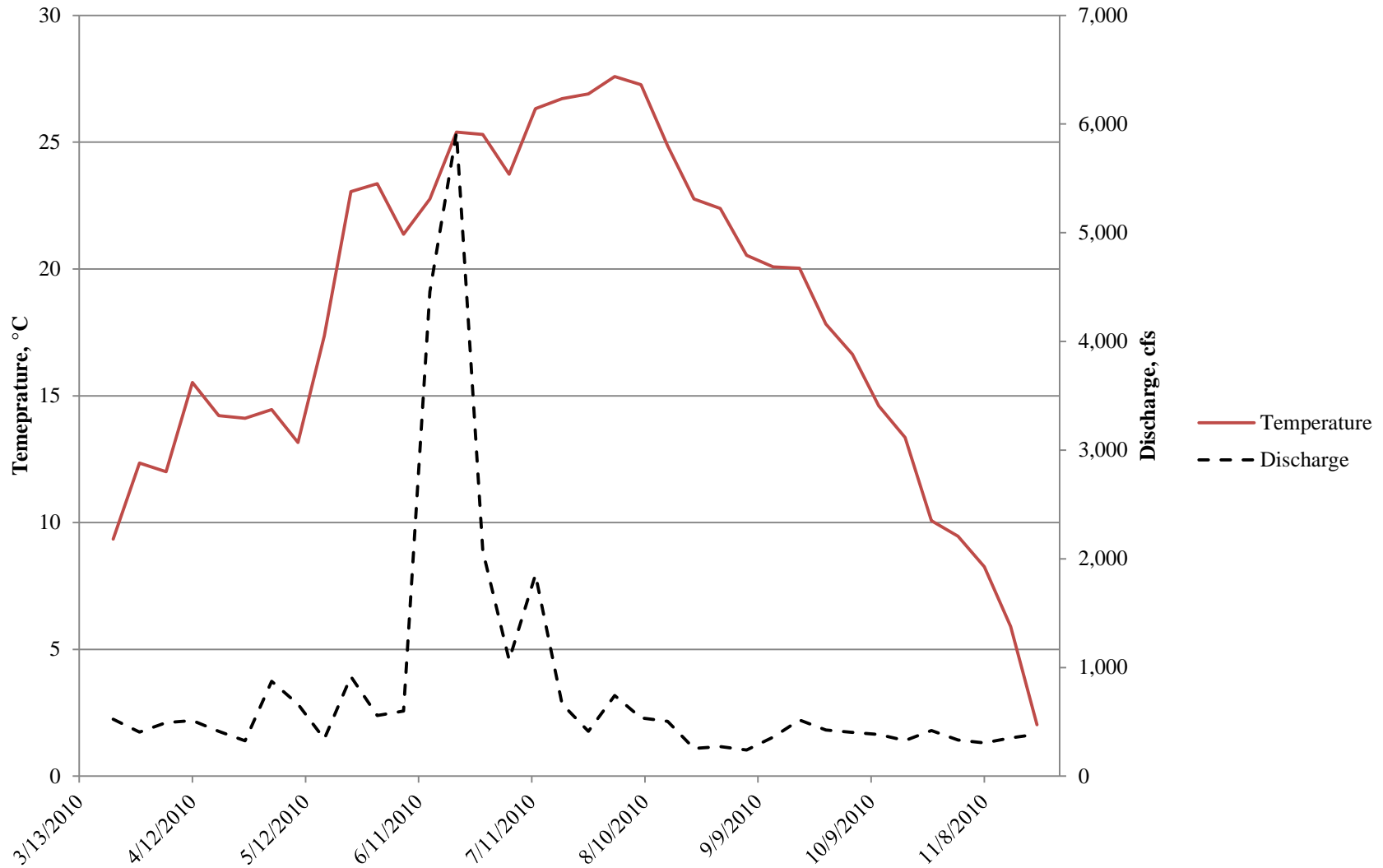




Figure B-43. Specific Conductance and Discharge, Weekly Mean, Platte River, Lexington, NE

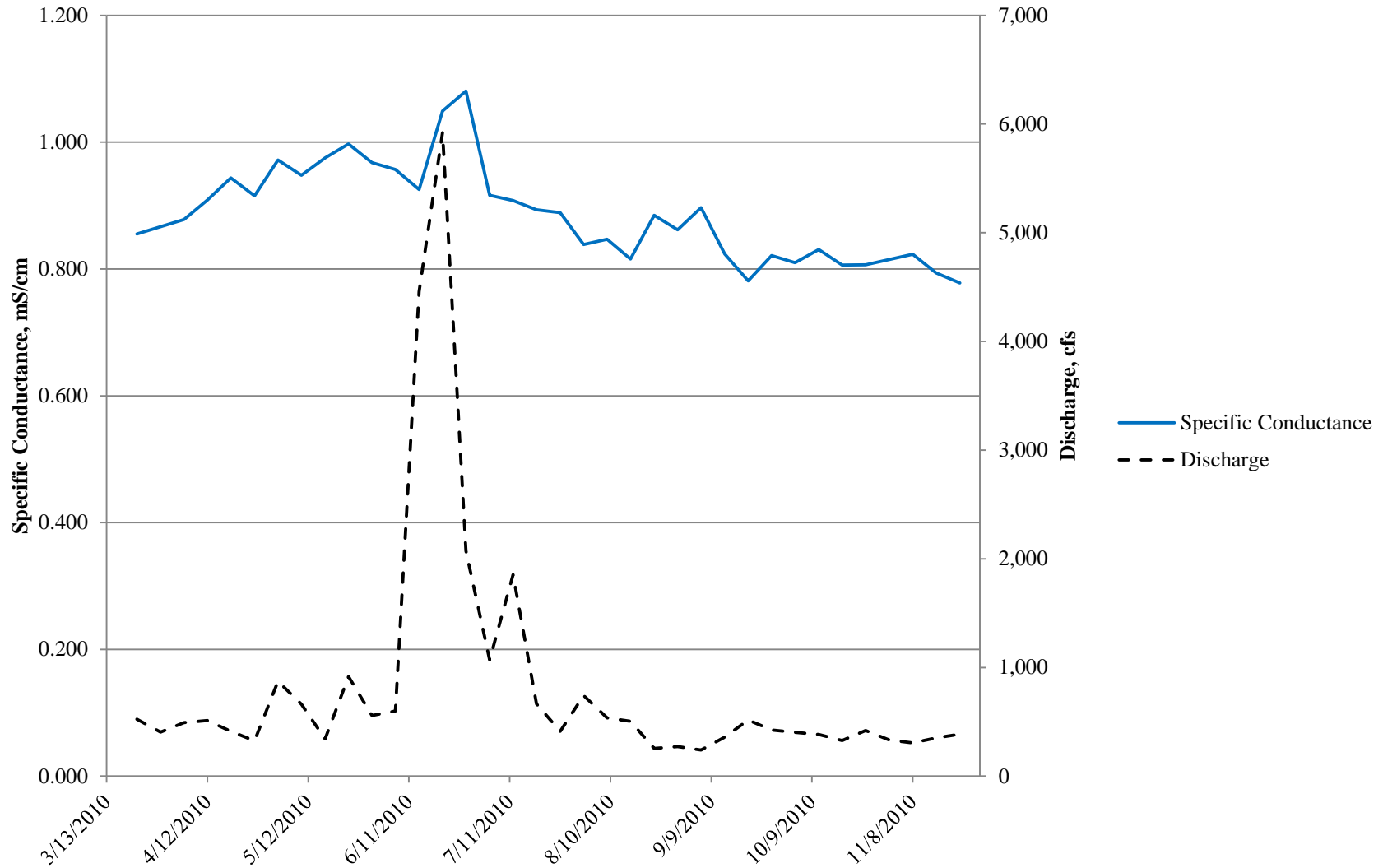






Figure B-44. pH and Discharge, Weekly Mean, Platte River, Lexington, NE

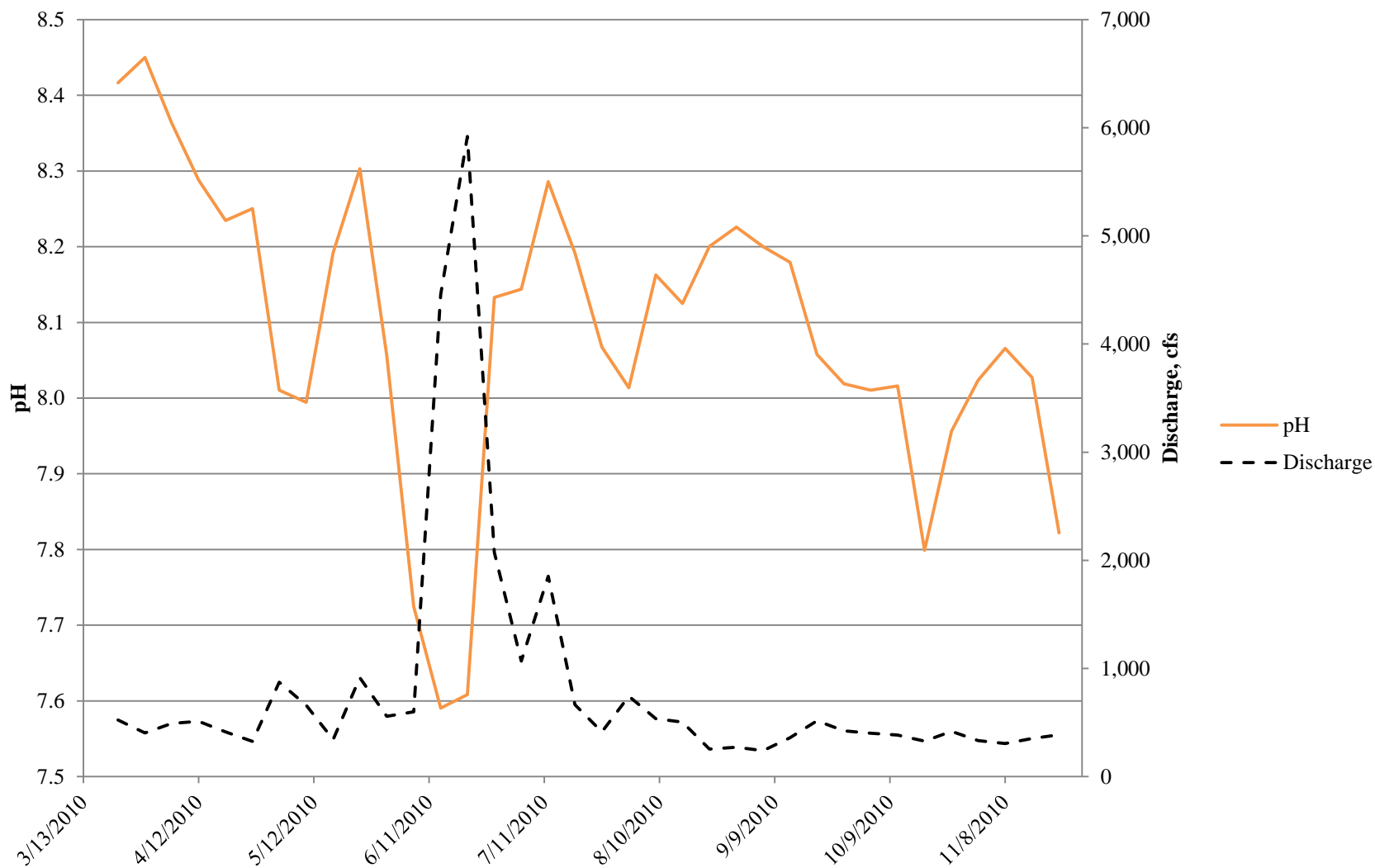




Figure B-45. Turbidity and Discharge, Weekly Mean, Platte River, Lexington, NE

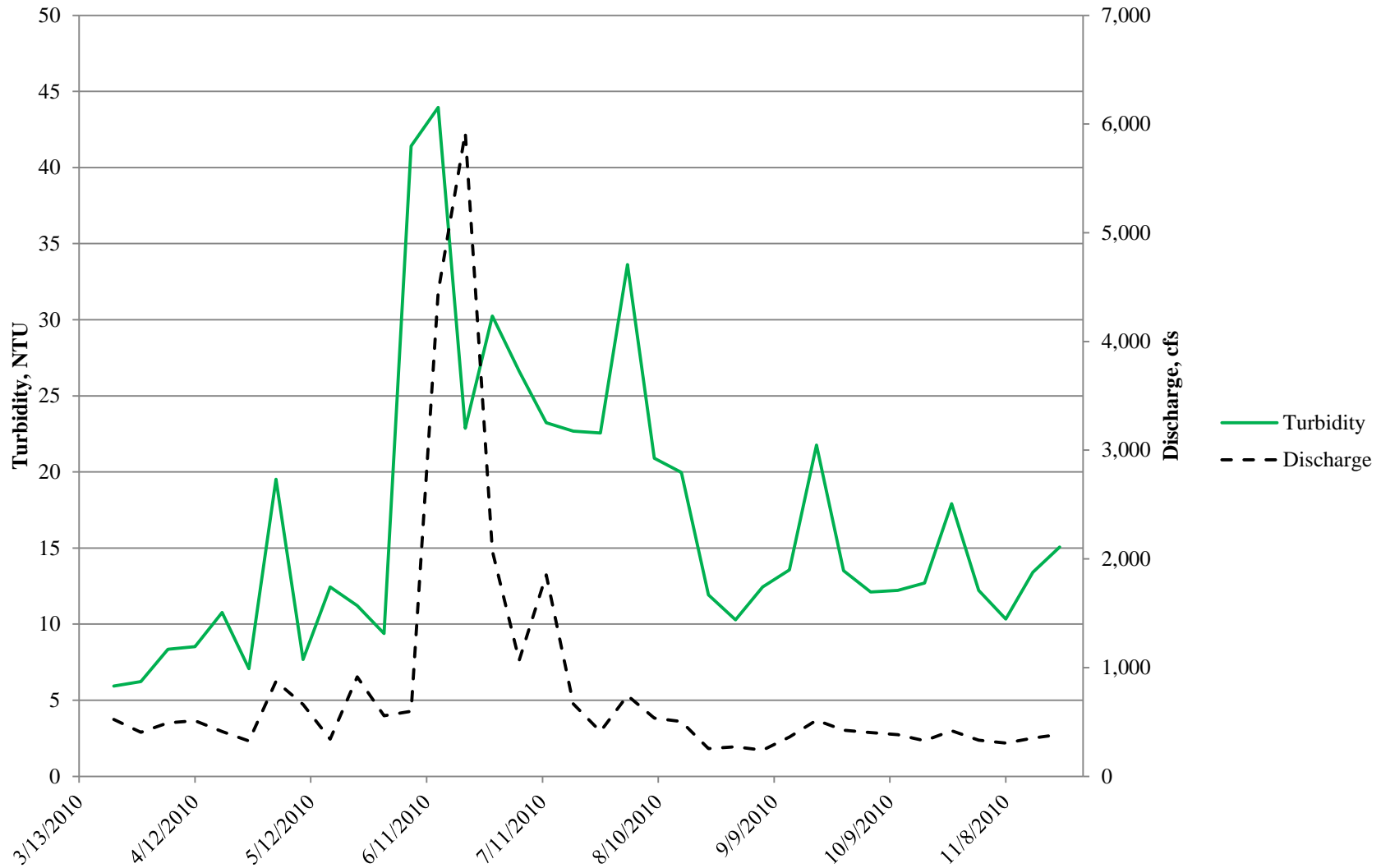
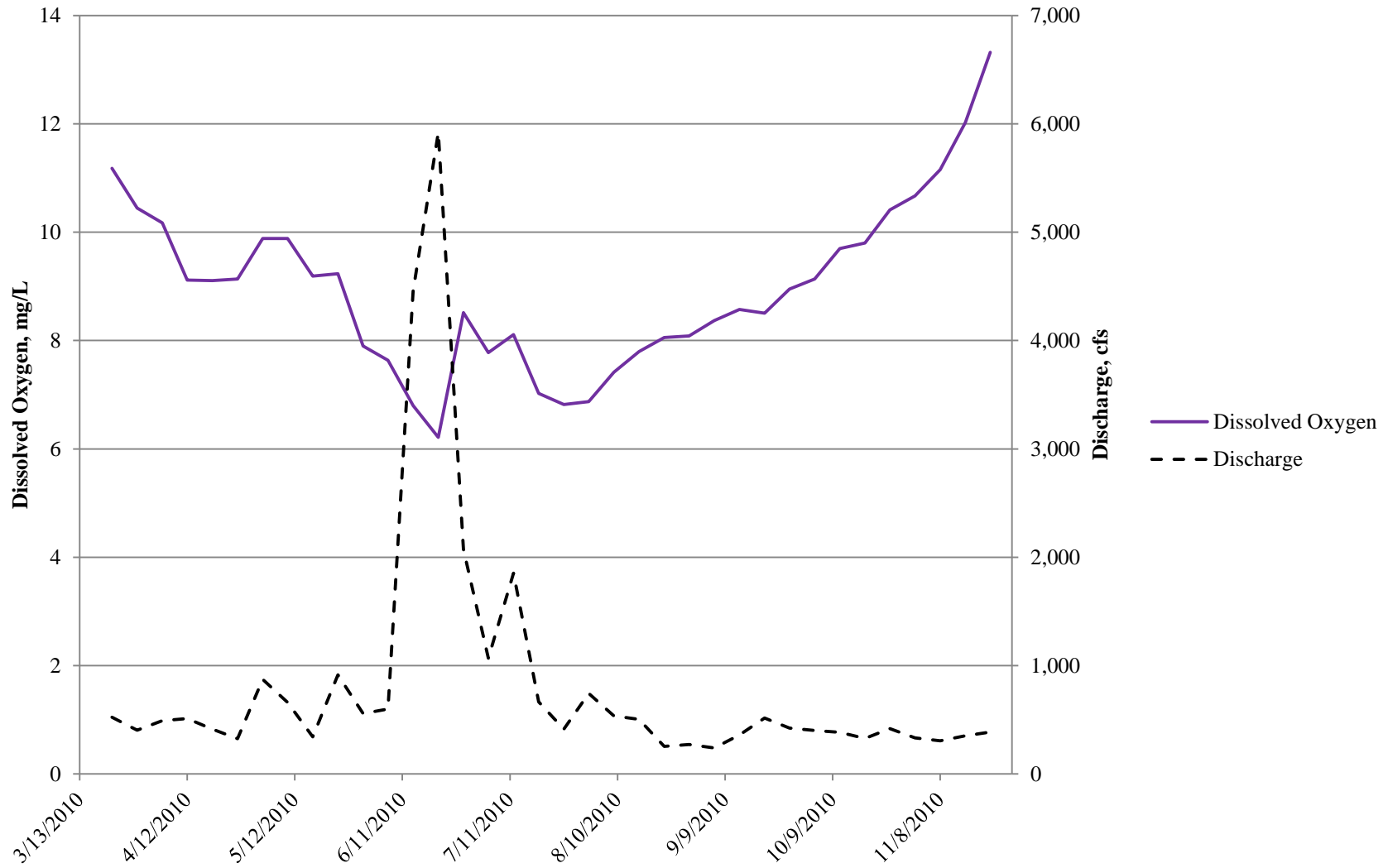




Figure B-46. Dissolved Oxygen and Discharge, Weekly Mean, Platte River, Lexington, NE





## **Spatial Variation**



Figure B-47. Spatial Variation, Temperature, Interquartile Ranges, Platte River, NE

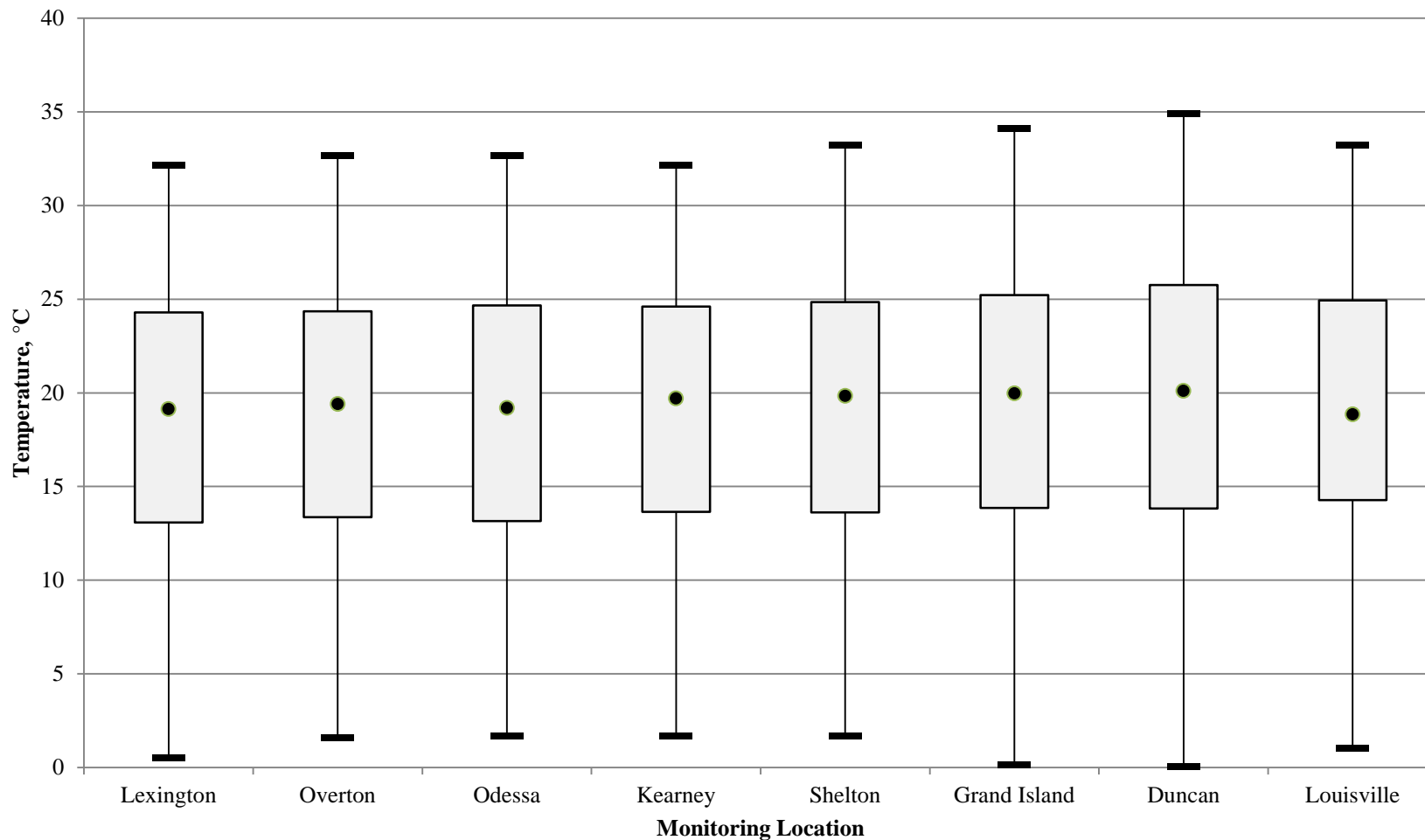




Figure B-48. Spatial Variation, Specific Conductance, Interquartile Ranges, Platte River, NE

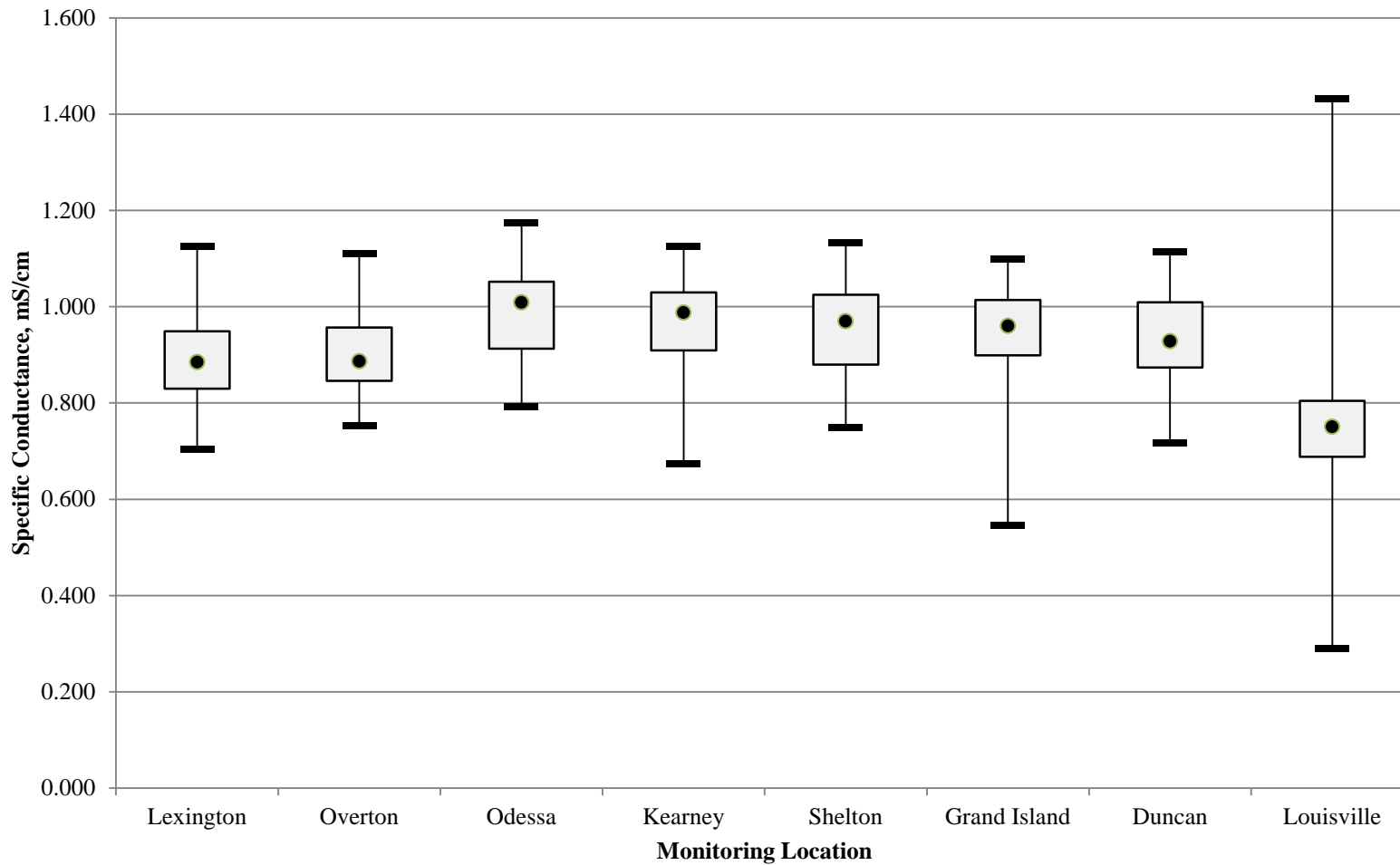




Figure B-49. Spatial Variation, pH, Interquartile Ranges, Platte River, NE

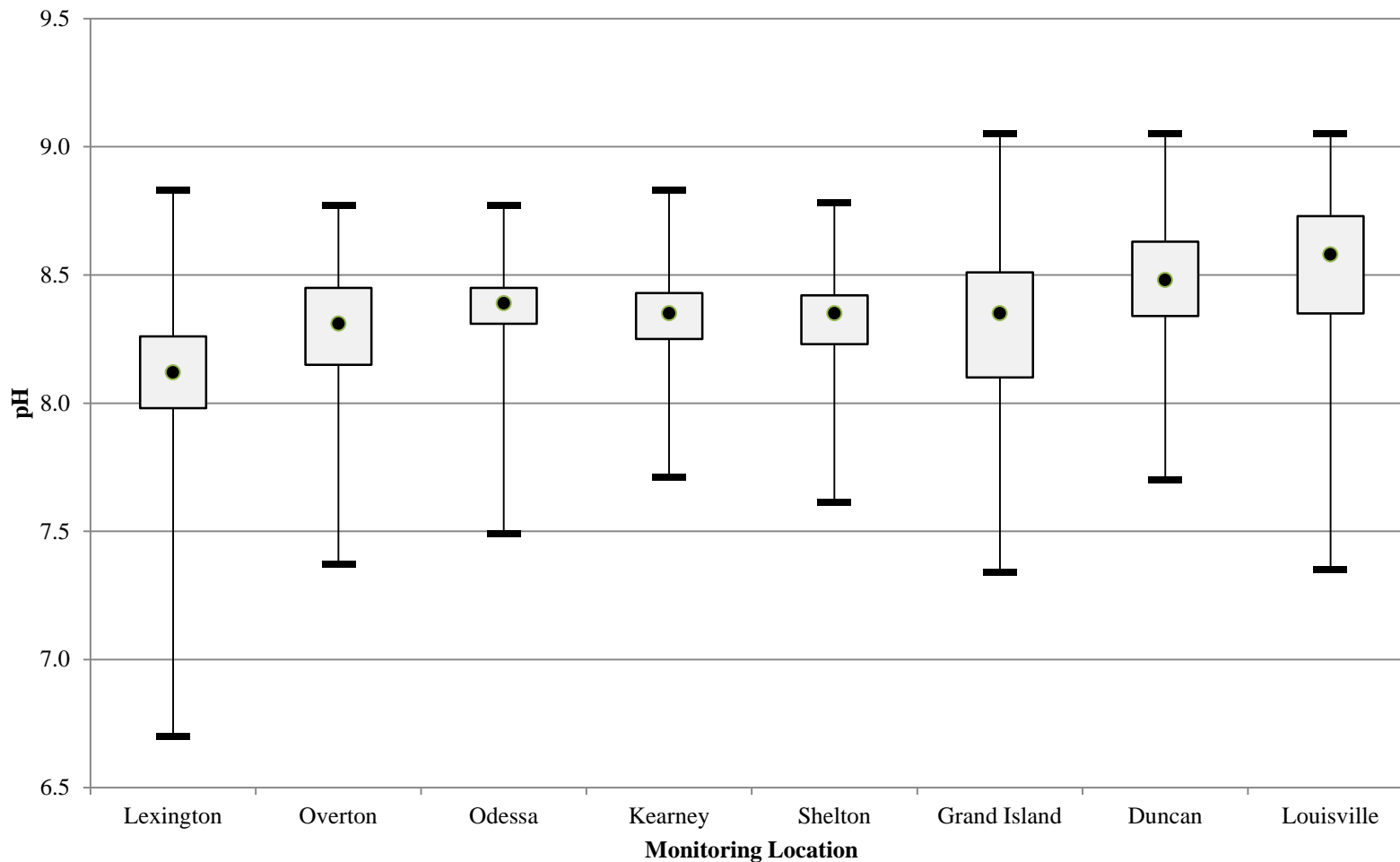




Figure B-50. Spatial Variation, Turbidity, Interquartile Ranges, Platte River, NE

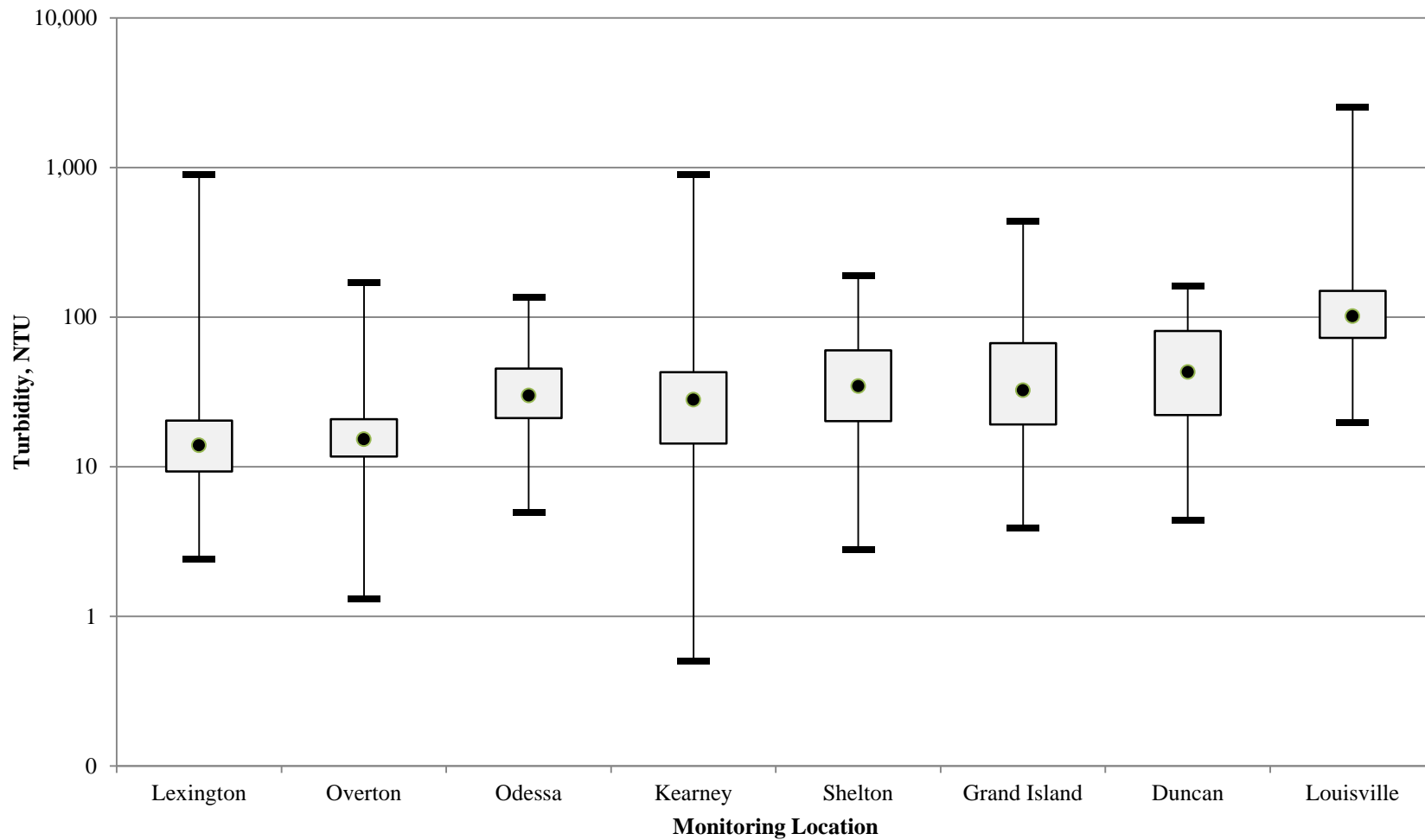






Figure B-51. Spatial Variation, Dissolved Oxygen, Interquartile Ranges, Platte River, NE

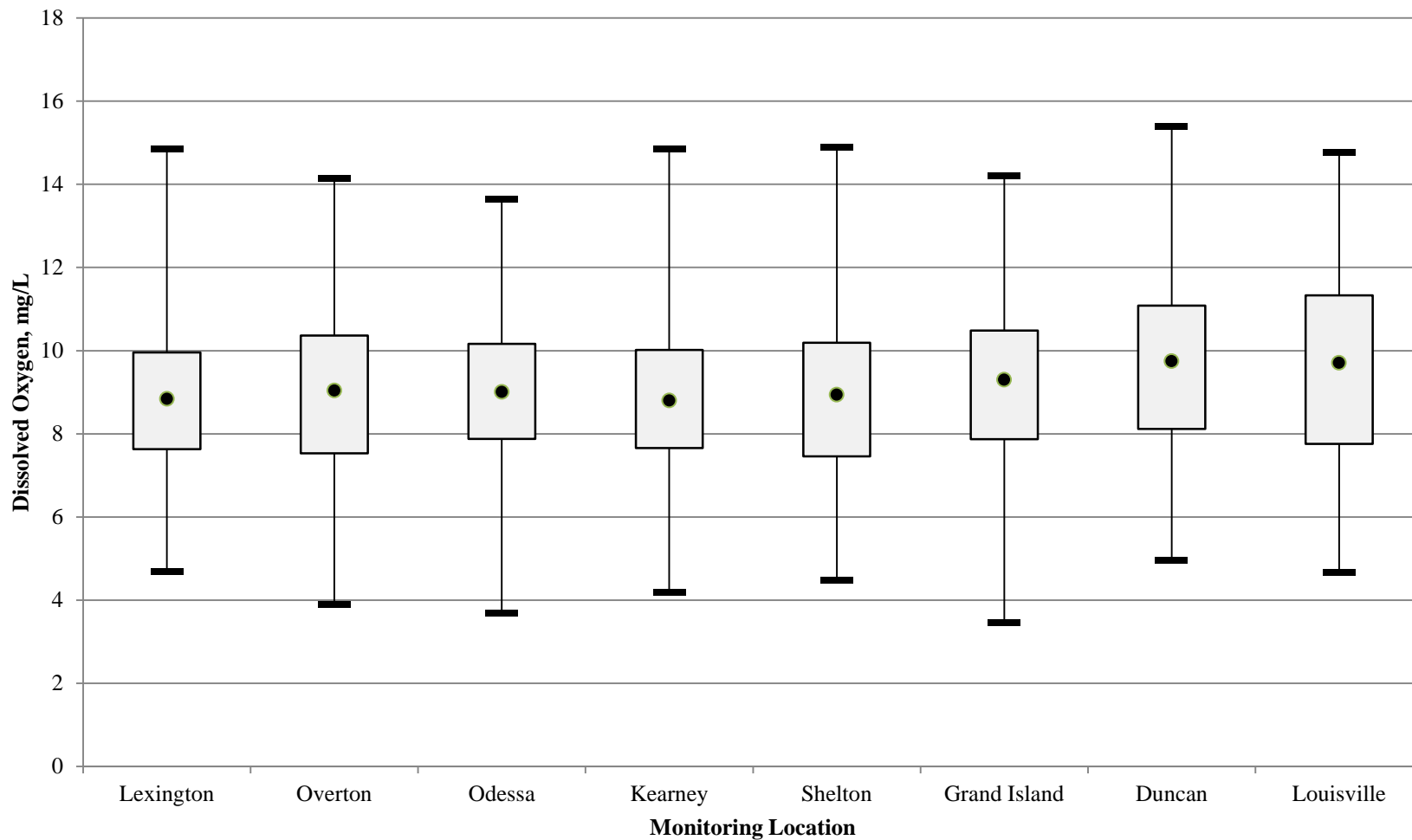
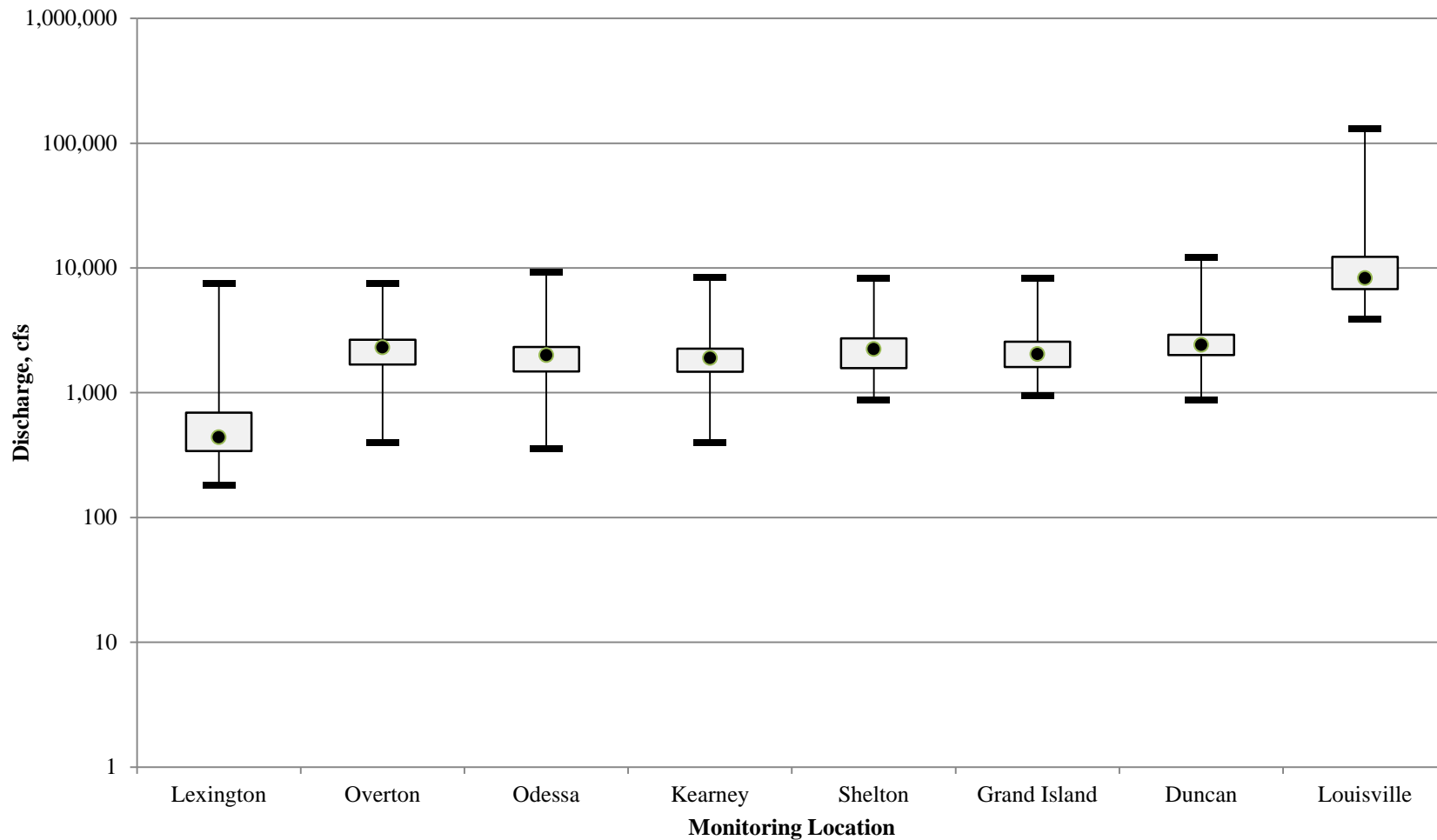




Figure B-52. Spatial Variation, Discharge, Interquartile Ranges, Platte River, NE

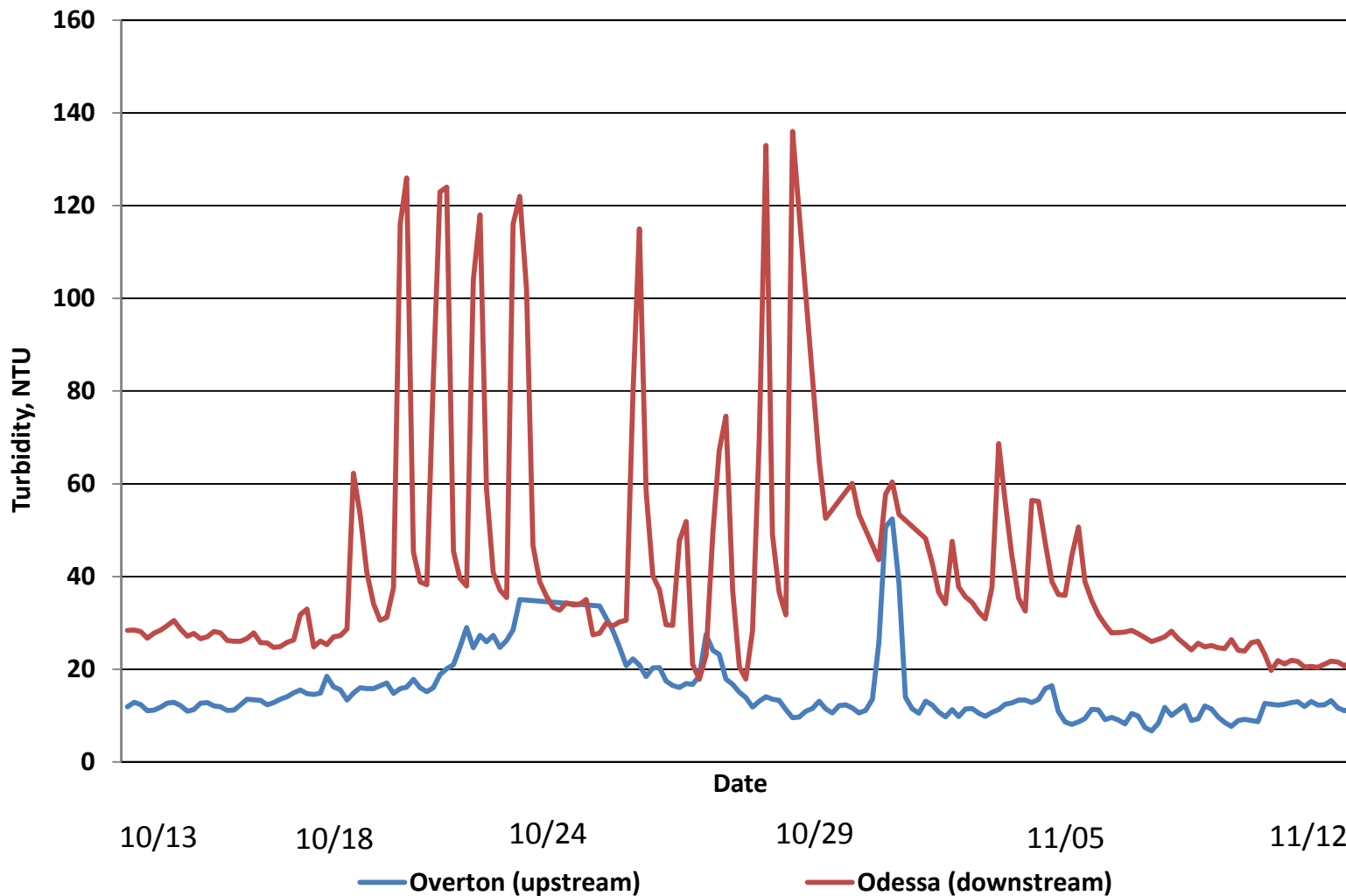




## **Water Quality During Program Activities**

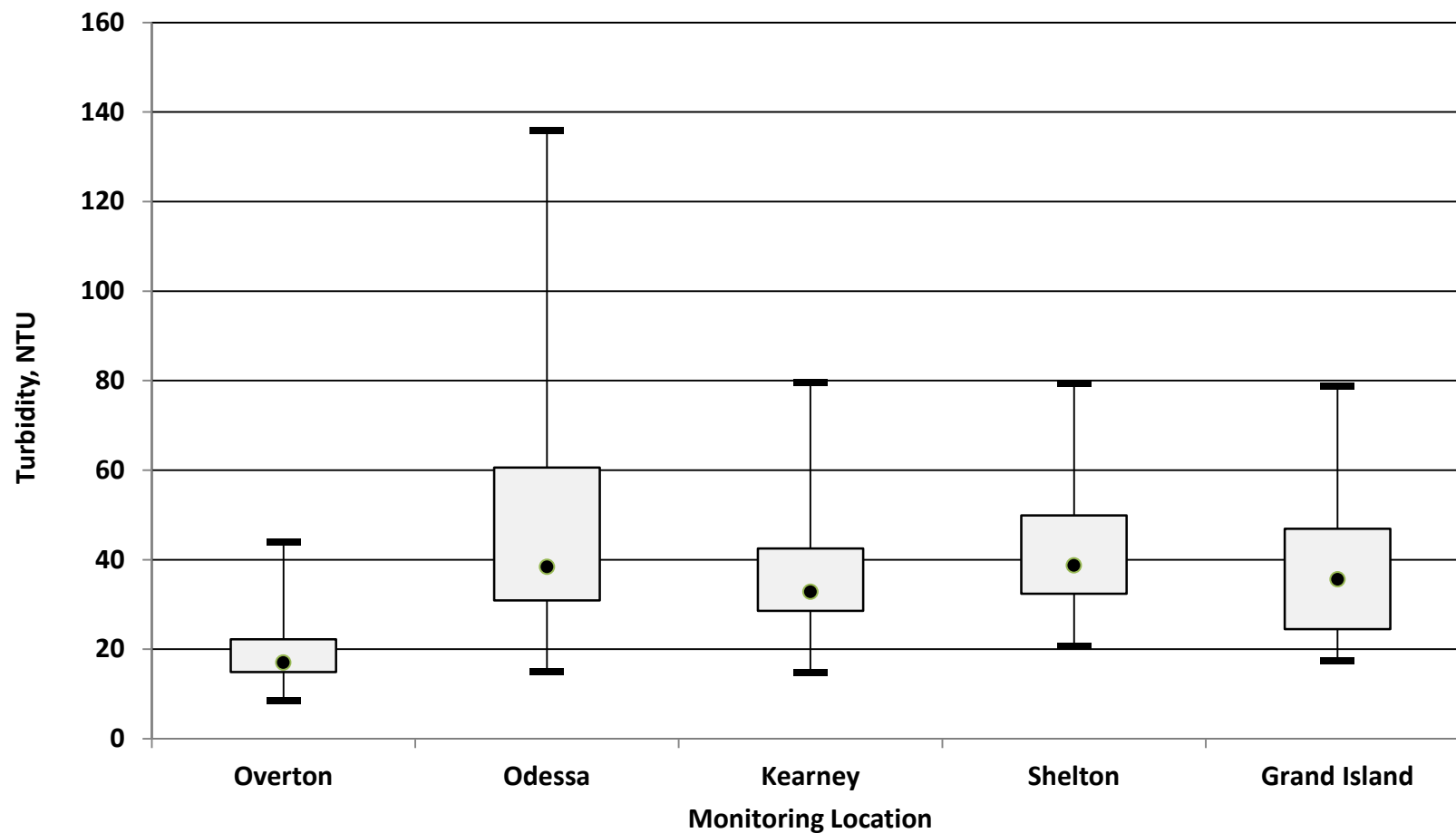


**Figure B-53. Temporal Variation, Platte River, Turbidity readings upstream and downstream of Program activities conducted between Overton, NE and Odessa, NE from October 18, 2010 through October 29, 2010**





**Figure B-54. Spatial Variation, Platte River, Turbidity readings upstream and downstream of Program actions conducted between Overton, NE and Odessa, NE from October 18, 2010 through October 29, 2010**





# **APPENDIX C**

QA/QC Data



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<b>Acronym List</b>	
%R = Percent Recovery	MDL = Method Detection Limit
°C = degrees Celsius	mg/L = Milligrams per liter
DUN = Duncan	mS/cm = milliSiemens per centimeter
DUP = Duplicate	NTU = Nephelometric Turbidity Units
FB = Field Blank	ODS = Odessa
GRI = Grand Island	OVR = Overton
J = Indicates reported value is greater than Method Detection Limit but less than the Reporting Limit	RL = Reporting Limit
KER = Kearney	RPD = Relative Percent Difference
LEX = Lexington	SHL = Shelton
LSV = Louisville	TNTC = Too Numerous to Count





**Precision**  
**Duplicate Continuous Water Quality Data,**  
**Relative Percent Difference, Platte River**



**Table C-1. Duplicate Water Quality RPDs, Continuous Data, Platte River, Louisville, NE**

Date	Temperature (°C)			pH (pH units)			Dissolved Oxygen (mg/L)			Specific Conductance (mS/cm)			Turbidity (NTU)		
	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD
04/20/10	14.70	14.73	0.20%	8.49	8.73	2.79%	9.56	10.21	6.58%	0.588	0.592	0.68%	26.1	27.8	6.31%
05/04/10	15.90	15.93	0.19%	8.42	8.55	1.53%	9.60	9.93	3.38%	0.617	0.618	0.16%	35.0	41.2	16.27%
05/12/10	11.60	11.46	1.21%	8.56	8.57	0.12%	10.09	10.85	7.26%	0.686	0.692	0.87%	32.8	32.1	2.16%
05/19/10	19.10	18.94	0.84%	8.54	8.56	0.23%	11.43	11.96	4.53%	0.660	0.653	1.07%	24.6	16.8	37.68%
05/27/10	21.80	22.12	1.46%	8.42	8.63	2.46%	10.50	11.40	8.22%	0.573	0.574	0.17%	19.9	20.0	0.50%
06/01/10	22.00	22.20	0.90%	8.39	8.43	0.48%	7.66	8.63	11.91%	0.582	0.580	0.34%	32.9	40.8	21.44%
06/16/10	21.80	21.79	0.05%	7.40	7.50	1.34%	5.89	6.83	14.78%	0.358	0.351	1.97%	557.0	564.0	1.25%
06/22/10	23.10	22.90	0.87%	7.61	7.60	0.13%	6.30	9.62	41.71%	0.362	0.357	1.39%	877.0	915.0	4.24%
06/29/10	24.80	24.95	0.60%	7.69	7.92	2.95%	6.35	7.27	13.51%	0.565	0.568	0.53%	75.3	--	--
07/14/10	30.10	29.75	1.17%	8.06	8.46	4.84%	7.11	6.77	4.90%	0.583	0.590	1.19%	109.2	181.4	49.69%
07/19/10	27.30	27.19	0.40%	8.24	8.61	4.39%	6.76	7.51	10.51%	0.600	0.606	1.00%	70.3	107.7	42.02%
07/27/10	27.10	27.20	0.37%	8.01	8.36	4.28%	6.71	7.51	11.25%	0.602	0.590	2.01%	103.0	120.0	15.25%
08/04/10	25.40	25.53	0.51%	7.30	7.79	6.49%	5.83	6.16	5.50%	0.357	0.346	3.13%	724.0	759.8	4.83%
08/11/10	27.40	27.52	0.44%	7.89	8.23	4.22%	5.99	6.78	12.37%	0.576	0.577	0.17%	108.3	213.2	<b>65.26%</b>
08/17/10	24.70	24.98	1.13%	8.14	8.55	4.91%	6.12	6.72	9.35%	0.641	0.644	0.47%	55.1	70.8	24.94%
08/24/10	25.60	25.96	1.40%	7.99	8.52	6.42%	6.20	5.39	13.98%	0.548	0.538	1.84%	37.0	44.6	18.63%
09/01/10	24.40	24.77	1.50%	8.25	8.62	4.39%	6.83	7.58	10.41%	0.529	0.523	1.14%	34.3	37.3	8.38%
09/08/10	19.00	19.58	3.01%	8.48	8.79	3.59%	9.88	10.81	8.99%	0.519	0.511	1.55%	35.7	28.5	22.43%
09/16/10	21.00	21.02	0.10%	8.07	8.56	5.89%	6.79	7.50	9.94%	0.533	0.529	0.75%	67.0	50.0	29.06%
09/29/10	18.40	18.42	0.11%	8.42	8.73	3.62%	9.26	9.50	2.56%	0.667	0.667	0.00%	56.1	62.1	10.15%
10/11/10	18.40	18.39	0.05%	8.47	8.79	3.71%	10.80	10.80	0.00%	0.681	0.679	0.29%	37.4	31.6	16.81%
10/25/10	13.60	13.71	0.81%	8.27	8.50	2.74%	9.29	9.70	4.32%	0.648	0.641	1.09%	34.0	30.9	9.55%
11/09/10	10.00	9.95	0.50%	8.24	8.41	2.04%	10.45	11.21	7.02%	0.665	0.671	0.90%	31.0	39.0	22.86%
11/23/10	1.20	1.15	4.26%	8.28	8.47	2.27%	13.71	14.37	4.70%	0.658	--	--	27.7	36.3	26.88%



**Table C-2. Duplicate Water Quality RPDs, Continuous Data, Platte River, Duncan, NE**

Date	Temperature (°C)			pH (pH units)			Dissolved Oxygen (mg/L)			Specific Conductance (mS/cm)			Turbidity (NTU)		
	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD
04/06/10	10.60	10.75	1.41%	8.58	8.28	3.56%	9.75	10.22	4.71%	1.111	1.091	1.82%	6.48	5.90	9.37%
04/20/10	15.90	16.04	0.88%	8.57	8.55	0.23%	10.19	12.08	16.97%	1.066	1.065	0.09%	10.83	18.60	<b>52.80%</b>
05/04/10	18.80	18.77	0.16%	8.73	8.81	0.91%	11.42	12.58	9.67%	1.034	1.030	0.39%	16.20	16.50	1.83%
05/12/10	9.80	9.83	0.31%	8.51	8.73	2.55%	11.25	11.75	4.35%	0.983	0.980	0.31%	21.10	15.50	30.60%
05/19/10	19.70	19.51	0.97%	8.73	8.67	0.69%	11.37	13.00	13.38%	1.002	1.002	0.00%	17.40	11.20	43.36%
05/27/10	24.20	24.34	0.58%	8.69	8.78	1.03%	10.81	12.07	11.01%	0.960	0.994	3.48%	17.10	7.50	<b>78.05%</b>
06/01/10	21.90	21.90	0.00%	8.32	8.52	2.38%	8.39	9.27	9.97%	0.975	0.986	1.12%	18.90	8.00	<b>81.04%</b>
06/16/10	25.66	25.70	0.16%	8.20	8.04	1.97%	8.94	8.00	11.10%	0.855	0.867	1.39%	6.20	10.09	47.76%
06/22/10	26.20	26.60	1.52%	7.77	7.93	2.04%	6.62	6.35	4.16%	0.912	0.896	1.77%	7.00	4.30	47.79%
06/29/10	25.80	25.81	0.04%	7.96	8.15	2.36%	6.88	7.94	14.30%	1.056	1.057	0.09%	14.00	2.40	<b>141.46%</b>
07/07/10	24.60	25.01	1.65%	8.32	8.41	1.08%	7.63	8.15	6.59%	0.985	0.980	0.51%	11.40	14.20	21.88%
07/12/10	24.40	24.50	0.41%	8.30	8.49	2.26%	8.34	8.80	5.37%	1.005	1.006	0.10%	13.70	13.20	3.72%
07/19/10	28.00	28.02	0.07%	8.62	8.65	0.35%	9.92	11.47	14.49%	0.968	0.949	1.98%	54.10	68.90	24.07%
07/27/10	28.90	28.85	0.17%	8.53	8.75	2.55%	8.63	10.03	15.01%	0.966	0.941	2.62%	48.00	44.30	8.02%
08/04/10	28.30	28.31	0.04%	8.59	8.60	0.12%	9.56	8.41	12.80%	0.958	0.949	0.94%	46.40	44.90	3.29%
08/11/10	30.01	30.01	0.00%	8.48	8.41	0.83%	8.33	9.42	12.28%	0.972	0.977	0.51%	50.10	32.50	42.62%
08/17/10	22.90	22.98	0.35%	8.36	8.70	3.99%	8.69	10.23	16.28%	0.847	0.852	0.59%	57.00	59.80	4.79%
08/24/10	24.00	24.09	0.37%	8.35	8.64	3.41%	8.78	10.43	17.18%	0.935	0.939	0.43%	37.00	48.60	27.10%
09/01/10	20.80	20.78	0.10%	8.51	8.62	1.28%	9.12	9.71	6.27%	0.979	0.954	2.59%	22.90	23.10	0.87%
09/08/10	20.90	20.90	0.00%	8.64	8.81	1.95%	10.50	10.93	4.01%	0.949	0.941	0.85%	34.50	35.50	2.86%
09/16/10	18.90	19.00	0.53%	8.43	8.61	2.11%	9.58	9.70	1.24%	0.921	0.910	1.20%	41.40	33.20	21.98%
09/29/10	19.70	19.87	0.86%	8.39	8.44	0.59%	10.43	11.00	5.32%	0.920	0.911	0.98%	28.70	24.30	16.60%
10/11/10	18.60	18.59	0.05%	8.43	8.71	3.27%	10.76	10.97	1.93%	0.904	0.891	1.45%	28.10	20.00	33.68%
10/25/10	14.00	13.86	1.01%	8.21	8.43	2.64%	9.73	10.09	3.63%	0.909	0.890	2.11%	24.60	16.10	41.77%
11/09/10	11.00	11.31	2.78%	8.18	8.32	1.70%	11.79	11.09	6.12%	0.912	0.889	2.55%	19.00	15.00	23.53%
11/23/10	0.20	0.04	<b>133.33%</b>	8.21	8.24	0.36%	13.90	14.37	3.33%	--	0.830	--	26.70	21.20	22.96%



**Table C-3. Duplicate Water Quality RPDs, Continuous Data, Platte River, Grand Island, NE**

Date	Temperature (°C)			pH (pH units)			Dissolved Oxygen (mg/L)			Specific Conductance (mS/cm)			Turbidity (NTU)		
	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD
04/06/10	11.30	11.37	0.62%	8.36	8.52	1.90%	9.98	11.64	15.36%	1.076	1.042	3.21%	2.03	1.70	17.69%
04/20/10	18.60	18.59	0.05%	8.47	8.55	0.94%	11.54	11.88	2.90%	1.063	1.060	0.28%	6.60	17.50	<b>90.46%</b>
05/04/10	23.60	23.40	0.85%	8.62	8.75	1.50%	10.96	11.86	7.89%	1.045	1.054	0.86%	12.50	16.70	28.77%
05/12/10	10.30	10.34	0.39%	8.42	8.61	2.23%	11.72	12.29	4.75%	0.990	0.962	2.87%	8.19	1.90	<b>124.68%</b>
05/19/10	16.00	16.06	0.37%	8.48	8.52	0.47%	9.50	10.51	10.09%	1.017	1.001	1.59%	10.44	3.60	<b>97.44%</b>
05/27/10	26.90	26.91	0.04%	8.48	8.51	0.35%	9.15	10.62	14.87%	0.919	0.923	0.43%	12.00	12.00	0.00%
06/01/10	26.80	26.70	0.37%	8.05	8.29	2.94%	7.94	9.08	13.40%	1.051	1.045	0.57%	4.72	2.60	<b>57.92%</b>
06/16/10	27.20	27.14	0.22%	7.58	7.80	2.86%	5.50	6.10	10.34%	0.710	0.702	1.13%	18.90	30.00	45.40%
06/22/10	27.00	27.64	2.34%	7.46	7.56	1.33%	4.81	4.53	6.00%	0.559	0.542	3.09%	70.50	95.10	29.71%
06/29/10	28.87	28.70	0.59%	8.16	8.37	2.54%	8.89	9.89	10.65%	1.013	1.014	0.10%	18.80	15.60	18.60%
07/07/10	23.50	23.56	0.25%	8.15	8.16	0.12%	8.79	9.37	6.39%	1.048	1.032	1.54%	7.10	5.40	27.20%
07/12/10	26.40	26.48	0.30%	8.16	8.35	2.30%	9.86	10.50	6.29%	1.027	1.014	1.27%	11.20	10.30	8.37%
07/19/10	30.80	30.83	0.10%	8.65	8.70	0.58%	9.95	10.24	2.87%	1.006	0.901	11.01%	28.20	26.20	7.35%
07/27/10	31.20	31.07	0.42%	8.63	8.97	3.86%	10.30	10.79	4.65%	1.029	0.992	3.66%	31.30	29.60	5.58%
08/04/10	32.20	32.04	0.50%	8.71	8.71	0.00%	10.00	10.56	5.45%	1.012	0.976	3.62%	37.30	59.90	46.50%
08/11/10	34.40	34.01	1.14%	8.64	8.58	0.70%	8.84	9.41	6.25%	0.989	0.982	0.71%	31.70	31.80	0.31%
08/17/10	22.70	22.62	0.35%	8.34	8.38	0.48%	8.47	8.60	1.52%	0.909	0.909	0.00%	28.20	25.70	9.28%
08/24/10	27.30	27.10	0.74%	8.26	8.30	0.48%	8.34	8.12	2.67%	0.923	0.925	0.22%	21.90	39.10	<b>56.39%</b>
09/01/10	24.90	24.87	0.12%	8.44	8.63	2.23%	10.26	10.20	0.59%	0.970	0.965	0.52%	20.70	21.50	3.79%
09/09/10	20.40	20.58	0.88%	8.07	8.43	4.36%	9.64	8.82	8.88%	0.953	0.944	0.95%	21.70	25.00	14.13%
09/16/10	21.50	21.49	0.05%	8.44	8.45	0.12%	9.92	10.54	6.06%	0.940	0.939	0.11%	24.80	21.50	14.25%
09/29/10	23.40	23.40	0.00%	8.46	8.56	1.18%	10.24	11.06	7.70%	0.923	0.914	0.98%	15.20	16.50	8.20%
10/11/10	18.80	18.63	0.91%	8.54	8.65	1.28%	11.12	11.29	1.52%	0.872	0.889	1.93%	10.17	7.20	34.20%
10/25/10	16.10	16.07	0.19%	8.38	8.42	0.48%	10.68	11.42	6.70%	0.902	0.889	1.45%	13.10	11.90	9.60%
11/09/10	13.80	13.83	0.22%	8.54	8.67	1.51%	14.38	13.88	3.54%	0.892	0.894	0.22%	9.80	10.30	4.98%
11/23/10	1.40	1.05	28.57%	8.30	7.78	6.47%	13.58	14.32	5.30%	0.908	0.865	4.85%	11.40	13.20	14.63%



Table C-4. Duplicate Water Quality RPDs, Continuous Data, Platte River, Shelton, NE

Date	Temperature (°C)			pH (pH units)			Dissolved Oxygen (mg/L)			Specific Conductance (mS/cm)			Turbidity (NTU)		
	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD
04/06/10	12.40	12.40	0.00%	8.37	8.34	0.36%	9.69	10.41	7.16%	1.066	1.070	0.37%	3.22	3.30	2.45%
04/20/10	16.20	16.25	0.31%	8.34	8.29	0.60%	9.75	10.40	6.45%	1.061	1.061	0.00%	3.89	2.90	29.16%
05/04/10	21.60	21.43	0.79%	8.31	8.39	0.96%	8.50	9.10	6.82%	1.060	1.063	0.28%	6.77	5.30	24.36%
05/12/10	10.90	10.90	0.00%	8.30	8.49	2.26%	10.33	11.18	7.90%	1.001	0.983	1.81%	14.00	8.00	<b>54.55%</b>
05/19/10	14.60	14.55	0.34%	8.25	8.27	0.24%	8.58	9.60	11.22%	0.985	0.973	1.23%	9.52	4.00	<b>81.66%</b>
05/27/10	25.00	24.92	0.32%	8.70	8.68	0.23%	11.56	13.44	15.04%	1.037	1.049	1.15%	8.37	8.70	3.87%
06/01/10	25.60	25.64	0.16%	8.03	8.23	2.46%	7.22	8.18	12.47%	1.068	1.067	0.09%	13.50	16.70	21.19%
06/16/10	25.50	25.29	0.83%	7.63	7.78	1.95%	5.68	5.58	1.78%	0.810	0.799	1.37%	17.00	19.70	14.71%
06/22/10	26.70	26.30	1.51%	7.46	7.62	2.12%	5.53	5.16	6.92%	0.940	0.926	1.50%	9.95	9.20	7.83%
06/29/10	27.20	27.14	0.22%	7.63	7.83	2.59%	5.04	5.51	8.91%	1.125	1.132	0.62%	5.68	0.30	<b>179.93%</b>
07/07/10	23.50	23.57	0.30%	8.19	8.31	1.45%	8.31	9.06	8.64%	1.032	1.021	1.07%	16.00	18.90	16.62%
07/12/10	27.80	26.50	4.79%	8.08	8.20	1.47%	7.94	7.01	12.44%	1.067	1.077	0.93%	21.50	21.70	0.93%
07/19/10	29.90	30.15	0.83%	8.49	8.24	2.99%	8.13	6.54	21.68%	1.015	0.990	2.49%	34.90	66.60	<b>62.46%</b>
07/20/10	28.10	28.13	0.11%	8.34	8.25	1.08%	8.98	4.23	<b>71.92%</b>	1.046	1.022	2.32%	29.50	32.20	8.75%
07/27/10	30.30	30.22	0.26%	8.41	8.60	2.23%	8.47	9.94	15.97%	1.040	1.007	3.22%	31.90	36.30	12.90%
08/04/10	30.10	30.42	1.06%	8.47	8.48	0.12%	8.40	7.47	11.72%	0.974	0.948	2.71%	33.70	40.30	17.84%
08/11/10	32.60	32.67	0.21%	8.42	8.34	0.95%	7.59	7.82	2.99%	0.982	0.972	1.02%	33.80	42.30	22.34%
08/17/10	22.90	23.23	1.43%	8.13	8.14	0.12%	7.10	7.44	4.68%	0.892	0.889	0.34%	38.60	42.10	8.67%
08/24/10	26.50	26.44	0.23%	8.12	8.11	0.12%	7.14	7.42	3.85%	0.951	0.951	0.00%	21.80	28.10	25.25%
09/01/10	24.90	24.91	0.04%	8.23	8.52	3.46%	8.52	8.78	3.01%	0.931	0.925	0.65%	27.80	30.00	7.61%
09/09/10	20.90	21.07	0.81%	8.06	8.37	3.77%	8.72	8.42	3.50%	0.935	0.919	1.73%	26.00	26.70	2.66%
09/16/10	20.90	20.68	1.06%	8.22	8.44	2.64%	8.67	9.25	6.47%	0.916	0.916	0.00%	20.10	22.00	9.03%
09/30/10	19.90	19.94	0.20%	8.18	8.37	2.30%	8.90	9.53	6.84%	0.914	0.911	0.33%	16.50	18.30	10.34%
10/11/10	17.20	17.01	1.11%	8.24	8.46	2.63%	10.08	9.75	3.33%	0.885	0.878	0.79%	14.80	15.20	2.67%
10/25/10	15.30	15.19	0.72%	8.23	8.46	2.76%	9.24	9.95	7.40%	0.886	0.874	1.36%	--	13.10	--
11/09/10	14.20	12.98	8.98%	8.31	8.42	1.32%	11.22	10.84	3.45%	0.897	0.890	0.78%	10.38	9.30	10.98%
11/23/10	1.60	1.45	9.84%	8.15	8.41	3.14%	12.66	13.46	6.13%	--	0.847	--	9.58	8.90	7.36%



**Table C-5. Duplicate Water Quality RPDs, Continuous Data, Platte River, Kearney, NE**

Date	Temperature (°C)			pH (pH units)			Dissolved Oxygen (mg/L)			Specific Conductance (mS/cm)			Turbidity (NTU)		
	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD
04/07/10	11.30	10.85	4.06%	8.38	8.38	0.00%	11.12	11.51	3.45%	1.005	0.969	3.65%	5.40	6.24	14.43%
04/21/10	12.00	12.07	0.58%	8.13	8.07	0.74%	9.23	9.35	1.29%	1.019	1.012	0.69%	4.83	1.50	<b>105.21%</b>
05/05/10	17.10	17.35	1.45%	8.46	8.46	0.00%	11.43	12.06	5.36%	0.980	0.959	2.17%	17.40	11.10	44.21%
05/20/10	13.40	13.50	0.74%	8.17	8.39	2.66%	10.45	10.18	2.62%	0.997	0.995	0.20%	13.30	10.70	21.67%
06/01/10	25.50	25.30	0.79%	8.18	8.22	0.49%	7.39	8.95	19.09%	1.055	1.600	41.05%	9.14	9.50	3.86%
06/17/10	25.50	25.29	0.83%	7.63	7.91	3.60%	6.51	6.56	0.77%	0.890	0.906	1.78%	9.18	12.00	26.63%
06/22/10	27.10	27.00	0.37%	7.60	7.86	3.36%	6.64	6.46	2.75%	0.913	0.897	1.77%	20.50	20.10	1.97%
06/30/10	26.80	26.79	0.04%	8.13	8.31	2.19%	9.41	10.51	11.04%	1.111	1.105	0.54%	8.95	7.10	23.05%
07/08/10	24.40	24.40	0.00%	8.16	8.35	2.30%	9.19	9.78	6.22%	1.026	1.008	1.77%	16.10	17.90	10.59%
07/12/10	27.30	26.84	1.70%	8.18	8.42	2.89%	8.26	8.82	6.56%	1.053	1.042	1.05%	17.10	16.60	2.97%
07/20/10	27.60	27.08	1.90%	8.29	8.40	1.32%	8.77	9.78	10.89%	1.018	1.004	1.38%	24.40	25.40	4.02%
07/28/10	26.10	26.14	0.15%	8.22	8.39	2.05%	7.43	8.75	16.32%	1.042	1.018	2.33%	21.30	24.10	12.33%
08/05/10	28.60	28.60	0.00%	8.18	8.31	1.58%	8.10	8.76	7.83%	0.984	0.958	2.68%	26.40	24.60	7.06%
08/12/10	29.80	29.53	0.91%	8.23	8.39	1.93%	7.76	8.30	6.72%	0.981	0.993	1.22%	24.80	15.30	47.38%
08/18/10	24.20	24.28	0.33%	8.07	8.31	2.93%	8.05	8.33	3.42%	0.930	0.935	0.54%	27.50	27.90	1.44%
08/25/10	25.20	25.23	0.12%	8.21	8.40	2.29%	8.08	8.81	8.64%	0.940	0.943	0.32%	21.50	30.10	33.33%
09/01/10	24.70	24.70	0.00%	8.31	8.49	2.14%	8.32	8.09	2.80%	0.930	0.920	1.08%	18.30	16.20	12.17%
09/09/10	20.90	21.03	0.62%	8.15	8.25	1.22%	8.90	8.42	5.54%	0.921	0.893	3.09%	20.50	22.50	9.30%
09/16/10	20.90	20.88	0.10%	8.26	8.31	0.60%	8.63	9.23	6.72%	0.901	0.903	0.22%	17.30	16.10	7.19%
09/30/10	17.80	17.76	0.22%	8.21	8.21	0.00%	9.15	9.61	4.90%	0.889	0.885	0.45%	14.60	12.00	19.55%
10/12/10	16.20	16.80	3.64%	8.15	8.27	1.46%	9.62	10.20	5.85%	0.877	0.839	4.43%	12.80	18.20	34.84%
10/26/10	12.50	12.29	1.69%	8.15	8.44	3.50%	10.84	12.04	10.49%	0.877	0.851	3.01%	18.00	7.90	<b>77.99%</b>
11/10/10	9.50	9.55	0.52%	8.25	8.40	1.80%	11.88	11.76	1.02%	0.891	0.868	2.62%	8.50	5.90	36.11%
11/24/10	3.10	3.15	1.60%	8.28	8.25	0.36%	11.92	12.87	7.66%	0.877	0.823	6.35%	9.07	2.20	<b>121.92%</b>



**Table C-6. Duplicate Water Quality RPDs, Continuous Data, Platte River, Odessa, NE**

Date	Temperature (°C)			pH (pH units)			Dissolved Oxygen (mg/L)			Specific Conductance (mS/cm)			Turbidity (NTU)		
	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD
04/07/10	9.40	9.39	0.11%	8.36	8.55	2.25%	11.65	11.58	0.60%	1.013	0.985	2.80%	5.78	6.90	17.67%
04/21/10	12.50	12.41	0.72%	8.29	8.35	0.72%	9.75	10.32	5.68%	1.051	1.051	0.00%	5.58	6.20	10.53%
05/05/10	13.70	13.76	0.44%	8.35	8.36	0.12%	10.17	10.55	3.67%	1.010	1.008	0.20%	13.90	28.20	<b>67.93%</b>
05/13/10	12.20	12.20	0.00%	8.37	8.65	3.29%	11.44	11.71	2.33%	1.025	0.998	2.67%	12.10	13.80	13.13%
05/20/10	13.00	13.20	1.53%	8.19	8.34	1.81%	9.52	9.59	0.73%	1.054	1.036	1.72%	13.50	16.90	22.37%
05/28/10	23.70	23.78	0.34%	8.32	8.48	1.90%	10.54	10.43	1.05%	1.062	1.072	0.94%	9.32	4.40	<b>71.72%</b>
06/02/10	20.90	20.92	0.10%	8.00	8.29	3.56%	7.85	8.37	6.41%	1.080	1.079	0.09%	10.01	10.20	1.88%
06/17/10	24.82	25.10	1.12%	7.67	7.56	1.44%	5.90	5.74	2.75%	0.837	0.831	0.72%	26.40	17.20	42.20%
06/23/10	23.40	23.70	1.27%	7.56	7.66	1.31%	6.44	6.22	3.48%	0.983	0.965	1.85%	14.70	20.30	32.00%
06/30/10	26.00	25.77	0.89%	8.16	8.30	1.70%	9.88	10.95	10.27%	1.121	1.119	0.18%	10.78	9.80	9.52%
07/08/10	23.10	23.22	0.52%	8.10	8.33	2.80%	8.82	9.32	5.51%	1.018	1.008	0.99%	19.00	26.20	31.86%
07/13/10	25.30	25.19	0.44%	8.10	8.40	3.64%	8.40	8.76	4.20%	1.035	1.028	0.68%	22.20	45.00	<b>67.86%</b>
07/20/10	25.30	25.44	0.55%	8.24	8.43	2.28%	7.76	8.60	10.27%	1.049	1.015	3.29%	19.50	17.00	13.70%
07/28/10	24.00	25.03	4.20%	8.13	8.33	2.43%	6.96	8.20	16.36%	1.052	1.025	2.60%	21.70	21.80	0.46%
08/05/10	27.50	27.59	0.33%	8.11	8.27	1.95%	7.76	8.04	3.54%	0.970	0.944	2.72%	28.90	36.20	22.43%
08/12/10	27.40	27.43	0.11%	8.13	8.28	1.83%	7.51	7.99	6.19%	0.967	0.973	0.62%	21.40	15.80	30.11%
08/18/10	22.90	22.95	0.22%	8.05	8.26	2.58%	7.33	8.22	11.45%	0.907	0.912	0.55%	28.90	29.70	2.73%
08/25/10	24.80	24.76	0.16%	8.24	8.44	2.40%	8.23	8.76	6.24%	0.948	0.950	0.21%	19.90	20.30	1.99%
09/02/10	21.50	21.75	1.16%	8.25	8.44	2.28%	8.84	8.63	2.40%	0.925	0.910	1.63%	17.20	25.10	37.35%
09/09/10	21.00	21.11	0.52%	8.21	8.45	2.88%	9.04	8.84	2.24%	0.917	0.907	1.10%	20.40	23.00	11.98%
09/17/10	20.30	20.58	1.37%	8.23	8.36	1.57%	8.65	9.13	5.40%	0.896	0.892	0.45%	15.90	20.70	26.23%
09/29/10	21.40	21.24	0.75%	8.29	8.49	2.38%	8.82	8.99	1.91%	0.882	0.882	0.00%	13.90	20.40	37.90%
10/12/10	14.90	15.14	1.60%	8.16	8.33	2.06%	9.62	9.80	1.85%	0.871	0.865	0.69%	10.96	19.50	<b>56.07%</b>
10/26/10	10.60	10.65	0.47%	8.15	8.48	3.97%	10.85	10.49	3.37%	0.873	0.851	2.55%	28.60	22.80	22.57%
11/10/10	8.50	8.51	0.12%	8.27	8.43	1.92%	11.77	11.62	1.28%	0.884	0.835	5.70%	8.87	10.40	15.88%
11/24/10	3.10	2.91	6.32%	8.26	8.16	1.22%	12.16	13.09	7.37%	0.866	0.819	5.58%	8.25	13.10	45.43%



**Table C-7. Duplicate Water Quality RPDs, Continuous Data, Platte River, Overton, NE**

Date	Temperature (°C)			pH (pH units)			Dissolved Oxygen (mg/L)			Specific Conductance (mS/cm)			Turbidity (NTU)		
	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD
04/07/10	7.60	7.60	0.00%	8.35	8.46	1.31%	12.01	11.98	0.25%	0.871	0.856	1.74%	4.77	10.10	<b>71.69%</b>
04/21/10	13.30	13.31	0.08%	8.26	8.16	1.22%	9.56	10.06	5.10%	0.943	0.939	0.43%	3.77	2.70	33.08%
05/05/10	12.60	12.55	0.40%	8.15	8.32	2.06%	9.55	10.10	5.60%	0.985	0.976	0.92%	7.66	6.10	22.67%
05/13/10	9.70	9.73	0.31%	8.18	8.19	0.12%	10.41	10.94	4.96%	0.925	0.910	1.63%	4.12	4.70	13.15%
05/20/10	12.60	12.50	0.80%	8.15	8.26	1.34%	9.33	8.20	12.89%	0.720	0.934	25.88%	6.80	5.00	30.51%
05/28/10	22.20	22.46	1.16%	8.16	8.30	1.70%	8.70	9.01	3.50%	0.997	1.009	1.20%	7.56	4.10	<b>59.35%</b>
06/02/10	20.20	20.33	0.64%	7.93	8.24	3.83%	7.18	7.70	6.99%	0.961	0.956	0.52%	7.43	3.30	<b>76.98%</b>
06/17/10	24.10	23.65	1.88%	7.80	7.61	2.47%	6.12	6.20	1.30%	0.840	0.838	0.24%	10.20	12.60	21.05%
06/23/10	22.20	22.40	0.90%	7.57	7.73	2.09%	6.25	8.80	33.89%	0.967	0.951	1.67%	11.60	14.30	20.85%
06/30/10	24.90	24.75	0.60%	7.99	8.14	1.86%	7.90	8.87	11.57%	1.097	1.093	0.37%	12.10	17.00	33.68%
07/08/10	21.00	21.99	4.61%	7.91	8.18	3.36%	7.50	7.83	4.31%	0.881	0.867	1.60%	10.96	11.50	4.81%
07/13/10	24.20	23.95	1.04%	7.91	8.22	3.84%	8.90	9.70	8.60%	0.874	0.873	0.11%	12.90	19.00	38.24%
07/20/10	25.30	25.28	0.08%	8.15	8.34	2.30%	7.49	8.36	10.98%	0.924	0.908	1.75%	11.70	11.90	1.69%
07/28/10	24.10	24.15	0.21%	8.00	8.21	2.59%	6.46	7.15	10.14%	0.923	0.903	2.19%	8.13	8.20	0.86%
08/05/10	26.30	26.46	0.61%	7.93	8.09	2.00%	7.26	7.77	6.79%	0.834	0.817	2.06%	9.67	14.80	41.93%
08/12/10	26.20	26.30	0.38%	8.02	8.23	2.58%	6.89	7.26	5.23%	0.865	0.867	0.23%	7.78	3.10	<b>86.03%</b>
08/18/10	21.50	21.60	0.46%	7.94	8.11	2.12%	6.91	7.65	10.16%	0.793	0.791	0.25%	15.30	15.20	0.66%
08/25/10	21.20	21.17	0.14%	8.13	8.31	2.19%	8.25	--	--	0.906	0.907	0.11%	6.79	7.00	3.05%
09/02/10	20.90	21.05	0.72%	8.12	8.15	0.37%	8.15	7.14	13.21%	0.871	0.869	0.23%	5.29	3.90	30.25%
09/10/10	21.10	20.69	1.96%	8.14	8.30	1.95%	8.31	7.89	5.19%	0.916	0.912	0.44%	7.46	4.30	<b>53.74%</b>
09/17/10	18.50	18.45	0.27%	8.18	8.21	0.37%	8.59	5.16	49.89%	0.849	0.846	0.35%	5.30	3.10	<b>52.38%</b>
09/30/10	16.00	16.21	1.30%	8.14	8.01	1.61%	9.05	8.71	3.83%	0.835	0.830	0.60%	6.87	3.50	<b>65.00%</b>
10/12/10	13.60	14.06	3.33%	8.05	7.99	0.75%	9.32	8.41	10.27%	0.827	0.816	1.34%	6.29	14.00	<b>76.00%</b>
10/26/10	9.00	8.86	1.57%	8.06	8.22	1.97%	10.87	10.53	3.18%	0.834	0.810	2.92%	13.40	2.30	<b>141.40%</b>
11/10/10	7.90	7.90	0.00%	8.19	8.42	2.77%	11.74	11.72	0.17%	0.880	0.869	1.26%	5.73	--	--
11/24/10	1.70	1.57	7.95%	8.31	8.45	1.67%	12.90	13.50	4.55%	0.838	0.787	6.28%	8.28	7.50	9.89%





**Table C-8. Duplicate Water Quality RPDs, Continuous Data, Platte River, Lexington, NE**

Date	Temperature (°C)			pH (pH units)			Dissolved Oxygen (mg/L)			Specific Conductance (mS/cm)			Turbidity (NTU)		
	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD	Hand Held	Sonde	RPD
04/07/10	7.20	6.67	7.64%	8.16	8.34	2.18%	11.33	10.86	4.24%	0.871	0.836	4.10%	7.01	13.90	<b>65.90%</b>
04/21/10	14.20	14.22	0.14%	8.22	8.25	0.36%	9.37	9.53	1.69%	0.979	0.979	0.00%	5.65	0.50	<b>167.48%</b>
05/05/10	11.50	11.44	0.52%	8.06	8.09	0.37%	8.91	8.80	1.24%	0.952	0.950	0.21%	6.52	8.81	29.88%
05/13/10	9.20	9.00	2.20%	8.09	8.01	0.99%	10.10	10.63	5.11%	0.924	0.894	3.30%	2.79	--	--
05/20/10	12.20	12.20	0.00%	7.97	8.20	2.84%	9.18	--	--	0.928	0.921	0.76%	5.47	434.00	<b>195.02%</b>
05/28/10	21.60	21.60	0.00%	7.98	8.06	1.00%	7.37	7.83	6.05%	1.008	1.021	1.28%	4.22	3.40	21.52%
06/02/10	20.60	20.50	0.49%	7.78	7.90	1.53%	6.66	7.25	8.48%	0.953	0.954	0.10%	5.05	3.10	47.85%
06/17/10	22.70	22.79	0.40%	7.51	7.62	1.45%	5.28	5.05	4.45%	0.851	0.851	0.00%	12.10	15.70	25.90%
06/23/10	22.60	23.20	2.62%	7.61	7.64	0.39%	5.37	5.19	3.41%	0.990	0.984	0.61%	12.40	10.10	20.44%
06/30/10	23.10	23.01	0.39%	7.78	7.98	2.54%	6.20	6.72	8.05%	1.104	1.101	0.27%	15.30	191.30	<b>170.38%</b>
07/08/10	20.80	20.81	0.05%	7.80	8.05	3.15%	7.17	7.50	4.50%	0.883	0.874	1.02%	11.50	11.70	1.72%
07/13/10	23.40	--	--	7.78	--	--	6.88	--	--	0.911	--	--	--	--	--
07/20/10	24.10	23.90	0.83%	7.92	8.01	1.13%	6.40	6.19	3.34%	0.930	0.859	7.94%	14.20	32.90	<b>79.41%</b>
07/28/10	23.70	23.49	0.89%	7.93	7.97	0.50%	6.48	6.52	0.62%	0.925	0.900	2.74%	10.09	7.10	34.79%
08/05/10	24.70	24.59	0.45%	7.77	7.79	0.26%	6.16	6.79	9.73%	0.832	0.806	3.17%	15.10	20.10	28.41%
08/12/10	25.10	25.10	0.00%	7.89	8.15	3.24%	6.83	6.93	1.45%	0.849	0.849	0.00%	8.40	13.30	45.16%
08/18/10	21.20	21.30	0.47%	7.83	8.05	2.77%	7.01	7.67	8.99%	0.793	0.785	1.01%	15.70	19.10	19.54%
08/25/10	18.70	18.68	0.11%	7.88	8.09	2.63%	7.60	8.02	5.38%	0.921	0.906	1.64%	5.81	--	--
09/02/10	21.20	21.26	0.28%	7.98	8.12	1.74%	7.50	7.54	0.53%	0.852	0.838	1.66%	5.72	5.80	1.39%
09/10/10	19.60	19.62	0.10%	7.99	8.14	1.86%	7.60	7.90	3.87%	0.927	0.910	1.85%	5.15	3.30	43.79%
09/17/10	17.70	17.83	0.73%	8.08	8.18	1.23%	8.19	8.39	2.41%	0.835	0.826	1.08%	5.33	2.40	<b>75.81%</b>
09/30/10	14.80	15.13	2.21%	7.92	7.94	0.25%	8.50	8.69	2.21%	0.828	0.812	1.95%	7.11	4.50	44.96%
10/12/10	13.50	13.58	0.59%	7.99	7.99	0.00%	9.11	9.21	1.09%	0.822	0.812	1.22%	8.52	4.70	<b>57.79%</b>
10/26/10	8.71	8.24	5.55%	8.12	7.66	5.83%	10.61	10.25	3.45%	0.824	0.777	5.87%	12.20	5.10	<b>82.08%</b>
11/10/10	7.50	7.71	2.76%	8.10	8.11	0.12%	11.41	10.56	7.74%	0.882	0.856	2.99%	5.33	0.80	<b>147.80%</b>
11/24/10	2.50	1.37	<b>58.40%</b>	8.21	7.57	8.11%	13.02	13.38	2.73%	0.840	0.779	7.54%	7.05	4.06	<b>53.83%</b>



**Accuracy, Continuous Water Quality Data,  
Percent Recovery, Platte River**



Table C-9. Percent Recovery, Continuous Data, Platte River, Louisville, NE

Date	pH, Standard 7		pH, Standard 10		Dissolved Oxygen (mg/L)			Specific Conductance (1,413 mS/cm)		Turbidity (100 NTU)	
	Sonde	% R	Sonde	% R	Sonde	Cal Point	% R	Sonde	% R	Sonde	% R
04/05/10	7.05	100.71%	10.02	100.20%	99.09	99.20	99.89%	1.411	99.86%	102.00	102.00%
04/20/10	7.03	100.43%	10.10	101.00%	10.09	9.80	102.96%	1.422	100.64%	100.19	100.19%
05/04/10	7.03	100.43%	10.01	100.10%	9.42	9.59	98.23%	1.413	100.00%	98.80	98.80%
05/12/10	7.07	101.00%	10.05	100.50%	10.90	11.00	99.09%	1.424	100.78%	103.30	103.30%
05/19/10	6.94	99.14%	9.93	99.30%	9.36	9.22	101.52%	1.379	97.59%	98.00	98.00%
05/27/10	7.03	100.43%	10.01	100.10%	8.79	8.79	100.00%	1.415	100.14%	96.80	96.80%
06/01/10	6.96	99.43%	9.97	99.70%	8.84	8.88	99.55%	1.417	100.28%	96.00	96.00%
06/13/10	6.94	99.14%	9.94	99.40%	8.59	8.67	99.08%	1.424	100.78%	97.20	97.20%
06/22/10	7.05	100.71%	10.01	100.10%	8.56	8.50	100.71%	1.392	98.51%	103.30	103.30%
06/29/10	7.05	100.71%	10.05	100.50%	8.76	8.65	101.27%	1.423	100.71%	--	--
07/01/10	6.96	99.43%	9.89	98.90%	7.75	7.82	99.10%	1.520	107.57%	152.10	<b>152.10%</b>
07/14/10	6.88	98.29%	9.92	99.20%	7.20	7.47	96.39%	1.366	96.67%	140.50	<b>140.50%</b>
07/19/10	7.13	101.86%	10.13	101.30%	8.48	8.46	100.24%	1.455	102.97%	103.80	103.80%
07/27/10	7.01	100.14%	10.01	100.10%	8.24	8.29	99.40%	1.419	100.42%	97.09	97.09%
08/04/10	7.03	100.43%	10.01	100.10%	8.31	8.29	100.24%	1.374	97.24%	100.80	100.80%
08/11/10	7.00	100.00%	10.01	100.10%	8.36	8.31	100.60%	1.415	100.14%	100.50	100.50%
08/17/10	7.03	100.43%	10.03	100.30%	8.71	8.70	100.11%	1.415	100.14%	98.90	98.90%
08/24/10	6.98	99.71%	10.01	100.10%	8.67	8.53	101.64%	1.430	101.20%	103.00	103.00%
09/01/10	7.03	100.43%	10.02	100.20%	8.39	8.38	100.12%	1.410	99.79%	100.30	100.30%
09/08/10	7.00	100.00%	10.02	100.20%	8.91	8.91	100.00%	1.420	100.50%	101.00	101.00%
09/16/10	7.00	100.00%	9.97	99.70%	9.12	9.05	100.77%	1.401	99.15%	98.04	98.04%
09/29/10	7.01	100.14%	10.02	100.20%	9.13	9.27	98.49%	1.415	100.14%	101.90	101.90%
10/11/10	7.01	100.14%	9.98	99.80%	9.18	--	--	1.421	100.57%	96.19	96.19%
10/25/10	7.00	100.00%	10.02	100.20%	9.67	9.52	101.58%	1.396	98.80%	119.50	<b>119.50%</b>
11/09/10	6.98	99.71%	9.97	99.70%	9.80	9.73	100.72%	1.433	101.42%	100.09	100.09%



**Table C-10. Percent Recovery, Continuous Data, Platte River, Duncan, NE**

Date	pH, Standard 7		pH, Standard 10		Dissolved Oxygen (mg/L)			Specific Conductance (1,413 mS/cm)		Turbidity (100 NTU)	
	Sonde	% R	Sonde	% R	Sonde	Cal Point	% R	Sonde	% R	Sonde	% R
03/23/10	6.88	98.29%	10.01	100.10%	9.40	9.25	101.62%	1.422	100.64%	96.60	96.60%
04/06/10	7.16	102.29%	10.00	100.00%	9.11	9.96	91.47%	1.414	100.07%	96.10	96.10%
04/20/10	6.91	98.71%	9.96	99.60%	10.09	9.74	103.59%	1.428	101.06%	98.90	98.90%
05/04/10	6.89	98.43%	9.98	99.80%	8.52	8.30	102.65%	1.410	99.79%	98.20	98.20%
5/12/100	7.16	102.29%	10.07	100.70%	10.63	10.91	97.43%	1.420	100.50%	112.50	112.50%
05/19/10	6.94	99.14%	9.93	99.30%	9.13	8.86	103.05%	1.389	98.30%	92.00	92.00%
05/27/10	6.99	99.86%	9.98	99.80%	8.19	8.15	100.49%	1.465	103.68%	95.40	95.40%
06/01/10	7.03	100.43%	10.01	100.10%	8.11	8.28	97.95%	1.444	102.19%	95.30	95.30%
06/16/10	6.98	99.71%	9.96	99.60%	8.04	7.87	102.16%	1.419	100.42%	98.60	98.60%
06/22/10	6.95	99.29%	10.02	100.20%	7.78	7.86	98.98%	1.394	98.66%	104.10	104.10%
06/29/10	7.08	101.14%	10.00	100.00%	8.41	8.40	100.12%	1.422	100.64%	91.50	91.50%
07/07/10	7.02	100.29%	10.00	100.00%	8.32	8.41	98.93%	1.411	99.86%	111.60	111.60%
07/12/10	7.07	101.00%	9.99	99.90%	8.31	8.59	96.74%	1.435	101.56%	102.50	102.50%
07/19/10	6.73	96.14%	10.02	100.20%	8.15	7.97	102.26%	1.423	100.71%	98.10	98.10%
07/27/10	7.04	100.57%	9.99	99.90%	7.69	7.85	97.96%	1.418	100.35%	100.30	100.30%
08/04/10	7.01	100.14%	9.99	99.90%	8.17	8.16	100.12%	1.373	97.17%	100.50	100.50%
08/11/10	6.92	98.86%	9.96	99.60%	7.98	7.86	101.53%	1.420	100.50%	95.30	95.30%
08/17/10	7.11	101.57%	10.05	100.50%	8.66	8.90	97.30%	1.417	100.28%	102.00	102.00%
08/24/10	7.06	100.86%	9.85	98.50%	8.43	8.63	97.68%	1.458	103.18%	104.70	104.70%
09/01/10	6.99	99.86%	10.11	101.10%	8.37	8.39	99.76%	1.395	98.73%	99.10	99.10%
09/08/10	6.96	99.43%	9.97	99.70%	8.66	8.73	99.20%	1.425	100.85%	96.30	96.30%
09/16/10	7.13	101.86%	10.01	100.10%	9.43	9.41	100.21%	1.408	99.65%	97.10	97.10%
09/29/10	6.77	96.71%	10.02	100.20%	8.80	8.62	102.09%	1.413	100.00%	102.40	102.40%
10/11/10	7.04	100.57%	10.01	100.10%	8.94	9.00	99.33%	1.419	100.42%	100.20	100.20%
10/25/10	6.99	99.86%	9.95	99.50%	9.22	9.37	98.40%	1.416	100.21%	111.30	111.30%
11/09/10	6.99	99.86%	10.04	100.40%	9.56	9.63	99.27%	1.411	99.86%	98.10	98.10%



Table C-11. Percent Recovery, Continuous Data, Platte River, Grand Island, NE

Date	pH, Standard 7		pH, Standard 10		Dissolved Oxygen (mg/L)			Specific Conductance (1,413 mS/cm)		Turbidity (100 NTU)	
	Sonde	% R	Sonde	% R	Sonde	Cal Point	% R	Sonde	% R	Sonde	% R
03/23/10	6.90	98.57%	9.95	99.50%	8.97	9.17	97.82%	1.397	98.87%	85.50	85.50%
04/06/10	7.07	101.00%	10.02	100.20%	11.34	10.12	112.06%	1.370	96.96%	94.80	94.80%
04/20/10	6.92	98.86%	9.97	99.70%	8.79	9.36	93.91%	1.418	100.35%	99.80	99.80%
05/04/10	7.02	100.29%	10.00	100.00%	8.61	8.44	102.01%	1.432	101.34%	97.50	97.50%
05/12/10	7.12	101.71%	10.02	100.20%	10.53	10.73	98.14%	1.404	99.36%	101.00	101.00%
05/19/10	7.03	100.43%	9.96	99.60%	9.04	9.06	99.78%	1.386	98.09%	99.60	99.60%
05/27/10	6.98	99.71%	9.96	99.60%	8.21	8.00	102.63%	1.421	100.57%	95.60	95.60%
06/01/10	7.00	100.00%	10.00	100.00%	7.78	7.80	99.74%	1.418	100.35%	95.40	95.40%
06/16/10	7.08	101.14%	9.98	99.80%	7.73	7.74	99.87%	1.416	100.21%	119.70	<b>119.70%</b>
06/22/10	6.97	99.57%	9.99	99.90%	6.43	7.07	90.95%	1.395	98.73%	101.90	101.90%
06/29/10	7.05	100.71%	10.01	100.10%	8.27	7.99	103.50%	1.431	101.27%	95.00	95.00%
07/07/10	7.01	100.14%	9.98	99.80%	7.99	8.08	98.89%	1.397	98.87%	92.50	92.50%
07/12/10	7.06	100.86%	9.99	99.90%	7.99	8.25	96.85%	1.435	101.56%	102.30	102.30%
07/19/10	7.06	100.86%	9.87	98.70%	7.13	7.87	90.60%	1.428	101.06%	97.00	97.00%
07/27/10	7.31	104.43%	9.97	99.70%	7.40	7.58	97.63%	1.423	100.71%	98.80	98.80%
08/04/10	6.98	99.71%	10.01	100.10%	7.73	7.84	98.60%	1.355	95.90%	101.00	101.00%
08/11/10	6.99	99.86%	10.01	100.10%	7.19	7.40	97.16%	1.410	99.79%	98.00	98.00%
08/17/10	7.03	100.43%	10.06	100.60%	8.16	8.68	94.01%	1.416	100.21%	98.90	98.90%
08/24/10	6.88	98.29%	10.01	100.10%	7.82	8.17	95.72%	1.398	98.94%	102.50	102.50%
09/01/10	7.01	100.14%	9.99	99.90%	8.06	7.97	101.13%	1.417	100.28%	102.90	102.90%
09/09/10	7.08	101.14%	10.01	100.10%	8.11	8.52	95.19%	1.401	99.15%	101.30	101.30%
09/16/10	6.98	99.71%	10.00	100.00%	9.21	9.03	101.99%	1.426	100.92%	97.20	97.20%
09/29/10	6.93	99.00%	9.95	99.50%	8.34	8.31	100.36%	1.402	99.22%	101.00	101.00%
10/11/10	7.05	100.71%	9.99	99.90%	8.77	8.81	99.55%	1.422	100.64%	96.80	96.80%
10/25/10	6.99	99.86%	10.05	100.50%	8.75	8.89	98.43%	1.393	98.58%	109.50	109.50%
11/09/10	7.05	100.71%	10.03	100.30%	9.38	9.42	99.58%	1.434	101.49%	102.10	102.10%



Table C-12. Percent Recovery, Continuous Data, Platte River, Shelton, NE

Date	pH, Standard 7		pH, Standard 10		Dissolved Oxygen (mg/L)			Specific Conductance (1,413 mS/cm)		Turbidity (100 NTU)	
	Sonde	% R	Sonde	% R	Sonde	Cal Point	% R	Sonde	% R	Sonde	% R
03/23/10	6.96	99.43%	9.99	99.90%	9.15	9.37	97.65%	1.353	95.75%	101.50	101.50%
04/06/10	6.98	99.71%	10.00	100.00%	10.39	10.20	101.86%	1.418	100.35%	101.20	101.20%
04/20/10	6.95	99.29%	9.97	99.70%	9.51	9.34	101.82%	1.423	100.71%	99.50	99.50%
05/04/10	6.98	99.71%	9.95	99.50%	8.62	8.63	99.88%	1.418	100.35%	99.90	99.90%
05/12/10	7.10	101.43%	10.08	100.80%	10.71	10.90	98.26%	1.404	99.36%	100.20	100.20%
05/19/10	7.00	100.00%	9.95	99.50%	9.30	9.20	101.09%	1.388	98.23%	99.10	99.10%
05/27/10	6.87	98.14%	9.95	99.50%	8.00	7.91	101.14%	1.425	100.85%	96.80	96.80%
06/01/10	7.01	100.14%	10.00	100.00%	7.48	7.49	99.87%	1.408	99.65%	96.40	96.40%
06/16/10	7.03	100.43%	10.00	100.00%	7.87	7.79	101.03%	1.437	101.70%	128.90	<b>128.90%</b>
06/22/10	7.00	100.00%	9.97	99.70%	6.81	7.23	94.19%	1.390	98.37%	100.60	100.60%
06/29/10	7.06	100.86%	9.99	99.90%	8.01	7.91	101.26%	1.461	103.40%	96.30	96.30%
07/07/10	7.01	100.14%	10.01	100.10%	7.31	7.92	92.30%	1.395	98.73%	96.20	96.20%
07/12/10	7.11	101.57%	9.99	99.90%	7.32	7.91	92.54%	1.443	102.12%	106.50	106.50%
07/20/10	7.00	100.00%	9.98	99.80%	7.58	7.58	100.00%	1.422	100.64%	98.50	98.50%
07/27/10	6.92	98.86%	10.03	100.30%	7.85	7.39	106.22%	1.424	100.78%	99.60	99.60%
08/04/10	7.06	100.86%	10.00	100.00%	8.17	7.67	106.52%	1.372	97.10%	102.10	102.10%
08/11/10	6.92	98.86%	10.01	100.10%	7.46	7.35	101.50%	1.410	99.79%	96.40	96.40%
08/17/10	7.07	101.00%	10.04	100.40%	8.05	8.60	93.60%	1.413	100.00%	95.20	95.20%
08/24/10	6.92	98.86%	9.98	99.80%	7.56	7.98	94.74%	1.375	97.31%	92.20	92.20%
09/01/10	7.08	101.14%	9.98	99.80%	8.01	7.85	102.04%	1.417	100.28%	103.40	103.40%
09/09/10	7.00	100.00%	10.02	100.20%	8.01	8.27	96.86%	1.401	99.15%	99.30	99.30%
09/16/10	7.03	100.43%	9.99	99.90%	9.05	8.92	101.46%	1.423	100.71%	98.80	98.80%
09/30/10	6.97	99.57%	10.01	100.10%	8.78	8.75	100.34%	1.425	100.85%	98.20	98.20%
10/11/11	7.03	100.43%	10.00	100.00%	8.77	8.91	98.43%	1.413	100.00%	101.50	101.50%
10/25/10	7.05	100.71%	10.03	100.30%	9.16	9.28	98.71%	1.395	98.73%	111.70	111.70%
11/09/10	7.00	100.00%	9.98	99.80%	9.30	9.36	99.36%	1.438	101.77%	99.50	99.50%



Table C-13. Percent Recovery, Continuous Data, Platte River, Kearney, NE

Date	pH, Standard 7		pH, Standard 10		Dissolved Oxygen (mg/L)			Specific Conductance (1,413 mS/cm)		Turbidity (100 NTU)	
	Sonde	% R	Sonde	% R	Sonde	Cal Point	% R	Sonde	% R	Sonde	% R
03/23/10	6.87	98.14%	9.98	99.80%	8.93	9.23	96.75%	1.412	99.93%	101.60	101.60%
04/07/10	7.16	102.29%	9.96	99.60%	10.38	10.12	102.57%	1.381	97.74%	93.30	93.30%
04/21/10	6.97	99.57%	10.01	100.10%	9.87	10.08	97.92%	1.408	99.65%	99.90	99.90%
05/05/10	6.88	98.29%	9.99	99.90%	9.46	9.00	105.11%	1.415	100.14%	100.20	100.20%
05/20/10	7.13	101.86%	9.99	99.90%	9.35	9.76	95.80%	1.406	99.50%	97.00	97.00%
06/01/10	6.94	99.14%	9.94	99.40%	7.57	7.45	101.61%	1.429	101.13%	95.20	95.20%
06/17/10	7.06	100.86%	9.98	99.80%	7.36	7.26	101.38%	1.441	101.98%	104.40	104.40%
06/22/10	7.02	100.29%	10.01	100.10%	6.98	7.19	97.08%	1.395	98.73%	109.30	109.30%
06/30/10	7.03	100.43%	10.00	100.00%	7.72	7.47	103.35%	1.430	101.20%	96.10	96.10%
07/08/10	7.00	100.00%	10.01	100.10%	7.44	7.63	97.51%	1.403	99.29%	84.10	<b>84.10%</b>
07/12/10	7.03	100.43%	9.99	99.90%	7.77	7.99	97.25%	1.423	100.71%	105.10	105.10%
07/20/10	6.97	99.57%	10.03	100.30%	7.73	7.67	100.78%	1.427	100.99%	106.10	106.10%
07/28/10	7.03	100.43%	9.99	99.90%	7.67	7.65	100.26%	1.428	101.06%	97.10	97.10%
08/05/10	7.04	100.57%	9.98	99.80%	7.57	7.72	98.06%	1.360	96.25%	103.60	103.60%
08/12/10	6.95	99.29%	10.01	100.10%	7.33	7.20	101.81%	1.420	100.50%	100.20	100.20%
08/18/10	7.05	100.71%	10.02	100.20%	7.98	8.01	99.63%	1.418	100.35%	104.10	104.10%
08/25/10	7.00	100.00%	9.98	99.80%	8.17	8.13	100.49%	1.427	100.99%	99.10	99.10%
09/01/10	7.04	100.57%	10.02	100.20%	7.90	7.83	100.89%	1.414	100.07%	85.50	85.50%
09/09/10	7.00	100.00%	9.99	99.90%	8.00	8.18	97.80%	1.400	99.08%	98.30	98.30%
09/16/10	6.99	99.86%	10.02	100.20%	8.88	8.87	100.11%	1.420	100.50%	100.70	100.70%
09/30/10	6.97	99.57%	9.95	99.50%	9.09	9.16	99.24%	1.437	101.70%	103.10	103.10%
10/12/10	7.00	100.00%	10.05	100.50%	8.91	8.60	103.60%	1.411	99.86%	103.00	103.00%
10/26/10	7.10	101.43%	9.93	99.30%	8.69	9.02	96.34%	1.399	99.01%	109.90	109.90%
11/10/10	7.05	100.71%	10.03	100.30%	10.35	10.40	99.52%	1.431	101.27%	103.80	103.80%



Table C-14. Percent Recovery, Continuous Data, Platte River, Odessa, NE

Date	pH, Standard 7		pH, Standard 10		Dissolved Oxygen (mg/L)			Specific Conductance (1,413 mS/cm)		Turbidity (100 NTU)	
	Sonde	% R	Sonde	% R	Sonde	Cal Point	% R	Sonde	% R	Sonde	% R
03/23/10	6.94	99.14%	10.01	100.10%	8.92	9.32	95.71%	1.417	100.28%	100.50	100.50%
04/07/10	7.09	101.29%	9.98	99.80%	10.72	10.88	98.53%	1.378	97.52%	99.70	99.70%
04/21/10	7.03	100.43%	10.01	100.10%	9.88	9.76	101.23%	1.419	100.42%	98.40	98.40%
05/05/10	6.90	98.57%	10.01	100.10%	9.65	9.23	104.55%	1.506	106.58%	100.30	100.30%
05/13/10	7.10	101.43%	10.04	100.40%	9.58	9.99	95.90%	1.403	99.29%	98.30	98.30%
05/20/10	7.04	100.57%	9.99	99.90%	9.56	9.73	98.25%	1.388	98.23%	101.10	101.10%
05/28/10	6.89	98.43%	9.94	99.40%	8.04	7.85	102.42%	1.430	101.20%	95.80	95.80%
06/02/10	7.10	101.43%	10.02	100.20%	8.62	8.77	98.29%	1.412	99.93%	96.30	96.30%
06/17/10	6.96	99.43%	9.94	99.40%	7.59	7.46	101.74%	1.436	101.63%	115.40	<b>115.40%</b>
06/23/10	7.06	100.86%	10.02	100.20%	8.18	8.39	97.50%	1.397	98.87%	104.90	104.90%
06/30/10	6.94	99.14%	10.01	100.10%	7.80	7.54	103.45%	1.430	101.20%	97.30	97.30%
07/08/10	7.03	100.43%	10.04	100.40%	7.89	7.87	100.25%	1.403	99.29%	95.90	95.90%
07/13/10	7.05	100.71%	9.95	99.50%	7.52	7.75	97.03%	1.457	103.11%	105.40	105.40%
07/20/10	7.01	100.14%	10.02	100.20%	8.02	7.99	100.38%	1.404	99.36%	100.10	100.10%
07/28/10	7.01	100.14%	10.00	100.00%	7.90	7.88	100.25%	1.424	100.78%	99.30	99.30%
08/05/10	7.01	100.14%	9.99	99.90%	7.77	7.81	99.49%	1.369	96.89%	102.10	102.10%
08/12/10	7.00	100.00%	9.98	99.80%	7.68	7.63	100.66%	1.416	100.21%	102.30	102.30%
08/18/10	6.97	99.57%	10.03	100.30%	8.19	8.21	99.76%	1.414	100.07%	101.20	101.20%
08/25/10	7.03	100.43%	10.01	100.10%	8.30	8.16	101.72%	1.433	101.42%	101.40	101.40%
09/02/10	6.98	99.71%	10.00	100.00%	8.36	8.35	100.12%	1.415	100.14%	101.50	101.50%
09/09/10	7.08	101.14%	9.97	99.70%	8.02	8.07	99.38%	1.404	99.36%	98.90	98.90%
09/17/10	6.97	99.57%	10.00	100.00%	8.22	8.17	100.61%	1.424	100.78%	96.80	96.80%
09/29/10	6.87	98.14%	9.99	99.90%	8.64	8.04	107.46%	1.524	107.86%	111.70	111.70%
10/12/10	6.91	98.71%	10.04	100.40%	8.83	8.79	100.46%	1.424	100.78%	103.40	103.40%
10/26/10	7.06	100.86%	10.04	100.40%	8.94	9.24	96.75%	1.414	100.07%	108.00	108.00%
11/10/10	7.00	100.00%	10.00	100.00%	10.51	10.48	100.29%	1.429	101.13%	99.70	99.70%





Table C-15. Percent Recovery, Continuous Data, Platte River, Overton, NE

Date	pH, Standard 7		pH, Standard 10		Dissolved Oxygen (mg/L)			Specific Conductance (1,413 mS/cm)		Turbidity (100 NTU)	
	Sonde	% R	Sonde	% R	Sonde	Cal Point	% R	Sonde	% R	Sonde	% R
03/24/10	6.96	99.43%	9.96	99.60%	8.76	9.28	94.40%	1.397	98.87%	98.60	98.60%
04/07/10	7.06	100.86%	10.04	100.40%	11.45	11.09	103.25%	1.423	100.71%	103.00	103.00%
04/21/10	7.00	100.00%	9.93	99.30%	9.33	9.40	99.26%	1.417	100.28%	99.80	99.80%
05/05/10	7.15	102.14%	10.01	100.10%	10.05	10.19	98.63%	1.413	100.00%	103.00	103.00%
05/13/10	6.94	99.14%	10.00	100.00%	10.47	10.41	100.58%	1.418	100.35%	98.50	98.50%
05/20/10	7.01	100.14%	10.00	100.00%	9.72	9.84	98.78%	1.390	98.37%	98.90	98.90%
05/28/10	6.92	98.86%	9.96	99.60%	8.31	8.15	101.96%	1.436	101.63%	95.50	95.50%
06/02/10	7.15	102.14%	9.98	99.80%	8.75	8.78	99.66%	1.412	99.93%	95.40	95.40%
06/17/10	7.01	100.14%	9.96	99.60%	7.57	7.55	100.26%	1.436	101.63%	113.70	113.70%
06/23/10	7.07	101.00%	10.01	100.10%	8.52	8.43	101.07%	1.405	99.43%	100.10	100.10%
06/30/10	6.97	99.57%	9.98	99.80%	8.09	7.81	103.59%	1.434	101.49%	95.80	95.80%
07/08/10	7.04	100.57%	10.01	100.10%	8.43	8.33	101.20%	1.402	99.22%	111.30	111.30%
07/13/10	7.00	100.00%	9.99	99.90%	7.65	8.01	95.51%	1.443	102.12%	106.50	106.50%
07/20/10	7.04	100.57%	10.01	100.10%	8.33	8.28	100.60%	1.418	100.35%	101.20	101.20%
07/28/10	7.02	100.29%	9.97	99.70%	8.13	8.15	99.75%	1.428	101.06%	98.30	98.30%
08/05/10	7.01	100.14%	9.99	99.90%	8.03	7.96	100.88%	1.378	97.52%	99.20	99.20%
08/13/10	6.97	99.57%	10.00	100.00%	7.65	7.64	100.13%	1.414	100.07%	99.00	99.00%
08/18/10	7.03	100.43%	10.03	100.30%	0.25	8.57	<b>2.92%</b>	1.412	99.93%	104.10	104.10%
08/25/10	6.92	98.86%	10.06	100.60%	9.22	8.42	109.50%	1.423	100.71%	101.70	101.70%
09/02/10	6.88	98.29%	10.06	100.60%	9.95	8.51	<b>116.92%</b>	1.444	102.19%	103.10	103.10%
09/10/10	7.16	102.29%	9.92	99.20%	7.79	8.40	92.74%	1.400	99.08%	102.00	102.00%
09/17/10	7.06	100.86%	10.00	100.00%	8.87	8.60	103.14%	1.425	100.85%	97.20	97.20%
09/30/10	6.90	98.57%	9.99	99.90%	8.82	9.30	94.84%	1.416	100.21%	96.50	96.50%
10/12/10	7.06	100.86%	10.00	100.00%	8.50	9.22	92.19%	1.388	98.23%	98.10	98.10%
10/26/10	6.97	99.57%	10.01	100.10%	9.40	9.46	99.37%	1.396	98.80%	112.00	112.00%
11/10/10	7.04	100.57%	10.02	100.20%	10.53	10.78	97.68%	1.452	102.76%	103.30	103.30%



Table C-16. Percent Recovery, Continuous Data, Platte River, Lexington, NE

Date	pH, Standard 7		pH, Standard 10		Dissolved Oxygen (mg/L)			Specific Conductance (1,413 mS/cm)		Turbidity (100 NTU)	
	Sonde	% R	Sonde	% R	Sonde	Cal Point	% R	Sonde	% R	Sonde	% R
03/24/10	6.88	98.29%	9.99	99.90%	8.86	9.19	96.41%	1.442	102.05%	99.10	99.10%
04/07/10	7.04	100.57%	10.02	100.20%	12.04	11.29	106.64%	1.360	96.25%	93.60	93.60%
04/21/10	7.10	101.43%	10.12	101.20%	8.39	9.00	93.22%	1.395	98.73%	94.30	94.30%
05/05/10	7.12	101.71%	10.01	100.10%	9.88	10.31	95.83%	1.444	102.19%	103.50	103.50%
05/13/10	7.11	101.57%	10.06	100.60%	9.25	10.12	91.40%	1.396	98.80%	100.30	100.30%
05/20/10	7.12	101.71%	9.98	99.80%	9.59	9.59	100.00%	1.401	99.15%	98.30	98.30%
05/28/10	6.89	98.43%	9.98	99.80%	8.57	8.33	102.88%	1.431	101.27%	95.40	95.40%
06/02/10	7.08	101.14%	9.96	99.60%	8.63	8.56	100.82%	1.410	99.79%	95.30	95.30%
06/17/10	6.83	97.57%	10.04	100.40%	7.75	7.75	100.00%	1.419	100.42%	116.00	<b>116.00%</b>
06/23/10	7.21	103.00%	9.92	99.20%	8.50	8.55	99.42%	1.421	100.57%	103.60	103.60%
06/30/10	6.85	97.86%	10.05	100.50%	8.24	8.00	103.00%	1.424	100.78%	112.00	112.00%
07/08/10	7.05	100.71%	9.87	98.70%	7.69	8.41	91.44%	1.384	97.95%	96.20	96.20%
07/13/10	7.23	103.29%	10.02	100.20%	8.08	8.04	100.50%	1.452	102.76%	103.60	103.60%
07/20/10	6.98	99.71%	10.05	100.50%	8.51	8.40	101.31%	1.404	99.36%	99.50	99.50%
07/28/10	7.00	100.00%	10.05	100.50%	7.71	8.32	92.67%	1.420	100.50%	97.80	97.80%
08/05/10	7.05	100.71%	10.03	100.30%	8.16	8.20	99.51%	1.369	96.89%	100.10	100.10%
08/12/10	7.02	100.29%	9.98	99.80%	7.91	7.84	100.89%	1.426	100.92%	101.60	101.60%
08/18/10	7.00	100.00%	10.02	100.20%	8.60	8.68	99.08%	1.410	99.79%	99.10	99.10%
08/25/10	7.06	100.86%	10.00	100.00%	8.95	8.70	102.87%	1.417	100.28%	102.50	102.50%
09/02/10	6.95	99.29%	10.02	100.20%	8.52	8.58	99.30%	1.412	99.93%	99.50	99.50%
09/10/10	7.03	100.43%	10.01	100.10%	8.34	8.51	98.00%	1.410	99.79%	99.80	99.80%
09/17/10	7.02	100.29%	9.98	99.80%	9.02	8.80	102.50%	1.420	100.50%	101.30	101.30%
09/30/10	7.08	101.14%	10.01	100.10%	9.40	9.46	99.37%	1.397	98.87%	101.80	101.80%
10/12/10	6.98	99.71%	10.03	100.30%	9.14	9.17	99.67%	1.427	100.99%	99.30	99.30%
10/26/10	6.97	99.57%	10.07	100.70%	10.23	10.08	101.49%	1.402	99.22%	107.90	107.90%
11/10/10	7.05	100.71%	10.00	100.00%	9.96	10.70	93.08%	1.444	102.19%	98.10	98.10%



**Precision  
Duplicate Discrete Water Quality Data, Relative Percent Differences, Field Blanks  
Platte River**



**Table C-17. Field Blank, Duplicate Water Quality RPDs, Discrete Data, Metals, April, Platte River, NE**

Sample ID: Date Sampled:		MDL/RL	Field Blank	Duplicate Samples		RPD
			FB201005	SHL201004	DUP201004	
			4/21/2010	4/20/2010	4/20/2010	
<b>Dissolved Metals</b>	<b>Units</b>					
Copper	mg/L	0.00150/0.00500	<0.00150	<0.00150	<0.00150	N/A
Lead	mg/L	0.00100/0.00400	<0.00100	<0.00100	<0.00100	N/A
Nickel	mg/L	0.00435/0.0100	<0.00435	<0.00435	<0.00435	N/A
<b>Total Metals</b>	<b>Units</b>					
Calcium	mg/L	0.0195/1.00	<1.0	88.2	88.1	0.11%
Magnesium	mg/L	0.0104/1.00	<1.0	29.3	29.4	0.34%
Selenium	mg/L	0.00169/0.00500	<0.00169	<0.00169	<0.00169	N/A

**Table C-18. Field Blank, Duplicate Water Quality RPDs, Discrete Data, Metals June, Platte River, NE**

Sample ID: Date Sampled:		MDL/RL	Field Blank	Duplicate Samples		RPD
			FB201006	LSV201006	DUP201006	
			6/2/2010	6/1/2010	6/1/2010	
<b>Dissolved Metals</b>	<b>Units</b>					
Copper	mg/L	0.00150/0.00500	<0.00150	<0.00150	<0.00150	N/A
Lead	mg/L	0.00100/0.00400	<0.00100	<0.00100	<0.00100	N/A
Nickel	mg/L	0.00435/0.0100	<0.00435	<0.00435	<0.00435	N/A
<b>Total Metals</b>	<b>Units</b>					
Calcium	mg/L	0.0195/1.00	<1.0	60.9	63.4	4.02%
Magnesium	mg/L	0.0104/1.00	<1.0	18.8	18.3	2.70%
Selenium	mg/L	0.00169/0.00500	<0.00169	0.00414 J	0.00438 J	N/A

**Table C-19. Field Blank, Duplicate Water Quality RPDs, Discrete Data, Metals, August, Platte River, NE**

Sample ID: Date Sampled:		MDL/RL	Field Blank	Duplicate Samples		RPD
			FB201008	LSV201008	DUP201008	
			8/12/2010	8/11/2010	8/11/2010	
<b>Dissolved Metals</b>	<b>Units</b>					
Copper	mg/L	0.00150/0.00500	<0.00150	0.00191 J	0.00189 J	N/A
Lead	mg/L	0.00100/0.00400	<0.00100	<0.00100	<0.00100	N/A
Nickel	mg/L	0.00435/0.0100	<0.00435	<0.00435	<0.00435	N/A
<b>Total Metals</b>	<b>Units</b>					
Calcium	mg/L	0.0195/1.00	<1.0	65.3	62.5	4.38%
Magnesium	mg/L	0.0104/1.00	<1.0	17.6	16.8	4.65%
Selenium	mg/L	0.00169/0.00500	<0.00169	0.00193 J	<0.00169	N/A



**Table C-20. Field Blank, Duplicate Water Quality RPDs, Discrete Data, Metals, October, Platte River, NE**

Sample ID: Date Sampled:		MDL/RL	Field Blank	Duplicate Samples		RPD
			FB201010	SHL201010	DUP201010	
			10/12/2010	10/11/2010	10/11/2010	
<b>Dissolved Metals</b>	<b>Units</b>					
Copper	mg/L	0.00150/0.00500	<0.00150	<0.00150	0.00205 J	N/A
Lead	mg/L	0.00100/0.00400	<0.00100	<0.00100	<0.00100	N/A
Nickel	mg/L	0.00435/0.0100	<0.00435	<0.00435	<0.00435	N/A
<b>Total Metals</b>	<b>Units</b>					
Calcium	mg/L	0.0195/1.00	<1.0	62.0	62.6	0.96%
Magnesium	mg/L	0.0104/1.00	<1.0	22.5	22.0	2.25%
Selenium	mg/L	0.00169/0.00500	<0.00169	<0.00169	<0.00169	N/A

**Table C-21. Field Blank, Duplicate Water Quality RPDs, Discrete Data, *E. Coli*, March 17, 2010, Platte River, NE**

Analyte	Units	Field Blank	Duplicate Samples		RPD
			Grand Island	Duplicate	
Coliform Bacteria	Colonies/100mL	None	2,324	2,752	16.86%
<i>E. Coli</i> Bacteria	Colonies/100mL	None	1,248	2,238	<b>56.80%</b>

**Table C-22. Field Blank, Duplicate Water Quality RPDs, Discrete Data, *E. Coli*, March 24, 2010, Platte River, NE**

Analyte	Units	Field Blank	Duplicate Samples		RPD
			Kearney	Duplicate	
Coliform Bacteria	Colonies/100mL	None	613	770	22.70%
<i>E. Coli</i> Bacteria	Colonies/100mL	None	261	249	4.71%

**Table C-23. Field Blank, Duplicate Water Quality RPDs, Discrete Data, *E. Coli*, March 30, 2010, Platte River, NE**

Analyte	Units	Field Blank	Duplicate Samples		RPD
			Lexington	Duplicate	
Coliform Bacteria	Colonies/100mL	None	828	832	0.48%
<i>E. Coli</i> Bacteria	Colonies/100mL	None	82	82	0.00%

**Table C-24. Field Blank, Duplicate Water Quality RPDs, Discrete Data, *E. Coli*, July 20, 2010, Platte River, NE**

Analyte	Units	Field Blank	Duplicate Samples		RPD
			Grand Island	Duplicate	
Coliform Bacteria	Colonies/100mL	None	20,222	25,993	24.97%
<i>E. Coli</i> Bacteria	Colonies/100mL	None	216	218	0.92%

**Table C-25. Field Blank, Duplicate Water Quality RPDs, Discrete Data, *E. Coli*, August 17, 2010, Platte River, NE**

Analyte	Units	Field Blank	Duplicate Samples		RPD
			Lexington	Duplicate	
Coliform Bacteria	Colonies/100mL	None	9,990	11,434	13.48%
<i>E. Coli</i> Bacteria	Colonies/100mL	None	917	882	3.89%



Table C-26. Field Blank, Duplicate Water Quality RPDs, Discrete Data, *E. Coli*, September 10, 2010, Platte River, NE

Analyte	Units	Field Blank	Duplicate Samples		RPD
			Kearney	Duplicate	
Coliform Bacteria	Colonies/100mL	None	14,540	11,588	22.60%
<i>E. Coli</i> Bacteria	Colonies/100mL	None	196	146	29.24%



# **APPENDIX D**

## Photo Log



1. Hand held water quality instrument calibration (YSI 85, Oakton 300, LaMotte 2020e).



2. Manta 2 calibration of standards (pH, specific conductance, turbidity, dissolved oxygen).





3. Manta 2 deployment on Hwy 50 bridge near Louisville, NE.



4. MS-5 calibration of standards (pH, specific conductance, turbidity, dissolved oxygen).



5. MS-5 deployment on Hwy 287 Avenue bridge near Duncan, NE.



6. MS-5 deployment into the Platte River near Duncan, NE.



7. Log chain attachment to bridge deck near Duncan, NE.



8. MS-5 sampling location near Duncan, NE



9. Log chain attachment to bridge deck near Kearney, NE.



10. MS-5 sampling location near Kearney, NE.



11. Zip Tie connection between MS-5 and log chain.



12. Insulated rubber housing for log chain.



13. MS-5 and YSI 6920 side by side deployment



14. Biofouling of MS-5.



## **APPENDIX E**

Field Data Sheets (CD only)

## **APPENDIX F**

Raw Water Quality Data (CD only)

## **APPENDIX G**

Flow Data (CD only)